inspectors and currently has four dedicated to animal operations funded last summer, all of whom are located in the regional offices. Steve Levitas, Deputy Secretary, DEHNR, noted that when the General Assembly recognized the need to have fees for air permits, it imposed an interim fee to get the program up and running until a permanent fee structure could be developed. He suggested a similar approach for animal waste management system fees. The Commission noted that Lynn Muchmore, fiscal staff to the Commission, estimated the cost of the total program of permitting, inspection, and enforcement to be eight hundred forty-four thousand dollars ($844,000) and called for 10 new positions to conduct inspections. The Commission appeared to reach a consensus that the program had to be adequately funded but wanted to hear an explanation regarding the discrepancies in the projected cost of the total program.

Robert Ivey's subcommittee convened to attempt to reconcile the two projections for the cost of the program.

After lunch, the Commission reviewed the latest draft final report of the Commission.

The Robert Ivey subcommittee reported to the full Commission and explained the differences between the two cost projections. DEM estimated one inspection per day for 150 working days per year. Lynn Muchmore, fiscal staff, estimated three inspections per day for 150 working days. DEM took into account additional time for writing up a report of the inspection, travel time, and time for follow-up compliance. DEM relied on 4,434 as the number of lagoons; Lynn Muchmore used 3,800 for the total number of lagoons. The subcommittee recommended imposing one combined annual fee for both the inspections' and permit applications' fees, that this fee be tiered for different sizes of operations based on the steady state live weight of animals, that the fees generate fifty percent (50%) or less of the cost of the combined programs. The Commission voted to recommend one annual fee for both the permitting and inspection programs and estimated the cost of the program to be one million four hundred fifty thousand dollars ($1,450,000), voted to recommend imposing fees to raise forty percent (40%) of the total cost of the combined programs, and voted to recommend a three-tiered fee structure based on steady state live weight such that the fees for the lowest tier would not be less than fifty dollars ($50.00) and the fees for the highest tier would not exceed two hundred dollars ($200.00). The Commission directed the Robert Ivey's subcommittee to present specifics next week.

The Commission reviewed the omnibus draft bill containing most of the Commission's recommendations. The Commission voted to raise the cap further for agriculture cost-share funds to recipients to seventy-five thousand dollars ($75,000) and to allow these funds to be used for insect control best management practices. The Commission adopted the bill in concept pending further review by members prior to the next meeting. The Commission began to review the second draft bill that contains all the Commission's recommendations regarding appropriations.

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The only new business remaining before the Commission was to agree upon a specific fee structure for annual animal waste management systems. Robert Ivey reported to the Commission that he had contacted the Veterinary Division, Department of Agriculture, whose database indicated that there are 3,313 swine, poultry, and cattle operations in the State. He stated that this figure is more reliable than the count of lagoons provided by DEM, because, according to the Veterinary Division, DEM's data had some duplication and errors. Further, 1,600 of the 2,743 swine farms were under contract with the five major producers in the State. Mr. Ivey estimated that five or more of these 1,600 operations could be inspected in one day. Accordingly, the original estimate for the cost of a permitting and inspection program of eight hundred forty-four thousand dollars ($844,000) was a better estimate than the one million four hundred fifty thousand dollars ($1,450,000) estimate and a fifty dollar ($50.00) annual fee for farms with at least 38,500 and less than 100,000 pounds steady state live weight, a one hundred dollar ($100.00) annual fee for farms with at least 100,000 and less than 800,000 pounds steady state live weight, and a two hundred dollar ($200.00) annual fee for farms with at least 800,000 pounds steady state live weight would generate approximately three hundred sixty thousand dollars ($360,000) or roughly forty percent (40%) of the cost of the combined program. The Commission adopted this fee schedule for inclusion in its recommendations and legislative proposals. This fee schedule assumes each inspection will take an average of two hours to conduct.

After discussing, further reviewing, and amending the two draft pieces of legislation, the Commission voted to include the bills in its final report to the Governor and the General Assembly. This concluded the work of the Commission. Cochairman Ernie Carl thanked the Commission for moving swiftly and for setting the industry up for growth in an environmentally sound manner. Cochairman Tim Valentine extended his personal appreciation to a group of men that had done an outstanding job.

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IV. FISCAL CONSIDERATIONS

The Commission reviewed fiscal information presented by State and federal agencies to estimate the cost of improving system performance to meet the .0200 certification deadline. Three items account for the bulk of these costs. They are (1) the cost of expanding DEM operations to perform additional inspections, issue additional permits, and train animal waste management system operators (2) the cost of increasing technical assistance services from NRCS, the Cooperative Extension Service, and Soil and Water Conservation, and (3) the cost of expanded Agricultural Cost Share funding.

Estimates rely heavily upon a survey of Soil and Water Districts completed in January 1996. The surveyors counted livestock operations subject to .0200 rules and classified those operations based upon progress toward the certification that is to be completed December 31, 1997. Of the 3,832 operations enumerated, 3,375 are expected to remain in business. Of those, roughly 2,600 remain uncertified. Thus the Division of Environmental Management must accommodate a permanent increase in regulated clientele of 3,375. This will occasion ongoing enforcement costs as well as certain start-up expenses. Programs geared to help farmers with compliance, either through technical assistance or cost-sharing, will face nonrecurring outlays to serve some 2,600 operators. These costs will be spread across all or portions of three fiscal years.

The research budget, unrelated to certification, supports four specific research tasks. There are (1) odor control research (2) studies to determine nitrogen source profiles in watersheds (3) evaluation of alternative treatment technologies (4) assessment of the potential for groundwater contamination in areas around lagoons. All of these are to be administered by the Department of Environment, Health, and Natural Resources, though the actual research may be carried out under contract between that department and other parties. The Commission noted that, contrary to public perception, very little of the animal waste research currently being conducted by North Carolina universities is underwritten by agricultural industry.

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APPENDIX A

PART IV.-----BLUE RIBBON STUDY COMMISSION ON AGRICULTURAL WASTE (S.B. 695 - Albertson; H.B. 524 - H. Hunter).

Sec. 4.1. The Blue Ribbon Study Commission on Agriculture Waste is created in the General Assembly. The Commission shall study the following issues:

(1) The effect of agriculture waste on groundwater, drinking water, and air quality and any other environmental impacts of agriculture waste.

(2) Methods of disposing of and managing agriculture waste currently in use in this State.

(3) Methods of disposing of and managing agriculture waste that have fewer adverse impacts than those methods currently in use in this State, including positive commercial and noncommercial uses of agriculture waste.

(4) The economic impact of agriculture waste in areas in this State where there is a high concentration of agriculture waste, including, but not limited to, the impact on property values of land adjacent to agriculture sites and on water treatment costs.

(5) Implementation of the recommendations contained in the Swine Odor Task Force reports by the Swine Farm Odor Abatement Study authorized by Section 45 of Chapter 561 of the 1993 Session Laws and any recommendations that result from the federally funded study of the potential for groundwater contamination from animal waste lagoons currently being conducted by the Groundwater Section of the Department of Environment, Health, and Natural Resources.

(6) General economic impact of agriculture industries on areas of the State with a high concentration of agriculture waste.

(7) Coordination of regulatory activities and any other activities between federal, State, and local government agencies with jurisdiction over any aspect of agriculture industries.

(8) Identification of beneficial uses of agriculture waste.

Sec. 4.2. The Blue Ribbon Study Commission on Agriculture Waste shall consist of 18 members to be appointed as follows:

(1) Six members appointed by the President Pro Tempore of the Senate.

(2) Six members appointed by the Governor.

(3) Six members appointed by the Speaker of the House of Representatives.

The President Pro Tempore of the Senate and the Speaker of the House of Representatives each shall select a cochair. A majority of the Commission shall constitute a quorum for the transaction of business.

Sec. 4.3. The Commission shall submit a final report of its findings and recommendations to the 1996 Regular Session of the 1995 General Assembly by filing the report with the President Pro Tempore of the Senate and the Speaker of the House of Representatives prior to the convening of the 1996 Regular Session of the 1995 General Assembly. The final report shall contain the findings, recommendations, and any legislative proposals of the Commission. The final report shall identify areas in the State where there is a significant concentration of agriculture waste; include recommendations on reducing agriculture waste in areas where there is an identified and significant harmful impact on groundwater or drinking water; and include recommendations on implementing any of the recommendations contained in the Swine Odor Study or the Groundwater Study considered by the Commission under this Part. If at any time during its deliberations, the Commission identifies a recommendation that can be implemented through the Administrative Procedure Act, Chapter 150B of the General Statutes, the Commission shall forward that recommendation with the proposed rule change to the responsible State agency for immediate consideration.

Sec. 4.4. Members appointed to the Commission shall serve until the Commission makes its final report. Vacancies on the Commission shall be filled by the same appointing officer who made the original appointments. The Commission shall terminate upon the filing of its final report.

Sec. 4.5. The Commission may contract for consultant services as provided by G.S. 120-32.02. The Commission may obtain assistance from North Carolina State University, particularly from those university resources associated with the ongoing studies conducted by the Swine Odor Task Force. Upon approval of the Legislative Services Commission, the Legislative Administrative Officer shall assign professional and clerical staff to assist in the work of the Commission. Clerical staff shall be furnished to the Commission through the offices of House and Senate supervisors of clerks. The Commission may meet in the Legislative Building or the Legislative Office Building upon the approval of the Legislative Services Commission. The Commission, while in the discharge of official duties, may exercise all the powers provided under the provisions of G.S. 120-19 through G.S. 120-19.4.

Sec. 4.6. Members of the Commission shall receive per diem, subsistence, and travel allowances as follows:

(1) Commission members who are also General Assembly members, at the rate established in G.S. 120-3.1.

(2) Commission members who are officials or employees of the State or local government agencies, at the rate established in G.S. 138-6.

(3) All other Commission members, at the rate established in G.S. 138-5.

Sec. 4.7. From funds appropriated to the General Assembly, the Legislative Services Commission may allocate funds for the expenses of the Commission under this Part.

APPENDIX B

BLUE RIBBON STUDY COMMISSION ON AGRICULTURAL WASTE MEMBERSHIP

1995-1996

Governor's Appointments

Mr. Tim Valentine (Chairman)
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Mr. David H. Harris, Jr.
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Mr. Jeffery B. Turner
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Dr. C. Michale Williams
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President Pro Tempore Appointments

Mr. John Q. Adams
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APPENDIX C

GENERAL ASSEMBLY OF NORTH CAROLINA

SESSION 1995

S D

SENATE DRS6657*-LDZ225F(4.17)

Short Title: Animal Waste Csmn. Recommendations. (Public)

Sponsors: Senator Albertson.

Referred to:

A BILL TO BE ENTITLED

AN ACT TO IMPLEMENT RECOMMENDATIONS OF THE BLUE RIBBON STUDY COMMISSION ON AGRICULTURAL WASTE.

The General Assembly of North Carolina enacts:

PART I. PERMITS/INSPECTIONS/FEES FOR ANIMAL WASTE MANAGEMENT SYSTEMS.

Section 1. G.S. 143-215.1(a) reads as rewritten:

"(a) Activities for Which Permits Required. -- No person shall do any of the following things or carry out any of the following activities ~~until or~~ unless ~~such~~ that person ~~shall have applied for and shall have~~ has received a permit from the Commission ~~a permit therefor and shall have~~ and has complied with ~~such conditions, if any, as are prescribed by such~~ all conditions set forth in the permit:

(1) Make any outlets into the waters of the ~~State;~~ State.

(2) Construct or operate any sewer system, treatment works, or disposal system within the ~~State;~~ State.

(3) Alter, extend, or change the construction or method of operation of any sewer system, treatment works, or disposal system within the ~~State;~~ State.

(4) Increase the quantity of waste discharged through any outlet or processed in any treatment works or disposal system to any extent ~~which~~ that would result in any violation of the effluent standards or limitations established for any point source or ~~which~~ that would adversely affect the condition of the receiving waters to the extent of violating any ~~of the standards applicable to such water;~~ applicable standards.

(5) Change the nature of the waste discharged through any disposal system in any way ~~which~~ that would exceed the effluent standards or limitations established for any point source or ~~which~~ that would adversely affect the condition of the receiving waters in relation to any ~~of the standards applicable to such waters;~~ applicable standards.

(6) Cause or permit any waste, directly or indirectly, to be discharged to or in any manner intermixed with the waters of the State in violation of the water quality standards applicable to the assigned classifications or in violation of any effluent standards or limitations established for any point source, unless allowed as a condition of any permit, special order or other appropriate instrument issued or entered into by the Commission under the provisions of this ~~Article;~~ Article.

(7) Cause or permit any wastes for which pretreatment is required by pretreatment standards to be discharged, directly or indirectly, from a pretreatment facility to any disposal system or to alter, extend or change the construction or method of operation or increase the quantity or change the nature of the waste discharged from or processed in ~~such facility;~~ that facility.

(8) Enter into a contract for the construction and installation of any outlet, sewer system, treatment works, pretreatment facility or disposal system or for the alteration or extension of any such ~~facilities;~~ facilities.

(9) Dispose of sludge resulting from the operation of a treatment works, including the removal of in-place sewage sludge from one location and its deposit at another location, consistent with the requirement of the Resource Conservation and Recovery Act and regulations promulgated pursuant ~~thereto;~~ thereto.

(10) Cause or permit any pollutant to enter into a defined managed area of the State's waters for the maintenance or production of harvestable freshwater, estuarine, or marine plants or ~~animals;~~ animals.

(11) Cause or permit discharges regulated under G.S. 143-214.7 ~~which~~ that result in water pollution.

(12) Subject to the provisions of G.S. 143-215.1B, construct or operate an animal waste management system.

In the event that both effluent standards or limitations and classifications and water quality standards are applicable to any point source or sources and to the waters to which they discharge, the more stringent among the standards established by the Commission shall be applicable and controlling.

In connection with the above, no such permit shall be granted for the disposal of waste in waters classified as sources of public water supply where the head of the agency which administers the public water supply program pursuant to Article 10 of

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Chapter 130A of the General Statutes, after review of the plans and specifications for the proposed disposal facility, determines and advises the Commission that such disposal is sufficiently close to the intake works or proposed intake works of a public water supply as to have an adverse effect on the public health.

In any case where the Commission denies a permit, it shall state in writing the reason for such denial and shall also state the Commission's estimate of the changes in the applicant's proposed activities or plans which will be required in order that the applicant may obtain a permit."

Sec. 2. (a) Part 1 of Article 21 of Chapter 143 of the General Statutes is amended by adding two new sections to read:

"**§ 143-215.1B. Animal waste management systems; permit requirements.**

(a) No person shall construct or operate an animal waste management system that satisfies any one of the following unless that person has applied for and obtained a permit from the Department:

(1) The system is designed for or actually serves at least 100 head of cattle.

(2) The system is designed for or actually serves at least 75 horses.

(3) The system is designed for or actually serves at least 250 swine.

(4) The system is designed for or actually serves at least 1,000 sheep.

(5) The system is designed for or actually serves at least 30,000 birds with a liquid animal waste management system.

(b) The Department shall not issue a permit for an animal waste management system under subsection (a) of this section unless the applicant has obtained an animal waste management plan that a technical specialist has certified meets the applicable minimum standards and specifications.

(c) Animal waste management plans shall include all of the following components:

(1) A checklist of potential odor sources and a choice of site-specific, cost-effective remedial best management practices to minimize those sources.

(2) A checklist of potential insect sources and a choice of site-specific, cost-effective best management practices to minimize insect problems.

(3) Provisions that set forth acceptable methods of disposing of mortalities.

(4) Provisions regarding best management practices for riparian buffers or equivalent controls, particularly along perennial streams.

(5) Provisions regarding the use of emergency spillways and site-specific emergency management plans that set forth operating procedures to follow during emergencies in order to minimize the risk of environmental damage.

(6) Provisions regarding periodic testing of waste products used as nutrient sources as close to the time of application as practical and at least within 60 days of the date of application and periodic testing, at least annually, of soils at crop sites where the waste

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products are applied. Nitrogen shall be the rate-determining element. Zinc and copper levels in the soils shall be monitored, and alternative crop sites shall be used when these metals approach excess levels.

(7) Provisions regarding waste utilization plans that assure a balance between nitrogen application rates and nitrogen crop requirements, that assure that lime is applied to maintain pH in the optimum range for crop production, and that include corrective action, including revisions to the waste utilization plan based on data of crop yields and crops analysis, that will be taken if this balance is not achieved as determined by testing conducted pursuant to subdivision (6) of this subsection.

(8) Provisions regarding the completion and maintenance of records on forms developed by the Department, which records shall include information addressed in subdivisions (6) and (7) of this subsection, including the dates and rates that waste products are applied to soils at crop sites, and shall be made available upon request by the Department.

(d) Except as provided in subsection (e) of this section, animal waste management systems that are designed for and actually serve less than the numbers of animals listed in subdivisions (1) through (4) of subsection (a) of this section and all other animal waste management systems shall be deemed permitted and are not required to have an animal waste management plan.

(e) Dry litter animal waste management systems that are designed or actually serve at least 30,000 birds shall be deemed permitted. No later than December 31, 1999, any operator of this type of system shall obtain an animal waste management plan that complies with the testing and record-keeping requirements under subdivisions (6) through (8) of subsection (c) of this section. Any operator of this type of system shall retain records required under this section and by the Department on-site for three years.

(f) The Department may enforce the animal waste management plan under subsection (c) of this section in the same manner as it enforces a condition of a permit.

(g) The Department shall conduct inspections of all animal waste management systems that are subject to a permit under subsection (a) of this section at least annually to determine whether the system is in violation of water quality standards or is not in compliance with its animal waste management plan or any other condition of the permit. The Department may conduct additional inspections of animal waste management systems that are in violation of water quality standards or not in compliance with its animal waste management plan or any other condition of the permit. No later than October 1, 1996, and annually thereafter, the Department shall report the results of its inspections under this subsection to the Environmental Review Commission.

(h) As used in this section:

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(1) 'Animal waste' means livestock or poultry excreta or a mixture of excreta with feed, bedding, litter, or other materials.

(2) 'Animal waste management system' means a combination of structural and nonstructural practices that provide for the proper collection, treatment, storage, or application of animal waste to the land such that no discharge of pollutants occurs to surface waters of the State by any means except as a result of chronic rainfall or a storm event more severe than the 25-year, 24-hour storm.

(3) 'Deemed permitted' means that a facility is considered as having a permit under this section and being in compliance with the permitting requirements of G.S. 143-215.1(a) even though it has not received a general or an individual permit for its construction or operation.

(4) 'Technical specialist' means an individual designated by the Soil and Water Conservation Commission, pursuant to rules adopted by that Commission, to certify animal waste management plans.

"§ 143-215.1C. Written notice of swine farms.

(a) Any person who intends to construct a swine farm whose animal waste management system is subject to a permit under G.S. 143-215.1B(a) shall, after completing a site evaluation and before the farm site is modified, attempt to notify all adjoining property owners and all property owners who own property located across a public road, street, or highway from the swine farm of that person's intent to construct the swine farm. This notice shall be by certified mail sent to the address on record at the property tax office in the county in which the land is located. The written notice shall include all of the following:

(1) The name and address of the person intending to construct a swine farm.

(2) The type of swine farm and the design capacity of the animal waste management system.

(3) The name and address of the technical specialist preparing the waste management plan.

(4) The address of the local Soil and Water Conservation District office.

(5) Information informing the adjoining property owners and the property owners who own property located across a public road, street, or highway from the swine farm that they may submit written comments to the Division of Environmental Management, Department of Environment, Health, and Natural Resources.

(b) As used in this section, 'site evaluation' is defined in G.S. 106-802."

(b) Subsection (a) of this section does not repeal any rules that do not conflict with the provisions of that section.

Sec. 3. Part 1 of Article 21 of Chapter 143 of the General Statutes is amended by adding a new section to read:

"§ 143-215.3D. Fees for animal waste management systems.

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(a) The Department shall impose fees for the costs of permitting and inspecting animal waste management systems as follows:

(1) For each animal waste management system with a design capacity of at least 38,500 pounds steady state live weight and less than 100,000 pounds steady state live weight, an annual fee of fifty dollars ($50.00).

(2) For each animal waste management system with a design capacity of at least 100,000 pounds steady state live weight and less than 800,000 pounds steady state live weight, an annual fee of one hundred dollars ($100.00).

(3) For each animal waste management system with a design capacity of greater than or equal to 800,000 pounds steady state live weight, an annual fee of two hundred dollars ($200.00).

(b) The total monies collected each year from fees under this section shall not exceed forty percent (40%) of the total budgets from all sources of permitting and compliance programs for animal waste management systems within the Department."

PART II. DUTIES OF STATE AGENCIES.

Sec. 4. (a) The Department of Environment, Health, and Natural Resources shall design and, no later than October 1, 1996, begin to implement a system of permits for animal waste management systems, as defined in G.S. 143-215.1B, as enacted by Section 2 of this act. This system of permits shall be consistent with the provisions of Section 2 of this act. This system of permits shall provide for the issuance of one type of general permit for each type of species: swine, dairy cattle, poultry.

(b) The Department of Environment, Health, and Natural Resources shall develop a systematic monitoring and inspection program for animal waste management systems. This program shall include technical assistance provided by the Division of Soil and Water Conservation, Department of Environment, Health, and Natural Resources; the Agronomic Division, Department of Agriculture; and the Cooperative Extension Service, with the Division of Environmental Management, Department of Environment, Health, and Natural Resources, providing inspections required by G.S. 143-215.1B(g), as enacted by Section 2 of this act. The Natural Resources Conservation Service is encouraged to provide technical assistance to this monitoring and inspection program. Each animal waste management system shall be subjected to an annual operations review to assure full compliance with applicable laws and rules. Qualified staff from Soil and Water Conservation Districts may conduct the annual operations review, shall inform operators of animal waste management systems of any deficiency determined by the staff to be minor so that the operator has a reasonable opportunity to correct the deficiency before enforcement action is initiated, and shall inform the Division of Environmental Management of any deficiency determined by the staff to be a major deficiency that poses a threat to the environment or of any less serious deficiency that the operator exhibits an unwillingness to correct.

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Sec. 5. No later than October 1, 1996, the Environmental Management Commission shall implement the provisions of G.S. 143-215.1B(c)(1) through (8), as enacted by Section 2 of this act and define the term "chronic rainfall" as used in G.S. 143-215.1B(h)(2), as enacted by Section 2 of this act. No later than October 1, 1996, the Environmental Management Commission shall review the meaning of "no discharge of pollutants" as used in G.S. 143-215.1B(h)(2), as enacted by Section 2 of this act; determine whether this no discharge requirement is a performance standard or a technology standard; and clarify the meaning of "no discharge" such that the no discharge requirement for animal waste management systems is economically practical and technologically achieveable.

Sec. 6. No later than September 1, 1996, the Soil and Water Conservation Commission shall specify odor control best management practices, insect control best management practices, and best management practices for riparian buffers or equivalent controls consistent with the provisions of G.S. 143-215.1B(c)(1), (2), and (4), as enacted by Section 2 of this act.

Sec. 7. No later than October 1, 1996, the Environmental Management Commission and the Soil and Water Conservation Commission, with technical assistance from the Cooperative Extension Service, shall establish the record-keeping requirements under G.S. 143-215.1B(c)(8), as enacted by Section 2 of this act. The Natural Resources Conservation Service is encouraged to cooperate fully with establishing these requirements.

Sec. 8. (a) An interagency group is created to:

(1) Address questions from technical specialists and provide uniform interpretations to technical specialists regarding the requirements of the animal waste management rules.

(2) Publish its decisions on these questions on a regular and recurring basis.

(3) Provide uniform strategies for operators of intensive livestock operations to meet the December 31, 1997, deadline to obtain an approved animal waste management plan.

(4) Develop, no later than August 1, 1996, a standard for the use of riparian buffers or equivalent controls as best management practices, particularly along perennial streams; decide whether a uniform State standard, a uniform basinwide standard, or a site-specific standard best protects water quality; and submit the standard that the group decides upon to the Soil and Water Conservation Commission for adoption in developing best management practices for riparian buffers and equivalent controls under Section 6 of this act.

(b) The interagency group shall consist of two representatives from each of the following State agencies: the Division of Soil and Water Conservation, Department of Environment, Health, and Natural Resources; the Division of Environmental Management, Department of Environment, Health, and Natural Resources; the Department of Agriculture; and the Cooperative Extension Service.

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The General Assembly encourages the Natural Resources Conservation Service, United States Department of Agriculture, to provide two representatives from its agency to participate fully as members of the interagency group. The interagency group shall remain in existence until such time after December 31, 1997, that the Secretary of Environment, Health, and Natural Resources determines the interagency group is no longer needed to resolve issues related to certifying animal waste management plans.

PART III. ADDITIONAL ENFORCEMENT PROVISIONS.

Sec. 9. G.S. 143-215.2(a) reads as rewritten:

"(a) Issuance. -- The Commission is hereby empowered, after the effective date of classifications, standards and limitations adopted pursuant to G.S. 143-214.1 or G.S. 143-215, or a water supply watershed management requirement adopted pursuant to G.S. 143-214.5, to issue (and from time to time to modify or revoke) a special order, or other appropriate instrument, to any person whom it finds responsible for causing or contributing to any pollution of the waters of the State within the area for which standards have been established. Such an order or instrument may direct such person to take, or refrain from taking such action, or to achieve such results, within a period of time specified by such special order, as the Commission deems necessary and feasible in order to alleviate or eliminate such pollution. The Commission is authorized to enter into consent special orders, assurances of voluntary compliance or other similar documents by agreement with the person responsible for pollution of the water, subject to the provisions of subsection (a1) of this section regarding proposed orders, and such consent order, when entered into by the Commission after public review, shall have the same force and effect as a special order of the Commission issued pursuant to hearing. ~~Provided, however, that the provisions of this section shall not apply to any agricultural operation, such as the use or preparation of any land for the purposes of planting, growing, or harvesting plants, crops, trees or other agricultural products, or raising livestock or poultry.~~"

Sec. 10. G.S. 143-215(e) reads as rewritten:

"(e) Except as required by federal law or regulations, the Commission may not adopt effluent standards or limitations applicable to animal and poultry feeding operations. Notwithstanding the foregoing, where manmade pipes, ditches, or other conveyances have been constructed for the purpose of willfully discharging pollutants to the waters of the State, the Secretary shall have the authority to assess fines and penalties not to exceed ~~five thousand dollars ($5,000)~~ ten thousand dollars ($10,000) for the first offense. The definitions and provisions of 40 Code of Federal Regulations § 122.23 (July 1, 1990 Edition) shall apply to this subsection."

PART IV. TRAINING REQUIREMENTS FOR THE LAND APPLICATION OF WASTE.

Sec. 11. Part 9A of Article 21 of Chapter 143 of the General Statutes is repealed.

Sec. 12. G.S. 143B-301(a) reads as rewritten:

"(a) The Water Pollution Control System Operators Certification Commission shall consist of 11 members. Two members shall be from the animal agriculture

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industry and shall be appointed by the Commissioner of Agriculture. ~~nine~~ Nine members shall be appointed by the Secretary of Environment, Health, and Natural Resources with the approval of the Environmental Management Commission with the following qualifications:

(1) Two members shall be currently employed as water pollution control facility operators, water pollution control system superintendents or directors, water and sewer superintendents or directors, or equivalent positions with a North Carolina municipality;

(2) One member shall be manager of a North Carolina municipality having a population of more than 10,000 as of the most recent federal census;

(3) One member shall be manager of a North Carolina municipality having a population of less than 10,000 as of the most recent federal census;

(4) One member shall be employed by a private industry and shall be responsible for supervising the treatment or pretreatment of industrial wastewater;

(5) One member who is a faculty member of a four-year college or university and whose major field is related to wastewater treatment;

(6) One member who is employed by the Department of Environment, Health, and Natural Resources and works in the field of water pollution control, who shall serve as Chairman of the Commission;

(7) One member who is employed by a commercial water pollution control system operating firm; and

(8) One member shall be currently employed as a water pollution control system collection operator, superintendent, director, or equivalent position with a North Carolina municipality."

Sec. 13. Existing Article 3 of Chapter 90A of the General Statutes shall be designated Part 1 of that Article, to be entitled "Certification of Water Pollution Control System Operators", and is amended by adding a new Part 2 to read:

"Part 2. Certification of Animal Waste Management System Operators.

"§ 90A-47. Purpose.

The purpose of this Part is to reduce nonpoint source pollution in order to protect the public health and to conserve and protect the quality of the State's water resources, to encourage the development and improvement of the State's agricultural land for the production of food and other agricultural products, and to require the examination of animal waste management system operators and certification of their competency to operate or supervise the operation of those systems.

"§ 90A-47.1. Definitions.

As used in this Part:

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(1) 'Animal waste' means liquid residuals resulting from the raising of swine that are collected, treated, stored, or applied to the land through an animal waste management system.
(2) 'Animal waste management system' is defined in G.S. 143-215.1B.
(3) 'Application' means laying, spreading on, irrigating, or injecting animal waste onto land.
(4) 'Owner' means the person who owns or controls the land used for agricultural purposes or the person's lessee or designee.
(5) 'Operator in charge' means a person who holds a currently valid certificate to operate an animal waste management system and who has primary responsibility for the operation of the system.
(6) 'Swine production facility' means a facility for the housing and raising of swine designed to serve, and actually serving, more than 250 swine.

"§ 90A-47.2. Certified operator required; qualifications for certification.

(a) After December 31, 1997, no owner or other person in control of a swine production facility having an animal waste management system shall allow the system to be operated by a person who does not hold a valid certificate as an animal waste management system operator issued by the Commission. After December 31, 1997, no person shall perform the duties of an animal waste management system operator without being certified under the provisions of this Part. Certifications that were issued for animal waste management system operators under Part 9A of Article 21 of Chapter 143 of the General Statutes shall, subject to the provisions of this Part, continue in full force and effect.

(b) The owner or other person in control of a swine production facility may contract with a certified animal waste management system operator to provide for the operation of the animal waste management system at that facility. The Commission may adopt rules requiring that any certified animal waste management system operator contracting with one or more owners or other persons in control of a swine production facility file an annual report with the Commission as to the operations of each system at which the operator's services are provided.

"§ 90A-47.3. Qualifications for certification; training; examination.

(a) The Commission, in cooperation with the Division of Environmental Management, Department of Environment, Health, and Natural Resources, and the Cooperative Extension Service, shall develop and administer a program of training for animal waste management system operators. The educational program shall not exceed eight hours of classroom instruction and four hours of instruction in the field. Training materials shall be user-friendly and shall take into account the educational level of the applicants.

(b) The Commission shall develop procedures for the receipt of applications for certification, conduct of examinations, and investigation of the qualifications of applicants. In developing the examination, provisions shall be made for those persons with reading or learning difficulties and alternate testing methods provided upon request of the applicant.

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(c) The Commission shall issue a certificate as an operator in charge for each person who completes the training program established in subsection (a) of this section and demonstrates the operator's competence in the operation of animal waste management systems by passing an appropriate exam.

"§ 90A-47.4. Fees; certificate renewals.

(a) An applicant for certification under this Part shall pay a fee of ten dollars ($10.00) for the examination and the certificate.

(b) The certificate shall be renewed annually upon payment of a renewal fee of ten dollars ($10.00). A certificate holder who fails to renew the certificate and pay the renewal fee within 30 days of its expiration shall be required to take and pass the examination for certification in order to renew the certificate.

"§ 90A-47.5. Suspension; revocation of certificate.

The Commission, in accordance with the provisions of Chapter 150B of the General Statutes, may suspend or revoke the certificate of any operator found to:

(1) Have practiced fraud or deception in obtaining certification;

(2) Have failed to exercise reasonable care, judgement, or the application of the operator's knowledge and ability in the performance of the duties of an operator in charge; or

(3) Is incompetent or otherwise unable to properly perform the duties of an operator in charge.

In addition to revocation of a certificate, the Commission may levy a civil penalty, not to exceed one thousand dollars ($1,000) per violation, for willful violation of the requirements of this Part.

"§ 90A-47.6. Rules.

The Commission shall adopt rules to implement the provisions of this Part."

Sec. 14. The title of Article 3 of Chapter 90A of the General Statutes reads as rewritten:

"~~Certification of Water Pollution Control System Operators.~~ Certifications Issued by the Water Pollution Control System Operators Certification Commission."

PART V. CLARIFICATION OF THE SWINE FARM SITING ACT.

Sec. 15. Article 67 of Chapter 106 of the General Statutes reads as rewritten:

"ARTICLE 67.
"Swine Farms.

"§ 106-800. Title.

This Article shall be known as the 'Swine Farm Siting Act'.

"§ 106-801. Purpose.

The General Assembly finds that certain limitations on the siting of swine houses and lagoons for ~~larger~~ swine farms can assist in the development of pork ~~production to contribute~~ production, which contributes to the economic development of the ~~State while minimizing any~~ State, by lessening the interference with the use and enjoyment of adjoining property.

"§ 106-802. Definitions.

As used in this Article, unless the context clearly requires otherwise:

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(1) 'Lagoon' means a confined body of water to hold animal byproducts including bodily waste from animals or a mixture of waste with feed, bedding, litter or other agricultural ~~materials without discharge to surface waters of the State except in the event of a storm more severe than the 25-year, 24-hour storm.~~ materials.

(2) ~~'New swine farm' means any swine farm whose operations were sited on or after October 1, 1995. Renovation and reconstruction of existing farms does not constitute a 'new swine farm'.~~

(3) 'Occupied residence' means a dwelling actually inhabited by a person on a continuous basis as exemplified by a person living in his or her home.

(4) ~~'Siting' or 'site~~ 'Site evaluation' means an investigation to determine if a site meets all federal and State standards as evidenced by the Waste Management Facility Site Evaluation Report on file with the ~~Natural Resources Conservation Service~~ Soil and Water Conservation District office or a comparable report certified by a professional engineer or a comparable report certified by a technical specialist approved by the North Carolina Soil and Water Conservation ~~Commission and either of which report provides the basis for certification by the Division of Environmental Management pursuant to the rules appearing in the North Carolina Administrative Code governing waste not discharged to surface waters.~~ Commission.

(5) 'Swine farm' means a tract of land devoted to raising 250 or more animals of the porcine species.

(6) 'Swine house' means a building that shelters porcine animals on a continuous basis.

"§ 106-803. ~~Requirements~~ Siting requirements for ~~siting~~ swine ~~houses and lagoons.~~ houses, lagoons, and land areas onto which waste is applied at swine farms.

(a) A swine house or a lagoon that is a component of a swine farm shall be located at least 1,500 feet from any occupied residence; at least 2,500 feet from any school, hospital, or church; and at least 100 feet from any property boundary. The outer perimeter of the land area onto which waste is applied from a lagoon that is a component of a swine farm shall be at least 50 feet from any ~~residential property boundary~~ boundary of property on which an occupied residence is located and from any perennial stream or river, other than an irrigation ditch or canal.

(b) A swine house or a lagoon that is a component of a swine farm may be ~~sited~~ located closer to a residence, school, hospital, church, or a property boundary than is allowed under subsection (a) of this section if written permission is given by the owner of the property and recorded with the Register of Deeds.

"§ 106-804. Enforcement.

(a) Any person owning property directly affected by the siting requirements of G.S. 106-803 pursuant to subsection (b) of this section may bring a civil action against

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a swine farmer who has violated G.S. 106-803 and may seek any one or more of the following:

(1) Injunctive relief.

(2) An order enforcing the siting requirements under G.S. 106-803.

(3) Damages caused by the violation.

(b) A person is directly affected by the siting requirements of G.S. 106-803 only if the person owns:

(1) An occupied residence located less than 1,500 feet from a swine house or lagoon in violation of G.S. 106-803.

(2) A school, hospital, or church located less than 2,500 feet from a swine house or lagoon in violation of G.S. 106-803.

(3) Property whose boundary is located less than 100 feet from a swine house or lagoon in violation of G.S. 106-803.

(4) Property on which an occupied residence is located and whose boundary is less than 50 feet from the outer perimeter of the land area onto which waste is applied from a lagoon that is a component of a swine farm in violation of G.S. 106-803.

(5) Property that abuts a perennial stream or river, or on which a perennial stream or river is located, and that property and that perennial stream or river are less than 50 feet from the outer perimeter of the land area onto which waste is applied from a lagoon that is a component of a swine farm in violation of G.S. 106-803.

(c) If the court determines it is appropriate, the court may award court costs, including reasonable attorneys' fees and expert witness' fees, to any party. If a temporary restraining order or preliminary injunction is sought, the court may require the filing of a bond or equivalent security. The court shall determine the amount of the bond or security.

(d) Nothing in this section shall restrict any other right that any person may have under any statute or common law to seek injunctive or other relief."

Sec. 16. Section 2 of Chapter 420 of the 1995 Session Laws reads as rewritten:

"Sec. 2. This act becomes effective October 1, ~~1995, and applies to any new swine farm for which a site evaluation is conducted on or after that date.~~ 1995. This act applies to the construction or enlargement, on or after October 1, 1995, of swine houses, lagoons, and land areas onto which waste is applied from a lagoon that are components of a swine farm. This act does not apply under each of the following circumstances:

(1) When the construction or enlargement occurs on or after October 1, 1995, for the purpose of increasing the swine population to that set forth as the projected population in a registration of the swine operation filed with the Department of Environment, Health, and Natural Resources before October 1, 1995.

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(2) When the construction or enlargement occurs on or after October 1, 1995, for the purpose of increasing the swine population to the population that the animal waste management system is designed to accommodate as that system is set forth in a registration of the swine operation filed with the Department of Environment, Health, and Natural Resources before October 1, 1995, or as that system is set forth in an animal waste management plan approved before October 1, 1995.

(3) When the construction or enlargement occurs on or after October 1, 1995, for the purpose of complying with applicable animal waste management rules and not for the purpose of increasing the swine population."

Sec. 17. It is the intent of the General Assembly that Sections 15 and 16 of this act, other than new G.S. 106-804, as enacted in Section 15 of this act, clarify ambiguous language in the Swine Farm Siting Act, as enacted by Chapter 420 of the 1995 Session Laws, and do not change the intent of that act.

PART VI. MISCELLANEOUS PROVISIONS.

Sec. 18. G.S. 143-215.74(b)(5) reads as rewritten:

"(5) Funding may be provided to assist practices including conservation tillage, diversions, filter strips, field borders, critical area plantings, sediment control structures, sod-based rotations, grassed waterways, strip-cropping, terraces, cropland conversion to permanent vegetation, grade control structures, water control structures, emergency spillways, riparian buffers or equivalent controls, odor control best management practices, insect control best management practices, and animal waste managements systems and application. Funding for animal waste management shall be allocated for practices in river basins such that the funds will have the greatest impact in improving water quality."

Sec. 19. G.S. 143-215.74(b)(6) reads as rewritten:

"(6) State funding shall be limited to seventy-five percent (75%) of the average cost for each practice with the assisted farmer providing twenty-five percent (25%) of the cost (which may include in-kind support) with a maximum of ~~fifteen thousand dollars ($15,000) per year~~ seventy-five thousand dollars ($75,000) total to each applicant."

Sec. 20. (a) By September 1, 1996, all operators of animal waste management systems, as defined in G.S. 143-215.1B(h), as enacted by Section 2 of this act, shall contact their local Soil and Water Conservation District office and initiate the process to obtain an approved animal waste management plan pursuant to 15A N.C.A.C. 2H.0217. Operators who meet this September 1, 1996, deadline shall be placed on a list to receive high priority for technical assistance. Operators who do not meet this deadline are not assured of receiving technical assistance before December 31, 1997.

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(b) The Environmental Management Commission may enter into special agreements or contracts with operators who register by the September 1, 1996 deadline under subsection (a) of this section and make a good faith effort to obtain an approved animal waste management plan by December 31, 1997. The Environmental Management Commission shall not issue a notice of violation of 15A N.C.A.C. 2H.0217 to these operators. The special agreement or contract shall set forth a schedule for an operator to follow to obtain an approved animal waste management plan by December 31, 1997.

(c) The Environmental Management Commission shall strictly enforce the penalties available against those operators who fail to comply with subsection (a) of this section or otherwise fail to make a good faith effort to obtain an approved animal waste management plan by December 31, 1997.

(d) The board of each Soil and Water Conservation District shall develop a strategy to help the operators of animal waste management systems in its district obtain approved animal waste management plans by December 31, 1997.

Sec. 21. The Division of Environmental Management, Department of Environment, Health, and Natural Resources, shall, as a matter of State policy, encourage the development of alternative animal waste treatment and disposal technologies, shall provide incentives to operators of animal waste management systems to participate in the evaluation of new and innovative waste management technologies, and shall ensure that the regulatory process does not limit the use of innovative technologies and that the evaluation of these technologies is made in a timely manner.

PART VII. EFFECTIVE DATES.

Sec. 22. (a) Section 1 of this act becomes effective January 1, 1998.

(b) G.S. 143-215.1B(h), as enacted by Section 2 of this act, is effective upon ratification. G.S. 143-215.1B(c)(1), (2), (3), (6), (7), and (8), as enacted by Section 2 of this act, become effective September 1, 1996, and apply to all animal waste management systems for which an approved animal waste management plan is obtained on or after that date and apply to all other animal waste management systems as of January 1, 1998. G.S. 143-215.1B(c)(4) and (5), as enacted by Section 2 of this act, become effective September 1, 1996, and apply to all animal waste management systems that are constructed or expanded beyond their design capacity on or after that date. G.S. 143-215.1B(e), as enacted by Section 2 of this act, becomes effective December 31, 1997, except the last sentence of that subsection becomes effective October 1, 1996. G.S. 143-215.1B(g) and G.S. 143-215.1C, as enacted by Section 2 of this act, and Section 3 of this act become effective October 1, 1996, and G.S. 143-215.1C applies to any new swine farm constructed on or after that date and to any existing swine farm that expands its animal waste management system beyond design capacity on or after that date. The remainder of Section 2 of this act becomes effective January 1, 1998, and applies to all animal waste management systems.

(c) Section 18 of this act becomes effective July 1, 1996. The remaining sections of this act are effective upon ratification. Sections 9 and 10 of this act apply to violations that occur on or after the date of ratification.

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APPENDIX D

GENERAL ASSEMBLY OF NORTH CAROLINA

SESSION 1995

H **D**

HOUSE DRH5219-LDZ226C(5.15)

Short Title: Animal Waste Funds. (Public)

Sponsors: Representative J. Brown.

Referred to:

A BILL TO BE ENTITLED

AN ACT TO APPROPRIATE FUNDS TO SUPPORT CERTAIN RECOMMENDATIONS OF THE BLUE RIBBON STUDY COMMISSION ON AGRICULTURAL WASTE.

The General Assembly of North Carolina enacts:

Section 1. (a) There is appropriated from the General Fund to the Division of Soil and Water Conservation, Department of Environment, Health, and Natural Resources, the sum of three million eight hundred thousand dollars ($3,800,000) for the 1996-97 fiscal year for the Agriculture Cost Share Program for Nonpoint Source Pollution Control to be used for the costs associated with obtaining an approved animal waste management plan.

(b) G.S. 143-215.74(b)(5) reads as rewritten:

"(5) Funding may be provided to assist practices including conservation tillage, diversions, filter strips, field borders, critical area plantings, sediment control structures, sod-based rotations, grassed waterways, strip-cropping, terraces, cropland conversion to permanent vegetation, grade control structures, water control structures, <u>emergency spillways, riparian buffers or equivalent controls, odor control best management practices, insect control best management practices,</u> and animal waste managements systems and application. <u>Funding for animal waste management shall be allocated for projects in river basins such that the funds will have the greatest impact in improving water quality.</u>"

(c) G.S. 143-215.74(b)(6) reads as rewritten:

"(6) State funding shall be limited to seventy-five percent (75%) of the average cost for each practice with the assisted farmer providing twenty-five percent (25%) of the cost (which may include in-kind support) with a maximum of ~~fifteen thousand dollars ($15,000) per year~~ seventy-five thousand dollars ($75,000) total to each applicant."

Sec. 2. There is appropriated from the General Fund to the Division of Soil and Water Conservation, Department of Environment, Health, and Natural Resources, the sum of one million four hundred seventeen thousand five hundred dollars ($1,417,500) for the 1996-97 fiscal year to support the Division to provide technical assistance to operators of animal operations that are in the process of obtaining an approved animal waste management plan pursuant to the animal waste management rules.

Sec. 3. There is appropriated from the General Fund to the Division of Environmental Management, Department of Environment, Health, and Natural Resources, the sum of four hundred eighty-four thousand dollars ($484,000) for the 1996-97 fiscal year to establish and support positions in the Division to conduct permitting, inspection, and enforcement activities for animal waste management systems.

Sec. 4. There is appropriated from the General Fund to the Department of Agriculture the sum of six hundred seventy-two thousand eight hundred dollars ($672,800) for the 1996-97 fiscal year to establish and support seven positions in the Department to conduct tests of animal waste and of soils of crops onto which the waste has been applied at animal operations.

Sec. 5. There is appropriated from the General Fund to the Department of Environment, Health, and Natural Resources the sum of two hundred eighty-six thousand dollars ($286,000) for the 1996-97 fiscal year for the Department to enter into a contract with a research institution to design and implement a scientifically valid study that uses available technology for the purpose of identifying the nonpoint sources of nitrogen in the surface waters of the State. The results of this study shall be reported to the Department and to the Environmental Review Commission no later than January 1, 1999.

Sec. 6. (a) There is appropriated from the General Fund to the Department of Environment, Health, and Natural Resources the sum of four hundred thousand dollars ($400,000) for the 1996-97 fiscal year for the Department to enter into a contract with a research institution to design and implement a scientifically based study for the purpose of determining the extent to which lagoons pose a threat, if any, to the groundwater of this State. Lagoons that are representative of soil types and hydrologic conditions in North Carolina shall be selected for this study.

(b) For purposes of this study, a lagoon is posing a threat to groundwater if nitrate levels exceed 10 parts per million in a location beyond 250 feet of the boundary of the lagoon.

(c) An environmental interest group, a regulatory agency, and a commodity group representing the pork industry shall participate in this study.

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(d) The results of this study shall be reported to the Department and to the Environmental Review Commission no later than January 1, 1999.

Sec. 7. There is appropriated from the General Fund to the Board of Governors of The University of North Carolina the sum of five hundred thousand dollars ($500,000) for the 1996-97 fiscal year for the North Carolina Agricultural Research Service at North Carolina State University to serve as a focal point for experimentation with and testing of alternative animal waste disposal technologies for use in agriculture.

Sec. 8. There is appropriated from the General Fund to the Division of Soil and Water Conservation, Department of Environment, Health, and Natural Resources, the sum of six hundred thousand dollars ($600,000) for the 1996-97 fiscal year to enter into a contract to conduct research into economically feasible odor control technology and to provide detailed economic analysis of odor management alternatives; provided these funds are matched with an equal sum from private sources. Accurate information regarding the identity of research funding sources under this section shall be published and made available to the general public.

Sec. 9. This act becomes effective July 1, 1996.

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APPENDIX E

NONDISCHARGE RULE FOR ANIMAL WASTE MANAGEMENT SYSTEMS
(15A NCAC 2H .0217)

PROCEDURES AND GUIDELINES TO IMPLEMENT THE NONDISCHARGE RULES FOR ANIMAL WASTE MANAGEMENT SYSTEMS
(15A NCAC 6F)

demonstrates that the DEM approved site has adequate capacity to accept the residuals.

(9) A construction sequence plan must be submitted with applications for an Authorization to Construct for modification of existing wastewater treatment facilities. The plan must outline the construction sequence to ensure continuous operation of the treatment system.

(c) Fees for Authorization to Construct Permits

(1) For every application for a new or modified construction permit, for facilities with a permitted flow of greater than 100,000 gallons per day, a nonrefundable application processing fee of two hundred dollars ($200.00) must be submitted.

(2) For every application for a new or modified construction permit, for facilities with a permitted flow of equal to or less than 100,000 gallons per day but greater than 1,000 gallons per day, a nonrefundable application processing fee of one hundred and fifty dollars ($150.00) must be submitted.

(3) For every application for a new or modified construction permit, for facilities with a permitted flow of equal to or less than 1,000 gallons per day, a nonrefundable application processing fee of one hundred dollars ($100.00) must be submitted.

HISTORY NOTE

Statutory Authority G.S. 143-215.1(c)(1);
Eff. October 1, 1987;
Amended Eff. March 1, 1993; August 3, 1992.

.0139 MINIMUM DESIGN REQUIREMENTS

All facilities requiring a permit pursuant to this Section shall be designed following good engineering practice and comply with the minimum design requirements specified in Rule 2H .0219 of this Subchapter. The plans and specifications must be stamped and sealed by a Professional Engineer licensed in North Carolina unless all three of the following conditions are met:

(1) the plans and specifications are for domestic waste from a single family dwelling with flows of 1000 gallons per day or less, and

(2) the plans and specifications are prepared by the homeowner, and contain complete information needed to evaluate the proposed facility, and

(3) the effluent limitations are for secondary treatment.

HISTORY NOTE

Statutory Authority G.S. 143-215.1(c)(1);
Eff. October 1, 1987.

.0140 CERTIFICATION OF COMPLETION

Prior to operation of any treatment works or disposal system permitted in accordance with this Section, a certification must be received from a professional engineer certifying that the treatment works or disposal system has been installed in accordance with the approved plans and specifications. For facilities with phased construction or where there is a need to operate certain equipment under actual operating conditions prior to certification, additional certification may be needed as follow-ups to the initial, pre-operation, certification. In cases where the treatment works or disposal system was designed by a homeowner rather than a professional engineer, either the permittee or a professional engineer must submit this certification.

HISTORY NOTE

Statutory Authority G.S. 143-215.1(c)(1);
Eff. October 1, 1987.

.0141 OPERATIONAL AGREEMENTS

Prior to issuance or reissuance of a permit pursuant to this Section for a wastewater facility as specified in G.S. 143-215.1(d1), the applicant must either provide evidence to show that the applicant has been designated as a public utility by the State Utilities Commission or enter into a properly executed operational agreement with the Division of Environmental Management. The requirement for assurance of financial solvency will be made on a case by case determination.

HISTORY NOTE

Statutory Authority G.S. 143-215.1(d1);
Eff. October 1, 1987.

.0142 USE/WASTEWATER TRTMT WORKS EMGCY MAIN: OPER/REPAIR FUND

(a) In cases in which water quality standards are violated or an environmental health threat exists, monies from the Wastewater Treatment Works Emergency Maintenance, Operation and Repair Fund may be used at the discretion of the Director to correct the cause of such conditions.

(b) In this, the Director shall:

(1) Ensure the fiscal integrity of the fund;

(2) Use the fund only as a measure of last resort to protect water quality or public health when all other compliance and enforcement procedures have failed;

(3) Limit the use of the fund to wastewater treatment works with design flow capacities of less than or equal to one hundred thousand gallons per day (100,000 GPD);

(4) Notify the permittee by certified mail of the intention to take emergency corrective action and to recoup monies spent;

(5) Make every effort to recoup fund expenditures, including collection costs, from the parties responsible;

(6) Coordinate use of the fund with the program of the Public Utilities Commission when a permittee is also a regulated utility; and

(7) Provide a quarterly accounting of the fund to the Commission.

HISTORY NOTE

Statutory Authority G.S. 143-215.3(a); 143-215.3B(c); 143-215.3B(e);
Eff. August 1, 1988.

SECTION .0200 – WASTE NOT DISCHARGED TO SURFACE WATERS

.0201 PURPOSE

The rules in this Section set forth the requirements and procedures for application and issuance of permits for the following systems which do not discharge to surface waters of the state:

(1) sewer systems;
(2) disposal systems;
(3) treatment works; and
(4) residual and residue disposal/utilization systems;
(5) animal waste management systems;
(6) treatment of petroleum contaminated soils; and
(7) stormwater management systems pursuant to 15A NCAC 2H .1000.

HISTORY NOTE

Statutory Authority G.S. 143-215.3(a)(1); 143-215.1;
Eff. February 1, 1976;
Amended Eff. September 1, 1995; February 1, 1993; November 1, 1987.

.0202 SCOPE

The rules in this Section apply to all persons proposing to construct, alter, extend, or operate any sewer system, treatment works, disposal system, petroleum contaminates soil treatment system, animal waste management system, stormwater management system or residual disposal/utilization system which does not discharge to surface waters of the state, including systems which discharge waste onto or below land surface. However, these Rules do not apply to sanitary sewage systems or solid waste management facilities which are permitted under the

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authority of the Commission for Health Services. The provisions for stormwater management systems can be found in 15A NCAC 2H .1000.

HISTORY NOTE

Statutory Authority G.S. 130A-335; 143-215.1; 143-215.3(a)(1);
Eff. February 1, 1976;
Amended Eff. September 1, 1995; February 1, 1993; November 1, 1987.

.0203 DEFINITION OF TERMS

The terms used in this Section shall be as defined in G.S. 143-213 except for G.S. 143-213(15) and (18)a. and as follows:

(1) "Agronomist" means an individual who is a Certified Professional Agronomist by ARCPACS (American Registry of Certified Professionals in Agronomy, Crops and Soil) or an individual with a demonstrated knowledge in agronomy.

(2) "Animal waste" means livestock or poultry excreta or a mixture of excreta with feed, bedding, litter or other materials.

(3) "Animal waste management system" means a combination of structural and non-structural practices which will properly collect, treat, store or apply animal waste to the land such that no discharge of pollutants occurs to surface waters of the state by any means except as a result of a storm event more severe than the 25-year, 24-hour storm.

(4) "Approved animal waste management plan" means a plan to properly collect, store, treat or apply animal waste to the land in an environmentally safe manner and approved according to the procedures established in 15A NCAC 2H .0217(a)(1)(H).

(5) "Bedrock" means any consolidated or coherent and relatively hard, naturally-formed mass of mineral matter which cannot be readily excavated without the use of explosives or power equipment.

(6) "Building" means any structure or part of a structure built for the separate shelter or enclosure of persons, animals, chattels, or property of any kind and which has enclosing walls for at least 50 percent of its perimeter. Each unit separated from other units by a four hour fire wall shall be considered as a separate building.

(7) "Building drain" means that part of the lowest piping of a drainage system which receives waste from inside the building and conveys it to the building sewer which begins 10 feet outside the building wall.

(8) "Building sewer" means that part of the horizontal piping of a drainage system which receives the discharge from a single building drain and conveys it directly to a public sewer, private sewer, or on-site sewage disposal system. Pipelines or conduits, pumping stations and appliances appurtenant thereto will not be considered to be building sewers if they traverse adjoining property under separate ownership or travel along any highway right of way.

(9) "C horizon" means the unconsolidated material underlying the soil solum, which may or may not be the same as the parent material from which the solum is formed but is below the zones of major biological activity and exhibits characteristics more similar to rock than to soil.

(10) "Director" means the Director of the Division of Environmental Management, Department of Environment, Health, and Natural Resources or his delegate.

(11) "Dedicated site" means a site:

(a) to which residuals are applied at rates or frequencies greater than agronomically justifiable, or where the primary use of the land is for residual disposal and crop or ground cover production is of secondary importance,

(b) any residual disposal site designated by the Director, or

(c) where the primary use of the land is for the repetitive treatment of soils containing petroleum products or petroleum contaminated residues and crop or ground cover production is of secondary importance.

(12) "Deemed permitted" means that a facility is considered as having a needed permit and being compliant with the permitting requirements of G.S. 143-215.1(a) even though it has not received an individual permit for its construction or operation.

(13) "Division" or "(DEM)" means the Division of Environmental Management, Department of Environment, Health, and Natural Resources.

(14) "Existing animal waste management system" means any animal waste management system which:

(a) was completed and was being operated on the effective date of this Rule,

(b) serves a feedlot stocked with animals after the effective date of this Rule and has been deemed permitted pursuant to 15A NCAC 2H .0217(a)(1), or

(c) serves a feedlot that has been abandoned or unused for a period of less than four years.

(15) "Expanded animal waste management system" means animal waste treatment and storage facilities which require an increase over the existing animal waste design treatment and storage capacity due to an increase in animal population at the feedlot.

(16) "Feedlot" means a lot or building or combination of lots and buildings intended for the confined feeding, breeding, raising or holding of animals and specifically designed as a confinement area in which animal waste may accumulate or where the concentration of animals is such that an established vegetative cover cannot be maintained. The confinement period must be for at least 45 days out of a 12 month period and not necessarily consecutive days. Pastures shall not be considered feedlots under this Rule.

(17) "General Permit" means a permit issued under G.S. 143-215.1(b)(3) and (4).

(18) "Groundwaters" means those waters in the saturated zone of the earth as defined in 15A NCAC 2L.

(19) "Industrial wastewater" means all wastewater other than sewage and includes:

(a) wastewater resulting from any process of industry or manufacture, or from the development of any natural resource;

(b) wastewater resulting from processes of trade or business, including wastewater from laundromats and vehicle/equipment washes, but not wastewater from restaurants;

(c) stormwater will not be considered to be an industrial wastewater unless it is contaminated with an industrial wastewater;

(d) any combination of sewage and industrial wastewater;

(e) municipal wastewater will be considered to be industrial wastewater unless it can be demonstrated to the satisfaction of the Division that the wastewater contains no industrial wastewater;

(f) Petroleum contaminated groundwater extracted as part of an approved groundwater remediation system.

(20) "Infiltration Systems" means a subsurface ground absorption system expressly designed for the introduction of previously treated petroleum contaminated water into the subsurface environment.

(21) "New animal waste management system" means animal waste management systems which are constructed and operated at a site where no feedlot existed previously or where a system serving a feedlot has been abandoned or unused for a period of four years or more and is then put back into service.

(22) "Process to Further Reduce Pathogens" or "PFRP" means a residuals stabilization process that reduces pathogens to below detection levels. The procedures that may be utilized to meet this requirement are contained in 40 CFR 257, Appendix II which is hereby incorporated by reference including any subsequent amendments and editions. Copies of this publication are available from the Government Institutes, Inc., 4 Research Place, Suite 200, Rockville, MD 20850-1714 for a cost of thirty-six dollars ($36.00) each plus four dollars ($4.00) shipping and handling. Copies are also available for review at the Division of Environmental Management, Archdale Building, 512 N. Salisbury Street, P. O. Box 29535, Raleigh, North Carolina 27626-0535.

(23) "Process to Significantly Reduce Pathogens" or "PSRP" means a residuals stabilization process that provides the minimal acceptable lever of pathogen and vector attraction reduction prior to land application. The procedures that may be utilized to meet this requirement are contained in 40 CFR 257, Appendix II which is hereby incorporated by reference including any subsequent amendments and editions. Copies of this publication are available from the Government Institutes, Inc., 4

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Research Place, Suite 200, Rockville, MD 20850–1714 for a cost of thirty–six dollars ($36.00) each plus four dollars ($4.00) shipping and handling. Copies are also available for review at the Division of Environmental Management, Archdale Building, 512 N. Salisbury Street, P.O. Box 29535, Raleigh, North Carolina 27626–0535.

(24) "Petroleum contaminated soil" or "Soil containing petroleum products" shall mean any soil that has been exposed to petroleum products because of any emission, spillage, leakage, pumping, pouring, emptying, or dumping of petroleum products onto or beneath the land surface and that exhibits characteristics or concentrations of typical petroleum product constituents in sufficient quantities as to be detectable by compatible laboratory analytical procedures.

(25) "Petroleum product" means all petroleum products as defined by G.S. 143–215.94A(7) and includes motor gasoline, aviation gasoline, gasohol, jet fuels, kerosene, diesel fuel, fuel oils (#1–#6), and motor oils (new and used).

(26) "Pollutant" means waste as defined in G.S. 143–213(18).

(27) "Private sewer" means any part of a sewer system which collects wastewater from more than one building, is privately owned and is not directly controlled by a public authority.

(28) "Professional engineer" means a person who is presently registered and licensed as a professional engineer by the North Carolina State Board of Registration For Professional Engineers and Land Surveyors.

(29) "Public or community sewage system" means a single system of sewage collection, treatment, or disposal owned and operated by a sanitary district, a metropolitan sewage district, a water and sewer authority, a county, a municipality, or a public utility.

(30) "Public sewer" means a sewer located in a dedicated public street, roadway, or dedicated public right–of–way or easement which is owned or operated by any municipality, county, water or sewer district, or any other political subdivision of the state authorized to construct or operate a sewer system.

(31) "Rapid infiltration system" means rotary distributor systems or other similar systems that dispose of tertiary treated waste at high surface area loading rates of greater than 1.5 gpd/ft^2.

(32) "Residuals" means any solid or semisolid waste, other than residues from agricultural products and processing generated from a wastewater treatment facility, water supply treatment facility or air pollution control facility permitted under the authority of the Environmental Management Commission.

(33) "Residues from agricultural products and processing" means solids, semi–solids or liquid residues from food and beverage processing and handling; silviculture; agriculture; and aquaculture operations permitted under the authority of the Environmental Management Commission that are non–toxic, non–hazardous and contain no domestic wastewater.

(34) "Sewage" means the liquid and solid human waste, and liquid waste generated by domestic water–using fixtures and appliances, from any residence, place of business, or place of public assembly. Sewage does not include wastewater that is totally or partially industrial wastewater, or any other wastewater not considered to be domestic waste.

(35) "Sewer system" means pipelines or conduits, pumping stations, specialized mode of conveyance and appliances appurtenant thereto, used for conducting wastes to a point of ultimate disposal.

(36) "Soil remediation at conventional rates" means the utilization of soils containing petroleum products by land application methods, at an evenly distributed thickness not to exceed six inches.

(37) "Soil remediation at minimum rates" means the treatment of soils containing petroleum products by land application methods, at an evenly distributed application thickness not to exceed an average of one inch.

(38) "Soil scientist" means an individual who is a Certified Professional in Soils through the NCRCPS (N.C. Registry of Certified Professionals in Soils) or a Certified Professional Soil Scientist or Soil Specialist by ARCPACS (American Registry of Certified Professionals in Agronomy, Crops and Soils) or a Registered Professional Soil Scientist by NSCSS (the National Society of Consulting Soil Scientist) or can provide documentation that he/she meets the minimum education and experience requirements for certification or registration by one or more of the organizations named in this Subparagraph or upon approval by the Director, an individual with a demonstrated knowledge of Soil Science.

(39) "Staff" means the staff of the Division of Environmental Management, Department of Environment, Health, and Natural Resources.

(40) "Stormwater" is defined in G.S. 143, Article 21.

(41) "Subsurface ground absorption sewage disposal system" means a waste disposal method which distributes waste beneath the ground surface and relies primarily on the soil for leaching and removal of dissolved and suspended organic or mineral wastes. Included are systems for public or community sewage systems and systems which are designed for the disposal of industrial wastes. Land application systems utilizing subsurface residual injection are not included.

(42) "Surface waters" means all waters of the state as defined in G.S. 143–212 except underground waters.

(43) "Toxicity test" means a test for toxicity conducted using the procedures contained in 40 CFR 261, Appendix II which is hereby incorporated by reference including any subsequent amendments and editions. Copies of this publication are available from the Government Institutes, Inc., 4 Research Place, Suite 200, Rockville, MD 20850–1714 for a cost of thirty–six dollars ($36.00) each plus four dollars ($4.00) shipping and handling. Copies are also available for review at the Division of Environmental Management, Archdale Building, 512 N. Salisbury Street, P.O. Box 29535, Raleigh, North Carolina 27626–0535.

(44) "Treatment works or disposal system which does not discharge to surface waters" means any treatment works, facility or disposal system which is designed to:

(a) operate as closed system with no discharge to waters of the state, or

(b) dispose/utilize of wastes, including residuals, residues, contaminated soils and animal waste, to the surface of the land, or

(c) dispose of wastes through a subsurface absorption system.

(45) "Waste oil" means any used nonhazardous petroleum product other than crankcase oil. Crankcase oil mixed with other used nonhazardous petroleum products will be considered as waste oil.

HISTORY NOTE

Statutory Authority G.S. 130A–335; 143–213; 143–215.3(a)(1);
Eff. February 1, 1976;
Amended Eff. September 1, 1995; February 1, 1993; August 1, 1988; November 1, 1987.

.0204 ACTIVITIES WHICH REQUIRE A PERMIT

No person shall do any of the things or carry out any of the activities contained in N.C.G.S. 143–215.1(a)(1) thru (11) until or unless the person shall have applied for and received a permit from the Director (or if appropriate an approved local sewer system program) and shall have complied with the conditions prescribed in the permit.

HISTORY NOTE

Statutory Authority G.S. 130A–335; 143–215.1; 143–215.3(a)(1);
Eff. February 1, 1976;
Amended Eff. September 1, 1995; October 1, 1987; February 1, 1986.

.0205 APPLICATION: FEES: SUPPORTING INFORMATION: REQUIREMENTS

(a) Jurisdiction. Applications for sewer system extensions under the jurisdiction of a local sewer system program shall be made in accordance with applicable local laws and ordinances. Applications for permits from the Division shall be made in accordance with this Rule as follows.

(b) Applications. Application for a permit must be made in triplicate on official forms completely filled out, where applicable, and fully executed in the manner set forth in Rule .0206 of this Section. A processing fee as described herein must be submitted with each application in the form of a check or money order made payable to N.C. Department of Environment, Health, and Natural Resources. Applications may be

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.0213 MODIFICATION AND REVOCATION OF PERMITS

Any permit issued by the Division pursuant to these Rules is subject to revocation, or modification upon 60 days notice by the Director in whole or part for good cause including but not limited to:

(1) violation of any terms or conditions of the permit;

(2) obtaining a permit by misrepresentation or failure to disclose fully all relevant facts;

(3) refusal of the permittee to allow authorized employees of the Department of Environment, Health, and Natural Resources upon presentation of credentials:

(a) to enter upon permittee's premises on which a system is located in which any records are required to be kept under terms and conditions of the permit;

(b) to have access to any copy and records required to be kept under terms and conditions of the permit;

(c) to inspect any monitoring equipment or method required in the permit; or

(d) to sample any discharge of pollutants.

(4) failure to pay the annual fee for administering and compliance monitoring.

HISTORY NOTE

Statutory Authority G.S. 143–215.3(a)(1); 143–215.1(b)(2);
Eff. February 1, 1976;
Amended Eff. February 1, 1993; August 1, 1988; October 1, 1987; November 1, 1978.

.0214 INVESTIGATIONS: MONITORING AND REPORTING

HISTORY NOTE

Statutory Authority G.S. 143–215.3(a); 143–215.1(b);
Eff. February 1, 1976;
Amended Eff. November 1, 1978;
Repealed Eff. October 1, 1987.

.0215 DELEGATION OF AUTHORITY

For permits issued by the Division, the Director is authorized to delegate any or all of the functions contained in these Rules except the following:

(1) denial of a permit application;

(2) revocation of a permit not requested by the permittee;

(3) modification of a permit not requested by the permittee.

HISTORY NOTE

Statutory Authority G.S. 143–215.3(a)(1); 143–215.3(a)(4);
Eff. February 1, 1976;
Amended Eff. February 1, 1993; October 1, 1987; February 1, 1986.

.0216 LIMITATION ON DELEGATION

HISTORY NOTE

Statutory Authority G.S. 143–215.3(a)(1); 143–215.9(d); 143–215.3(a)(4);
Eff. February 1, 1976;
Repealed Eff. February 1, 1986.

.0217 PERMITTING BY REGULATION

(a) The following nondischarge facilities are deemed to be permitted pursuant to G.S. 143–215.1(d) and it shall not be necessary for the Division to issue individual permits for construction or operation of the following facilities:

(1) Animal waste management systems for which waste does not reach the surface waters by runoff, drift, direct application or direct discharge during operation or land application and which meet the following criteria:

(A) Systems which are designed for, and actually serve, less than the following number of animals and all other systems not specifically mentioned in this Rule:

100 head of cattle

75 horses

250 swine

1,000 sheep

30,000 birds with a liquid waste system

Although these systems are not required to obtain an approved animal waste management plan, animal waste treatment and storage facilities such as, but not limited to, lagoons, ponds, and drystacks which are designed and constructed to serve new, upgraded or expanded facilities under these size criteria are encouraged to meet the same minimum standards and specifications as required for an approved animal waste management plan. Systems that are determined to have an adverse impact on water quality may be required to obtain an approved animal waste management plan or to apply for and receive an individual nondischarge permit from DEM.

(B) Poultry operations which use a dry litter system if records are maintained for one year which include the dates the litter was removed, the estimated amount of litter removed and the location of the sites where the litter was land applied by the poultry operation, the waste is applied at no greater than agronomic rates and if litter is stockpiled not closed than 100 feet from perennial waters as indicated on the most recent published version of U.S.G.S. 1:24.000 (7.5 minute) scale topographic maps and other waters as determined by the local soil and water conservation district. If a third party applicators is used, records must be maintained of the name, address and phone number of the third party applicator.

(C) Land application sites under separate ownership from the waste generator, receiving animal waste from feedlots which is applied by either the generator or a third party applicator, when all the following conditions are met:

(i) the waste is applied at no greater than agronomic rates;

(ii) a vegetative buffer (separation) of at least 25 feet is maintained from perennial waters as indicated on the most recent published version of U.S.G.S. 1:24,000 (7.5 minute) scale topographic maps and other waters as determined by the local soil and water conservation district, if a wet waste application system is used.

(D) Existing animal waste management systems serving equal to or greater than the number of animals as listed in Part (a)(1)(A) of this Rule until December 31, 1997. In addition, a registration form for the system must be submitted to DEM on forms supplied or approved by DEM pursuant to Paragraph (c) of this Rule. Systems that are determined to have an adverse impact on water quality may be required to obtain an approved animal waste management plan or to apply for and receive an individual nondischarge permit from DEM.

(E) Existing animal waste management systems serving equal to or greater than the number of animal as listed in Part (a)(1)(A) of this Rule, which have an approved animal waste management plan by December 31, 1997. Systems that do not have an approved animal waste management plan or are determined to have an adverse impact on water quality may be required to apply for and receive an individual nondischarge permit from DEM.

(F) New and expanded animal waste management systems serving equal to or greater than the number of animals listed in Part (a)(1)(A) of this Rule which are placed in operation during the period from the effective date of this Rule through December 31, 1993 and which submitted a registration form for the system to DEM on forms supplied or approved by DEM. Systems that are determined to have an adverse impact on water quality may be required to obtain an approved animal waste management plan or to apply for and receive an individual nondischarge permit]from DEM.

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(G) New and expanded animal waste management systems serving equal to or greater than the number of animals listed in Part (a)(1)(A) of this Rule, which have an approved animal waste management plan after December 31, 1993.

(H) For the purpose of this Rule, the procedures for the development of an approved animal waste management plan shall be as follows:

(i) The animal waste management practices or combination of practices which are selected to comprise a plan for a specific feedlot must meet the minimum standards and specifications of the U.S. Department of Agriculture – Soil Conservation Service contained in the Field Office Technical Guide or the standard of practices adopted by the Soil and Water commission or standards for any combination of practices which provide water quality protection and are approved by one of these two agencies.

(ii) Plans must be certified by any technical specialist designated pursuant to rules adopted by the Soil and Water Conservation Commission and the certificate submitted to the DEM central office on forms approved or supplied by DEM. The technical specialist must certify that the best management practices which comprise the plan meet the applicable minimum standards and specifications. Should the Soil and Water Conservation Commission fail to adopt rules to implement the provisions of this Rule within 12 months of its effective date, all animal waste management systems that would have been required to obtain an approved animal waste management plan must apply for and receive an individual nondischarge permit from the Division of Environmental Management.

(iii) The land application buffers must meet the conditions established in Subpart (a)(1)(C)(ii) of this Rule.

(iv) The waste shall not be applied at greater than agronomic rates.

(v) For new or expanded animal waste management systems requiring a plan, plan approval must include an on–site inspection to confirm that animal waste storage and treatment structures such as but not limited to lagoons and ponds have been designed and constructed to meet the appropriate minimum standards and specifications.

(vi) New and expanded animal waste storage and treatment facilities such as but not limited to lagoons and ponds shall be located at least 100 feet from perennial waters as indicated on the most recent published version of U.S.G.S. 1:24,000 (7.5 minute) scale topographic maps and other waters as determined by the local soil and water conservation district. This buffer requirement shall also apply to areas where an established vegetative cover will not be maintained because of the concentration of animals, with the exception of stream crossings. Animal waste storage/treatment facilities and animal concentration areas will be exempt from the minimum buffer requirements if it can be documented that no practicable alternative exists and that equivalent controls are used as approved by the Soil and Water Conservation Commission.

(vii) For new facilities, an animal waste management plan must be approved before animals are initially stocked. For an expanded facility, an animal waste management plan must be approved before the additional animals are stocked. New and expanded systems may be constructed in phases as long as each phase meets the minimum criteria established in Subpart (a)(1)(H)(i) of this Rule.

(viii) For existing animal waste management systems, the animal waste management plan shall include only operational and maintenance standards and specifications in effect on the date of plan approval . Meeting minimum design and construction standards and specifications for existing animal waste storage and treatment structures, such as but not limited to lagoons and ponds, shall not be required for plan approval.

(ix) An approved plan for an existing animal waste management system may be amended at any time without submitting a new certification to DEM if the revision meets minimum standards and specifications and is approved by any technical specialist designated pursuant to Subpart (a)(1)(H)(ii) of this Rule.

(x) For animal waste management systems which use third party applicators, the plan must require a current record to be maintained for a period of one year which includes the name, address and phone number of the third party applicator, the date of removal of the animal waste and the amount of waste removed.

(xi) An approved plan is not required to be approved again when revisions are made to the minimum standards and specifications, but such revision, as applicable, will be encouraged to be incorporated into the plan.

(xii) For each change in ownership of the feedlot, the new owner must notify DEM in writing within 60 days of transfer of ownership that the approved plan has been read and is understood and that all provisions of the plan will be implemented.

(xiii) A copy of the approved plan, the signed certification form and any approved revisions to the plan shall be maintained by the operator.

(2) Treatment works and disposal systems for solid waste disposal sites and composting facilities for solid waste, residuals or residues approved in accordance with the rules of the Commission for Health Services if the Commission for Health Services has received the written concurrence of the Director. The term solid waste is used as defined in G.S. 130A–290 and includes hazardous waste.

(3) Any building sewer documented by the local building inspector to be in compliance with the N.C. State Plumbing Code.

(4) Sites permitted under the authority of the Commission for Health Services for the disposal/utilization of residuals/septage.

(5) Individual land application sites receiving compost or other stabilized residuals that are demonstrated as being nonhazardous and nontoxic, meet EPA's criteria for PFRP or Class A residuals as defined in 40 CFR 503, are registered by the North Carolina Department of Agriculture as a commercial fertilizer/soil amendment, are utilized at agronomic rates and are sold and used exclusively in bag form. No distinction will be made as to whether the material is bagged in North Carolina or shipped into the state already bagged.

(6) Storage sites for petroleum contaminated soils that are utilized for less than 45 days, storage is on 10 mil or thicker plastic, provisions are made for containing potential leachate and runoff and approval of the activity has been receiving from the appropriate DEM Regional Supervisor or his designee.

(7) Land application sites for petroleum contaminated soils with volumes of soil from each source of less than or equal to 50 cubic yards and approval of the activity has been received from the appropriate DEM Regional Supervisor or his designee.

(8) Swimming Pool filter backwash and pool drainage that is discharged to the land surface.

(9) Drilling muds, cuttings and well water from the development of wells.

(10) Composting facilities for dead animals, if the facilities are constructed and operated in accordance with guidelines approved by the North Carolina Department of Agriculture, are constructed on an impervious, weight–bearing foundation, operated under a roof and are approved by the State Veterinarian.

(11) Operations that involve routine maintenance or the rehabilitation of existing sewer lines. In situations where existing sewer lines are undergoing routine maintenance, the existing sewer lines are being rehabilitated by constructing or installing replacement sewers, or the existing sewer lines are being refurbished by the installation of some

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type of sealant or sleeve inside the existing sewer line, a specific nondischarge permit is not required. These operations will be deemed to be permitted as long as all construction and installation conforms to the design criteria of the Division pursuant to Rule .0219 of this Section, as long as new sources of wastewater flow are not being connected to the rehabilitated sewers, and as long as all replacements or newly constructed sewers are located in the same proximity (same general horizontal and vertical alignment) as the existing sewers. If any of the criteria in this Paragraph are not being adhered to, a site specific permit must be requested by the applicant. Additionally, once the maintenance or rehabilitation activities are completed, a North Carolina Professional Engineer's certification (form provided by the Division) must be submitted to the appropriate Regional Supervisor for the completed work.

(b) The Director however may on a case by case basis determine that a facility should not be deemed to be permitted in accordance with this Rule and be required to obtain individual nondischarge permits. This determination will be made based on existing or projected environmental impacts.

(c) All existing, new or expanding animal waste management systems serving equal to or greater than the number of animals as listed in Part (a)(1)(A) of this Rule must submit a registration form for the system to DEM. Failure to register on or before December 31, 1993, shall result in an appropriate enforcement action being initiated or the facility being required to apply for and receive an individual nondischarge permit. Penalties assessed may be based on any one or a combination of the factors as established in G.S. 143B–282.1(b) and commensurate with actual or potential environmental damage.

(d) Failure to obtain approval of a management plan as required by the dates specified in Paragraph (a)(1) of this Rule or failure to follow an approved animal waste management plan shall result in appropriate enforcement actions being initiated or the facility being required to apply for and receive an individual nondischarge permit. Penalties assessed may be based on any one or a combination of the factors as established in G.S. 143B–282.1(b) and commensurate with actual or potential environmental damage.

(e) The Secretary of Environment, Health, and Natural Resources is delegated the authority to assess fines and penalties for the willful discharge of animal waste from animal or poultry feeding operations pursuant to N.C. General Statutes 143–215(e).

(f) Nothing in this Rule shall be deemed to allow the violation of any assigned surface water, groundwater, or air quality standards, and in addition any such violation shall be considered a violation of a condition of a permit. Further, nothing in this Rule shall be deemed to apply to or permit activities for which a state/NPDES permit is otherwise required. The term NPDES means National Pollutant Discharge Elimination System.

HISTORY NOTE

Statutory Authority G.S. 130A–300; 143–215.1(a)(1); 143–215.3(a),(d);
Eff. February 1, 1976;
Amended Eff. February 1, 1993; December 1, 1984.

.0218 LOCAL PROGRAMS FOR SEWER SYSTEMS

(a) Jurisdiction. Municipalities, counties, local boards or commissions, water and sewer authorities, or groups of municipalities and counties may apply to the Commission for approval of programs for permitting construction, modification, and operation of public and private sewer systems in their utility service areas. Permits issued by approved local programs serve in place of permits issued by the Division.

(b) Applications. Applications for approval of local sewer system programs must provide adequate information to assure compliance with the requirements of G.S. 143–215.1(f) and the following requirements:

(1) Applications for local sewer system programs shall be submitted to the Director, Division of Environmental Management, Department of Environment, Health, and Natural Resources, P. O. Box 29535, Raleigh, North Carolina, 27626–0535.

(2) The program application shall include copies of permit application forms, permit forms, minimum design criteria, and other relevant documents to be used in administering the local program.

(3) An attorney representing the local unit of government submitting the application must certify that the local authorities for processing permit applications, setting permit requirements, enforcement, and penalties are compatible with those for permits issued by the Division.

(4) If the treatment and disposal system receiving the waste is under the jurisdiction of another local unit of government, then the program application must contain a written statement from that local unit of government that the proposed program complies with all its requirements and that the applicant has entered into a satisfactory contract which assures continued compliance.

(5) Any future amendments to the requirements of this Section shall be incorporated into the local sewer system program within 60 days of the effective date of the amendments.

(6) A professional engineer licensed to practice in this state shall be on the staff of the local sewer system program or retained as a consultant to review unusual situations or designs and to answer questions that arise in the review of proposed projects.

(7) Each project permitted by the local sewer system program shall be inspected for compliance with the requirements of the local program at least once during construction.

(8) A copy of each permit issued by the local sewer system program shall be sent to the regional office of the Division and another copy sent to the central office of the Division in Raleigh. Copies of the approved plans must also be submitted upon request by the Division.

(9) A semi–annually report shall be submitted to the Director with a copy to the appropriate DEM Regional Office, listing for each local permit issued during the quarter the name of the person receiving the permit, the permit number, the treatment facility receiving the waste, and the design flow and the type of waste for sewer system extensions or changes. The report shall also provide a listing and summary of all enforcement actions taken or pending during the quarter. The quarters begin on January 1, April 1, July 1, and October 1, and the report shall be submitted within 30 days after the end of each period.

(c) Approval of Local Programs. The staff of the division shall acknowledge in writing receipt of an application for a local sewer system program, review the application, notify the applicant of additional information that may be required, and make a recommendation to the Commission on the acceptability of the proposed local program. Final action on the proposed local program shall be made by the Commission within 180 days of receiving a complete application.

(d) Adequacy of Receiving Facilities. Local sewer system programs shall not issue a permit for a sewer project which would increase the flow or change the characteristics of waste to a treatment works or sewer system unless the local program has received a written determination from the Division that, pursuant to G.S. 143–215.67(a), the treatment works or sewer system is adequate to receive the waste. The Division staff may, when appropriate, provide one written determination that covers all local permits for domestic sewage sewer projects with total increased flow to a particular treatment works less than a specified amount and which are issued within a specified period of time not to exceed 60 days. In no case shall the local sewer system program issue a permit for additional wastewater if the receiving wastewater treatment is in noncompliance with its Division issued permit unless the additional flow is allowed as part of a special order or judicial order.

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SUBCHAPTER 6F – PROCEDURES AND GUIDELINES TO IMPLEMENT THE NONDISCHARGE RULE FOR ANIMAL WASTE MANAGEMENT SYSTEMS

.0001 PURPOSE

This Subchapter describes rules to implement the provisions of 15A NCAC 2H .0200 – Waste Not Discharged To Surface Waters, hereinafter called the Nondischarge Rule for Animal Waste Management Systems. In agreement with the Environmental Management Commission (EMC) and the Division of Environmental Management (DEM), the Soil and Water Conservation Commission sets forth these Rules in accordance with 15A NCAC 2H .0217. Alternatively, and in lieu of these Rules, the requirements of 15A NCAC 2H .0200 may be satisfied also by receiving an individual nondischarge permit from the Division of Environmental Management in accordance with 15A NCAC 2H .0217(d). An owner must either obtain certification under these Rules or meet DEM requirements for an individual nondischarge permit. The review process of the District does not abrogate the responsibilities of the owner to either obtain a certification or to meet DEM requirements for an individual nondischarge permit.

HISTORY NOTE

Filed as a Temporary Adoption Eff. December 9, 1993 for a Period of 180 Days or Until the Permanent Rule Becomes Effective, Whichever is Sooner;
Statutory Authority G.S. 139–2; 139–4; 143B–294;
Eff. March 1, 1994.

.0002 DEFINITIONS

The terms used in this Subchapter shall be as defined in G.S. 139–3; 143–215.74; 143B–294; 15A NCAC 2H .0203; 15A NCAC 6E .0002; and as follows:

(1) "Agronomic rates" means those amounts of animal waste or compost to be applied to lands as contained in the nutrient management standard of the USDA Soil Conservation Service Technical Guide Section IV or as recommended by the North Carolina Department of Agriculture and the North Carolina Cooperative Extension Service at the time of certification of the animal waste management plan.

(2) "Certification" means the certification required in the Nondischarge Rule for Animal Waste Management Systems (15A NCAC 2H .0217).

(3) "DEM" means the Division of Environmental Management, Department of Environment, Health, and Natural Resources, and the agency to receive the certification forms and responsible for enforcement of 15A NCAC 2H .0200.

(4) "Design approval authority" means that authority granted by the Commission to designated individuals or groups of individuals to certify that a BMP or the system of BMPs for waste management has been designed to meet the standards and specifications of practices adopted by the Commission.

(5) "Installation approval authority" means that authority granted by the Commission to designated individuals or groups of individuals to certify a BMP or system of BMPs for waste management has been installed to meet the standard of practices adopted by the Commission.

(6) "Technical Specialist" means individuals or groups of individuals designated by the Commission at 15A NCAC 6F .0005 to certify an entire or portion of an animal waste management plan.

HISTORY NOTE

Filed as a Temporary Adoption Eff. December 9, 1993 for a Period of 180 Days or Until the Permanent Rule Becomes Effective, Whichever is Sooner;
Statutory Authority G.S. 139–4; 143–215.74; 143B–294;
Eff. March 1, 1994.

.0003 REQUIREMENTS FOR CERTIFICATION OF WASTE MANAGEMENT PLANS

(a) In accordance with 15A NCAC 2H .0217(a)(1), owners of animal waste management systems are required to:

(1) obtain certification that the system will properly collect, treat, store, or apply animal waste to the land such that no discharge of pollutants occurs to surface waters of the state by any means except as a result of a storm event more severe than the 25–year, 24–hour storm as required in 15A NCAC 2H .0203(3); or

(2) receive an individual nondischarge permit from the Division of Environmental Management in accordance with 15A NCAC 2H .0217(d).

(b) The certification is to be made by a Technical Specialist designated pursuant to this Subchapter, and will confirm that the best management practices (BMPs) contained in the animal waste management plan meet applicable minimum standards and specifications. BMPs in an existing system are not required to meet current standards and specifications as established by the Commission as long as the system is certified to be nondischarging as required in 15A NCAC 2H .0203(3).

(c) More than one Technical Specialist may be consulted for the design of BMPs and installation of BMPs. A Technical Specialist must certify the entire animal waste management plan as installed.

(d) Upon receiving a certification from a Technical Specialist, the owner must submit a copy of the certification to DEM and a copy of both the certification and the waste management plan to the District in which the system is or is to be located.

(e) The District shall review the waste management plan and, within 30 days of receipt of the plan, notify the owner, the certifying Technical Specialist, DEM and the Division if the District does not concur that the certification was signed by an approved Technical Specialist and that the waste management plan satisfies the purpose of proper conservation and utilization of farm generated animal by–products. If the District, upon review, concurs with the certification, no further action is required.

(f) The District shall maintain a copy of all animal waste management plans and the accompanying certification form.

(g) If the District does not concur that the certification was signed by a Technical Specialist, or that the waste management plan is acceptable, and if either the owner or the DEM requests that the District reconsider its decision, the District shall review its decision and within 45 days of the request, notify the owner, the certifying Technical Specialist, DEM, and the Division of the District's final decision. The District is encouraged to utilize other technical specialists, local agricultural agencies and disinterested agricultural producers in reconsidering its initial decision. If the District fails to act within 45 days on a request for reconsideration, the District's initial decision shall become final.

(h) An owner not receiving concurrence from the District may request that the Commission mediate a dispute over concurrence. Nothing in this Rule creates an administrative remedy which must be exhausted prior to exercising permit appeal rights pursuant to the rules of the Environmental Management Commission.

(i) An owner who does not obtain a certification is not deemed permitted pursuant to G.S. 143–215.1(d) and must apply for an individual

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permit from the Division of Environmental Management. Nothing in these Rules prohibits permit appeal rights pursuant to the rules of the Environmental Management Commission.

(j) Any proposed modification of an animal waste management plan requires approval by a Technical Specialist.

(k) Any modifications made in the system as a result of changes in the operation such as types and numbers of animals, equipment, or crops, must be in accordance with the BMP standards and specifications approved by the Commission and in effect at the time of the modification.

(l) A change in the cropping pattern as a result of weather-caused delays after application of animal waste shall not require the owner to obtain a new certification as long as the owner followed the certified waste management plan application rates and no discharge occurs to surface waters.

(m) The certifying Technical Specialist and the District are not required to spot check or otherwise assure proper maintenance and operation of an animal waste management system installed to meet the DEM certification requirements. Enforcement of the Nondischarge Rule for Animal Waste Management Systems (15A NCAC 2H .0217) shall remain the responsibility of DEM.

HISTORY NOTE

Filed as a Temporary Adoption Eff. December 9, 1993 for a Period of 180 Days or Until the Permanent Rule Becomes Effective, Whichever is Sooner;
Statutory Authority G.S. 139-4; 143-215.74; 143B-294;
Eff. March 1, 1994.

.0004 APPROVED BEST MANAGEMENT PRACTICES (BMPs)

(a) The Commission will approve a list of BMPs that are acceptable as part of an approved animal waste management system. The list of BMPs will be approved annually (by August 1) and revised as needed during the year by the Commission.

(b) As required by DEM in 15A NCAC 2H .0217, a BMP or system of BMPs designed and installed for an animal waste management plan must either:

(1) meet the minimum standards and specifications of the US Department of Agriculture Soil Conservation Service Technical Guide, Section IV or minimum standards and specifications as otherwise determined by the Commission; or

(2) the owner must receive an approved individual nondischarge permit as required for the animal waste management system.

(c) BMPs approved for use in the Agriculture Cost Share Program for Nonpoint Source Pollution Control are hereby approved for these purposes.

(d) Land application BMPs following the nutrient management standard contained in the Section IV of the SCS Technical Guide or as recommended by the North Carolina Department of Agriculture (Soil Test Report and Waste Analysis, Form AD 10) and the Cooperative Extension Service (AG-439-4) (AG-439-5) (AG-439-28) are acceptable. In cases where agronomic rates are not specified in the nutrient management standard for a specific crop or vegetative type, application rates may be determined using the best judgement of the certifying Technical Specialist after consultation with NCDA or CES.

(e) Exemptions from the minimum buffer requirements for animal waste storage and treatment facilities and animal concentration areas are acceptable if no practical alternative exists and the BMP installed as an equivalent control meets the requirements for Nondischarge except as a result of a storm event more severe than the 25-year, 24-hour storm.

HISTORY NOTE

Filed as a Temporary Adoption Eff. December 9, 1993 for a Period of 180 Days or Until the Permanent Rule Becomes Effective, Whichever is Sooner;
Statutory Authority G.S. 139-4; 143-215.74; 143B-294;
Eff. March 1, 1994.

.0005 TECHNICAL SPECIALIST DESIGNATION

(a) As required in 15A NCAC 2H .0217, the Commission designates the following individuals or groups of individuals as Technical Specialists, to assist owners in animal waste management plan development and certification. No rights are afforded to Technical Specialists by this designation. Technical Specialists are defined as:

(1) Individuals who have been assigned design approval authority or installation approval authority by the USDA, Soil Conservation Service, the NC Cooperative Extension Service or the NC Department of Agriculture;

(2) Professional engineers subject to "The North Carolina Engineering and Land Surveying Act" as rewritten by Session Laws 1975, c. 681, s. 1, and recodified; and

(3) Individuals with demonstrated skill and experience in the design or installation of animal waste management system BMPs.

(b) Design approval authority or installation approval authority of Technical Specialists may be for specific BMPs or a system of BMPs to be applied to complete an entire or a portion of an animal waste management plan.

(c) Those individuals not designated in Subparagraphs (a)(1) or (2) of this Rule must:

(1) Meet the minimum qualifications established by the Commission for each BMP or system of BMPs;

(2) Provide to the NPS Section of the Division an "Application for Designation as a Technical Specialist" and evidence of demonstrated skill and experience required for a BMP or system of BMPs for which they are requesting Technical Specialist designation. This documentation must be received by the second Wednesday of the first month of the quarter in order to have the application reviewed for designation that quarter; and

(3) The individual may provide additional information and request that their approval authority be updated based on new evidence of skill and experience.

(d) A copy of the minimum requirements for skill and experience will be available at the District field office. The NPS Section of the Division will provide a list of designated Technical Specialists to all Districts, after each Commission meeting where action was taken concerning Technical Specialists. The list will specify the BMPs or system of BMPs which the Technical Specialist has designed or installed. The individual will be notified of the Commission action.

HISTORY NOTE

Filed as a Temporary Adoption Eff. December 9, 1993 for a Period of 180 Days or Until the Permanent Rule Becomes Effective, Whichever is Sooner;
Statutory Authority G.S. 139-4; 143-215.74; 143B-294;
Eff. March 1, 1994.

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APPENDIX F

Procedure for Adopting Animal Waste Standards in North Carolina

The failure of seven animal waste structures in eastern North Carolina, during heavy rains in the summer of 1995 and the ensuing public response, prompted the NRCS to examine the standards from which many of these structures were built. Because the state of North Carolina used the NRCS standards for compliance with the state's Agricultural Cost-Share Program and the state's .0200 animal waste regulatory law, all future animal waste structures in the state would conform to NRCS standards. NRCS recognized the need to provide a diverse spectrum of opinions to be heard in the formulation process.

Step One

The creation of State Technical Committees, in all states, was directed by the Secretary of Agriculture under authority provided in the 1990 Farm Bill. The question of examining North Carolina's animal waste standards was brought before this body in November, 1995.

The State Technical Committee created subcommittees to examine the structural aspect, the waste utilization aspect, and policy changes that might be needed. In order to provide a diverse opinion the membership on these subcommittees was expanded to include almost 40 people representing university research, agriculture and the animal waste industry, environmental organizations, state regulatory agencies, and natural resource conservation partners.

Step Two

The NRCS conducted engineering investigations and developed final reports for all the failed structures the agency assisted in designing. In the case of the Oceanview Farm accident, a team consisting of both state and regional engineers investigated the structure. A National Engineering Consequence Team with specialist from across the country was created to look at NRCS animal waste responsibilities nationally. The first state they visited was North Carolina. In all of these investigations the standards were examined.

Step Three

The subcommittees met many times over the next four months. In the subcommittees deliberations many sources of information were considered. Both the NRCS investigations and the findings of the National Engineering Consequence Team were considered. So were the findings of two independent engineering firms hired by the swine industry to examine NRCS standards. The findings of NC State University and those from the DEM's inventory of all the state's animal waste lagoons also provided the subcommittees with new information.

Step Four

In March, 1996, the subcommittees submitted their draft recommendations to the state conservationist. The subcommittees' recommendations were then presented to the Governor's Blue Ribbon Commission on Animal Waste. In addition, separate meetings were set up with

the leaders of the livestock production industry and the environmental organizations. The NCDA and the NCDEHNR leadership were also updated on the proposed changes.

Step Five

Draft standards were then developed using the recommendations of the subcommittees and the feedback from the targeted interest groups. The draft standards were then sent to a broader representation of the various interests involved. The draft standards were also sent to the regional engineering team and the national office for their information. At the same time the NRCS in North Carolina polled the neighboring states to see how the new standards conformed with other states.

Step Six

Final standards were developed in late April with plans to put them in effect June 1, 1996. The NC Soil & Water Conservation Commission will decide on May 1, 1996 if these new standards should be adopted for .0200 regulations.

CHANGES IN WASTE TREATMENT LAGOON STANDARD CODE 359

1. Additional 25-year, 24-hour storm for periods of excessive (heavy) rains. - Applies only to lagoons that do not have an outside drainage area.

2. Five years of sludge storage required. Current standard only recommends sludge storage.

3. Excess fresh water as recommended by NCSU.

   There will be some increase in the size of a typical lagoon:

   - Feeder to finish - 35-40%
   - Farrow to feed - 25%

   These increase sizes are due to sludge, "heavy.rainfall" and excess fresh water

4. All embankments will have 3:l side slopes. Current standard requires a combination (back and front) of 5:l with no slope steeper than 2:l.

5. Odor control measures:

   - Pipes must discharge below the surface
   - Recycle and irrigation pumps in aerobic layer
   - Precharge lagoons with half the treatment volume

6. Inspection/testing required for clay liners

7. Emergency Action Plan required

8. Irrigation design/plan required as part of Waste Utilization Plan

9. Requires soil investigation at embankment site. Depth equal to height of embankment.

10. Requires that observation trench be dug the entire length of embankment on site where tile drains may be present.

11. Lagoons without an outside drainage area do not need emergency spillways until they reach 1 million cu. ft. of waste treatment volume.

12. Changes mandated by .0200 Regulations and Senate Bill 1080.

WASTE HOLDING PONDS (PRIMARILY FOR DAIRIES) 425

1. No major changes except things mandated by the .0200 regulations and Senate Bill 1080
2. Emergency Action Plan
3. Inspection/testing required for clay liners
4. Requires soil investigation at embankment site. Depth equal to height of embankment.
5. Requires that observation trench be dug the entire length of embankment on site where tile drains may be present.

WASTE UTILIZATION STANDARD 633

1. Rate of nitrogen for grazed grass will be 50% of that used for hay. Current standard is 25% reduction.
2. Requires notarized agreement for using land for animal waste application that is not owned by the producer of the animal waste. This can be a one-year agreement.

   Current Standard - Requires written agreement for life of facility.
3. Setbacks required per .0200 and Senate Bill 1080. 25 feet or 50 feet from perennial streams.
4. Requires soil test every 2 years, liquid waste analysis twice a year, and dry waste analysis before application.
5. Requires that records be kept 5 years.
6. Emergency Action Plan required.
7. Highly visible markers for start and stop pumping.
8. Requires that animal waste be applied to land that is eroding at less than 5 tons per acre per year. Allows application if erosion is between 5-10 tons per acre annually providing that filter strips are used.

   Current Standard states less than 5 tons per acre annually or may be applied on land that has an acceptable Alternative Cropping System if the land has filter strips in addition to the buffer required by DEM.

   New standard is more understandable.
9. Added table on Soil Values Indicating Potential Phytotoxic Problems of Zinc and Copper per NCDA.

NUTRIENT MANAGEMENT 590

1. Adds forest as suitable area for waste application

FILTER STRIP - 393

1. Increase width from 15 to 25 feet in cropland where rows are perpendicular to stream and 5 to 15 feet where rows are parallel to stream.

2. Deleted filter strip for treating runoff from paved lots and milking parlors, because DEM will not accept these for .0200 certification. DEM considers these as point discharges.

3. Added 100-foot filter strip to address lounging areas that are normally void of vegetation in the winter months.

APPENDIX G

SAMPLE GENERAL PERMITS FOR ANIMAL WASTE MANAGEMENT SYSTEMS
(Swine, Cattle, Poultry)

State of North Carolina
Department of Environment,
Health and Natural Resources
Division of Environmental Management

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary
A. Preston Howard, Jr., P.E., Director

DEHNR

(Date)

(Name & Address of Applicant)

Subject: Certificate of Coverage No. AW(COC #)
(Name of Farm)
Swine Waste Operation
Land Application of Animal Wastes
(County Name) County

Dear (Farm Owner);

In accordance with your application received on **(date),** we are forwarding herewith Certificate of Coverage (COC) No. AW(Permit No.), dated **(date)** to **(applicant's name)** for the operation of an animal waste management system in accordance with the State's General Permit. This approval shall consist of the land application of animal waste from the (name of farm) Farm with an animal capacity of no greater than **(number and type of animal raised at these operations)** and is approved for application to approximately **(number of acres)** acres of land in **(county name)** County with no discharge of wastes to the surface waters, and in conformity with the facility's Certified Animal Waste Management Plan.

The COC shall be effective from the date of issuance until **(expiration date)** and shall be subject to the conditions and limitations as specified in the General Permit, the Certified Animal Waste Management Plan, and this COC. An adequate system for collecting and maintaining the required monitoring data and operational information must be established in order to avoid future compliance problems. Any increase in flow or increase in number of stocked animals above the number authorized by this COC will require a modification to the certified animal waste management plan and COC and shall be completed prior to actual increase in either flow or number of animals.

This COC shall be voided:

1. if the animal waste applications is not properly managed in accordance with the conditions of the general permit, the Certified Animal Waste Management Plan, and in the manner approved by the Division; or
2. if the soils fail to adequately assimilate the wastes and if the sites are not maintained and operated in a manner which will protect the assigned water quality standards of the surface waters and ground waters; or
3. **(Delete this condition if the Permittee owns all application sites)**unless the agreements between the Permittee and the landowners/lessees are in full force and effect. A copy of these agreements shall be maintained on site with a copy of this COC and the general permit. A copy of the agreement should be provided to the landowners.

The Permittee shall employ a certified animal waste application/residuals operator to be in responsible charge (ORC) of the animal waste application program. No waste shall be land applied after January 1, 1997, unless supervised by the ORC.

P.O. Box 29535, Raleigh, North Carolina 27626-0535 Telephone 919-733-7015 FAX 919-733-2496
An Equal Opportunity Affirmative Action Employer 50% recycled/ 10% post-consumer paper

DRAFT

The Permittee, at least six (6) months prior to the expiration of this COC, shall request its extension. Upon receipt of the request, the Commission will review the adequacy of the facilities described therein, and if warranted, will extend the permit for such period of time and under such conditions and limitations as it may deem appropriate.

This COC is not automatically transferable. A formal request must be submitted to the DEM prior to a name change or change in ownership.

If any parts, requirements, or limitations contained in this COC are unacceptable, you have the right to apply for an individual non-discharge permit by contacting the engineer listed below for information on this process. Unless such a request is made within 30 days, this COC shall be final and binding.

If you need additional information concerning this matter, please contact **(engineer's name)** at (919) 733-5083 ext. **(ext. number)**.

Sincerely,

A. Preston Howard, Jr., P.E.

cc: (County name) County Health Department
(DEM Regional Office for farm's county) Regional Office, Water Quality Section
(DEM Regional Office for farm's county) Regional Office, Groundwater Section
Groundwater Section, Central Office
Training and Certification Unit
(County name) County Soil and Water District
Division of Soil and Water
Facilities Assessment Unit
(County Name) County Natural Resource Conservation Service

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NORTH CAROLINA
ENVIRONMENTAL MANAGEMENT COMMISSION
DEPARTMENT OF ENVIRONMENT, HEALTH AND NATURAL RESOURCES

SWINE WASTE OPERATION GENERAL PERMIT

This permit shall be effective from the date of issuance until **(date)** and shall be subject to the following specified conditions and limitations:

I. PERFORMANCE STANDARDS

1. The animal waste application program shall be effectively maintained and operated as a non-discharge system to prevent the discharge of wastes to surface waters, wetlands, or surface water drainage systems (except for storm events exceeding the 25 year, 24 hour storm or the 30-day chronic rainfall event as defined by NRCS design standards).

2. The Certified Animal Waste Management Plan shall be considered a part of this general permit. Any violation of the Plan shall be considered a violation of this general permit and subject to appropriate enforcement actions. Such a violation may require the Permittee to cease applying animal waste to the sites and take any immediate corrective actions as may be required by the Division of Environmental Management (DEM).

3. For land application sites included in a plan certified prior to October 1, 1995, a vegetative buffer of 25 feet from the banks of perennial waters and intermittent streams must be maintained for existing facilities. For sites included in a plan certified after October 1, 1995, a vegetative buffer of 50 feet shall be maintained for existing facilities.

4. For new and expanding animal waste management systems, a vegetative buffer of 100 feet from the banks of perennial waters must be maintained from the following areas:

   a. Lounging areas or animal concentration areas;

   b. Waste management structures such as lagoons or ponds;

5. A copy of this permit and the Certified Animal Waste Management Plan shall be maintained **at the farm** where animal waste management activities are being conducted for the life of this permit.

II. OPERATION AND MAINTENANCE REQUIREMENTS

1. The treatment and storage facilities and application sites shall be properly maintained and operated at all times.

2. A suitable vegetative cover shall be maintained in accordance with the Certified Animal Waste Management Plan.

3. An acceptable pH of the soil shall be maintained on all land application sites to insure optimum yield for the crop(s) being grown.

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4. The Plant Available Nitrogen application rates identified in the Certified Animal Waste Management Plan shall not be exceeded. When two crops are planted on the application site in the same year, a second application of the waste will be limited and must account for the carryover nitrogen from the first crop.

5. Application of animal waste onto land which is used to grow crops for direct human consumption (e.g., strawberries, melons, lettuce, cabbage, apples, etc...) shall not occur within 30 days prior to the planting of the crop or in the case of fruit bearing trees, 30 days prior to breaking dormancy. For feed, fiber and food crops that undergo further processing, application of animal wastes shall not occur within 30 days of harvesting. If waste is to be applied on soil where no cover crop is established, the waste shall be incorporated into the soil within twenty-four (24) hours after application on the land.

6. Domestic and/or industrial wastewater from showers, toilets, sinks, etc. shall not be discharged into the animal waste management system. Washdown of stock trailers will be permissible as long as system design accommodates the additional flow and as long as readily biodegradable detergents and disinfectants are utilized.

7. Disposal of dead animals shall be done in accordance with the North Carolina Department of Agriculture (NCDA) regulations.

8. Grazing animals on an application site shall be accomplished in accordance with Natural Resources Conservation Service (NRCS) standards and the grazing shall be controlled.

9. No vehicular traffic or equipment shall be allowed on the waste disposal area except during installation or while normal planting, harvesting, irrigation, or maintenance is being performed.

10. All stormwater runoff from the surrounding property and buildings shall be diverted away from the animal waste lagoon to prevent any unnecessary addition to the liquid volume in the lagoon.

11. A protective vegetative cover will be established on all disturbed areas (lagoon embankments, berms, pipe runs, etc.) Vegetation such as trees, shrubs, and other woody species shall not occur on the lagoon dikes or sideslopes. Lagoon areas should be kept mowed and accessible. Lagoon berms and structures should be inspected regularly for evidence of erosion, leakage, animal damage or discharge and shall be repaired and certified as necessary. No grazing shall occur on the lagoons or dikes.

12. When removal of sludge from the lagoon is necessary, provisions must be taken to prevent damage to lagoon dikes and liners.

13. Solid materials such as bottles, light bulbs, gloves, syringes or any other solid waste from the animal waste operation shall be minimized from entering the treatment/storage lagoon and should be properly disposed in an approved landfill.

III. MONITORING AND REPORTING REQUIREMENTS

1. Waste handling structures, piping, pumps, reels, etc., under the control of the owner/operator shall be inspected regularly and a maintenance checklist shall be kept on site or readily available.

2. Proper records shall be maintained for a minimum of five years by the Permittee on forms provided by the DEM and shall be submitted to the DEM upon request.

3. A representative annual Standard Soil Fertility Analysis, as may be provided by the NCDA, shall be conducted of each field receiving animal waste in the respective calendar year and the results maintained on file by the Permittee for a minimum of five years.

4. An analysis of animal waste from the lagoon, as may be provided by the NCDA, shall be conducted initially after permit issuance and thereafter as specified in the Certified Animal Waste Management Plan. In no case shall this be less than once per permit term. The results shall be maintained on file by the Permittee for a minimum of five years.

5. A lagoon level gauge shall be installed within 30 days of issuance of a certificate of coverage under this general permit to monitor lagoon levels. This gauge shall have readily visible permanent markings indicating the maximum lagoon levels at which pump-out must begin, end of pump-out, and freeboard elevations. Where multiple lagoons are utilized, the storage lagoon(s) shall only need a gauge with a visible permanent markings indicating the pump-out begin and freeboard elevations. Caution must be taken not to damage the integrity of the liner when installing the gauge.

6. **Regional Notification:**

The Permittee shall report by telephone to the appropriate Regional Office (see attached list) as soon as possible, but in no case more than 24 hours or on the next working day following the occurrence or first knowledge of the occurrence of any of the following:

a. Any failure of the animal waste treatment and disposal program resulting in a discharge to surface waters.
b. Any time that the facility has gone out of compliance with the conditions of this permit.
c. Any failure of the animal waste treatment and disposal program that renders the facility incapable of adequately treating the animal waste and/or sludge.
d. Spillage or discharge from a vehicle or piping system transporting animal waste or sludge to the application sites which results in, or may result in, a discharge to surface waters.

Persons reporting such occurrences by telephone shall also file a written report in letter form within 5 days following first knowledge of the occurrence, if so directed by the Regional Office. This report must outline the actions taken or proposed to be taken to ensure that the problem does not recur.

IV. INSPECTIONS

Any duly authorized officer, employee, or representative of the DEM may, upon presentation of credentials and in accordance with appropriate biosecurity measures, enter and inspect any property, premises or place on or related to the application site or facility at any reasonable time for the purpose of determining compliance with this permit; may inspect or copy any records that must be kept under the terms and conditions of this permit; and may obtain samples of the wastewater, groundwater, or surface water.

V. GENERAL CONDITIONS

1. The issuance of a Certificate of Coverage (COC) under this permit shall not relieve the Permittee of the responsibility for damages to surface waters or ground waters resulting from the operation of this program.

2. Lagoons and other uncovered waste containment structures must not exceed an operating level that provides adequate storage to contain a 25 year, 24 hour storm event or the 30-day chronic rainfall event as defined by NRCS design standards. The maximum level of lagoon liquid shall not exceed that specified in the Certified Animal Waste Management Plan.

3. The Groundwater Compliance Boundary for the disposal system constructed after December 31, 1983, is established at either (1) 250 feet from the waste disposal area, or (2) 50 feet within the property boundary, whichever is closest to the waste disposal area. An exceedance of Groundwater Quality Standards at or beyond the Compliance Boundary is subject to immediate remediation action in addition to the penalty provisions applicable under the North Carolina General Statutes.

4. Failure to abide by the conditions and limitations contained in this permit and any COC issued under this permit may subject the Permittee to an enforcement action by the DEM in accordance with North Carolina General Statutes and may include the requirement to obtain an individual animal waste operation permit, the addition of treatment or storage units, or the addition of land application sites.

5. The issuance of a COC under this permit does not preclude the Permittee from complying with any and all statutes, rules, regulations, or ordinances which may be imposed by *this and* other government agencies (local, state, and federal) which have jurisdiction.

6. If animal production at the facility is to be suspended or terminated, the owner is responsible for obtaining and implementing a "closure plan" which will eliminate the possibility of an illegal discharge, pollution and erosion, or the potential for injury and shall include lagoon closure in accordance with NRCS standards in effect when the closure plan is developed and implemented. Closure shall also include notifying the DEM so a site visit can be conducted.

7. The annual administering and compliance fee must be paid by the Permittee within thirty (30) days after being billed by the Division. Failure to pay the fee accordingly may cause the Division to initiate action to revoke this permit as specified by 15 NCAC 2H .0205 (c)(4).

Permit issued this the **(date)** day of **(month)**, **(year)**.

NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION

_____

A. Preston Howard, Jr., P.E., Director
Division of Environmental Management
By Authority of the Environmental Management Commission

Animal Waste General Permit Number AWG100000

DIVISION OF ENVIRONMENTAL MANAGEMENT REGIONAL OFFICES

Asheville Regional WQ Supervisor
59 Woodfin Place
Asheville, NC 28801
(704) 251-6208
Fax (704) 251-6452

Avery	Macon
Buncombe	Madison
Burke	McDowell
Caldwell	Mitchell
Cherokee	Polk
Clay	Rutherford
Graham	Swain
Haywood	Transylvania
Henderson	Yancy
Jackson	

Washington Regional WQ Supervisor
Post Office Box 1507
Washington, NC 27889
(919) 946-6481
Fax (919) 975-3716

Beaufort	Jones
Bertie	Lenoir
Camden	Martin
Chowan	Pamlico
Craven	Pasquotank
Currituck	Perquimans
Dare	Pitt
Gates	Tyrell
Greene	Washington
Hertford	Wayne
Hyde	

Raleigh Regional WQ Supervisor
Post Office Box 27687
Raleigh, NC 27611
(919) 571-4700
Fax (919) 571-4718

Chatham	Nash
Durham	Northampton
Edgecombe	Orange
Franklin	Person
Granville	Vance
Halifax	Wake
Johnston	Warren
Lee	Wilson

Fayetteville Regional WQ Supervisor
Wachovia Building, Suite 714
Fayetteville, NC 28301
(910) 486-1541
Fax (910) 486-0707

Anson	Moore
Bladen	Robeson
Cumberland	Richmond
Harnett	Sampson
Hoke	Scotland
Montgomery	

Mooresville Regional WQ Supervisor
919 North Main Street
Mooresville, NC 28115
(704) 663-1699
Fax (704) 663-6040

Alexander	Lincoln
Cabarrus	Mecklenburg
Catawba	Rowan
Cleveland	Stanly
Gaston	Union
Iredell	

Wilmington Region. WQ Supervisor
127 Cardinal Drive Extension
Wilmington, NC 28405-3845
(910) 395-3900
Fax (910) 350-2004

Brunswick	New Hanover
Carteret	Onslow
Columbus	Pender
Duplin	

Winston-Salem Regional WQ Supervisor
585 Waughtown Street
Winston-Salem, NC 27107
(910) 771-4600
Fax (910) 771-4631

Alamance	Rockingham
Alleghany	Randolph
Ashe	Stokes
Caswell	Surry
Davidson	Watauga
Davie	Wilkes
Forsyth	Yadkin
Guilford	

State of North Carolina
Department of Environment,
Health and Natural Resources
Division of Environmental Management

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary
A. Preston Howard, Jr., P.E., Director

DEHNR

(Date)

(Name & Address of Applicant)

Subject: Certificate of Coverage No. AW(**COC #**)
(Name of Farm)
Cattle Waste Operations
Land Application of Animal Wastes
(County Name) County

Dear **(Farm Owner)**;

In accordance with your application received on **(date),** we are forwarding herewith Certificate of Coverage (COC) No. AW(**Permit No.**), dated **(date)** to **(applicant's name)** for the operation of an animal waste management system in accordance with the State's General Permit. This approval shall consist of the land application of animal waste from the **(name of farm)** Farm with an animal capacity of no greater than **(number and type of animal raised at these operations)** and is approved for application to approximately **(number of acres)** acres of land in **(county name)** County with no discharge of wastes to the surface waters, and in conformity with the facility's Certified Animal Waste Management Plan.

The COC shall be effective from the date of issuance until **(expiration date)** and shall be subject to the conditions and limitations as specified in the General Permit, the Certified Animal Waste Management Plan, and this COC. An adequate system for collecting and maintaining the required monitoring data and operational information must be established in order to avoid future compliance problems. Any increase in flow or increase in number of stocked animals above the number authorized by this COC will require a modification to the certified animal waste management plan and COC and shall be completed prior to actual increase in either flow or number of animals.

This COC shall be voided:

1. if the animal waste applications is not properly managed in accordance with the conditions of the general permit, the Certified Animal Waste Management Plan, and in the manner approved by the Division; or
2. if the soils fail to adequately assimilate the wastes and if the sites are not maintained and operated in a manner which will protect the assigned water quality standards of the surface waters and ground waters; or
3. **(Delete this condition if the Permittee owns all application sites)**unless the agreements between the Permittee and the landowners/lessees are in full force and effect. A copy of these agreements shall be maintained on site with a copy of this COC and the general permit. A copy of the agreement should be provided to the landowners.

The Permittee, at least six (6) months prior to the expiration of this COC, shall request its extension. Upon receipt of the request, the Commission will review the adequacy of the facilities described therein, and if warranted, will extend the permit for such period of time and under such conditions and limitations as it may deem appropriate.

This COC is not automatically transferable. A formal request must be submitted to the DEM prior to a name change or change in ownership.

If any parts, requirements, or limitations contained in this COC are unacceptable, you have the right to apply for an individual non-discharge permit by contacting the engineer listed below for information on this process. Unless such a request is made within 30 days, this COC shall be final and binding.

If you need additional information concerning this matter, please contact **(engineer's name)** at (919) 733-5083 ext. **(ext. number)**.

Sincerely,

A. Preston Howard, Jr., P.E.

cc: (County name) County Health Department
(DEM Regional Office for farm's county) Regional Office, Water Quality Section
(DEM Regional Office for farm's county) Regional Office, Groundwater Section
Groundwater Section, Central Office
Training and Certification Unit
(County name) County Soil and Water District
Division of Soil and Water
Facilities Assessment Unit
(County Name) County Natural Resource Conservation Service

ED_001369_00043850-00211

DRAFT

NORTH CAROLINA
ENVIRONMENTAL MANAGEMENT COMMISSION
DEPARTMENT OF ENVIRONMENT, HEALTH AND NATURAL RESOURCES

CATTLE WASTE OPERATION GENERAL PERMIT

This permit shall be effective from the date of issuance until **(date)** and shall be subject to the following specified conditions and limitations:

I. PERFORMANCE STANDARDS

1. The animal waste application program shall be effectively maintained and operated as a non-discharge system to prevent the discharge of pollutants to surface waters, wetlands, or surface water drainage systems (except for storm events exceeding the 25 year, 24 hour storm or the 30-day chronic rainfall event as defined by the NRCS design standards).

2. The Certified Animal Waste Management Plan shall be considered a part of this general permit. Any violation of the Plan shall be considered a violation of this general permit and subject to appropriate enforcement actions. Such a violation may require the Permittee to cease applying animal waste to the sites and take any immediate corrective actions as may be required by the Division of Environmental Management (DEM).

3. For land application sites included in a plan certified prior to October 1, 1995, a vegetative buffer of 25 feet from the banks of perennial waters and intermittent streams must be maintained for existing facilities. For sites included in a plan certified after October 1, 1995, a vegetative buffer of 50 feet shall be maintained for existing facilities.

4. For new and expanding animal waste management systems, a vegetative buffer of 100 feet from the banks of perennial waters must be maintained from the following areas:

   a. Lounging areas or animal concentration areas;

   b. Waste management structures such as lagoons or ponds;

5. A copy of this permit and the Certified Animal Waste Management Plan shall be maintained at the farm where animal waste management activities are being conducted for the life of this permit.

II. OPERATION AND MAINTENANCE REQUIREMENTS

1. The treatment and storage facilities and application sites shall be properly maintained and operated at all times.

2. A suitable vegetative cover shall be maintained in accordance with the Certified Animal Waste Management Plan.

3. An acceptable pH of the soil shall be maintained on all land application sites to insure optimum yield for the crop(s) being grown.

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4. The Plant Available Nitrogen application rates identified in the Certified Animal Waste Management Plan shall not be exceeded. When two crops are planted on the application site in the same year, a second application of the waste will be limited and must account for the carryover nitrogen from the first crop.

5. Application of animal waste onto land which is used to grow crops for direct human consumption (e.g., strawberries, melons, lettuce, cabbage, apples, etc...) shall not occur within 30 days prior to the planting of the crop or in the case of fruit bearing trees, 30 days prior to breaking dormancy. For feed, fiber and food crops that undergo further processing, application of animal wastes shall not occur within 30 days of harvesting. If waste is to be applied on soil where no cover crop is established, the waste shall be incorporated into the soil within twenty-four (24) hours after application on the land.

6. Domestic and/or industrial wastewater from showers, toilets, sinks, etc. shall not be discharged into the animal waste management system. Washdown of stock trailers will be permissible as long as system design accommodates the additional flow and as long as readily biodegradable detergents and disinfectants are utilized.

7. Disposal of dead animals shall be done in accordance with the North Carolina Department of Agriculture (NCDA) regulations.

8. Grazing of animals on an application site shall be accomplished in accordance with Natural Resources Conservation Service (NRCS) standards and the grazing shall be controlled.

9. No vehicular traffic or equipment shall be allowed on the waste disposal area except during installation or while normal planting, harvesting, irrigation, or maintenance is being performed.

10. All stormwater runoff from the surrounding property and buildings shall be diverted away from the animal waste storage ponds or lagoons whenever possible to prevent any unnecessary liquid addition to them. Runoff from lounging areas to the waste storage ponds or lagoons may be allowed if approved in the Certified Animal Waste Management Plan.

11. A protective vegetative cover will be established on all disturbed areas (storage ponds, lagoons, embankments, berms, pipe runs, emergency spillways, erosion control areas, etc.) Vegetation such as trees, shrubs, and other woody species shall not occur on the dikes or sideslopes of the storage ponds or lagoons. These areas should be kept mowed and accessible. Lagoon berms and structures should be inspected regularly for evidence of erosion, leakage, animal damage or discharge and shall be repaired and certified as necessary. No grazing shall occur on or near the storage ponds, lagoons or dikes.

12. When removal of sludge from the lagoon is necessary, provisions must be taken to prevent damage to lagoon dikes and liners.

13. Solid materials such as bottles, light bulbs, gloves, syringes or any other solid waste from the animal waste operation is prohibited from entering the treatment/storage lagoon and should be properly disposed in an approved landfill.

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III. MONITORING AND REPORTING REQUIREMENTS

1. Waste handling structures, piping, pumps, reels, etc., under the control of the owner/operator shall be inspected regularly and a maintenance checklist shall be kept on site or readily available.

2. Proper records shall be maintained for a minimum of five years by the Permittee on forms provided by the DEM and shall be submitted to the DEM upon request.

3. A representative annual Standard Soil Fertility Analysis, as may be provided by the NCDA, shall be conducted of each field receiving animal waste in the respective calendar year and the results maintained on file by the Permittee for a minimum of five years.

4. An analysis of animal waste from the treatment system, as may be provided by the NCDA, shall be conducted initially after permit issuance and thereafter as specified in the Certified Animal Waste Management Plan. In no case shall this be less than once per permit term. The results shall be maintained on file by the Permittee for a minimum of five years.

5. A lagoon level gauge shall be installed within 30 days of issuance of a certificate of coverage under this general permit to monitor lagoon levels. This gauge shall have readily visible permanent markings indicating the maximum lagoon levels at which pump-out must begin, end of pump-out, and freeboard elevations. Where multiple lagoons are utilized, the storage lagoon(s) shall only need a gauge with a visible permanent markings indicating the pump-out begin and freeboard elevations. Caution must be taken not to damage the integrity of the liner when installing the gauge.

6. **Regional Notification:**

   The Permittee shall report by telephone to the appropriate Regional Office (see attached list) as soon as possible, but in no case more than 24 hours or on the next working day following the occurrence or first knowledge of the occurrence of any of the following:

   a. Any failure of the animal waste treatment and disposal program resulting in a discharge to surface waters.
   b. Any time that the facility has gone out of compliance with the conditions of this permit.
   c. Any failure of the animal waste treatment and disposal program that renders the facility incapable of adequately treating the animal waste and/or sludge.
   d. Spillage or discharge from a vehicle or piping system transporting animal waste or sludge to the application sites which results in, or may result in, a discharge to surface waters.

   Persons reporting such occurrences by telephone shall also file a written report in letter form within 5 days following first knowledge of the occurrence, if so directed by the Regional Office. This report must outline the actions taken or proposed to be taken to ensure that the problem does not recur.

IV. INSPECTIONS

Any duly authorized officer, employee, or representative of the DEM may, upon presentation of credentials and in accordance with appropriate biosecurity measures, enter and inspect any property, premises or place on or related to the application site or facility at any reasonable time for the purpose of determining compliance with this permit; may inspect or copy any records that must be kept under the terms and conditions of this permit; and may obtain samples of the wastewater, groundwater, or surface water.

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V. GENERAL CONDITIONS

1. The issuance of a Certificate of Coverage (COC) under this permit shall not relieve the Permittee of the responsibility for damages to surface waters or ground waters resulting from the operation of this program.

2. Lagoons and other uncovered waste containment structures must not exceed an operating level that provides adequate storage to contain a 25 year, 24 hour storm event or the 30-day chronic rainfall event as defined by NRCS design standards.. The maximum level of lagoon liquid shall not exceed that specified in the Certified Animal Waste Management Plan.

3. The Groundwater Compliance Boundary for the disposal system constructed after December 31, 1983, is established at either (1) 250 feet from the waste disposal area, or (2) 50 feet within the property boundary, whichever is closest to the waste disposal area. An exceedance of Groundwater Quality Standards at or beyond the Compliance Boundary is subject to immediate remediation action in addition to the penalty provisions applicable under the North Carolina General Statutes.

4. Failure to abide by the conditions and limitations contained in this permit and any COC issued under this permit may subject the Permittee to an enforcement action by the DEM in accordance with North Carolina General Statutes and may include the requirement to obtain an individual animal waste operation permit, the addition of treatment or storage units, or the addition of land application sites.

5. The issuance of a COC under this permit does not preclude the Permittee from complying with any and all statutes, rules, regulations, or ordinances which may be imposed by *this and* other government agencies (local, state, and federal) which have jurisdiction.

6. If animal production at the facility is to be suspended or terminated, the owner is responsible for obtaining and implementing a "closure plan" which will eliminate the possibility of an illegal discharge, pollution and erosion, or the potential for injury and shall include lagoon closure in accordance with NRCS standards in effect when the closure plan is developed and implemented. Closure shall include notifying the DEM so a site visit can be conducted.

7. The annual administering and compliance fee must be paid by the Permittee within thirty (30) days after being billed by the Division. Failure to pay the fee accordingly may cause the Division to initiate action to revoke this permit as specified by 15 NCAC 2H .0205 (c)(4).

Permit issued this the **(date)** day of **(month)**, **(year)**.

NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION

_____

A. Preston Howard, Jr., P.E., Director
Division of Environmental Management
By Authority of the Environmental Management Commission

Cattle Waste General Permit Number AWG200000

ED_001369_00043850-00215

DIVISION OF ENVIRONMENTAL MANAGEMENT REGIONAL OFFICES

Asheville Regional WQ Supervisor
59 Woodfin Place
Asheville, NC 28801
(704) 251-6208
Fax (704) 251-6452

Avery
Buncombe
Burke
Caldwell
Cherokee
Clay
Graham
Haywood
Henderson
Jackson
Macon
Madison
McDowell
Mitchell
Polk
Rutherford
Swain
Transylvania
Yancy

Washington Regional WQ Supervisor
Post Office Box 1507
Washington, NC 27889
(919) 946-6481
Fax (919) 975-3716

Beaufort
Bertie
Camden
Chowan
Craven
Currituck
Dare
Gates
Greene
Hertford
Hyde
Jones
Lenoir
Martin
Pamlico
Pasquotank
Perquimans
Pitt
Tyrell
Washington
Wayne

Raleigh Regional WQ Supervisor
Post Office Box 27687
Raleigh, NC 27611
(919) 571-4700
Fax (919) 571-4718

Chatham
Durham
Edgecombe
Franklin
Granville
Halifax
Johnston
Lee
Nash
Northampton
Orange
Person
Vance
Wake
Warren
Wilson

Fayetteville Regional WQ Supervisor
Wachovia Building, Suite 714
Fayetteville, NC 28301
(910) 486-1541
Fax (910) 486-0707

Anson
Bladen
Cumberland
Harnett
Hoke
Montgomery
Moore
Robeson
Richmond
Sampson
Scotland

Mooresville Regional WQ Supervisor
919 North Main Street
Mooresville, NC 28115
(704) 663-1699
Fax (704) 663-6040

Alexander
Cabarrus
Catawba
Cleveland
Gaston
Iredell
Lincoln
Mecklenburg
Rowan
Stanly
Union

Wilmington Region. WQ Supervisor
127 Cardinal Drive Extension
Wilmington, NC 28405-3845
(910) 395-3900
Fax (910) 350-2004

Brunswick
Carteret
Columbus
Duplin
New Hanover
Onslow
Pender

Winston-Salem Regional WQ Supervisor
585 Waughtown Street
Winston-Salem, NC 27107
(910) 771-4600
Fax (910) 771-4631

Alamance
Alleghany
Ashe
Caswell
Davidson
Davie
Forsyth
Guilford
Rockingham
Randolph
Stokes
Surry
Watauga
Wilkes
Yadkin

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State of North Carolina
Department of Environment,
Health and Natural Resources
Division of Environmental Management

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary
A. Preston Howard, Jr., P.E., Director

DEHNR

(Date)

(Name & Address of Applicant)

Subject: Certificate of Coverage No. AW(**COC #**)
(Name of Farm)
Poultry Waste Operation
Land Application of Animal Wastes
(County Name) County

Dear **(Farm Owner)**;

In accordance with your application received on **(date),** we are forwarding herewith Certificate of Coverage (COC) No. AW(**Permit No.**), dated **(date)** to **(applicant's name)** for the operation of an animal waste management system in accordance with the State's General Permit. This approval shall consist of the land application of animal waste from the (name of farm) Farm with an animal capacity of no greater than **(number and type of animal raised at these operations)** and is approved for application to approximately **(number of acres)** acres of land in **(county name)** County with no discharge of wastes to the surface waters, and in conformity with the facility's Certified Animal Waste Management Plan.

The COC shall be effective from the date of issuance until **(expiration date)** and shall be subject to the conditions and limitations as specified in the General Permit, the Certified Animal Waste Management Plan, and this COC. An adequate system for collecting and maintaining the required monitoring data and operational information must be established in order to avoid future compliance problems. Any increase in flow or increase in number of stocked animals above the number authorized by this COC will require a modification to the certified animal waste management plan and COC and shall be completed prior to actual increase in either flow or number of animals.

This COC shall be voided.

1. if the animal waste applications is not properly managed in accordance with the conditions of the general permit, the Certified Animal Waste Management Plan, and in the manner approved by the Division; or
2. if the soils fail to adequately assimilate the wastes and if the sites are not maintained and operated in a manner which will protect the assigned water quality standards of the surface waters and ground waters; or
3. **(Delete this condition if the Permittee owns all application sites)**unless the agreements between the Permittee and the landowners/lessees are in full force and effect. A copy of these agreements shall be maintained on site with a copy of this COC and the general permit. A copy of the agreement should be provided to the landowners.

The Permittee shall employ a certified animal waste application/residuals operator to be in responsible charge (ORC) of the animal waste application program. No waste shall be land applied after January 1, 1997, unless supervised by the ORC.

P.O. Box 29535, Raleigh, North Carolina 27626-0535 Telephone 919-733-7015 FAX 919-733-2496
An Equal Opportunity Affirmative Action Employer 50% recycled/ 10% post-consumer paper

The Permittee, at least six (6) months prior to the expiration of this COC, shall request its extension. Upon receipt of the request, the Commission will review the adequacy of the facilities described therein, and if warranted, will extend the permit for such period of time and under such conditions and limitations as it may deem appropriate.

This COC is not automatically transferable. A formal request must be submitted to the DEM prior to a name change or change in ownership.

If any parts, requirements, or limitations contained in this COC are unacceptable, you have the right to apply for an individual non-discharge permit by contacting the engineer listed below for information on this process. Unless such a request is made within 30 days, this COC shall be final and binding.

If you need additional information concerning this matter, please contact **(engineer's name)** at (919) 733-5083 ext. **(ext. number)**.

Sincerely,

A. Preston Howard, Jr., P.E.

cc: **(County name)** County Health Department
(DEM Regional Office for farm's county) Regional Office, Water Quality Section
(DEM Regional Office for farm's county) Regional Office, Groundwater Section
Groundwater Section, Central Office
Training and Certification Unit
(County name) County Soil and Water District
Division of Soil and Water
Facilities Assessment Unit
(County Name) County Natural Resource Conservation Service

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DRAFT

NORTH CAROLINA
ENVIRONMENTAL MANAGEMENT COMMISSION
DEPARTMENT OF ENVIRONMENT, HEALTH AND NATURAL RESOURCES

POULTRY WASTE OPERATION GENERAL PERMIT

This permit shall be effective from the date of issuance until **(date)** and shall be subject to the following specified conditions and limitations:

I. PERFORMANCE STANDARDS

1. The animal waste application program shall be effectively maintained and operated as a non-discharge system to prevent the discharge of wastes to surface waters, wetlands, or surface water drainage systems (except for storm events exceeding the 25 year, 24 hour storm or the 30-day chronic rainfall event as defined by the NRCS design standards).

2. The Certified Animal Waste Management Plan shall be considered a part of this general permit. Any violation of the Plan shall be considered a violation of this general permit and subject to appropriate enforcement actions. Such a violation may require the Permittee to cease applying animal waste to the sites and take any immediate corrective actions as may be required by the Division of Environmental Management (DEM).

3. For land application sites included in a plan certified prior to October 1, 1995, a vegetative buffer of 25 feet from the banks of perennial waters and intermittent streams must be maintained for existing facilities. For sites included in a plan certified after October 1, 1995, a vegetative buffer of 50 feet shall be maintained for existing facilities.

4. For new and expanding animal waste management systems, a vegetative buffer of 100 feet from the banks of perennial waters must be maintained from the following areas:

   a. Lounging areas or animal concentration areas;

   b. Waste management structures such as lagoons or ponds;

5. A copy of this permit and the Certified Animal Waste Management Plan shall be maintained **at the farm** where animal waste management activities are being conducted for the life of this permit.

II. OPERATION AND MAINTENANCE REQUIREMENTS

1. The treatment and storage facilities and application sites shall be properly maintained and operated at all times.

2. A suitable vegetative cover shall be maintained in accordance with the Certified Animal Waste Management Plan.

3. An acceptable pH of the soil shall be maintained on all land application sites to insure optimum yield for the crop(s) being grown.

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4. The Plant Available Nitrogen application rates identified in the Certified Animal Waste Management Plan shall not be exceeded. When two crops are planted on the application site in the same year, a second application of the waste will be limited and must account for the carryover nitrogen from the first crop.

5. Application of animal waste onto land which is used to grow crops for direct human consumption (e.g., strawberries, melons, lettuce, cabbage, apples, etc...) shall not occur within 30 days prior to the planting of the crop or in the case of fruit bearing trees, 30 days prior to breaking dormancy. For feed, fiber and food crops that undergo further processing, application of animal wastes shall not occur within 30 days of harvesting. If waste is to be applied on soil where no cover crop is established, the waste shall be incorporated into the soil within twenty-four (24) hours after application on the land.

6. Domestic and/or industrial wastewater from showers, toilets, sinks, etc. shall not be discharged into the animal waste management system. Washdown of stock trailers will be permissible as long as system design accommodates the additional flow and as long as readily biodegradable detergents and disinfectants are utilized.

7. Disposal of dead animals shall be done in accordance with the North Carolina Department of Agriculture (NCDA) regulations.

8. Grazing animals on an application site shall be accomplished in accordance with Natural Resources Conservation Service (NRCS) standards and the grazing shall be controlled.

9. No vehicular traffic or equipment shall be allowed on the waste disposal area except during installation or while normal planting, harvesting, irrigation, or maintenance is being performed.

10. All stormwater runoff from the surrounding property and buildings shall be diverted away from the animal waste lagoon to prevent any unnecessary addition to the liquid volume in the lagoon.

11. A protective vegetative cover will be established on all disturbed areas (lagoon embankments, berms, pipe runs, etc.) Vegetation such as trees, shrubs, and other woody species shall not occur on the lagoon dikes or sideslopes. Lagoon areas should be kept mowed and accessible. Lagoon berms and structures should be inspected regularly for evidence of erosion, leakage, animal damage or discharge and shall be repaired and certified as necessary. No grazing shall occur on or near the lagoons or dikes.

12. When removal of the sludge from the lagoon is necessary, provisions must be taken to prevent damage to lagoon dikes and liners.

13. Solid materials such as bottles, light bulbs, gloves, syringes or any other solid waste from the animal waste operation is prohibited from entering the treatment/storage lagoon and should be properly disposed in an approved landfill.

III. MONITORING AND REPORTING REQUIREMENTS

1. Waste handling structures, piping, pumps, reels, etc., under the control of the owner/operator shall be inspected regularly and a maintenance checklist shall be kept on site or readily available.

2. Proper records shall be maintained for a minimum of five years by the Permittee on forms provided by the DEM and shall be submitted to the DEM upon request.

3. A representative annual Standard Soil Fertility Analysis, as may be provided by the NCDA, shall be conducted of each field receiving animal waste in the respective calendar year and the results maintained on file by the Permittee for a minimum of five years.

4. An analysis of animal waste from the lagoon, as may be provided by the NCDA, shall be conducted initially after permit issuance and thereafter as specified in the Certified Animal Waste Management Plan. In no case shall this be less than once per permit term. The results shall be maintained on file by the Permittee for a minimum of five years.

5. A lagoon level gauge shall be installed within 30 days of issuance of a certificate of coverage under this general permit to monitor lagoon levels. This gauge shall have readily visible permanent markings indicating the maximum lagoon levels at which pump-out must begin, end of pump-out, and freeboard elevations. Where multiple lagoons are utilized, the storage lagoon(s) shall only need a gauge with a visible permanent markings indicating the pump-out begin and freeboard elevations. Caution must be taken not to damage the integrity of the liner when installing the gauge.

6. **Regional Notification:**

   The Permittee shall report by telephone to the appropriate Regional Office (see attached list) as soon as possible, but in no case more than 24 hours or on the next working day following the occurrence or first knowledge of the occurrence of any of the following:

   a. Any failure of the animal waste treatment and disposal program resulting in a discharge to surface waters.
   b. Any time that the facility has gone out of compliance with the conditions of this permit.
   c. Any failure of the animal waste treatment and disposal program that renders the facility incapable of adequately treating the animal waste and/or sludge.
   d. Spillage or discharge from a vehicle or piping system transporting animal waste or sludge to the application sites which results in, or may result in, a discharge to surface waters.

   Persons reporting such occurrences by telephone shall also file a written report in letter form within 5 days following first knowledge of the occurrence, if so directed by the Regional Office. This report must outline the actions taken or proposed to be taken to ensure that the problem does not recur.

IV. INSPECTIONS

Any duly authorized officer, employee, or representative of the DEM may, upon presentation of credentials and in accordance with appropriate biosecurity measures, enter and inspect any property, premises or place on or related to the application site or facility at any reasonable time for the purpose of determining compliance with this permit; may inspect or copy any records that must be kept under the terms and conditions of this permit; and may obtain samples of the wastewater, groundwater, or surface water.

V. GENERAL CONDITIONS

1. The issuance of a Certificate of Coverage (COC) under this permit shall not relieve the Permittee of the responsibility for damages to surface waters or ground waters resulting from the operation of this program.

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2. Lagoons and other uncovered waste containment structures must not exceed an operating level that provides adequate storage to contain a 25 year, 24 hour storm event or the 30-day chronic rainfall event as defined by NRCS design standards. The maximum level of lagoon liquid shall not exceed that specified in the Certified Animal Waste Management Plan.

3. The Groundwater Compliance Boundary for the disposal system constructed after December 31, 1983, is established at either (1) 250 feet from the waste disposal area, or (2) 50 feet within the property boundary, whichever is closest to the waste disposal area. An exceedance of Groundwater Quality Standards at or beyond the Compliance Boundary is subject to immediate remediation action in addition to the penalty provisions applicable under the North Carolina General Statutes.

4. Failure to abide by the conditions and limitations contained in this permit and any COC issued under this permit may subject the Permittee to an enforcement action by the DEM in accordance with North Carolina General Statutes and may include the requirement to obtain an individual animal waste operation permit, the addition of treatment or storage units, or the addition of land application sites.

5. The issuance of a COC under this permit does not preclude the Permittee from complying with any and all statutes, rules, regulations, or ordinances which may be imposed by *this and* other government agencies (local, state, and federal) which have jurisdiction.

6. If animal production at the facility is to be suspended or terminated, the owner is responsible for obtaining and implementing a "closure plan" which will eliminate the possibility of an illegal discharge, pollution and erosion, or the potential for injury and shall include lagoon closure in accordance with NRCS standards in effect when the closure plan is developed and implemented. Closure shall also include notifying the DEM so a site visit can be conducted.

7. The annual administering and compliance fee must be paid by the Permittee within thirty (30) days after being billed by the Division. Failure to pay the fee accordingly may cause the Division to initiate action to revoke this permit as specified by 15 NCAC 2H .0205 (c)(4).

Permit issued this the **(date)** day of **(month)**, **(year)**.

NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION

_____

A. Preston Howard, Jr., P.E., Director
Division of Environmental Management
By Authority of the Environmental Management Commission

Poultry Waste General Permit Number AWG300000

ED_001369_00043850-00223

DIVISION OF ENVIRONMENTAL MANAGEMENT REGIONAL OFFICES

Asheville Regional WQ Supervisor
59 Woodfin Place
Asheville, NC 28801
(704) 251-6208
Fax (704) 251-6452

Avery	Macon
Buncombe	Madison
Burke	McDowell
Caldwell	Mitchell
Cherokee	Polk
Clay	Rutherford
Graham	Swain
Haywood	Transylvania
Henderson	Yancy
Jackson	

Washington Regional WQ Supervisor
Post Office Box 1507
Washington, NC 27889
(919) 946-6481
Fax (919) 975-3716

Beaufort	Jones
Bertie	Lenoir
Camden	Martin
Chowan	Pamlico
Craven	Pasquotank
Currituck	Perquimans
Dare	Pitt
Gates	Tyrell
Greene	Washington
Hertford	Wayne
Hyde	

Raleigh Regional WQ Supervisor
Post Office Box 27687
Raleigh, NC 27611
(919) 571-4700
Fax (919) 571-4718

Chatham	Nash
Durham	Northampton
Edgecombe	Orange
Franklin	Person
Granville	Vance
Halifax	Wake
Johnston	Warren
Lee	Wilson

Fayetteville Regional WQ Supervisor
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Anson	Moore
Bladen	Robeson
Cumberland	Richmond
Harnett	Sampson
Hoke	Scotland
Montgomery	

Mooresville Regional WQ Supervisor
919 North Main Street
Mooresville, NC 28115
(704) 663-1699
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Alexander	Lincoln
Cabarrus	Mecklenburg
Catawba	Rowan
Cleveland	Stanly
Gaston	Union
Iredell	

Wilmington Region. WQ Supervisor
127 Cardinal Drive Extension
Wilmington, NC 28405-3845
(910) 395-3900
Fax (910) 350-2004

Brunswick	New Hanover
Carteret	Onslow
Columbus	Pender
Duplin	

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ED_001369_00043850-00224

To: Tejada, Matthew[Tejada.Matthew@epa.gov]
From: Emma Cheuse
Sent: Tue 5/19/2015 2:40:15 PM
Subject: FW: NEJAC Public Comments from NACAA
NEJAC Petroleum Refineries Letter - NACAA 05-19-2015.pdf

Dear Matt,

I wanted to make sure that you received these from the National Association of Clean Air Agencies, and that they are being distributed to NEJAC members for this week's meeting.

Best,

Emma

Emma Cheuse

Staff Attorney

Earthjustice

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May 19, 2015

Sherri P. White
Designated Federal Officer
National Environmental Justice Advisory Council
Office of Environmental Justice
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
(MC-2201A)
Washington, D.C. 20460

Dear Ms. White:

We understand that during its meeting this week the National Environmental Justice Advisory Council (NEJAC) may discuss the U. S. Environmental Protection Agency's (EPA's) proposed Petroleum Refinery Sector Risk and Technology Review and New Source Performance Standards, which were published in the *Federal Register* on June 30, 2014 (79 *Federal Register* 36880). We urge NEJAC to recommend that EPA strengthen and issue the final rule. Attached are the comments that NACAA provided to EPA on October 28, 2014 containing our specific recommendations related to the proposal.

As we noted in our comments in October, because of their locations, many petroleum refineries pose special environmental justice concerns. NACAA believes these sources should be well controlled and that public health should be afforded the maximum protection the law provides. We believe a strong and effective regulation is necessary to protect public health in communities across the country, especially those with environmental justice concerns.

We encourage NEJAC to advise EPA to issue a strong and effective regulation that incorporates the suggestions we have previously made to improve air quality and protect public health. Thank you for your consideration.

Sincerely,

S. William Becker

cc: Jasmin Muriel
Matthew Tejada

444 North Capitol Street, NW • Suite 307 • Washington, DC 20001 • phone 202.624.7864 • fax 202.624.7863 • www.4cleanair.org

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Executive Director
S. William Becker

October 28, 2014

EPA Docket Center
William Jefferson Clinton West Building (Air Docket)
Attention Docket ID No. EPA–HQ–OAR–2010–0682
U.S. Environmental Protection Agency
Mailcode: 28221T
1200 Pennsylvania Avenue NW
Washington, DC 20460

Dear Sir/Madam:

On behalf of the National Association of Clean Air Agencies (NACAA), thank you for this opportunity to comment on the proposed Petroleum Refinery Sector Risk and Technology Review and New Source Performance Standards, which were published in the *Federal Register* on June 30, 2014 (79 *Federal Register* 36880). NACAA is a national, non-partisan, non-profit association of air pollution control agencies in 41 states, the District of Columbia, four territories and 116 metropolitan areas. The air quality professionals in our member agencies have vast experience dedicated to improving air quality in the United States. These comments are based upon that experience. The views expressed in this document do not necessarily represent the positions of every state and local air pollution control agency in the country.

NACAA has long been concerned about emissions of hazardous air pollutants (HAPs) from refineries. According to EPA, refinery emissions include benzene, 1-3-butadiene, naphthalene and other compounds, which are associated with a variety of adverse health effects including cancer, neurological effects, blood disorders, damage to the liver, skin illnesses, depression of the immune system and other serious disorders. Additionally, because of their locations, many petroleum refineries pose special environmental justice concerns. NACAA believes these sources should be well controlled and that public health should be afforded the maximum protection the law provides.

In light of the serious public health concerns related to petroleum refinery emissions, and because the current standards for this source category are outdated, NACAA is pleased that EPA has proposed a rule that calls for additional measures to further reduce these hazardous emissions. While we support EPA's efforts to address emissions from petroleum refineries in general, we would like to raise a few issues for further consideration and offer some suggestions for improving EPA's proposed rule.

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Fenceline Monitoring

EPA is proposing to require fenceline monitoring to address fugitive emissions, among other things. Specifically, the proposal includes a n annual average benzene concentration standard at the refinery fenceline, to be measured using two-week passive samples placed at the refinery's perimeter.[1]

NACAA supports a fenceline-monitoring requirement a nd believes it has many benefits, including identifying fugitive emissions that other wise would be unaddressed and helping to characterize the concentrations facing local commun ities. In that the characteristics of refineries vary quite a bit, fenceline monitoring would be a g ood way to understand what the local communities' exposures are. NACAA also appreciates that the information, including the raw data, would be reported and made publicly available . We urge EPA to make the information available in a form that is easy for the public to access and understand.

We believe the public would be best served through the use of the most current technology. Therefore, we have some concerns about the use of passive monitoring over a two-week period, rather than real-time monitoring. For example, with data from passive monitoring, averaged over two weeks, it could be difficult to d etermine when a spike in emissions actually occurred or, worse, emissions spikes may not be fla gged at all due to the averaging of emissions. Since these short-term spikes may be a significant problem for the surrounding community, it is important that systems be in place to discover them and address the problems expeditiously. Additionally, without real-time monitoring, there w ould be a lag time in the availability of the data to regulatory authorities and the public. Rea l-time monitoring allows for immediate feedback, which is beneficial in leak detection and other troubleshooting. It would also be especially useful in areas with a dense network of flares and multiple emission sources. Besides benefiting the public, speedy information about lea ks could provide savings to the facility as the result of quicker remediation.

We recommend EPA more thoroughly analyze the benefi ts and costs of real-time versus passive monitoring before issuing a final rule. NA CAA urges EPA to opt for the strategy that provides the best information that is most accessib le for the public, the regulators and for the facilities themselves. Additionally, we recommend EPA provide a means to approve alternative equivalent fenceline monitoring approaches. Finall y, we request that EPA further evaluate the selected methods to ensure the reliability of instr ument operations across the broad range of temperature and environmental conditions (e.g., ext remely cold wintertime temperatures) that exist at refineries across the country.

EPA has asked for comment on eliminating the fencel ine monitoring requirements for certain facilities if they consistently measure con centrations below the action level. [2] NACAA does not believe this is prudent. Circumstances ne ar the facility could change (e.g., development of the surrounding land) or the operation could hav e an unexpected event that would be undetected without the monitors in operation. We be lieve the fenceline monitors should remain in operation. Knowing that their fenceline concent rations will continue to be publicly available

[1] 79 *Federal Register* 36923
[2] 79 *Federal Register* 36928

will also be a strong incentive for sources to main tain their operations in good working order, so sources should not be exempt from this provision. While we do not endorse eliminating the fenceline monitoring requirements, if EPA does alte r them in some way for sources that consistently measure concentrations below the actio n level, we recommend that any subsequent change in the operations at the facility should req uire the facility to revert to the fenceline monitoring requirements to which the facility was originally subject under this rule.

With respect to the placement of monitors, NACAA su ggests that EPA include details in the rule regarding areas that can and cannot be use d to site monitors in order to ensure consistency among facilities and reduce the possibi lity of abuse of the system through poor monitor placement. One possibility is to rely on t he same monitoring siting criteria used for National Ambient Air Quality Standards monitoring, in order to establish valid data collection. Additionally, quality assurance/quality control on data recovery should be required.

Corrective Action Plan

NACAA believes it is important that sources be requ ired to act if their fenceline monitoring shows benzene concentrations above a cer tain level, so we support EPA in requiring a corrective action plan. [3] However, we are concerned about the vagueness in the proposal regarding what must be contained in a corrective ac tion plan, the possible delays in taking corrective action that could result, and the lack o f detail about the enforcement actions that will follow an exceedance. We suggest those provisions be strengthened and made more specific. Additionally, with respect to the proposal to use a one-year rolling average [4], we recommend EPA call upon sources to identify problems as they are developing and take action before exceeding the action levels whenever possible.

EPA is proposing to allow sources to adjust their m onitored levels to account for background processes co-located at the facility, su ch as leaks from Hazardous Organic NESHAP (HON) storage vessels or equipment. EPA then reque sts comment on whether the source's corrective action plan should be limited to emissio ns of refinery emission sources alone (i.e., by allowing sources to exceed the limit if they demons trate that the exceedance is due to the non-refinery or background emissions) and comment on th e requirements in the proposal for sources to make such a demonstration.[5]

NACAA is concerned about allowing sources to avoid taking corrective action by effectively subtracting emissions from their monito red levels. Public health is adversely affected by all the HAP emissions to which the public is exp osed, not just those from certain types of emission points. In order to protect the public, t he total HAP emissions from a facility should be considered in the corrective action plan and every effort should be made to reduce the public's exposure.

Finally, while some state and local agencies may no t wish to take delegation of the approval of corrective action plans, we believe the y should be provided this option. At the very

[3] 79 *Federal Register* 36926
[4] 79 *Federal Register* 39626
[5] 79 *Federal Register* 36927

least, those agencies that wish to receive the action plans should have the ability to obtain them, review the contents and provide comment on them before they are approved.

Benzene Action Level

As we stated earlier, we agree with EPA's proposed requirement that sources be required to act if their fenceline monitoring shows benzene concentrations above a certain level. However, NACAA is concerned that the benzene action level that EPA is proposing, which is 9 micrograms per cubic meter (μg/m ^{3}), is too high. [6] Benzene is a carcinogen associated with serious health effects and efforts should be made to reduce the public's exposure to it as much as possible. However, EPA indicated in the proposal that no facilities the agency modeled currently exceed the action level, which means the rule would not result in reductions. Further, it is our understanding that benzene concentrations are already below the action level in some highly industrialized areas. For example, officials in Houston conducted a study in conjunction with EPA that concluded that average benzene concentrations at all monitors, including those in industrial areas near petroleum refineries, are considerably below the proposed action level (even before any adjustments for background levels). So, NACAA believes the proposed action level is too high and will not provide any significant additional emissions reductions or health protection to the public and that lower levels are certainly achievable. We encourage EPA to examine all available data and reconsider the proposed action level.

Flaring

NACAA is pleased that EPA is proposing to strengthen the requirements on flares. [7] We believe flares should not be used routinely or unnecessarily and that there should be strong operational and monitoring requirements related to flares. Additionally, we are concerned that emissions from flare malfunctions may be underreported and flare efficiencies may be overestimated. Therefore, NACAA supports the use of gas chromatographs for flares, since they provide real-time information about the flare destruction efficiency and improve their ability to report emission events.

Startup, Shutdown and Malfunctions

NACAA supports the provisions in the proposal to address the Startup, Shutdown and Malfunction (SSM) exemptions contained in the earlier rule. [8] Since NACAA agreed with the court decision of December 19, 2008 stating that there should not be an exemption to HAP standards during SSM events, we applaud EPA for proposing changes to make the rule consistent with the court ruling.

Risk Assessment

EPA has determined that the risks from petroleum refinery emissions are "acceptable." However, the proposal also states that, using MACT-allowable emissions, the estimated

[6] 79 *Federal Register* 36926
[7] 79 *Federal Register* 36904
[8] 79 *Federal Register* 36942

maximum individual lifetime cancer risks are up to 100 in one-million. We have serious concerns with this level of risk. Moreover, NACAA has recommended improvements to EPA's risk assessment methodology during numerous rulemakings in the past, which are reiterated below. If conducted properly, an improved risk assessment could show that the risks are even *higher* than the already unacceptable levels EPA has estimated. We strongly recommend that EPA reevaluate the risks related to petroleum refinery emissions, based on our recommended parameters, and ensure that the final rule adequately protects public health consistent with the mandates of Section 112 of the Clean Air Act. The following are specific recommendations related to the risk assessment methodology EPA used in developing the proposal.

Allowable Emissions – NACAA recommends that EPA consider potential or allowable emissions, rather than actual emissions, as much as possible in evaluating residual risk. Since facility emissions could increase over time for a variety of reasons, and with them the associated impacts, the use of potential or allowable emissions is more appropriate. We believe an analysis based on actual emissions from a single point in time could underestimate the residual risk from a source category. Further, the major source HAP thresholds are based on maximum potential-to-emit, as opposed to actual emissions, and air agencies issue permits based on potential emissions. Limiting the scope of a risk evaluation to actual emissions would be inconsistent with the applicability section of Part 63 rules. We were pleased to see that EPA used allowable emissions in parts of the rulemaking but were concerned about the fact that EPA used actual emissions in other elements of the risk assessment. [9] NACAA encourages the agency to use allowable emissions in the future, including in assessing acute health risks.

Property-line Concentrations – In assessing the cancer risks related to the source category, EPA used long-term concentrations affecting the most highly exposed census block for each facility. [10] This analysis dilutes the effect of sources' emissions by estimating the impact at the centroid of the census block instead of at the property line or wherever the maximum exposed individual is. Census blocks can be large geographically, depending on the population density, so the maximum point of impact can be far from the centroid, including at or near the property line where people may live or work. EPA itself alludes to this problem in the preamble to the proposed rule. [11] Further, even if the area near the property line is not developed, over time homes and businesses could locate closer to the facility. While it is possible that population distribution is homogenous over a census block, this assumption is not necessarily accurate in considering the predicted impacts from the location of a source. Using Human Exposure Model-3 (HEM-3), EPA can identify the maximum individual risk at any point in a census block that is within a 50-kilometer radius from the center of the modeled facility. Based on HEM-3's power and ability, NACAA suggests that EPA abandon its use of the predicted chronic exposures at the census block centroid as surrogates for the exposure concentrations for all people living in that block. Rather, we recommend that EPA use the truly maximum individual risk, irrespective of its location in the census block, in its section 112(f)(2) risk assessments.

Environmental Justice – We commend EPA for considering environmental justice issues by expressing concern about the disproportionate impacts of HAP emissions on certain social,

[9] 79 *Federal Register* 36888
[10] 79 *Federal Register* 36889
[11] 79 *Federal Register* 36895

demographic and economic groups.[12] However, we believe improvements are needed in EPA's methods of evaluating environmental justice and encourage EPA to continue to consider these factors in developing the final rule and subsequent regulations.

NACAA recommends that EPA conduct the demographic analysis on individuals projected to experience a risk greater than 1-in-1-million for cancer or an HQ above one and *also* on individuals living within five kilometers of the facility, regardless of projected risk, consistent with the approach used for the Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks source category.[13] The socio-economic analysis for the Petroleum Refinery rule did not evaluate potential disparities within five kilometers for maximum allowable emission levels. This type of analysis is especially important in instances where a facility is located in or next to a minority and/or low-income population. Unfortunately, in the proposal, EPA evaluated the risk to the population within a 50-kilometer radius, which could dilute the results by including populations not in the demographic groups most at risk.[14] Therefore, we recommend an analysis at the five-kilometer distance be conducted to assess facility impacts to nearby environmental justice communities.

NACAA also recommends that the rule writers work with the EPA Office of Environmental Justice to develop criteria and specific guidance on how to interpret and apply the outcome of these types of analyses in the rulemaking process.

Acute Exposure – We have expressed our concerns in the past with EPA's use of Acute Exposure Guideline Levels (AEGLs) or Emergency Response Planning Guidelines (ERPGs) values to address acute exposures in the residual risk assessments. These limits were developed for accident release emergency planning and are not appropriate for assessing daily human exposure scenarios. In the December 2002 EPA document, "A Review of the Reference Dose and Reference Concentration Processes," EPA stated that the primary purpose of the AEGL program is to develop guidelines for once-in-a-lifetime short-term exposures to airborne concentrations of acutely toxic chemicals. They are not meant to evaluate the acute impacts from routine emissions that occur over the life of a facility. Unlike the reference concentrations (RfCs) for chronic exposures, the AEGLs and ERPGs do not include adequate safety and uncertainty factors and cannot be relied upon to protect the public from the adverse effects of exposure to toxic air pollutants. The use of AEGLs or ERPGs in residual risk assessments is not appropriate and does not ensure that public health is adequately protected from the acute impacts of HAP exposure. We are gratified to see that EPA has increased its reliance on the California Reference Exposure Levels (RELs) to address acute exposures in the residual risk assessments and we continue to urge EPA to use the RELs for these assessments.[15]

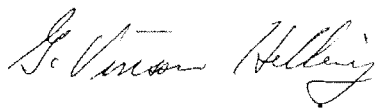
Additional Pollutants – EPA acknowledged in the proposal that there are HAPs beyond the seven the agency evaluated in the environmental risk screening assessment that "may have the potential to cause adverse environmental effects."[16] EPA also stated that it may evaluate additional HAPs

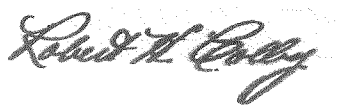
[12] 79 *Federal Register* 36938
[13] 75 *Federal Register* 65089
[14] 79 *Federal Register* 36937
[15] 79 *Federal Register* 36890
[16] 79 *Federal Register* 36898

in the future, "as modeling science and resources a llow." We strongly urge EPA to evaluate additional pollutants that are emitted by this sour ce category, including arsenic and nickel, and ensure that measures are undertaken to reduce the public's exposure to them.

We believe EPA is correct in its determination that additional measures are necessary to address emissions from petroleum refineries and agr ee with the agency's decision to require new provisions that will help protect public health. W e urge the agency to consider our recommendations and make these improvements to the regulation. Thank you for this opportunity to comment on the proposal. Please con tact us if we can provide additional information.

Sincerely,





G. Vinson Hellwig Robert H. Colby
Michigan Chattanooga, Tennessee
Co-Chair Co-Chair
NACAA Air Toxics Committee NACAA Air Toxics Commi ttee

To: Mccarthy, Gina[McCarthy.Gina@epa.gov]; Title VI Complaints[Title_VI_Complaints@epa.gov]
Cc: Wooden-Aguilar, Helena[Wooden-Aguilar.Helena@epa.gov]; Tejada, Matthew[Tejada.Matthew@epa.gov]; McTeerToney, Heather[McTeerToney.Heather@epa.gov]; HALIM-CHESTNUT, NAIMA[Halim-Chestnut.Naima@epa.gov]; 'Daria.Neal@usdoj.gov'[Daria.Neal@usdoj.gov]; 'tom.reeder@ncdenr.gov'[tom.reeder@ncdenr.gov]; 'christine.lawson@ncdenr.gov'[christine.lawson@ncdenr.gov];
Ex. 6 - Personal Privacy
'lbaldwin@waterkeeper.org'[lbaldwin@waterkeeper.org]
From: Jocelyn D'Ambrosio
Sent: Wed 9/3/2014 10:38:45 PM
Subject: Complaint under Title VI of the Civil Rights Act of 1964
North Carolina EJ Network et al Complaint under Title VI.pdf

Dear Administrator McCarthy and Ms. Golightly-Howell,

On March 7, 2014, the North Carolina Department of Environment and Natural Resources ("DENR") issued a general permit that allows industrial swine facilities in North Carolina to operate with grossly inadequate and outdated systems of controlling animal waste and little provision for government oversight, which has an unjustified disproportionate impact on the basis of race and national origin against African Americans, Latinos, and Native Americans in violation of Title VI of the Civil Rights Act of 1964 and EPA's implementing regulations.

North Carolina Environmental Justice Network, Rural Empowerment Association for Community Help, and Waterkeeper Alliance, Inc. ("Complainants") hereby submit the attached complaint against DENR and request that EPA investigate the complaint and require that DENR come into compliance with the law.

As you may know, Complainants and other community members in eastern North Carolina have complained to DENR about the adverse effects of the swine industry on their health and environment for years, to no avail. Today, Complainants ask that EPA take action.

We will be forwarding exhibits by separate email and, also, sending hard copies overnight by Federal Express to each of your offices. Of course, please let us know if these materials raise any question. We would welcome the opportunity to discuss the complaint.

Sincerely,

Jocelyn D'Ambrosio and Marianne Engelman Lado

Jocelyn D'Ambrosio

Associate Attorney

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September 3, 2014

By email and Federal Express

Gina McCarthy
Administrator
Environmental Protection Agency
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Washington, DC 20460
mccarthy.gina@epa.gov

Velveta Golightly-Howell
Director, Office of Civil Rights
Environmental Protection Agency
Mail Code 1210A
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Washington, DC 20460
Title_VI_Complaints@epa.gov

Dear Ms. McCarthy and Ms. Golightly-Howell:

Re: Complaint Under Title VI of the Civil Rights Act of 1964, 42 U.S.C. § 2000d, 40 C.F.R. Part 7

The North Carolina Environmental Justice Network, Rural Empowerment Association for Community Help ("REACH"), and Waterkeeper Alliance, Inc. ("Complainants") submit this complaint against the North Carolina Department of Environment and Natural Resources ("DENR") for issuing a general permit that allows industrial swine facilities in North Carolina to operate with grossly inadequate and outdated systems of controlling animal waste and little provision for government oversight, which has an unjustified disproportionate impact on the basis of race and national origin against African Americans, Latinos and Native Americans in violation of Title VI of the Civil Rights Act of 1964, 42 U.S.C. §§ 2000d to 2000d-7, and the United States Environmental Protection Agency's ("EPA") implementing regulations, 40 C.F.R. Part 7.

DENR currently allows more than 2,000 swine operations—with the collective capacity to raise more than 9.5 million swine in confinement—to operate within the state and,

particularly, in the coastal plain in the eastern portion of the state.[1] The permitted swine facilities generate a staggering amount of waste that wreaks havoc on the health and well-being of neighboring communities and the environment. Under the permit, these facilities can continue to store urine and feces in open-air cesspools, called lagoons, before spraying the waste on fields with high volume spreaders. At all steps of this so-called waste management system, waste from the facilities can pollute the air and water and injure human health.

For years, Complainants and other community members in eastern North Carolina have complained to DENR about the adverse effects of the swine industry on their health and environment and have implored the agency to provide greater protection. The eastern portion of the state contains counties that have more industrial swine facilities, and are more densely populated by swine, than anywhere else in the country.[2] Study after study has documented that the swine industry pollutes the air and water, interferes with the enjoyment of property, causes property values to plummet, and takes a toll on human health. Despite the research, and repeated requests that the agency revise the permit program to protect communities, in March of this year, DENR failed to conduct an analysis of the potential disproportionate impact of the permit and issued a permit with essentially the same conditions as previous permits, conditions that proved woefully inadequate to protect the health and environment of the affected communities. DENR did not require facilities to do away with the polluting lagoon and sprayfield system, or to make modifications that would prevent waste from escaping from the confinement houses, the high volume sprayers, the lagoons, the waste application fields, or any other of the many conduits for pollution. DENR also failed to impose rigorous government inspection and oversight to ensure that the swine facilities meet the meager protections in the permit, and to monitor the ways in which the facilities affect the environment and human health.

The effects of the swine industry on the health and environment of communities in eastern North Carolina are all the worse given the growth of the poultry industry in this region, and the cumulative impact of swine and poultry waste. More must be done to protect these communities, yet at the same time, the state has cut the number of inspectors at DENR, limiting the agency's ability to enforce even existing permit terms.

---

[1] The current general permit expires on September 30, 2014. At the time this complaint was written, DENR had not published notice of the facilities that are covered under the revised permit, but, as described in footnote 26, *infra*, the number of permitted facilities is not expected to change. Complainants will supplement this complaint when DENR makes available a new list of covered facilities.

[2] *See* Feedstuffs, Hog Density by County (May 24, 2010), *available at* http://fdsmagissues.feedstuffs.com/fds/PastIssues/FDS8221/fds14_8221.pdf and http://fdsmagissues.feedstuffs.com/fds/PastIssues/FDS8221/fds15_8221.pdf (showing that ten counties in eastern North Carolina have the highest density of swine of all counties in the country).

Complainants believe that but for the race and national origin of the impacted population, which is disproportionately African American, Latino, and Native American, DENR would be more responsive to the crying need for stronger permit conditions. Given the high burden required to prove claims of intentional discrimination, however, Complainants do not at this time allege that DENR intentionally discriminated against communities of color in issuing the general permit. Nonetheless, this complaint should be understood in the context of a dynamic where race and ethnicity continue to play a role in governance and DENR's failure to be responsive to the need for improvement in waste management at industrial swine facilities. North Carolina is the birthplace of the environmental justice movement. It is in North Carolina that, in the early 1980s, DENR designated a predominantly African American community to receive soil contaminated with polychlorinated biphenyls ("PCBs"), leading to the formation of the Warren County Citizens Concerned about PCBs. This group turned to acts of civil disobedience to have their voices heard.

Since the early 1990s, African American, Latino, and Native American community members have sought greater protection from the adverse impacts of industrial swine production, but time and again their requests have been unanswered. Complainants hope that in the year 2014, the Office of Civil Rights will enforce Title VI of the Civil Rights Act of 1964 and EPA's implementing regulations, and will respond with the full force of law—withdrawing DENR's funding, if need be—to protect communities of color from the injustice of being forced to live and work near inadequately regulated industrial pollution sources. Complainants request that EPA investigate the complaint and, upon finding discrimination, require that DENR conduct a disproportionate impact analysis and come into compliance with the law by overhauling the general permit to protect African Americans, Latinos, and Native Americans from the adverse disproportionate impacts of industrial swine facilities.

I. NATURE OF THE ACTION

1. This is a complaint for relief under Title VI of the Civil Rights Act of 1964, 42 U.S.C. §§ 2000d to 2000d-7, and the United States Environmental Protection Agency's ("EPA") implementing regulations, 40 C.F.R. Part 7, arising from DENR's decision to issue a permit that allows industrial swine facilities in North Carolina to operate with inadequate and outdated systems of controlling animal waste and little oversight to the detriment of neighboring African American, Latino, and Native American communities.

2. On March 7, 2014, DENR finalized a renewal of the Swine Waste Management System General Permit, AWG100000 (the "General Permit"). The General Permit should protect communities that live and work near the permitted swine facilities from the staggering amounts of waste that the facilities generate; it sets forth the standards that more than 2,000 industrial swine facilities in North Carolina must meet to operate legally within North Carolina. However, the General Permit falls far short of what is needed to protect human health and the environment. Permitted industrial swine facilities are allowed to store animal waste in open-air

pits, called lagoons, that can spill waste into surface waters and leach harmful pollutants into groundwater that feeds drinking water sources, and to spray that waste on fields with high volume spreaders that spew pollutants not only onto the fields, but also into nearby communities. Wastewater from the sprayfields can seep into groundwater or run off into nearby surface waters. The General Permit does not require rigorous government oversight, monitoring, and reporting that would allow the state and the public to understand the full extent to which pollutants from the facilities are getting into the air and water and making people sick.

3. Surface waters in North Carolina are polluted with waste from permitted swine facilities. Communities have lost streams and ponds that they had relied on for fishing and swimming to the runoff and water pollution that comes with the industrial swine industry. After catching fish with open sores and infections, people have had to abandon favorite fishing holes, losing not only a source of recreation but also a way of feeding their families.

4. Pollutants, including nitrates, phosphorus, bacteria, viruses, and parasites can leach from the earthen lagoons that are authorized under the permit into the groundwater. Polluted groundwater, in turn, can feed drinking water sources, including wells. Fearing that their well water is contaminated, people living near permitted industrial swine facilities have been forced to connect to municipal water supplies at personal expense.

5. Air pollution from the permitted swine facilities is a significant problem for human health and welfare. Gases, including ammonia, hydrogen sulfide, volatile organic compounds ("VOCs"), particles from feces, dander, feed, and dead microorganisms, and live bacteria and viruses are emitted from the confinement houses through mechanical ventilation or massive industrial fans. The lagoons and the sprayers that distribute the waste on to the fields also emit gasses into the air. Because of the terrible smell and harmful pollutants, people living near permitted industrial swine facilities experience difficulty breathing when the facilities are spraying. They suffer from asthma attacks, runny noses and eyes, and bronchitis. They have trouble sleeping. They avoid going outside and keep windows closed lest they be inundated with the overpowering smell of the waste and the flies that the waste attracts. Many community members no longer hang their clothes on the line to dry for fear that the clothes will be coated with manure.

6. The permitted swine facilities are located disproportionately in African American, Latino, and Native American communities, and African Americans, Latinos and Native Americans disproportionately bear the burden of the General Permit's failure to control the waste at the permitted swine facilities.

7. Title VI of the Civil Rights Act of 1964, and EPA's regulations, prohibit recipients of federal financial assistance, such as DENR, from taking action that disproportionately burdens persons on the basis of race. DENR's decision to reissue the General Permit without measures to protect African Americans, Latinos, and Native Americans living and working near

the swine facilities from the staggering amounts of pollution the permitted swine facilities generate violates the basic civil rights protections set forth in Title VI.[3]

II. PARTIES

8. Complainant North Carolina Environmental Justice Network ("Environmental Justice Network") is a statewide, grassroots-led organization made up of community members and other organizations that are working to fight environmental injustice. The Environmental Justice Network seeks to promote health and environmental equality for all people in North Carolina through organizing, advocacy, research, and education based on principles of economic equity and democracy for all. The Environmental Justice Network supports the communities that are most impacted by environmental injustice and has worked for over a decade to change the fact that industrial swine facilities in North Carolina are allowed to pollute low-income and African American communities. Declaration of Naeema Muhammad ¶¶ 4-5, 13-48, attached as Exhibit 30 [Muhammad Decl.].

9. Complainant Rural Empowerment Association for Community Help ("REACH") is an organization that seeks to address social, economic, and environmental inequities in Duplin, Sampson, and Bladen Counties. Through research and advocacy, REACH has worked to change the system that allows industrial swine facilities to pollute the environment and to destroy the health and welfare of the affected communities. Declaration of Devon Hall ¶¶ 4-13, attached as Exhibit 16 [Hall Decl.].

10. Complainant Waterkeeper Alliance, Inc. is a nonprofit organization that unites the more than 200 Waterkeeper organizations that patrol and protect the waterways in North Carolina, across the United States, and around the world. Waterkeeper Alliance's Pure Farms, Pure Waters Campaign recognizes that concentrated animal feeding operations, including swine facilities, and the rise of corporate controlled meat production have nearly destroyed the family farm and severely poisoned the nation's waters. As part of the Pure Farms, Pure Waters Campaign, Waterkeeper Alliance has worked with communities in eastern North Carolina to stop industrial swine facilities from destroying the waters and human health. Declaration of Larry Baldwin, ¶¶ 12-14, attached as Exhibit 6 [Baldwin Decl.].

11. DENR is an agency of the State of North Carolina. N.C. Gen. Stat. § 143B-279.1. DENR is charged with protecting North Carolina's environment and public health, *id.* § 143B-279.2, and has the power to issue permits to carry out this mission. *Id.* § 143-215.1(a)-(b). The Environmental Management Commission ("EMC") of DENR, *id.* § 143B-282(a)(1)(a), has the authority to regulate animal waste management systems at swine facilities. *Id.* § 143-

[3] This is not a siting case. Stated simply, DENR's decision to issue a permit that fails to control pollution from the permitted swine facilities has an unjustified disproportionate impact on African American, Latino, and Native Americans in violation of Title VI and its regulations.

215.1(a)(12) (requiring animal waste management systems to obtain a permit from the EMC of DENR); *id.* § 143-212(2).

III. JURISDICTION

A. DENR Is Subject to Title VI

12. Title VI of the Civil Rights Act of 1964 prohibits recipients of federal funds from discriminating against individuals on the basis of race, color, or national origin.

13. Title VI provides that "[n]o person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance." 42 U.S.C. § 2000d.

14. Acceptance of federal funds, including EPA assistance, creates an obligation on the recipient to comply with Title VI and EPA's implementing regulations.

15. EPA's Title VI regulations provide that "[n]o person shall be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving EPA assistance on the basis of race, color [or] national origin." 40 C.F.R. § 7.30.

16. EPA's regulations provide the following specific prohibitions, at 40 C.F.R. § 7.35:

> (a) As to any program or activity receiving EPA assistance, a recipient shall not directly or through contractual, licensing, or other arrangements on the basis of race, color, [or] national origin . . . :
>
> > (1) Deny a person any service, aid or other benefit of the program or activity;
> >
> > (2) Provide a person any service, aid or other benefit that is different, or is provided differently from that provided to others under the program or activity;
> >
> > . . .
>
> (b) A recipient shall not use criteria or methods of administering its program or activity which have the effect of subjecting individuals to discrimination because of their race, color, [or] national origin, . . . or have the effect of defeating or substantially impairing accomplishment of the objectives of the program or activity with respect to individuals of a particular race, color, [or] national origin . . . .
>
> . . .

(d) This list of the specific prohibitions of discrimination do not limit the general prohibition of § 7.30.

i. DENR is a Program or Activity Covered by Title VI

17. DENR is a program or activity covered by Title VI. Title VI defines program or activity as "all of the operations of . . . a department, agency, special purpose district, or other instrumentality of a State or of a local government . . . ***any part of which*** is extended Federal financial assistance." 42 U.S.C. § 2000d-4a (emphasis added).

18. Under Title VI, if any part of a listed entity receives federal funds, the whole entity is covered by Title VI. *Ass'n of Mex.-Am. Educ. v. California*, 195 F.3d 465, 474-75 (9th Cir. 1999, *rev'd in part on other grounds*, 231 F.3d 572 (9th Cir. 2000) (en banc).

19. DENR is an agency of the state of North Carolina that, as shown in paragraphs 20 to 26 below, receives federal financial assistance from EPA. DENR, thus meets the definition of program or activity under Title VI and must comply with Title VI in implementing all of its programs, whether or not the particular portion of the program or activity itself specifically received EPA funding.

ii. DENR is a Recipient of EPA Assistance

20. EPA's Title VI regulations define a "[r]ecipient" as "any state or its political subdivision, any instrumentality of a state or its political subdivision, any public or private agency, institution, organization, or other entity, or any person to which Federal financial assistance is extended directly or through another recipient . . . ." 40 C.F.R. § 7.25.

21. EPA's regulations define "EPA assistance" to mean "any grant or corporative agreement, loan, contract . . . , or any other arrangement by which EPA provides or otherwise makes available assistance in the form of funds," among other means. 40 C.F.R. § 7.25.

22. DENR was a recipient of EPA assistance as of March 7, 2014, the time of the alleged discriminatory action, as shown in Exhibit 1.A (EPA award of federal funds to DENR in fiscal year 2014) and Exhibit 1.B (EPA awards of federal funds to DENR extending into fiscal year 2014 and thereafter).

23. USASpending.gov is a searchable website operated by the Office of Management and Budget, which provides the public with information about federal awards, including the name of the entity receiving the award and the amount of the award.

24. According to USASpending.gov, as of August 27, 2014, EPA had awarded DENR at least $19,282,355 in federal funds for fiscal year 2014.[4] Of this amount, $14,899,454 was given as continuations of awards given in previous fiscal years, and $4,382,901 was given to fund new projects. For example, $4,340,904 was earmarked for "Water Pollution Control State, Interstate, and Tribal Program Support," a program that received more than $7 million across five of the disbursements in fiscal year 2014. In fiscal year 2014, EPA also earmarked $3.1 million for "State Public Water System Supervision," $2.2 million for "Hazardous Waste Management State Program Support," and $2.2 million for "Leaking Underground Storage Tank Trust Fund Corrective Action Program."[5] *See* Exhibit 1.A (EPA award of federal funds to DENR in fiscal year 2014) (compiling awards for fiscal year 2014).

25. As of August 27, 2014, 22 of DENR's programs had received or were receiving EPA assistance for programs that extended into 2014 and beyond.[6] *See* Exhibit 1.B (EPA awards of federal funds to DENR extending into fiscal year 2014 and thereafter).

26. Because DENR is a department of the State of North Carolina that receives EPA grants and funding, DENR is subject to Title VI.

B. **The Complaint is Timely**

27. DENR issued the General Permit on March 7, 2014. This complaint is timely as it is filed within 180 days of the discriminatory action, DENR's approval of the General Permit. 40 C.F.R. § 7.120(b)(2).[7]

C. **The Complaint Meets Other Jurisdictional Criteria**

28. This complaint meets all other jurisdictional criteria: it is in writing; it identifies DENR as the entity that allegedly performed the discriminatory act and describes the acts that violate EPA's Title VI regulations; and, should EPA so require, it is also filed by groups that are

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[4] Fiscal year 2014 began on October 1, 2013 and ends on September 30, 2014.

[5] USA Spending, http://www.usaspending.gov (enter "809785280" then select "Environmental Protection Agency" under "By Agency" and "2014" under "By Fiscal Year").

[6] This data reflects only that which is available on usaspending.gov. It is possible that data from some awards made by EPA to DENR were omitted from the data on usaspending.gov, and thus are not included in Exhibits 1.A and 1.B.

[7] In addition, OCR has authority to waive the time limit for good cause, 40 C.F.R. § 7.120(b)(2), and has affirmative authority to conduct post-award compliance reviews when it has "reason to believe that discrimination may be occurring." *Id.* § 7.115(a).

authorized to represent people who were discriminated against in violation of EPA's Title VI regulations.[8]

IV. FACTUAL BACKGROUND

A. The Industrial Swine Industry and the Development of the State Permitting Program

29. The North Carolina swine industry has "changed dramatically since the 1980's from the small farm raising a few hogs to large confinement type operations."[9] In 1982, more than 11,000 swine farms raised approximately 2 million animals.[10] By 1997, the number of farms had dropped to fewer than 3,000, while the swine population had ballooned to nearly 10 million.[11]

30. In 1995, a disaster at a swine lagoon brought the growing industry into the public eye. In the summer of 1995, a lagoon at a swine facility in Jacksonville, North Carolina burst, spilling 28.5 million gallons of swine waste into a tributary to the New River.[12]

31. The spill focused attention on the swine industry, and its significant potential to threaten human health and welfare. Following the spill, in 1995, the North Carolina General Assembly created the Blue Ribbon Study Commission on Agricultural Waste to study "[t]he

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[8] *See* EPA, Draft Revised Guidance for Investigating Title VI Administrative Complaints Challenging Permits (Draft Revised Investigations Guidance), 65 Fed. Reg. 39,667, 39,672 (June 27, 2000) (listing jurisdictional criteria applicable to Title VI complaints).

[9] N.C. Dep't of Agric. & Consumer Servs., Agricultural Overview – Commodities, http://www.ncagr.gov/stats/general/commodities.htm (last visited Aug. 28, 2014); *see also* Chris Hurt & Kelly Zering, *Hog Production Booms in North Carolina: Why There? Why Now?, in* Dep't of Agric. Econ., Purdue Univ., Purdue Agric. Econ. Report 11 (1993), *available at* http://www.agecon.purdue.edu/extension/pubs/paer/pre_98/paer0893.pdf; Pew Commission on Industrial Farm Animal Production, Putting Meat on the Table: Industrial Farm Animal Production in America (2008), *available at* http://www.ncifap.org/_images/PCIFAPSmry.pdf, attached as Exhibit 46 [hereinafter, Pew, Putting Meat on the Table] (describing the rise of industrial animal production in America and the effects on public health and the environment); Pew Commission on Industrial Farm Animal Production, Environmental Impact of Industrial Farm Animal Production 1-2 (2008), *available at* http://www.ncifap.org/_images/212-4_EnvImpact_tc_Final.pdf, attached as Exhibit 45 [hereinafter, Pew, Environmental Impact] (same).

[10] U.S. Dep't of Agric., Census of Agriculture 30 tbl. 32 (1987), *available at* http://usda.mannlib.cornell.edu/usda/AgCensusImages/1987/01/33/3/Table-32.pdf.

[11] U.S. Dep't of Agric. 1997 Census of Agriculture – Highlights of Agriculture: 1997 and 1992 North Carolina, http://www.agcensus.usda.gov/Publications/1997/Census_Highlights/North_Carolina/ncst.txt (last visited Aug. 28, 2014).

[12] JoAnn M. Burkholder et al., *Impacts to a Coastal River and Estuary from Rupture of a Large Swine Waste Holding Lagoon*, 26 J. Envtl. Qual. 1451, 1452-53 (1997), attached as Exhibit 2 to Exhibit 14, Declaration of Dr. JoAnn Burkholder [hereinafter, Burkholder, *Lagoon Rupture*].

effect of agriculture waste on groundwater, drinking water, and air quality and any other environmental impacts of agriculture" and "[m]ethods of disposing of and managing agriculture waste that have fewer adverse impacts than those methods currently in use in this State, including positive commercial and noncommercial uses of agriculture waste," among other things.[13]

32. The Blue Ribbon Commission proposed a number of recommendations to reduce the impact that swine facilities have on water, air quality, and human health. The Commission recommended that the State replace the then-existing regulatory system, which deemed swine facilities permitted under the law if they met certain conditions, with a requirement that facilities apply for and obtain a permit to control waste. The general permit was intended to ensure more direct oversight and control.[14]

33. The Blue Ribbon Commission also recommended that the State do more to protect communities against odors from swine facilities,[15] enact programs to monitor swine facilities to prevent heavy metal and phosphorus pollution,[16] work to develop alternatives to the system of storing waste in open air lagoons,[17] and study the impacts that lagoons have on groundwater quality.[18]

34. In 1996, the North Carolina legislature required that the State develop a general permit program to prevent the discharge of waste from animal operations, including swine operations with 250 or more swine.[19]

35. DENR began issuing general permits for controlling swine waste management systems on January 1, 1997.[20] In 2003, the General Assembly extended the expiration date of all general permits until October 1, 2004.[21]

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[13] N.C. Sess. Law 1995-542, sec. 4.1(1), (3) (eff. July 29, 1995), *available at* http://www.ncga.state.nc.us/EnactedLegislation/SessionLaws/HTML/1995-1996/SL1995-542.html; *see also* Blue Ribbon Study Commission on Agricultural Waste, Report to the 1995 General Assembly of North Carolina, 1996 Regular Session 1 (1996), *available at* http://ncleg.net/Library/studies/1996/st10736.pdf, attached as Exhibit 38 [Blue Ribbon Study Commission].
[14] *Id.* at 24-25.
[15] *Id.* at 16.
[16] *Id.* at 19.
[17] *Id.* at 29.
[18] *Id.* at 29-30.
[19] N.C. Sess. Law 1996-626, sec. 1 (codified as amended at N.C. Gen. Stat. §§ 143-215.10A through .10*l*) (eff. as provided at sec. 19), *available at* http://www.ncga.state.nc.us/EnactedLegislation/SessionLaws/HTML/1995-1996/SL1995-626.html.
[20] Senate Bill 1217 Interagency Group, Ninth Senate Bill (SB) 1217 Interagency Group Guidance Document 7-1 (Sep. 25, 2009), *available at* http://www.ncagr.gov/SWC/tech/documents/9th_Guidance_Doc_100109.pdf.

36. DENR has since issued revised general permits, first on June 4, 2004, and again on February 20, 2009. These permits were effective from October 1, 2004 until September 30, 2009 and from October 1, 2009 until September 30, 2014, respectively.

B. Finalization of the General Permit and DENR's Failure to Conduct a Disparate Impact Analysis

37. In 2013, DENR published draft state permits to control animal waste, including AWG100000, the Swine Waste Management System General Permit.

38. Since at least the mid 1990s, when North Carolina charged the Blue Ribbon Commission with studying the effects of swine facilities, the State has been on notice that these operations generate massive amounts of waste that threaten the health and environment of communities that are forced to live nearby.

39. Myriad scientific articles describe the ways in which the swine facilities pollute the environment and wreak havoc on human health.[22]

40. Citizens have told DENR, through meetings with the agency and formal complaints, that swine facilities are polluting their waters and air, causing them to feel sick, and preventing them from sitting outside and enjoying their property. Baldwin Decl. ¶¶ 43-46; Hall Decl. ¶ 12; Declaration of Elsie Herring ¶ 16, attached as Exhibit 17 [Herring Decl.]; Muhammad Decl. ¶¶ 46-48, 50.

41. Citizens, and nonprofits working with them, have demanded stronger controls to protect them from the water and air pollution these facilities generate. *See* Baldwin Decl. ¶¶ 43-46; Muhammad Decl. ¶¶ 48, 50.

42. DENR has been invited to attend the Environmental Justice Network's annual summit, where representatives from DENR have sat on a "Community Speak Out and Government Listening" panel that allows the citizens to voice concerns about industries that affect their health and welfare, including the industrial swine industry. Muhammad Decl. ¶¶ 46, 48, 50.

43. Despite repeated protests about the failures in the general permit program, DENR proposed permit terms that were largely the same as the permit that came before it. The draft offered nothing to correct the failures and protect neighboring communities from harmful pollution from permitted swine facilities.

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[21] *See* N.C. Sess. Law 2003-28, sec. 1.

[22] *See* paragraphs 74 to 128, *infra*; *see generally* Pew, Putting Meat on the Table, *supra* note 9, at 96-105 (references); Pew, Environmental Impact, *supra* note 9, at 38-44 (references).

44. On December 6, 2013, Steve Wing, Ginger T. Guidry, Sarah Hatcher, and Jessica Rinsky, from the University of North Carolina – Chapel Hill School of Public Health, submitted comments to DENR, raising the "large body of evidence documenting the negative health impacts of industrial swine operations," and calling on DENR "to reduce off-site pollution and increase transparency about animal production activities." Exhibit 2 at 1. This letter called upon DENR to modify the state general permit to prohibit "1) the management of swine waste using lagoons and spray fields, 2) the non-therapeutic use of antibiotics in livestock production, and 3) the location of animal confinements and animal waste storage in flood plains" as "the minimum required to preserve the health and well-being of rural residents near swine operations." *Id.* at 5.

45. Complainants Environmental Justice Network and Waterkeeper Alliance, along with others, also submitted comments to DENR on December 6, 2013, asking DENR to modify the proposed general permit to come into compliance with Title VI. The Comments are attached as Exhibit 3. The Comments made clear that "DENR's failure to require robust waste management technologies as a condition of the permit disproportionately impacts communities of color" and indicated that "the program must be redrawn to avoid this result." *Id.* at 2.

46. These Comments called on DENR "to assess the racial and ethnic impact of the permitting program" before finalizing the general permit and to "adopt measures that protect communities from pollution from the swine facilities." *Id.* at 6. The Comments pointed out that although swine facilities have historically had a disproportionate impact on the basis of race, "there is no evidence that DENR took steps to analyze the disparity its permitting program creates or attempted to address the disparity in any way." *Id.* at 15.

47. On March 7, 2014, DENR finalized the most recent renewal of the general permit. North Carolina, Environmental Management Commission, Department of Environment and Natural Resources, Swine Waste Management System General Permit, Permit No. AWG100000 [General Permit].

48. DENR issued the General Permit with inadequate provisions to protect human health and the environment, after nearly two decades of concern and complaints about the inadequate regulation of swine facilities.

49. On information and belief, DENR finalized the permit without analyzing the potential for disproportionate health or environmental impacts on African Americans, Latinos,

and Native Americans, as required by Title VI and EPA implementing regulations. DENR should have conducted a disproportionate impact analysis but failed to do so.[23]

C. **The Swine Waste Management System General Permit**

50. The General Permit is effective from October 1, 2014 until September 30, 2019. General Permit at 1.

51. The General Permit regulates animal waste management systems at swine facilities in North Carolina that meet the definition of animal operations, which involves 250 or more swine. 15A N.C. Admin. Code § 2T.1304; N.C. Gen. Stat. § 143-215.10B(1). Under North Carolina law, a person must have a permit to construct or operate an animal waste management system. N.C. Gen. Stat. § 143-215.1(a)(12); 15A N.C. Admin. Code § 2T.1304.

52. Animal waste management systems are defined by statute as the "combination of structures and nonstructural practices serving a feedlot[24] that provide for the collection, treatment, storage, [and] land application of animal waste." N.C. Gen. Stat. § 143-215.10B(3).

53. Animal waste management systems refer to the complete system for controlling waste the animal facility generates, from the time the waste is produced until it is utilized.[25]

54. Swine facilities obtain a certificates of coverage to operate under the General Permit.

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[23] 40 C.F.R. § 7.80(a)(1) provides, "Applicants for EPA assistance shall submit an assurance … stating that, with respect to their programs or activities, they will comply with the requirements of this part," Nondiscrimination in Programs or Activities Receiving Federal Assistance from EPA. If assurances are to be at all meaningful, this obligation requires recipients to analyze whether they are complying with Title VI and EPA's implementing regulations and, particularly, whether their programs and activities have an unjustified disproportionate impact. *See* Draft Title VI Recipient Guidance, 65 Fed. Reg. at 39,657.

[24] Under North Carolina law, the term feedlot "means a lot or building or combination of lots and buildings intended for the confined feeding, breeding, raising, or holding of animals and either specifically designed as a confinement area in which animal waste may accumulate or where the concentration of animals is such that an established vegetative cover cannot be maintained. A building or lot is not a feedlot unless animals are confined for 45 or more days, which may or may not be consecutive, in a 12-month period. Pastures shall not be considered feedlots for purposes of this Part." N.C. Gen. Stat. § 143-215.10B(5).

[25] Natural Res. Conservation Serv., USDA, Pt. 651: Agric. Waste Mgmt. Field Handbook 9-1 (2011), *available at* http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=31493.wba (defining animal waste management systems as "planned system[s]" designed "to control and use by-products of agricultural production in a manner that sustains or enhances the quality of air, water, soil, plant, animal, and energy resources").

55. Currently, more than 2,000 swine facilities hold certificates of coverage to operate under the existing general permit, which expires on September 20, 2014. The number of facilities holding a permit is not expected to change significantly under the renewal.[26]

56. The General Permit will not prevent degradation of North Carolina's ground and surface water or air, and will not protect the health of people living, working, and attending school in proximity to permitted swine facilities. Baldwin Decl. ¶ 51; Declaration of Dr. JoAnn Burkholder ¶¶ 41-51, attached as Exhibit 14 [Burkholder Decl.].

57. Moreover, inadequate enforcement measures all but ensure the meager protections—such as the prohibition against spraying waste in the rain or on oversaturated fields—can go unheeded. Baldwin Decl. ¶¶ 42, 48. The dwindling number of state inspectors, and lack of overtime staffing, exacerbate enforcement issues. *Id.* ¶ 47.

D. The General Permit Does Not Require Robust Waste Management Technologies or Other Provisions to Control Pollution from Permitted Swine Facilities

58. Chief among the failures in the current General Permit is that it continues to allow permitted swine facilities to use a lagoon and sprayfield system to control disposal of

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[26] At the time this complaint was written, DENR had not published notice of the facilities that are covered under the General Permit, however the number of permitted facilities is not expected to change significantly. In 1997, North Carolina enacted moratorium against the construction and operation of new and expanded swine facilities. *See* N.C. Sess. Law 1997-458, sec. 1.2 *available at* http://www.ncga.state.nc.us/EnactedLegislation/SessionLaws/HTML/1997-1998/SL1997-458.html. The moratorium was extended and changed over the years. *See, e.g.*, N.C. Sess. Law 1998-188, sec. 3 (amending N.C. Sess. Law 1997-458 § 1.2) (eff. Oct. 12, 1998), *available at* http://www.ncga.state.nc.us/EnactedLegislation/SessionLaws/HTML/1997-1998/SL1998-188.html; N.C. Sess. Law 1999-329, sec. 2.1 (amending N.C. Sess. Law 1997-458 § 1.2) (eff. July 20, 1999), *available at* http://www.ncga.state.nc.us/EnactedLegislation/SessionLaws/HTML/1999-2000/SL1999-329.html. Under the current law, DENR "shall not issue or modify a permit to authorize the construction, operation, or expansion of an animal waste management system that serves a swine farm that employs an anaerobic lagoon as the primary method of treatment and land application of waste by means of a sprayfield as the primary method of waste disposal." N.C. Gen. Stat. § 143-215.10I(b). Thus, new lagoons and sprayfield systems, which would otherwise be controlled under the General Permit, are prohibited. DENR may issue a permit for the construction, operation, or expansion of an animal waste management system serving a swine facility if it meets certain performance standards designed to protect the environment, *id.*, however the standards in essence prohibit lagoons and sprayfields. Moreover, any new or expanded facility would be required to meet these standards under an individual permit. Thus, the facilities operating under the current general permit represent the upper bound of facilities that will be permitted under the renewal. The number of permitted facilities will decline if an operation closes. Complainants will supplement this complaint when DENR makes available a new list of facilities covered by the General Permit.

animal waste. The lagoon and sprayfield system is a blunt instrument for controlling the staggering amount of waste generated each year at the permitted facilities. Lagoons can spill, threatening surface and groundwater, and leach pollutants into groundwater. The high volume sprayers generate a mist of manure that drifts off the fields, inundating homes, streams, and anything in its path with harmful gases and pathogens and an overwhelming smell.

59. The General Permit also does not ensure that all permitted swine facilities are meeting standards to control phosphorus pollution, focusing instead on those facilities that are "sensitive to nutrient enrichment," General Permit at 2 (Condition I.5). This condition fails to recognize that, in large part because of the swine industry, many of North Carolina's waters are oversaturated with nutrients and are sensitive to nutrient enrichment. Baldwin Decl. 39 & Exs. 12-17.

60. The General Permit allows permitted swine facilities to land apply waste as close as 100 feet from a well, General Permit at 3 (Condition 1.8). Far greater setbacks are required to protect drinking water sources from the waste that drifts off the sprayfields. Nitrate from swine facilities, for example, has been found to travel up to 100 meters from swine facilities, and nitrate in water can cause methemoglobinemia, or blue baby syndrome. Burkholder Decl. ¶¶ 45, 25.

61. The General Permit provides permitted swine facilities with up to two days to incorporate manure and sludges into bare soil, unless rainfall events are predicted, General Permit at 3 (Condition II.7). For two days, then, manure and sludges are allowed to sit on the ground, where they could run into nearby waters, all the while giving off a terrible smell.

62. The General Permit allows permitted swine facilities to "temporarily lower lagoon levels" in times of drought or wet weather without first obtaining approval and oversight from DENR, General Permit at 6 (Condition II.27). Facilities, thus, can spray additional manure from the lagoon without ensuring that the land can incorporate the additional waste. Without oversight and control, this provision all but ensures that waste will run off the sprayfields and into any nearby streams and leach into groundwater. The additional spraying generates additional manure mist that blankets the community with harmful gasses and pathogens whose presence is known with the putrid smell. *See, e.g.*, Baldwin Decl. ¶¶ 16, 23, 24, 36, 42.

E. The General Permit Does Not Require Sufficient Oversight and Control of Permitted Swine Facilities

63. The General Permit does not require rigorous oversight and reporting to ensure that permitted swine facilities are not polluting the surface and groundwater, as well as air, to the detriment of human health and welfare.

64. The General Permit does not specify the practices, beyond mere visual inspection, that must be used to ensure that the waste collection, treatment, and storage structures and the runoff control measures in place at permitted swine facilities are in proper working order and are not leaking or otherwise discharging pollutants, General Permit at 6 (Condition III.1).

65. The General Permit does not uniformly require best practices to monitor the lagoons, such as automated lagoon or storage pond waste level monitors and recorders, General Permit at 6-7 (Condition III.2(b)). Only those facilities that have been found to violate requirements to maintain proper lagoon levels for two consecutive years are subject to this heightened requirement. All facilities should rigorously monitor lagoon levels to prevent catastrophic outcomes, like spills in the event of North Carolina's frequent heavy rainfall events.

66. The General Permit does not require permitted swine facilities to submit an amendment to the Certified Animal Waste Management Plan to DENR for approval, and does not publish other major changes and revisions for public review, General Permit at 2 (Condition I.3). DENR, thus, is not carefully monitoring the waste management plans to ensure that swine facilities are subject to best practice.

67. The General Permit does not require rigorous microbial analysis of swine waste that is applied to the fields to provide the state, the scientific community, and the public with sufficient information to understand the scope of impacts in the event of a discharge event, or to assess problems arising from normal operation. Burkholder Decl. ¶ 43. Within 60 days of land applying waste, the facility must analyze "a representative sample of animal waste" for nitrogen, phosphorus, zinc, and copper. General Permit at 8 (Condition III.5). The lag time between land application and testing does not ensure that DENR, the scientific community, or the public will have accurate information about the content of animal waste in the event of a discharge. The limited microbial analysis also will not provide enough information to evaluate and respond to citizen complaints and monitor and predict potential problems.

68. The General Permit does not require groundwater monitoring in the event of a "massive burial of animals," but rather makes such monitoring discretionary, General Permit at 4 (Condition I.10). Animal burial is a significant threat to surface and groundwater quality, especially in recent years, as the emergence of the porcine epidemic virus ("PED") threatens to wipe out herds of animals. Baldwin Decl. ¶¶ 24, 27, 32.

69. The General Permit does not require public notice of a number of events that threaten human health—including failure of the waste management system causing a discharge to ditches, surface waters, and wetlands; failure of the waste management system that prohibits the system from receiving, storing, or treating additional waste; spills of waste or sludge; deterioration or leaks in the lagoon; failure to maintain storage capacity in the lagoon or below designated freeboard levels; waste application in violation of the animal waste management

plan or that results in runoff to a ditch, surface water, or wetlands; and discharge to ditches, surface waters, or wetlands, General Permit at 9-10 (Condition III.13).

70. The General Permit does not require sufficient public notice in the event of a discharge of more than 1,000 gallons of waste, and even up to 1 million gallons, and does not require rigorous testing of the waste source, the receiving water body, and the soil sediment to determine the potential impact on human health, General Permit at 10-11 (Conditions III.15-17). The permit does not ensure that the waste will be sampled close enough to the discharge event to enable the agency and the public to assess the severity of the threat and the potential impacts to human health. Burkholder Decl. ¶¶ 43, 46-48.

71. The General Permit establishes a system of self-monitoring, where the permitted swine facilities create, but do not submit to DENR for review nor make available to the public, the following records:

- Records of inspection of the land application site, General Permit at 5 (Condition II.17)
- Records of testing and calibration of the land application equipment, General Permit at 6 (Condition II.24)
- Records of the waste level in each lagoon, General Permit at 6 (Condition III.2);
- Records of precipitation events, General Permit at 7 (Condition III.3(a));
- Records concerning irrigation and land application events, General Permit at 8 (Condition III.6);
- Records of transfers of waste between waste structures on the same site not typically operated in series, General Permit at 8 (Condition III.7); and
- Monthly stocking records, General Permit at 8 (Condition III.8).

DENR and the public need access to these records to understand and evaluate the extent to which the swine facilities are impacting human health and the environment. Burkholder Decl. ¶¶ 43-44.

72. DENR does not have sufficient inspectors to visit the permitted swine facilities and ensure compliance with the minimum standards to protect the environment and human

health. On information and belief, North Carolina has cut approximately 131 employees from DENR, including inspectors and other regulators, since January 2013.[27]

73. DENR's decision to issue the General Permit without adequate measures to control, dispose of, and monitor the significant amounts of animal waste and pollutants that these facilities generate threatens to pollute the state's water and air. This pollution, in turn, contributes to serious health problems among those in neighboring communities, prevents people from enjoying their land and property, and contributes to declining property values.

V. ADVERSE IMPACTS

A. Swine Facilities Permitted by DENR Contribute to Surface Water Pollution that Adversely Affects Human Health and Welfare

74. The General Permit allows permitted swine facilities to use a lagoon and sprayfield system to dispose of waste.

75. Lagoons are prone to acute pollution problems, including ruptures and spills, which impair surface water quality.[28] Such contamination is also capable of harming human health. Burkholder Decl. ¶¶ 6-14.

76. Hurricanes in eastern North Carolina have led to severe flooding of industrial swine facilities, the rupture of lagoons, and the overflow of waste into North Carolina's creeks, rivers, and streams.[29]

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[27] Andrew Kenney & Craig Jarvis, *Cuts to DENR Regulators Jarring in Wake of Dan River Spill, News & Observer*, Mar. 7, 2014, http://www.newsobserver.com/2014/03/07/3683762/cuts-to-denr-regulators-jarring.html.

[28] *See* Michael A. Mallin & Lawrence B. Cahoon, *Industrialized Animal Production—A Major Source of Nutrient and Microbial Pollution to Aquatic Ecosystems*, 24 Population & Env't 369, 371 (2003), attached as Exhibit 41; Burkholder, *Lagoon Rupture, supra* note 12, at 1463 (rupture of lagoon at a facility in Jacksonville, North Carolina in 1995, releasing more than 28.5 million gallons of untreated swine waste in the New River, to the detriment of water quality); Mallin & Cahoon at 371 (in 1995, a poultry lagoon breach and a large swine lagoon leak were suspected of causing algal blooms, fish kills, and microbial contamination in North Carolina's Cape Fear River Basin).

[29] *See* Burkholder, *Lagoon Rupture, supra* note 12, at 1463 (in 1996, "Hurricane Fran led to severe flooding of [confined animal operations] located in coastal river floodplains, and to rupture of various lagoons in several major watersheds"); Steve Wing, et al., *The Potential Impact of Flooding on Confined Animal Feeding Operations in Eastern North Carolina*, 110 Envtl. Health Perspectives 387, 387 (2002), *available at* http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1240801/pdf/ehp0110-000387.pdf (describing how the 15-20 inches of rain dropped by Hurricane Floyd turned eastern North Carolina into a fecal flood zone). The flooding following Hurricane Floyd was not an isolated incident. *Id.* ("In 1996, 22 fecal waste pits were reported to have been ruptured or inundated following flooding from Hurricane Fran, and one major spill was reported following Hurricane Bonnie in 1998.").

77. Waste spilled from overflowing lagoons and runoff from application of the waste to fields has been linked to outbreaks of harmful pathogens, such as salmonella and *E. coli* in the environment[30] has led to major freshwater fish kills, and has contributed to toxic algae outbreaks.[31] *See, e.g.*, Burkholder Decl. ¶¶ 6-14.

78. The General Permit allows permitted swine facilities to use sprayfields to disperse the waste stored in their lagoons. Sprayfields also contribute to water quality impacts by introducing various pollutants, including those described in the preceding paragraph, to the water column. For example, waste can run off fields when over-applied, or when it is applied to ground that is already saturated or frozen and cannot absorb the waste.[32] Baldwin Decl. ¶ 16, 23, 36, 42; Burkholder Decl. ¶ 30; *see also* Declaration of Ogden D. Batts ¶ 17, attached as Exhibit 7 [Batts Decl.] (reporting improper spraying); Declaration of Alvin Miller ¶ 13, attached as Exhibit 28 [Alvin Miller Decl.]. Contaminants from swine waste also reach receiving waters through runoff and leach through permeable soils to vulnerable aquifers even when the waste is applied at recommended application rates. Burkholder Decl. ¶ 29. Permitted swine facilities have been reported to apply waste to ditches that lead to surface waters. Baldwin Decl. ¶ 16, 23, 35, 42. Finally, waste from the sprayers can blow directly into the surface waters. Baldwin Decl. ¶ 23.

79. Over-applying the waste or applying the waste to saturated or frozen ground would violate the General Permit and the associated animal waste management plans, however, many facilities are reported to engage in such practices. Without provisions requiring frequent DENR inspections of the permitted facilities in the General Permit and rigorous self-monitoring and reporting to DENR and the public, combined with increases in DENR staff to handle the additional responsibility, DENR and the public are not in a position to find and prohibit the unlawful waste application practices that threaten water quality. Baldwin Decl. ¶¶ 45-51.

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[30] Michael Greger & Gowri Koneswaran, *The Public Health Impacts of Concentrated Animal Feeding Operations on Local Communities*, 33 Farm Cmty. Health 11, 13 (2010); Carrie Hribar, Nat'l Ass'n of Local Bds. of Health, Understanding Concentrated Animal Feeding Operations and Their Impact on Communities, Environmental Health 4 (2010), *available at* http://www.cdc.gov/nceh/ehs/docs/understanding_cafos_nalboh.pdf, attached as Exhibit 40.

[31] JoAnn M. Burkholder et al., *Impacts of Waste from CAFOs on Water Quality*, 115 Envtl. Health Perspectives 308, 309 (2007), *available at* http://dx.doi.org/10.1289/ehp.8839, attached as Exhibit 3 to Burkholder Decl. [hereinafter, Burkholder, *Impacts of CAFO Waste*]; *see also* Michael A. Mallin et al., Ctr. for Marine Science Research, Univ. of N.C. at Wilmington, Effect of Organic and Inorganic Nutrient Loading on Photosynthetic and Heterotrophic Plankton Communities in Blackwater Rivers (1998), *available at* http://repository.lib.ncsu.edu/dr/bitstream/1840.4/1880/1/NC-WRRI-315.pdf; Michael A. Mallin et al., *Factors Contributing to Hypoxia in Rivers, Lakes, and Streams*, 51 Limnology & Oceanography 690, 699-700 (2006).

[32] Hribar, *supra* note 30, at 4.

80. Ammonia that is volatilized from the sprayers or the confinement houses at permitted swine facilities also degrades water quality. The airborne ammonia returns to the surface near permitted facilities, where it can land in surface waters or wash into the waters via ditches.[33] Burkholder Decl. ¶¶ 32-33. For example, researchers found that industrial swine facilities contributed to ammonia pollution in the lower Neuse estuary. *Id.* ¶ 19, 34.

81. High ammonia concentrations can lead to algal blooms that are harmful to aquatic life. Burkholder Decl. ¶ 34, 19. The algae themselves produce toxins that degrade water quality and impact human health. *Id.* ¶¶ 19, 40. For example, cyanobacteria make toxins that cause liver hemorrhaging as well as neurological and psychological impacts. *Id.* ¶ 40. Cyanotoxins can cause burning eyes and skin irritation, and can even promote tumor growth. *Id.* The Cape Fear River, which is impacted by many swine facilities, has experienced highly toxic cyanobacteria blooms. *Id.* ¶ 41. Scientists at the University of North Carolina, Wilmington recorded levels as high as 390 micrograms of the toxin per liter in Cape Fear, a level that far exceeds the 1 microgram per liter standard for safe drinking water put forward by the World Health Organization. *Id.*

82. Waste from permitted swine facilities has polluted waterways, forcing people to abandon favorite swimming holes and fishing ponds. In some instances, the low dissolved oxygen seen in waters oversaturated with swine waste causes the fish to suffocate, ruining a water body as a potential fishing source. Burkholder Decl. ¶ 38; *see also* Alvin Miller Decl. ¶ 9. People have reported catching fish with skin infections, visible sores, and abrasions that may have been caused by water pollution from the industrial swine facilities.[34] Declaration of Luby C. Waters ¶¶ 14-15, attached as Exhibit 36 [Waters Decl.]; Hall Decl. ¶ 19; Declaration of Daniel Mejia ¶¶ 18-20, attached as Exhibit 26 [D. Mejia Decl.].

83. Parasites, bacteria, viruses, nitrates, and other components of liquid waste from permitted swine facilities pose threats to human health.[35] Steve Wing & Jill Johnston, Industrial

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[33] *Id.*; *see also* Marion Deerhake et al., *Atmospheric Dispersion and Deposition of Ammonia Gas, in* RTI Int'l, Benefits of Adopting Environmentally Superior Swine Waste Management Technologies in North Carolina: An Environmental and Economic Assessment, at 2-32 to 2-34 (2003), *available at* http://www.cals.ncsu.edu/waste_mgt/smithfield_projects/phase1report04/appendix%20c-RTI.pdf, attached as Exhibit 47 (modeling rates of ammonia deposition by county). "The greatest deposition occurs in Sampson and Duplin counties." *Id.* at 2-33.

[34] *See* JoAnn M. Burkholder & Howard B. Glasgow, *History of Toxic Pfiesteria in North Carolina Estuaries from 1991 to the Present*, 51 Biosci. 827, 833 (2001) ("During acute [Pfiesteria] exposure, fish commonly hemorrhage or develop skin lesions that are diffuse or nonfocal, as well as deep, localized or focal, bleeding sores or ulcerations.").

[35] Burkholder, *Impacts of CAFO Waste, supra* note 31; *see also* Dana Cole et al., *Concentrated Swine Feeding Operations and Public Health: A Review of Occupational and Community Health Effects*, 108 Envtl. Health Perspectives 685 (2000), *available at* http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1638284/pdf/envhper00309-0041.pdf, attached as Exhibit 39.

Hog Operations in North Carolina Disproportionately Impact African-Americans, Hispanics and American Indians 2 (Aug. 2014), attached as Exhibit 4 [Wing & Johnston Report].

B. Swine Facilities Permitted by DENR Contribute to Groundwater Pollution that Adversely Affects Human Health and Welfare

84. The lagoon and sprayfield system contributes to groundwater pollution that adversely affects human health and welfare.

85. Many of the lagoons in North Carolina were built in the 1990s, before standards requiring that lagoons be lined with plastic and compacted clay were in place.[36] Baldwin Decl. ¶ 34; Burkholder Decl. ¶ 29. Lagoons have been shown to leach wastewater into the soil where

[36] When the swine industry in North Carolina expanded, lagoons were not required to have synthetic liners, allegedly because of the largely unproven assumption that the lagoons would develop a seal. R.L. Huffman, *Seepage Evaluation of Older Swine Lagoons in North Carolina*, 47 Trans. Am. Soc'y Agric. Eng'rs 1507, 1507 (2004) ("[L]agoons were expected to develop a seal at the liquid-soil interface that would impede seepage."); *see also* Danny McCook, Discussion of Background Considerations in the Development of Appendix 10D to the Agricultural Waste Management Field Handbook 1 (2001), *available at* https://prod.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs141p2_024282.pdf ("Prior to about 1990, NRCS engineers commonly assumed that the accumulation of manure solids and the bacterial action resulting from a sludge interface would effectively reduce seepage . . . to an acceptable level."). Assumptions about the effectiveness of natural sealing were inaccurate or overstated. *See* McCook, *supra* at 1 ("[R]esearch . . . demonstrated that . . . manure sealing . . . was not as complete as formerly believed."); *see also* Natural Res. Conservation Serv., USDA, Part 651: Agricultural Waste Management Field Handbook 10D-1 (2009), *available at* ftp.wcc.nrcs.usda.gov/wntsc/AWM/handbook/ch10.pdf ("A rule of thumb supported by research is that manure sealing is not effective unless soils have at least 15 percent clay content for monogastric animal generated waste . . . ."). The General Assembly has prohibited the construction, operation, or expansion of new anaerobic lagoons, stating that DENR is prohibited from "issu[ing] or modify[ing] a permit to authorize the construction, operation, or expansion of an animal waste management system that serves a swine farm that employs an anaerobic lagoon as the primary method of treatment and land application of waste by means of a sprayfield as the primary method of waste disposal. *See* N.C. Gen. Stat. § 143-215.10*I*(b). Furthermore, the performance standards that apply to new or expanded animal waste management systems at swine facilities specify that the system "be designed and constructed with synthetic liners to eliminate seepage." 15A N.C. Admin. Code § 2T.1307(b)(1)(A).

it can reach groundwater.[37] Baldwin Dec. ¶ 34; Burkholder Decl. ¶ 24. Studies from eastern North Carolina have shown that lagoons at swine facilities can and do contaminate shallow groundwater with antibiotic-resistant *E. coli*[38] and nitrate,[39] and ammonia.[40]

86. Liquid waste that is applied to the fields can also percolate through the sandy soils in North Carolina and into shallow groundwater. Burkholder Decl. ¶ 23.

87. Permitted facilities are allowed to operate without proper liners unless and until DENR requires their replacement.[41]

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[37] *See, e.g.*, J.P. Murphy & J.P. Harner, *Lagoon Seepage Through Soil Liners*, *in* Swine Day 1997, at 1, 3 (Kans. State Univ. Agric. Experiment Station & Coop've Ext. Serv.), *available at* http://www.asi.k-state.edu/doc/swine-day-1997/srp795.pdf; *see also* Carol J. Hodne, Iowa Policy Project, Concentrating on Clean Water: The Challenge of Concentrated Animal Feeding Operations 8 (2005), *available at* http://www.iowapolicyproject.org/2005docs/050406-cafo-fullx.pdf. 2005docs/050406-cafo-fullx.pdf (identifying "seepage from earthen manure storage structures" as typical pathway for nitrates entering groundwater); Jerry L. Hatfield et al., Chapter 4: Swine Manure Management, *in* Agric. Research Serv., USDA, Agricultural Uses of Municipal, Animal, and Industrial Byproducts 78, 82 (1998), *available at* http://infohouse.p2ric.org/ref/43/42647.pdf (describing "leakage" as a "major environmental concern").

[38] *See* M.E. Anderson & M.D. Sobsey, *Detection and Occurrence of Antimicrobially Resistant* E. coli *in Groundwater on or near Swine Farms in Eastern North Carolina*, 54 Water Sci. & Tech. 211, 217 (2006), attached as Exhibit 37 ("Overall, the results of this study demonstrated that antibiotic-resistant E. coli were present in groundwaters associated with commercial swine farms that have anaerobic lagoons and land application systems for swine waste management.").

[39] *See* Melva Okun, Envtl. Res. Program, UNC School of Public Health, Human Health Issues Associated with the Hog Industry (1999), *available at* http://www.bape.gouv.qc.ca/sections/mandats/prod-porcine/documents/SANTE5.pdf (discussing 1996 NC DHHS well testing program, which found exceedances of 10 ppm nitrate standard in 9.9% and 22.5% of wells in Duplin and Sampson Counties, respectively); Wendee Nicole, *CAFOs and Environmental Justice: The Case of North Carolina*, 121 Envtl. Health Perspectives A182, A186 (2013), attached as Exhibit 44 ("Even without spills, ammonia and nitrates may seep into groundwater, especially in the coastal plain where the water table is near the surface.").

[40] R.L. Huffman & Phillip W. Westerman, *Estimated Seepage Losses from Established Swine Waste Lagoons in the Lower Coastal Plain of North Carolina*, 38 Trans. Am. Soc'y Agric. Eng'rs 449-453 (1995); Phillip W. Westerman et al., *Swine-Lagoon Seepage in Sandy Soil*, 38 Trans. Am. Soc'y Agric. Eng'rs 1749-1760 (1995); J.M. Ham & T.M. DeSutter, *Toward Site-Specific Design Standards for Animal-Waste Lagoons: Protecting Groundwater Quality*, 29 J. Envtl. Qual. 1721, 1721-32 (2000). Even lagoons that feature liners built to NRCS standards leach some amount of waste into nearby soils. *See* NC-NRCS, Conservation Practice Standard: Waste Treatment Lagoon (Code 359), at 5 (2009) (allowing seepage of up to "1.25×10^{-6} cm/sec (0.003 ft/day)"); McCook, *supra* note 36, at 4 (observing that "clay liners obviously allow some seepage").

88. Burial methods allowed under the General Permit also threaten groundwater. Permitted facilities often bury dead animals in pits on-site. Groups monitoring North Carolina's waters have reported seeing facilities burying animals close to waters of the state and in deep ditches containing groundwater, practices that threaten to contaminate groundwater sources. Baldwin Decl. ¶ 32 & Exs. 10 & 11. The recent spread of PED threatens to increase the mortality rate at permitted swine facilities. Greater animal deaths create a need for additional burial sites, each of which could leach pollutants and disease from the decomposing animals into groundwater. Baldwin Decl. ¶¶ 27-28, 32.

89. Groundwater pollution threatens human health in communities that rely on groundwater wells for drinking water.[42] Burkholder Decl. ¶¶ 28-29, 26. A study of the North Carolina swine industry completed in 2000 found that "[a]lmost half of all hog CAFOs are located in block groups where > 85% of households have well water."[43] High nitrate levels found in contaminated groundwater, for example, are hazardous to human health, as they contribute to methemoglobinemia, or blue baby syndrome. *See, e.g.*, Burkholder Decl. ¶¶ 25-27 (noting studies that have shown that the area near lagoons can be contaminated with levels of high nitrate and high ammonia, and discussing the impact on human health and the environment).

90. The threat of contaminated groundwater also injures human welfare. Many people have switched from well water to municipal water sources for fear that their wells were polluted by industrial swine facilities.[44] Where municipal water is not yet available or

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[41] A lagoon for which a permit was issued prior to 2007 "may continue to operate under . . . that permit, including any renewal [thereof]." *See* N.C. Sess. Law 2007-523, sec. 1(b) (eff. Sep. 1, 2007), *available at* http://www.ncga.state.nc.us/EnactedLegislation/SessionLaws/HTML/2007-2008/SL2007-523.html. Grandfathering is also accomplished via DENR regulations. *See* 15A N.C. Admin. Code § 2T.1304(a)(1) (requiring animal waste management systems to meet "all applicable state statutes and rules *at the time of development or design*") (emphasis added). Where DENR is willing to acknowledge that these lagoons threaten water quality and the environment, it may require facilities to obtain an individual permit, which must remedy that threat. *Id.* § 2T.0111(h)(7) (indicating that DENR can require a facility whose lagoon "has been allowed to deteriorate or leak such that it poses an immediate threat to the environment" to obtain an individual permit).

[42] Hribar, *supra* note 30, at 3-4 (discussing the risk of well water contamination for facilities near industrial animal operations, and explaining that high nitrate levels could harm infants, who are susceptible to blue baby syndrome).

[43] Steve Wing et al., *Environmental Injustice in North Carolina's Hog Industry*, 108 Envtl. Health Perspectives 225, 228 (2000), attached as Exhibit 52 [Wing, *Environmental Injustice*].

[44] Declaration of Anonymous 1 ¶ 12, attached as Exhibit 5 [Anonymous 1 Decl.]; Batts Decl. ¶ 6; Declaration of Tony Bennett ¶ 8, attached as Exhibit 8 [Bennett Decl.]; Declaration of Eddie Dean Brinson ¶¶ 10-11, attached as Exhibit 11 [E. Brinson Decl.]; Declaration of Jessie Mae Brinson ¶ 13, attached as Exhibit 12 [J.M. Brinson Decl.]; Hall Decl. ¶ 21; Herring Decl. ¶ 29; Declaration of Jessie Ladson ¶ 13, attached as Exhibit 23 [J. Ladson Decl.]; Declaration of Joan Malloy ¶ 15, attached as Exhibit 25 [Malloy Decl.]; Waters Decl. ¶ 12.

affordable, people are forced to purchase bottled water.[45] Others, however, have stayed on well water and, despite attempts at filtering the water, are forced to deal with water that smells of eggs, a hallmark of sulfur pollution that could be caused by industrial swine facilities.[46]

C. Swine Facilities Permitted by DENR Contribute to Air Pollution that Adversely Affects Human Health and Welfare

91. Permitted swine facilities contribute to air pollution that adversely affects human health and welfare. The confinement houses at swine facilities are equipped with industrial fans that draw in air from outside and vent out air containing hundreds of pollutants, including harmful gases, aerosols, and "particles consisting of swine skin cells, feces, feed, bacteria, and fungi."[47]

92. Decomposing waste in lagoons contributes to air pollution. As the waste sits in the lagoon, it gives off malodorous or toxic gases, including ammonia,[48] nitrous oxide, and other VOCs.[49] Studies have estimated that over time, approximately 70% of the nitrogen in the lagoon will escape to the atmosphere.[50]

93. The range of air pollutants emitted from industrial swine facilities includes hydrogen sulfide, ammonia, a wide array of other VOCs, and bioaerosols including endotoxins

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[45] Declaration of Violet Branch ¶ 14, attached as Exhibit 9 [Branch Decl.]; Declaration of Robert Houston ¶ 10, attached as Exhibit 20 [R. Houston Decl.]; Declaration of Norma Mejia ¶ 10, attached as Exhibit 27 [N. Mejia Decl.]; Declaration of Bennie Wallace ¶ 7, attached as Exhibit 34 [B. Wallace Decl.].

[46] Declaration of Brittany Johnson ¶¶ 5-7, attached as Exhibit 21 [Johnson Decl.]; Declaration of Stella Louise Smith ¶ 12, attached as Exhibit 32 [Smith Decl.]; *see also* Declaration of Cynthia Brinson ¶ 9, attached as Exhibit 10 [C. Brinson Decl.] (reporting a general concern with well water); Declaration of Hannah Louise Fullwood ¶ 9, attached as Exhibit 15 [Fullwood Decl.] (concern over well water); Declaration of Levone Houston ¶ 11, attached as Exhibit 19 [L. Houston Decl.].

[47] Cole et al., *supra* note 35, at 685; *see also* Hribar, *supra* note 30, at 5-6.

[48] *See, e.g.*, John T. Walker et al., *Atmospheric Transport and Wet Deposition of Ammonium in North Carolina*, 34 Atmospheric Env't 3,407 (2000); Jennifer K. Costanza et al., *Potential Geographic Distribution of Atmospheric Nitrogen Deposition from Intensive Livestock Production in North Carolina, USA*, 398 Sci. Total Env't 76, 77 (2008); Matias B. Vanotti & Patrick G. Hunt, Ammonia Removal from Swine Wastewater Using Immobilized Nitrifiers, *in* Proceedings of the 8th Int'l. Conf. of the FAO ESCORENA Network on Recycling of Agricultural, Municipal and Industrial Residues in Agriculture, Rennes, France 427, 428 (1998), *available at* http://www.ramiran.net/doc98/FIN-ORAL/VANOTTI.pdf.

[49] *See* James A. Zahn et al., *Air Pollution from Swine Production Facilities Differing in Waste Management Practice* 3, Proceedings of the Odors and Emission 2000 Conference (2000) (listing all types of "emissions released from stored swine manure" mentioned above).

[50] C.A. Rotz, *Management to Reduce Nitrogen Losses in Animal Production*, 82 J. Animal Sci. E119, E129 (2004).

and other respiratory irritants.[51] *See* Wing & Johnston Report at 2; Burkholder Decl. ¶ 31 (discussing ammonia and hydrogen sulfide pollution). These emissions create "zones of exposure . . . for human populations who live near industrial hog operations in Eastern [North Carolina]."[52]

94. High levels of ammonia are a public health concern, as ammonia readily forms fine particulate matter,[53] which "strong epidemiological evidence . . . link[s] . . . with cardiovascular-related and lung cancer mortality."[54]

95. One recent study of the impact of industrial swine operations on adults living in eastern North Carolina found that the odor and chemicals emitted from the operations, including hydrogen sulfide and endotoxins, lead to acute eye, nose, and throat irritation, increased incidents of difficulty breathing, increased wheezing, chest tightness, and nausea.[55]

96. Studies have shown that people living near an industrial swine facility in North Carolina suffered elevated rates of respiratory and gastrointestinal problems, mucous membrane irritation, headaches, runny nose, sore throat, excessive coughing, diarrhea, and

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[51] Cole et al., *supra* note 35, at 686-88; Susan S. Schiffman et al., *Quantification of Odors and Odorants from Swine Operations in North Carolina*, 108 Agric. & Forest Meteorology 213 (2001); Ana M. Rule et al., *Assessment of an Aerosol Treatment To Improve Air Quality in a Swine Concentrated Animal Feeding Operation*, 39 Envtl. Sci. & Tech., 9649, 9649 (2005).

[52] Sacoby M. Wilson & Marc L. Serre, *Examination of Atmospheric Ammonia Levels Near Hog CAFOs, Homes, and Schools in Eastern North Carolina*, 41 Atmospheric Env't 4977, 4985 (2007), attached as Exhibit 49; *see also* Sacoby M. Wilson & Marc L. Serre, *Use of Passive Samplers to Measure Atmospheric Ammonia Levels in a High-density Industrial Hog Farm Area of Eastern North Carolina*, 41 Atmospheric Env't 6,074 (2007).

[53] *See* Marion Deerhake et al., *Generation of Ammonium (NH_4^+) Salt Fine Particulate Matter*, *in* RTI Int'l, *supra* note 33, at 3-2 to 3-3.

[54] EPA, National Ambient Air Quality Standards for Particulate Matter, 78 Fed. Reg. 3,086, 3,103 (Jan. 15, 2013).

[55] Leah Schinasi et al., *Air Pollution, Lung Function, and Physical Symptoms in Communities Near Concentrated Swine Feeding Operations*, 22 Epidemiology 208, 208 (2011), attached as Exhibit 48 (measuring pollutants levels and effect on 101 adults living near hog CAFOs in 16 eastern North Carolina communities); *see also* K.M. Thu, *Public Health Concerns for Neighbors of Large-Scale Swine Production Operations*, 8 J. Agric. Safety & Health 175 (2002) (synthesizing research regarding public health concerns for neighbors of industrial swine facilities, including respiratory issues associated with air pollution).

burning eyes as compared to residents in the control group that did not live near industrial livestock operations.[56]

97. Children going to school near swine facilities report more doctor-diagnosed asthma and more symptoms of wheezing than populations that are not exposed to swine facilities.[57] Adults living near swine facilities also have reported increased incidence of asthma.[58]

98. Children who attend schools where livestock odor is reported at least two times per month experience more wheezing symptoms than children who attended schools where no livestock odor was reported.[59]

99. Living near livestock production facilities has been linked to increased infant mortality due to respiratory disease.[60]

100. People living and working near permitted swine facilities have confirmed the scientific findings above. They have complained about frequent sinus problems, and bronchitis. They have trouble breathing and have suffered through frequent raw throats, runny noses, persistent, hacking coughs, burning or water eyes, and allergy attacks, issues that often

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[56] Steve Wing & Susanne Wolf, *Intensive Livestock Operations, Health, and Quality of Life Among Eastern North Carolina Residents*, 108 Envtl. Health Perspectives 233, 233 (2000), attached as Exhibit 53; *see also* Cole et al., *supra* note 35 (reviewing literature on health effects associated with swine industrial agriculture); Susan S. Schiffman et al., *Symptomatic Effects of Exposure to Diluted Air Sampled from a Swine Confinement Atmosphere on Healthy Human Subjects*, 113 Envtl. Health Perspectives 567 (2005) (finding that those exposed to diluted swine air for two 1-hour sessions were more likely to report headaches, eye irritation, and nausea than the control group that was exposed to clean air); *see also* Hribar, *supra* note 30, at 6-7 & Table 1.

[57] Maria C. Mirabelli et al., *Asthma Symptoms Among Adolescents Who Attend Public Schools That Are Located Near Confined Swine Feeding Operations*, 118 Pediatrics e66 (2006), attached as Exhibit 42 (finding students aged 12 to 14 who attended North Carolina public schools within 3 miles of industrial swine facilities reported increased asthma-related symptoms, more doctor-diagnosed asthma, and more asthma-related medical visits compared to peers at other schools); James A. Merchant et al., *Asthma and Farm Exposures in a Cohort of Rural Iowa Children*, 113 Envtl. Health Perspectives 350 (2005) (finding children living on swine farms, including large facilities with more than 500 head, experienced increased rates of asthma compared to non-exposed children; results more pronounced where swine facilities added antibiotics to feed); *see also* Wing & Johnston Report at 2; *see also* Batts Decl. ¶ 11; Branch Decl. ¶ 13; D. Mejia Decl. ¶ 27; Declaration of Sandra Wallace ¶ 7, attached as Exhibit 35 [S. Wallace Decl.].

[58] Bennett Decl. ¶ 17; Fullwood Decl. ¶ 11; Declaration of Anthony Hicks ¶ 12, attached as Exhibit 18 [Hicks Decl.]; Johnson Decl. ¶ 12; Declaration of Beaford Lee Outlaw ¶ 6, attached as Exhibit 31 [Outlaw Decl.].

[59] Mirabelli, *supra* note 57.

[60] Stacy Sneeringer, *Does Animal Feeding Operation Pollution Hurt Public Health? A National Longitudinal Study of Health Externalities Identified by Geographic Shifts in Livestock Production*, 91 Am. J. Agric. Econ. 124, 130 (2009).

worsened when they are near swine facilities. Colds seem to last longer for those exposed to air pollution from swine facilities. The smell of the waste is nauseating.[61]

D. **Swine Facilities Permitted by DENR Depress Quality of Life**

101. The overpowering smell associated with swine facilities greatly degrades the quality of life for people living and working in the shadow of these facilities.

102. The smell from the permitted swine facilities is often unbearable. Individuals who live near swine facilities frequently are not able to open their windows, sit outside their homes on their porches or in their yards, have cookouts, or otherwise engage in routine activities because of the intense and putrid odor from the swine facilities.[62] They hold their breaths and cover their mouths if they have to go outside when the facilities are spraying. They plan walks and recreation to avoid the raw, stinking smell. They avoid cooking when the facilities are spraying, because the thought of eating when smelling takes away their appetite. They no longer hang the laundry out to dry for fear that the smell will sink into their clothes. The smell even wakes them up at night.[63]

103. There's no telling when a facility will choose to spray its waste, and neighbors receive no advance notice. Some people who live near permitted swine facilities have resigned themselves to the fact that the spraying might interrupt an outdoor gathering with friends and family, while others have given up on the idea of planning events outside entirely. Without certainty about when a facility will spray, people living near permitted facilities explain that

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[61] Anonymous 1 Decl. ¶ 10; Baldwin Decl. ¶ 22; Batts Decl. ¶ 11; Bennett Decl. ¶¶ 7, 15; Branch Decl. ¶ 12; C. Brinson Decl. ¶ 8; E. Brinson Decl. ¶ 9, 12; J.M. Brinson Decl. ¶ 7; Fullwood Decl. ¶¶ 6, 11; Hicks Decl. ¶ 9; L. Houston Decl. ¶ 6; J. Ladson Decl. ¶¶ 17-18; Declaration of Joyce Lamb ¶¶ 7, 11, attached as Exhibit 24 [Lamb Decl.]; Malloy Decl. ¶ 16; N. Mejia Decl. ¶¶ 5, 11; Declaration of Audrey Miller ¶ 12, attached as Exhibit 29 [Audrey Miller Decl.]; Outlaw Decl. ¶ 6; Smith Decl. ¶ 13; Declaration of Latongia Tyrance ¶ 6, attached as Exhibit 33 [Tyrance Decl.]; Waters Decl. ¶¶ 17, 19.

[62] *See, e.g.*, Steve Wing et al., *Air Pollution and Odor in Communities Near Industrial Swine Operations*, 116 Envtl. Health Perspectives 1362 (2008), attached as Exhibit 50 (study participants living within 1.5 miles of swine factory farm reported altering or ceasing normal daily activities when hydrogen sulfide concentrations, and associated hog odor, were the highest) [Wing, *Air Pollution and Odor*]; Wing & Wolf, *supra* note 56; Hribar, *supra* note 30, at 7-8.

[63] Anonymous 1 Decl. ¶¶ 5-7, 9, 13; Baldwin Decl. ¶¶ 21, 37; Batts Decl. ¶¶ 7-8; Bennett Decl. ¶¶ 7, 10, 13; Declaration of Tara Nicole Brinson ¶¶ 4-6, 8, attached as Exhibit 13 [T.N. Brinson Decl.]; Branch Decl. ¶¶ 10-11; C. Brinson Decl. ¶¶ 6, 11; E. Brinson Decl. ¶¶ 13, 21; J.M. Brinson Decl. ¶¶ 7, 11; Fullwood Decl. ¶ 7; Hall Decl. ¶ 20; Herring Decl. ¶¶ 24-27; Hicks Decl. ¶¶ 6-7, 12; L. Houston Decl. ¶¶ 5, 10; R. Houston Decl. ¶ 8; J. Ladson Decl. ¶¶ 14-15; Lamb Decl. ¶¶ 9-12; Malloy Decl. ¶¶ 9, 12; N. Mejia Decl. ¶ 12; Audrey Miller Decl. ¶ 7; Alvin Miller Decl. ¶ 10; Outlaw Decl. ¶ 9; Smith Decl. ¶¶ 11, 14; Tyrance Decl. ¶¶ 6-7, 12; B. Wallace Decl. ¶¶ 8-9; S. Wallace Decl. ¶¶ 8-9; Waters Decl. ¶¶ 8, 10.

they have to leave the windows up, or else face the possibility of returning home to a house that stinks of swine waste.[64]

104. People who are elderly, have disabilities, are sick or recovering from illness, and children are among the most affected of those who are forced to live and work near permitted swine facilities. People who are elderly or recovering from illness have been forced to stay inside, even on hot days, either because they are bedridden or because their doctors have recommended that they avoid breathing in the swine waste. People using crutches have difficulty covering their nose and mouth and thus find it difficult to go outside, even just to get the mail, when the facility is spraying and the smell is overpowering.[65] Families keep their children inside because do not want them exposed to the smell and pollution from industrial swine facilities.[66] Children complain that they would like to be outside, playing in their yards, but they simply can't bear the smell.[67] Children who live near permitted swine facilities, or whose parents work in permitted swine facilities, have been forced to suffer the embarrassment and humiliation of attending school reeking of swine waste.[68] The stench of swine waste can sink into a person's clothes and stay there for days.[69]

105. The smell from the facilities is embarrassing for those forced to live near a permitted swine facility. People who live near permitted swine facilities complain that friends and family who live farther away from the facilities refuse to come and visit because of the smell. If friends and family happen to visit on a day when the smell is particularly bad, their complaints or visible discomfort is humiliating, and the visits are short-lived.[70]

106. The waste from the permitted swine facilities not only smells, it also interferes with the quality of life. Droplets of waste from the automated sprayers form a fine mist that coats everything in its path, from clothes lines, cars parked near the sprayfield or driving by, bedroom windows and sides of homes, playing fields, and even the people themselves. Student athletes have been forced to practice sports near the sprayfields, and breathe in the terrible odor.[71]

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[64] Batts Decl. ¶ 7; Bennett Decl. ¶ 7; E. Brinson Decl. ¶ 15; J.M. Brinson Decl. ¶ 9; Hall Decl. ¶ 20; Lamb Decl. ¶ 10; Malloy Decl. ¶¶ 9-10; Audrey Miller Decl. ¶ 11; Smith Decl. ¶ 18; Tyrance Decl. ¶ 15; Waters Decl. ¶¶ 5, 9.
[65] Batts Decl. ¶ 10; J.M. Brinson Decl. ¶¶ 12, 18; Herring Decl. ¶ 28; Audrey Miller Decl. ¶¶ 7-9.
[66] Bennett Decl. ¶ 12; C. Brinson Decl. ¶ 8; D. Mejia Decl. ¶¶ 26, 28; S. Wallace Decl. ¶¶ 7, 10.
[67] T.N. Brinson Decl. ¶¶ 4-6; *see also* J.M. Brinson Decl. ¶ 10; Smith Decl. ¶ 10; Tyrance Decl. ¶ 12.
[68] D. Mejia Decl. ¶ 11.
[69] *Id.* ¶ 14; Muhammad Decl. ¶ 61.
[70] Branch Decl. ¶ 10; C. Brinson Decl. ¶ 10; J.M. Brinson Decl. ¶ 7; Hall Decl. ¶ 20; L. Houston Decl. ¶ 8; D. Mejia Decl. ¶ 26; Johnson Decl. ¶ 9.
[71] Anonymous 1 Decl. ¶ 14; Baldwin Decl. ¶ 36; C. Brinson Decl. ¶ 7; E. Brinson Decl. ¶ 15; J.M. Brinson Decl. ¶ 14; Herring Decl. ¶¶ 12-14, 21-22; R. Houston Decl. ¶ 7; D. Mejia Decl. ¶¶ 8-10; Alvin Miller Decl. ¶ 4; Audrey Miller Decl. ¶ 10; S. Wallace Decl. ¶ 11.

107. People living near permitted swine facilities have abandoned their favorite pastimes, like hunting or fishing, because the smell near the swine facilities is simply too much to bear, or the waters are clogged with algae. Others have are concerned that the animals they catch might not be safe to eat because they, too, might be suffering from the pollution.[72]

108. Swine facilities attract bugs and other pests, from flies to buzzards, which swarm to the waste piles and boxes of decomposing animals at swine facilities. The flies make it make it unpleasant to have gatherings outside.[73]

109. For communities impacted by swine facilities, there is little escape. People living and working near permitted swine facilities have complained that they can smell the odor in their cars as they approach a sprayfield, even if their windows are tightly rolled up. In hot summer months, they race to turn off their air conditioning, in an often futile attempt to prevent the putrid air from getting into the car and making it hard to breathe.[74]

110. People attending church or community meetings, too, experience the overpowering smell. Just as at home, people must work to avoid the smell from nearby swine facilities, keeping doors and windows closed, and gathering inside for community celebrations and meetings.[75]

111. The trucks that transport animals between different confinement houses and ultimately to slaughter also interfere with quality of life. Industrial swine operations "grow" their animals in stages until they reach slaughter weight. Some operators grow swine in three stages, "farrow to wean," "wean to feeder," "feeder to finish," while others progress the animals from "farrow to feeder" and "feeder to finish," each with a new confinement house.[76] Often the animals are moved via tractor-trailers that are open to the air in places to prevent suffocation. The open air design, however, allows dust, dander, and other waste to escape, and people living nearby breathe it in. Like the odor from the waste pits and sprayers, the smell of

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[72] E. Brinson Decl. ¶ 18; Herring Decl. ¶ 30; L. Houston Decl. ¶ 9; R. Houston Decl. ¶ 11; Lamb Decl. ¶ 13; Alvin Miller Decl. ¶¶ 5-6; Smith Decl. ¶ 17; Waters Decl. ¶ 16.

[73] Batts Decl. ¶ 7; Bennett Decl. ¶ 7; Branch Decl. ¶ 10; C. Brinson Decl. ¶ 12; E. Brinson Decl. ¶ 17; Fullwood Decl. ¶ 6; Hall Decl. ¶¶ 20, 29; Johnson Decl. ¶ 10; Lamb Decl. ¶ 10; Outlaw Decl. ¶ 7; Smith Decl. ¶ 18; Tyrance Decl. ¶ 15; *see also* Hribar, *supra* note 30, at 8.

[74] Baldwin Decl. ¶ 21; J.M. Brinson Decl. ¶ 18; Hall Decl. ¶ 24; Hicks Decl. ¶ 8; Lamb Decl. ¶ 11; Audrey Miller Decl. ¶ 5; Outlaw Decl. ¶ 5; Smith Decl. ¶ 14.

[75] Bennett Decl. ¶ 14; Branch Decl. ¶ 9; E. Brinson Decl. ¶¶ 22-23; Hall Decl. ¶ 18; Hicks Decl. ¶¶ 10-11; Declaration of Cleveland Ladson ¶ 8, attached as Exhibit 22 [C. Ladson Decl.]; Lamb Decl. ¶ 14; Malloy Decl. ¶ 12; Smith Decl. ¶ 16; B. Wallace Decl. ¶ 9.

[76] *See, e.g.*, NCDENR, Animal Feeding Operations, List of Permitted Animal Facilities (showing facilities permitted to manage waste from swine facilities at the different stages of operation); Baldwin Decl. ¶ 38.

the trucks is overpowering. The trucks rumble through communities at all times of day, disturbing people as they try to sleep and enjoy their lives.[77] .

112. Dead boxes, a descriptive term for the dumpsters that permitted swine facilities use to collect mortalities before their ultimate disposal, are another nuisance. Many facilities leave their dead boxes open or ajar, inviting buzzards, other scavengers, and flies, and giving off a powerfully bad smell. Even closed dead boxes smell terrible and invite pests. Many dead boxes are not well sealed and leak a smelly, potentially harmful liquid containing fluids from the decomposing animals and moisture from the environment.[78] The smell from trucks carrying dead animals is another assault on the community's senses.[79]

113. The swine industry divides communities, often pitting those employed by the swine industry who are afraid or unwilling to speak out against friends and family who want better.[80] The swine industry is a constant weight on the community, a frequent topic of conversation among those who wonder why they are forced to fight for basic rights.[81]

114. It should come as little surprise, then, given the many problems described above, that scientists have found that those living near swine facilities report more tension, more depression, more anger, less vigor, more fatigue, and more confusion than control subjects who were not exposed to industrial animal production.[82]

115. Hydrogen sulfide concentrations near swine facilities also have been associated with increased stress and anxiety,[83] as well as acute elevation of systolic blood pressure.[84]

E. **Proximity to Swine Facilities Permitted by DENR Depresses Property Values**

116. Studies across the country, including from North Carolina, have demonstrated a statistically significant relationship between proximity to a swine facility and declining property

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[77] Baldwin Decl. ¶ 38; C. Ladson Decl. ¶¶ 4-5; J. Ladson Decl. ¶¶ 11-12; Alvin Miller Decl. ¶ 8
[78] Baldwin Decl. ¶¶ 29-30 & Exs. 8-9; E. Brinson Decl. ¶ 17; Alvin Miller Decl. ¶ 11.
[79] Hall Decl. ¶ 23; Smith Decl. ¶ 9.
[80] Baldwin Decl. ¶ 37.
[81] Anonymous 1 Decl. ¶16; Batts Decl. ¶ 18; C. Brinson Decl. ¶ 13; J.M. Brinson Decl. ¶ 17; T.N. Brinson Decl. ¶ 7; Herring Decl. ¶ 25; Muhammad Decl. ¶ 65; Tyrance Decl. ¶ 7; B. Wallace Decl. ¶ 5.
[82] Susan S. Schiffman et al., *The Effect of Environmental Odors Emanating from Commercial Swine Operations on the Mood of Nearby Residents,* 37 Brain Research Bull. 369 (1995); *see also* Wing, *Air Pollution and Odor, supra* note 62 (finding that when hog odor was the strongest, study participants more frequently reported feeling stressed, gloomy, angry and unable to concentrate).
[83] Rachel Avery Horton et al., *Malodor as a Trigger of Stress and Negative Mood in Neighbors of Industrial Hog Operations*, 99 Am. J. Pub. Health Suppl., S610 (2009).
[84] Steve Wing et al., *Air Pollution from Industrial Swine Operations and Blood Pressure of Neighboring Residents,* 121 Envtl. Health Perspectives 92 (2013), attached as Exhibit 51.

values.[85] Research suggests that property values decline with increasing proximity to a swine facility, and with the increasing number of swine at a facility.[86]

117. Individuals in North Carolina fear that the value of their property has declined and that they will not be able to sell their property and move away because of neighboring industrial swine facilities.[87]

F. Swine Facilities Permitted by DENR Can Spread Antibiotic Resistant Bacteria, which Threatens Human Health

118. Many swine facilities use antibiotics to promote growth and to preemptively ward off the threat of disease.[88] The overuse of antibiotics in livestock production is linked to emergence of antibiotic-resistant bacteria that make infections in humans more difficult to treat. *See* Wing & Johnston Report at 2.[89]

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[85] *See* Raymond Palmquist et al., *Hog Operations, Environmental Effects, and Residential Property Values*, 73 Land Econ. 114 (1997) (studying relationship between swine factory farms and property values in nine southeastern North Carolina counties and finding that effect on price depended on number and distance of nearby factory farms); Katherine Milla et al., *Evaluating the Effect of Proximity to Hog Farms on Residential Property Values: A GIS-Based Hedonic Model Approach*, 17 URISA J. 27 (2005) (finding that values of Craven County, North Carolina homes decreased with increasing local hog populations and decreasing distances from homes to factory farms); Jungik Kim & Peter Goldsmith, *A Spatial Hedonic Approach to Assess the Impact of Swine Production on Residential Property Values*, 42 Envtl & Res. Econ. 509 (2009) (estimating decline in Craven County home property values on per hog basis); Joseph Herriges et al., *Living with Hogs in Iowa: The Impact of Livestock Facilities on Rural Residential Property Values*, 81 Land Econ. 530 (2005).
[86] *See* Palmquist et al., *supra* note 85; Milla et al., *supra* note 85.
[87] Anonymous Decl. ¶ 15; Batts Decl. ¶ 12; E. Brinson Decl. ¶ 19; Fullwood Decl. ¶ 10; L. Houston Decl. ¶ 5; C. Ladson Decl. ¶ 7; Tyrance Decl. ¶ 9
[88] James M. MacDonald & William D. McBride, USDA, The Transformation of U.S. Livestock Agriculture: Scale, Efficiency, and Risks 32-35 (2009), *available at* http://www.ers.usda.gov/media/184977/eib43.pdf.
[89] *See* EK Silbergeld & LB Price LB, *Industrial Food Animal Production, Antimicrobial Resistance, and Human Health*, 29 Ann. Rev. of Pub. Health 151 (2008).

119. Antibiotic-resistant bacteria capable of causing human disease have been found in air emissions from industrial swine facilities.[90]

120. Antibiotic-resistant bacteria associated with industrial livestock production also can be transmitted through water. A recent water quality study found that samples taken near industrial animal facilities were more likely to contain multi-drug resistant bacteria than water sampled elsewhere.[91]

121. Studies have found a specific strain of methicillin-resistant *Staphylococcus aureus* ("MRSA") in both swine and people who work in the swine industry.[92] In addition, a recent study of medical records in Pennsylvania showed that people living near industrial swine

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[90] Amy Chapin et al., *Airborne Multidrug-Resistant Bacteria Isolated from a Concentrated Swine Feeding Operation*, 113 Envtl. Health Perspectives 137 (2005) (finding multidrug-resistant *Enterococcus*, coagulase-negative staphylococci, and viridans group streptococci in the air of an industrial swine operation at levels dangerous to human health); Shawn G. Gibbs et al., *Airborne Antibiotic Resistant and Nonresistant Bacteria and Fungi Recovered from Two Swine Herd Confined Animal Feeding Operations*, 1 J. Occupational & Envtl. Hygiene 699 (2004) (finding multidrug-resistant bacteria inside and downwind of industrial swine operations at levels previously determined to pose a human health hazard); Julia R. Barrett, *Airborne Bacteria in CAFOs: Transfer of Resistance from Animals to Humans*, 113 Envtl. Health Perspectives A116 (2005) (reviewing literature on cross-species transfer of antibiotic-resistant bacteria); Jochen Schulz et al., *Longitudinal Study of the Contamination of Air and of Soil Surfaces in the Vicinity of Pig Barns by Livestock-Associated Methicillin-Resistant* Staphylococcus aureus, 78 Applied Envtl. Microbiol. 5666 (2012) (detecting MRSA 300 feet from a barn in which animals, air, and workers' plastic boots tested positive for MRSA); Shawn G. Gibbs et al., *Isolation of Antibiotic-Resistant Bacteria from the Air Plume Downwind of a Swine Confined or Concentrated Animal Feeding Operation*, 114 Envtl. Health Perspectives 1032 (2006).

[91] Bridgett M. West et al., *Antibiotic Resistance, Gene Transfer, and Water Quality Patterns Observed in Waterways Near CAFO Farms and Wastewater Treatment Facilities*, 217 Water Air Soil Pollution 473 (2011).

[92] Tara C. Smith et al., *Methicillin-Resistant* Staphylococcus auereus *(MRSA) Strain ST398 Is Present in Midwestern U.S. Swine and Swine Workers*, 4 PLoS One e4258 (2009); Tara C. Smith et al., *Methicillin-Resistant* Staphylococcus aureus *in Pigs and Farm Workers on Conventional and Antibiotic-Free Swine Farms in the USA*, 8 PLoS One e63704 (2013); Jessica L. Rinsky et al., *Livestock-Associated Methicillin and Multidrug Resistant* Staphylococcus aureus *Is Present Among Industrial, Not Antibiotic-Free Livestock Operation Workers in North Carolina*, 8 PLoS One e67641 (2013); Xander W. Huijsdens et al., *Community-Acquired MRSA and Pig-Farming*, 5 Annals Clinical Microbiol. & Antimicrobials 26 (2006) (Netherlands); Ingrid V.F. Van den Broek et al., *Methicillin-Resistant* Staphylococcus aureus *in People Living and Working in Pig Farms*, 137 J. Epidem. & Infection 700 (2009) (Netherlands); Oliver Denis et al., *Methicillin-Resistant* Staphylococcus aureus *ST398 in Swine Farm Personnel, Belgium*, 15 Emerging Infectious Diseases 1098 (2009) (Belgium); T. Khanna et al., *Methicillin Resistant* Staphylococcus aureus *Colonization in Pigs and Pig Farmers*, 128 J. Veterinary Microbiol. 298 (2008) (Canada).

facility liquid waste application sites received treatment for more skin and soft tissue infections and infections caused by MRSA than people who lived further away from application sites.[93]

122. The emergence and proliferation of new strains of antibiotic-resistant bacteria is a significant threat to human health. Each year more than 2 million people in the United States acquire a serious infection that is resistant to antibiotics, and at least 23,000 people die each year as a result of those infections.[94] Among those infections, "MRSA infections can be very serious and the number of infections is among the highest of all antibiotic-resistant threats."[95]

G. Pollution from Swine Facilities Permitted by DENR Adversely Affects Sensitive Populations That Are Exposed to Other Waste Sources

123. Swine facilities are often located in communities that are overburdened with other polluting livestock operations, including poultry operations.[96]

124. Poultry operations are of significant concern for the community. Many poultry operations use a dry waste management system, as opposed to the wet lagoon system favored by the swine industry. The confinement houses are lined with bedding that absorbs the waste. The bedding is stored in piles before it is land-applied as fertilizer. Poultry confinement houses emit significant amounts ammonia and fine particles consisting of bits of manure-laden bedding, animal dander, dust, and feathers.[97] These emissions contribute to the health and welfare problems described above.

125. These same poultry facilities also attract houseflies, which may contribute to the dispersion of drug resistant bacteria.[98]

126. For people living near these facilities, the way the poultry facilities store and apply the waste is a particular concern. Often, facilities store the dry litter waste outside and uncovered, where it can drift or leach pollutants into the soil. In one study, researchers found chemicals from an uncovered litter pile at a turkey facility in the soil up to two feet below the

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[93] Joan A. Casey, *High-Density Livestock Operations, Crop Field Application of Manure, and Risk of Community-Associated Methicillin-Resistant* Staphylococcus aureus *Infection in Pennsylvania,* 173 J. Am. Med Ass'n: Internal Med. 1980 (2013).
[94] Ctrs. for Disease Control, U.S. Dep't of Health and Human Servs., Antibiotic Resistance Threats in the United States, 2013, at 6 (2013), *available at* http://www.cdc.gov/drugresistance/threat-report-2013/pdf/ar-threats-2013-508.pdf.
[95] *Id.* at 20.
[96] Baldwin Decl. ¶ 25; Fullwood Decl. ¶ 3; N. Mejia Decl. ¶ 4; Smith Decl. ¶ 8; Tyrance Decl. ¶ 10.
[97] Baldwin Decl. ¶ 25-26, 41.
[98] National Association of Local Boards of Health, Understanding Concentrated Animal Feeding Operations, at 8 (2010), *available at* http://www.cdc.gov/nceh/ehs/docs/understanding_cafos_nalboh.pdf.

surface.[99] Ammonium concentrations in the soil were 62 times higher beneath the litter pile than in the soil outside of the litter pile footprint. Arsenic concentrations were also elevated.[100] Soils near industrial swine facilities also can be polluted with metals,[101] thus the comingling of the operations increases the burden on the environment.

127. The facilities land apply the waste, but, because the waste is dry, it can drift off the fields, and over to neighboring houses.[102] The proximity of poultry and swine facilities to one another also raises the risk that land will be oversaturated with applications of swine manure and dry litter.

128. Processing and packaging plants, rendering plants, and slaughterhouses add to the burdens borne by communities near permitted swine facilities. The smell from these facilities is another injury foisted on communities living in near industrial swine facilities.[103]

VI. DISPROPORTIONALITY

A. Permitted Swine Facilities Disproportionately Affect African Americans, Latinos, and Native Americans

129. In North Carolina, permitted swine facilities adversely affect a disproportionate number of African Americans, Latinos, and Native Americans as compared to the general population.[104]

130. More than 2000 swine facilities hold a certificate of coverage allowing them to operate their waste management systems. These certificates were issued under the current swine waste management system general permit, which expires on September 30, 2014. The number and location of swine facilities is not expected to change significantly with this new permitting cycle.

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[99] N.C. Coop. Ext., Poultry Waste Stockpiling Methods: Environmental Impacts and Their Mitigation 4 (2013), *available at* https://www.bae.ncsu.edu/extension/ext-publications/air_quality/ag-788w-waste-stockpiling-shah.pdf.
[100] *Id.*
[101] Burkholder Decl. ¶ 31.
[102] Tyrance Decl. ¶ 10.
[103] Batts Decl. ¶ 13; E. Brinson Decl. ¶¶ 28-29; R. Houston Decl. ¶ 14; D. Mejia Decl. ¶ 21.
[104] *See* Wing & Johnston Report; *see also* Maria C. Mirabelli et al., *Race, Poverty, and Potential Exposure of Middle-School Students to Air Emissions from Confined Swine Feeding Operations,* 114 Envtl. Health Perspectives 591, 595 (2006), attached as Exhibit 43 (finding that North Carolina's swine facilities are located closer to schools enrolling higher percentages of non-white and economically disadvantaged students); Wing, *Environmental Injustice, supra* note 43 (finding that North Carolina's intensive hog confinement operations are located disproportionately in communities with higher levels of poverty, higher proportions of non-white persons, and higher dependence on wells for household water supply).

131. Analyses based on a study area that excludes the state's five major cities and western counties that have no presence of this industry show that the proportion of people of color[105] living within 3 miles of an industrial swine facility is 1.52 times higher than the proportion of non-Hispanic Whites. *See* Wing & Johnston Report at 5, 14 (Table 3). The proportions of African Americans,[106] Latinos,[107] and Native Americans[108] living within 3 miles of an industrial swine facility are 1.54, 1.39, and 2.18 times higher, respectively, than the proportion of non-Hispanic Whites. *Id*. These disparities are statistically significant. *Id*.

132. Analysis of the population statewide yields consistent results. The proportions of African Americans, Latinos, and Native Americans statewide living within 3 miles of an industrial swine facility are 1.4, 1.26, and 2.39 times higher than the percentage of non-Hispanic Whites, respectively. Wing & Johnston Report at 6, 13 (Table 2). These disparities are also statistically significant. *Id.*

133. As shown in the following figure, which depicts the relationship of industrial swine facilities to the racial and ethnic composition of North Carolina, swine facilities are clustered in communities of color. *See* Wing & Johnston Report at 7, 12 (Figure 3).

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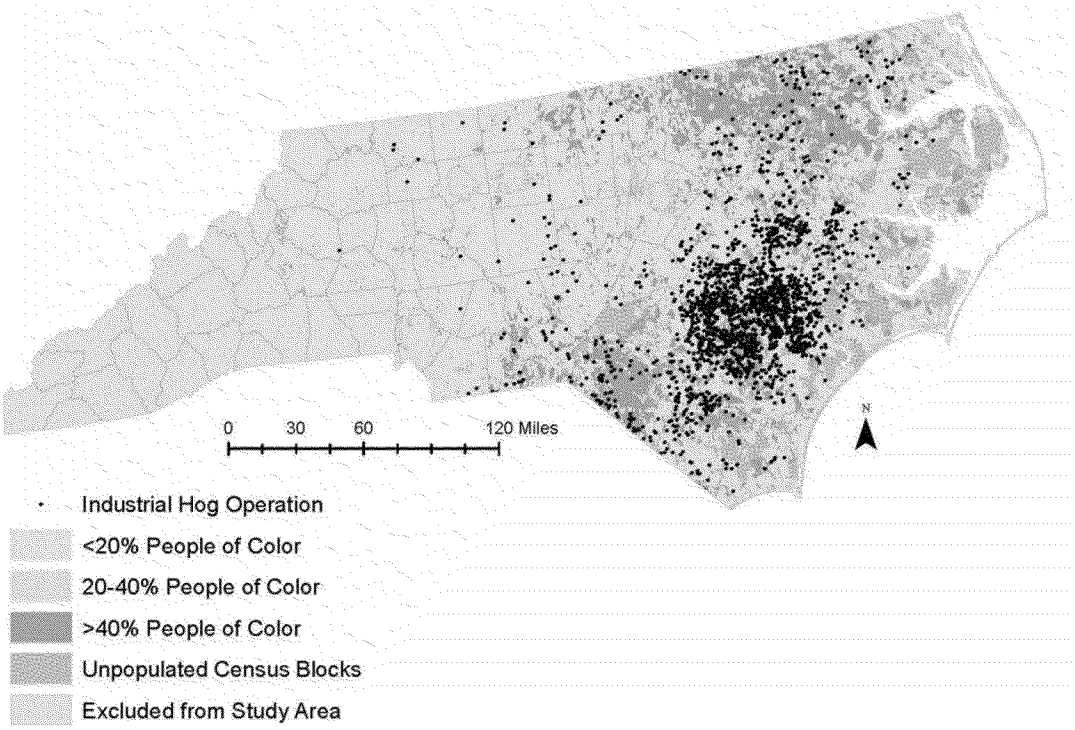
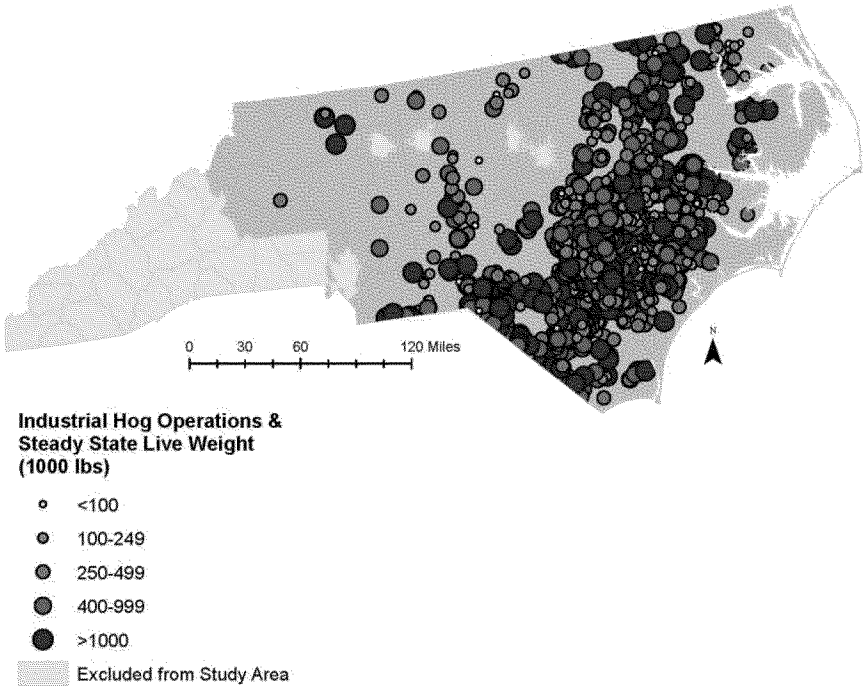
[105] In the Wing and Johnston Report, the term people of color referred to all people who identified as other than non-Hispanic white in the 2010 census data. Wing & Johnston Report at 4.
[106] The term African American used herein corresponds to the term Black as used in the Wing and Johnston Report. In the Report, the Black racial category referred to those who identified as African American or black without any other race in the 2010 census data. Wing & Johnston Report at 4.
[107] The term Latino used herein corresponds to the term Hispanic as used in the Wing and Johnston Report.
[108] The term Native American used herein corresponds to the term American Indian as used in the Wing and Johnston Report. In the Report, the term American Indian referred to those who identified themselves as American Indian without any other race in the 2010 census data. Wing & Johnston Report at 4.

Racial Composition of Census Blocks and the Locations of NC Industrial Swine Facilities Operating Under the General Permit, 2014



134. Moreover, the amount of swine waste is also greater in communities of color. Wing & Johnston Report at 6-7, 16 (Table 7). Each permitted facility is allowed to house a certain number and type of swine, and based on these factors, some facilities can be expected to produce more feces and urine than others. Steady state live weight is an indicator of the amount of waste a facility is likely to produce. The following figure depicts the distribution of steady state live weight across the state.

Industrial Swine Facilities by Steady State Live Weight



135. The swine industry's disproportionate impact on communities of color has long been known and documented. A study examining the relationship between race and the spatial concentration of swine waste in eastern North Carolina between 1982 and 1997 found evidence that "minority communities and localities lacking the political capacity to resist are shouldering

the bulk of the adverse economic, social, and environmental impacts of the pork industry restructuring."[109]

136. A later study found that there were more than seven times more industrial swine facilities in areas where there was more poverty and high percentages of non-white people.[110]

137. Research on school distribution in North Carolina also has shown that swine facilities overburden communities of color. The research has found that schools in lower income areas with a larger non-white population are more likely to be sited near an industrial livestock operation than other schools in the state.[111]

B. **African Americans**

138. African Americans in North Carolina are disproportionately adversely impacted by permitted swine facilities compared to non-Hispanic Whites and the total population.

139. The proportion of African Americans living within 3 miles of an industrial swine facility is 1.54 times higher than the proportion of non-Hispanic Whites in a study area that excludes the state's five major cities and western counties that have no presence of this industry. Wing & Johnston Report at 5, 14 (Table 3).

140. Statewide, the proportion of African Americans living within 3 miles of an industrial swine facility is 1.40 times higher than the proportion of non-Hispanic Whites. Wing & Johnston Report at 6, 13 (Table 2).

141. The ratios of African Americans living within 3 miles of an industrial swine facility as compared to non-Hispanic Whites in the study area and statewide area are statistically significant. Wing & Johnston Report at 5-6.

142. African Americans make up a larger proportion of the population living in proximity to industrial swine facilities than the proportion of the population living more than 3

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[109] Bob Edwards & Anthony E. Ladd, *Race, Class, Political Capacity and the Spatial Distribution of Swine Waste in North Carolina*, 1982-1997, 9 N.C. Geographer 51, 51 (2001).
[110] Wing, *Environmental Injustice, supra* note 43, at 225.
[111] Maria C. Mirabelli et al., *Race, Poverty, and Potential Exposure of Middle-School Students to Air Emissions from Confined Swine Feeding Operations*, 114 Envtl. Health Perspectives 591 (2006) (finding schools in North Carolina with white student population less than 63% and subsidized-lunch eligible population greater than 47% were more likely to be located within 3 miles of a factory farm than were schools with high-white or high-socioeconomic status populations); Paul B. Stretesky et al., *Environmental Inequity: An Analysis of Large-Scale Hog Operations in 17 States, 1982-1997*, 68 Rural Soc. 231 (2003) (finding that between 1982 and 1997 large-scale hog operations in North Carolina were more likely to be sited in areas with a disproportionate number of black residents).

miles away from any facility. The disparities are statistically significant. Wing & Johnston Report at 13 (Table 2).

143. In addition, as more African Americans are represented in a community, it is more likely that all members of the community will be exposed to swine facilities permitted by DENR. For every ten percent increase in the population of African Americans in a community, the proportion of people living within 3 miles of an industrial swine facility increases on average by 9.4%. This relationship between race and living near a facility is statistically significant. Wing & Johnston Report at 6, 15 (Table 6).

144. Adjusted for population density takes into account the fact that African Americans live in less rural areas than non-Hispanic Whites and are therefore less exposed to agricultural operations than they would be if they were more rural. With this adjustment, areas that are more than 80% African American, the proportion of people living within three miles of an industrial swine facility is more than three times the proportion in areas that have no African Americans. This disparity is statistically significant. Wing & Johnston Report at 6, 15 (Table 5).

145. The amount of hog waste in a community also increases as the percent of African Americans in the community increases. Adjusted for population density, areas with more than 40% African American residents have an excess steady state live weight compared to areas with no African American residents—they have between 493,000 and 620,000 more pounds of swine within 3 miles than areas with no African American residents. Wing & Johnston Report at 7, 16 (Table 8). The disparity is statistically significant. *Id.* Adjusted for population density, the steady state live weight of swine within 3 miles of a community increases, on average, over sixty four thousand pounds for every ten percent increase in the percentage of African Americans in a community. Wing & Johnston Report at 7, 16 (Table 9). The larger or more numerous the swine, the more waste they generate. Thus, African American communities are exposed to more detrimental operations than other communities.

C. **Latinos**

146. Latinos in North Carolina are disproportionately adversely impacted by permitted swine facilities compared to non-Hispanic Whites and the total population.

147. Latinos, on average, are more likely to live within three miles of a permitted swine facility than non-Hispanic Whites. Analyses based on a study area that excludes the state's five major cities and western counties that have no presence of this industry show that the proportion of Latinos living within 3 miles of a permitted swine facility is 1.39 times higher than the proportion of non-Hispanic Whites within the same distance of a permitted swine facility. Wing & Johnston Report at 5, 14 (Table 3).

148. Statewide, the proportion of Latinos living within 3 miles of an industrial swine facility is 1.26 times higher than the proportion of non-Hispanic Whites. Wing & Johnston Report at 6, 13 (Table 2).

149. The ratios of Latinos living within 3 miles of an industrial swine facility as compared to non-Hispanic Whites in the study area and statewide area are statistically significant. Wing & Johnston Report at 5-6.

150. Latinos make up a larger proportion of the population living in proximity to industrial swine facilities than the proportion of the population living more than 3 miles away from any facility. The disparities are statistically significant. Wing & Johnston Report at 13 (Table 2).

151. In addition, as more Latinos are represented in a community, it is more likely that all members of the community will be exposed to swine facilities permitted by DENR. For every ten percent increase in the population of Latinos in a community, the proportion of people living within 3 miles of an industrial swine facility increases on average by 8.5%. This relationship between race and living near a facility is statistically significant. Wing & Johnston Report at 6, 15 (Table 6).

152. The amount of swine waste in a community also increases as the percent of Latinos increases. Adjusted for population density, the steady state live weight of swine within 3 miles of a community increases, on average, over two hundred and forty two thousand pounds for every ten percent increase in the percentage of Latinos in a community. Wing & Johnston Report at 7, 16 (Table 9). This relationship is statistically significant. The larger or more numerous the swine, the more waste they generate. Thus, Latinos communities are exposed to more detrimental operations than other communities.

D. **Native Americans**

153. Native Americans in North Carolina are disproportionately adversely impacted by permitted swine facilities compared to non-Hispanic Whites and the total population.

154. Native Americans, on average, are more likely to live within three miles of a permitted swine facility than non-Hispanic Whites. Analyses based on a study area that excludes the state's five major cities and western counties that have no presence of this industry show that the proportion of Native Americans living within 3 miles of a permitted swine facility is 2.18 times higher than the proportion of non-Hispanic Whites within the same distance of a permitted swine facility. Wing & Johnston Report at 5, 14 (Table 3).

155. Statewide, the proportion of Native Americans living within 3 miles of an industrial swine facility is 2.39 times higher than the proportion of non-Hispanic Whites. Wing & Johnston Report at 6, 13 (Table 2).

156. The ratios of Native Americans living within 3 miles of an industrial swine facility as compared to non-Hispanic Whites in the study area and statewide area are statistically significant. Wing & Johnston Report at 5-6.

157. Native Americans make up a larger proportion of the population living in proximity to industrial swine operations than the proportion of the population living more than 3 miles away from any facility. The disparities are statistically significant. Wing & Johnston Report 13 (Table 2).

158. In addition, as more Native Americans are represented in a community, it is more likely that all members of the community will be exposed to swine facilities permitted by DENR. For every ten percent increase in the population of Native Americans in a community, the proportion of people living within 3 miles of an industrial swine facility increases on average by 16.2%. This relationship between race and living near a facility is statistically significant. Wing & Johnston Report at 6, 15 (Table 6).

159. The amount of swine waste in a community also increases as the percent of Native Americans increases. Adjusted for population density, the steady state live weight of swine within 3 miles of a community increases, on average, over ninety two thousand pounds for every ten percent increase in the percentage of Native Americans in a community. Wing & Johnston Report at 7, 16 (Table 9). The larger or more numerous the swine, the more waste they generate, and there are greater quantities of this waste in communities with more Native Americans.

VII. LESS DISCRIMINATORY ALTERNATIVES

160. DENR should exercise its authority to require permitted swine facilities to install and operate waste management systems that protect communities from pollution and include sufficient monitoring and public reporting to ensure that the goals of protecting public health and the environment are met.[112]

161. DENR is charged by state law to protect the environment and human health from pollution from the swine industry. N.C. Gen. Stat. § 143-215(a)(12) (requiring animal waste management systems to obtain a permit from the EMC of DENR for construction and

[112] *See generally* Doug Gurian-Sherman, Union of Concerned Scientists, CAFOs Uncovered: The Untold Costs of Confined Animal Feeding Operations (2008), *available at* http://www.ucsusa.org/assets/documents/food_and_agriculture/cafos-uncovered.pdf (discussing the substantial cost of confined animal feeding operations and discussing alternatives).

operation).[113] In particular, the North Carolina legislature intended to "establish a permitting program for animal waste management systems that will protect water quality and promote innovative systems and practices." *Id.* § 143-215.10A.

162. DENR has authority to condition the permitting program to achieve the broad purposes of the air and water conservation laws, including "conserv[ing] … [the state's] air and water resources," "maintain[ing] for the citizens of the State a total environment of superior quality," "protect[ing] human health," "prevent[ing] damage to public and private property," and "secur[ing] for the people of North Carolina, now and in the future, the beneficial uses of [the State's] great natural resources." N.C. Gen. Stat. § 143-215.1(b)(4)(a) (authority to condition permits to achieve the goals of Article 21, water and air resources); *id.* § 143-21(a)-(c) (declaring the goals of Article 21); *see also* 15A N.C. Admin. Code § 02T.0108(b)(1) (same).

163. Among its powers, DENR has the authority to "require any monitoring and reporting (including but not limited to groundwater, surface water or wetland, waste sludge, soil, lagoon/storage pond levels and plant tissue) necessary to determine the source, quantity, quality, and effect of animal waste upon the surface waters, groundwaters, or wetlands." 15A N.C. Admin. Code § 02T.0108(c).

164. DENR should condition the operation of swine facilities on practices that are consistent with the protection of public health and the environment.[114] For example, DENR has the authority to require facilities to install controls on the confinement houses that filter the air, which is laden with dust particles consisting of swine skin cells, feces, feed, fungi, gases, and (often antibiotic-resistant[115]) bacteria, before it is emitted to the ambient air.[116] Air pollution is a large byproduct of these animal systems that should be addressed under a comprehensive program to address animal waste.[117]

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[113] The statute requires animal waste management systems to obtain a DENR-issued permit. *See* N.C. Gen. Stat. § 143-212(2); *id.* § 143B-282(a)(1)(a) (creating the EMC of DENR). DENR's regulations further require all animal waste management systems that meet the definition of animal operations, including swine facilities with more than 250 swine, to obtain a state-issued permit. *See* 15A N.C. Admin. Code § 2T.1304; N.C. Gen. Stat. § 143-215.10B(1) (defining animal operation).

[114] *See* Exhibit 3 (list of less discriminatory alternatives to the proposed general permit offered by Complainants Environmental Justice Network and Waterkeeper Alliance, Inc., as well as Southern Environmental Law Center, in December 6, 2013 Comments to DENR).

[115] *See generally* paragraphs 118 to 122, *supra*.

[116] *See* Natural Res. Conservation Serv., USDA Conservation Practice Standard: Air Filtration and Scrubbing (Code 371), at 3 (2010) (describing various "device[s] or system[s] for reducing [air] emissions . . . from a structure via interception and/or collection").

[117] DENR has the authority to control pollutants that are emitted first into the air that later are washed into waters under laws designed to protect water quality. *Rose Acre Farms, Inc. v. NC Dep't of Env't & Natural Res.*, 12-CVS-10, slip op. at 8-9 (Hyde Cnty. Sup. Ct. Jan. 7, 2013).

165. DENR also has the authority to require facilities to improve their waste collection systems by avoiding consolidation of solid and liquid swine waste, which creates harmful ammonia gas.[118] Manure conveyor belts or other systems that drain the urine from the feces have proven effective as retrofits to existing barns.[119]

166. In addition, DENR has the authority to require improvements to waste storage systems. At a minimum, DENR could require facilities to cover existing lagoons to prevent gases from volatilizing.

167. DENR has the authority to require facilities to use alternative treatment methods more appropriate than open-air lagoons.[120]

168. DENR has the authority to prohibit the use of high pressure spray guns, which create fine droplets and aerosols that can drift and cause odor problems, in favor of drip irrigators, or other irrigation mechanisms that do not rely on sprayers.[121] Baldwin Decl. ¶ 51.

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[118] A.L. Elliott et al., *Best Management Practices (BMPs) for Ammonia Emissions Reductions from Animal Feeding Operations: A Colorado Case Study*, 7 W. Nutrient Mgmt. Conf. 124, 124 (2007) ("[U]rea nitrogen in urine combines with the urease enzyme in feces and rapidly hydrolyzes to form ammonia gas. The reaction is quick, taking anywhere from 2 to 10 hours for ammonia volatilization to peak after mixing of urine and feces."); Pius M. Ndegwa et al., *A Review of Ammonia Emission Mitigation Techniques For Concentrated Animal Feeding Operations*, 100 Biosys. Eng'g 453, 465 (2008) (assessing several urine-feces segregation methods, all of which "reduced [ammonia] emissions from livestock barns by about 50% compared to the conventional manure handling system").

[119] Ndegwa, *supra* note 118, at 455-56.

[120] *See, e.g.*, Kelsi Bracmort, Cong. Research Serv., Anaerobic Digestion: Greenhouse Gas Emission Reduction and Energy Generation (2010), *available at* http://nationalaglawcenter.org/wp-content/uploads/assets/crs/R40667.pdf (describing digester types and basic operating parameters); Wendy J. Powers & Robert T. Burns, Energy and Nutrient Recovery from Swine Manures 1-3 (2007), *available at* http://www.pork.org/filelibrary/Energy%20and%20Nutrient%20Recovery%20from%20Swine%20Manures.PDF (listing superior efficiency and environmental benefits of digester technologies, compared to lagoons); Philip W. Westerman et al., *Struvite Crystallizer for Recovering Phosphorus from Lagoon and Digester Liquid* (2009), *available at* https://www.bae.ncsu.edu/extension/ext-publications/waste/animal/ag-724w-struvite-westerman.pdf (discussing successful application of "continuous-flow cone-shaped struvite crystallizer" to capture slow-release mineral fertilizer from swine lagoon effluent); Nathan O. Nelson et al., *Struvite Precipitation in Anaerobic Swine Lagoon Liquid: Effect of pH and Mg:P ratio and Determination of Rate Constant*, 89 Biores. Tech. 229, 230 (2003) (reporting success of laboratory batch experiments precipitating struvite from "[a]naerobic swine lagoon liquid . . . collected from two active farms in North Carolina").

[121] *See, e.g.*, Karl A. Shaffer & Sanjay Shah, NCSU Coop. Ext., SoilFacts: Reducing Drift and Odor with Wastewater Application 2 (2008), *available at* http://www.soil.ncsu.edu/publications/Soilfacts/AG439-69W.pdf; Ndegwa, *supra* note 118, at 455-56.

169. DENR has the authority to require improved monitoring, including groundwater monitoring, and reporting, which is critical in light of recent cutbacks in DENR personnel, to ensure that facilities are meeting standards.

VIII. RELIEF

As established above, DENR issued a General Permit that fundamentally fails to protect the health and environment of residents living in proximity to permitted swine facilities, disproportionately affecting African Americans, Latinos, and Native Americans. Despite years of documentation demonstrating how these facilities—and particularly the dense concentration of swine facilities in communities in the eastern portion of the state—have polluted the water and air and affected the daily life of area residents, DENR issued a permit that contains essentially the same conditions as the last permit. This is entirely unacceptable and contrary to federal law.

First, to obtain funds, DENR must offer EPA the assurance that it will not undertake any action that violates Title VI, but DENR issued the General Permit without conducting an analysis of the potential for disproportionate health and environmental impacts on the basis of race and national origin. Complainants request that OCR investigate DENR's failure to satisfy the prerequisites for obtaining EPA funding and require DENR to complete a disproportionality analysis of its permitting program. Complainants further request that EPA require that DENR, in any future consideration of a permit program for industrial animal production in the state, conduct a robust analysis of disproportionate impact on the basis of race and ethnicity, including cumulative impacts from other nearby facilities, to ensure compliance with Title VI and its regulations.

Second, Complainants request that OCR conduct an investigation to determine whether DENR also violated Title VI and EPA's implementing regulations by issuing the revised general permit for swine waste management system in light of its grossly inadequate protections for the health and environment of people living in proximity to swine facilities, a permit that will have a statistically significant disproportionate impact on African Americans, Latinos and Native Americans. The General Permit simply fails to include conditions to prevent these facilities from continuing to injure human health and pollute the water and air. Study after study has shown that permitted swine facilities using the lagoon and sprayfield system in ways that are allowed by the General Permit spew pollution on surrounding communities, degrading air and water quality, injuring human health, and impacting quality of life. People living in proximity to industrial swine facilities, and particularly to multiple operations, have switched from using well water for fear that their water is contaminated with swine waste. They have given up fishing and hunting because they worry about the effect of pollution on the environment and surface water quality. They have complained that the pollution and overwhelming odor from these facilities makes it difficult to breathe, aggravates their allergies, and contributes to respiratory problems. People living in the shadow of permitted swine facilities are careful to

avoid spending time outside when the smell from the facilities is at its worse. They fear that their property values have declined because of proximity to the odors and other effects of swine facilities. Moreover, these long documented adverse effects of DENR's permitting program disproportionately affect African Americans, Latinos, and Native Americans, and they cannot be justified. DENR has alternatives, but has refused to exercise its authority to protect communities who for years have been struggling with the adverse effects of industrial swine facilities.

Community members have long asked why their way of life has been assaulted day in and day out by feces and urine from this industry, why so many industrial swine facilities were allowed to locate, densely packed, on the low lying coastal plain of the state, where soils are sandy and shallow and cannot absorb the massive amounts of waste that the industry creates. As journalist Wendy Nicole wrote in an article appearing in 2013 in Environmental Health Perspectives:

> The clustering of North Carolina's hog CAFOs in low-income, minority communities – and the health impacts that accompany them – has raised concerns of environmental injustice and environmental racism. As one pair of investigators explained, "[P]eople of color and the poor living in rural communities lacking the political capacity to resist are said to shoulder the adverse socio-economic, environmental, or health related effects of swine waste externalities without sharing in the economic benefits brought by industrial pork production."[122]

Today, however, Complainants are focusing on what DENR can do – indeed, has the legal obligation to do -- to protect them, and ask EPA to require, at a minimum, that DENR revise the General Permit to condition the operation of facilities on protections, including the installation and operation of waste management systems to prevent pollution, improved monitoring, and public reporting, among other things, to bring DENR into compliance with Title VI and EPA's regulations. Should DENR fail to come into compliance voluntarily, Complainants request that EPA initiate proceedings to suspend or terminate EPA funding to DENR in accordance with Title VI and 40 C.F.R. §§ 7.115(e), 7.110(c), 7.130(b).

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[122] Nicole, *supra* note 39 (quoting B. Edwards B & AE Ladd, *Race, Poverty, Political Capacity and the Spatial Distribution of Swine Waste in North Carolina*, 1982–1997, 9 North Carolina Geogr 55–77 (2001)).

Sincerely,

Dated: September 3, 2014

EARTHJUSTICE

By: _____

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Jocelyn D'Ambrosio

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cc (via email)

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To: 'Sara Chieffo'[Sara_Chieffo@lcv.org]; Ernesto Vargas (Ernesto_Vargas@lcv.org)[Ernesto_Vargas@lcv.org]
Cc: Lee, Charles[Lee.Charles@epa.gov]; Tejada, Matthew[Tejada.Matthew@epa.gov]
From: Stephanie Maddin
Sent: Mon 6/15/2015 7:50:39 PM
Subject: Introductions

Charles and Matt,

I'd like to introduce you to Sara Chieffo and Ernesto Vargas. Sara is the Legislative Director in the DC office of the League of Conservation Voters and Ernesto is the Deputy Director of Latino Outreach. They have some exciting outreach work in the cue and I thought you both would be a great resource!

Very best,

Stephanie Maddin

Legislative Counsel

Earthjustice D.C. Office

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F: 202-667-2356

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twitter.com/earthjustice

Because the earth needs a good lawyer

To: Tejada, Matthew[Tejada.Matthew@epa.gov]
From: Emma Cheuse
Sent: Tue 4/21/2015 12:16:31 AM
Subject: Re: NEJAC public comments on the oil refinery rule

These are the same as what Elizabeth sent earlier. As we were told that comments sent just to the official comment email address last month did not get distributed in advance to the members, I wanted to make sure that you also receive them directly.

(These are different from what Sparsh sent.)

Best,
Emma

> On Apr 20, 2015, at 6:45 PM, Tejada, Matthew <Tejada.Matthew@epa.gov> wrote:
>
> Are these different from what was sent earlier?
>
> Matthew S. Tejada
> Director
> EPA Office of Environmental Justice
> (202) 564-8047
>
>> On Apr 20, 2015, at 6:22 PM, Emma Cheuse <echeuse@earthjustice.org> wrote:
>>
>> Dear Matt and Sherri, please see below and attached.
>>
>> We would be grateful if you would ensure that these comments are circulated to the full Council, in advance of this week's meeting.
>>
>> Best,
>> Emma
>>
>> Begin forwarded message:
>>
>> From: Elizabeth Crowe <ecrowe@comingcleaninc.org<mailto:ecrowe@comingcleaninc.org>>
>> Date: April 20, 2015 at 5:55:37 PM EDT
>> To: "muriel.jasmin@epa.gov<mailto:muriel.jasmin@epa.gov>"
<muriel.jasmin@epa.gov<mailto:muriel.jasmin@epa.gov>>
>> Subject: NEJAC public comments on the oil refinery rule
>>
>> Dear Jasmin,
>>
>> Attached please find written comments which I am submitting for the record, for the NEJAC meeting on Wednesday, April 22nd.
>>
>> The comments are concerning EPA's proposed oil refinery rule. The groups signed on to this letter span small local organizations, statewide organizations and national organizations and alliances, (including the Environmental Justice Health Alliance which itself has 33 participant groups in 13 U.S. states) representing people who are directly impacted by oil and petrochemical pollution.
>>
>> We all encourage NEJAC to provide strong recommendations to EPA for the most protective oil refinery rule possible, for prevention of harm from routine refinery emissions and from chemical disasters.
>>
>> Please feel free to contact me if you have any questions about the letter.

>>
>> Sincerely,
>> Elizabeth Crowe
>>
>> Elizabeth Crowe, Associate Director
>> Coming Clean
>> ecrowe@comingcleaninc.org<mailto:ecrowe@comingcleaninc.org>
>> office: (303) 449-1502
>> cell: Ex. 6 - Personal Privacy
>>
>>
>>
>>
>> <oil refinery comments.docx>
>

To: Tejada, Matthew[Tejada.Matthew@epa.gov]
From: Emma Cheuse
Sent: Fri 5/8/2015 1:23:09 PM
Subject: time to talk

Dear Matt,

Thanks again for meeting with us.

Could I set up a time to talk briefly with you by phone soon?

Best,

Emma

Emma Cheuse

Staff Attorney

Earthjustice

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F: 202.667.2356

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To: Tejada, Matthew[Tejada.Matthew@epa.gov]; White, Sherri[White.Sherri@epa.gov]
From: Emma Cheuse
Sent: Mon 4/20/2015 10:22:26 PM
Subject: Fwd: NEJAC public comments on the oil refinery rule
oil refinery comments.docx
ATT00001.htm

Dear Matt and Sherri, please see below and attached.

We would be grateful if you would ensure that these comments are circulated to the full Council, in advance of this week's meeting.

Best,
Emma

Begin forwarded message:

From: Elizabeth Crowe <ecrowe@comingcleaninc.org<mailto:ecrowe@comingcleaninc.org>>
Date: April 20, 2015 at 5:55:37 PM EDT
To: "muriel.jasmin@epa.gov<mailto:muriel.jasmin@epa.gov>"
<muriel.jasmin@epa.gov<mailto:muriel.jasmin@epa.gov>>
Subject: NEJAC public comments on the oil refinery rule

Dear Jasmin,

Attached please find written comments which I am submitting for the record, for the NEJAC meeting on Wednesday, April 22nd.

The comments are concerning EPA's proposed oil refinery rule. The groups signed on to this letter span small local organizations, statewide organizations and national organizations and alliances, (including the Environmental Justice Health Alliance which itself has 33 participant groups in 13 U.S. states) representing people who are directly impacted by oil and petrochemical pollution.

We all encourage NEJAC to provide strong recommendations to EPA for the most protective oil refinery rule possible, for prevention of harm from routine refinery emissions and from chemical disasters.

Please feel free to contact me if you have any questions about the letter.

Sincerely,
Elizabeth Crowe

Elizabeth Crowe, Associate Director
Coming Clean
ecrowe@comingcleaninc.org<mailto:ecrowe@comingcleaninc.org>
office: (303) 449-1502
cell: (859) 200-8207

April 20, 2015

Dear Members of the National Environmental Justice Advisory Council,

We are writing to ask that you recommend to the Environmental Protection Agency (EPA) strong, protective standards to protect communities from harmful oil refinery pollution. Representing communities and organizations impacted by oil and gas development and chemical manufacturing pollution, toxic exposures from chemical disasters and legacy contamination, we ask that you recommend:

- Stronger requirements for real-time, open-path monitoring at oil refinery fencelines. EPA's current monitoring proposal does not go far enough in providing comprehensive data for agencies or communities.
- Inherently safer technologies and processes to avoid disasters at oil refineries. Toxic chemical emissions from explosions, malfunctions, startup/shutdowns at refineries can cause injury, death or serious health problems for workers and communities. EPA should implement refinery requirements that would prevent disasters – including use of safer chemicals and safer processes – and give workers and communities the ability to report problems and protect themselves if a disaster does occur.
- Implementation of processes and practices to end harmful refinery flaring. EPA should prohibit companies from routine flaring as a method of burning waste gas, because flaring releases highly toxic chemicals into the air.
- Applying a precautionary approach to hazard prevention at refineries. EPA's current cancer risk level for refineries is unacceptable; no risk is acceptable if it is avoidable. EPA should consider cumulative hazards faced by workes and communities, and follow the principles of Environmental Justice to establish and enforce the most protective possible health standards for refineries.

Sincerely,

Pamela Miller
Executive Director
Alaska Community Action on Toxics, AK

Heather Cantino
Steering Committee Chair
Athens County Fracking Action Network, OH

Teresa Mills
Fracking Coordinator
Buckeye Forest Council, OH

Wes Gillingham
Program Director
Catskill Mountainkeeper, NY

ED_001369_00043972-00001

Kathie Jones
Concerned Citizens of Medina County
Sustainable Medina County, OH

Michele Roberts and Richard Moore
National Co-Coordinators
Environmental Justice Health Alliance

Vickie Hennessy
President
Green Environmental Coalition, OH

Rick Hind
Toxics Campaign Legislative Director
Greenpeace USA

Maya Nye
Executive Director
People Concerned About Chemical Safety, WV

Catherine Thomasson
Executive Director
Physicians for Social Responsibility

Eboni Cochran
Coordinator
Rubbertown Emergency Action, KY

Deb Thomas
Executive Director
ShaleTest

Dr. Henry Clark
Executive Director
West County Toxics Coalition, CA

ED_001369_00043972-00002

To: Tejada, Matthew[Tejada.Matthew@epa.gov]
From: Emma Cheuse
Sent: Tue 4/28/2015 2:22:50 PM
Subject: RE: Times to meet

Thanks.

Emma Cheuse

Staff Attorney

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Washington, DC 20036-2243

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From: Tejada, Matthew [mailto:Tejada.Matthew@epa.gov]
Sent: Monday, April 27, 2015 2:06 PM
To: Emma Cheuse
Subject: RE: Times to meet

I'll check with Charles and see – he's in charge of the EJ2020 outreach.

Matthew Tejada

Director - Office of Environmental Justice

Environmental Protection Agency

202-564-8047

From: Emma Cheuse [mailto:echeuse@earthjustice.org]
Sent: Monday, April 27, 2015 1:53 PM
To: Tejada, Matthew
Subject: RE: Times to meet

For further clarification: the idea on the other meeting was to see if you wanted to talk informally at all with leaders who happen to be here for the TVI meeting, to discuss Plan EJ 2020 ideas (not to discuss TVI). Sorry if that was confusing.

From: Emma Cheuse
Sent: Monday, April 27, 2015 1:46 PM
To: 'Tejada, Matthew'
Subject: RE: Times to meet

Thanks, 5/5, next Tues. at 1:00 (going up until 3, depending on how much time we need) would be great -- no need for a calendar invite. I'm holding that time & have put it on the appropriate calendars on our end.

Our office is: 1625 Mass. Ave, corner with 17th. Come on up to the 7th floor and they'll call me when you're here.

We will have about 3-4 of us here in the office, and a couple of others call in if that's ok.

(On the other matter: the TVI meeting is next Monday 5/4 -- so if you wanted to do that as well, let me know. It sounds like, no, but just wanted to verify.)

I hope all goes well this week, in the meantime.

Best,

Emma

Emma Cheuse

Staff Attorney

Earthjustice

1625 Massachusetts Avenue, N.W., Suite 702

Washington, DC 20036-2243

T: 202.745.5220 or 202.667.4500 Ext. 5220

F: 202.667.2356

earthjustice.org

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delete the message and any attachments.

From: Tejada, Matthew [mailto:Tejada.Matthew@epa.gov]
Sent: Monday, April 27, 2015 1:31 PM
To: Emma Cheuse
Subject: RE: Times to meet

Hey

I'm slammed today and on travel tomorrow. Hope the TVI meeting goes well. We could shoot for the 5th from 1-3. Do you want me to send a calendar invite? And I'd be coming over to you all, right?

Matthew Tejada

Director - Office of Environmental Justice

Environmental Protection Agency

202-564-8047

From: Emma Cheuse [mailto:echeuse@earthjustice.org]
Sent: Monday, April 27, 2015 10:12 AM
To: Tejada, Matthew
Subject: FW: Times to meet

As a follow-up, some key EJ leaders from around the country are coming to our DC office for a meeting with the Administrator (at 2:15 on Monday) on Title VI and civil rights enforcement at EPA, as hopefully you're aware. Then, they might be able to do a meeting later in the afternoon at our office, maybe around 4:30, or first thing the next morning. If you'd like us to help set that

up here as well, please let me know ASAP so we can see if the leaders would like to do that.

We'd still also like to do our separate meeting (that we discussed), and additional times for that are still below. Glad to talk by phone if best to schedule that way: 202-745-5220.

Best, Emma

From: Emma Cheuse
Sent: Friday, April 24, 2015 1:25 PM
To: Tejada, Matthew (Tejada.Matthew@epa.gov)
Subject: Times to meet

Matt,

These times look good to talk about EJ.

- Monday, May 4, 2015: 2pm to 4pm
- Tuesday, May 5, 2015: 10am to 12pm, 1pm to 3pm
- Wednesday, May 6, 2015: 10am to 12:30pm, 2:30pm to 4pm

Just let me know what's possible for you. If easier to arrange by phone, my # is (202) 745-5220.

Thanks,

Emma

Emma Cheuse

Staff Attorney

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To: Tejada, Matthew[Tejada.Matthew@epa.gov]
From: Andrea Delgado
Sent: Thur 7/24/2014 8:37:41 PM
Subject: Fwd: Meeting Request with Administrator McCarthy RE: Worker Protection Standard
Meeting Request with EPA Administrator Gina McCarthy.pdf.html

Matt, I work on environmental health issues for Earthjustice. I took over for Emily Enderle before she went over to the Senate and we met briefly back in 2012.

Wanted to make sure to put the following meeting request with the Administrator in your radar.

Do let me know if you have any questions. I am on my way to NY but available via phone 202.230.6592 and email.

All the best,

Andrea Delgado
Legislative Representative
Earthjustice
202.230.6592
adelgado@earthjustice.org

Sent from my Verizon Wireless 4G LTE smartphone

To: Jalonne White-Newsome (jalonne@weact.org)[jalonne@weact.org]; Tejada, Matthew[Tejada.Matthew@epa.gov]; Lisa Garcia[lgarcia@earthjustice.org]; Benjamin F. Wilson (BWilson@bdlaw.com)[BWilson@bdlaw.com]
Cc: Jon Jacobs (jjacobs@jacobsstotsky.com) (jjacobs@jacobsstotsky.com)[jjacobs@jacobsstotsky.com]; Tsang, Linda (Linda_Tsang@afandpa.org)[Linda_Tsang@afandpa.org]
From: Neil Gormley
Sent: Thur 11/20/2014 3:07:12 PM
Subject: FW: December 11, 2014: Climate Justice: Overburdened Communities, Climate Change, and EPA's Clean Power Plan

Here are the event details. Please spread the word!

Neil Gormley

Associate Attorney

Earthjustice DC

1625 Massachusetts Ave., NW, Ste. 702

Washington, DC 20036

T: 202.797.5239

F: 202.667.2356

earthjustice.org

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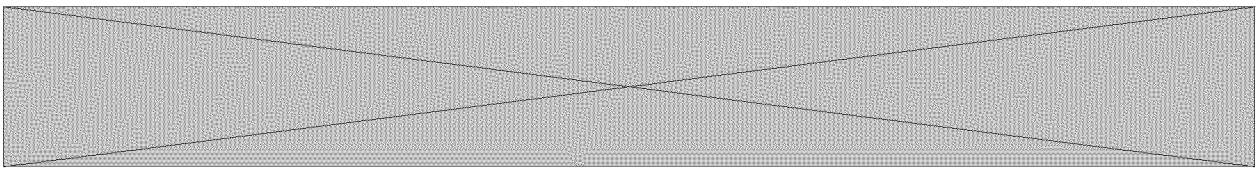
From: D.C. Bar Sections [mailto:sectionsannouncement@dcbar.org]
Sent: Wednesday, November 12, 2014 5:10 PM
To: Neil Gormley
Subject: December 11, 2014: Climate Justice: Overburdened Communities, Climate Change, and EPA's Clean Power Plan

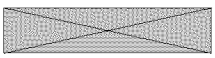


Climate Justice: Overburdened Communities, Climate Change, and EPA's Clean Power Plan

Join us for a fresh take on the most prominent environmental issue of our day, as our panel of environmental justice experts explore how climate issues disproportionately affect overburdened communities, and assess EPA's Clean Power Plan.

Thursday, December 11, 2014 from 12:30pm to 1:30pm

CLE Credit: No



Please visit us at www.dcbar.org/sections *for more information.*

Announcement sponsored by the D.C. Bar Sections Office. Unsubscribe | Registration Policy | Directions
The District of Columbia Bar | 1101 K Street NW, Suite 200| Washington DC 20005 | 202-626-3463

.

To: Jalonne White-Newsome (jalonne@weact.org)[jalonne@weact.org]; Tejada, Matthew[Tejada.Matthew@epa.gov]; Lisa Garcia[lgarcia@earthjustice.org]; Benjamin F. Wilson (BWilson@bdlaw.com)[BWilson@bdlaw.com]
Cc: Jon Jacobs (jjacobs@jacobsstotsky.com) (jjacobs@jacobsstotsky.com)[jjacobs@jacobsstotsky.com]; Tsang, Linda (Linda_Tsang@afandpa.org)[Linda_Tsang@afandpa.org]
From: Neil Gormley
Sent: Thur 11/20/2014 3:05:04 PM
Subject: DC Bar climate justice panel: 4 updates
Copyright.pdf

I hope you're all looking forward to our climate justice panel on December 11. I have a few updates.

1) Ben Wilson has graciously agreed to join the panel to present a regulated industry perspective on environmental justice. Welcome Ben!

2) Please spread the word with your networks! I will forward the DC Bar's publicity email, which contains a link to registration, right now in a separate email.

3) Please fill out the copyright release form (attached) and return to me. The DC Bar can't provide webinar access to our panel without a signed release from each of you.

4) Are any of you planning to use a handout or PowerPoint? They aren't needed, but if you were planning to the DC Bar asks that we forward them a copy in advance.

Thanks very much! And please don't hesitate to be in touch with questions or ideas.

Neil Gormley

Associate Attorney

Earthjustice DC

1625 Massachusetts Ave., NW, Ste. 702

Washington, DC 20036

T: 202.797.5239

F: 202.667.2356

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delete the message and any attachments.

From: Laura Hale [mailto:LHale@dcbar.org]
Sent: Wednesday, November 19, 2014 12:26 PM
To: Jon Jacobs (jjacobs@jacobsstotsky.com); Neil Gormley
Subject: Event Details

Hello Neil and Jon,

Please review and confirm the event details below. I also have a few quick questions.

1) Will you have a handout or a PowerPoint? If so, I must have them by December 9th in order to put them on the webinar.

2) I have attached the copyright release form. The speakers and moderator will need to sign the form in order to release the event for post-sale.

To: Tejada, Matthew[Tejada.Matthew@epa.gov]
From: Emma Cheuse
Sent: Mon 4/27/2015 5:52:41 PM
Subject: RE: Times to meet

For further clarification: the idea on the other meeting was to see if you wanted to talk informally at all with leaders who happen to be here for the TVI meeting, to discuss Plan EJ 2020 ideas (not to discuss TVI). Sorry if that was confusing.

From: Emma Cheuse
Sent: Monday, April 27, 2015 1:46 PM
To: 'Tejada, Matthew'
Subject: RE: Times to meet

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Emma

Emma Cheuse

Staff Attorney

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Matthew Tejada

Director - Office of Environmental Justice

Environmental Protection Agency

202-564-8047

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Just let me know what's possible for you. If easier to arrange by phone, my # is (202) 745-5220.

Thanks,

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Emma Cheuse

Staff Attorney

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To: Tejada, Matthew[Tejada.Matthew@epa.gov]
Cc: Ex. 6 - Personal Privacy
From: Emma Cheuse
Sent: Wed 7/16/2014 5:05:44 PM
Subject: EPA has a 7/31 deadline to respond to the en banc petition
74_Order_Respondents Must File Response to En Banc Petition.pdf

See attached, as a courtesy. Best regards.

Emma Cheuse

Senior Associate Attorney

Earthjustice

1625 Massachusetts Avenue, N.W., Suite 702

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From: ecfnoticing@cadc.uscourts.gov [mailto:ecfnoticing@cadc.uscourts.gov]
Sent: Wednesday, July 16, 2014 12:53 PM
To: Emma Cheuse
Subject: 12-1459 Natl' Assoc. for Surface Finis v. EPA, et al "Order Filed (CLERK)" (EPA-77FR58219)

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United States Court of Appeals for District of Columbia Circuit

Notice of Docket Activity

The following transaction was entered on 07/16/2014 at 12:51:28 PM EDT and filed on 07/16/2014

Case Name: Natl' Assoc. for Surface Finis v. EPA, et al
Case Number: 12-1459
Document(s): Document(s)

Docket Text:
CLERK'S ORDER filed [1502881] Upon consideration of the environmental petitioners' petition for hearing en banc, it is ORDERED, on the court's own motion, that, within 15 days of the date of this order, respondents file a response to the petition, not to exceed 15 pages. Absent further order of the court, the court will not accept a reply to the response. [1502305-2]. [12-1459, 12-1460, 13-1147]

Notice will be electronically mailed to:

Ms. Barbara Beth Baird, Deputy Chief Counsel: bbaird@aqmd.gov, CourtFilings@aqmd.gov, panderson@aqmd.gov
Mr. Christopher Linden Bell: bellc@gtlaw.com, gogganst@gtlaw.com
Myra Dean Blake: mblake@selcnc.org
Mr. Robert William Byrne, Deputy Assistant Attorney General: Robert.Byrne@doj.ca.gov
Emma Cordelia Cheuse: echeuse@earthjustice.org, cgarvin@earthjustice.org, alin@earthjustice.org
Ms. Khushi Kirtikant Desai: kdesai@earthjustice.org, alin@earthjustice.org, cgarvin@earthjustice.org
Ross Harris Hirsch, Attorney: ross.hirsch@doj.ca.gov, Edwina.RoanTuyay@doj.ca.gov
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Mr. Roger Romulus Martella, Jr.: rmartella@sidley.com
Mr. Gavin Geraghty McCabe, Deputy Attorney General: gavin.mccabe@doj.ca.gov
Michael J. Myers: michael.myers@oag.state.ny.us
Mr. Scott Lawrence Nelson: snelson@citizen.org
Ms. Tashiba Monique Peoples: monique.peoples@usdoj.gov, efile_eds.enrd@usdoj.gov
James Samuel Pew: jpew@earthjustice.org, cgarvin@earthjustice.org, alin@earthjustice.org

Mr. Patrice L. Simms, Attorney: psimms@law.howard.edu
Jerry Stouck: stouckj@gtlaw.com, gogganst@gtlaw.com
Mr. John Timothy Suttles, Jr., Attorney: jsuttles@selcnc.org, laphelps@selcnc.org, mblake@selcnc.org
Stephanie J. Talbert, Attorney: stephanie.talbert@usdoj.gov, efile_eds.enrd@usdoj.gov
Mr. Joel Franklin Visser: jvisser@sidley.com
William L. Wehrum, Jr.: wwehrum@hunton.com, caapleadings@hunton.com, sfisher@hunton.com, ccorry@hunton.com, rboczkaj-gonzalez@hunton.com
Jonathan Andrew Wiener: jonathan.wiener@doj.ca.gov
Mr. Kurt R. Wiese, General Counsel: kwiese@aqmd.gov, CourtFilings@aqmd.gov, vrodriguez@aqmd.gov, bbaird@aqmd.gov
Allison M. Zieve: azieve@citizen.org

Document to be served by alternative means on:

Mr. Robert Geoffrey Dreher
U.S. Department of Justice
(DOJ) Environment & Natural Resources Division
PO Box 23986, L'Enfant Plaza Station
Washington, DC 20026-3986

Mr. Sam Hirsch
Jenner & Block LLP
1099 New York Avenue, NW
Suite 900
Washington, DC 20001-4412

Ms. Jan M. Tierney, Attorney
U.S. Environmental Protection Agency
(EPA) Office of General Counsel
1200 Pennsylvania Avenue, NW
Ariel Rios Building
Washington, DC 20460-0000

The following document(s) are associated with this transaction:
Document Description: Order Sent
Original Filename: /opt/ACECF/live/forms/12-1459OPCN2.pdf
Electronic Document Stamp:
[STAMP acecfStamp_ID=1109186823 [Date=07/16/2014] [FileNumber=1502881-0]
[39cc53b4edaec616fa6cf91360e5a293bd7640caf591ba2ee09fcb99a4d36661339a9a7a1323e207191c1e93c16d3f
Recipients:

- Ms. Barbara Beth Baird, Deputy Chief Counsel
- Mr. Christopher Linden Bell
- Myra Dean Blake

- Mr. Robert William Byrne, Deputy Assistant Attorney General
- Emma Cordelia Cheuse
- Ms. Khushi Kirtikant Desai
- Mr. Robert Geoffrey Dreher
- Ross Harris Hirsch, Attorney
- Mr. Sam Hirsch
- Elizabeth Louise Horner
- Mr. Jon M. Lipshultz
- Mr. Roger Romulus Martella, Jr.
- Mr. Gavin Geraghty McCabe, Deputy Attorney General
- Michael J. Myers
- Mr. Scott Lawrence Nelson
- Ms. Tashiba Monique Peoples
- James Samuel Pew
- Mr. Patrice L. Simms, Attorney
- Jerry Stouck
- Mr. John Timothy Suttles, Jr., Attorney
- Stephanie J. Talbert, Attorney
- Ms. Jan M. Tierney, Attorney
- Mr. Joel Franklin Visser
- William L. Wehrum, Jr.
- Jonathan Andrew Wiener
- Mr. Kurt R. Wiese, General Counsel
- Allison M. Zieve

United States Court of Appeals

FOR THE DISTRICT OF COLUMBIA CIRCUIT

No. 12-1459 **September Term, 2013**

EPA-77FR58219
EPA-77FR58220
EPA-78FR23497

Filed On: July 16, 2014

National Association for Surface Finishing,

Petitioner

v.

Environmental Protection Agency and Gina McCarthy,

Respondents

California Communities Against Toxics, et al.,
Intervenors

Consolidated with 12-1460, 13-1147

ORDER

Upon consideration of the environmental petitioners' petition for hearing en banc, it is

ORDERED, on the court's own motion, that, within 15 days of the date of this order, respondents file a response to the petition, not to exceed 15 pages. Absent further order of the court, the court will not accept a reply to the response.

FOR THE COURT:
Mark J. Langer, Clerk

BY: /s/
Jennifer M. Clark
Deputy Clerk

To: Tejada, Matthew[Tejada.Matthew@epa.gov]
From: Lisa Garcia
Sent: Mon 8/18/2014 9:25:49 PM
Subject: Re: Colorado to Host Largest Latino Themed Eco Festival

Or that people show up for such big names!!!

Sent from my iPhone

> On Aug 18, 2014, at 5:20 PM, "Tejada, Matthew" <Tejada.Matthew@epa.gov> wrote:
>
> Yeah, it seems a little weird...though they have a couple of celeb names attached to it. Hope Bianca Jagger and Edward James Olmos know they're supposed to be there.
>
> Matthew Tejada
> Director - Office of Environmental Justice
> Environmental Protection Agency
> 202-564-8047
>
> -----Original Message-----
> From: Lisa Garcia [mailto:lgarcia@earthjustice.org]
> Sent: Monday, August 18, 2014 5:18 PM
> To: Tejada, Matthew
> Subject: Re: Colorado to Host Largest Latino Themed Eco Festival
>
> Never heaRd of it ...
> before I was invited to speak about a month ago, I declined then they asked if Trip could take the spot - (I think it was for a keynote) I have not heard of anyone who has been to this or is helping to plan.
> We have our all staff meeting that week.
> It seems very Colorado focused- for now.
> Earthjustice decided not to sponsor this year but try to attend next year.
>
>
> Sent from my iPhone
>
> On Aug 18, 2014, at 5:07 PM, "Tejada, Matthew" <Tejada.d Matthew@epa.gov<mailto:Matthew@epa.gov>> wrote:
> D
> Have you heard of this?
>
> Matthew Tejada
> Director - Office of Environmental Justice Environmental Protection Agency
> 202-564-8047
>
> From: Katherine Ledermann [mailto:katherine@screamagency.com]
> Sent: Monday, August 18, 2014 5:01 PM
> To: Tejada, Matthew
> Subject: Colorado to Host Largest Latino Themed Eco Festival
>
> Dear Matthew Tejada,
> After attending Power Shift, working to attend the People's Climate March this fall, and various other environmental justice focused conferences, I have learned a lot about the environmental movement today and have gained passion for helping in any way I can.
>
> This summer I have been working on an internship in Colorado to help with promotion of the 2nd annual Americas Latino Eco Festival.<http://americaslatinoecofestival.org/> This is a five day festival, September

11th-15th, with multiple venues in the area which will promote environmental awareness and unite diverse communities through fun-filled activities for adults and families. Just like at many environmental justice conference, thought leaders of both continents will come together to discuss novel solutions to the challenges arising from Climate Change and environmental degradation as well as to celebrate Latinos' long history of ecological activism and the “new shade of green” they’re bringing to this movement. Some of the ALEF highlights include: 50 presenters, 20 films, a K-12 Eco Exhibit called “Migrating Birds of the Americas,” 10 arts exhibits with artist workshops, a Family Day with a Latinovating Food Fiesta, a Green Goods Fair, a Migrar en Palabras Book Expo, and a Performance Fest including live concerts.
>
> This is the largest festival of its type in the world, and we would love your support and help with the promotion of this awesome event! Let me know if you would like to speak with festival founder and director, Irene Vilar, or if you have any other questions!
>
> Thank you,
> [https://ssl.gstatic.com/ui/v1/icons/mail/images/cleardot.gif]
>
>
> --
> Katherine Ledermann
> Scream Agency
> “Advertising & PR That’s Heard”
> 1501 Wazee St., Unit 1B
> Denver, CO 80202
> p: 303.893.8608
> w: screamagency.com<http://screamagency.com/>
> twitter: twitter.com/ScreamAgency<http://twitter.com/ScreamAgency>
> fb: facebook.com/ScreamAgency<http://facebook.com/ScreamAgency>
> Hundreds of speakers. Performers making music out of trash. The largest eco festival in Colorado that will bring focus to environmental issues that matter to us all. Events in Denver & Boulder, Sept. 11-16. Get tickets now: Americas Latino Eco Festival<mailto:http://americaslatinoecofestival.org/>.
>
>

To: Tejada, Matthew[Tejada.Matthew@epa.gov]
From: Emma Cheuse
Sent: Wed 9/16/2015 7:38:55 PM
Subject: RE: Setting up a time to talk

Weds. morning would be great. And the afternoon is also possible if better for you. Thanks, Emma

---

Emma Cheuse

Staff Attorney

Earthjustice

1625 Massachusetts Avenue, N.W., Suite 702

Washington, DC 20036-2243

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From: Tejada, Matthew [mailto:Tejada.Matthew@epa.gov]
Sent: Wednesday, September 16, 2015 2:58 PM
To: Emma Cheuse

Subject: RE: Setting up a time to talk

I'm pretty slammed rest of this week. Next Wednesday? Is it super time sensitive? If so, call me after hour a Ex. 6 - Personal Privacy

Matthew Tejada

Director - Office of Environmental Justice

Environmental Protection Agency

202-564-8047

From: Emma Cheuse [mailto:echeuse@earthjustice.org]
Sent: Wednesday, September 16, 2015 9:57 AM
To: Tejada, Matthew
Subject: Setting up a time to talk

Matt:

I'd be grateful if we could set up a brief phone call.

Would you have any time to talk this week?

Best,

Emma

Emma Cheuse

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1625 Massachusetts Avenue, N.W., Suite 702

Washington, DC 20036-2243

T: 202.745.5220 or 202.667.4500 Ext. 5220

F: 202.667.2356

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delete the message and any attachments.

From: Tejada, Matthew [mailto:Tejada.Matthew@epa.gov]
Sent: Monday, April 27, 2015 1:31 PM
To: Emma Cheuse
Subject: RE: Times to meet

Hey

I'm slammed today and on travel tomorrow. Hope the TVI meeting goes well. We could shoot for the 5th from 1-3. Do you want me to send a calendar invite? And I'd be coming over to you all, right?

Matthew Tejada

Director - Office of Environmental Justice

Environmental Protection Agency

202-564-8047

From: Emma Cheuse [mailto:echeuse@earthjustice.org]
Sent: Monday, April 27, 2015 10:12 AM
To: Tejada, Matthew
Subject: FW: Times to meet

As a follow-up, some key EJ leaders from around the country are coming to our DC office for a meeting with the Administrator (at 2:15 on Monday) on Title VI and civil rights enforcement at EPA, as hopefully you're aware. Then, they might be able to do a meeting later in the afternoon at our office, maybe around 4:30, or first thing the next morning. If you'd like us to help set that up here as well, please let me know ASAP so we can see if the leaders would like to do that.

We'd still also like to do our separate meeting (that we discussed), and additional times for that are still below. Glad to talk by phone if best to schedule that way: 202-745-5220.

Best, Emma

From: Emma Cheuse
Sent: Friday, April 24, 2015 1:25 PM
To: Tejada, Matthew (Tejada.Matthew@epa.gov)
Subject: Times to meet

Matt,

These times look good to talk about EJ.

- Monday, May 4, 2015: 2pm to 4pm

- Tuesday, May 5, 2015: 10am to 12pm, 1pm to 3pm
- Wednesday, May 6, 2015: 10am to 12:30pm, 2:30pm to 4pm

Just let me know what's possible for you. If easier to arrange by phone, my # is (202) 745-5220.

Thanks,

Emma

Emma Cheuse

Staff Attorney

Earthjustice

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Washington, DC 20036-2243

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To: Tejada, Matthew[Tejada.Matthew@epa.gov]
From: Kendyl Crawford
Sent: Thur 8/20/2015 9:00:25 PM
Subject: Re: EPA Office of Environmental Justice Hiring

Thanks so much!

On Thu, Aug 20, 2015 at 2:10 PM, Tejada, Matthew <Tejada.Matthew@epa.gov> wrote:

Hey Kendyl,

I'm afraid the applicant pool must have already maxed out. Please watch out though – we will likely be advertising again soon. You can join our email list from our epa.gov/environmentaljustice site and we will notify folks as soon as postings go out.

Best,

Matthew

Matthew Tejada

Director - Office of Environmental Justice

Environmental Protection Agency

202-564-8047

From: Kendyl Crawford [mailto:kendyl.crawford@sierraclub.org]
Sent: Thursday, August 20, 2015 9:27 AM
To: Tejada, Matthew
Subject: EPA Office of Environmental Justice Hiring

Dear Mr. Tejada,

I just received word of the several entry-level positions in the Office of Environmental Justice becoming available. Could you please send more information about the positions?

I went to the USAJobs website and searched "CI-OECA-DE-2015-0013", but could not find anything.

Thanks So Much,

Kendyl Crawford

--

Kendyl Crawford

Conservation Program Coordinator

Virginia Sierra Club

422 East Franklin St., Ste 304

Richmond, VA 23219

Email: kendyl.crawford@sierraclub.org

Office: (804) 225-9113 EXT 1006

Mobile: (757) 268-8810

Website: vasierraclub.org

"All I have is my voice, my body and the truth I speak. I can't do this alone." -Audrey Siegl (sχɬemtəna:t), Activist and Artist, Musqueam Nation

Join a Hampton Roads Clean Air Defender Team!

Interested in Joining a RVA Climate Action Team?

Sign up for VA Chapter Sierra Club Action Alerts!

--

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Join a Hampton Roads Clean Air Defender Team!

Interested in Joining a RVA Climate Action Team?

Sign up for VA Chapter Sierra Club Action Alerts!

To: Tejada, Matthew[Tejada.Matthew@epa.gov]
From: Emma Cheuse
Sent: Wed 9/16/2015 1:57:05 PM
Subject: Setting up a time to talk

Matt:

I'd be grateful if we could set up a brief phone call.

Would you have any time to talk this week?

Best,

Emma

Emma Cheuse

Staff Attorney

Earthjustice

1625 Massachusetts Avenue, N.W., Suite 702

Washington, DC 20036-2243

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To: Tejada, Matthew[Tejada.Matthew@epa.gov]
From: Adrienne Hollis
Sent: Fri 4/10/2015 5:57:53 PM
Subject: RE: JAX participant

Thank you!

From: Tejada, Matthew [mailto:Tejada.Matthew@epa.gov]
Sent: Friday, April 10, 2015 1:57 PM
To: Adrienne Hollis; Peurifoy, Cynthia; Ruhl, Suzi
Subject: RE: JAX participant

Don't see why not.

Matthew Tejada

Director - Office of Environmental Justice

Environmental Protection Agency

202-564-8047

From: Adrienne Hollis [mailto:ahollis@earthjustice.org]
Sent: Friday, April 10, 2015 1:48 PM
To: Tejada, Matthew; Peurifoy, Cynthia; Ruhl, Suzi
Subject: RE: JAX participant

Can we also include Cynthia Harris from FAMU's Institute of Public Health? They have done some very recent work with the Jax communities and the work I did years ago was through the Institute? Her email is Cynthia.harris2@famu.edu

Thank you for including me!

Adrienne

From: Tejada, Matthew [mailto:Tejada.Matthew@epa.gov]
Sent: Friday, April 10, 2015 11:01 AM
To: Peurifoy, Cynthia; Ruhl, Suzi
Cc: Adrienne Hollis
Subject: JAX participant

Hey

Can we please make sure that Adrienne Hollis from Earthjustice is looped into the sessions in Jax. She's copied on this email.

Thanks,

M

Matthew Tejada

Director - Office of Environmental Justice

Environmental Protection Agency

202-564-8047

To: 'Jon Jacobs'[jjacobs@jacobsstotsky.com]; Tejada, Matthew[Tejada.Matthew@epa.gov]
From: Neil Gormley
Sent: Tue 9/30/2014 7:05:46 PM
Subject: RE: DC Bar panel on environmental justice and climate change

I can call you both and conference us.

Neil Gormley

Associate Attorney

Earthjustice DC

1625 Massachusetts Ave., NW, Ste. 702

Washington, DC 20036

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F: 202.667.2356

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From: Jon Jacobs [mailto:jjacobs@jacobsstotsky.com]
Sent: Tuesday, September 30, 2014 3:03 PM
To: Neil Gormley; 'Tejada, Matthew'
Subject: RE: DC Bar panel on environmental justice and climate change

Friday at 3:15 is good for me. Do we have a call-in number?

JACOBS STOTSKY, PLLC

Jon D. Jacobs | Partner

1629 K Street, NW, Suite 300 | Washington, D.C. 20006

Main 202.508.3886 | **Mobile** 703.740.7986

jjacobs@jacobsstotsky.com | www.jacobsstotsky.com

Confidentiality Notice

From: Neil Gormley [mailto:ngormley@earthjustice.org]
Sent: Tuesday, September 30, 2014 1:18 PM
To: 'Tejada, Matthew'
Cc: Jon Jacobs
Subject: RE: DC Bar panel on environmental justice and climate change

Thanks Matt. It doesn't look like we'll all get on at the same time, so can you and I (and Jon if he can join) plan to talk Friday at 3:15?

Neil Gormley

Associate Attorney

Earthjustice DC

1625 Massachusetts Ave., NW, Ste. 702

Washington, DC 20036

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F: 202.667.2356

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From: Tejada, Matthew [mailto:Tejada.Matthew@epa.gov]
Sent: Monday, September 29, 2014 6:02 PM
To: Neil Gormley
Cc: Lisa Garcia; Jalonne White-Newsome; Jon Jacobs (jjacobs@jacobsstotsky.com) (jjacobs@jacobsstotsky.com)
Subject: Re: DC Bar panel on environmental justice and climate change

I can do any time Friday afternoon except 2-3.

Matthew S. Tejada

Director

EPA Office of Environmental Justice

(202) 564-8047

On Sep 29, 2014, at 5:56 PM, Neil Gormley <ngormley@earthjustice.org> wrote:

Dear Lisa, Jalonne, and Matt,

Thank you very much for your willingness to participate in a DC Bar panel discussion on climate change and environmental justice. Jon and I are excited to work with you to put this together.

The Bar requires a short description of the panel to get the ball rolling on planning and scheduling. To that end, I'd like to find a time to talk with each of you about what aspects of climate change and environmental justice the panel should focus on (the Clean Power Plan? adaptation and resilience? Connections between climate and health?), and what topics or subtopics we should cover. We can also talk about scheduling. We're currently looking at a lunch event in early- or mid-December.

Can you each send me your availability for a call this Friday or next Tuesday? If we can't all get on the same call, I'm happy to talk briefly with each of you individually.

Best,

neil

Neil Gormley

Associate Attorney

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From: jalonne.weact@gmail.com [mailto:jalonne.weact@gmail.com] **On Behalf Of** Jalonne White-Newsome
Sent: Friday, September 12, 2014 6:53 PM
To: Neil Gormley
Cc: Stephanie Maddin; Lisa Garcia
Subject: Re: Introductions

Sounds good! Looking forward to chatting with you.

On Thu, Sep 11, 2014 at 10:16 AM, Neil Gormley <ngormley@earthjustice.org> wrote:

Thanks Stephanie!

Hi Jalonne. As Stephanie said, I work here at Earthjustice. I'm also chair of the Sustainability Committee of the DC Bar (part of the Energy, Environment, and Natural Resources Section). With Lisa Garcia, I'm putting together a panel discussion for the DC Bar on environmental justice, climate change, and the Clean Power Plan, aiming for November or December, day and time TBD. We would be thrilled if you could join the discussion. We're still in the planning stages, so we would welcome your thoughts on how best to define the topic and what issues to cover.

Let me know if this is something that would interest you and we can find a time to talk in more detail.

Thanks!

neil

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From: Stephanie Maddin
Sent: Wednesday, September 10, 2014 6:24 PM
To: Neil Gormley; Jalonne White-Newsome
Subject: Introductions

Jalonne,

I'd like to introduce you to my colleague Neil Gormley. He's organizing a DC Bar event on Environmental Justice and Climate change and would love for you to participate. He will follow up directly.

Great seeing you yesterday!

Stephanie

Sent from my Samsung Galaxy S®4

--

Dr. Jalonne L. White-Newsome

Environmental Justice Federal Policy Analyst

WE ACT for Environmental Justice

50 F Street, NW, Eighth Floor

Washington, DC 20001

Office phone: (202) - 495 - 3036

Cell phone: (202) - 577 - 4246

Twitter: @drj_ege2

Website: www.weact.org

Facebook: www.weact.org/facebook

Twitter: www.weact.org/twitter

Text **WEACT to 22828** to join our mailing list

To: Tejada, Matthew[Tejada.Matthew@epa.gov]
From: Emma Cheuse
Sent: Mon 4/27/2015 2:12:17 PM
Subject: FW: Times to meet

As a follow-up, some key EJ leaders from around the country are coming to our DC office for a meeting with the Administrator (at 2:15 on Monday) on Title VI and civil rights enforcement at EPA, as hopefully you're aware. Then, they might be able to do a meeting later in the afternoon at our office, maybe around 4:30, or first thing the next morning. If you'd like us to help set that up here as well, please let me know ASAP so we can see if the leaders would like to do that.

We'd still also like to do our separate meeting (that we discussed), and additional times for that are still below. Glad to talk by phone if best to schedule that way: 202-745-5220.

Best, Emma

From: Emma Cheuse
Sent: Friday, April 24, 2015 1:25 PM
To: Tejada, Matthew (Tejada.Matthew@epa.gov)
Subject: Times to meet

Matt,

These times look good to talk about EJ.

- Monday, May 4, 2015: 2pm to 4pm
- Tuesday, May 5, 2015: 10am to 12pm, 1pm to 3pm
- Wednesday, May 6, 2015: 10am to 12:30pm, 2:30pm to 4pm

Just let me know what's possible for you. If easier to arrange by phone, my # is (202) 745-5220.

Thanks,

Emma

Emma Cheuse

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From: Kendyl Crawford
Sent: Thur 8/20/2015 1:26:43 PM
Subject: EPA Office of Environmental Justice Hiring

Dear Mr. Tejada,
I just received word of the several entry-level positions in the Office of Environmental Justice becoming available. Could you please send more information about the positions?

I went to the USAJobs website and searched "CI-OECA-DE-2015-0013", but could not find anything.

Thanks So Much,

Kendyl Crawford

--
Kendyl Crawford
Conservation Program Coordinator
Virginia Sierra Club
422 East Franklin St., Ste 304
Richmond, VA 23219

Email: kendyl.crawford@sierraclub.org
Office: (804) 225-9113 EXT 1006
Mobile: Ex. 6 - Personal Privacy
Website: vasierraclub.org

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Sign up for VA Chapter Sierra Club Action Alerts!

To: Tejada, Matthew[Tejada.Matthew@epa.gov]
Cc: Jon Jacobs (jjacobs@jacobsstotsky.com) (jjacobs@jacobsstotsky.com)[jjacobs@jacobsstotsky.com]
From: Neil Gormley
Sent: Tue 9/30/2014 5:17:46 PM
Subject: RE: DC Bar panel on environmental justice and climate change

Thanks Matt. It doesn't look like we'll all get on at the same time, so can you and I (and Jon if he can join) plan to talk Friday at 3:15?

Neil Gormley

Associate Attorney

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Subject: Re: DC Bar panel on environmental justice and climate change

I can do any time Friday afternoon except 2-3.

Matthew S. Tejada

Director

EPA Office of Environmental Justice

(202) 564-8047

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Best,

neil

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From: jalonne.weact@gmail.com [mailto:jalonne.weact@gmail.com] **On Behalf Of** Jalonne White-Newsome
Sent: Friday, September 12, 2014 6:53 PM
To: Neil Gormley
Cc: Stephanie Maddin; Lisa Garcia
Subject: Re: Introductions

Sounds good! Looking forward to chatting with you.

On Thu, Sep 11, 2014 at 10:16 AM, Neil Gormley <ngormley@earthjustice.org> wrote:

Thanks Stephanie!

Hi Jalonne. As Stephanie said, I work here at Earthjustice. I'm also chair of the Sustainability Committee of the DC Bar (part of the Energy, Environment, and Natural Resources Section). With Lisa Garcia, I'm putting together a panel discussion for the DC Bar on environmental justice, climate change, and the Clean Power Plan, aiming for November or December, day and time TBD. We would be thrilled if you could join the discussion. We're still in the planning stages, so we would welcome your thoughts on how best to define the topic and what issues to cover.

Let me know if this is something that would interest you and we can find a time to talk in more detail.

Thanks!

neil

Neil Gormley

Associate Attorney

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Great seeing you yesterday!

Stephanie

Sent from my Samsung Galaxy S®4

--

Dr. Jalonne L. White-Newsome

Environmental Justice Federal Policy Analyst

WE ACT for Environmental Justice

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Website: www.weact.org

Facebook: www.weact.org/facebook

Twitter: www.weact.org/twitter

Text **WEACT to 22828** to join our mailing list

To: mlinperrella@nrdc.org[mlinperrella@nrdc.org]
Cc: Tejada, Matthew[Tejada.Matthew@epa.gov]; Adrian Martinez
From: Adrian Martinez
Sent: Fri 4/10/2015 2:13:08 PM
Subject: Re: NEJAC

Ex. 6 - Personal Privacy

I will be there too.

Sent from my iPhone

> On Apr 10, 2015, at 6:36 AM, "LinPerrella, Melissa" <mlinperrella@nrdc.org> wrote:
>
> Yep. I will be there.
> Melissa
>
> Sent from my BlackBerry 10 smartphone on the Verizon Wireless 4G LTE network.
> From: Tejada, Matthew
> Sent: Friday, April 10, 2015 6:15 AM
> To: LinPerrella, Melissa; Adrian Martinez; amartinez@earthjustice.org
> Subject: NEJAC
>
>
> Hey there
>
> Were either of you already planning on being at the NEJAC in San Diego on May 20-21?
>
> M
>
> Matthew Tejada
> Director - Office of Environmental Justice
> Environmental Protection Agency
> 202-564-8047
>

To: Tejada, Matthew[Tejada.Matthew@epa.gov]
From: Emma Cheuse
Sent: Tue 6/2/2015 7:49:57 PM
Subject: RE: vm

Thanks! Best, Emma

Emma Cheuse

Staff Attorney

Earthjustice

1625 Massachusetts Avenue, N.W., Suite 702

Washington, DC 20036-2243

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From: Tejada, Matthew [mailto:Tejada.Matthew@epa.gov]
Sent: Tuesday, June 02, 2015 2:12 PM
To: Emma Cheuse
Subject: vm

Hey Emma

Sorry, just easier to reply via email right now in the flow of things.

Yes, still on for June 10. We have shared and will share with reporters the letter Earthjustice sent in. We were not going to direct a reporter to contact any particular signatory of that letter, but it's good to know that you all will be putting something out.

Almost there on NEJAC letters.

And I'm pretty sure Charles has talked to NACAA about EJ2020, but he is out of the office through tomorrow (or maybe he's back tomorrow, can't remember) so will ask him. And also waiting on him to get back before we make a decision on the extension so should be more on that very soon.

M

Matthew Tejada

Director - Office of Environmental Justice

Environmental Protection Agency

202-564-8047

To: Tejada, Matthew[Tejada.Matthew@epa.gov]
From: Emma Cheuse
Sent: Fri 4/24/2015 5:25:01 PM
Subject: Times to meet

Matt,

These times look good to talk about EJ.

- Monday, May 4, 2015: 2pm to 4pm
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Thanks,

Emma

Emma Cheuse

Staff Attorney

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To: Tejada, Matthew[Tejada.Matthew@epa.gov]
From: Lisa Garcia
Sent: Tue 9/30/2014 1:23:59 PM
Subject: can you do me a favor?

Hey there! How is it going? Ready for NEJAC?

Saw your boss at the green Latinos event last night- it was really fun. Eric Vance said I can't get any EPA pics once I leave…but I can ask someone on the inside to do it. So can you scan the pics online for a picture of Gina and me with our baseball hats on. The date would be around March 28 or 31st?

I plan to stop by NEJAC – not sure which date- I have to go to the Congressional Hispanic Caucus too. I'll let you know maybe we hangout ☺

Thanks

Lisa F. Garcia

Vice President Of Litigation, Healthy Communities

1625 Massachusetts Ave. Nw Ste. 702

Washington, DC 20036-2243

T: (202) 797-5244

F: (202) 667-2356

Facebook/Earthjustice

Twitter@Earthjustice

EARTHJUSTICE

Because the earth needs a good lawyer

To: Lisa Garcia[lgarcia@earthjustice.org]; 'Jalonne White-Newsome'[jalonne@weact.org]; Tejada, Matthew[Tejada.Matthew@epa.gov]
Cc: Jon Jacobs (jjacobs@jacobsstotsky.com) (jjacobs@jacobsstotsky.com)[jjacobs@jacobsstotsky.com]
From: Neil Gormley
Sent: Mon 9/29/2014 9:56:21 PM
Subject: DC Bar panel on environmental justice and climate change

Dear Lisa, Jalonne, and Matt,

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Can you each send me your availability for a call this Friday or next Tuesday? If we can't all get on the same call, I'm happy to talk briefly with each of you individually.

Best,

neil

Neil Gormley

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delete the message and any attachments.

From: Ex. 6 - Personal Privacy **On Behalf Of** Jalonne White-Newsome
Sent: Friday, September 12, 2014 6:53 PM
To: Neil Gormley
Cc: Stephanie Maddin; Lisa Garcia
Subject: Re: Introductions

Sounds good! Looking forward to chatting with you.

On Thu, Sep 11, 2014 at 10:16 AM, Neil Gormley <ngormley@earthjustice.org> wrote:

Thanks Stephanie!

Hi Jalonne. As Stephanie said, I work here at Earthjustice. I'm also chair of the Sustainability Committee of the DC Bar (part of the Energy, Environment, and Natural Resources Section). With Lisa Garcia, I'm putting together a panel discussion for the DC Bar on environmental justice, climate change, and the Clean Power Plan, aiming for November or December, day and

time TBD. We would be thrilled if you could join the discussion. We're still in the planning stages, so we would welcome your thoughts on how best to define the topic and what issues to cover.

Let me know if this is something that would interest you and we can find a time to talk in more detail.

Thanks!

neil

Neil Gormley

Associate Attorney

Earthjustice DC

1625 Massachusetts Ave., NW, Ste. 702

Washington, DC 20036

T: 202.797.5239

F: 202.667.2356

earthjustice.org

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From: Stephanie Maddin
Sent: Wednesday, September 10, 2014 6:24 PM
To: Neil Gormley; Jalonne White-Newsome
Subject: Introductions

Jalonne,

I'd like to introduce you to my colleague Neil Gormley. He's organizing a DC Bar event on Environmental Justice and Climate change and would love for you to participate. He will follow up directly.

Great seeing you yesterday!

Stephanie

Sent from my Samsung Galaxy S®4

--

Dr. Jalonne L. White-Newsome

Environmental Justice Federal Policy Analyst

WE ACT for Environmental Justice

50 F Street, NW, Eighth Floor

Washington, DC 20001

Office phone: (202) - 495 - 3036

Cell phone: Ex. 6 - Personal Privacy

Twitter: @drj_ege2

Website: www.weact.org

Facebook: www.weact.org/facebook

Twitter: www.weact.org/twitter

Text **WEACT to 22828** to join our mailing list

To: Tejada, Matthew[Tejada.Matthew@epa.gov]
From: Lisa Garcia
Sent: Thur 8/7/2014 7:48:30 PM
Subject: Webinar finished?

Sent from my iPhone

To: Tejada, Matthew[Tejada.Matthew@epa.gov]
From: Emma Cheuse
Sent: Thur 8/7/2014 7:42:15 PM
Subject: RE: Confirmed 8/7 Meeting today with Janet McCabe
FINAL WE ACT lt. to EPA re Air Toxins for 08 07 14 meeting.pdf

Thanks for that update.

For your information, attached is the letter WE ACT sent to EPA yesterday on this.

Best,
Emma

Emma Cheuse
Senior Associate Attorney
Earthjustice
1625 Massachusetts Avenue, N.W., Suite 702
Washington, DC 20036-2243
T: 202.745.5220 or 202.667.4500 Ext. 5220
F: 202.667.2356
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-----Original Message-----
From: Tejada, Matthew [mailto:Tejada.Matthew@epa.gov]
Sent: Thursday, August 07, 2014 3:31 PM
To: Emma Cheuse
Subject: RE: Confirmed 8/7 Meeting today with Janet McCabe

I'm in Ex. 6 - Personal Privacy but I believe Mustafa Ali will be there.

Matthew Tejada
Director - Office of Environmental Justice Environmental Protection Agency
202-564-8047

-----Original Message-----
From: Emma Cheuse [mailto:echeuse@earthjustice.org]
Sent: Thursday, August 07, 2014 3:30 PM
To: Tejada, Matthew
Subject: FW: Confirmed 8/7 Meeting today with Janet McCabe

Just a courtesy FYI that EPA has changed our meeting today to start at 5:15, in case you are able to attend. Best regards, Emma

-----Original Message-----
From: Atkinson, Emily [mailto:Atkinson.Emily@epa.gov]
Sent: Thursday, August 07, 2014 9:47 AM

To: Emma Cheuse
Cc: Martin Hayden
Subject: RE: Confirmed 8/7 at 5pm: Request for urgent air toxics meeting with Administrator McCarthy

Thanks Emma!

Emily Atkinson
Staff Assistant
Immediate Office of the Acting Assistant Administrator Office of Air and Radiation, USEPA Room 5406B, 1200 Pennsylvania Avenue NW Washington, DC 20460
Voice: 202-564-1850
Email: atkinson.emily@epa.gov

-----Original Message-----
From: Emma Cheuse [mailto:echeuse@earthjustice.org]
Sent: Wednesday, August 06, 2014 6:49 PM
To: Atkinson, Emily
Cc: Martin Hayden
Subject: Re: Confirmed 8/7 at 5pm: Request for urgent air toxics meeting with Administrator McCarthy

Yes, I'm sure we can do that -- I will alert everyone to this change.

Best,
Emma

On Aug 6, 2014, at 6:10 PM, "Atkinson, Emily"
<Atkinson.Emily@epa.gov<mailto:Atkinson.Emily@epa.gov>> wrote:

Emma,

Could we push this meeting back by 15 minutes to start at 5:15pm? Janet has a last minute conflict to start at 5pm.

Hope this works.

Emily

Emily Atkinson
Staff Assistant
Immediate Office of the Acting Assistant Administrator Office of Air and Radiation, USEPA Room 5406B, 1200 Pennsylvania Avenue NW Washington, DC 20460
Voice: 202-564-1850
Email: atkinson.emily@epa.gov<mailto:atkinson.emily@epa.gov>

From: Emma Cheuse [mailto:echeuse@earthjustice.org]
Sent: Wednesday, August 06, 2014 4:11 PM
To: Atkinson, Emily
Subject: RE: Confirmed 8/7 at 5pm: Request for urgent air toxics meeting with Administrator McCarthy

Emily,

Thank you for your note. Because of the short notice a number of people will need to join by phone rather than in person, so we very much appreciate the call-in opportunity.

I will update you on this list tomorrow morning, if anything changes.

So far, these are the people who are coming in person or whose in-person attendance I'm still trying to confirm (so you can have a list for security):
1. Emma Cheuse (Earthjustice)
2. Martin Hayden (Earthjustice)
3. Augusta Wilson (Clean Air Council)
4. Debbie Sease or Terry McGuire (Sierra Club) 5. John Walke (NRDC) 6. Janice Nolen (American Lung Association).

The people whom I believe will join by phone are below.

1. Aron Livingston (CA Air Resources Board); 2. Barbara Baird (South Coast Air Quality Management District); 3. Jalonne White-Newsome (WE ACT for Environmental Justice); 4. Myra Blake (Southern Environmental Law Center); 5. Adrian Shelley (Air Alliance Houston); 6. Jane Williams (CA Communities Against Toxics); 7. Jim Pew (Earthjustice).

Best,
Emma

Emma Cheuse
Senior Associate Attorney
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<image001.gif>

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From: Atkinson, Emily [mailto:Atkinson.Emily@epa.gov]
Sent: Wednesday, August 06, 2014 10:00 AM
To: Emma Cheuse
Cc: john.coequyt@sierraclub.org<mailto:john.coequyt@sierraclub.org>;
Ex. 6 - Personal Privacy; awilson@cleanair.org<mailto:awilson@cleanair.org>;
jwalke@nrdc.org<mailto:jwalke@nrdc.org>; jsuttles@selcnc.org<mailto:jsuttles@selcnc.org>;
mblake@selcnc.org<mailto:mblake@selcnc.org>; Martin Hayden; James Pew
Subject: Confirmed 8/7 at 5pm: Request for urgent air toxics meeting with Administrator McCarthy

Emma,
You are confirmed for a 45 minute meeting on Thursday, August 7 at 5:00pm with Janet McCabe. Call in details and directions to our office is outlined below.

Ex. 6 - Personal Privacy
Participant Code: Ex. 6 - Personal Privacy
Directions and procedures to 1200 Pennsylvania Avenue NW:
Metro: If you come by Metro get off at the Federal Triangle metro stop. Exit the metro station and go up two sets of escalators to the surface level and turn right. You will see a short staircase and wheelchair ramp leading to a set of glass doors with the EPA logo - that is the William Jefferson Clinton Federal Building, North Entrance.
Taxi: Direct the taxi to drop you off on 12th Street NW, between Constitution and Pennsylvania Avenues,

at the elevator for the Federal Triangle metro stop - this is almost exactly half way between the two avenues on 12th Street NW. Facing the building with the EPA logo and American flags, walk toward the building and take the glass door on your right hand side with the escalators going down to the metro on your left – that is the North Lobby of the William Jefferson Clinton building.
Security Procedures: A government issued photo id is required to enter the building and it is suggested you arrive 15 minutes early in order to be cleared and arrive at the meeting room on time. Upon entering the lobby, the meeting attendees will be asked to pass through security and provide a photo ID for entrance. Let the guards know that you were instructed to call 202-564-7400 for a security escort.
Please feel free to contact me should you need any additional information.

Emily Atkinson
Staff Assistant
Immediate Office of the Acting Assistant Administrator Office of Air and Radiation, USEPA Room 5406B, 1200 Pennsylvania Avenue NW Washington, DC 20460
Voice: 202-564-1850
Email: atkinson.emily@epa.gov<mailto:atkinson.emily@epa.gov>

From: Emma Cheuse [mailto:echeuse@earthjustice.org]
Sent: Tuesday, August 05, 2014 7:46 PM
To: Atkinson, Emily
Cc: john.coequyt@sierraclub.org<mailto:john.coequyt@sierraclub.org>;
Ex. 6 - Personal Privacy awilson@cleanair.org<mailto:awilson@cleanair.org>;
jwalke@nrdc.org<mailto:jwalke@nrdc.org>; jsuttles@selcnc.org<mailto:jsuttles@selcnc.org>;
mblake@selcnc.org<mailto:mblake@selcnc.org>; Martin Hayden; James Pew
Subject: RE: Request for urgent air toxics meeting with Administrator McCarthy

Ms. Atkinson,

Thank you very much for your note. Yes, we will be there.

We would be grateful if you could provide a conference call line, so I can give that to some people who will need to join by phone.

I am currently confirming who can attend in person, and who will join by phone, and will update you as soon as possible on our attendee list.

Best regards,
Emma

Emma Cheuse
Senior Associate Attorney
Earthjustice
1625 Massachusetts Avenue, N.W., Suite 702 Washington, DC 20036-2243
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From: Atkinson, Emily [mailto:Atkinson.Emily@epa.gov]
Sent: Tuesday, August 05, 2014 2:31 PM
To: Emma Cheuse
Cc: john.coequyt@sierraclub.org<mailto:john.coequyt@sierraclub.org>;
Ex. 6 - Personal Privacy awilson@cleanair.org<mailto:awilson@cleanair.org>;
jwalke@nrdc.org<mailto:jwalke@nrdc.org>; jsuttles@selcnc.org<mailto:jsuttles@selcnc.org>;
mblake@selcnc.org<mailto:mblake@selcnc.org>; Martin Hayden; James Pew
Subject: FW: Request for urgent air toxics meeting with Administrator McCarthy

Hi Emma,

It looks like Janet McCabe is available to meet with you all for 30 minutes on Thursday, August 7 at 5:00pm. Please advise if this will work for you all.

Emily Atkinson
Staff Assistant
Immediate Office of the Acting Assistant Administrator Office of Air and Radiation, USEPA Room 5406B, 1200 Pennsylvania Avenue NW Washington, DC 20460
Voice: 202-564-1850
Email: atkinson.emily@epa.gov<mailto:atkinson.emily@epa.gov>

From: Koerber, Mike
Sent: Tuesday, August 05, 2014 2:07 PM
To: Atkinson, Emily
Cc: South, Peter
Subject: FW: Request for urgent air toxics meeting with Administrator McCarthy

Emily – As a followup to this exchange that Janet and Peter had last week, Peter is suggesting that we try to schedule this meeting for sometime this week, if possible (30-45 minutes). Invitees include:

EPA – Janet, Avi, Peter Tsirigotis, Steve Page, Steve Fruh, Patricia Embrey

Environmental Groups–

1. Sierra Club: TBD, but please email: John Coequyt, john.coequyt@sierraclub.org<mailto:john.coequyt@sierraclub.org>, and Jane Williams,
Ex. 6 - Personal Privacy CA Communities Against Toxics).

2. Clean Air Council: Joe Minott or Augusta Wilson, awilson@cleanair.org<mailto:awilson@cleanair.org>;

3. Natural Resources Defense Council: John Walke, jwalke@nrdc.org<mailto:jwalke@nrdc.org>;

4. Southern Environmental Law Center, on behalf of American Lung Association: John Suttles, jsuttles@selcnc.org<mailto:jsuttles@selcnc.org>, and Myra Blake, mblake@selcnc.org<mailto:mblake@selcnc.org>;

5. Earthjustice: Emma Cheuse <echeuse@earthjustice.org<mailto:echeuse@earthjustice.org>>, Martin Hayden (VP, Policy & Legislation), mhayden@earthjustice.org<mailto:mhayden@earthjustice.org>, and Jim Pew, jpew@earthjustice.org<mailto:jpew@earthjustice.org>.

Thank you.

Mike

From: Emma Cheuse <echeuse@earthjustice.org<mailto:echeuse@earthjustice.org>>
Sent: Friday, July 25, 2014 2:16 PM
To: Mccarthy, Gina
Cc: McCabe, Janet; Tejada, Matthew; Tierney, Jan; Beauvais, Joel
Subject: Request for urgent air toxics meeting with Administrator McCarthy

Dear Administrator McCarthy,

As described in the attached letter from Earthjustice's President Trip Van Noppen, we would like to respectfully request a meeting as soon as possible to discuss an issue of great importance for the future success and impact of EPA's air toxics program under the Clean Air Act. This request is submitted on behalf of California Communities Against Toxics, Clean Air Council, Sierra Club, American Lung Association, and Southern Environmental Law Center.

We would be extremely grateful for your assistance in reviewing and addressing this urgent and important issue.

Thank you for your time and consideration.

Best regards,

Emma Cheuse

Cc: Ms. Janet McCabe, Assistant Administrator, Office of Air and Radiation; Mr. Matthew Tejada, Director, Office of Environmental Justice; Mr. Joel Beauvais, Associate Administrator, Office of Policy; Ms. Jan Tierney, Office of General Counsel

Emma Cheuse
Senior Associate Attorney
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To: Tejada, Matthew[Tejada.Matthew@epa.gov]
From: Emma Cheuse
Sent: Thur 8/7/2014 7:30:02 PM
Subject: FW: Confirmed 8/7 Meeting today with Janet McCabe

Just a courtesy FYI that EPA has changed our meeting today to start at 5:15, in case you are able to attend. Best regards, Emma

-----Original Message-----
From: Atkinson, Emily [mailto:Atkinson.Emily@epa.gov]
Sent: Thursday, August 07, 2014 9:47 AM
To: Emma Cheuse
Cc: Martin Hayden
Subject: RE: Confirmed 8/7 at 5pm: Request for urgent air toxics meeting with Administrator McCarthy

Thanks Emma!

Emily Atkinson
Staff Assistant
Immediate Office of the Acting Assistant Administrator Office of Air and Radiation, USEPA Room 5406B, 1200 Pennsylvania Avenue NW Washington, DC 20460
Voice: 202-564-1850
Email: atkinson.emily@epa.gov

-----Original Message-----
From: Emma Cheuse [mailto:echeuse@earthjustice.org]
Sent: Wednesday, August 06, 2014 6:49 PM
To: Atkinson, Emily
Cc: Martin Hayden
Subject: Re: Confirmed 8/7 at 5pm: Request for urgent air toxics meeting with Administrator McCarthy

Yes, I'm sure we can do that -- I will alert everyone to this change.

Best,
Emma

On Aug 6, 2014, at 6:10 PM, "Atkinson, Emily"
<Atkinson.Emily@epa.gov<mailto:Atkinson.Emily@epa.gov>> wrote:

Emma,

Could we push this meeting back by 15 minutes to start at 5:15pm? Janet has a last minute conflict to start at 5pm.

Hope this works.

Emily

Emily Atkinson
Staff Assistant
Immediate Office of the Acting Assistant Administrator Office of Air and Radiation, USEPA Room 5406B, 1200 Pennsylvania Avenue NW Washington, DC 20460
Voice: 202-564-1850
Email: atkinson.emily@epa.gov<mailto:atkinson.emily@epa.gov>

From: Emma Cheuse [mailto:echeuse@earthjustice.org]

Sent: Wednesday, August 06, 2014 4:11 PM
To: Atkinson, Emily
Subject: RE: Confirmed 8/7 at 5pm: Request for urgent air toxics meeting with Administrator McCarthy

Emily,

Thank you for your note. Because of the short notice a number of people will need to join by phone rather than in person, so we very much appreciate the call-in opportunity.

I will update you on this list tomorrow morning, if anything changes.

So far, these are the people who are coming in person or whose in-person attendance I'm still trying to confirm (so you can have a list for security):
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Best,
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Emma Cheuse
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Sent: Wednesday, August 06, 2014 10:00 AM
To: Emma Cheuse
Cc: john.coequyt@sierraclub.org<mailto:john.coequyt@sierraclub.org>; **Ex. 6 - Personal Privacy** awilson@cleanair.org<mailto:awilson@cleanair.org>; jwalke@nrdc.org<mailto:jwalke@nrdc.org>; jsuttles@selcnc.org<mailto:jsuttles@selcnc.org>; mblake@selcnc.org<mailto:mblake@selcnc.org>; Martin Hayden; James Pew
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Participant Code: Ex. 6 - Personal Privacy

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Best regards,
Emma

Emma Cheuse
Senior Associate Attorney
Earthjustice
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T: 202.745.5220 or 202.667.4500 Ext. 5220

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<image001.gif>

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Sent: Tuesday, August 05, 2014 2:31 PM
To: Emma Cheuse
Cc: john.coequyt@sierraclub.org<mailto:john.coequyt@sierraclub.org>; dcapjane@aol.com<mailto:dcapjane@aol.com>; awilson@cleanair.org<mailto:awilson@cleanair.org>; jwalke@nrdc.org<mailto:jwalke@nrdc.org>; jsuttles@selcnc.org<mailto:jsuttles@selcnc.org>; mblake@selcnc.org<mailto:mblake@selcnc.org>; Martin Hayden; James Pew
Subject: FW: Request for urgent air toxics meeting with Administrator McCarthy

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Emily Atkinson
Staff Assistant
Immediate Office of the Acting Assistant Administrator Office of Air and Radiation, USEPA Room 5406B, 1200 Pennsylvania Avenue NW Washington, DC 20460
Voice: 202-564-1850
Email: atkinson.emily@epa.gov<mailto:atkinson.emily@epa.gov>

From: Koerber, Mike
Sent: Tuesday, August 05, 2014 2:07 PM
To: Atkinson, Emily
Cc: South, Peter
Subject: FW: Request for urgent air toxics meeting with Administrator McCarthy

Emily – As a followup to this exchange that Janet and Peter had last week, Peter is suggesting that we try to schedule this meeting for sometime this week, if possible (30-45 minutes). Invitees include:

EPA – Janet, Avi, Peter Tsirigotis, Steve Page, Steve Fruh, Patricia Embrey

Environmental Groups–

1. Sierra Club: TBD, but please email: John Coequyt, john.coequyt@sierraclub.org<mailto:john.coequyt@sierraclub.org>, and Jane Williams, Ex. 6 - Personal Privacy CA Communities Against Toxics).

2. Clean Air Council: Joe Minott or Augusta Wilson, awilson@cleanair.org<mailto:awilson@cleanair.org>;

3. Natural Resources Defense Council: John Walke, jwalke@nrdc.org<mailto:jwalke@nrdc.org>;

4. Southern Environmental Law Center, on behalf of American Lung Association: John Suttles, jsuttles@selcnc.org<mailto:jsuttles@selcnc.org>, and Myra Blake,

mblake@selcnc.org<mailto:mblake@selcnc.org>;

5. Earthjustice: Emma Cheuse <echeuse@earthjustice.org<mailto:echeuse@earthjustice.org>>, Martin Hayden (VP, Policy & Legislation), mhayden@earthjustice.org<mailto:mhayden@earthjustice.org>, and Jim Pew, jpew@earthjustice.org<mailto:jpew@earthjustice.org>.

Thank you.

Mike

From: Emma Cheuse <echeuse@earthjustice.org<mailto:echeuse@earthjustice.org>>
Sent: Friday, July 25, 2014 2:16 PM
To: Mccarthy, Gina
Cc: McCabe, Janet; Tejada, Matthew; Tierney, Jan; Beauvais, Joel
Subject: Request for urgent air toxics meeting with Administrator McCarthy

Dear Administrator McCarthy,

As described in the attached letter from Earthjustice's President Trip Van Noppen, we would like to respectfully request a meeting as soon as possible to discuss an issue of great importance for the future success and impact of EPA's air toxics program under the Clean Air Act. This request is submitted on behalf of California Communities Against Toxics, Clean Air Council, Sierra Club, American Lung Association, and Southern Environmental Law Center.

We would be extremely grateful for your assistance in reviewing and addressing this urgent and important issue.

Thank you for your time and consideration.

Best regards,

Emma Cheuse

Cc: Ms. Janet McCabe, Assistant Administrator, Office of Air and Radiation; Mr. Matthew Tejada, Director, Office of Environmental Justice; Mr. Joel Beauvais, Associate Administrator, Office of Policy; Ms. Jan Tierney, Office of General Counsel

---

Emma Cheuse
Senior Associate Attorney
Earthjustice
1625 Massachusetts Avenue, N.W., Suite 702 Washington, DC 20036-2243
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earthjustice.org<https://remoteworkplacedr.epa.gov/,DanaInfo=.awxyCifx0ps435vqtP59z+>

<image001.gif>

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If you think that you have received this email message in error, please notify the sender by reply email

and delete the message and any attachments.

To: Tejada, Matthew[Tejada.Matthew@epa.gov]
From: Andrea Delgado
Sent: Thur 8/7/2014 5:51:19 PM
Subject: FYI- Monday August 11th at 11:30AM meeting with McCarthy

Hi Matt, just wanted to let you know that we have a meeting confirmed with the Administrator for 11:30AM on Monday August 11th and share the following for your reference. Hope we can see you there. Let me know if you have any questions.

Thank you,

Andrea Liliana Delgado

Legislative Representative | Healthy Communities

Earthjustice Policy & Legislation Office

1625 Massachusetts Avenue, NW, Suite 702

Washington, D.C. 20036

T: 202.797.5240

C: 202.230.6592

External Meeting Request Form for Administrator Gina McCarthy

Purpose: To discuss the proposed revisions to the Agricultural Worker Protection Standard Revisions, Docket ID: EPA-HQ-OPP-2011-0184

Background: A select group of CEOs and EDs from farmworker, labor, Latino, health and environmental orgs are convening in DC to meet with EPA Administrator Gina McCarthy to talk about the proposed revisions to the Agricultural Worker Protection Standard (WPS)

Meeting Date: August 11th at 11:30am

Suggested Duration: 1 hour

Meeting Participants:

•□□□□□□□□ United Farm Workers (UFW)

- Erik Nicholson, Vice President, UFW (via phone)

• Comité de Apoyo a los Trabajadores Agrícolas (CATA)/The Farmworker Support Committee

- Nelson Carrasquillo, Director
- Manuel Guzman, Lead Organizer/Former Farmworker
- Marco Salerno, Research Coordinator

• Farmworker Association of Florida

- Tirso Moreno, Director
- Miguel Zelaya (farmworker)
- Selena Zelaya (farmworker)
- Ofelia Aguilar Anaya (farmworker)

• Farmworker Justice

- Virginia Ruiz, Director of Occupational and Environmental Health

• Lideres Campesinas

- Sorangel Tinajero, Líderes Campesinas (California)

• Labor Council for Latin American Advancement (LCLAA)

- Hector Sanchez, Exec. Director and Victor Baten, Policy Coordinator

• National Hispanic Medical Association (NHMA)

- Dr. Elena Rios, President

- John Aguilar, Program Officer

- Progressive Congress
  - Dr. Gabriela Lemus, Executive Director
  - Nathaniel Kinsey, Fellow

- Migrant Clinicians Network (MCN)
  - Rosemary K. Sokas, MD, MOH, Chair Elect

- Earthjustice
  - Trip Van Noppen, President
  - Martin Hayden, Vice President
  - Eve Gartner, Staff Attorney
  - Andrea Delgado, Legislative Representative
  - Kari Birdseye, Campaign Manager

- Toxic Free NC
  - Levy Schroeder, Executive Director

- United Auto Workers (UAW)
  - Sylvia Johnson, Assistant Director, Legislative Affairs Department, International Union, UAW
  - Andrew Comai, Industrial Hygienist, International Union, UAW (via phone)

Point of Contact for the Meeting:

•□□□□□□□□ Victor Baten, Ex. 6 - Personal Privacy vbaten@lclaa.org

•□□□□□□□□ Andrea Delgado, Ex. 6 - Personal Privacy adelgado@earthjustice.org

•□□□□□□□□ Virginia Ruiz, Ex. 6 - Personal Privacy ruiz@farmworkerjustice.org

Agenda Items (Note: Please be as specific as possible):

•□□□□□□□□ Introductions- everyone (5 mins)

•□□□□□□□□ Opening: Why we are here (5 mins)

•□□□□□□□□ Discussion: Proposed WPS revisions, progress and gaps (30 mins)

o Farmworkers and farmworker representatives discuss what is good and what is needed (15 minutes)

•□□□□□□□□ Update from EPA on revisions and timing of WPS (15 minutes)

•□□□□□□□□ Next steps and follow ups (5 minutes)

To: Teiada, Matthew[Teiada.Matthew@epa.gov]
Cc: Ex. 6 - Personal Privacy
From: Emma Cheuse
Sent: Wed 8/6/2014 2:39:47 PM
Subject: FW: Confirmed 8/7 at 5pm: Request for urgent air toxics meeting with Administrator McCarthy

Matt, here is a courtesy copy of the information regarding tomorrow's meeting. We hope that you or someone from your office will be able to join. Best regards, Emma

From: Atkinson, Emily [mailto:Atkinson.Emily@epa.gov]
Sent: Wednesday, August 06, 2014 10:00 AM
To: Emma Cheuse
Cc: john.coequyt@sierraclub.org; dcapjane@aol.com; awilson@cleanair.org; jwalke@nrdc.org; jsuttles@selcnc.org; mblake@selcnc.org; Martin Hayden; James Pew
Subject: Confirmed 8/7 at 5pm: Request for urgent air toxics meeting with Administrator McCarthy

Emma,

You are confirmed for a 45 minute meeting on Thursday, August 7 at 5:00pm with Janet McCabe. Call in details and directions to our office is outlined below.

Ex. 6 - Personal Privacy

Participant Code: Ex. 6 - Personal Privacy

Directions and procedures to 1200 Pennsylvania Avenue NW:

Metro: If you come by Metro get off at the Federal Triangle metro stop. Exit the metro station and go up two sets of escalators to the surface level and turn right. You will see a short staircase and wheelchair ramp leading to a set of glass doors with the EPA logo - that is the William Jefferson Clinton Federal Building, North Entrance.

Taxi: Direct the taxi to drop you off on 12th Street NW, between Constitution and Pennsylvania Avenues, at the elevator for the Federal Triangle metro stop - this is almost exactly half way between the two avenues on 12th Street NW. Facing the building with the EPA logo and American flags, walk toward the building and take the glass door on your right hand side with the escalators going down to the metro on your left – that is the North Lobby of the William Jefferson Clinton building.

Security Procedures: A government issued photo id is required to enter the building and it is suggested you arrive 15 minutes early in order to be cleared and arrive at the

meeting room on time. Upon entering the lobby, the meeting attendees will be asked to pass through security and provide a photo ID for entrance. Let the guards know that you were instructed to call 202-564-7400 for a security escort.

Please feel free to contact me should you need any additional information.

Emily Atkinson
Staff Assistant

Immediate Office of the Acting Assistant Administrator
Office of Air and Radiation, USEPA
Room 5406B, 1200 Pennsylvania Avenue NW
Washington, DC 20460
Voice: 202-564-1850
Email: atkinson.emily@epa.gov

From: Emma Cheuse [mailto:echeuse@earthjustice.org]
Sent: Tuesday, August 05, 2014 7:46 PM
To: Atkinson, Emily
Cc: john.coequyt@sierraclub.org; dcapjane@aol.com; awilson@cleanair.org; jwalke@nrdc.org; jsuttles@selcnc.org; mblake@selcnc.org; Martin Hayden; James Pew
Subject: RE: Request for urgent air toxics meeting with Administrator McCarthy

Ms. Atkinson,

Thank you very much for your note. Yes, we will be there.

We would be grateful if you could provide a conference call line, so I can give that to some people who will need to join by phone.

I am currently confirming who can attend in person, and who will join by phone, and will update you as soon as possible on our attendee list.

Best regards,

Emma

Emma Cheuse

Senior Associate Attorney

Earthjustice

1625 Massachusetts Avenue, N.W., Suite 702

Washington, DC 20036-2243

T: 202.745.5220 or 202.667.4500 Ext. 5220

F: 202.667.2356

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From: Atkinson, Emily [mailto:Atkinson.Emily@epa.gov]
Sent: Tuesday, August 05, 2014 2:31 PM
To: Emma Cheuse
Cc: john.coequyt@sierraclub.org; dcapjane@aol.com; awilson@cleanair.org; jwalke@nrdc.org; jsuttles@selcnc.org; mblake@selcnc.org; Martin Hayden; James Pew
Subject: FW: Request for urgent air toxics meeting with Administrator McCarthy

Hi Emma,

It looks like Janet McCabe is available to meet with you all for 30 minutes on Thursday, August 7 at 5:00pm. Please advise if this will work for you all.

Emily Atkinson
Staff Assistant

Immediate Office of the Acting Assistant Administrator
Office of Air and Radiation, USEPA
Room 5406B, 1200 Pennsylvania Avenue NW
Washington, DC 20460
Voice: 202-564-1850
Email: atkinson.emily@epa.gov

From: Koerber, Mike
Sent: Tuesday, August 05, 2014 2:07 PM
To: Atkinson, Emily
Cc: South, Peter
Subject: FW: Request for urgent air toxics meeting with Administrator McCarthy

Emily – As a followup to this exchange that Janet and Peter had last week, Peter is suggesting that we try to schedule this meeting for sometime this week, if possible (30-45 minutes). Invitees include:

EPA – Janet, Avi, Peter Tsirigotis, Steve Page, Steve Fruh, Patricia Embrey

Environmental Groups–

1. Sierra Club: TBD, but please email: John Coequyt, john.coequyt@sierraclub.org, and Jane Williams, dcapjane@aol.com (CA Communities Against Toxics).

2. Clean Air Council: Joe Minott or Augusta Wilson, awilson@cleanair.org;

3. Natural Resources Defense Council: John Walke, jwalke@nrdc.org;

4. Southern Environmental Law Center, on behalf of American Lung Association: John Suttles, jsuttles@selcnc.org, and Myra Blake, mblake@selcnc.org;

5. Earthjustice: Emma Cheuse <echeuse@earthjustice.org>, Martin Hayden (VP, Policy & Legislation), mhayden@earthjustice.org, and Jim Pew, jpew@earthjustice.org.

Thank you.

Mike

From: Emma Cheuse <echeuse@earthjustice.org>
Sent: Friday, July 25, 2014 2:16 PM
To: Mccarthy, Gina
Cc: McCabe, Janet; Tejada, Matthew; Tierney, Jan; Beauvais, Joel
Subject: Request for urgent air toxics meeting with Administrator McCarthy

Dear Administrator McCarthy,

As described in the attached letter from Earthjustice's President Trip Van Noppen, we would like to respectfully request a meeting as soon as possible to discuss an issue of great importance for the future success and impact of EPA's air toxics program under the Clean Air Act. This request is submitted on behalf of California Communities Against Toxics, Clean Air Council, Sierra Club, American Lung Association, and Southern Environmental Law Center.

We would be extremely grateful for your assistance in reviewing and addressing this urgent and important issue.

Thank you for your time and consideration.

Best regards,

Emma Cheuse

Cc: Ms. Janet McCabe, Assistant Administrator, Office of Air and Radiation;

Mr. Matthew Tejada, Director, Office of Environmental Justice;

Mr. Joel Beauvais, Associate Administrator, Office of Policy;

Ms. Jan Tierney, Office of General Counsel

Emma Cheuse

Senior Associate Attorney

Earthjustice

1625 Massachusetts Avenue, N.W., Suite 702

Washington, DC 20036-2243

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F: 202.667.2356

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To: Tejada, Matthew[Tejada.Matthew@epa.gov]
From: Stephanie Maddin
Sent: Wed 10/29/2014 6:18:18 PM
Subject: RE: EPA Climate Webinar for Communities

Great! Thanks.

From: Tejada, Matthew [mailto:Tejada.Matthew@epa.gov]
Sent: Wednesday, October 29, 2014 1:47 PM
To: Stephanie Maddin
Cc: Sarah Saylor; Wilson, Holly
Subject: Re: EPA Climate Webinar for Communities

Hey Steph! No I don't think so at all but am copying Holly Wilson from our air office who is in charge of coordinating.

Matthew S. Tejada

Director

EPA Office of Environmental Justice

(202) 564-8047

On Oct 29, 2014, at 1:42 PM, Stephanie Maddin <smaddin@earthjustice.org> wrote:

Hello Matt!

I hope this message finds you well. My colleague, Sarah Saylor (cc'ed), is registered to attend tomorrow's in-person meeting on the Clean Power Plan. We know that this meeting is designed for grassroots and community groups and wanted to check if her participation was a problem. We appreciate all you do!

Very best,

Stephanie Maddin

Legislative Counsel

Earthjustice D.C. Office

1625 Massachusetts Avenue NW

Suite 702

Washington DC, 20036

T: 202-745-5210

F: 202-667-2356

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facebook.com/earthjustice

twitter.com/earthjustice

<image001.gif>

Because the earth needs a good lawyer

To: Tejada, Matthew[Tejada.Matthew@epa.gov]
Cc: Sarah Saylor[ssaylor@earthjustice.org]
From: Stephanie Maddin
Sent: Wed 10/29/2014 5:41:57 PM
Subject: EPA Climate Webinar for Communities

Hello Matt!

I hope this message finds you well. My colleague, Sarah Saylor (cc'ed), is registered to attend tomorrow's in-person meeting on the Clean Power Plan. We know that this meeting is designed for grassroots and community groups and wanted to check if her participation was a problem. We appreciate all you do!

Very best,

Stephanie Maddin

Legislative Counsel

Earthjustice D.C. Office

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EARTHJUSTICE

Because the earth needs a good lawyer

To: Tejada, Matthew[Tejada.Matthew@epa.gov]
Cc: Cooper, Geoff[Cooper.Geoff@epa.gov]
From: Neil Gormley
Sent: Wed 12/3/2014 9:16:34 PM
Subject: RE: December 11, 2014: Climate Justice: Overburdened Communities, Climate Change, and EPA's Clean Power Plan
Revised Government Employee consent and release form.docx

Hey Matthew,

Good news: the DC Bar has given us the green light to use a version of the consent and release form reflecting all of your requested changes. Can you please fill out, sign, and return the attached?

Thanks,

neil

Neil Gormley

Associate Attorney

Earthjustice DC

1625 Massachusetts Ave., NW, Ste. 702

Washington, DC 20036

T: 202.797.5239

F: 202.667.2356

earthjustice.org

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From: Tejada, Matthew [mailto:Tejada.Matthew@epa.gov]
Sent: Monday, December 01, 2014 2:17 PM
To: Neil Gormley
Cc: Cooper, Geoff
Subject: RE: December 11, 2014: Climate Justice: Overburdened Communities, Climate Change, and EPA's Clean Power Plan

Hey Neil

Here are some changes I will need made to the pulled-back speaker form for the DC Bar before I can again sign and submit. If you have any questions, you can get in touch with Geoff Cooper, who is copied here.

Thanks,

Matthew

Paragraph 2 – delete "worldwide"

Paragraph 3 – delete the second sentence, or insert this sentence after it: "The previous sentence does not apply to Presentation Material that consists of work(s) of the U.S. Government."

Paragraph 7 – delete the heading "Warranties" and replace it with "Representations"; delete "and warrant" in the first sentence; insert a semi-colon after "before the date of the Session", then insert "or that (iii) the Distributed Material and the Presented Material are works of the U.S Government and not eligible for U.S. copyright protection."

Paragraph 8 – delete the whole paragraph. U.S. government employees violate the Anti-Deficiency Act by entering into most indemnity clauses.

Matthew Tejada

Director - Office of Environmental Justice

Environmental Protection Agency

202-564-8047

From: Neil Gormley [mailto:ngormley@earthjustice.org]
Sent: Tuesday, November 25, 2014 4:24 PM
To: Tejada, Matthew
Subject: RE: December 11, 2014: Climate Justice: Overburdened Communities, Climate Change, and EPA's Clean Power Plan

Ok, thanks Matt. I'll look out for it again. Happy Thanksgiving to you.

Neil Gormley

Associate Attorney

Earthjustice DC

1625 Massachusetts Ave., NW, Ste. 702

Washington, DC 20036

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From: Tejada, Matthew [mailto:Tejada.Matthew@epa.gov]
Sent: Tuesday, November 25, 2014 3:57 PM
To: Neil Gormley
Subject: Re: December 11, 2014: Climate Justice: Overburdened Communities, Climate Change, and EPA's Clean Power Plan

Hey Neil. I need to pull back the speaker sign off form that I sent to you last week. Should have run it trough our counsel here first. Will get back to you as soon as I have the word from them. Thanks. Have a happy thanksgiving. M

Matthew S. Tejada

Director

EPA Office of Environmental Justice

(202) 564-8047

On Nov 20, 2014, at 10:07 AM, Neil Gormley <ngormley@earthjustice.org> wrote:

Here are the event details. Please spread the word!

Neil Gormley

Associate Attorney

Earthjustice DC

1625 Massachusetts Ave., NW, Ste. 702

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From: D.C. Bar Sections [mailto:sectionsannouncement@dcbar.org]
Sent: Wednesday, November 12, 2014 5:10 PM
To: Neil Gormley
Subject: December 11, 2014: Climate Justice: Overburdened Communities, Climate Change, and EPA's Clean Power Plan

Climate Justice: Overburdened Communities, Climate Change, and EPA's Clean Power Plan

Join us for a fresh take on the most prominent environmental issue of our day, as our panel of environmental justice experts explore how climate issues disproportionately affect overburdened communities, and assess EPA's Clean Power Plan.

Thursday, December 11, 2014 from 12:30pm to 1:30pm

CLE Credit: No

Please visit us at www.dcbar.org/sections *for more information.*

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The District of Columbia Bar | 1101 K Street NW, Suite 200| Washington DC 20005 | 202-626-3463

PARTICIPANT RELEASE AND CONSENT FORM

All presenters, speakers, panelists, and other participants in _____ [the "Session"] must complete and sign this form and return it to The District of Columbia Bar ("D.C. Bar") with their submissions. Please note that if your presentation was prepared, or you are appearing as a speaker, panelist or discussant, within the scope of your employment as an employee of an organization other than the D.C. Bar, we will also need the written consent of your employer.

I, _____, agree to participate as a speaker/panelist/discussant if my submission is accepted for the Session. In consideration for the D.C. Bar's selecting me and allowing me to participate in this session, I hereby agree as follows:

1. **Presented Material**. I grant the D.C. Bar the nonexclusive rights (i) to record my presentation, statements or other materials presented at the Session (including statements made during discussions and in response to questions) (the "Presented Material") during its presentation by any means and to edit and modify the resulting recordings, and (ii) to reproduce, distribute, sell, transmit, display, and perform throughout the World the Presented Material and the recordings thereof, in whole or in part, in any medium now known or hereafter discovered, and to edit and make derivative works based on the Presented Material. I understand that if the D.C. Bar edits the Presented Material, it will make the edited version available for my review before distributing it as educational materials.

2. **Distributed Materials**. I grant the D.C. Bar the nonexclusive rights (i) to reproduce, transmit, display, and perform any previously published materials that I provide for distribution by the D.C. Bar at the Session (the "Distributed Materials"), in any medium now known or hereafter discovered, and to distribute and sell works that include such Distributed Materials in whole or in part, and (ii) to make derivative works from any Distributed Materials of which I am the copyright owner. I understand that Distributed Materials must receive approval by the D.C. Bar prior to distribution at the Session and may not include copies or order forms for books, promotions of other speaking engagements, information on consultant services, or other promotional items.

3. **Underlying Ideas.** I understand, and the D.C. Bar acknowledges, that I retain my rights in the original ideas and analyses reflected in the Presented Material and the Distributed Materials, and that I may freely discuss and develop them in other contexts. I further agree that if I use or present similar or related materials, I will not in any way designate them as, or indicate that they are or were, endorsed, sponsored, or approved by the D.C. Bar, or "from the D.C. Bar Session," or use other language or identifiers suggesting that they are associated with the D.C. Bar or the Session.

4. **Publicity.** I grant the D.C. Bar, its licensees and assigns the right to use my name, biographic material, voice, portrait, and likeness for the purpose of publicizing the Session and any Presented Material or Distributed Materials being used pursuant to the rights granted above.

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I HAVE READ AND AGREE TO THE FOREGOING TERMS AND CONDITIONS:

Signature: _____ Date: _____

Name (print): _____

Company: _____

Signature of Employer (if applicable): _____ Date: _____

Name and Title (print): _____

Company Address: _____

Telephone No.: _____ Facsimile No.: _____

To: Shine, Brenda[Shine.Brenda@epa.gov]; Tejada, Matthew[Tejada.Matthew@epa.gov]
From: Emma Cheuse
Sent: Wed 10/29/2014 3:54:41 AM
Subject: FW: Attention Docket ID Number EPA-HQ-OAR-2010-0682
01_Comments of Earthjustice and Environmental Integrity Project.pdf
02_Tables.pdf
03_Addendum A - Community Impact Report.pdf
04_Addendum B - NRDC Impacts of Unconventional Crude Oil on Refinery Emissions.pdf
05_Addendum C - Fox Report.pdf
06_Addendum C.Exh.1 - Fox Resume.pdf
07_Addendum C.Exh.2 - Fox HCN Emissions & SCR Cost Effectiveness.xlsx

I have attached a courtesy copy of our comments filed today. Best regards.

From: Albert Lin
Sent: Tuesday, October 28, 2014 11:22 PM
To: a-and-r-Docket@epa.gov; mccarthy.gina@epa.gov
Cc: Emma Cheuse; James Pew; Sparsh Khandeshi (skhandeshi@environmentalintegrity.org); eschaeffer@environmentalintegrity.org
Subject: Attention Docket ID Number EPA-HQ-OAR-2010-0682

October 28, 2014

Please accept the attached comments submitted via www.regulations.gov and via e-mail on:

Petroleum Refinery Sector Risk and Technology Review and New Source Performance Standards, Proposed Rule, 79 Fed. Reg. 36,880 (June 30, 2014), EPA Docket ID No. EPA-HQ-OAR-2010-0682.

These comments are submitted by Earthjustice on behalf of Air Alliance Houston, Apostolic Faith Center, California Communities Against Toxics, California Kids IAQ, Clean Air Council, Coalition for a Safe Environment, Community Dreams, Community In-Power and Development Association, Del Amo Action Committee, Environment Texas, Good Neighbor Steering Committee (Benicia), Louisiana Bucket Brigade, Louisiana Environmental Action Network, Lower Mississippi Riverkeeper, National Wildlife Federation, Natural Resources Defense Council, Sierra Club, Texas Environmental Justice Advocacy Services, Utah Physicians for a Healthy Environment, Environmental Integrity Project, and itself.

Additionally, Appendix Documents Accompanying the Comments were hand delivered to the Docket Center and received by a Lisa Medley.

/s/ Albert Lin (for Emma C. Cheuse)

Albert Lin

Litigation Assistant

Earthjustice Washington, D.C. Office

1625 Massachusetts Avenue, N.W., Suite 702

Washington, DC 20036-2243

T: 202.745.5219

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TABLES

Table	Item	Page
A	Emission Estimation Methods Used By Louisiana Refineries (2008)	**T-2**
B	Comparison of Industrial Wastewater Flow Factors, Benzene Concentrations, and HAP Concentrations from EPA's 1998 *Locating and Estimating Air Emissions from Sources of Benzene* and non-CBI data from the 2011 Petroleum Refinery ICR	**T-3**
C	Crosswalk of Process Unit Categorization From *Locating and Estimating Air Emissions from Sources of Benzene* and the 2011 Petroleum Refinery ICR	**T-4**
D	List of Flare Test Runs Complying with 40 C.F.R. § 60.18 and EPA's Data Quality Checks	**T-5**
E	Texas Refinery Flares with Gas Chromatography	**T-15**

ED_001369_00044319-00001

Table A: Emission Estimation Methods Used By Louisiana Refineries (2008)[1]

Calculation Method	Number of Instances of Reporting Benzene, Toluene, Xylene, and Total VOC Emissions (by Percent)
Emissions model	59%
EPA emission factors (e.g., AP-42)	19%
Engineering judgment	12%
Material balance	5%
Facility specific emission factor	2%
Direct measurement	1%
Stack test	1%
EPA published criteria	1%
Continuous emission monitors	0.3%
Manufacturer emission factor	0.3%
EPA speciation profile	0.2%
Vendor emission factor	0%
Total number of calculations	**1,197**

[1] Louisiana Department of Environmental Quality, 2008 Emission Inventory for Petroleum Refineries (Data on file with the Environmental Integrity Project).

ED_001369_00044319-00002

Table B: Comparison of Industrial Wastewater Flow Factors, Benzene Concentrations, and HAP Concentrations from EPA's 1998 *Locating and Estimating Air Emissions from Sources of Benzene* and non-CBI data from the 2011 Petroleum Refinery ICR.[2]

Process Unit	Average flow factor (gal/bbl)		Average Benzene Concentration (ppmw)		Average Volatile HAP Concentration (ppmw)	
	Locating and Estimating Air Emissions from Sources of Benzene	Calculated Flow Factor from 2011 Petroleum Refinery ICR	Locating and Estimating Air Emissions from Sources of Benzene	Calculated Concentration from 2011 Petroleum Refinery ICR	Locating and Estimating Air Emissions from Sources of Benzene	Calculated Concentration from 2011 Petroleum Refinery ICR
Crude distillation	2.9	4.51	21	613.55	140	432.34
Alkylation unit	6	4.21	3	439.74	6.9	7.55
Catalytic reforming	1.5	2.48	106	4,190.81	238	69.87
Hydrocracking unit	2.6	-	14	-	72	-
Hydrotreating/ hydrorefining	2.6	1.23	6.3	777.89	32	17.59
Catalytic cracking	2.4	3.50	13	637.23	165	77.49
Thermal cracking/coking	5.9	3.37	40	546.94	75	22.11
Thermal cracking/visbreaking	7.1	-	40	-	75	-
Hydrogen plant	80	2,866.02	62	173.44	278	47.71
Asphalt plant	8.6	4.87	40	6.26	75	-
Product blending	2.9	0.07	24	4,656.82	1,810	19.33
Sulfur plant	9.7	662.82	0.8	92.35	3.4	2.55
Vacuum distillation	3	1.22	12	310.28	53	51.53
Full range distillation	4.5	-	12	-	65	-
Isomerization	1.5	0.39	33	1,034.69	117	25.71
Polymerization	3.5	-	0.01	-	0.04	-
MEK dewaxing units	0.011	-	0.1	-	27	-
Lube oil/specialty processing unit	2.5	6.99	40	13.76	75	6.89
Tank drawdown	0.02	-	188	-	840	-

[2] The process unit categories between the *Locating and Estimating Air Emissions from Sources of Benzene and* the 2011 Petroleum Refinery ICR do not match perfectly. EIP matched up the slightly varying categories based on similarity and process knowledge. *See* Table C: Crosswalk of Process Unit Categorization From *Locating and Estimating Air Emissions from Sources of Benzene* and the 2011 Petroleum Refinery ICR.

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Table C: Crosswalk of Process Unit Categorization From *Locating and Estimating Air Emissions from Sources of Benzene* and the 2011 Petroleum Refinery ICR.

Locating and Estimating Air Emissions from Sources of Benzene - Table 6-10 Process Unit	ICR - Process Unit Type Description
Alkylation unit	H2SO4 alkylation
	HF alkylation
Aromatics production	Aromatics production
Asphalt plant	Asphalt production
Catalytic cracking	Fluid catalytic cracking unit
	Catalytic reforming unit – continuous regeneration
	Catalytic reforming unit – cyclic regeneration
	Catalytic reforming unit – semi-regenerative
Coke calcining	Coke calcining
Crude distillation	Atmospheric crude distillation
Ethylene production	Ethylene production
Fuel gas treatment	Fuel gas treatment
Fuels solvent deasphalting	Fuels solvent deasphalting
Gas plant/light ends distillation/LPG production unit	Gas plant/light ends distillation/LPG production unit
Hydrogen plant	Hydrogen plant
Hydrotreating/hydrorefining	Desulfurization/ hydrotreating – diesel
	Desulfurization/ hydrotreating – gasoline
	Desulfurization/ hydrotreating – heavy gas oil
	Desulfurization/ hydrotreating – kerosene/jet fuel
	Desulfurization/ hydrotreating – naphtha/reformer feed
	Desulfurization/ hydrotreating – other
	Desulfurization/ hydrotreating – other distillate
	Desulfurization/ hydrotreating – residual
Isomerization	Isomerization – Iso C5,C6
	Isomerization – Isobutane
Lube oil/specialty processing unit	Lubricants production
Other (specify)	Other (specify)
Other petrochemical or organic chemical production (specify chemical)	Other petrochemical or organic chemical production (specify chemical)
Oxygenate plant – MTBE	Oxygenate plant – MTBE
Petroleum coke storage	Petroleum coke storage
Product blending	Fuel blending
Product loading – Container/other loading	Product loading – Container/other loading
Product loading – Marine vessel loading	Product loading – Marine vessel loading
Product loading – Rail car loading	Product loading – Rail car loading
Product loading – Truck/tank truck loading	Product loading – Truck/tank truck loading
Propylene production	Propylene production
Sulfur plant	Sulfur recovery unit (SRU)
Thermal cracking/coking	Catalytic hydrocracking
	Delayed coking
	Flexicoking
	Fluid coking (traditional)
Vacuum distillation	Vacuum distillation
Wastewater collection and treatment system (WWTS)	Wastewater collection and treatment system (WWTS)

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Table D: List of Flare Test Runs Complying with 40 C.F.R. § 60.18 and EPA's Data Quality Checks

Test Site	Condition	Run
EPA-600/2-83-052	NA	1
EPA-600/2-83-052	NA	5
EPA-600/2-83-052	NA	17
EPA-600/2-83-052	NA	50
EPA-600/2-83-052	NA	51
EPA-600/2-83-052	NA	56
EPA-600/2-83-052	NA	61
EPA-600/2-83-052	NA	11a
EPA-600/2-83-052	NA	11b
EPA-600/2-83-052	NA	11c
EPA-600/2-83-052	NA	16a
EPA-600/2-83-052	NA	16b
EPA-600/2-85-106	NA	203
EPA-600/2-85-106	NA	205
EPA-600/2-85-106	NA	206
Flint Hills Resources (AU)	AU-A	2.0 (1)
Flint Hills Resources (AU)	AU-A	2.0 (2)
Flint Hills Resources (AU)	AU-A	3.0 (1)
Flint Hills Resources (AU)	AU-A	3.0 (2)
Flint Hills Resources (AU)	AU-A	4.0 (1)
Flint Hills Resources (AU)	AU-A	4.0 (2)
Flint Hills Resources (AU)	AU-A	4.0 (3)
Flint Hills Resources (AU)	AU-A	5.0 (1)
Flint Hills Resources (AU)	AU-A	5.0 (2)
Flint Hills Resources (AU)	AU-B	1.0 (1)
Flint Hills Resources (AU)	AU-B	1.0 (2)
Flint Hills Resources (AU)	AU-B	2.0 (1)
Flint Hills Resources (AU)	AU-B	2.0 (2)
Flint Hills Resources (AU)	AU-B	2.5 (1)
Flint Hills Resources (AU)	AU-B	2.5 (2)
Flint Hills Resources (AU)	AU-B	2.5 (3)
Flint Hills Resources (AU)	AU-B	3.5 (1)
Flint Hills Resources (AU)	AU-C	1.0 (1)
Flint Hills Resources (AU)	AU-C	1.0 (2)
Flint Hills Resources (AU)	AU-C	1.0 (3)
Flint Hills Resources (AU)	AU-C	1.0 (4)
Flint Hills Resources (AU)	AU-C	2.0 (1)

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Test Site	Condition	Run
Flint Hills Resources (AU)	AU-C	2.0 (2)
Flint Hills Resources (AU)	AU-C	3.0 (1)
Flint Hills Resources (AU)	AU-C	3.0 (2)
Flint Hills Resources (AU)	AU-C	3.7 (1)
Flint Hills Resources (AU)	AU-C	3.7 (2)
Flint Hills Resources (AU)	AU-D	2.0 (1)
Flint Hills Resources (AU)	AU-D	2.0 (2)
Flint Hills Resources (AU)	AU-D	3.0 (1)
Flint Hills Resources (AU)	AU-D	3.0 (2)
Flint Hills Resources (AU)	AU-D	4.0 (1)
Flint Hills Resources (AU)	AU-D	4.0 (2)
Flint Hills Resources (AU)	AU-D	4.0 (3)
Flint Hills Resources (AU)	AU-D	4.3 (1)
Flint Hills Resources (LOU)	LOU-A	2.0 (1)
Flint Hills Resources (LOU)	LOU-A	2.0 (2)
Flint Hills Resources (LOU)	LOU-A	2.0 (3)
Flint Hills Resources (LOU)	LOU-A	3.0 (1)
Flint Hills Resources (LOU)	LOU-A	3.0 (2)
Flint Hills Resources (LOU)	LOU-A	4.0 (1)
Flint Hills Resources (LOU)	LOU-A	4.0 (2)
Flint Hills Resources (LOU)	LOU-A	5.0 (1)
Flint Hills Resources (LOU)	LOU-A	5.0 (2)
Flint Hills Resources (LOU)	LOU-A	6.0 (1)
Flint Hills Resources (LOU)	LOU-A	6.0 (2)
Flint Hills Resources (LOU)	LOU-A	8.5 (1)
Flint Hills Resources (LOU)	LOU-A	MIN (1)
Flint Hills Resources (LOU)	LOU-A	MIN (2)
Flint Hills Resources (LOU)	LOU-A	MIN (3)
Flint Hills Resources (LOU)	LOU-B	1.0 (1)
Flint Hills Resources (LOU)	LOU-B	1.0 (2)
Flint Hills Resources (LOU)	LOU-B	2.0 (1)
Flint Hills Resources (LOU)	LOU-B	2.0 (2)
Flint Hills Resources (LOU)	LOU-B	3.0 (1)
Flint Hills Resources (LOU)	LOU-B	3.0 (2)
Flint Hills Resources (LOU)	LOU-B	4.0 (1)
Flint Hills Resources (LOU)	LOU-B	4.0 (2)
Flint Hills Resources (LOU)	LOU-B	5.0 (1)
Flint Hills Resources (LOU)	LOU-B	5.0 (2)
Flint Hills Resources (LOU)	LOU-B	5.7 (1)

ED_001369_00044319-00006

Test Site	Condition	Run
Flint Hills Resources (LOU)	LOU-B	5.7 (2)
Flint Hills Resources (LOU)	LOU-B	6.4 (2)
Flint Hills Resources (LOU)	LOU-C	1.0 (1)
Flint Hills Resources (LOU)	LOU-C	1.0 (2)
Flint Hills Resources (LOU)	LOU-C	2.0 (1)
Flint Hills Resources (LOU)	LOU-C	2.0 (2)
Flint Hills Resources (LOU)	LOU-C	3.0 (1)
Flint Hills Resources (LOU)	LOU-C	3.0 (2)
Flint Hills Resources (LOU)	LOU-C	4.0 (1)
Flint Hills Resources (LOU)	LOU-C	4.0 (2)
Flint Hills Resources (LOU)	LOU-C	5.0 (1)
Flint Hills Resources (LOU)	LOU-C	5.0 (2)
Flint Hills Resources (LOU)	LOU-C	5.5 (1)
Flint Hills Resources (LOU)	LOU-C	5.5 (2)
INEOS	NA	Run 1
INEOS	NA	Run 1A
INEOS	NA	Run 1B
INEOS	NA	Run 2
INEOS	NA	Run 3
INEOS	NA	Run 4
INEOS	NA	Run 5
INEOS	NA	Run 6
INEOS	NA	Run 7
INEOS	NA	Run 8
INEOS	NA	Run 9
INEOS	NA	Run 10
INEOS	NA	Run 11
INEOS	NA	Run 12
INEOS	NA	Run 13
INEOS	NA	Run 14
INEOS	NA	Run 15
INEOS	NA	Run 16
INEOS	NA	Run 17
INEOS	NA	Run 17A
INEOS	NA	Run 18
MPC Detroit	A	1-1
MPC Detroit	A	1-2
MPC Detroit	A	2-1
MPC Detroit	A	2-2

ED_001369_00044319-00007

Test Site	Condition	Run
MPC Detroit	A	3-1
MPC Detroit	A	3-2
MPC Detroit	A	4-1
MPC Detroit	A	4-2
MPC Detroit	A	5-1
MPC Detroit	A	6-2
MPC Detroit	A	7-1
MPC Detroit	A	8-1
MPC Detroit	A	8-3
MPC Detroit	A	9-1
MPC Detroit	A	9-3
MPC Detroit	B	1-1
MPC Detroit	B	2-1
MPC Detroit	B	2-2
MPC Detroit	B	3-1
MPC Detroit	B	3-2
MPC Detroit	B	4-1
MPC Detroit	B	4-2
MPC Detroit	B	6-1
MPC Detroit	B	6-2
MPC Detroit	B	8-1
MPC Detroit	B	8-2
MPC Detroit	C	1-2
MPC Detroit	C	2-1
MPC Detroit	C	2-2
MPC Detroit	C	3-1
MPC Detroit	C	3-2
MPC Detroit	C	4-1
MPC Detroit	C	4-2
MPC Detroit	C	5-1
MPC Detroit	C	5-2
MPC Detroit	D	2-1
MPC Detroit	D	3-1
MPC Detroit	D	4-1
MPC Detroit	D	5-1
MPC Detroit	D	6-1
MPC Detroit	D	7-1
MPC Detroit	D	8-1
MPC Detroit	D	9-1

ED_001369_00044319-00008

Test Site	Condition	Run
MPC Detroit	D	10-1
MPC Detroit	E	1-1
MPC Detroit	E	2-1
MPC Detroit	E	3-1
MPC Detroit	E	5-1
MPC Detroit	E	6-1
MPC Detroit	E	7-1
MPC Detroit	LTS	1
MPC Detroit	LTS	4
MPC Detroit	LTS	5
MPC Detroit	LTS	7
MPC Detroit	LTS	8
MPC TX	A11	2-1
MPC TX	A11	2-2
MPC TX	A11	3-1
MPC TX	A11	3-2
MPC TX	A11	4-1
MPC TX	A11	5-1
MPC TX	A11	6-1
MPC TX	A11	7-1
MPC TX	A11	8-1
MPC TX	A11	9-1
MPC TX	A11	10-1
MPC TX	A11	11-1
MPC TX	A11	12-1
MPC TX	A11	13-1
MPC TX	A19	4-1
MPC TX	A19	7-1
MPC TX	B	4-2
MPC TX	B	5-1
MPC TX	B	5-2
MPC TX	B	6-1
MPC TX	B	6-2
MPC TX	B	7-1
MPC TX	B	7-2
MPC TX	B	8-1
MPC TX	B	8-2
MPC TX	B	9-1
MPC TX	B	9-2

ED_001369_00044319-00009

Test Site	Condition	Run
MPC TX	B	10-2
MPC TX	C	3-1
MPC TX	C	3-2
MPC TX	D	4-1
MPC TX	D	4-2
MPC TX	D	7-2
MPC TX	E	3-1
MPC TX	E	3-3
MPC TX	E	4-1
MPC TX	E	4-3
MPC TX	E	5-1
MPC TX	E	5-2
MPC TX	LTS	2-2
MPC TX	LTS	2-3
MPC TX	LTS	2-4
MPC TX	LTS	2-5
MPC TX	LTS	2-6
Shell Deer Park (EPF)	A	4-13, 12:51-13:11
Shell Deer Park (EPF)	B	3-30, 10:40-11:30
Shell Deer Park (EPF)	B	3-30, 9:55-10:38
Shell Deer Park (EPF)	B	4/1 08:48- 09:16
Shell Deer Park (EPF)	B	4/1 09:17- 09:46
Shell Deer Park (EPF)	B	4-6, 10:00-10:16
Shell Deer Park (EPF)	B	4-6, 10:43-10:53
Shell Deer Park (EPF)	B	4-6, 11:16-11:24
Shell Deer Park (EPF)	B	4-6, 11:32-11:49
Shell Deer Park (EPF)	B	4-6, 11:50-11:58
Shell Deer Park (EPF)	B	4-6,10:17-10:42
Shell Deer Park (EPF)	C	3-22, 17:14-17:38
Shell Deer Park (EPF)	C	3-22, 17:39-19:16
Shell Deer Park (EPF)	C	3-22, 19:17-20:08
Shell Deer Park (EPF)	C	3-22, 20:09-20:39
Shell Deer Park (EPF)	C	3-24, 14:08-14:18
Shell Deer Park (EPF)	C	3-24, 14:26-14:35
Shell Deer Park (EPF)	C	3-24, 16:20-16:31
Shell Deer Park (EPF)	C	3-24, 16:41-16:52
Shell Deer Park (EPF)	C	3-24, 16:56-17:07
Shell Deer Park (EPF)	C	3-24.15:47-15:58
Shell Deer Park (EPF)	C	3-24.16:01-16:11

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Test Site	Condition	Run
Shell Deer Park (EPF)	C	3-25, 10:02-10:16
Shell Deer Park (EPF)	C	3-25, 10:20-10:32
Shell Deer Park (EPF)	C	3-25, 11:28-11:37
Shell Deer Park (EPF)	C	3-25, 15:55-16:16
TCEQ	S1.5	1
TCEQ	S1.6	1
TCEQ	S1.7	1
TCEQ	S1.8	1
TCEQ	S1.9	1
TCEQ	S10.1	1
TCEQ	S10.2	1
TCEQ	S10.3	1
TCEQ	S10.4	1
TCEQ	S11.1	1
TCEQ	S11.2	1
TCEQ	S11.3	1
TCEQ	S11.4	1
TCEQ	S12.1	Averages
TCEQ	S12.2	Averages
TCEQ	S12.3	Averages
TCEQ	S12.4	1
TCEQ	S13.1	1
TCEQ	S13.2	1
TCEQ	S13.3	1
TCEQ	S13.4	Averages
TCEQ	S13.5	1
TCEQ	S14.1	1
TCEQ	S14.4	1
TCEQ	S2.1	Averages
TCEQ	S2.2	Averages
TCEQ	S2.3	Averages
TCEQ	S3.1	1
TCEQ	S3.2	2
TCEQ	S3.5	Averages
TCEQ	S3.6	1
TCEQ	S3.7	1
TCEQ	S4.1	Averages
TCEQ	S4.10	1
TCEQ	S4.11	1

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Test Site	Condition	Run
TCEQ	S4.2	Averages
TCEQ	S4.3	Averages
TCEQ	S4.4	1
TCEQ	S4.5	1
TCEQ	S4.6	1
TCEQ	S4.7	1
TCEQ	S4.8	1
TCEQ	S4.9	1
TCEQ	S5.1	Averages
TCEQ	S5.2	1
TCEQ	S5.3	Averages
TCEQ	S5.4	Averages
TCEQ	S5.5	1
TCEQ	S5.6	Averages
TCEQ	S6.1	Averages
TCEQ	S6.2	Averages
TCEQ	S6.3	Averages
TCEQ	S6.4	Averages
TCEQ	S6.5	1
TCEQ	S6.6	1
TCEQ	S7.1	Averages
TCEQ	S7.2	Averages
TCEQ	S7.3	Averages
TCEQ	S7.4	1
TCEQ	S7.5	1
TCEQ	S7.6	1
TCEQ	S8.1	1
TCEQ	S8.2	1
TCEQ	S8.3	1
TCEQ	S8.4	1
TCEQ	S8.5	1
TCEQ	S9.1	1
TCEQ	S9.2	1
TCEQ	S9.3	1
TCEQ	S9.4	1
TCEQ	S9.5	1
TCEQ	A1.1	1
TCEQ	A2.1	Averages
TCEQ	A2.3	1

ED_001369_00044319-00012

Test Site	Condition	Run
TCEQ	A2.4	Averages
TCEQ	A2.5	Averages
TCEQ	A3.1	Averages
TCEQ	A3.2	Averages
TCEQ	A3.3	1
TCEQ	A3.4	Averages
TCEQ	A3.5	1
TCEQ	A3.6	1
TCEQ	A3.6	2
TCEQ	A3.6	3
TCEQ	A4.1	Averages
TCEQ	A4.2	1
TCEQ	A4.3	Averages
TCEQ	A4.4	Averages
TCEQ	A4.5	Averages
TCEQ	A4.6	1
TCEQ	A5.1	Averages
TCEQ	A5.2	1
TCEQ	A5.3	Averages
TCEQ	A5.4	1
TCEQ	A5.5	Averages
TCEQ	A6.1	Averages
TCEQ	A6.2	1
TCEQ	A6.3	Averages
TCEQ	A6.4	Averages
TCEQ	A6.5	1
TCEQ	A6.6	1
TCEQ	A7.1	Averages
TCEQ	A7.2	Averages
TCEQ	A7.3	Averages
TCEQ	A7.4	1
TCEQ	A7.5	1
EPA-600/2-85-106	NA	242
EPA-600/2-85-106	NA	243
EPA-600/2-85-106	NA	244
EPA-600/2-85-106	NA	245
EPA-600/2-85-106	NA	246
EPA-600/2-85-106	NA	247
EPA-600/2-85-106	NA	260

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Test Site	Condition	Run
EPA-600/2-85-106	NA	261
EPA-600/2-85-106	NA	262

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Table E: Texas Refinery Flares with Gas Chromatography[3]

RN	Refinery Name	Source Name
RN100250869	**Alon USA Big Spring Refinery**	South Side Flare
RN101619179	**Sweeny Refinery**	Expansion Low Pressure Flare 17
		Flare 11
		Flare 29
		High Pressure Flare 16
		Old Alky Flare
RN102457520	**Total Petro Chemicals & Refining USA Port Arthur Refinery**	North Flare
		South Flare
		Sulfur Recovery Tail Gas Thermal Oxidizer
RN102535077	**Blanchard Refining Company Galveston Bay Refinery**	CFHU Flare
		Flare 1
		Flare 2
		Flare 3
		Flare 6
		Flare 8
		RHU Flare
		Ultrackracker Flare (ULC Flare)

[3] Data is from the Texas Emission Event Inventory. Flares were identified as having gas chromatography when the facility reported that emissions were reported using a gas chromatograph.

ED_001369_00044319-00015

Impacts of Unconventional Crude Oil on Refinery Emissions: Excerpts from NRDC comments and expert reports on California Crude by Rail Projects

Unconventional crude oils including tar sands, oil shale and tight oil require new technology to access and often have properties that make them more difficult to refine.[1] Many unconventional or "extreme" crudes are associated with increased global warming pollution and environmental impacts. They can also create increased safety risks at refineries due to more corrosive properties and other parameters that vary widely from conventional crude oil.

Tar sands (also referred to as oil sands) are a combination of clay, sand, water, and **bitumen**, a heavy black viscous oil.[2] Tar sands crude oil is fundamentally different from conventional crude in several important ways. It is a solid mud- or coal-like consistency that needs to be treated with chemical solvents to flow like oil. Compared to conventional crude oil, tar sands-derived oils contain 11 times more sulfur, 5 times more lead, 11 times more nickel, 21 times more vanadium, and 102 times more copper.[3]

Given these unique properties, tar sands crude oil poses a number of additional environmental, health and safety risks relative to standard conventional crude oil:

Higher Risk of Refinery Accidents: Tar sands are more corrosive than conventional crude oil, because of higher sulfur levels and higher total acid content. The metallurgy in most refineries is not suited to handle more corrosive tar sands crude oil unless it has recently been upgraded. More corrosive crude oil increases the risk of refinery accidents, which not only pose safety threats to workers and communities but also raise potential for significant additional air emissions during upsets and accidents.

Increases in Air Pollution & Associated Health Impacts: The chemicals used to dilute and blend tar sands contain highly volatile organic chemicals, including

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[1] National Petroleum Council (NPC), Unconventional Oil Paper #1-6, Sep. 2011. http://www.npc.org/prudent_development-topic_papers/1-6_unconventional_oil_paper.pdf

[2] U.S. Department of the Interior, Bureau of Land Management (BLM), **Programmatic Environmental Impact Statement (PEIS)** for Oil Shale and Tar Sands resources on lands administered by the BLM in Colorado, Utah, and Wyoming. http://ostseis.anl.gov/guide/tarsands/
The largest deposits in the world are found in Canada (Alberta) and Venezuela, and much of the rest is found in various countries in the Middle East. In the U.S., there are some tar sands deposits, mainly in Utah, which is a much smaller reserve than in Canada.
The in-place tar sands oil resources in Utah are estimated at **12 to 19 billion barrels.**

[3] R.F. Meyer, E.D. Attanasi, and P.A. Freeman, Heavy Oil and Natural Bitumen Resources in Geological Basins of the World, U.S. Geological Survey Open-File Report 2007-1084, 2007, p. 14, Table 1, Available at http://pubs.usgs.gov/of/2007/1084/OF2007-1084v1.pdf.

extremely toxic volatiles such as benzene, at much higher concentrations than conventional crude oil. Tar sands also contain many toxic constituents including heavy metals, such as lead, at much higher concentrations than in conventional crude oil.[4] These heavy metals are released as fine soot pollution during refining. The much heavier, denser tar sands crude requires greater use of heaters, boilers, hydro-treating, coking, cracking and greater hydrogen use, all of which creates greater emissions of smog- and soot-forming pollutants and toxic chemicals.[5]

Irreversible Climate Damage: Carbon pollution from extracting and upgrading tar sands can be 3 to 5 times greater than for conventional crude oil. Over the course of production (well-to-tank), tar sands release 80% more global warming pollution than the U.S. average refined crude.[6, 7]

Other environmental & Community Impacts: Tar sands processing releases strong odors due to the higher levels of sulfur compounds, particularly noxious mercaptans. Refining tar sands also leads to roughly 50% more petroleum coke,[8] which is a hazardous by-product that in some cases is stored in open piles creating a serious health hazard.

Tight Oil is produced from low-permeability rock formations, like sandstone, typically requiring horizontal drilling and hydraulic fracturing ("fracking") technology to access.[9] The largest tight oil "play" (similar to "oil field" in conventional terms) is the Bakken, which yields light (high API), sweet (low sulfur) oil.[10] While **fracked Bakken crude** is not heavy or high in sulfur like other unconventional crude oils, it has some negative properties that impact refinery emissions, such as:

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[4] R.F. Meyer, E.D. Attanasi, and P.A. Freeman, Heavy Oil and Natural Bitumen Resources in Geological Basins of the World, U.S. Geological Survey Open-File Report 2007-1084, 2007, p. 14, Table 1; http://pubs.usgs.gov/of/2007/1084/OF2007-1084v1.pdf.

[5] Excerpt from Phyllis Fox Report to NRDC, July 1, 2013. Canadian tar sands bitumen is distinguished from conventional petroleum by the small concentration of low molecular weight hydrocarbons and the abundance of high molecular weight polymeric material, such as asphaltenes, some with molecular weights above 15,000. They generally have higher amounts of coke-forming precursors; larger amounts of contaminants (sulfur, nitrogen nickel, vanadium) that require more intense processing to remove; and are deficient in hydrogen, compared to other heavy crudes. Thus, to convert them into the same refined products requires more utilities -- electricity, water, heat, and hydrogen. This requires that more fuel be burned in most every fired source at the refinery and that more water be circulated in heat exchangers and cooling towers. Further, this requires more fuel to be burned in any supporting off-site facilities, such as power plants that may supply electricity or Steam-Methane Reforming Plants that may supply hydrogen. The increases in fuel consumption also releases increased amounts of NO_x, SO_2, VOCs, CO, PM10, PM2.5, and HAPs as well as greenhouse gas emissions (GHG).

[6] Richard K. Lattanzio, Congressional Research Service report: *Canadian Oil Sands: Life-Cycle Assessments of Greenhouse Gas Emissions*, March 10, 2014. This source also reports a 17% increase in GHGs from tar sands v. conventional crude over the lifecycle, including the use of the fuel in vehicles.

[7] Jessica P. Abella and Joule A. Bergerson, Model to Investigate Energy and Greenhouse Gas Emissions Implications of Refining Petroleum: Impacts of Crude Quality and Refinery Configuration *Environ. Sci. Technol.*, **2012**, *46* (24), pp 13037–13047 **DOI:** 10.1021/es3018682

[8] Lattanzio CRS Report, 2014.

[9] NPC, 2011.

[10] NPC, 2011. Note that the Bakken play spans North Dakota, Montana and parts of Canada. The Eagle Ford play in Texas is also under heavy production.

- Significant use of acids and drilling chemicals increasing corrosiveness of produced crude oil;
- Unusually high flashpoint and Reid Vapor Pressure making it volatile and dangerous to handle; and
- Reports of potentially high hydrogen sulfide (H2S) and benzene emissions during handling, potentially related to high volatility.

EPA completely neglects to consider the many serious impacts to refinery emissions from unconventional crude oil including tar sands and Bakken crude, both relatively new types of crude oil yet already in significant and increasing use at U.S. refineries. Unconventional crude oil refining is likely to significantly increase volatile HAPs as well as heavy metals, PAHs and other HAPs, resulting in significant health impacts to refinery fenceline communities.

1. Tar Sands Increase Refinery Emissions

The air quality impacts of refining dirtier crudes such as tar sands depends on the chemical and physical composition of the refinery slate with tar sands crude compared to the current slate.[11] The U.S. Geological Survey ("USGS"), for example, reported that "natural bitumen," the source of all Canadian tar sands-derived oils, contains 102 times more copper, 21 times more vanadium, 11 times more sulfur, six times more nitrogen, 11 times more nickel, and 5 times more lead than conventional heavy crude oil, such as those currently refined from Ecuador, Columbia, and Brazil.[12] These pollutants harm the health of workers and residents nearby.

Heavier Crudes Require More Downstream Processing

Canadian tar sands bitumen is distinguished from conventional petroleum by the small concentration of low molecular weight hydrocarbons and the abundance of high

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[11] Stratiev, D. and others, Evaluation of Crude Oil Quality, Petroleum & Coal, v. 52, no. 1, Table 1, 2010, Available at: http://www.vurup.sk/sites/vurup.sk/archivedsite/www.vurup.sk/pc/vol52_2010/issue1/pdf/pc_1_2010_stratiev_051.pdf; Brian Hitchon and R.H. Filby, Geochemical Studies - 1 Trace Elements in Alberta Crude Oils, http://www.ags.gov.ab.ca/publications/OFR/PDF/OFR_1983_02.PDF; F.S. Jacobs and R.H. Filby, Trace Element Composition of Athabasca Tar Sands and Extracted Bitumens, Atomic and Nuclear Methods in Fossil Energy Research, 1982, pp 49-59, available at http://link.springer.com/book/10.1007/978-1-4684-4133-8/page/1;James G. Speight, The Desulfurization of Heavy Oils and Residua, Marcel Dekker, Inc., 1981, Tables 1-1, 2-2, 2-3, 2-4 and p. 13 and James G. Speight, Synthetic Fuels Handbook: Properties, Process, and Performance, McGraw-Hill, 2008, Tables A.2, A.3, and A.4; Pat Swafford, Evaluating Canadian Crudes in US Gulf Coast Refineries, Crude Oil Quality Association Meeting, February 11, 2010, Available at: http://www.coqa-inc.org/20100211_Swafford_Crude_Evaluations.pdf.

[12] R.F. Meyer, E.D. Attanasi, and P.A. Freeman, Heavy Oil and Natural Bitumen Resources in Geological Basins of the World, U.S. Geological Survey Open-File Report 2007-1084, 2007, p. 14, Table 1, Available at http://pubs.usgs.gov/of/2007/1084/OF2007-1084v1.pdf.

molecular weight polymeric material.[13] Crudes derived from Canadian tar sands bitumen—DilBits, Synthetic crude oils (SCOs) and the combination of the two (SynBits)—are heavier, i.e., have larger, more complex molecules such as asphaltenes,[14] some with molecular weights above 15,000.[15] They generally have higher amounts of coke-forming precursors; larger amounts of contaminants (sulfur, nitrogen, nickel, vanadium) that require more intense processing to remove; and are deficient in hydrogen, compared to other heavy crudes.

Thus, to convert them into the same refined products requires more utilities—electricity, water, heat, and hydrogen. This requires that more fuel be burned in most every fired source at the refinery and that more water be circulated in heat exchangers and cooling towers. Further, this requires more fuel to be burned in any supporting off-site facilities, such as power plants that may supply electricity or Steam-Methane Reforming Plants that may supply hydrogen. The increases in fuel consumption also releases increased amounts of pollutants including HAPs.

Higher Concentrations of Asphaltenes and Resins

The severity (e.g., temperature, amount of catalyst, hydrogen) of hydrotreating crude oil in a refinery depends on the type of compound a contaminant is bound up in. Lower molecular weight compounds are easier to remove. The difficulty of removal increases in this order: paraffins, naphthenes, and aromatics.[16] Most of the contaminants of concern in tar sands crudes are bound up in high molecular weight aromatic compounds such as asphaltenes that are difficult to remove, meaning more heat, hydrogen, and catalyst are required to convert them to lower molecular weight blend stocks. Some tar sands-derived vacuum gas oils (VGOs), for example, contain no paraffins of any kind. All of the molecules are aromatics, naphthenes, or sulfur species that require large amounts of hydrogen to hydrotreat, compared to other heavy crudes.[17]

Asphaltenes and resins generally occur in tar sands bitumens in much higher amounts than in other heavy crudes. They are the nonvolatile fractions of petroleum

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[13] O.P. Strausz, The Chemistry of the Alberta Oil Sand Bitumen, Available at: http://web.anl.gov/PCS/acsfuel/preprint%20archive/Files/22_3_MONTREAL_06-77_0171.pdf

[14] Asphaltenes are nonvolatile fractions of petroleum that contain the highest proportions of heteroatoms, i.e., sulfur, nitrogen, oxygen. The asphaltene fraction is that portion of material that is precipitated when a large excess of a low-boiling liquid hydrocarbon such as pentane is added. They are dark brown to black amorphous solids that do not melt prior to decomposition and are soluble in benzene and aromatic naphthas.

[15] O.P. Strausz, The Chemistry of the Alberta Oil Sand Bitumen, Available at: http://web.anl.gov/PCS/acsfuel/preprint%20archive/Files/22_3_MONTREAL_06-77_0171.pdf

[16] James H. Gary, Glenn E. Handwerk, and Mark J. Kaiser, Petroleum Refining: Technology and Economics, 5th Ed., CRC Press, 2007, p. 200 and A.M. Aitani, Processes to Enhance Refinery-Hydrogen Production, Int. J. Hydrogen Energy, v. 21, no. 4, pp. 267-271, 1996.

[17] See the discussion of hydrotreating and hydrocracking of Athabasca tar sands cuts in. Gary R. Brierley, Visnja A. Gembicki, and Tim M. Cowan, Changing Refinery Configurations for Heavy and Synthetic Crude Processing, 2006, pp. 11-17. Available at: https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showPoup&documentId=%7BA07DE342-E9B1-402A-83F7-36B18DC3DD05%7D&documentTitle=5639138.

and contain the highest proportions of sulfur, nitrogen, and oxygen.[18] They have a marked effect on refining and result in the deposition of high amounts of coke during thermal processing in the coker. They also form layers of coke in hydrotreating reactors, requiring increased heat input, leading to localized or even general overheating and thus even more coke deposition. This seriously affects catalyst activity resulting in a marked decrease in the rate of desulfurization. They also require more intense processing in the coker required to break them down into lighter products. These factors require increases in steam and heat input, both of which generate combustion emissions that include HAPs.

Further, synthetic crudes that have previously been hydrotreated contain some remaining contaminants (e.g., sulfur, nitrogen) that are much more difficult to remove (due to their chemical form, buried in complex aromatics), requiring higher temperatures, more catalyst, and more hydrogen.[19]

The higher amounts of asphaltenes and resins generate more heavy feedstocks that require more severe processing than lighter feedstocks. The coker, for example, makes more coker distillate and gas oil that must be hydrotreated, compared to conventional heavy crudes. Similarly, the Crude Unit makes more atmospheric and vacuum gas oils that must be hydrotreated.[20] This increases emissions from these units, including fugitive VOC emissions from equipment leaks and combustion emissions from burning more fuel.

Hydrogen Deficient

Tar sands crudes are hydrogen deficient compared to heavy and conventional crude oils and thus require substantial hydrogen addition during refining, beyond that required to remove contaminants (sulfur, nitrogen, metals). This again means more combustion emissions from burning more fuel.

Higher Concentrations of Catalyst Contaminant

Tar sands bitumen contains about 1.5 times more sulfur, nitrogen, oxygen, nickel and vanadium than typical heavy crudes.[21] Thus, much more hydrogen per barrel of feed and higher temperatures would be required to remove the larger amounts of these chemicals. These impurities are removed by reacting hydrogen with the crude fractions over a fixed catalyst bed at elevated temperature. The oil feed is mixed with

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[18] James G. Speight, The Desulfurization of Heavy Oils and Residua, Marcel Dekker, Inc., 1981, Tables 1-1, 2-2, 2-3, 2-4 and p. 13 and James G. Speight, Synthetic Fuels Handbook: Properties, Process, and Performance, McGraw-Hill, 2008, Tables A.2, A.3, and A.4.

[19] Brierley et al. 2006, p. 8 ("The sulfur and nitrogen species left in the kerosene and diesel cuts are the most refractory, difficult-to-treat species that could not be removed in the upgrader's relatively high-pressure hydrotreaters."); Turini et al. 2011 p. 4.

[20] Turini et al. Processing Heavy Crudes in Existing Refineries, prepared for AIChE Spring Meeting, Chicago, IL 2011, p. 9.; available at: http://www.aiche-fpd.org/listing/112.pdf

[21] R.F. Meyer, E.D. Attanasi, and P.A. Freeman, Heavy Oil and Natural Bitumen Resources in Geological Basins of the World, U.S. Geological Survey Open-File Report 2007-1084, 2007, p. 14, Table 1, Available at http://pubs.usgs.gov/of/2007/1084/OF2007-1084v1.pdf.

substantial quantities of hydrogen either before or after it is preheated, generally to 500 F to 800 F.[22]

Canadian tar sands crudes generally have higher nitrogen content, 3,000 to > 6,000 ppm[23] and specifically higher organic nitrogen content, particularly in the naphtha range, than other heavy crudes.[24] This nitrogen is mostly bound up in complex aromatic compounds that require a lot of hydrogen to remove. This affects emissions in five ways.

First, additional hydrotreating is required to remove them, which increases hydrogen and energy input. Second, they deactivate the cracking catalysts, which requires more energy and hence more emissions to achieve the same end result. Third, they increase the nitrogen content of the fuel gas fired in combustion sources, which increases NO_x emissions from all fired sources that use refinery fuel gas. Fourth, nitrogen in tar sands crudes is present in higher molecular weight compounds than in other heavy crudes and thus requires more hydrogen and energy to remove. Fifth, some of this nitrogen will be converted to ammonia and other chemically bound nitrogen compounds, such as pyridines and pyrroles. These become part of the fuel gas and could increase NO_x from fired sources. They further may be routed to the flares, where they would increase NO_x emissions.

Increased Petroleum Coke By-Product.

Refining of tar sands increases petroleum coke production at and related coke dust fugitive emissions, leading to increased toxic air emissions. Lead, for example, can be present in very high concentrations in fugitive dusts from coke storage, handling, and export, especially when heavy sour crudes are being processed. In addition to lead, petroleum coke contains many other contaminants.[25] The California Air Resources Board has concluded there is no safe threshold level of exposure for lead; any amount poses significant health risks.

Increased Air Emissions from Diluent

When heavy crude oil such as tar sands is shipped by pipeline or rail, it needs to be diluted so that it will flow. The mixture of diluent and bitumen does not behave the same as a conventional crude, as the distribution of hydrocarbons is very different. The blended lighter diluent evaporates easily when exposed to ambient conditions, leaving behind the heavy ends, the vacuum gas oil (VGO) and residuum.[26] Thus, in a storage

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[22] James H. Gary, Glenn E. Handwerk, and Mark J. Kaiser, Petroleum Refining: Technology and Economics, 5th Ed., CRC Press, 2007, p. 200 and A.M. Aitani, Processes to Enhance Refinery-Hydrogen Production, Int. J. Hydrogen Energy, v. 21, no. 4, pp. 267-271, 1996.

[23] Murray R. Gray, Tutorial on Upgrading of Oil Sands Bitumen, University of Alberta, Available at: http://www.ualberta.ca/~gray/Links%20&%20Docs/Web%20Upgrading%20Tutorial.pdf.

[24] James G. Speight, Synthetic Fuels Handbook: Properties, Process, and Performance, McGraw-Hill, 2008, Appendix A.

[25] Material Safety Data Sheet for Petroleum Coke: http://www.tsocorp.com/stellent/groups/corpcomm/documents/tsocorp_documents/msdspetrocoke.pdf

[26] The residuum is the residue obtained from the oil after nondestructive distillation has removed all of the volatile materials. Residua are black, viscous materials. They may be liquid at room temperature

tank, the diluent can be rapidly evaporated and emitted through tank openings.

DilBits are sometimes referred to as "dumbell" or "barbell" crudes as the majority of the diluent is C_5 to C_{12} and the majority of the bitumen is C_{30}+ boiling range material, with very little in the more desirable middle range.[27] Thus, they yield very little middle distillate fuels, such as diesel, heating oil, kerosene, and jet fuel and much more coke, than other heavy crudes. A typical DilBit, for example, will have 15% to 20% by weight light material, basically the added diluent, 10% to 15% middle distillate, and the balance, >75% is heavy residual material (vacuum gas oil and residue) exiting the distillation column. These characteristics show major differences between DilBits and the typical conventional crudes that have long been refined in the U.S.[28]

The large amount of light material in DilBits is very volatile and can be emitted to the atmosphere from storage tanks and equipment leaks of fugitive components (pumps, compressors, valves, fittings) in much larger amounts than other conventional crudes. The diluent is a low molecular weight organic material with a high vapor pressure that contains high levels of HAPs. These would be emitted during unloading and present in emissions from storage and handling of the crude oil at a refinery until it is recovered and marketed, or at least between the desalter and downstream units where some of it is recovered. The presence of diluent would increase the vapor pressure of the crude, substantially increasing HAPs emissions from tanks and fugitive component leaks.

The composition of some typical diluents is reported on the website, crudemonitor.ca.[29] Crude Monitor information indicates that several different types of diluents contain very high concentrations, based on 5-year averages, of the hazardous air pollutants benzene (5,200 ppm to 9,800 ppm); toluene (10,300 ppm to 25,300 ppm); ethyl benzene (900 ppm to 2,900 ppm); and xylenes (4,600 ppm to 23,900 ppm).

The sum of these four compounds is known as "BTEX" or benzene-toluene-ethylbenzene-xylene. The BTEX in diluent ranges from 27,000 ppm to 60,900 ppm. The BTEX in DilBits ranges from 8,000 ppm, to 12,400 ppm.[30] Similarly, the BTEX in

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(from the atmospheric distillation tower) or almost solid (generally vacuum residua), depending upon the nature of the crude oil.

[27] Gary R. Brierley and others, Changing Refinery Configuration for Heavy and Synthetic Crude Processing, 2006, Available at: https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showPoup&documentId=%7BA07DE342-E9B1-402A-83F7-36B18DC3DD05%7D&documentTitle=5639138

[28] Stratiev and others, 2010, Table 1, compared to DilBit crude data on www.crudemonitor.ca.

[29] Condensate Blend (CRW) - http://www.crudemonitor.ca/condensate.php?acr=CRW; Fort Saskatchewan Condensate (CFT) - http://www.crudemonitor.ca/condensate.php?acr=CFT; Peace Condensate (CPR) - http://www.crudemonitor.ca/condensate.php?acr=CPR; Pembina Condensate (CPM) - http://www.crudemonitor.ca/condensate.php?acr=CPM; Rangeland Condensate (CRL) - http://www.crudemonitor.ca/condensate.php?acr=CRL; Southern Lights Diluent (SLD) - http://www.crudemonitor.ca/condensate.php?acr=SLD

[30] DilBits: Access Western Blend (AWB) -http://www.crudemonitor.ca/crude.php?acr=AWB; Borealis Heavy Blend (BHB) -http://www.crudemonitor.ca/crude.php?acr=BHB; Christina Dilbit Blend (CDB) - http://www.crudemonitor.ca/crude.php?acr=CDB; Cold Lake (CL) -

synthetic crude oils (SCOs) ranges from 6,100 ppm to 14,100 ppm.[31] These are unusually high concentrations relative to conventional crude oil that could result in significant worker and community public health impacts.

2. Bakken and Other Light Crudes Could Increase Refinery Emissions

Refinery emissions increases from Bakken and other unconventional light crude oils could be significant, due to greatly increased volatility, which can vary widely for "light sweet crudes". Processing in the oil fields, in particular, significantly affects volatility of shipped crudes, as discussed below. The amount of HAP emissions that will be emitted from refinery tanks, pumps, compressors, valves, and connectors is determined by the volatility of the crude oil and the concentration of HAPs within the crude.

Bakken crudes have unique chemical and physical characteristics that distinguish them from conventional crudes and that could result in significant increased risk of upset, air quality, odor, and public health impacts. These unique characteristics include high volatility, flammability, and elevated concentrations of HAPs. For example, Bakken crude can have an exceptionally high RVP of up to 15.5 psi.[32]

Bakken crudes, when blended with heavy crudes to stay within the refinery operating envelope, have resulted in many refinery operating issues that increase

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http://www.crudemonitor.ca/crude.php?acr=CL; Peace River Heavy (PH) - http://www.crudemonitor.ca/crude.php?acr=PH; Seal Heavy (SH) - http://www.crudemonitor.ca/crude.php?acr=SH; Statoil Cheecham Blend (SCB) - http://www.crudemonitor.ca/crude.php?acr=SCB; Wabasca Heavy (WH) - http://www.crudemonitor.ca/crude.php?acr=WH; Western Canadian Select (WCS) - http://www.crudemonitor.ca/crude.php?acr=WCS; Albian Heavy Synthetic (AHS) (DilSynBit) - http://www.crudemonitor.ca/crude.php?acr=AHS

[31] SCOs: CNRL Light Sweet Synthetic (CNS) -http://www.crudemonitor.ca/crude.php?acr=CNS; Husky Synthetic Blend (HSB) -http://www.crudemonitor.ca/crude.php?acr=HSB; Long Lake Light Synthetic (PSC) -http://www.crudemonitor.ca/crude.php?acr=PSC; Premium Albian Synthetic (PAS) - http://www.crudemonitor.ca/crude.php?acr=PAS; Shell Synthetic Light (SSX) - http://www.crudemonitor.ca/crude.php?acr=SSX; Suncor Synthetic A (OSA) - http://www.crudemonitor.ca/crude.php?acr=OSA; Syncrude Synthetic (SYN) - http://www.crudemonitor.ca/crude.php?acr=SYN

[32] ExxonMobil Refining and Supply Company, ANS11U, Available at: http://www.exxonmobil.com/crudeoil/about_crudes_ans.aspx and http://www.exxonmobil.com/crudeoil/download/ans11u.pdf.
Classification and Hazard Communication Provisions for Crude Oil – Bakken Crude Oil Data, June 13, 2014, Available at: http://www.unece.org/fileadmin/DAM/trans/doc/2014/dgac10c3/UN-SCETDG-45-INF26e.pdf; Dangerous Goods Transport Consulting, Inc., A Survey of Bakken Crude Oil Characteristics Assembled for the U.S. Department of Transportation, Submitted by American Fuel & Petrochemical Manufacturers, May 14, 2014, at 5, 19, Available for download from: https://www.afpm.org;
North Dakota Petroleum Council, Bakken Crude Quality Assurance Study, Available at: http://www.ndoil.org/image/cache/Summary_2.pdf.

emissions. These issues include fouling of the cold preheat train; desalter upsets; and fouling of hot preheater exchangers and furnaces; as well as corrosion.[33]

Increased Emissions from Storage Tanks and Loading Areas

Bakken crude significantly increases HAP emissions from storage tanks and unloading areas due to the much higher volatility of Bakken crudes. In particular, benzene levels in Bakken and other unconventional light crude oils can be many times higher than conventional crude, ranging from 0.02 wt.% to 7 wt.%.[34]

Further, EPA's TANKS 4.0.9d model (TANKS) omits a number of important fugitive sources. The TANKS model estimates only rim seal losses, withdrawal losses, deck fitting losses, and deck seam losses. It does not estimate other fugitive emissions from roof landing losses, inspection losses, or flashing losses.

Roof landing losses can occur when a tank is emptied, and there is a gap between the roof and the bottom of the tank. These losses are not accounted for in EPA's TANKS model, and EPA recommends that they be calculated separately. These evaporative roof landing losses could be substantially higher for Bakken crudes than for other types of crude. Bakken crudes leave waxy deposits in pipelines and tanks, which require more frequent cleaning,[35] and thus higher emissions, than the crudes they would replace. Roof landing losses, can be easily estimated and are routinely included in emission inventories.[36] They are required to be reported, for example, in Texas.[37]

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[33] Innovative Solutions for Processing Shale Oils, Hydrocarbon Processing, 7/10/2013, http://www.hydrocarbonprocessing.com/Article/3223989/Innovative-solutions-for-processing-shale-oils.html.

[34] www.crudemonitor.ca. Concentrations reported in volume % (v/v) in this source were converted to weight % by dividing by the ratio of compound density in kg/m^3 at 25 C (benzene =876.5 kg/m^3) to crude oil density in kg/m^3, based on the most recent sample, as of June 27, 2014.
TSBC 2013; Tesoro Savage, Application for Site Certification Agreement, vol. 2, Appendix G: Material Safety Data Sheets for Enbridge Bakken (n-hexane = 11%); sour heavy crude oil (benzene = 7%; toluene = 7%; ethylbenzene = 7%; xylene = 7%); sweet heavy crude oil (toluene = 7%); light sweet crude oil (benzene = 7%; toluene = 7%; ethylbenzene = 7%; xylene = 7%), August 29, 2013, Available at: http://www.efsec.wa.gov/Tesoro%20Savage/Application/EFSEC%202013-01%20Volume%20II%20-%20Appendices/EFSEC%202013-01%20Compiled%20Volume%20II.pdf.

[35] Innovative Solutions for Processing Shale Oils, Hydrocarbon Processing, 7/10/2013, Available at: http://www.hydrocarbonprocessing.com/Article/3223989/Innovative-solutions-for-processing-shale-oils.html.

[36] "How Can I Estimate Emissions from Degassing and Cleaning Operation During a Tank Turnaround? And How Can I Estimate Emissions from Roof Landing Losses in the TANKS Program:?", Available at: http://www.epa.gov/ttnchie1/faq/tanksfaq.html#13.

[37] Memorandum from Dan Eden, Deputy Director, Office of Permitting, Remediation, and Registration; David C. Schanbacher, Chief Engineer; and John Steib, Deputy Director, Office of Compliance and Enforcement, Re: Air Emissions During Tank Floating Roof Landings, December 5, 2006, Available at: http://www.tceq.state.tx.us/assets/public/permitting/air/memos/tank_landing_final.pdf.

Tank flashing emissions would increase emissions as well. Most Bakken crudes are transported raw, without stabilization. Unstabilized or "live" crude oils have high concentrations of volatile materials entrained in the bulk crude oil. Tank flashing emissions occur when these live crude oils, such as Bakken crudes, are exposed to temperature increases or pressure drops. In such circumstances, some of the compounds that are liquids at the initial pressure/temperature transform into gases and are released (or "flashed") from the liquid. These emissions are not estimated by the EPA TANKS model, but should be calculated separately using standard procedures. [38]

3. Accidental Releases

Many major refineries in the U.S. were built before current American Petroleum Institute (API) standards were developed to control corrosion and before piping manufacturers began producing carbon steel in compliance with current metallurgical codes. While some of the metallurgy has been updated as part of upgrades and maintenance over the years, much of the infrastructure still requires upgrades in the metallurgy in order to safely handle the unique chemical composition of unconventional crudes.

Both DilBit and SynBit crudes have high Total Acid Numbers (TAN), which indicates high organic acid content, typically naphthenic acids. These acids are known to cause corrosion at high temperatures, such as occur in many refining units, e.g., in the feed to cokers. Crude oils with a TAN number greater than 0.5 mg KOH/g[39] are generally considered to be potentially corrosive and indicative of a level of concern. A TAN number greater than 1.0 mg KOH/g is considered to be very high. Canadian tar sands crudes are high TAN crudes. The DilBits, for example, range from 0.98 to 2.42 mg KOH/g.[40]

Sulfidation corrosion from elevated concentrations of sulfur compounds in some of the heavier distillation cuts is also a major concern, especially in the vacuum distillation column, coker, and hydrotreater units. The specific suite of sulfur compounds may lead to increased corrosion.

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[38] *See, e.g.,* calculation methods at: Paul Peacock, Marathon, Bakken Oil Storage Tank Emission Models, March 23, 2010, Available at: file:///C:/Users/Phyllis/Downloads/Peacock_-_March_23_2010._ppt.pdf; TCEQ, Air Permit Reference Guide APDG 5941, Available at: http://www.tceq.texas.gov/assets/public/permitting/air/Guidance/NewSourceReview/guidance_flashemission.pdf; Kansas Dept. of Health & Environment, Available at: http://www.kdheks.gov/bar/download/Calculation_Flashing_Losses_Handout.pdf; B. Gidney and S. Pena, Upstream Oil and Gas Storage Tank Project Flash Emissions Models Evaluation, July 16, 2009, Available at: http://www.bdlaw.com/assets/htmldocuments/TCEQ%20Final%20Report%20Oil%20Gas%20Storage%20Tank%20Project.pdf.

[39] The Total Acid Number measures the composition of acids in a crude. The TAN value is measured as the number of milligrams (mg) of potassium hydroxide (KOH) needed to neutralize the acids in one gram of oil.

[40] www.crudemonitor.ca.

Refining unconventional crudes can increase the risk of significant accidental releases. The August 2012 fire at the Chevron Richmond Refinery, was attributed in part to a shift over time to much higher sulfur crude oil. [41, 42] This change increased corrosion rates in the 4-sidecut line, which led to a catastrophic pipe failure in the #4 Crude Unit on August 6, 2012. This release sent 15,000 people from the surrounding area for medical treatment due to the release and created huge black clouds of pollution billowing across the Bay. It also put workers at the unit in grave danger, with several narrowly escaping the gas cloud and inferno.

These types of accidents can be reasonably expected to result from incorporating tar sands and unconventional crudes into refineries, and should have been evaluated as part of this rulemaking. The gas oil and vacuum resid piping, for example, may not be able to withstand naphthenic acid or sulfidation corrosion from tar sands crudes, leading to catastrophic releases.[43] Catastrophic releases of air pollution from these types of accidents were not considered.

Refinery emissions released in upsets and malfunctions can, in some cases, be greater than total operational emissions recorded in formal inventories. For example, a recent investigation of 18 Texas oil refineries between 2003 and 2008 found that "upset events" were frequent, with some single upset events producing more toxic air pollution than what was reported to the federal Toxics Release Inventory database for the entire year.[44] These potential downstream emissions must be evaluated and addressed.

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[41] US Chemical Safety and Hazard Investigation Board, 2013, p.34 ("While Chevron stayed under its established crude unit design basis for total wt. % sulfur of the blended feed to the crude unit, the sulfur composition significantly increased over time. This increase in sulfur composition likely increased corrosion rates in the 4-sidecut line.").

[42] U.S. Chemical Safety and Hazard Investigation Board, Interim Investigation Report, Chevron Richmond Refinery Fire, Chevron Richmond Refinery, Richmond, California, August 6, 2012, Draft for Public Release, April 15, 2013, Available at; http://www.csb.gov/chevron-refinery-fire/.

[43] See, for example, Turini and others, 2011.

[44] J. Ozymy and M.L. Jarrell, Upset over Air Pollution: Analyzing Upset Event Emissions at Petroleum Refineries, Review of Policy Research, v. 28, no. 4, 2011.

ADDENDUM C:

REPORT ON

HYDROGEN CYANIDE EMISSIONS

FROM

FLUID CATALYTIC CRACKING UNITS

Prepared

for

Environmental Integrity Project

October 28, 2014

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I. INTRODUCTION AND SUMMARY

I have reviewed the portions of the "Petroleum Refinery Sector Risk and Technology Review and New Source Performance Standards" at 79 FR 36880 pertaining to hydrogen cyanide ("HCN") emissions from fluid catalytic cracking units ("FCCUs").[1] This rulemaking proposes revisions to the Refinery Maximum Achievable Control Technology ("MACT") 1 and 2 standards pursuant to Clean Air Act ("CAA" or "the Act") Section 112. The modifications do not include any emission standards for hydrogen cyanide, even though data from an information collection request ("ICR") by the U.S. Environmental Protection Agency ("EPA") demonstrated these emissions are at least ten times higher than previously believed. As discussed below, there is evidence that:

1. The EPA must set an emission limit specifically controlling and reducing HCN from FCCU vents to satisfy its legal duties in this rulemaking under both 42 U.S.C. § 7412(d) and 7412(f).
2. The EPA has no rational or lawful grounds to use carbon monoxide ("CO") as a surrogate to control HCN.
3. Selective catalytic reduction ("SCR") is a reasonable and cost-effective method for controlling HCN.
4. The EPA failed to review and consider other viable methods to control HCN and must do so to satisfy its legal obligations in this rulemaking.
5. The EPA underestimated both "actual" and "MACT-allowable" HCN emissions and thus resulting health risks.

My resume is included in Exhibit 1 to this Report. I have over 40 years of experience in the field of environmental engineering as it relates to air emissions from petroleum refineries and other emission sources. I have M.S. and Ph.D. degrees in environmental engineering from the University of California at Berkeley. I am a licensed professional engineer (chemical, environmental) in five states; a Board Certified Environmental Engineer, certified in Air Pollution Control by the American

[1] P.B. Venuto and E.T. Habib, Fluid Catalytic Cracking with Zeolite Catalysts, Marcel Dekker, Inc., New York, 1979; R. Sadeghbeigi, Fluid Catalytic Cracking Handbook: Design, Operation and Troubleshooting of FCC Facilities, 2nd Ed., 2000.

Academy of Environmental Engineers; and a Qualified Environmental Professional, certified by the Institute of Professional Environmental Practice.

II. THE EPA MUST SET AN EMISSION LIMIT FOR HYDROGEN CYANIDE AS REQUIRED BY THE CLEAN AIR ACT

On April 11, 2002, pursuant to Section 112 of the CAA, the EPA issued national emission standards to control hazardous air pollutants ("HAPs") emitted from catalytic cracking units, catalytic reforming units, and sulfur recovery units at petroleum refineries ("MACT-2"). 67 FR 17762. This rulemaking did not set any emission standards for nonmetallic inorganic HAPs such as HCN. 67 FR 17764.

In the current rulemaking, the EPA evaluated the health risks of HCN emissions. The EPA recognized that industry-reported HCN emissions are much higher than it had previously understood. The EPA estimated HCN emissions from existing FCCUs had a chronic non-cancer target organ-specific hazard index ("TOSHI") from inhalation exposure of 1 based on so-called "actual" HCN emissions.[2] 79 FR 36934, Table 10.

The EPA also reported a maximum TOSHI of 1 based on "MACT-allowable" emissions.[3] 79 FR 36934. *See* discussion of "actual" and "MACT-allowable" emissions in Section VI. The EPA recognizes that a TOSHI of 1 is significant. The EPA reviewed some developments in controls available for HCN as part of its § 7412(d)(6) review. 79 FR 36931, 36942.

The EPA postulated that HCN could be controlled by operating the regenerator at higher temperatures and excess oxygen (to limit the formation of HCN) or by combusting the exhaust gases using a thermal oxidizer. EPA assumed that both of these options would convert HCN into nitrogen oxides ("NOx"). Thus, EPA evaluated

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[2] EPA, Draft Residual Risk Assessment for the Petroleum Refining Source Sector ("Residual Risk Assessment"), May 2014, Table 3.2-1 and p. 38 ("The maximum chronic noncancer TOSHI value for the source category could be up to 0.9 driven by emissions of hydrogen cyanide from catalytic cracking unit vents."). http://www.epa.gov/airtoxics/petrefine/rtrassessment2014.pdf.

[3] Residual Risk Assessment, p. 38 ("Chronic noncancer risks from the MACT-allowable emissions are expected to remain at or below 1."). EPA also made some conflicting statements that suggested this number was lower. See also *id.* p. 9 ("Hydrogen cyanide is not projected to result in a hazard quotient exceeding 1 even with this factor of 10 increase in the hydrogen cyanide emission factor."); 79 FR 36939.

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SCR to control the resulting NOx emissions. 79 FR 36931, 36942. The EPA concluded that the cost-effectiveness of SCR ranged from about $9,000 to $13,000 per ton of HCN for three FCCUs that emitted the most HCN in ICR stack tests. Thus, the EPA concluded SCR was not cost-effective. 79 FR 36931, 36932. Further, the EPA assumed SCR would only reduce the HCN TOSHI (based on reported "actual" emissions) from 0.9 to 0.8. Thus, the EPA proposes to conclude that additional controls are not necessary to provide an ample margin of safety for HCN emissions from the FCCU. 79 FR 36942. The EPA also did not set any HCN emission limit, and proposed that no updates are needed to the CO standard (which the EPA proposes as a surrogate to control organic HAPs) for FCCU pursuant to § 7412(d)(6). 79 FR 36931.

However, EPA has never promulgated an emission standard for HCN emissions for the class of compounds to which HCN belongs (nonmetallic inorganic HAPs) from FCCUs. HCN was apparently not even considered in the MACT-2 rulemaking.[4] The MACT floor determination in the MACT-2 rulemaking characterized the HAPs from FCCU thus:

> CCU catalyst regeneration (CCUCR) vents emit a variety of HAP; these HAP can be broadly categorized into two groups: metallic HAP (*e.g.*, antimony, beryllium, mercury, and nickel) and organic HAP (*e.g.*, benzene, formaldehyde, hexane, and xylene)… These two HAP emission forms require significantly different control technologies. Therefore, the floor for CCU catalytic regeneration vent HAP emissions is being established for the broad classes of HAP that are grouped as either metallic HAP or organic HAP.[5]

While a CO limit was promulgated for FCCUs in MACT-2, this limit was aimed solely at organic HAPs. It did not address HCN or the class of compounds in which it occurs (nonmetallic inorganic HAPs). 67 FR 17762, 17764 ("The final rule includes emission limitations for HAP emissions of particulate metals and organic compounds

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[4] EPA, Petroleum Refineries – Background Information for Proposed Standards: Catalytic Cracking (Fluid and Other) Units, Catalytic Reforming Units, and Sulfur Recovery Units, Draft, EPA-453/R-98-003, June 1998.

[5] Memorandum from Jeff Coburn and Bob Zerbonia (RTI) to Bob Lucas (EPA), Re: MACT Floor Determination for Petroleum Refining Catalytic Cracking Units (CCU) Catalyst Regeneration Vent, November 7, 1997, pp. 2-3.

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from CCU"). The EPA only addressed inorganic HAPs from catalytic reforming units. *Id.* at 17765-66. However, HCN is not an organic HAP and is physically and chemically distinct.

In this rulemaking, the EPA is legally required to set a MACT floor and beyond-the-floor standard for HCN emissions. As there are over 100 existing FCCUs, the floor for existing sources "... shall not be less stringent, and may be more stringent than (A) the average emission limitation achieved by the best performing 12 percent of the existing sources (for which the Administrator has emissions information)." 42 USC 7412(d)(3).

A beyond-the-floor MACT analysis also should have been performed, which could have resulted in requirements more stringent than the MACT floor, determined such that:

> [T]he maximum degree of reduction in emissions of hazardous air pollutants (including a prohibition on such emissions, where achievable) that the permitting authority, taking into consideration the cost of achieving such emission reduction and any non-air quality health and environmental impacts and energy requirements, determines is achievable..."

See 42 U.S.C. § 7412(d)(2).

To reach that "maximum degree of emission reduction" requirement, the permitting agency must examine "methods, systems, and techniques" of HAP reduction, including, but not limited to, measures which:

(A) reduce the volume of, or eliminate emissions of, such pollutants through process changes, substitution of materials, or other modifications,

(B) enclose systems or processes to eliminate emissions,

(C) collect, capture or treat such pollutants when released from a process, stack, storage, or fugitive emissions point,

(D) are design, equipment, work practice, or operational standards (including requirements for operator training or certification),...

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(E) are a combination of the above.

42 U.S.C. § 7412(d)(2).

None of this was done for HCN. The HCN data compiled from the ICR and evaluated by the EPA to revise the HCN emission factor for the Compilation of Air Pollutant Emission Factors ("AP-42")[6] are summarized in Exhibit 2. These data include nine valid measurements of HCN at eight FCCUs.[7] The best performing 12 percent of these existing sources is the lowest source, which establishes the MACT floor for existing sources.

The lowest HCN emission level occurred at the Chevron Pascagoula Refinery, based on two source tests. This level was 0.6 parts per million ("ppm"), which corresponds to 0.45 lb/hr or 125 lb per million barrels ("lb/MMbbl") of FCCU feed. Exhibit 2, Tab: "Test Data". This establishes the MACT floor for new sources.

The EPA should perform a beyond-the-MACT floor analysis before promulgating the final rulemaking to determine whether it must set a stronger standard than 0.6 ppm, 0.45 lb/hr, or 125 lb/MMbbl, to assure the "maximum achievable degree of emission reduction" is met, as required by the Act.

III. CO IS NOT A REASONABLE SURROGATE FOR HCN

In this rulemaking, the EPA proposes to use the MACT-2 CO concentration limit of 500 parts per million by volume ("ppmv") to limit emissions of HCN. In other words, the EPA is proposing CO as a surrogate for HCN. The ICR data demonstrate that this CO standard, which has been in place since 1997, has not only not controlled HCN emissions, it has allowed them to increase substantially.

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[6] EPA, DRAFT Review of Emissions Test Reports for Emissions Factors Development for Flares and Certain Refinery Operations, 2014, pp. 15-16.

[7] The EPA reviewed, analyzed, and evaluated 14 HCN stack tests for 13 FCCUs. Some stack tests were excluded from EPA's HCN emission factor analysis because an inaccurate HCN test method was used (*e.g.*, CARB Method 426 and some CTM-033 tests) or production data were missing. *See* "QA Notes" in Excel Spreadsheet: Test_Data_Sum_HCN_FCCU_2014Aug; Available at: http://www.epa.gov/ttn/chief/ap42/ch05/index.html in zipped file: db05s01_8-19-14.

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III.A The EPA's Basis for Using CO as a Surrogate for HCN is Unsupported and Wrong

The basis for this choice is stated as: "the CO concentration limit was developed as an indicator of complete combustion for all oxidizable pollutants typically found in exhaust gas from the FCCU regenerator operated in partial burn mode." 79 FR 36931. However, a cursory review of the ICR data summarized in Exhibit 2 indicate that very high levels of HCN (*e.g.*, 105 ppm) are present when CO concentrations are very low (33 ppm), *i.e.*, CO levels indicative of complete combustion. Thus, the ICR data demonstrate that complete combustion does not destroy HCN.

The EPA assumes that oxidizable inorganic HAPS should behave in a similar fashion as organic HAPs based on the following two assertions, neither of which is supported by any analysis or data. 79 FR 36931. Both are wrong.

First, the EPA states that "HCN concentrations in FCCU regenerator exhaust with high CO levels also have high HCN concentrations." 79 FR 36931. The EPA points to no data to support this assertion. The ICR data indicate that this assertion is incorrect. In fact, the ICR data indicate that the opposite is true.

I compiled the ICR data for HCN, ammonia ("NH3"), NOx, and CO plus relevant regenerator operating variables from the stack tests. This data summary is attached to this Report in Exhibit 2, Tab: "Test Data". These data show that the regenerators with the highest CO levels have the lowest HCN levels, *i.e.*, there is an inverse relationship been HCN and CO. When CO (and organic HAPs) go down (an indicator of complete combustion), HCN goes up. This is demonstrated in Figure 1, which shows that when CO is reduced, HCN increases. This suggests that measures taken to control CO have had the unintended consequences of increasing HCN. Thus, a limit on CO cannot control HCN. A direct relationship with the surrogate parameter is required when a surrogate is used to control a pollutant. In other words, a decrease in the surrogate must result in a decrease in the regulated pollutant.

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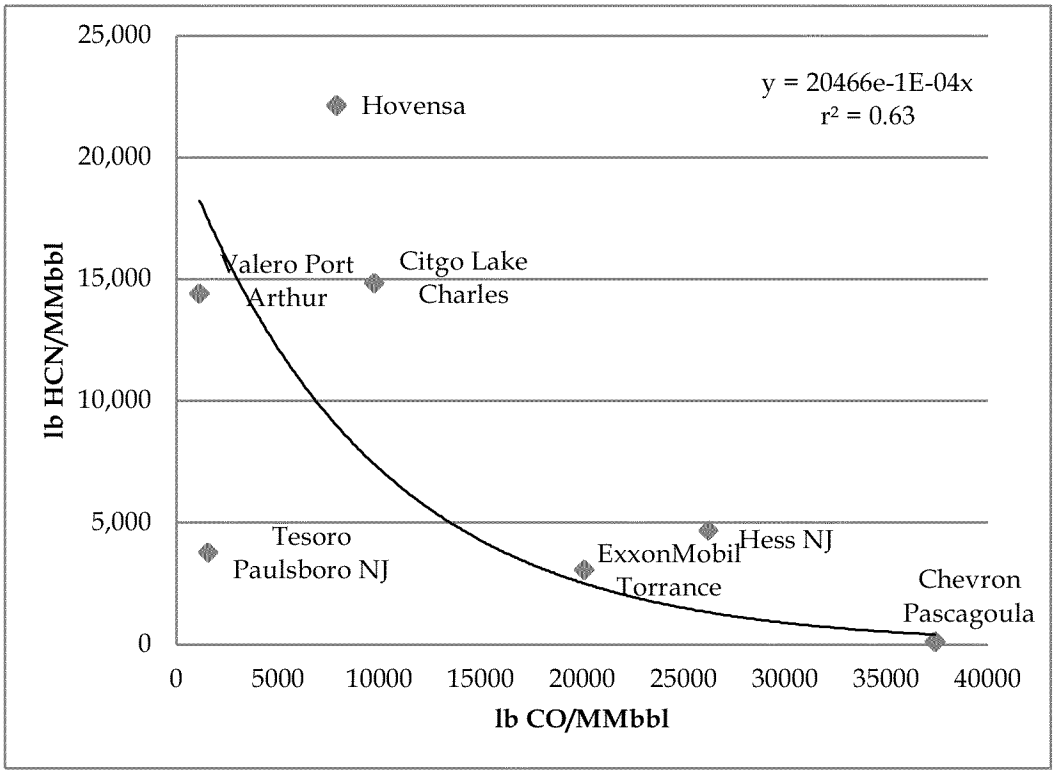
Figure 1
HCN vs. CO Emissions



Second, the rulemaking states that "HCN concentrations in the regenerator exhaust from complete-combustion FCCU (those meeting the 500 ppmv CO limit without the need for a post-combustion device) are much lower than those from partial burn FCCU [sic] prior to the post-combustion device [*e.g.*, CO boiler]." 79 FR 36931.

The EPA points to nothing to support this assertion. The ICR data do not contain a single HCN test from a partial burn FCCU prior to the post-combustion device. The record also does not contain any valid HCN stack tests at the exhaust of the partial burn post-combustion device. All of these tests were rejected as invalid because the test methods underestimated HCN. In fact, elsewhere, based on the same ICR test data, the EPA admits: "There is no data indicating that the CO2 [sic] boiler has a significant impact on the HCN emissions."[8] Thus, the EPA has no evidence to support part 2 of its basis for using CO as surrogate for HCN.

[8] EPA, August 2012, p. 16.

The 500 ppm CO limit was established as a surrogate for organic HAPs in the MACT-2 rulemaking. The reasoning used in that case was:

> "The organic HAP emissions from CCU are contained in the same exhaust gas stream from CCU catalyst regenerator as any CO, THC [total hydrocarbon] or VOC [volatile organic compound] emissions and all of these carbon based emissions are a result of incomplete combustion in the catalyst regeneration step. The control methods for these pollutant types, including organic HAP, are the same, *i.e.*, "complete combustion." The EPA has determined that for CCU, CO is a reasonable indicator of complete combustion."[9]

However, here, "complete combustion", defined in the MACT-2 rulemaking as 500 ppm CO, clearly does not control HCN. The data in Exhibit 2 indicate that very high HCN emissions are present at CO concentrations far below the CO limit of 500 ppm as summarized in Table 1. Hovensa, for example, had the highest measured HCN emissions of 105 pounds per hour ("lb/hr") (460 tons per year), but one of the lowest CO concentrations (33 ppm), far below the proposed CO limit of 500 ppm.

Table 1.
CO and HCN Measured in ICR Stack Tests
(Exhibit 2)

FCCU	CO (ppmvd)	HCN (lb/hr)
ExxonMobile	76	12
Hovensa	33	105
Valero Pt. Arthur	4	42
Citgo Lake Charles	57	32
Chevron Kapolei	61	5
Chevron Pascagoula	212	0.4

[9] EPA, Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units – Background Information for Promulgated Standards and Response to Comments, June 2001, p. 1-2. See also Memorandum from Jeff Coburn and Bob Zerbonia (RTI) to Bob Lucas (EPA), Re: MACT Floor Determination for Petroleum Refining Catalytic Cracking Units (CCU) Catalyst Regeneration Vent, November 7, 1997, pp. 2-3.

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The chemistry of HCN and other nitrogen compounds is distinguishable from the organic HAP compounds used to establish CO surrogacy. The HCN stack test data that EPA collected demonstrates an inverse relationship between CO and HCN (when CO goes down, indicating complete combustion, HCN goes up). Figure 1 and Table 1 show that the highest HCN concentrations coincide with the lowest CO concentrations, suggesting the best way to control HCN is to raise CO. This would increase organic HAPs that are directly related to CO, as the CO surrogate was designed to control them. Thus, controlling CO does not assure that HCN is controlled to an adequate degree. In fact, the proposed limit of 500 ppm would allow very high concentrations of HCN, much higher than the highest measured level of 105.1 lb/hr (22,143 lb/MMbbl) at the Hovensa full burn regenerator. See Figure 1 and Exhibit 2, Tab: "Test Data", Cells G19 and G22.

In fact, the proposed HCN-CO surrogacy does not meet any of the conditions the D.C. Circuit has recognized are required for surrogacy[10]: (1) HCN is not invariably present in the surrogate; (2) methods to control CO do not also indiscriminately capture HCN; and (3) control of CO is not the only means or even a good means by which facilities achieve reductions in HCN, because, in fact, control of CO actually <u>increases</u> HCN, as described herein.

III.B HCN Is Not Invariably Present With CO

In FCCU regenerators, HCN can be converted to ammonia (NH_3), nitrogen gas ("N_2"), and/or nitrous oxide ("N_2O").[11] Its recent appearance at high levels has been caused by changes in regenerator operating conditions to control CO and NOx. Thus, HCN is not invariably present with CO because under many regenerator operating conditions, it would not exist.

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[10] Sierra Club v. EPA, 353 F.3d 976, 984 (D.C. Cir. 2004) (quoting Nat'l Lime Ass'n, 233 F.3d at 639).

[11] S.A. Stevenson, R.F. Socha, and M. F. Mathias, Modeling of NOx Emissions from the Laboratory Regeneration of Spent Fluid Catalytic Cracking Catalyst, Ind. Eng. Chem. Res., v. 44, no. 9, 2005, pp. 2966-2974; E. Furimsky, A. Siukola, and A. Turenne, Effect of Temperature and O_2 Concentration on N-Containing Emissions during Oxidative Regeneration of Hydroprocessing Catalysts, Ind. Eng. Chem. Res., v. 35, 1996, pp. 4406-4411; X. Zhao, A.W. Peters, and G.W. Weatherbee, Nitrogen Chemistry and NOx Control in a Fluid Catalytic Cracking Regenerator, Ind. Eng. Chem. Res., v. 36, 1997, pp. 4535-4542.

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III.C CO Control Methods Do Not Indiscriminately Capture Both CO And HCN

Condition 2 requires that the control technology must indiscriminately capture both the surrogate and the target pollutant. However, Figure 1 indicates that methods that reduce CO (*i.e.*, capture it), increase HCN, the exact opposite of the Condition (2) test.

Further, the EPA only evaluated one control option, complete combustion. While theoretically, complete combustion converts CO and organic HAPs to carbon dioxide ("CO_2"), complete combustion of HCN creates NOx, which is a separate pollutant regulated under the Clean Air Act, or N_2. The NOx created by complete combustion must be removed to meet other regulatory requirements by a downstream pollution control device. The EPA evaluated SCR to remove the NOx. 79 FR 36931. Thus, the proposed control for HCN is combustion followed by an SCR. The SCR used to capture the HCN combustion byproduct, NOx, does not remove either CO or its combustion byproduct, CO_2.

Other methods can be used to control CO that do not control HCN. These include non-platinum based CO promoters. FCCU CO combustion promoter is added to full burn regenerators to help properly burn coke produced during cracking. Most coke combustion occurs in the FCC regenerator dense catalyst phase. However, sometimes there is not enough oxygen present and only partial combustion of the coke takes place there. The leftover coke is burned outside of the regenerator dense phase where there is usually no means to remove the heat, *i.e.*, no catalyst to soak it up, so the flue gas gets much hotter than the catalyst bed, causing catalyst sintering and damaging plant equipment. Combustion outside of the dense catalyst phase is called afterburn.[12] CO promoters are used to speed up the combustion of CO to CO_2, allowing it to take place in the dense bed, thus reducing afterburn.[13] Many of these CO promoters do not control HCN.

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[12] Memorandum from J. Coburn and B. Zerbonia, RTI, to Bob Lucas, EPA/OAQPS/WCPG, Re: MACT Floor Determination for Petroleum Refining Catalytic Cracking Units (CCU) Catalyst Regeneration Vent, November 7, 1997.

[13] G.W. Aru, FCC Additive Demonstrations: Part 2: An Overview of Additive Technology for Reducing SOx and NOx Emissions, and a Review of CO Combustion Promoter Technology and Performance at a Refinery, PTQ Q4, 2004, pp. 6-7, Available at:

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III.D Control of CO Is Not the Only Means to Control HCN

There are other methods that can be used to control HCN that do not also control CO. These were not evaluated by EPA. They are discussed below in Section V and fall into four broad classes: (1) reduce the nitrogen content entering the FCCU; (2) catalytic approaches to suppress HCN formation; and (3) stack gas cleanup methods downstream of the FCCU regenerator.

III.E Additional Problems with the EPA's Proposed HCN/CO Surrogacy Limit

As discussed above, CO is not a valid surrogate for HCN. However, even if it were, the limit of 500 ppm CO would be too high. The very fact that HCN emissions have soared while this limit was in place for many decades is sufficient evidence that it will do nothing further to reduce HCN.

This limit was established as the MACT floor in the MACT-2 rulemaking analysis many years ago. The rationale there was that the New Source Performance Standard ("NSPS") for CO was 500 ppm and "[i]nformation gathered by the EPA indicates that more that [sic] 12 percent of the existing CCU are currently subject to the petroleum refinery NSPS. The NSPS thus represents the average emission limitation achieved, in terms of a regulatory requirement, by the best performing 12 percent of existing sources."[14]

Much has changed since 500 ppm CO was established as the MACT floor for new and existing CCU regenerators in 1997. For example, the chemistry in the regenerator itself has changed due to the National Petroleum Refinery Initiative Consent Decrees to settle civil enforcement actions with the EPA.[15] These Consent Decrees required the implementation of hardware solutions, additive solutions, or a combination of both to

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http://www.digitalrefining.com/data/articles/file/667834210.pdf. *See* also: Mo et al., 2014; W.-C. Cheng, G. Kim, A.W. Peters, X. Zhao, K. Rajagopalan, M.S. Ziebarth and C.J. Pereira, Environmental Fluid Catalytic Cracking Technology, Catalysis Reviews: Science and Engineering, v. 40: 1-2, pp. 39-79, 1998, Sec. III.

[14] Coburn and Zerbonia 11/7/97, p. 4.

[15] EPA Enforcement: National Petroleum Refinery Initiative, Draft, February 11, 2011, Available at: http://www2.epa.gov/sites/production/files/documents/refineryinitiative-powerpoint021111.pdf; Petroleum Refinery National Case Results, Available at: http://www2.epa.gov/enforcement/petroleum-refinery-national-case-results.

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reduce CO, sulfur dioxide ("SO_2") and NOx emissions.[16] About 90% of the refining capacity is currently under lodged settlements.[17] These are developments the EPA must consider as part of this rulemaking. Thus, it is likely that the best performing 12 percent of existing sources is achieving much lower CO levels than 500 ppm. There are other problems with the proposed surrogacy.

First, the rulemaking does not disclose the HCN concentration assumed to be associated with a CO concentration of 500 ppm. Thus, there is no basis for concluding that the reported TOSHI for HCN of 1 is accurate.

Second, the CO surrogate limit for HCN does not distinguish between FCCUs processing light feeds and those processing heavier feeds. This distinction is important because FCCUs processing heavier feeds have higher nitrogen content and thus generate much more HCN. The HCN and other nitrogen compounds originate from nitrogen in the coke.

Third, the rulemaking is silent on the level of control that would be achieved by a 500 ppm CO surrogate. This level appears to correspond to no control, which is unlawful under the Act, as the ICR HCN test data summarized in Exhibit 2 indicate that the highest measured CO concentration is 211 ppm, less than half of the CO surrogate level of 500 ppm. The highest HCN emissions, 105 lb/hr, occurred at Hovensa, which had a CO concentration of 33 ppm. EPA variously reports this corresponds to a TOSHI of 0.9 to 1. 79 FR 36934, 36938, 36939. If the CO concentration decreased by as little as 20%, the TOSHI would increase to 1.1 to 1.2, which exceeds the significance threshold of 1. Thus, the proposed surrogacy with CO does not assure that HCN emissions will be controlled in a manner that will keep the TOSHI based on "actual" emissions (which themselves are underestimated), below EPA's significance threshold (which, regardless, is too high).

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[16] G.W. Aru, FCC Additive Demonstrations: Part 1, July 2004, Available at: http://www.digitalrefining.com/article/1000310,FCC_additive_demonstrations__Part_1.html#.VDQj4_1dWSo.

[17] EPA Enforcement, 2011. *See* also: http://www2.epa.gov/enforcement/petroleum-refinery-national-case-results.

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IV. SCR IS COST-EFFECTIVE FOR CONTROLLING HCN

The EPA concluded that to comply with an HCN emission limit, FCCUs would either have to be operated at slightly higher temperatures and excess oxygen concentrations or be combusted as in a thermal oxidizer to destroy HCN. These options were assumed by the EPA to convert HCN to NOx, thus requiring a post-combustion control device such as SCR to remove the NOx.

However, the regenerator operating conditions could be adjusted to convert HCN into N_2, rather than NOx. Nitrogen gas is not a regulated pollutant and would not require an SCR or other control.[18] The use of non-platinum CO promoters, for example, favor the conversion of fuel NOx to N_2.[19] While the ICR failed to request information on CO controls, in the U.S., platinum-based CO promoters have almost entirely been replaced by non-platinum promoters.[20] In other developments, Intercat is developing a new catalyst called "No NOx" that promotes the reaction of HCN to ammonia, which then reacts with NO to form N_2 and water, eliminating HCN without the need for a downstream SCR to remove NOx formed by combusting HCN.[21] The EPA should investigate the current status of "No NOx" and similar products offered by other catalyst vendors.

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[18] X. Mo, B. De Graaf, C. Radcliffe, and P. Diddams, HCN and NOx Control Strategies in the FCC, PTQ Q2 2014, Available at: http://www.digitalrefining.com/data/articles/file/1962015618.pdf; X. Mo, B. De Graff, M. Allahverdi, and P. Diddams, An Investigation on N Chemistry of FCC, 8th International Conference on Environmental Catalysis, August 24-27, 2014, Available at: http://www.icec2014.us/pdf/EC-P-59.pdf; J.–O. Barth, A. Jentys, and J.A. Lercher, Elementary Reactions and Intermediate Species Formed during the Oxidative Regeneration of Spent Fluid Catalytic Cracking Catalysts, Ind. Eng. Chem. Res., v. 43, 2004, pp. 3097-3104; S.A. Stevenson, R.F. Socha, and M.F. Mathias, Modeling of NOx Emissions from the Laboratory Regeneration of Spent Fluid Catalytic Cracking Catalyst, Ind. Eng. Chem. Res., v. 44, no. 9, 2005, pp. 2966-2974.

[19] Memorandum from J. Coburn, RTI, to B. Shine, EPA, Re: Meeting Minutes for October 10, 2012, Meeting Between the U.S. EPA and Representative from Johnson Matthey, October 12, 2012, p. 2 ("Non-Pt combustion promoters generally use palladium (Pd) and favor the conversion of fuel nitrogen (in the coke) to nitrogen (N2) rather than NOx) and Attachment 3, Presentation Slides, FCC Regenerator Nitrogen Chemistry, p. 6 ("In the absence of Pt-COP most of the N in coke is converted to N_2 rather than NOx.") and p. 24 (Pd favours Cyanide conversion to N_2"), p. 25 ("Pd favours pathways that **convert N-species to N_2**."); Memorandum from J. Coburn, RTI, to B. Shine, EPA, Re: Meeting Minutes for December 17, 2013, Meeting Between the U.S. EPA and Representative from Johnson Matthey Intercat Division, December 17, 2013, p. 2 ("The typical fate of nitrogen in an FCCU regenerator is as follows:…Non-Pt combustion promotor: 70 percent of nitrogen out as N_2; 30 percent out as NO.")

[20] Mo et al. HCN and NOx Control Strategies in the FCC, 2014, p. 4.

[21] 12/17/13 Coburn Memorandum, p. 2.

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The EPA evaluated what it describes as the cost-effectiveness of changing the regenerator parameters and adding an SCR at three FCCU units: Hovensa, Citgo Lake Charles, and Valero Port Arthur. 79 FR 36931. As explained in Section II, a MACT floor should have been established for HCN. The MACT floor is set based on the 12% best-performing sources, without consideration of cost. Thus, the cost analysis is irrelevant and may not be legally considered at the first standard-setting stage under § 7412(d)(3).

However, as the EPA may consider cost at the beyond-the-floor stage and has used this as an excuse not to set standards at all, it is important to point out that the cost analysis significantly overstates the actual cost of using SCR to control HCN emissions. The EPA's cost analysis is flawed and does not provide a reasonable basis not to set standards for HCN.

Supporting cost calculations were not provided in the preamble or anywhere in the record, but were explained to me in discussions and email correspondence with the EPA and its contractor (Brenda Shine, Eric Goehl, Jeff Coburn). The failure to provide this information in the record is a violation of notice and comment, as conversations and email alone are not enough to try to understand and evaluate complex cost analyses. I first verified the EPA's cost estimates at 79 FR 36931/32 using the explained method, as I understand it. My calculations are shown in Exhibit 2, Tab: "EPA Costs".

The EPA used the general methodology set out in the 2008 Coburn memorandum[22] to estimate the cost of controlling HCN from three FCCUs for which HCN source test data were available. The EPA's costs are based on the midpoint of costs for a 90% and 95% efficient SCR (Scenarios 3 and 4 in the 2008 Coburn memorandum).[23] The Coburn Table 3 costs calculated by EPA are summarized in an Excel spreadsheet.[24]

The Coburn Table 3 costs used by the EPA are based on the "modified or reconstructed" 150,000 standard cubic feet, dry ("dscfm") FCCU case. The EPA adjusted Table 3 costs to estimate total capital investment ("TCI") and annual operating

[22] Memorandum from Jeff Coburn, RTI, to Bob Lucas, EPA, Re: Documentation of Final NOx Control Cost Estimates, April 28, 2008.

[23] Coburn 4/28/2008, Table 3.

[24] Calculation_spreadsheet_for_NOx_emissions_from_Process_Heaters.

costs ("AOC") for three example FCCUs (Hovensa, Citgo Lake Charles, Valero Port Arthur) using Equations (1) and (2) of the 2008 Coburn memo. The regenerator flow rate was used to size the SCRs. The flow rate was estimated from the flow rate factor of 2.0 standard cubic feet per minute ("scfm") per barrel per calendar day ("bbl/cd")[25] and the design FCCU feed rate, as reported by Energy Information Agency ("EIA") in 2009.[26]

While the general approach, developed for generic FCCUs for a different rulemaking, might be considered a reasonable starting point, it is not accurate when applied to specific FCCU regenerators. Further, several errors and omissions occurred in the cost calculations that resulted in significantly overestimating the cost-effectiveness in dollars per ton to control HCN using SCR. These include:

(1) excluding most of the emissions that would be removed by the SCR;

(2) sizing the SCR using a flow rate estimated from a generic "flow rate factor" of 2 scfm per bbl/cd of FCCU throughput rather than actual flow rates measured in the source-specific ICR stack tests;

(3) using the wrong flow metric in the costing equations (scfm v. dscfm);

(4) assuming an SCR life of only 20 years when 30 years is standard for SCR;

(5) annualizing the costs assuming an interest rate of 7% when current guidance requires the use of 1.9%;

(6) assuming a catalyst life of only 2 years when 5 years is standard for FCCUs; and

(7) failing to consider reductions in cost from replacing existing NOx controls with SCR.

When these errors and omissions are corrected, the use of SCR to control HCN emissions from all three units is cost-effective. The next section discusses these

[25] EPA, Petroleum Refineries – Background Information for Proposed Standards: Catalytic Cracking (Fluid and Other) Units, Catalytic Reforming Units, and Sulfur Recovery Units, June 1998, Table 8-1, large FCCUs (>70,000 bbl/day) without a CO boiler: 140,000 scfm/70,000 bbl/day = 2.0 scfm/bbl/day).

[26] Coburn 4/28/2008, p. 4 and 10-14-14 Shine E-mail.

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errors/omissions and the following sections apply these corrections to each FCCU included in EPA's analysis.

In sum, the EPA significantly overstated the cost of using an SCR to control NOx generated from the combustion of HCN by failing to follow standard cost estimating methods for federal rulemakings.

IV.A Emission Reductions

The EPA calculates cost-effectiveness as the annual cost in dollars per year ("$/year") divided by the emission reductions in tons per year ("ton/year"). It is often reported as dollars per ton of pollutant removed ("$/ton"), but for hazardous air pollutants, which are present in smaller amounts than criteria pollutants, should also be considered in terms of dollars per pound of HAP removed ("$/lb"). The emission reductions used in EPA's calculations are based on 95% reduction of HCN by combusting it to NOx and controlling the resulting NOx with an SCR. The resulting NOx emission reductions were calculated assuming operation year round (8760 hours per year) from lb/hr of HCN measured in ICR stack tests. The calculation of emission reductions used to estimate cost-effectiveness by the EPA is thus:

HCN emission reduction = 0.95(lb/hr x 8760 hr/yr)/(2000 lb/ton)

An SCR is not normally designed to remove HCN itself, but rather NOx, its combustion byproduct (although some of the metals used in SCR catalyst are known to convert HCN to N_2O, N_2, and other nitrogen compounds).[27] An SCR will control all NOx that enters it, not just the NOx from combusting HCN. There are three sources of NOx: (1) starting NOx; (2) HCN-NOx; and (3) NH_3-NOx. When a pollution control device controls multiple pollutants, as here, cost-effectiveness is calculated by dividing annual costs by the sum of all pollutants removed.[28] The EPA's calculations only narrowly considered HCN.

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[27] Kröcher and M. Elsener, Hydrolysis and Oxidation of Gaseous HCN Over Heterogeneous Catalysts, Applied Catalysis B: Environmental, v. 92, 2009, pp. 75-89.

[28] Letter from Brian L. Beals, Chief Preconstruction/HAP Section, EPA Air and Radiation Technology Branch, to Edward Cutrer, Jr., Program Manager, Georgia Department of Natural Resources, March 24, 1997 (Responding to a question by Georgia permitting authorities of how to account for a control device that reduces both VOC and CO, EPA agreed with the Georgia agency's interpretation that the cost

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Some NOx is present in the regenerator gases before operating parameters are adjusted. This is "starting" NOx. Increasing the temperature and oxygen content of the regenerator as proposed in the EPA's scenario will create more NOx by converting HCN and other reduced nitrogen compounds, principally NH_3, into NOx. These three sources of NOx must be summed to estimate emission reductions when calculating the cost-effectiveness of an SCR. The EPA did not include any of them, but rather only HCN itself.

First, the SCR does not remove HCN, but rather NOx. The EPA assumed that increasing the regenerator temperature and oxygen content converts the HCN to NOx, ergo the need for an SCR. Thus, the EPA should have estimated the NOx equivalents from combusting HCN to NOx. The literature indicates that modifications to the regenerator (including temperature and oxygen) can convert essentially all of the HCN into NO. [29] Thus, 1 mole of HCN yields 1.11 moles of NO.[30]

Second, the SCR does not selectively remove just the NOx generated from combusting HCN, but rather all of the NOx that enters the SCR. This includes NOx present in the flue gas before regenerator operating conditions are modified plus NOx generated by combusting other reduced nitrogen compounds, principally NH_3. The combustion of 1 mole of NH_3 yields 1.76 moles of NO.[31]

Thus, the total emissions presented to the SCR is the sum of NOx present in the untreated flue gas plus the NOx equivalents of HCN plus the NOx equivalents of NH_3, where NOx is predominately NO. The EPA assumed a control efficiency of 95%. Thus, total emission reductions should have been calculated thus:

Emission reduction = 0.95(NOx + HCN NOx + NH_3 NOx)

In sum, EPA underestimated the NOx emissions that would be removed by the SCR and thus overestimated the cost per ton of pollutants removed.

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effectiveness should be calculated by "dividing the annualized cost of the control device by the total of the CO and VOC emissions reduced by said device.")

[29] X. Mo, B. De Graaf, and P. Diddams, HCN Emissions in Fluid Catalytic Cracking, Petroleum Technology Quarterly, Q2 2013.

[30] The NOx equivalents of HCN: 30/27 = 1.11.

[31] The NOx equivalents of NH3: 30/17 = 1.76.

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IV.B Sizing the SCR Using FCCU Regenerator Exhaust Gas Flow Rate

The EPA used the FCCU regenerator exhaust gas flow rate to size the SCRs.[32] The flow rate for complete burn regenerators (all cases were full burn) was estimated from a "flow rate factor" of 2.0 standard cubic feet per minute ("scfm") per barrel per calendar day ("bbl/cd") of FCCU throughput[33] multiplied by the FCCU capacity as reported by the EIA for 2009. This flow rate was used in equations (1) and (2) in the 2008 Coburn memo. It was calculated thus:

Flow rate = 2.0 scfm per bbl/cd × FCCU capacity in bbl/cd.

This flow factor is for a generic "large" (70,000 bbl/day) FCCU without a CO boiler and a vent flow rate of 140,000 scfm. [34] There are two issues with EPA's use of this factor.

First, the 2.0 scfm per bbl/cd is expressed in standard cubic feet per minute,[35] which includes moisture in the flue gas. The SCR costing equations that use this factor are based on **dry** standard cubic feet per minute,[36] which is typically 30% smaller as most of the FCCU regenerators exhaust to wet scrubbers which add moisture to the flue gas. The ratio of wet to dry scfm flue gas from six FCCUs as reported in the HCN stack tests ranged from 1.2 to 1.4.[37]

The use of wet flow rates overestimates SCR costs. While the SCR will be located at the exit of the regenerator, before the scrubber where the moisture content is lower, the equations relied on by the EPA to estimate SCR costs are based on dry flow rates. Dry flow rates were reported in all of the ICR stack tests used to estimate HCN emissions. Thus, there is no reason to use a generic flow factor (2.0 scfm per bbl/cd) based on wet flow rates to estimate unit-specific dry flow rates to size the SCR. FCCU-specific dry flow rate data were available and should have been used.

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[32] Coburn 4/28/08, p. 7, Eqns. 1 & 2.

[33] Coburn 4/28/08, p. 4.

[34] EPA June 1998: 140,000 scfm per 70,000 bbl/day = 2.0 scfm per bbl/day.

[35] Coburn 4/28/08, p. 4.

[36] MACTEC 2005, Table 3.1.

[37] Ratio of wet to dry flue gas flow rate calculated from HCN stack tests: Hovensa = 1.25; Hess New Jersey = 1.24; Valero New Jersey=1.33; BP Whiting = 1.19; Marathon Robinson = 1.36; Valero Port Arthur = 1.26.

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Second, it is unnecessary to use the 2.0 scfm per bbl/cd generic parameter for the three SCRs that were costed as the source tests that measured HCN emission also reported the actual measured flow rate during the HCN tests. These measured values can be used to estimate the design flow rate in the correct dry flow units unique to each FCCU.

Thus, EPA overestimated cost per ton by using a generic flow factor based on wet flue gas in an equation based on dry flue gas. My revised costs are based on flow rates calculated from unit-specific flow factors calculated from each stack test times the FCCU capacity as reported by the EIA in 2009. In other words, my calculations are specific to each unit in dscfm as measured in the source test, not a 1998 generic flow factor in the wrong units.

IV.C Annual Operating Costs

The EPA estimated annual operating costs from Equation (2) of the 2008 Coburn memorandum. These costs are calculated from the sum of variable annual operating costs (AOC variable = electricity, catalyst replacement cost, taxes and insurance) plus fixed operation costs (AOC fixed = labor and maintenance) from this equation:

AOC = AOC fixed + AOC variable (flow rate/150,000)

The 2008 Coburn memorandum states "labor and maintenance cost… were assumed to be independent of unit size" while variable operating costs "were assumed to be proportional to the model unit flow rate." This is reflected in the above equation. However, in its calculations in the rulemaking, the EPA increased both fixed and variable operational costs in proportion to the model unit flow rate. This is inconsistent with the 2008 Coburn memorandum methodology. Further, labor and maintenance costs in fact do not vary with the size of the unit within the range of unit sizes evaluated in the rulemaking.

In sum, the EPA misapplied the equation for annual operating costs by increasing fixed annual costs in proportion to the flow rate. This overestimates the cost per ton of pollutants removed. Thus, in my revised calculations, I used Equation (2) from the 2008 Coburn memorandum.

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IV.D Catalyst Cost

The cost to replace the catalyst was estimated assuming a catalyst life of 2 years, annualized using an interest rate of 7%.[38] This resulted in a cost of $389,930/year.[39] As explained elsewhere, this overestimates annual cost as the social rate of interest should be used, which is 1.9%. Further, much longer catalyst guarantees can be obtained, up to at least 5 years.[40] In fact, the 2008 Coburn memorandum, page 7, notes that a 5-year catalyst lifetime was included in the proposal used to support SCR costs. A 5-year catalyst lifetime is more practical for an FCCU as they operate continuously for up to 5 years between shutdowns,[41] unlike other sources that have more frequent shutdowns. Thus, a 2-year catalyst life is not practical for an FCCU.

In sum, the EPA's cost estimate was based on an unrealistic catalyst changeout scenario and outdated interest rate, which overestimated the cost per ton. These two factors would reduce annual catalyst replacement costs from $389,930/year to $149,138/year. I reduced the variable annual operating cost reported in the 2008 Coburn memorandum, Table 3 by $240,792 ($389,930 - $149,138 = $240,792) to account for these changes.

IV.E Capital Recovery Factor

The EPA Cost Control Manual[42] requires the use of a capital recovery factor ("CRF"), calculated from the social rate of interest and the expected equipment lifetime to annualize capital costs.[43] The EPA used the capital recovery factor method of annualizing costs[44] but used incorrect input values. The EPA's cost calculations are based on an SCR lifetime of 20 years and an interest rate of 7%. Both of these choices

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[38] Calculation_Spreadsheet_for_NOx_Emissions_from_FCCU.

[39] Calculation_Spreadsheet_for_NOx_Emissions_from_FCCU, Cell K32.

[40] S Ahmad, P.I. Lindenhoff, and J.D. Slaughter, Experience with Design Installation and Operation of a SCR Unit after a FCCU, NPRA Annual Meeting, March 13-15, 2005, p. 1.

[41] *See*, for example, P. Brook, B. Hagger, and J. Wood, Removal of NOx from FCCU Regenerator Vent Gases, PTQ Q2, 1997, p. 1; Ahmad et al. 2005, p. 1.

[42] EPA Air Pollution Control Cost Manual, 6th Ed., Report EPA/452/B-02-001, January 2002, Available at: http://www.epa.gov/ttncatc1/dir1/c_allchs.pdf.

[43] Cost Control Manual, Chapter 2 at 2-12 to 2-13.

[44] Calculation_spreadsheet_for_NOx_emissions_from_Process_Heaters.

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make SCR look less cost-effective than it actually is. The recent decision in *Oklahoma v. EPA*, 723 F.3d 1201, 1208 (10th Cir. 2013) upheld the method set out here for cost-effectiveness analyses performed in support of federal rulemaking.

IV.E.1 SCR Lifetime

The lifetime used to calculate the capital recovery factor is the actual (or anticipated) service life of the equipment. The lifetime is important because the shorter the lifetime, the higher the capital recovery factor and the higher the annual capital cost used to determine cost-effectiveness. The lifetime of an SCR, which is a metal frame packed with catalyst modules and duct work to carry the flue gas, is equal to the lifetime of the equipment that it serves, which might easily be over 60 years. The catalyst itself is changed out periodically and does not affect the SCR lifetime. The EPA used an SCR lifetime of only 20 years[45] to estimate the capital recovery factor. SCRs are typically designed for a lifetime of 30 years for much more severe applications than FCCU regenerator flue gas.

The EPA developed costs for FCCUs based on costs for a 150,000 scfm gas-fired process heater.[46] SCRs have been in continuous operation on many gas-fired process heaters and boilers in the refining industry worldwide since the late 1970s.[47] Many SCRs were installed in Europe and Japan in the 1980s that are still in operation today.[48] Further, many utilities routinely specify 30+ year lifetimes in requests for proposal and to evaluate proposals. A study of the economic risks from SCR operation at the Detroit Edison Monroe power plant, for example, used 30 years as the anticipated lifetime.[49]

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[45] Coburn 4/28/2008, Table 3 indicates 10 years, but correspondence with the author indicates that 20 years was used (10-16-14 Coburn E-Mail).

[46] Coburn 4/28/2008, p. 7.

[47] H. Oka, E. Ichiki, and T. Shiraishi, Process Removes NOx Efficiently, Hydrocarbon Processing, October 1974, pp. 113-114; See SCR experience lists for CERAM, Hitachi, Mitsubishi June 2005; H.L. Hill, SCR Process Cuts NOx Emissions: Selective Catalytic Reduction of NOx Made a Plant Expansion Possible Under Stringent Requirements, Hydrocarbon Processing, February 1981.

[48] G. Bouziden, K. Gentile, and R.G. Kunz, Selective Catalytic Reduction of NOx from Fluid Catalytic Cracking Case Study: BP Whiting Refinery, 2002, p. 13, Available at: http://www.cormetech.com/brochures/env-03-128%20-%20kunz%200%20Whiting%20Refinery%20FCC.pdf.

[49] S.D. Unwin and others, Selective Catalytic Reduction (SCR) System Design and Operations: Quantitative Risk Analysis of Options, Presented at CCPS 17th Annual International Conference: Risk,

An analysis prepared by Black & Veatch for another facility assumed a 40-year SCR lifetime.[50] Coal-fired applications represent a worst case for FCCUs, as dust levels from FCCUs are much lower than in coal-fired applications. [51]

Currently, there are several FCCUs controlled with SCRs. The first one was placed in service in 1986, 28 years ago, in Japan. Others followed in Japan and Taiwan, including in 1988, 1992, 1994, 1997, and 2000.[52]

In sum, the EPA overestimated the cost per ton by using an unreasonably short service life for SCR, which is just a metal frame with connecting duct work and no moving parts. A 30-year service life is consistent with actual experience with existing SCRs on FCCUs in Japan and with the nature of the equipment, *i.e.*, a metal frame and duct work, used throughout the chemical processing industries with a longer lifetime than 30 years. I used 30 years compared to 20 years used by EPA to calculate the capital recovery factor.

IV.E.2 Interest Rate

The capital recovery factor is calculated from the social rate of interest and the expected equipment lifetime in regulatory analyses such as this one.[53] The EPA's cost analysis is based on an interest rate of 7%, which is very outdated.

The EPA Control Cost Manual states the interest rate to use in the CRF computation should be a "pre-tax, marginal real rate of return" that is appropriate for the investor. However, for those cost analyses related to government regulations, an appropriate "social" interest (discount) rate should be used. This applies here because the EPA's action to meet the CAA mandate is fundamentally a public interest matter,

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Reliability, and Security, p. 3. Available at: http://www.unwin-co.com/files%5CSCR-Risk-Paper,CCPS-RRS2002.pdf.

[50] Email from O'Brien to Van Helvoirt, September 28, 2004, Re: Cost Impact, WPS-011904 at WPS-011905.

[51] *See, e.g.*, S. Ahmad, P.I. Lindenhoff, and J.D. Slaughter, Experience with Design, Installation and Operation of a SCR Unit After a FCCU, NPRA Annual Meeting, March 2005, p. 3.

[52] Bouziden et al. 2002, Table 4; D.L. Salbilla and R. Lack, Technology, Allowances and Credits: Components of a Sound NOx Reduction Strategy, p. 2. Available at: https://www.google.com/search?q=Allowances+and+Credits%3A+Components+of+a+Sound+NOx+Reduction+Strategy&oq=Allowances+and+Credits%3A+Components+of+a+Sound+NOx+Reduction+Strategy&aqs=chrome..69i57.1541j0j8&sourceid=chrome&es_sm=0&ie=UTF-8.

[53] *See* Cost Control Manual, Chapter 2 at 2-12 to 2-13 (discussion of "social rate of interest").

which must consider the broader benefit to public health of the economic cost of any regulation. *See*, for example, the EPA's use of the social interest rate in a recent Best Available Retrofit Technology ("BART") determination.[54]

For these types of analyses, the Office of Management and Budget ("OMB") directs that a real interest rate be used. When the Cost Control Manual was developed, the real interest rate was 7%. However, the latest real interest rate for cost-effectiveness analyses published by OMB is 1.9% for a 30-year period.[55]

In sum, the EPA overestimated the cost per ton by using the wrong interest rate to calculate the capital recovery factor. Calculating the annualized capital cost using the social interest rate of 1.9% and a 30-year SCR lifetime yields a capital recovery factor of 0.044[56] (compared to 0.094 used in the Coburn memorandum cost analyses). Thus, the EPA overestimated annual capital costs by a factor of 2 (0.094/0.044 = 2.14). Most of the overestimate is due to the interest rate. Correcting this factor results in cost-effectiveness values less than $10,000/ton ($5/lb), apparently EPA's significance threshold (79 FR 36932), rendering all three SCRs cost-effective.

IV.F Control Efficiency

The 2008 Coburn memorandum which served as the basis of the EPA's cost estimates includes two SCR scenarios: (1) 90% NOx control and (2) 95% NOx control. The EPA estimated total capital investment ("TCI") and total annual cost ("TAC") as the midpoint of these two scenarios. However, emission reductions corresponding to the upper end of the range, 95%, was used. The same control level should be used for both costs and emission reductions. In my revised calculations, I assumed a 90% efficient SCR, as it is more cost-effective. Further, most all SCRs are designed for 90%. It is much more difficult to consistently achieve 95% NOx control.

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[54] Navajo Generating Station Cost Analysis, generated by Sargent & Lundy and revised by EPA to use the "social" interest rate, to comply with BART. At the time, the social rate of interest was 2.8%.

[55] OMB Circular No. A-94, Appendix C, Revised February 7, 2014, Available at: http://www.whitehouse.gov/sites/default/files/omb/memoranda/2014/m-14-05.pdf.

[56] Cost Manual, Chapter 2, p. 2-21: CRF = 0.0019(1.0019)^30/[(1.0019)^30-1] = 0.04404.

IV.G Cost Escalation

The EPA's costs in the 2008 Coburn memorandum are based on the March 30, 2005 report by MACTEC, an engineering design company. These costs were escalated to 2009 dollars in the rulemaking cost analyses using the Chemical Engineering Plant Cost Index ("CEPCI") as reported in the journal, Chemical Engineering, to adjust for inflation from 2005 (468.2) to 2009 (521.9).[57] I agree with the use of this index and used it in my revised cost analyses by multiplying Coburn Table 3 costs by the ratio of the 2009 index to the 2005 index (521.9/468.2 = 1.11).

IV.H The Cases

The EPA calculated SCR cost-effectiveness for three FCCUs for which HCN source test data were available: Hovensa, Citgo Lake Charles, and Valero Port Arthur. The EPA significantly overstated the cost per ton of an SCR, as summarized in Table 2. All of the revised (Fox) cost-effectiveness values are less than $10,000/ton ($5/lb), which the EPA apparently considered as the threshold. 79 FR 36932. Thus, controlling HCN is cost-effective. Further, if the FCCU regenerator were modified to convert the HCN to N_2 or NH_3 rather than NOx, an SCR would not be required and the cost-effectiveness would thus be zero.

Table 2. Summary of Cost-Effectiveness Analysis

	Total Capital Cost (1,000 $)		Annual Cost (1,000 $/year)		Emissions (tons/year)		Cost Effectiveness ($/ton)		Cost Effectiveness ($/lb)	
FCCU	**EPA**	**Fox**	**EPA**	**Fox**	**EPA**	**Fox**	**EPA**	**Fox**	**EPA**	**Fox**
Hovensa	13,000	10,101	4,000	1,883	460	683	9,000	3,066	5	2
Citgo	7,000	5,364	1,500	824	141	206	11,000	4,451	6	2
Valero	9,000	8,525	2,200	1,492	184	250	12,600	6,636	6	3

IV.H.1 Hovensa

Hovensa was selected as it operated the largest FCCU in the United States and its territories (150,000 bbl/day) and had the highest HCN emissions reported in the ICR

[57] Shine E-Mail, October 14, 2014.

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(460 ton/year).[58] The EPA estimated an SCR would cost $13 million and have annualized costs of about $4 million/year. Assuming 95% reduction in HCN emission, the EPA estimated the cost-effectiveness at about $9,000/ton ($4.5/lb).[59] This is cost effective when judged by EPA's own significance threshold of $10,000/ton ($5/lb). 79 FR 36932.

My revised calculations in Exhibit 2, Tab: "Revised Costs", indicate that a 90% efficient SCR would cost about $10.1 million. My revised annualized costs are about $1.9 million/year for 90% control. The cost-effectiveness is **$3,100/ton ($1.6/lb)**.

IV.H.2 Citgo

Citgo Lake Charles was selected because it is a smaller FCCU (49,000 bbl/day) with a similar HCN stack gas concentration (109,000 micrograms per cubic meter ("$\mu g/m^3$") v. 102,488 $\mu g/m^3$) that emitted 141 ton/year of HCN.[60] 79 FR 36931. For Citgo, the EPA estimated an SCR would cost about $7 million and have annualized costs of about $1.5 million/year. Assuming 95% reduction in HCN emissions, the cost-effectiveness was estimated by the EPA as $11,000/ton ($5.5/lb).

My revised calculations for Citgo Lake Charles in Exhibit 2, Tab "Revised Costs", indicate that an SCR would cost about $5.4 million. My revised annualized costs are about $0.8 million/year for 90% control. The cost effectiveness is **$4,500/ton ($2.3/lb)**.

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[58] Entec Services, Inc., Emissions Testing on the Fuel Gas Systems and Fluid Catalytic Cracking Unit (FCCU), June 15-19, 2011, Prepared for Hovensa LLC, Table 2-3. The test measured 105.09 lb/hr of HCN. This is 105.9 lb/hr x 8760 hr/yr/2000 lb/ton = 460.29 ton/yr.

[59] Cost effectiveness = $4,000,000/(460x0.95) = $9,153/ton.

[60] Shaw Environmental, Inc., Source Compliance Test Report, Citgo Petroleum Corporation, Petroleum Refinery Information Collection Request (ICR), Component 4 Emission Test Program, Fluidized Catalytic Cracking Unit (FCCU), B-Cat Wet Gas Scrubber (EQT039) [Source ID 3(II)17], Volume I of III, Prepared for CITGO Petroleum Corporation, Lake Charles Manufacturing Complex, May 27, 2011. Table 2.

IV.H.3 Valero

Valero Port Arthur was selected as it is the second highest HCN emitting unit (184 ton/year) with an FCCU throughput of 73,500 bbl/day. The EPA estimated an SCR would cost about $9 million and have annualized costs of about $2.2 million/year. Assuming 95% reduction in HCN emissions, the cost-effectiveness was estimated as $12,600/ton ($6.3/lb).

My revised calculations for Valero Port Arthur in Exhibit 2, Tab: "Revised Costs" indicate that an SCR would cost about $8.5 million. My revised annualized costs are about $1.1 million/year for 90% control. The cost-effectiveness is **$6,600/ton ($3.3/lb)**.

IV.I Other Cost Reductions

The EPA noted that the "increase in HCN emissions was observed at units meeting lower NOx emission limits." 79 FR 36931. The EPA further noted "an inverse correlation between these two pollutants. The three facilities with the highest HCN concentrations were the facilities with the lowest NOx concentrations…" 79 FR 36932. My analysis, summarized in Figure 2, confirms an inverse relationship between NOx and HCN. Thus, methods currently used to control NOx at units that require HCN reductions (such as catalysts) could be replaced by designing the SCR to remove the NOx controlled by these other methods, such as NOx reduction catalysts, perhaps the very ones that have caused the increase in HCN.

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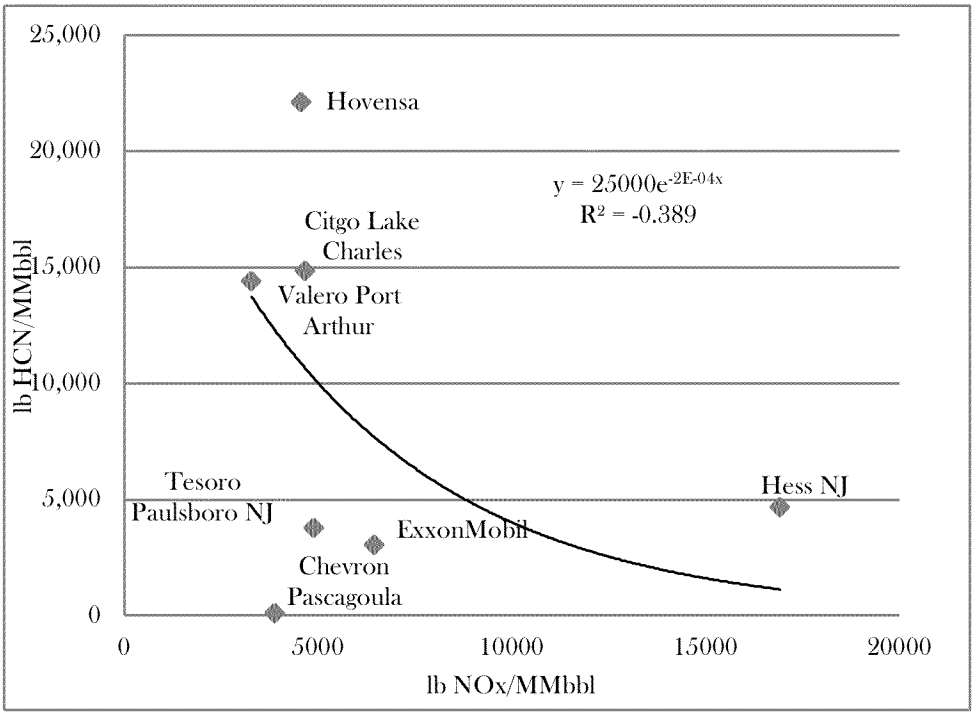
Figure 2
HCN vs. NOx Emissions



This could be accomplished, for example, by discontinuing the use of low NOx additives and increasing the amount of SCR catalyst to remove any resulting increase in NOx from eliminating low NOx additive. For example, both Hovensa and Citgo use low NOx additives to control NOx. Exhibit 2, Tab "Test Data". The NOx control achieved by these additives, which is typically in the 20% to 40% range, could be transferred to the SCR. The low NOx additives cost more than the increase in SCR catalyst that would be required to achieve the same NOx reduction, resulting in a net decrease in SCR cost effectiveness.

The EPA cost calculation spreadsheet[61] indicates that the annual cost for XNOX catalyst for a 60,000 bbl/day, 150,000 dscfm FCCU is $116,800/yr. The cost to add a single layer of SCR catalyst to the proposed SCR is only about $30,000/yr.[62] Thus, the

[61] Calculation_Spreadsheet_for_NOx_Emissions_from_FCCU (1).

[62] Cost to add a single layer of catalyst = $149,138/5 = $29,828.

cost-effectiveness of SCR to control HCN from the FCCU would be even more cost-effective than indicated by my calculations (Fox) in Table 2.

IV.J Secondary Impacts of SCR Are Not Significant

The EPA rejected SCR to control HCN due to cost-effectiveness and also alleged secondary energy and environmental impacts. However, the EPA did not present any analysis of secondary energy and environmental impacts. Rather, it just noted a potential increase in secondary emissions of particulate matter with an aerodynamic diameter equal to or smaller than 2.5 micrometers ("PM2.5") due to ammonia slip or a further increase in HCN if combustion is used to destroy HCN. 79 FR 36932. This analysis is unsupported by any evidence in the record and is irrational.

First, secondary impacts are not considered in a cost-effectiveness analysis of a widely used technology such as SCR, unless they present unique circumstances. No unique circumstances are mentioned.

Second, an SCR can be designed with very low ammonia slip and a low SO_2 to sulfur trioxide ("SO_3") catalyst, virtually eliminating any increase in PM2.5.

Third, the EPA's proposal for controlling HCN is based on combusting the regenerator gases to convert HCN to NOx. As discussed elsewhere in this Report, this would also convert the NH_3, which is present in the regenerator flue gases, into NOx. The ammonia slip from an SCR is typically a maximum of 2 ppm. Thus, combusting the flue gases and adding an SCR would reduce ammonia, not increase it.

Fourth, proposing combustion to remove HCN on the one hand, and then arguing it increases HCN on the other, makes no sense. Combustion oxidizes HCN to N_2, NO, and/or nitrogen dioxide ("NO_2"), depending on regenerator operating conditions. Using combustion to remove HCN does not create HCN.

V. OTHER METHODS ARE AVAILABLE TO CONTROL HCN THAT WERE NOT EVALUATED

The MACT regulations require that to reach the "maximum degree of reduction," the permitting agency must examine "methods, systems, and techniques" of HAP-reduction. 42 U.S.C. § 7412(d)(2). The EPA did not evaluate other methods to

control HCN, many of which are likely more cost-effective than combusting HCN and removing the resulting NOx with SCR. Instead, the EPA focused on a single method to remove HCN, combusting the flue gases and removing the resulting NOx with SCR, when many other methods are available. Thus, the EPA did not satisfy this fundamental requirement of MACT.

There are many "methods, systems, and techniques" that could be used to reduce HCN, many of which would not also reduce CO, thus invalidating the use of CO as a surrogate for HCN. The EPA must evaluate these other methods to establish the "maximum degree of emission reduction" to set a beyond-the-MACT floor for HCN. These HCN control methods are discussed below for partial and full burn FCCU regenerators.

V.A Partial-Burn Regenerators

The EPA ignored partial-burn regenerators as it assumed HCN emissions from them were very small. However, HCN emissions are not necessarily lower in partial-burn than full-burn regenerators.

In partial-burn regenerators, where coke is combusted under sub-stoichiometric oxygen conditions, much higher levels of reduced sulfur and nitrogen species, such as HCN, are formed in the flue gas exiting the regenerator. However, most partial-burn regenerators are followed by a CO boiler, which converts reduced sulfur and nitrogen species to more oxidized forms, such as N_2, NO, N_2O, and NO_2. Thus, in theory, partial-burn regenerators followed by a CO boiler should have lower HCN emissions than full-burn regenerators.

However, not all partial-burn regenerators have CO boilers and not all CO boilers are created equal. Further, CO boilers are usually off-line during restart,[63] a period when very high amounts of HCN could be released. These boilers are typically equipped with piping that allows the FCCU regenerator flue gases to bypass the boilers during startups, shutdowns, and boiler trips. These bypasses are commonly equipped

[63] Marathon, FCC Issues: Startup & Shutdown Slides, EPA Offices – RTP, May 22, 2012, pp. 16-17, 25.

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with a butterfly valve that can leak.[64] These startup/shutdown emissions plus any valve leaks, which would have very high HCN levels, must be included in "actual" and "MACT-allowed" emissions and should have been included in the risk assessment.

Thus, while in many cases partial-burn regenerators with a CO boiler would have lower HCN emissions than full-burn regenerators, this is not universally true,[65] especially during startups and shutdowns. These startup/shutdown periods and valve leakage should be included in the risk assessment and methods to control these emissions.

In this rulemaking, EPA must consider available evidence to set limits on partial-burn regenerators. Specifically, EPA must evaluate controls to limit HCN emissions from partial-burn regenerators. These methods include installing CO boilers on units that currently operate without one, the use of catalysts additives, and Praxair CONOx™.

Many methods have been developed to remove the NOx precursors, HCN and NH_3, from partial-burn regenerator flue gases before they enter the CO boiler to control NOx emissions.[66] These methods should be evaluated to control HCN from partial-burn regenerators without CO boilers and to control HCN emissions during startups and shutdowns. These methods include catalyst additives such as rhodium, iridium, or ruthenium, which convert HCN and NH_3 into N_2 in a regenerator that is run at less-than-complete CO combustion mode.[67] The Praxair CONOx technology injects heated oxygen into the FCC regenerator flue gas duct between the regenerator and CO boiler or heat recovery unit to destroy NH_3 and HCN.

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[64] J. J. Macak III, Development and Implementation of an Alternative Emissions Monitoring Program for Carbon Monoxide Compliance for Fluidized Catalytic Cracking Unit CO Boilers, Available at: http://www.environmental-expert.com/Files%5C6709%5Carticles%5C5645%5Calternativeemitting.pdf.

[65] Mo et al. 2014, HCN and NOx Control Strategies in the FCC, p. 2.

[66] *See*, for example, ; M.N. Harandi, P.H. Schipper, D.S. Shihabi, and S.A. Stevenson, FCC Regenerator in Partial CO Burn with Downstream Air Addition, U.S. Patent 5,830,346, November 3, 1998, Available at: http://www.google.com/patents/CA2230218A1?cl=en.

[67] Xu Mingting, Catalyst Additives for the Removal of NH3 and HCN from a Gas Flue of a Regeneration Zone in a Catalytic Cracking Process, U.S. Patent WO 2004111160 A1, December 23, 2004, Available at: http://www.google.com/patents/WO2004111160A1?cl=en. G. Yaluris and J.A. Rudesill, Reduction of Gas Phase Reduced Nitrogen Species in Partial Burn FCC Processes, U.S. Patent 20060021910, February 2, 2006, Available at: http://www.google.com/patents/US20060021910; Harandi et al, U.S. Patent 5,830,346, November 3, 1998.

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Further, the HCN source test data does not support the EPA's conclusion that "HCN emissions from full-burn regenerators are greater than from partial-burn regenerators." 79 FR 36928. In fact, the ICR only tested three partial-burn regenerators. All three of these tests were rejected by the EPA because a test method was used that is known to underestimate HCN or there were errors during the tests that underestimated HCN.[68] The available HCN test data does not include any valid test results for partial-burn regenerators. In analyzing the same data to establish an emission factor for HCN for AP-42, the EPA concluded that: "Although the complete burn and partial burn regenerators potentially emit different amounts of HCN, subcategories could not be formed for complete and partial burn regenerators because all of the useable data was for complete burn regenerators."[69]

Finally, the underestimated HCN emissions from some of the tested partial-burn regenerators were higher than from the full-burn regenerators, refuting the blanket claim that HCN emissions from partial-burn regenerators are less than from full-burn regenerators. Thus, the EPA's conclusion that HCN emissions from full-burn regenerators are greater than from partial-burn regenerators is unsupported. An HCN MACT limit must be set for partial-burn regenerators.

V.B Full-Burn Regenerators

The cost analysis assumes that higher regenerator temperatures and excess oxygen concentrations would control HCN by converting it to NOx and then using SCR to remove the increase in NOx. However, there are other ways to control HCN formed in full-burn regenerators besides incinerating the flue gases and controlling the resulting NOx with SCR. A recent article by one of the major catalyst vendors to the refining industry (Johnson Matthey, Intercat) lays out a six-step procedure[70] for reducing HCN, summarized in Figure 3. The steps are:

1. Determine unit operating variable effects on NOx and HCN
2. Discontinue any pre-blended promoter usage

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[68] Excel Spreadsheet: Test_Data_Sum_HCN_FCCU_2014Aug.

[69] EPA, DRAFT Review of Emissions Test Reports for Emissions Factors Development for Flares and Certain Refinery Operations, 2014, pp. 15-16.

[70] Mo et al., HCN and NOx Control Strategies in the FCC, 2014, Fig. 9 and p. 6.

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3. Establish the minimum level of platinum promoter additions
4. Replace platinum promoter with a non-platinum promoter such as COP-NP
5. Try a NOx reduction additive
6. Regenerator modification

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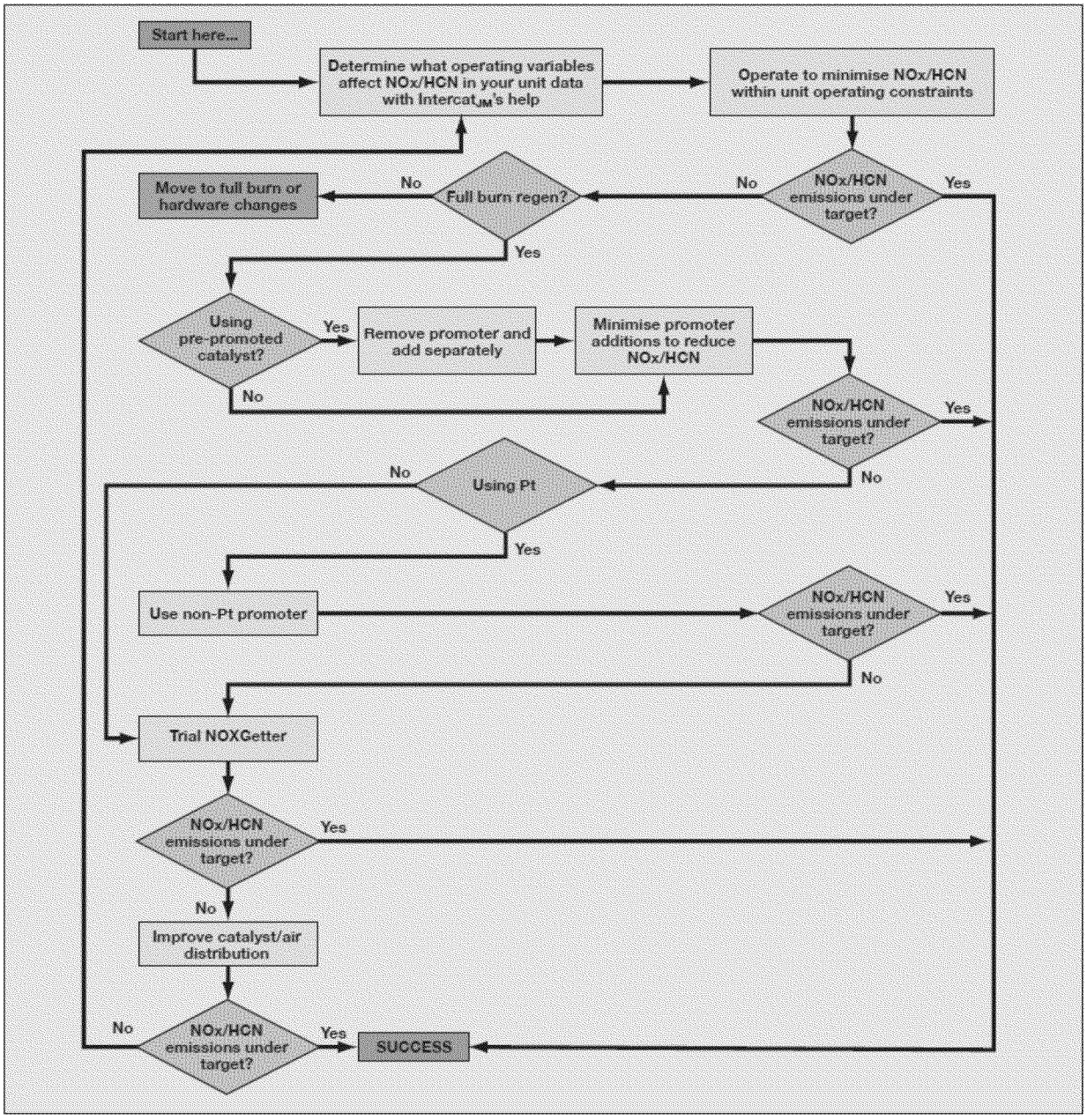
Figure 3
Processes to Minimize NOx and HCN Emissions[71]



In meetings with the EPA in 2012-2013, Intercat representatives indicated that the factors that affect HCN formation and emissions in the FCCU regenerator include flue gas oxygen content, carbon on the regenerated catalyst, regenerator design,

[71] Mo et al., HCN and NOx Control Strategies in the FCC, 2014, Fig. 9.

combustion/particle temperature, concentration and type of nitrogen in the coke and FCC additives such as CO promoters and SOx and NOx additives. Intercat concluded that regenerator design is the primary factor influencing HCN emissions.[72] Nitrogen content of the coke is also a major factor.[73] The EPA did not consider either regenerator redesign (increasing the temperature and oxygen content is not "regenerator design") nor catalyst coke in its HCN control analysis.

There are four broad classes of methods that can be used to remove HCN from regenerator flue gases: (1) reduce the nitrogen content entering the FCCU (which reduces nitrogen on the coke); (2) catalytic approaches to suppress HCN formation; (3) stack gas cleanup methods downstream of the FCCU; and (4) modification of design and/or operation of the regenerator. The EPA only considered a single method from among these, modification of the operation of the regenerator to combust HCN and controlling the resulting increase in NOx with SCR, an upper bound worst case. There are many other options to choose from among these generic classes, all of which may be feasible and cost-effective for a subset of the regenerators. These include:

- Install or increase operating severity of hydrotreating to remove nitrogen before it reaches the FCCU;
- Process FCCU feed derived from light sweet crude;
- Increase volume fraction of hydrotreated feed to the FCCU;
- Use a CO promoter demonstrated to reduce HCN while minimizing the increase in NOx, *i.e.*, a non-platinum CO promoter;
- Install new or refurbish/upgrade existing control devices;
- Use catalysts designed to reduce HCN;
- Use a NOx reduction additive;
- Modify the design of the regenerator to minimize the formation of HCN by increasing temperature, increasing residence time at elevated temperature, increasing oxygen and steam, and improving mixing;
- Use a duct burner to combust the flue gases, rather than a thermal oxidizer

[72] Memorandum from Jeff Coburn, RTI, to Brenda Shine, EPA, Re: Meeting Minutes for December 17, 2013, Meeting Between the U.S. EPA and Representative from Johnson Matthey Intercat Division, December 17, 2013.

[73] Memorandum from Jeff Coburn, RTI, to Brenda Shine, EPA, Re: Meeting Minutes for October 10, 2012, Meeting Between the U.S. EPA and Representative from Johnson Matthey, October 12, 2012.

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- Any combination of above.[74]

Some of these are discussed below.

V.B.1 Catalytic Methods

Many catalytic methods have been developed to convert the NOx precursors, HCN and NH_3, to N_2 to prevent the formation of NOx.[75] These should be evaluated to reduce HCN without forming NOx that must be removed with downstream control devices such as SCR.

V.B.2 Regenerator Optimization

HCN emissions are highly dependent on regenerator spent catalyst and air distributor design, which should first be optimized before considering the type of draconian measures evaluated by the EPA.[76] Any HCN present in the flue gas indicates the time HCN spent at elevated temperature was inadequate to convert it to NOx. This could be caused by many factors.

If spent catalyst is deposited on the top of a poorly mixed catalyst bed, for example, it takes more time to heat up, spending more time under conditions ideal for HCN formation and survival, resulting in higher HCN in the flue gas.[77] Maldistribution of air is a common cause of high HCN. If air distribution is uneven, large air bubbles can push gas and catalyst into the dilute phase, bypassing high temperature areas required to convert HCN to NOx.

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[74] Cheng et al. 1998, pp. 39-79; Mo et al., HCN and NOx Control Strategies in the FCC, 2014.

[75] See, e.g., D.M. Stockwell, FCC Additive for Partial and Full Burn NOx Control, U.S. Patent 7,678,735, March 16, 2010 ("A metal containing additive composition is provided that has high activity and selectivity for the conversion of NH_3, HCN and NOx to N_2 when in context with the gas phase in an FCC regenerator."), Available at: https://www.legionpatent.com/patents/7678735/; M. Evans, R.P. Fletcher, and X. Mo, Intercat, Process of Removing HCN from Flue Gas, Patent Application No. 20140241969, August 28, 2014 ("HCN is reacted in the presence of water and oxygen in the flue gas, and optional ammonia or ammonia precursor, at 200 C to 800 C in the presence of a catalyst bed, one or more supported transition or lanthanide metal catalysts"), Available at: http://www.google.com/patents/WO2014130820A2?cl=en; O. Kröcher and M. Elsener, 2009; H.S. Tang and G.L. Johnson, Method of Removing NH_3 and HCN from and [sic] FCC Regenerator Off Gas, U.S. Patent 5,240,690, August 31, 1993. See also review in Harandi et al., U.S. Patent 5,830,346, 1998.

[76] Mo et al. 2014, HCN and NOx Control Strategies in the FCC, Fig. 3 and p. 5.

[77] Mo et al. 2014, HCN and NOx Control Strategies in the FCC, p. 5.

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Modification to the method of introducing spent catalyst into the regenerator can also reduce HCN emissions. If spent catalyst enters the lower part of a well-mixed regenerator catalyst bed, but far enough above the air injection point for it to have already been heated above 650°C, it will more rapidly heat up, decreasing time at elevated temperature required to remove HCN. Alternatively, introduction of spent catalyst into the center of the bed without proper radial mixing can result in large amounts of HCN emissions, compared with spreading spent catalyst onto the top of a bubbling bed.[78]

Modifying the regenerator to hydrolyze HCN is another viable control option. Hydrolysis is an alternative, low temperature destruction pathway, where HCN is converted to ammonia, which can then be oxidized to form N_2 or NO, depending on regenerator conditions and the presence of combustion promoters that catalyze these reactions.[79]

V.B.3 Post-Regenerator Controls

Hydrogen cyanide can be removed by various add-on pollution control devices. Many FCCUs control SOx emissions using a scrubber. Testing at the ExxonMobil Baytown FCCU indicates these scrubbers reduce HCN.[80] These existing scrubbers could be optimized to increase HCN removal. Other post-regenerator add-on pollution control equipment has been developed to remove HCN including the Perox process, Seaboard process, and Staatsmijnen-Otto process.[81] HCN is present at high concentrations in acid gases from other processes, where it is currently controlled, commonly using an aqueous solution of sodium hydroxide (NaOH).[82] EPA should investigate both dry and wet scrubbing controls methods.

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[78] Mo et al. 2014, HCN and NOx Control Strategies in the FCC , p. 5.

[79] Mo et al. 2014, HCN and NOx Control Strategies in the FCC, pp. 2-5; Stockwell, U.S. Patent 7,678,735, 2010.

[80] TRC, Test Report: Fluid Catalytic Cracking Unit 2 Wet Gas Scrubber Inlet and Outlet Gas Composition, Prepared for ExxonMobil, March 2007.

[81] Arthur Kohl and Richard Nielsen, Gas Purification, 5th Edition, 1997, Gulf Publishing: Perox process (pp. 762-764); Seaboard process, p. 389); Staatsmijnen-Otto process (pp. 746-748).

[82] R. Hickey, HCN Removal from Syngas Using Chemical and Biological Treatment, U.S. 2011/0097701 A1, April 28, 2011, Available at: http://www.google.com/patents/US20110097701; R.J. Chironna, Wet Scrubbing of Acidic Gases, June 2011, Available at: http://www.s-k.com/pdf/WetScrubbing.pdf.

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V.B.4 Reduce Feedstock Nitrogen

Feedstock quality ultimately determines emissions. There has been a steady decline in the quality of crude oil processed at U.S. refineries, with a shift toward heavier feeds containing higher levels of aromatic compounds, metals, sulfur, and nitrogen.[83] Many U.S. refineries, at the time of the ICR, were processing the lowest crude quality in the history of their operations.[84] Low quality crudes have elevated levels of nitrogen,[85] a portion of which is converted into HCN in the FCCU regenerator. Thus, the increase in HCN relative to prior tests could be due to changes in crude or FCCU feedstocks to higher nitrogen-containing feedstocks. HCN emissions could be economically reduced by switching to lower nitrogen feedstocks, such as the cost-advantaged U.S. shale crudes from the Bakken, Permian, and Eagle Ford oil fields. This conversion is underway at many refineries.

The EPA must consider all of these options to control HCN to meet its duties under the Clean Air Act and to provide a reasoned basis for setting a MACT standard for HCN for the first time. As a MACT standard has never been set for HCN, EPA must set the HCN standard at no more than the level achieved by the best performing 12 percent of existing sources, which is 0.6 ppm, 0.45 lb/hr, or 125 lb/MMbbl of FCCU feed. Exhibit 2, Tab: "Test Data". The EPA must also perform a "beyond-the-MACT floor" analysis, considering the "methods, systems, and techniques" of HAP-reduction discussed above to evaluate whether lower HCN levels can be achieved.

The proposed use of CO as a surrogate to control HCN is invalid as: (1) CO and HCN are inversely related, (2) HCN is not invariably present with CO; (3) control of CO is not the only means to control HCN; and (4) control of CO is not the only means to control HCN.

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[83] Dishman et al. 1998.

[84] Prasad Rao, A Dynamic, Efficient, and Flexible Metal HAP Standard for Petroleum Refinery FCCs, AWMA Specialty Conference, Recent Advances in the Science and Management of Air Toxics, April 10-12, 2000; Prasad Rao, Refinery MACT Economics: The Interaction of Technology, Feed Quality, and Regulatory Standards, Trans. Ecology Environment, v. 29, 1999, Docket No. A-97-36, Doc. No. IV-G-3.

[85] Dishman et al. 1998, p. 4631.

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VI. ACTUAL AND MACT ALLOWABLE HCN EMISSIONS AND ASSOCIATED HEALTH RISKS ARE UNDERESTIMATED

The EPA estimated the health risks for "actual" emissions and "MACT-allowable" emissions under current standards to determine if it had to update them under CAA 112 (f)(2). 79 FR 36888.

"Actual" HCN emissions were compiled from the ICR emission inventory, updated based on other information. The ICR inventory relied on a generic HCN emission factor of 770 lb/MMbbl, from the "Emission Estimation Protocol for Petroleum Refineries" ("Protocol"). In the case of HCN, the valid stack tests summarized in Exhibit 2 indicate that HCN emissions were ten times higher than the default emission factor from the Protocol document used to estimate HCN emission in the ICR. Thus, EPA increased the "actual" HCN emissions from FCCUs at all sources that did not conduct a stack test by a factor of ten to 7,700 lb/MMbbl. 79 FR 36888.

"MACT-allowable" HCN emissions are the emissions allowed to be emitted by the current MACT standards. As the current MACT standards do not control HCN, the same factor of ten was applied to the same generic emission factor to estimate "MACT-allowable" emissions.[86] Thus, "actual" and "MACT-allowable" HCN emissions are the same under the existing MACT standards, which include a limit of 500 ppm CO to control organic HAPs. There are two problems with these assumptions.

First, the wide range in the measured HCN data, from 114 to 22,100 lb/MMbbl, and the small number of valid samples, only nine, is not adequate to estimate "actual" HCN emissions from all 203 FCCUs subject to the rulemaking. In the absence of adequate data, and given the inverse relationship between HCN and CO (Fig. 1), the EPA should have used the upper end of the measured range to provide an upper bound estimate of risk.

Second, the existing MACT standards do not regulate HCN emissions from the FCCUs. However, they do use a 500 ppm CO surrogate to regulate organic HAPs. This same 500 ppm CO limit has been proposed as a surrogate for HCN. The ICR data demonstrate that this existing 500 ppm CO limit does not control HCN. Rather, HCN

[86] Memorandum from J. Coburn, RTI, to Brenda Shine, EPA, Re: Refinery Emissions and Risk Estimates for Modeled "Allowable" Emissions, November 15, 2013, p. 9, Docket ID EPA-HQ-OAR-2010-0682.

goes up when CO goes down, resulting in no control at all for HCN and raising the possibility that MACT-controlled HCN emissions have increased under existing standards as CO levels have declined.

This is a concern because the "MACT-allowable" HCN emissions, given the inverse relationship between HCN and CO, could be substantially higher than "actual" HCN emissions as the CO standard does not control HCN. See Figure 1 and Table 1. HCN emissions could be greater at many FCCUs than the highest measured HCN emissions at Hovensa of 22,000 lb/MMbbl, achieved at a CO concentration of only 33 ppm, well below the proposed 500 ppm threshold. The TOSHI from inhalation exposure to "MACT-allowable" HCN emissions from FCCUs could be much greater than the TOSHI significance threshold of 1. Thus, the EPA should set standards for HCN under CAA 112(f)(2).

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Fox Report: List of Appendix Documents

1. **Fox Report Exhibit 1 –** Fox Resume
2. **Fox Report Exhibit 2 -** HCN Emissions & SCR Cost Effectiveness.xlsx
3. Cheng et al. Environmental Fluid Catalytic Cracking Technology 1998.pdf
4. Ahmad et al Experience With Design Installation And Oper…er a FCCU 2005.pdf
5. AP-42 HCN Test_Data_Sum_HCN_FCCU_2014Aug.xlsm
6. Aru FCC Additive Demonstrations Part 1 2004.pdf
7. Aru FCC Additive Demonstrations Part 2 2004.pdf
8. Bahrami et al NH3 Decomposition & Oxidation Over NOx …Promotor 2013.pdf
9. Barth et al. Elementary Reactions & Intermediate Species 2004.pdf
10. Beals Guidance Cost Effectiveness Multiple Pollutants 3-24-97.pdf
11. Bouziden et al. SCR Case Study BP Whiting 2002.pdf
12. Brook et al. Removal of NOx from FCCU Regenerator Vent Gases 1997.pdf
13. Chironna Wet Scrubbing Acidic Gases June 2011.pdf
14. Dishman et al. 1998 NOx Emissions in Fluid Catalytic Crack…t Regeneration.pdf
15. E-mail Coburn 10-15-14 HCN Control Cost Questions - phyllisfox@gmail.pdf
16. E-Mail Coburn 10-15-14a HCN Control Cost Questions - phyllisfox@gmail.pdf
17. E-Mail Coburn 10-16-14 HCN Control Cost Questions - phyllisfox@gmail.pdf
18. E-Mail Coburn 10-16-14a HCN Control Cost Questions - phyllisfox@gmail.pdf
19. E-Mail Coburn 10-16-14b HCN Control Cost Questions - phyllisfox@gmail.pdf
20. E-Mail Fox 10-15-14 HCN Control Cost Questions - phyllisfox@gmail.pdf
21. E-Mail Shine 10-14-14 HCN Control Cost Questions - phyllisfox@gmail.pdf
22. E-Mail Shine 10-14-14 HCN Control Cost Questions.docx
23. EPA Cost Control Manual January 2002.pdf
24. EPA Enforcement 2011.pdf
25. EPA Petroleum Refineries Background Report, June 2001, E…2002-0033-0037.pdf
26. EPA Petroleum Refineries Background Information June 1998.pdf
27. EPA Protocol Backup db05s01_8-19-14 (2).zip
28. EPA Review of Emissions Test Reports for Emissions Factor…velopment 8-14.pdf
29. Evans et al Process of Removing HCN from Flue Gas 8-28-14.pdf
30. Exxon Mobil Baytown FTIR Inlet Outlet Scrubber Source Test.pdf
31. Fletcher & Evans Preventing Environmental Excursions 2011.pdf
32. Furimsky et al. Effect of Temperature & O2 Concentration…Emissions 1996.pdf
33. Haradni et al FCC Regenerator in Parial Burn CO Burn with…tion 11-3-1998.html
34. Hickey HCN Removal from Syngas US20110097701 4-28-11.pdf
35. Hill SCR Process Cuts NOx Emissions 1981.pdf
36. Kohl & Nielsen Gas Purification 1997.pdf
37. Krocher & Elnsner Hydrolysis & Oxidation of Gaseous HCN… Catalysts 2009.pdf
38. Macak III Develop and Implementation of an Alternative E…CO Compliance.pdf
39. Marathon FCC issues - Startup & Shutdown 5-22-12.pdf
40. Mo et al. An Investigation on N Chemistry of FCC 2014.pdf
41. Mo et al. HCN and NOx Control Strategies in the FCC 2014.pdf
42. Mo et al. HCN Emissions in Fluid Catalytic Cracking 2013.pdf
43. Navajo Cost Analysis.xlsx

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44. O'Brien to Van Helvoit Email Re SCR & SO2 Permitting Issu…04 WPS-011904.pdf
45. Oka et al Process Removes NOx Efficiently 1974.pdf
46. OMB Circular No. A-94 2-7-14.pdf
47. Rao Dynamic Efficient and Flexible Metal HAP Standard 2000.pdf
48. Rao Refinery MACT Economics 1999.pdf
49. Salbilla and Lack Allowances_credits.pdf
50. SCR CERAM Installation List 8-06.pdf
51. SCR Hitachi Installation List Revised 12-18-06.xls
52. SCR Mitsubishi SCR Experience List 2005.pdf
53. Shihabi & Stevenson Patent CA2230218A1 - FCC Regenerat…dition 11-3-98.html
54. Source Test Chevron Pascaugula 2007 AP-42.pdf
55. Source Test Chevron Pascaugula 2008 AP-42.pdf
56. Source Test Hess NJ 2010 AP-42.zip
57. Source Test Valero NJ 2007 AP-42.pdf
58. Stevenson et al. Modeling of NOx Emissions 2005.pdf
59. Stockwell FCC Additive for Partial and Full Burn NOx Control 3-16-10.pdf
60. Tang and Johnson Method of Removing NH3 and HCN fro…or Off Gas 1993.pdf
61. Unwin et al. SCR Systems Design & Operation 2002.pdf
62. X. Mingting Catalyst Additives for Removal of NH3 and HCN 12-23-04.pdf
63. Yaluris and Rudesill Reduction of gas phase reduced nitrog…processes 2006.pdf
64. Zhao et al. Nitrogen Chemistry & NOx Control FCC Regenerator 1997.pdf

	Units	ExxonMobil Torrance	BP Whiting
ID		CA5A0190	IN2A0440
Unit		UO2-FCC	FCU500
Fresh Feed Capacity Design	bbl/day	83,500	115,000
Fresh Feed During HCN Test	bbl/day	80,963	CBI
Fresh Feed During NH3 Test	bbl/day		
Fresh Feed During CO Test	bbl/day	80,830	-
Fresh Feed During NOx Test	bbl/day	80,680	-
EPA AP-42 Feed Rate	bbl/hr	3,912	
Coke Burn Rate HCN	lb/hr	67,041	CBI
Stack Gas Flow Rate HCN	dscf/min	233,529	154,513
Stack Gas Flow Rate CO	dscf/min	238,601	-
Stack Gas Flow Rate NOx	dscf/min	237,475	-
Type of Regenerator		Full	Full
CO Boiler		Yes	No
HCN	ppm		
HCN	lb/hr	12.0	0.5
HCN	lb/bbl design	0.0034	0.0001
HCN	MMlb/hr/dscf/min	51	3
HCN	lb/MMbbl test	3,067	
NH3	lb/hr	5.5	0.5
NH3	lb/bbl design		
NH3	lb/MMbbl test	1,403	
CO	ppmvd	75.5	
CO	lb/hr	78.6	-
CO	lb/bbl design		
CO	MMlb/hr/dscf/min	329.3	
CO	lb/MMbbl test	20,082	
NOx	ppm	14.7	
NOx	lb/hr	25.2	-
NOx	lb/bbl design		
NOx	lb/MMbbl test	6,442	
NOx Controls		SCR	low N0x additives

SOx Controls		None	DeSOx catalyst
PM Controls		2 parallel ESPs	ESP
HCN	lb/Mlb coke burnd	0.1790	
HCN	ton/yr	52.56	2.0148
dscfm per bbl/cd		2.8	1.3

NOTES:

Missing; find it
Rejected in "DRAFT Review of Emissions Test Reports for Emissions Factors Dev
Tests used to develop AP-42 emission factor not included in ICR database.
At 0% oxygen

FCCU feed rate during HCN test in bbl/hr from Excel Spreadsheet Test_Data_Sum_HCN_FCCU_2014Aug in zipped f
Note: the coke burn rate is generally proportional to the combustion air flow rate, and both are generally proportio
Hovensa May 2011 PSD Permit limit FCCU throughput to 150,000 bb/CD and coke burnoff rate to 105,000 lb/hr.

Motivo Norco LA	Marathon Robinson IL	Hovensa	Valero Port Arthur	Sunoco Philadelphia	Citgo Lake Charles
LA3C0630	IL2A0420	VI6A1530	TX3B1250	PA1A1030	LA3C0560
RCCU	82-FCCU		FCCU-1241	1232	FCCU317
118,800	54,450	160,000	73,500	90,000	49,000
		4,746	2,911		2,168
960	310	42	51	972	316
257,535	124,022	258,559	167,967		83,028
		258,559	171,935		85,322
		258,559	115,431		85,322
Partial	Partial	Full	Full	Partial	Full
Yes	Yes	No	No	Yes	No
			58.9		
0.7	2.1	105.1	42.0	ND	32.2
0.0001	0.0009	0.0158	0.0137		0.0158
3	17	406	250		388
		22,143	14,413		14,852
0.3	0.7	9.9	0.5	ND	0.6
		2,075	179		295
		33.2	4.3		56.9
3.2	-	37.3	3.2	23.6	21.1
		144.3	18.7		247.3
		7,859	1,106		9,732
		12.5	11.5		16.5
159.0	-	21.6	9.5	12.6	10.1
		4,551	3,274		4,659
SNCR	Enhanced SNCR	temperature controls & minimizing oxidation condition; low N0x additives	complete burn	SCR	low N0x additives & management

wet scrubber	scrubber	wet scrubber	venturi wet scrubber	wet scrubber	wet scrubber
venturi/wet scrubber	scrubber	venturi wet scrubber & tertiary cyclone	venturi/ wet scrubber	venturi/ wet scrubber	venturi /wet scrubber

0.7292	6.6774	2,521	823	102
3.066	9.0666	460.2942	183.7629	141.036
2.2	2.3	1.6	2.3	1.7

elopment for Flares and Certain Refinery Operations" due to test method or missing process data

ile:db05s01_8-19-14
nal to the flue gas flow rate.

Flint Hills MN	Chevron Kapolei HI	Chevron Pascagoula 5/07	Chevron Pascagoula 4/08	Hess NJ 9/10	Paulsboro (Tesoro) NJ 8/07
MN2B720	HI5A0380	MS3CO740	MS3CO741	NJ1A0820	NJ1A0860
FCCU228		FCCU1603	FCCU1603	PT1-A	FCCU1
81,000	53,000	88,000	88,000	70,000	55,000
		88,639	88,600	68,600	54,593
		-	-	67,200	-
		88,639	-	68,000	54,593
		88,639	-	68,000	54,593
3,321		3,693	3,691	2,857	2,273
479		46,512	47,110		38,307
173,000	47,612	149,500	151,389	128,500	107,641
173,000		149,500		129,300	99,292
173,000		149,500		129,300	99,292
Full	Full	Full	Full	Full	Full
Yes	No	No	No	No	No
	27.7	0.62			
3.3	5.4	0.4	0.5	13.4	8.6
0.0010	0.0024	0.00011	0.00014	0.0046	0.0038
19	113	3	3	104	80
1,003		114	135	4,690	3,784
5.5	0.1	-	-	0.9	-
1,657				308	
	60.7	211.8	-	132.3	9.0
-	12.6	138.1	-	74.9	3.5
		923.9		579.3	35.2
		37,400		26,216	1,540
	49.6000	13.4		52.0	16.0
-	16.7	14.3	-	48.3	11.1
		3,875		16,906	4,883
SNCR; feed hydrotreated	low N0x additives & other low NOx	low N0x additives + minimize excess O2 and CO promotor use	low N0x additives + minimize excess O2 and CO promotor use	low N0x combustion additives	high efficiency generator

DeSOx catalyst & low S feed	DeSOx catalyst	DeSOx catalyst & low S feed	DeSOx catalyst & low S feed	wet scrubber	wet scrubber
ESP	ESP	ESP & NH3 injection	ESP & NH3 injection	venturi/ wet scrubber	venturi/wet scrubber
7.0		0.0090	0.0106		0.2245
14.5854	23.4768	1.8396	2.19	58.692	37.668
2.1	0.9	1.7	1.7	1.8	2.0

ID	
Unit	
Fresh Feed Capacity Design	bbl/day
Fresh Feed During HCN Test	bbl/day
Fresh Feed During CO Test	bbl/day
Fresh Feed During NOx Test	bbl/day
Coke Burn Rate HCN	lb/hr
Stack Gas Flow Rate HCN	dscf/min
Stack Gas Flow Rate CO	dscf/min
Stack Gas Flow Rate NOx	dscf/min
Type of Regenerator	
CO Boiler	
HCN	ppmvd
HCN	lb/hr
HCN	lb/bbl design
HCN	MMlb/hr/dscf/min
HCN	lb/MMbbl test
NH3	lb/hr
NH3	lb/bbl design
NH3	lb/hr during test
CO	ppmvd
CO	lb/hr
CO	lb/bbl design
CO	MMlb/hr/dscf/min
CO	lb/bbl during test
NOx	ppmvd
NOx	lb/hr
NOx	lb/bbl design
NOx	lb/bbl test

NOx Controls

SOx Controls

PM Controls

HCN	lb/Mlb coke burnd	
HCN	ton/yr	
	dscfm per bbl/cd	
	1.9	

	Units	90%	95%	Hovensa 90%
Total Capital Investment Average	$			11,545
Annual Operating Costs	$/yr			2,437
Total Annual Cost	$/yr			3,526
Cost Inputs				
Fixed Capital Cost (TCI Fixed)	$1,000	20	20	
Variable Capital Cost (TCI Variable)	$1,000	6,820	8,870	
Fixed Annual Operating Cost (AOC Fixed)	$1,000/yr	121	121	
Variable Annual Operating (AOC Variable)	$1,000/yr	972	1,170	
Stack Test Inputs				
Flow Rate During Test	dscfm			258,559
FCCU Design Capacity	bbl/CD			150,000
Unit Flow Rate During Test	dscfm/bbl/CD			1.6
N0x	lb/hr			21.6
HCN	lb/hr			105.1
NH3	lb/hr			9.9
Emissions				
HCN	ton/yr			460.3
COST EFFECTIVENESS	$/TON			**8,512**

BASIS:

TCI=TCI Fixed + TCI Variable (Flow Rate/150,000)^0.6

AOC = AOC Fixed + AOC Variable (Flow Rate/150,000)

Capital Recovery Factor

	EPA	Fox
Eq. Life	20	30
Interest	0.07	0.019
CRF	0.09439	0.04404

Flow Rate in dscfm (MACTEC 2005)

Cost inputs from Coburn 4/28/08, Table 3. Emission (lb/hr) and flow rate data (dscfm) from ICR stack test. FCCU ca

	Citgo Lake Charles		Valero Port Arthur		
95%	90%	95%	90%	95%	
15,009	5,911	7,681	7,841	10,192	
13,277		6,796		9,017	
2,878	796	1,115	1,277	1,508	
4,295	1,354	1,840	2,017	2,470	
3,911		1,597		2,244	
258,559	83,028	83,028	167,967	167,967	
150,000	49,000	49,000	78,600	78,600	2009 EIA
1.6	1.7	1.7	2.3	2.3	
21.6	10.1	10.1	9.5	9.5	
105.1	32.2	32.2	42	42	
9.9	0.6	0.6	0.5	0.5	
460.3	141.0	141.0	184.0	184.0	
9,821	**10,667**	**13,731**	**12,183**	**14,134**	
9,166		**12,199**		**13,159**	

Escalation: CEPCI (Chem. Eng., May 2014)

	2005	468.2
	2009	521.9
0.46654	Ratio	1.11

pacity from EIA 2009.

	Units	90%	95%	Hovensa 90%
Total Capital Investment	$			10,101
Annual Operating Costs	$/yr			1,439
Total Annual Costs	$/yr			1,883

Cost Inputs			
Fixed Capital Cost (TCI Fixed)	$1,000	20	20
Variable Capital Cost (TCI Variable)	$1,000	6,820	8,870
Fixed Annual Operating Cost (AOC Fixed)	$1,000/yr	121	121
Variable Annual Operating (AOC Variable)	$1,000/yr	972	1,170
Reduction in Annual Operating Cost	$1000/yr	241	241

Stack Test Inputs		
Flow Rate During Test	dscfm	258,559
FCCU Design Capacity	bbl/CD	150,000
Unit Flow Rate During Test	dscfm/bbl/CD	1.6
N0x	lb/hr	21.6
HCN	lb/hr	105.1
NH3	lb/hr	9.9

Emissions (as N0x equivalents)		
N0x	ton/yr	94.6
HCN	ton/yr	511.5
NH3	ton/yr	76.5
Total N0x equivalents	ton/yr	**682.6**
Controlled N0x Equivalents		**614.4**
COST EFFECTIVENESS	$/TON	**3,066**

		Capital Recovery Factor	
BASIS:		EPA	Fox
TCI=TCI Fixed + TCI Variable (Flow Rate/150,000)^0.6	Eq. Life	20	30

	Interest	0.07	0.019
AOC = AOC Fixed + AOC Variable (Flow Rate/150,000)	CRF	0.09439	0.04404

Flow Rate in dscfm (MACTEC 2005)

Cost inputs from Coburn 4/28/08, Table 3. Emission (lb/hr) and flow rate data (dscfm) from ICR stack test. FCCU ca
Variable annual operating costs reduced by $389,930/yr - $149,138/yr = $240,792 to adjust catalyst replacement c

Citgo Lake Charles		Valero Port Arthur		
95%	90%	95%	90%	95%
13,131	5,364	6,970	8,525	11,081
11,616		**6,167**		**9,803**
1,792	587	862	1,117	1,383
1,615		**725**		**1,250**
2,370	824	1,169	1,492	1,871
2,127		997		1,682
258,559	83,028	83,028	167,967	167,967
150,000	49,000	49,000	78,600	78,600
1.6	1.7	1.7	2.3	2.3
21.6	10.1	10.1	9.5	9.5
105.1	32.2	32.2	42	42
9.9	0.6	0.6	0.5	0.5
94.6	44.2	44.2	41.6	41.6
511.5	156.7	156.7	204.4	204.4
76.5	4.6	4.6	3.9	3.9
682.6	**205.6**	**205.6**	**249.9**	**249.9**
648.5	**185.0**	**195.3**	**224.9**	**237.4**
3,655	**4,451**	**5,988**	**6,636**	**7,882**
3,360		**5,220**		**7,259**

Escalation: CEPCI (Chem. Eng., May 2014)

Ratio 30 yr/10 yr	2005	468.2

2009 521.9

0.46654

pacity from EIA 2009.

osts for a 5 year life and 1.9% interest.

To: Tejada, Matthew[Tejada.Matthew@epa.gov]; Shine, Brenda[Shine.Brenda@epa.gov]
From: Jessica Hodge
Sent: Tue 10/28/2014 5:23:06 PM
Subject: RE: Community Letter on Refinery rulemaking

We have had a few more signers this morning. We will upload an updated version before the end of the day.

We appreciate your attention to this important rule.

Sincerely,

Jessica

From: Tejada, Matthew [mailto:Tejada.Matthew@epa.gov]
Sent: Tuesday, October 28, 2014 12:05 PM
To: Jessica Hodge; Shine, Brenda
Subject: RE: Community Letter on Refinery rulemaking

Thanks Jessica.

Matthew Tejada

Director - Office of Environmental Justice

Environmental Protection Agency

202-564-8047

From: Jessica Hodge [mailto:jhodge@earthjustice.org]
Sent: Monday, October 27, 2014 5:19 PM
To: Shine, Brenda; Tejada, Matthew
Subject: Community Letter on Refinery rulemaking

Hi Brenda and Matt-

I wanted to make sure you both got a copy of the community letter from over 90 groups in support of a strengthened refiner rule.

We will be submitting this letter or an updated version and an extensive set up comments into the record.

Thank you for your work on this important rulemaking.

Cheers,

Jessica Hodge

Jessica Hodge

Air Campaign Manager

Earthjustice

1625 Massachusetts Avenue, NW, Suite 702

Washington, DC 20036-2212

T: (202) 745-5201

C: (202) 494-8717

F: (202) 667-2356

www.earthjustice.org

Because the earth needs a good lawyer

*please consider the environment before printing

To: Shine, Brenda[Shine.Brenda@epa.gov]; Tejada, Matthew[Tejada.Matthew@epa.gov]
From: Jessica Hodge
Sent: Mon 10/27/2014 9:18:57 PM
Subject: Community Letter on Refinery rulemaking
Community Comment Refinery Letter FINAL.10.27.2014.pdf

Hi Brenda and Matt-

I wanted to make sure you both got a copy of the community letter from over 90 groups in support of a strengthened refiner rule.

We will be submitting this letter or an updated version and an extensive set up comments into the record.

Thank you for your work on this important rulemaking.

Cheers,

Jessica Hodge

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Air Campaign Manager

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Because the earth needs a good lawyer

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October 27, 2014

The Honorable Gina McCarthy, Administrator
U.S. Environmental Protection Agency
William Jefferson Clinton Building
1200 Pennsylvania Ave., NW, Mail Code 1101A
Washington, DC 20460

EPA Must Protect Communities Against Toxic Air Pollution from Oil Refineries By Setting Enforceable Limits on Emissions to Safeguard Public Health

Dear Administrator McCarthy:

We, the undersigned national , community-based, labor, public health, faith, and environmental justice groups, write in support of the U.S. Environmental Protection Agency's efforts to strengthen refinery air toxics emission limits and monitoring requirements to protect public health. The EPA must reduce emissions of toxic chemicals from refineries based on the best scientific understanding of the harm this hazardous pollution can cause, especially for children and the elderly.

Refineries emit a toxic soup of carcinogens, neurotoxins, and hazardous metals, including benzene, hydrogen cyanide, hydrofluoric acid, arsenic, and lead. Each year, the refining industry reports about 40 million pounds of these pollutants. Several studies show that actual toxic emissions from flares, wastewater treatment plants, tanks, and cooling towers can be up to 100 times higher than what is reported. These pollutants not only compromise human health but have an adverse environmental effect on wildlife and other natural resources.

Refineries have a long history of dangerous incidents, including explosions and other malfunctions, which can cause emission levels to spike, exposing communities to even higher levels of health threats. Out of the 15 major industrial accidents that the U.S. Chemical Safety Board (CSB) is currently investigating, six occurred at petroleum refineries alone. Refinery disasters are preventable with common sense, readily available work practices, routine monitoring, and enhanced maintenance and safety protocols. For example, the latest refinery explosion in Richmond, California sent over 15,000 people to the emergency room. According to the CSB, this accident could have been prevented by requiring monitoring and replacement of aging pipes. The EPA's new standards must protect public health both from daily, unsafe emissions and avoidable emission spikes.

Vulnerable and Overburdened Communities Need Relief

149 U.S. refineries operate in 32 states and expose millions of Americans to toxic air emissions every day, posing a particularly excessive cancer risk for at least 7 million people. The most affected communities are disproportionately low-income, and African Americans and Hispanic Americans face an extra threat of cancer and other health hazards due to the pollution emitted by refineries. Fenceline

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communities need the EPA to provide environmental justice in this rulemaking by preventing chronic illness and premature death associated with toxic emissions from refineries. To protect the most vulnerable communities, the EPA should set national standards that include requirements for real-time fenceline monitoring, reduce the use of flares, and implement other pollution controls. These improvements have already proven effective at some sources, often as a result of the EPA's own enforcement actions.

EPA Regulations Must Address Real-World Impacts on Health and Safety, Close Dangerous Loopholes, Reduce Toxic Pollution, and Require Effective Fenceline Monitoring

EPA must strengthen and finalize the following important requirements it has proposed:

- **Fenceline monitoring.** The EPA must finalize a strong rule that contains meaningful fenceline monitoring requirements. The EPA's current concept for measuring benzene at the fenceline is flawed. It is important to ensure refineries measure and report toxic air pollution entering local communities' air and take corrective action. The EPA should strengthen the proposed requirements so they will actually protect people from toxic pollution. The final rule must mandate the use of the best current technology to give neighborhoods a real-time, continuous measure of pollution, not just a snapshot or long-term average that masks peak exposure levels. Importantly, the standards also must require accessible public reporting and enforceable corrective action so refineries will quickly fix violations.
- **Flaring.** The proposed monitoring and combustion efficiency requirements for flaring must be strengthened and finalized. The EPA must also set a hard limit on flaring to ban its routine and unnecessary use. It must minimize flaring to protect people from these emissions which currently violate the Act as hazardous air pollution on which the EPA has placed no limit.
- **Close all unlawful loopholes.** In addition to removing all unlawful exemptions (including for startups, shutdowns, malfunctions and other uncontrolled emissions) and finalizing a ban on uncontrolled emissions from pressure valves and bypasses, the EPA must not finalize any special deals for industry that loosen emission limits during startups, shutdowns, or malfunctions.
- **Tighter control of emissions from all parts of refineries.** The EPA must finalize limits for delayed coker units and storage tanks that are as strong as possible. The EPA also must require stronger protection from wastewater and all other emission points, rather than rejecting protections based on a distorted and inappropriate consideration of the cost-per-ton of reductions.

EPA must address important issues it has ignored in this rulemaking:

- **Real-world health risk and impacts.** The EPA must do an up-to-date health risk and impact assessment that applies the scientific recommendations of the National Academy of Sciences to account for the cumulative impacts of refineries' toxic air pollution on children and overburdened communities, and underreported emissions from flares, cooling towers, and tanks, including during upsets. Based on the exposure and health threats, the EPA must find the current health risk is unacceptable.

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- **Safer technology and systems.** The EPA must apply the findings from investigations of refinery incidents and other developments in pollution control methods to prevent accidents and minimize risks. The EPA should mandate preventive action and the use of inherently safer systems. Back-up power and improved leak detection and repair requirements, including the use of leakless valves, could help prevent disasters in the first place. Phasing-out of dangerous chemicals (like hydrogen fluoride) would help minimize harm if accidents still occur.
- **EPA must set proper limits on all pollutants**, including hydrogen cyanide, and ensure that lagging industry members catch up with the cleanest sources, instead of exposing the public to unfair, out-of-control emissions.

We urge you to put your stated commitment to environmental justice into action. In this rulemaking you must finalize health-protective limits on refineries' toxic air pollution, including requirements to prevent uncontrolled leaks, flaring, and explosions. Additionally, the rule must implement a system of fenceline monitoring that provides continuous real-time measurements of toxic pollution to enhance our right to know about toxic air releases, and assure compliance with emission limits. If U.S. refineries receive ever greater quantities of dirtier, lower quality crude oil such as tar sands, the EPA must not allow air emissions, upsets and accident threats to increase. It is critical that this rule provide the maximum achievable health and safety protections both for local communities and workers.

It is up to the EPA to create the vital safeguards from refinery pollution that all exposed Americans, and especially fenceline communities, need in this rulemaking. Thank you for your attention at this critical juncture for environmental justice. For additional information, please contact Jessica Hodge (jhodge@earthjustice.org), or Emma Cheuse (echeuse@earthjustice.org) at Earthjustice, (202) 667-4500.

Sincerely,

National Organizations

Alaska Wilderness League

American Nurses Association

Center for Effective Government

Clean Air Watch

Earthjustice

Environmental Defense Fund

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Environmental Integrity Project

Friends of the Earth

Greenpeace

Moms Clean Air Force

National Wildlife Federation

Natural Resources Defense Council

Physicians for Social Responsibility

Sierra Club

SustainUS: U.S. Youth for Sustainable Development

Alaska

Alaska Community Action on Toxics

Citizens for Clean Air

Cook Inletkeeper

Northern Alaska Environmental Center

Arizona

To Nizhoni Ani

California

Association of Irritated Residents

Apostolic Faith Center

Bay Area Refinery Corridor Coalition

California Communities Against Toxics

California Kids IAQ

California Safe Schools

Coalition For A Safe Environment

Community Dreams

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Communities for a Better Environment

Community Water Center

Crockett Rodeo United to Defend the Environment

Del Amo Action Committee

Desert Citizens Against Pollution

Global Community Monitor

Good Neighbor Steering Committee

Grayson Neighborhood Council

Martinez Environmental Group

People's Core

Philippine Action Groups

San Jaoquin Valley Latino Environmental Advancement and Policy Project

Society for Positive Action

Sunflower Alliance

Tri-Valley CARES

West County Toxics Coalition

Colorado

The Endocrine Disruption Exchange

Connecticut

Connecticut Labor Council for Latin American Advancement

Florida

Global Initiative of Caribbean Americans for a Better Earth

Hawaii

Ka Wai Ola O Waianae

Illinois

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Citizens Against Ruining the Environment

Environmental Justice Alliance of Greater Southeast Chicago

Respiratory Health Association

Iowa

Science and Environmental Health Network

Louisiana

Deep South Center for Environmental Justice

Louisiana Bucket Brigade

Louisiana Democracy Project

Louisiana Environmental Action Network

Lower Mississippi Riverkeeper

Massachusetts

Public Laboratory for Open Technology and Science

Michigan

Original United Citizens of Southwest Detroit

Missouri

Diesel Health Project

Mississippi

Jesus People Against Pollution

North Carolina

Citizens Against Titan

North Carolina Environmental Justice Network

Penderwatch & Conservancy

West End Revitalization Association

New York

ED_001369_00044339-00006

Friends of Hudson

WE ACT for Environmental Justice

Ohio

Ohio Citizen Action

Ohio Valley Environmental Coalition

Oregon

Institute for Neurotoxicology & Neurological Disorders Organization

Oregon Environmental Council

Pennsylvania

Clean Air Council

Texas

Air Alliance Houston

Citizens Environmental Coalition

Citizens for Environmental Justice

Community In-Power and Development Association

Downwinders at Risk

Environment Texas

Public Citizen (Texas)

Texas Environmental Justice Advocacy Services

Texas Campaign for the Environment

Texas Organizing Project

Texas Public Interest Research Group

Utah

Utah Physicians for a Healthy Environment

Utah Moms for Clean Air

Utah Clean Air Alliance

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Breathe Utah

Virginia

Center for Health Environment and Justice

CC: Janet McCabe
Gwendolyn Keyes Fleming
Matthew Tejada
Mustafa Ali

ED_001369_00044339-00008

To: Tejada, Matthew[Tejada.Matthew@epa.gov]
Cc: Ex. 6 - Personal Privacy
From: Emma Cheuse
Sent: Tue 7/15/2014 7:00:09 PM
Subject: Air toxics issues
72_Enviro_Petition for En Banc Hearing_07-14-2014.pdf
66_ALA&EIP_Corrected Amicus Brief_06-10-2014.pdf
67_States_Refiled Amicus Brief_06-10-2014.pdf
60_Waxman_Amicus Brief_06-09-2014.pdf

Matt, Jane asked me to send the attached along to you, as a courtesy. I hope all is well with you.
Best, Emma

Emma Cheuse

Senior Associate Attorney

Earthjustice

1625 Massachusetts Avenue, N.W., Suite 702

Washington, DC 20036-2243

T: 202.745.5220 or 202.667.4500 Ext. 5220

F: 202.667.2356

earthjustice.org

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ORAL ARGUMENT NOT YET SCHEDULED

No. 12-1459
(Consolidated with Nos. 12-1460 & 13-1147)

IN THE UNITED STATES COURT OF APPEALS
FOR THE DISRICT OF COLUMBIA CIRCUIT

NATIONAL ASSOCIATION FOR SURFACE FINISHING, *et al.*,

Petitioners,

v.

ENVIRONMENTAL PROTECTION AGENCY, *et al.*,

Respondents.

On Petition for Review of a Final Rule Issued by the
Environmental Protection Agency

BRIEF FOR AMICUS CURIAE UNITED STATES REPRESENTATIVE HENRY A. WAXMAN IN SUPPORT OF ENVIRONMENTAL PETITIONERS IN NO. 12-1460

Scott L. Nelson
Allison M. Zieve
Public Citizen Litigation Group
1600 20th Street, NW
Washington, DC 20009
(202) 588-1000

June 2014

Attorneys for Amicus Curiae

CERTIFICATE AS TO PARTIES, RULINGS, RELATED CASES, AND FILING OF SEPARATE BRIEF

As required by Circuit Rules 28(a)(1) and 29(d), counsel for amicus curiae United States Representative Henry A. Waxman hereby certifies as follows:

A. Parties and Amici

Except for the following, all parties, intervenors, and amici appearing in this court are listed in the Brief for Environmental Petitioners California Communities Against Toxics, Clean Air Council, and Sierra Club and the Brief for Petitioner National Association for Surface Finishing. Those Briefs do not list the following, who have filed or are expected to file notices of intent to appear as amici curiae:

United States Representative Henry A. Waxman, amicus curiae in support of the Environmental Petitioners in No 12-1460.

The American Lung Association, Air Alliance Houston, Environmental Integrity Project, Environment Texas, and Pleasantville Area Super Neighborhood Council #57, amici curiae in support of the Environmental Petitioners in No 12-1460.

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California Air Resources Board and South Coast Air Quality Management District, amici curiae in support of the Environmental Petitioners in No 12-1460.

The Chromium RTR Coalition, an ad hoc association consisting of the American Chemistry Council, American Coatings Association, American Forest & Paper Association, American Wood Council, American Fuel & Petrochemical Manufacturers, American Iron & Steel Institute, Brick Industry Association, Council of Industrial Boiler Owners, National Association of Manufacturers, National Mining Association, National Oilseed Processors Association, Rubber Manufacturers Association, and Utility Air Regulatory Group, amici curiae in support of Petitioner National Association of Surface Finishers in Nos. 12-1459 and 13-1147, and in opposition to the Environmental Petitioners in No. 12-1460.

B. Rulings Under Review

References to the rulings at issue appear in the Brief for Environmental Petitioners California Communities Against Toxics, Clean Air Council, and Sierra Club and the Brief for Petitioner National Association for Surface Finishing.

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C. Related Cases

These cases have not previously been before this Court, and amicus curiae is not aware of any related cases.

D. Separate Brief

Representative Waxman is a sitting Member of the United States House of Representatives. As such, he is an "officer" and a "governmental entity" within the meaning of FRAP 29(a) and Circuit Rules 29(b) and (d), and the rules permit him both to file a brief as amicus curiae without the consent of the parties and to file a separate brief from non-governmental amici. Should the Court nonetheless consider Representative Waxman to fall outside the scope of its Rule's definition of "governmental entity," Representative Waxman has received the consent of all parties to file this brief, and undersigned counsel certifies that a separate brief is necessary because the objective of this brief is to provide the perspective of one of the principal authors of the legislation at issue on the purposes that led to its enactment and how its language reflects those purposes—an objective that would not be served by joining in a brief with the other amici supporting the Environmental Petitioners, as those amici do not share Representative

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Waxman's experience as a leader in the process of enacting the statute, and they address the issues from a markedly different vantage point that could not practicably be combined with his.

Whether on the ground that he is a government entity or on the ground that a separate brief is necessary under Circuit Rule 29(b), acceptance of a separate brief from Representative Waxman would be consistent with respect for members of a coordinate branch of government and with this Court's general practice of accepting amicus briefs from congressional sponsors of legislation without requiring that they be combined with briefs from non-congressional amici.

Respectfully submitted,

s/Scott L. Nelson

Scott L. Nelson
Allison M. Zieve
Public Citizen Litigation Group
1600 20th Street, NW
Washington, DC 20009
(202) 588-1000

June 9, 2014

Attorneys for Amicus Curiae

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---

* Authorities upon which we chiefly rely are marked with asterisks.

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* *White Stallion Energy Ctr., LLC v. EPA*,
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Former Clean Air Act § 112(b)(1), as added by Pub. L. No. 91-604, § 4(a), 84 Stat. 1676, 1685 (1970) 10

EPA, Final Rule, *National Emission Standards for Hazardous Air Pollutants; Benzene Emissions From Maleic Anhydride Plants, Ethylbenzene/Styrene Plants, Benzene Storage Vessels, Benzene Equipment Leaks, and Coke By-Product Recovery Plants*, 54 FR 38044 (1989) 22

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Other:

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Comptroller General of the United States, *Delays in EPA's Regulation of Hazardous Air Pollutants* (1983); http://www.gao.gov/assets/150/140586.pdf. 13, 14, 23

EPA, *National Ambient Air Quality Standards (NAAQS)*, http://www.epa.gov/air/criteria.html 10

EPA, *The Toxics-Release Inventory: A National Perspective* (1989) 13

H.R. Conf. Rep. No. 101-92 (1990) 18

H.R. Rep. No. 101-490 (1990) 10, 12, 13, 14

Office of the Legislative Counsel, U.S. House of Representatives, *House Legislative Counsel's Manual on Drafting Style* (1995), http://legcounsel.house.gov/HOLC/Drafting_Legislation/draftstyle.pdf 26

Office of the Legislative Counsel, U.S. Senate, *Legislative Drafting Manual* (1997), http://www.law.yale.edu/documents/pdf/Faculty/SenateOfficeoftheLegislativeCounsel_LegislativeDraftingManual(1997).pdf 26

Subcomm. on Health and Env't, Comm. on Energy and Commerce, U.S. House of Reps., *The EPA Preliminary List of High Risk Industrial Facilities* (May 1989) 13

Subcomm. on Health and Env't, Comm. on Energy and Commerce, U.S. House of Reps., *The National Toxic Release Inventory: Preliminary Air Toxic Data* (March 22, 1989). 12

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Toxic Air Pollutants, *Hearing Before the Subcomm. on Health and the Environment of the House Comm. on Energy and Commerce*, House of Representatives, 98th Cong. (Dec. 1984) 11

Henry Waxman, *Clean Air: An Act That Works* (1995), http://waxman.house.gov/sites/waxman.house.gov/files/1.pdf. 8

Henry Waxman, *An Overview of the Clean Air Act Amendments of 1990*, 21 Envtl. L. 1721 (1991) 7, 8, 9, 10, 13, 14, 18, 19, 24

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GLOSSARY

Amendments	Clean Air Act Amendments of 1990
EPA	United States Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act of 1986
MACT	Maximum Achievable Control Technology

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STATUTES AND REGULATIONS

Applicable statutes and regulations are contained in the addenda to the Brief for the Environmental Petitioners.

INTEREST OF AMICUS CURIAE[1]

Representative Henry A. Waxman is a member of the United States House of Representatives representing California's 33rd Congressional District, comprising portions of Los Angeles and adjoining communities. Representative Waxman has served in the House since 1974. He has long been a leader on environmental protection and public health, as reflected in the many pieces of legislation he has successfully championed and in his leadership positions.

Since 2011, Representative Waxman has been the Ranking Minority Member of the House Committee on Energy and Commerce, which has jurisdiction over federal environmental legislation, including the Clean Air Act. From 2009 to 2011, he was Chairman of Energy and Commerce, following two years chairing the House Committee on

[1] Representative Waxman, a "governmental entity" under Circuit Rule 29(b), files this brief as authorized by FRAP 29(a) and Circuit Rules 29(b) and (d). All parties have also consented to the submission of this brief. This brief was not authored in whole or in part by counsel for a party, and no person or entity other than amicus curiae or his counsel made a monetary contribution to its preparation or submission.

Government Reform and Oversight, and ten years as Ranking Minority Member of that committee. Earlier, Representative Waxman chaired the Energy and Commerce Committee's Subcommittee on Health and the Environment from 1979 through 1994 and was Ranking Minority Member of that subcommittee for another two years.

Representative Waxman has consistently sought to strengthen enforcement of environmental laws by the Environmental Protection Agency (EPA). He has advocated legislation that expands the agency's authority to protect the public and, where appropriate, cabins its discretion by mandating action. And through vigorous oversight, he has fought EPA efforts to back away from its statutory obligations.

Most relevant here, Representative Waxman was a primary author of the Clean Air Act Amendments of 1990, Pub. L. No. 101-549, 104 Stat. 2399 (1990). That bipartisan legislation, a signature achievement of the 101st Congress and the Administration of President George Bush, comprehensively revised the Clean Air Act to address, among other things, urban smog, hazardous air pollution, acid rain, and ozone depletion.

The Amendments' hazardous air pollution provisions, at issue here, reflected Congress's concern that EPA had not taken meaningful steps to limit toxic air pollutants under the Clean Air Act of 1970, Pub. L. No. 91-604, 84 Stat. 1676 (1970). To ensure that EPA would take prompt and effective action, Congress enacted requirements that significantly limit EPA's discretion. The Amendments specify the pollutants that EPA must address, the time by which it must address them, and the technology-based requirements—"Maximum Achievable Control Technology" ("MACT")—that EPA must impose on hazardous polluters. The Amendments further require periodic review of MACT standards and issuance of updated standards satisfying the Amendments' requirements when necessitated by developments in control technologies.

Representative Waxman submits this brief because EPA, in promulgating the chromium standard at issue here, and this Court, in *Association of Battery Recyclers v. EPA*, 716 F.3d 667 (D.C. Cir. 2013), have misread the Amendments' plain text and excused EPA from compliance with baseline statutory requirements when it periodically issues updated standards. This misreading frustrates Congress's clearly expressed intent that hazardous air pollutant standards meet the

Amendments' technology-based requirements. Unless this Court corrects its precedent, through en banc hearing if necessary, public protection against toxic air pollutants will be significantly impaired, and EPA will be left without meaningful criteria governing revised standards under the statute—exactly the opposite of what Congress intended when it specified clear and precise requirements that hazardous air pollutant standards must meet. Representative Waxman believes that his understanding of the Amendments' terms, background and purposes will assist the Court in bringing EPA's implementation of the law into conformity with its unambiguous language and manifest purpose.

SUMMARY OF ARGUMENT

The Clean Air Act Amendments' hazardous air pollutant provisions precisely tell EPA *what* to regulate, *when* to regulate, and *how* to regulate. Those provisions, found at 42 U.S.C. § 7412, unambiguously foreclose EPA's view that when revising a hazardous pollutant emission standard, it need not comply with the substantive requirements section 7412(d) imposes on such standards.

The Clean Air Act Amendments were the product of exhaustive congressional deliberations aimed at strengthening and expanding the

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Clean Air Act. Throughout the Amendments, Congress achieved these objectives by imposing specific mandates on EPA.

Section 7412 exemplifies this approach. It was amended after 20 years of regulatory failure during which EPA abdicated its responsibility under the Clean Air Act of 1970 to identify and regulate hazardous air pollutants. EPA's failure had stark consequences: American industry released billions of pounds of toxics annually with little or no effort to control emissions.

The Amendments attacked this problem by overhauling section 7412 to ensure that EPA could not escape its responsibilities. Section 7412 specifically identifies chemicals EPA must regulate, gives EPA precise deadlines, and directs EPA to promulgate emission standards requiring maximum achievable reduction of hazardous pollutants—a technology-based criterion Congress adopted to achieve substantial emissions reductions that the 1970 Act's health-based approach had not fostered.

Section 7412's plain language makes the requirement of maximum achievable reduction applicable to emission standards promulgated under subsection (d) of section 7412. When EPA periodically revises

those standards under paragraph (6) of subsection (d), it acts under subsection (d) and therefore must meet that requirement.

EPA's contrary construction contradicts the statute's unambiguous language and the purposes it reflects. In upholding that misconstruction, this Court's 2013 decision in *Association of Battery Recyclers v. EPA*, 716 F.3d 667, made no attempt to reconcile EPA's position with the statutory language. *Battery Recyclers* conflicts with this Court's consistent recognition—most recently in *White Stallion Energy Center, LLC v. EPA*, __ F.3d __, 2014 WL 1420294 (D.C. Cir. April 15, 2014)—that EPA must give effect to section 7412's plain language and the congressional purposes it embodies. This Court should reconsider *Battery Recyclers*, through en banc hearing if necessary, and hold that standards revised under section 7412(d)(6) must meet the requirements applicable to subsection (d) standards. Only in this way can the Court give effect to the statutory language and vindicate congressional intent to require maximum achievable reductions in hazardous pollutants.

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ARGUMENT

I. Section 7412 Was Carefully Crafted to Ensure Stringent Emission Standards by Providing Specific Directions to EPA.

A. The Clean Air Act Amendments Strengthened the Act by Fostering Technology-Based Standards and Constraining EPA's Discretion.

The Clean Air Act of 1970 is a milestone in the history of environmental legislation, establishing the framework for cooperative federal-state protection of air quality under EPA's leadership and leading to nationwide improvements in air quality. The major overhaul of the Clean Air Act effected by the Clean Air Act Amendments of 1990 is no less significant. The Amendments—occupying 313 pages of the Statutes at Large, compared to the 1970 Act's 38—reflected a massive, ten-year effort to improve what had worked, correct significant failures, tackle previously unaddressed problems such as acid rain and ozone depletion, and facilitate more effective enforcement across the board. "The product of all this effort is a sweeping collection of programs that dwarfs previous environmental laws."[2]

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[2] Henry Waxman, *An Overview of the Clean Air Act Amendments of 1990*, 21 Envtl. L. 1721, 1723–24 (1991).

This painstaking legislative process involved close congressional scrutiny of a wide range of issues. During the course of a decade, the focus of the effort shifted, as attempts early in the Reagan Administration to weaken the Act met resistance and were replaced by a broad-based effort to strengthen and expand the law.[3] With the impetus of a looming deadline for sanctions under the Act's "nonattainment" provisions against over 200 communities nationwide that failed to meet ambient air quality standards,[4] and with a more supportive attitude from President George Bush and his administration,[5] the Amendments finally achieved passage in September 1990.

The legislation that emerged from "one of the longest, most scrutinized, and hardest fought legislative battles in recent history"[6] reflects Congress's detailed attention to innumerable issues. Congress's carefully chosen words embodied policy choices and compromises that,

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[3] The process leading to the Amendments is described in Henry Waxman & Joshua Green, *The Waxman Report: How Congress Really Works* 75–102 (2009), and Waxman, *Overview*, *supra*, at 1723–42.

[4] *See* Waxman, *The Waxman Report*, *supra*, at 86–87, 93–94.

[5] *See id.* at 94–95.

[6] Henry Waxman, *Clean Air: An Act That Works* (1995), http://waxman.house.gov/sites/waxman.house.gov/files/1.pdf.

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together, led to the Amendments' passage. In a host of provisions, Congress resolved critical issues through explicit requirements that EPA take specific actions, in particular ways, by designated dates:

> To an extent unprecedented in prior environmental statutes, the pollution control programs of the 1990 Amendments include very detailed mandatory directives to EPA, rather than more general mandates or broad grants of authority that would allow for wide latitude in EPA's implementation of the C[lean] A[ir] A[ct]'s programs. In addition, statutory deadlines are routinely provided to assure that required actions are taken in a timely fashion.[7]

The Amendments also reflect a broad congressional preference for stringent standards that "force the development of new technologies to provide for health protection and to achieve environmental objectives."[8]

B. In Amending Section 7412, Congress Addressed a History of Regulatory Failure.

The Amendments' hazardous air pollutant provisions exemplify Congress's approach of imposing specific mandates that EPA take timely action to issue aggressive standards based on pollution control technologies. These requirements reflected Congress's chagrin at EPA's 20 years of failure to control hazardous emissions under the 1970 Act.

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[7] Waxman, *Overview*, *supra*, at 1742.

[8] *Id*. at 1749.

The 1970 Act required EPA not only to issue national ambient air quality standards for the most prominent air pollutants—an obligation the agency successfully fulfilled when it issued such standards for six "criteria pollutants"[9]—but also to regulate hazardous air pollutants, contaminants released in lower volumes but posing risks of cancer and toxicity. The Act required EPA *immediately* to list such pollutants, to update the list regularly, and, within one year of listing any hazardous pollutant, to promulgate emission standards providing "an ample margin of safety to protect the public health."[10] EPA's exercise of these responsibilities was a dismal failure: By 1990, EPA had listed only eight hazardous pollutants and issued emission standards for only seven.[11]

Congress was keenly aware of the extent and consequences of EPA's failure, and early in the process leading to the Amendments it began to focus on the need to remedy the agency's inaction with precise and mandatory directions to act. Indeed, a major turning point in the

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[9] *See* EPA, *National Ambient Air Quality Standards (NAAQS)*, http://www.epa.gov/air/criteria.html.

[10] Former Clean Air Act § 112(b)(1), as added by Pub. L. No. 91-604, § 4(a), 84 Stat. 1676, 1685 (1970).

[11] *See* H.R. Rep. No. 101-490, at 151, 322 (1990); Waxman, *Overview*, *supra*, at 1774.

fight against the Reagan Administration's initial attempts to weaken the Act was a 1982 vote in the House Energy and Commerce Committee to give EPA a strict deadline to consider whether to issue standards for 37 suspected carcinogens.[12]

In the years that followed, the extent of the toxic pollutant problem became increasingly evident. The release of methyl isocyanate from a Union Carbide plant at Bhopal, India, in December 1984, which killed over 3,000 people and injured tens of thousands more, brought the issue forcefully to Congress's attention—along with the realization that EPA had not even classified methyl isocyanate as hazardous.[13] Representative Waxman convened hearings that revealed that a similar plant in West Virginia emitted 11,000 tons of chemicals each year, including many that were carcinogens.[14]

These revelations highlighted the absence of reliable information about the extent of toxic emissions. To address that gap, Representative Waxman's subcommittee asked chemical manufacturers to disclose the

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[12] *See* Waxman, *The Waxman Report*, *supra*, at 83–85.

[13] *See id.* at 89.

[14] *See Toxic Air Pollutants*, *Hearing Before the Subcomm. on Health and the Environment of the House Comm. on Energy and Commerce*, House of Representatives, 98th Cong. 43–44, 250–52 (Dec. 1984).

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amounts of toxic substances they released into the air. Incomplete responses from about 50 of the 86 companies surveyed showed annual releases of over 60 million pounds of toxic pollutants.[15]

At Representative Waxman's urging, Congress responded with the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA), Pub. L. No. 99-499, Title III, 100 Stat. 1613, 1728–58 (1986), *codified at* 42 U.S.C. §§ 11001–50. Section 313 of EPCRA requires that releases of toxic chemicals above threshold amounts be reported to EPA, which uses the reports to develop a national Toxics Release Inventory. *See* 42 U.S.C. § 11023.

The information disclosed under EPCRA showed that EPA's failure to regulate toxic pollutants did not reflect the absence of pollutants posing significant cancer and toxicity risks. Far from it. Despite industry claims that Representative Waxman's survey exaggerated toxic releases, EPA's first Toxics Release Inventory, preliminary results of which were released by Representative Waxman's subcommittee,[16] revealed that

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[15] *See* H.R. Rep. No. 101-490, at 151.

[16] *See* Subcomm. on Health and Env't, Comm. on Energy and Commerce, U.S. House of Reps., *The National Toxic Release Inventory: Preliminary Air Toxic Data* (March 22, 1989).

industry had reported 2.7 *billion* pounds of toxic emissions for 1987.[17] EPA acknowledged that the reported quantities understated the actual prevalence of toxic pollution.[18] EPA's estimates of the health effects of emissions—also revealed by Representative Waxman's subcommittee—were equally alarming: Residents near sites releasing toxic pollutants were exposed to substantial cancer risks—in some reported instances as high as a 1 in 100 lifetime risk—and EPA estimated that toxic emissions caused thousands of excess cancer cases annually.[19]

EPA, however, had dragged its feet in listing toxic pollutants and triggering the statutory deadline for issuing emission standards. The "ample margin of safety" standard in the 1970 Act posed scientific challenges to EPA in quantifying health impacts of toxic pollutants.[20] In

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[17] *See* H.R. Rep. No. 101-490, at 151–52; Waxman, *The Waxman Report*, *supra*, at 93; EPA, *The Toxics-Release Inventory: A National Perspective* 3 (1989).

[18] *See* H.R. Rep. No. 101-490, at 152.

[19] *See id.* at 153, 316–18; *see also* Waxman, *Overview*, *supra*, at 1773; Subcomm. on Health and Env't, Comm. on Energy and Commerce, U.S. House of Reps., *The EPA Preliminary List of High Risk Industrial Facilities* (May 1989).

[20] *See* Comptroller General of the United States, *Delays in EPA's Regulation of Hazardous Air Pollutants* 14–23 (1983), http://www.gao.gov/assets/150/140586.pdf.

addition, EPA believed it could not comply with the one-year deadline for issuing regulations after it listed substances, so it avoided the problem by not listing them.[21] And because many hazardous pollutants pose risks at extremely low exposures and lack threshold safe levels, there was concern that the "ample margin of safety" standard could require standards so stringent that industry would be unable to comply.[22]

Thus, instead of issuing the emission standards the statute required, EPA chose not to regulate recognized hazards.[23] Of the top 50 toxic industrial pollutants, by volume, only one was among the seven hazardous pollutants EPA had regulated under the 1970 Act.[24] Companies often faced no legal requirements, and had no economic or other incentives, to reduce emissions of these dangerous substances. Not surprisingly, over 70 percent of companies reporting toxic emissions reported no use of controls for them.[25]

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[21] *See id.* at 43.

[22] *See id.* at 43–44 (1983).

[23] *See* H.R. Rep. No. 101-490, at 151; Waxman, *The Waxman Report*, *supra*, at 89; Waxman, *Overview*, *supra*, at 1774.

[24] *See* H.R. Rep. No. 101-490, at 322; Waxman, *Overview*, *supra*, at 1774.

[25] *See id.*

C. Section 7412's Specific Mandates Tell EPA What, When and How to Regulate.

In the 1990 Amendments, Congress responded to EPA's two decades of regulatory failure by comprehensively amending 42 U.S.C. § 7412 to provide precise directions to EPA ensuring meaningful emission standards for hazardous air pollutants. Congress began by relieving EPA of primary responsibility for identifying hazardous pollutants: Congress itself specified 189 hazardous pollutants that EPA must regulate. 42 U.S.C. § 7412(b)(1). Although EPA may add to or make deletions from the list, section 7412 carefully defines procedures and substantive criteria EPA must follow in doing so. *See id.* § 7412(b)(2)–(3).

Congress further provided firm deadlines for EPA action. Subsection (c) of section 7412 requires EPA to list categories of "major sources" (those emitting 10 tons of one hazardous pollutant or 25 tons of multiple pollutants) and "area sources" (emitters that are not "major sources") within 12 months of the Amendments' enactment, and to update the list at least every 8 years. Once EPA lists sources, it must promulgate emission standards governing them within time limits stated in subsections (c) and (e). *See id.* § 7412(c)(2). Those deadlines range from 2 to 10 years after November 15, 1990, except for categories EPA

subsequently lists, for which standards must be promulgated within two years of listing. *See id.* §§ 7412(c)(3), (5) & (6); (e)(1).

Congress also specifically defined the standards that EPA must prescribe. The statute makes promulgation of emission standards under subsection (d) of section 7412 for listed sources of hazardous pollutants mandatory. Section 7412(c)(2), entitled "Requirement for emissions standards," commands that, "[f]or the categories and subcategories [of sources] the Administrator [of EPA] lists, the Administrator shall establish emissions standards under subsection (d) of this section[.]" *Id.* § 7412(c)(2). Subsection (d) in turn repeats that EPA "shall promulgate regulations establishing emission standards for each category or subcategory of major sources and area sources of hazardous air pollutants listed for regulation pursuant to subsection (c) of this section in accordance with the schedules provided in subsections (c) and (e) of this section." *Id.* § 7412(d)(1).[26]

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[26] This command has an exception for "electric utility steam generating units," which EPA need only regulate if it finds regulation "appropriate and necessary." 42 U.S.C. § 7412(n)(1)(A). Although the statute grants EPA discretion whether to make that finding, if it does so it is *required* to regulate those sources "under this section," *id.*, through standards satisfying subsections (d) and (f). *See White Stallion*, __ F.3d at __, 2014 WL 1420294, at *14–15.

Paragraph (2) of subsection (d) goes on to specify the technology-based criteria that emission standards for hazardous air pollutants must meet. It provides that "[e]missions standards promulgated under this subsection and applicable to new or existing sources of hazardous air pollutants shall require the maximum degree of reduction in emissions of the hazardous air pollutants subject to this section ... that the Administrator ... determines is achievable[.]" *Id.* § 7412(d)(2).

This mandate that EPA use "Maximum Achievable Control Technology" ("MACT") to control emissions reflected Congress's deliberate choice to use technology-based emission standards, rather than the health-based standards of the 1970 Act, as the first-line tool to combat hazardous pollution. Although Congress's goal was to protect public health, the assignment that EPA issue standards that ensured safety had proved to be beyond its capacity or willingness to pursue effectively. The maximum-achievable-reduction requirement substituted a criterion ensuring both substantial emissions reductions and feasibility.[27] Although MACT standards might leave the public exposed to

[27] *See*, *e.g.*, 136 Cong. Rec. S16978–79 (Statement of Sen. Baucus) (Oct. 27, 1990).

some risk, they were substantial improvements over no standards at all. Moreover, because the maximum reduction achievable would increase over time as technology advanced, MACT standards would provide ever-increasing health protections within bounds of feasibility.

For these reasons, Congress made the maximum-achievable-reduction mandate "[t]he cornerstone of the new hazardous air pollution control regime."[28] As the Conference Report on the Amendments stated unequivocally, "For each category of sources, EPA *will promulgate* a standard which requires the installation of maximum achievable control technology (MACT) by the sources in the category"; the legislation thus "requires EPA to require the maximum degree of reduction of hazardous air pollutants that the Administrator determines is achievable." H.R. Conf. Rep. No. 101-92, at 338 (1990) (emphasis added).

Congress not only set forth the general standard of maximum achievable reduction, but also specifically "prescribed the minimum stringency of the MACT standards" because it was "[c]oncerned that EPA might not be able to withstand industry pressure in establishing

[28] Waxman, *Overview*, *supra*, at 1775.

MACT standards."[29] Congress defined minimum criteria MACT standards must meet in objectively quantifiable terms, enabling EPA to establish emission standards through relatively straightforward determinations of the reductions achieved by existing sources. Congress thus limited the need for EPA to make subjective judgments and made it easier to hold EPA accountable for its compliance with the statute.

Specifically, paragraph (3) of subsection (d) defines the "maximum degree of reduction in emissions … achievable" for both new and existing sources and requires EPA standards to meet specific stringency floors based on emissions from well-controlled, existing sources:

> The maximum degree of reduction in emissions that is deemed achievable for new sources in a category or subcategory shall not be less stringent than the emission control that is achieved in practice by the best controlled similar source, as determined by the Administrator. Emission standards promulgated under this subsection for existing sources in a category or subcategory may be less stringent than standards for new sources in the same category or subcategory but shall not be less stringent, and may be more stringent than—
>
> (A) the average emission limitation achieved by the best performing 12 percent of the existing sources … in the category or subcategory for categories and subcategories with 30 or more sources, or

[29] *Id.* at 1777.

> (B) the average emission limitation achieved by the best performing 5 sources ... in the category or subcategory for categories or subcategories with fewer than 30 sources.

42 U.S.C. § 7412(d)(3). Because paragraph (3) defines "the scope of the word 'achievable' in section 7412(d)(2)," standards subject to paragraph (2)'s maximum-achievable-reduction criterion must meet paragraph (3)'s floor requirements. *Cement Kiln Recycling Coal. v. EPA*, 255 F.3d 855, 861 (D.C. Cir. 2001).

In short, the statute provides that the required emission standards for new and existing sources must require maximum achievable reductions in emissions, and it sets floors EPA must satisfy in setting such MACT standards: At a bare minimum, EPA must require *new sources* to achieve the same emissions reductions as the best performing similar sources, and *existing sources* to reduce emissions as much as the top 12 percent or 5 similar sources, depending on the number of sources in the category. EPA may go beyond these floors if it "determines, considering cost and the other factors listed in Section [7412](d)(2), [that] a more restrictive standard is 'achievable[.]'" *NRDC v. EPA*, __F.3d __, 2014 WL 1499825, at *4 (D.C. Cir. April 15, 2014). The floors themselves, however, are "minimum stringency level[s]" that section

7412(d) standards must meet regardless of cost or other factors EPA may consider in setting "beyond-the-floor" standards. *Id.*; *see also Sierra Club v. EPA*, 479 F.3d 875, 877 (D.C. Cir. 2007); *Nat'l Lime Ass'n v. EPA*, 233 F.3d 625, 629 (D.C. Cir. 2000).

Subsection (d) provides only one exception to the requirement that emission standards promulgated under it meet these floors: For area sources—sources that emit smaller amounts of toxic pollutants—EPA may "promulgate standards ... which provide for the use of generally available control technologies or management practices by such sources to reduce emissions of hazardous air pollutants." 42 U.S.C. § 7412(d)(5). This authority to require less than maximum achievable reductions applies "[w]ith respect *only* to categories and subcategories of area sources[.]" *Id.* (emphasis added).

Lest the point be lost, Congress added a fail-safe provision that would kick in if EPA did not carry out its duty to issue a MACT standard by an applicable statutory deadline. In that event, Congress required any major source in the relevant category to obtainan emissions permit and specified that the permit must include emission limits equivalent to those in a subsection (d) emission standard—i.e., it must require

maximum achievable reductions and meet the paragraph (3) floors. *See id.* § 7412(j)(2), (5).

Cognizant that technology-based standards might still permit emissions posing significant health risks, Congress further required EPA to address those risks once the MACT standards were in place. Subsection (f) of section 7412 requires that, not later than 8 years after establishing a MACT standard under subsection (d), EPA must promulgate a more stringent standard if necessary to provide an "ample margin of safety to protect public health" or "prevent … an adverse environmental effect." *Id.* § 7412(f)(2)(A).[30] With respect to carcinogenic pollutants, subsection (f) requires a health-based standard if a MACT standard under subsection (d) "do[es] not reduce lifetime excess cancer

[30] Subsection (f) defines an "adequate margin of safety" to be the same as the standard under the 1970 Act's hazardous air pollutant provisions, which had by 1990 been interpreted to require EPA to establish an "acceptable" level of exposure and limit emissions to provide at least that degree of protection, regardless of cost; EPA could limit emissions even further to provide an additional margin of safety, but could consider costs and feasibility in providing such additional protection. *See* EPA, Final Rule, *National Emission Standards for Hazardous Air Pollutants; Benzene Emissions From Maleic Anhydride Plants, Ethylbenzene/Styrene Plants, Benzene Storage Vessels, Benzene Equipment Leaks, and Coke By-Product Recovery Plants*, 54 FR 38044, 38049 (1989) (summarizing this Court's decision in *NRDC v. EPA*, 824 F.2d 1146, 1165–66 (D.C. Cir. 1987)).

risks to the individual most exposed to emissions from a source in the category or subcategory to less than one in one million." *Id.* Like subsection (d)'s requirement of MACT standards, subsection (f)'s requirements are subject to one exception: for area sources only, EPA need not promulgate such standards if it regulates them using the alternative "generally available control technology" approach. *See id.* § 7412(d)(5) (permitting such standards "in lieu of" standards under "subsection (f) of this section").

Finally, Congress recognized that standards based on maximum achievable reductions should evolve as technology advances and achievable reductions grow ever greater. Under the 1970 Act, however, EPA had not updated the few standards it had issued to account for such changes.[31] Accordingly, paragraph (6) of subsection (d) provides that, every 8 years after promulgating a MACT standard (or a health-based standard under subsection (f)), EPA must review the standard and, if necessary, issue a revised standard: "The Administrator shall review, and revise as necessary (taking into account developments in practices, processes, and control technologies), emission standards promulgated

[31] *See* Comptroller General, *supra*, at 44.

under this section no less often than every 8 years." *Id.* § 7412(d)(6). In this way, "the continual tightening of existing source standards will be assured[.]"[32] Paragraph (6) reflects a congressional determination that as technology advances and the reductions achieved by better-performing sources improve, it is both fair and reasonable to require the standards that similar sources must meet to be tightened accordingly.

The requirement that EPA consider issuance of health-based standards under subsection (f) does not vitiate the need for continued observance of the floor maximum-achievable-reduction requirement. EPA's determination of "acceptable" risk will not necessarily reduce risks to the level Congress deemed desirable, *see NRDC v. EPA,* 529 F.3d 1077, 1081–83 (D.C. Cir. 2008), and there is no level of exposure that can be reliably demonstrated to be safe for many hazardous materials. Thus, Congress commanded that subsection (f) standards may not be *less* stringent than subsection (d) standards, *see* 42 U.S.C. § 7412(f)(2)(A), and it required that MACT standards be continually reevaluated and tightened if necessary every 8 years, *see id.* § 7412(d)(6), even if EPA determines that no distinct subsection (f) standard is required.

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[32] Waxman, *Overview*, *supra*, at 1776, n.256.

II. EPA's Failure to Apply Maximum-Achievable-Reduction Floors When Promulgating Revised Standards Violates Section 7412.

A. Section 7412's Language, Structure, Context, and Purpose Require Revised Standards Promulgated Under 7412(d)(6) to Satisfy Paragraphs (2) and (3) of Subsection (d).

The precise language of the interlocking provisions through which Congress sought to strengthen EPA's authority to regulate hazardous air pollutants while limiting its discretion to avoid effective regulation resolves the issue in this case. The statute requires EPA to issue hazardous pollutant emission standards to meet the maximum-achievable-reduction criterion of section 7412's subsection (d). Once EPA has issued such a MACT standard, paragraph (6) of subsection (d) requires the agency to consider every 8 years whether revising it is necessary in light of stated criteria, and, if so, to issue a revised standard.

Under the statute's plain language, a revised emission standard issued under paragraph (6) of subsection (d) is a standard "promulgated under" subsection (d). Such a standard is therefore subject to the requirement in paragraph (2) of subsection (d) that "[e]missions standards promulgated under this subsection"—except those for area sources under section 7412(d)(5)—"shall require the maximum

[achievable] degree of reduction in emissions of the hazardous air pollutants[.]" 42 U.S.C. § 7412(d)(2). Compliance with that mandate, in turn, requires compliance with the floors established by section 7412(d)(3), which define the lower bounds of the maximum achievable reductions demanded by paragraph (2).

EPA's view that revised standards promulgated under paragraph (6) of subsection (d) are not subject to the requirements paragraphs (2) and (3) impose on standards promulgated under subsection (d) contradicts the carefully wrought language of the statute. Throughout section 7412, Congress used the term "subsection" in conformity with its general usage to refer to the lower-case-lettered subdivisions of the section.[33] Specifically, Congress referred to "subsection (d)" no less than

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[33] *See Koons Buick Pontiac GMC, Inc. v. Nigh*, 543 U.S. 50, 61–62 (2004); Office of the Legislative Counsel, U.S. House of Representatives, *House Legislative Counsel's Manual on Drafting Style* 24 (1995), http://legcounsel.house.gov/HOLC/Drafting_Legislation/draftstyle.pdf; Office of the Legislative Counsel, U.S. Senate, *Legislative Drafting Manual* 10 (1997), http://www.law.yale.edu/documents/pdf/Faculty/SenateOfficeoftheLegislativeCounsel_LegislativeDraftingManual(1997).pdf. Section 7412 also consistently follows the corollary that "[i]f the reference is to more than 1 unit, the reference is to the senior unit. Thus, refer to section 5(a)(1) and not paragraph 5(a)(1)." *House Legislative Counsel's Manual*, *supra*, at 52. *See*, *e.g.*, 42 U.S.C. § 7412(c)(3) (referring to "subsection (k)(3)(B) of this section").

30 times. When section 7412(d)(2) refers to standards promulgated "under this subsection," there is no doubt that it means subsection (d).[34] There is likewise no doubt that paragraph (6) of subsection (d), under which revised standards are promulgated, is part of subsection (d). The statute's unambiguous language thus provides that revised standards promulgated under section 7412(d)(6) are subject to the maximum-achievable-reduction requirement, with its mandatory floors, prescribed by paragraphs (2) and (3) of subsection (d).

That the maximum-achievable-reduction requirement and the floors it incorporates apply to standards promulgated under paragraph (6) of subsection (d) is underscored by Congress's creation of only one exception to the rule that those requirements apply to emission standards promulgated under subsection (d): EPA may issue standards "[w]ith respect *only* to ... area sources" using a "generally available control technologies" standard. *Id* § 7412(d)(5) (emphasis added).

[34] Following its usual practice, *see Koons Buick*, 543 U.S. at 61–62, when Congress referred only to paragraph (2) of subsection (d), it used the term "paragraph (2)." *See* 42 U.S.C. § 7412(d)(5). In the same sentence, it used the term "subsection" to refer to lower-case-lettered subdivisions of section 7412. See *id.* (referring to "subsection (c) of this section" and "subsection (f) of this section").

Congress explicitly provided that the authorization to issue such standards is "in lieu of the authorities provided in paragraph (2)"—i.e., the maximum-achievable-reduction requirement—which otherwise apply to area-source standards promulgated under subsection (d). *Id.* Congress's creation of a single, carefully limited, express exception to the otherwise unqualified requirement that standards promulgated under subsection (d) satisfy the requirements of paragraph (2) and, in turn, paragraph (3), strongly confirms that Congress intended no other exceptions. As this Court has recognized, Congress's creation of "specific exceptions" to section 7412 requirements "indicates that Congress has spoken on the question" and that "'additional exceptions are not to be implied[.]'" *NRDC v. EPA*, 489 F.3d 1364, 1374 (D.C. Cir. 2007) (quoting *TRW Inc. v. Andrews*, 534 U.S. 19, 28 (2001)).

Reading the statute to exempt revised standards issued under section 7412(d)(6) from the requirements otherwise applicable to subsection (d) standards would have the anomalous result of effectively leaving revised standards subject to *no* statutory criteria. Subsections (d) and (f) are the only parts of section 7412 that specify substantive requirements for hazardous pollutant emission standards, and (except

with respect to area standards) paragraphs (2) and (3) are the parts of subsection (d) that define criteria applicable to emission standards under subsection (d). Holding those paragraphs inapplicable to revised standards under paragraph (6) of subsection (d) would mean that, once EPA determines a revision is "necessary," it has no further statutory yardstick against which to judge the substance of a revised standard.

Conceivably, a statute that required EPA to revise a standard as it thought "necessary" and provided no further criteria for revision might provide a sufficiently "intelligible principle" to satisfy the nondelegation doctrine. *See Whitman v. Am. Trucking Ass'ns, Inc.*, 531 U.S. 457, 472–76 (2001). But reading the Amendments to confer such unfettered discretion would be contrary not only to the specific language of the applicable statutory provisions, but also to the entire structure of section 7412 and the congressional purpose it reflects.

As explained above, Congress designed the text and structure of section 7412 to prevent EPA from evading its responsibilities to promulgate stringent standards governing hazardous air pollutants. Congress did so by creating a precisely defined mandate to regulate air emissions of hazardous substances to the maximum degree achievable.

Reading section 7412 to relieve EPA from that statutory mandate once it has issued the initial round of standards and moved on to the task of periodically reevaluating and revising them to take into account advances in technology would be wholly at odds with section 7412's evident purpose. Granting EPA a free hand to regulate however it sees fit is exactly what Congress sought to avoid in crafting section 7412.

Moreover, if standards revised under paragraph (6) are not themselves "promulgated" under subsection (d) and subject to its requirements, they would presumably also not be subject to the requirement that they themselves be reviewed under subsection (d)(6) every 8 years. Thus, by revising the standards once, EPA would not only relieve itself of the requirement that its standards comport with the maximum-achievable-reduction criterion, but also of its obligation to review and update them every 8 years.[35] That result would be wholly contrary to the evident congressional intent that subsection (d) standards be regularly updated to reflect technological advances. EPA

[35] Similarly, holding that a revised standard is not "promulgated" under subsection (d) would also seemingly relieve EPA of the subsection (f) requirement that it promulgate a health-based standard if a subsection (d) standard does not reduce lifetime excess cancer risks to less than one in one million. *See* 42 U.S.C. § 7412(f)(2)(A).

does not itself appear to take this extreme position. But if EPA *is* required to engage in periodic review and revision of standards that have been revised under paragraph (6), that can only be because they are still standards "promulgated" under subsection (d) and subject to its requirements.

As this Court explained earlier this year, section 7412 was enacted "[t]o remedy the slow pace of EPA's regulation of [hazardous air pollutants] ... by eliminating much of EPA's discretion in the process," *White Stallion*, __ F.3d at __, 2014 WL 1420294, at *1. The statute must be interpreted consistently with that purpose. *See id.* at *9. Recognizing this central concern animating the statute's language and structure, this Court has rejected agency constructions that would undermine the statute by importing discretion into provisions that unambiguously require emission standards to meet explicitly defined criteria. *See*, *e.g.*, *New Jersey v. EPA*, 517 F.3d 574, 578–83 (D.C. Cir. 2008); *NRDC v. EPA*, 489 F.3d at 1368–74; *Sierra Club*, 479 F.3d at 876–84; *Cement Kiln Recycling Coal.*, 255 F.3d at 857–58, 861–62.

Thus, the Court has recognized, "EPA cannot do an end-run around the statutory scheme enacted by Congress" by declining to

require maximum achievable reductions in emission standards subject to that mandate. *NRDC*, 489 F.3d at 1371. Nor may EPA "rely on its gap-filling authority to supplement the Clean Air Act's provisions when Congress has not left the agency a gap to fill." *NRDC*, __ F.3d at __, 2014 WL 1499825, at *8. Here, EPA's position that an emission standard revised under section 7412(d)(6) need not meet requirements of 7412(d)(2) and (3)—requirements expressly applicable to standards issued under subsection (d)—attempts exactly the end-run Congress took pains to prevent.

B. *Battery Recyclers* Cannot Be Squared With the Statute.

Against the statute's language and structure and the congressional purposes they embody, this Court's decision in *Association of Battery Recyclers, Inc. v. EPA*, 716 F.3d 667, which last year held standards revised under section 7412(d)(6) to be exempt from subsection (d)'s MACT floor requirements, offered no basis for that holding other than that the panel believed it was required by the Court's 2008 decision in *NRDC v. EPA,* 529 F.3d 1077. *Battery Recyclers* made no attempt to square its holding with the actual language and structure of the statute.

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The Court in the 2008 *NRDC* case, in turn, was not faced with the question whether a revised emission standard issued under section 7412(d)(6) must meet the requirements sections 7412(d)(2) and (3) impose on "[e]missions standards promulgated under this subsection." In *NRDC*, EPA had *not* issued a revised standard. The agency had concluded that a new standard was not "necessary" under section 7412(d)(6) because there had been no significant "developments in practices, processes, and control technologies." *See* 529 F.3d at 1084. Under paragraph (6), that determination excused EPA from issuing a revised standard and thus obviated any need to consider whether a revised standard, if issued, must satisfy the requirements of subsection (d). *NRDC* therefore did not have to, and did not, address the statutory language requiring standards issued under subsection (d) to meet the requirements of sections 7412(d)(2) and (3).

The *Battery Recyclers* panel nonetheless felt bound by a statement in *NRDC* that, expansively construed, might suggest that even if EPA issued a new standard, it would not be "obliged to completely recalculate the maximum achievable control technology." *NRDC*, 529 F.3d at 1084. Even assuming that statement was intended to address not the issue

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before the *NRDC* Court (i.e., what EPA must do to determine whether a revised standard is necessary) but the separate issue, not presented there, of what EPA would have been required to do *had it issued a revised standard*, this Court should now reject the proposition that the maximum-achievable-reduction requirement is inapplicable to revised standards under section 7412(d)(6). Nothing in *NRDC* explains how that proposition could be squared with the statutory language, structure, and purpose. *NRDC*'s discussion of the language of section 7412(d)(6) establishes only that a finding that a new standard is not "necessary" in light of "developments in practices, processes and control technologies" excuses EPA from issuing a new standard. The opinion offers no analysis of what the statutory language requires if, as in this case, EPA decides a revised standard *is* necessary. *See* 529 F.3d at 1084.

As this Court very recently recognized, whether it is "necessary" for EPA to issue a standard under section 7412 is a different question from what substantive requirements such a standard must meet if EPA decides issuing it is necessary. Discretion to decide the former question is not discretion to determine the latter. Thus, in *White Stallion Energy Center*, the Court held that, although EPA has discretion to determine

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whether regulation of electric utility steam generating units is "necessary," *see* 42 U.S.C. § 7412(n(1)(A), once EPA makes such a finding, it regulates their emissions "under this section." *Id.* Thus, emission standards must satisfy the maximum-achievable-reduction floors required by sections 7412(d)(2) and (3). *See* __ F.3d at __, 2014 WL 1420294, at *1–2, *14–15. As the Court explained, under section 7412, "the statutory framework for regulating [hazardous air pollutant] sources appears in [section 7412(c)], which covers listing, and [section 7412(d)], which covers standard-setting." *Id.* at *15. "[T]he plain statutory language suggests" that when EPA determines that an emission standard is necessary, the standard is subject to the maximum-achievable-reduction requirement of section 7412(d). *Id.* at *14.

The same is true here. Whatever the scope of EPA's discretion under section 7412(d)(6) to determine whether a revised standard is "necessary," once EPA makes that determination and issues a new standard, that standard is promulgated under subsection (d) and subject to requirements expressly applicable to such standards. EPA's contrary view cannot be squared with the statute, nor can this Court's acceptance of that view in*Battery Recyclers*. The statute's unambiguous words—and

the important policies that led Congress to adopt the limits on EPA's discretion those words impose—require this Court to reject EPA's distortion of the law, through en banc consideration if necessary.

CONCLUSION

This Court should hold that EPA's revised chromium plating emission standard is contrary to law and remand it with directions that EPA conform it to the requirements of section 7412(d).

Respectfully submitted,

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June 2014

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CERTIFICATE OF COMPLIANCE

I hereby certify that the foregoing Brief for Amicus Curiae United States Representative Henry A. Waxman in Support of Environmental Petitioners in No. 12-1460 complies with the type-volume limitation of FRAP 32(a)(7)(B) and 29(d). The brief is composed in a 14-point proportional typeface, Century Schoolbook BT. As calculated by my word processing software (Microsoft Word 2010), the brief (excluding those parts permitted to be excluded under the Federal Rules of Appellate Procedure and this Court's rules) contains 6,824 words.

s/Scott L. Nelson
Scott L. Nelson

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CERTIFICATE OF SERVICE

I hereby certify that, on June 9, 2014, this Brief for Amicus Curiae United States Representative Henry A. Waxman in Support of Environmental Petitioners in No. 12-1460 was served through the court's ECF system on counsel for all parties.

/s/Scott L. Nelson
Scott L. Nelson

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ORAL ARGUMENT NOT YET SCHEDULED

Case No. 12-1459
(Consolidated with Nos. 12-1460, 13-1147)

UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

NATIONAL ASSOCIATION FOR SURFACE FINISHING, *et al.*,

Petitioners,

v.

U.S. ENVIRONMENTAL PROTECTION AGENCY, *et al.*,

Respondents.

On Petitions for Review of Final Action of the
U.S. Environmental Protection Agency

CORRECTED COMBINED BRIEF OF AMERICAN LUNG ASSOCIATION, AIR ALLIANCE HOUSTON, PLEASANTVILLE AREA SUPER NEIGHBORHOOD COUNCIL #57, ENVIRONMENT TEXAS, AND ENVIRONMENTAL INTEGRITY PROJECT AS *AMICI CURIAE* IN SUPPORT OF ENVIRONMENTAL PETITIONERS

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June 10, 2014

CERTIFICATE OF COUNSEL AS TO PARTIES, RULINGS, AND RELATED CASES

Pursuant to D.C. Circuit Rule 28(a)(1) and Federal Rule of Appellate Procedure 26.1, counsel for *Amici Curiae* the American Lung Association and Air Alliance Houston certify as follows:

A. Parties and *Amici*. Except for the proposed *amici* listed below, all parties, intervenors, and *amici* appearing in this Court are listed or referenced in the Opening Brief for Petitioners Clean Air Council, California Communities Against Toxics, and Sierra Club ("Environmental Petitioners") (filed April 8, 2014). The proposed *amici* are:

The American Lung Association, Air Alliance Houston, Environmental Integrity Project, Environment Texas, and Pleasantville Area Super Neighborhood Council #57, *amici curiae* in support of the Environmental Petitioners in No 12-1460.

United States Representative Henry A. Waxman, *amicus curiae* in support of the Environmental Petitioners in No 12-1460.

California Air Resources Board and South Coast Air Quality Management District, *amici curiae* in support of the Environmental Petitioners in No 12-1460.

The Chromium RTR Coalition, an ad hoc association consisting of the American Chemistry Council, American Coatings Association, American Forest & Paper Association, American Wood Council, American Fuel & Petrochemical

Manufacturers, American Iron & Steel Institute, Brick Industry Association, Council of Industrial Boiler Owners, National Association of Manufacturers, National Mining Association, National Oilseed Processors Association, Rubber Manufacturers Association, and Utility Air Regulatory Group, *amici curiae* in support of Petitioner National Association of Surface Finishers in Nos. 12-1459 and 13-1147, and in opposition to the Environmental Petitioners in No. 12-1460.

B. Rulings Under Review. This case addresses petitions for review of the final action (including the promulgation of regulations) taken by EPA at 77 Fed. Reg. 58,220 (Sept. 19, 2012), titled "National Emission Standards for Hazardous Air Pollutant Emissions: Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks; and Steel Pickling – HCl Process Facilities and Hydrochloric Acid Regeneration Plants."

C. Related Cases. *Amici* adopt the statement of related cases set forth in the Brief for Environmental Petitioners.

Dated: June 10, 2014

Respectfully submitted,

/s/ John Suttles

ORAL ARGUMENT NOT YET SCHEDULED

UNITED STATES COURT OF APPEALS FOR THE DISTRICT OF COLUMBIA CIRCUIT

NATIONAL ASSOCIATION FOR SURFACE FINISHING, *et al.*, *Petitioners*, v. U.S. ENVIRONMENTAL PROTECTION AGENCY, *et al.*, *Respondents*.	Case No. 12-1459 (Consolidated with Nos. 12-1460, 13-1147)

RULE 26.1 DISCLOSURE STATEMENT OF THE AMERICAN LUNG ASSOCIATION

Pursuant to Fed. R. App. P. 26.1 and Circuit Rule 26.1, the American Lung Association makes the following disclosures:

Non-Governmental Corporate Party to this Action: American Lung Association ("ALA").

Parent Corporations: None.

Publicly Held Company that Owns 10% or More of Party's Stock: None.

Party's General Nature and Purpose: ALA is a corporation organized and existing under the laws of Maine. ALA is a national nonprofit organization dedicated to a world free of lung disease and to saving lives by preventing lung disease and promoting lung health. ALA's Board of Directors includes pulmonologists and other health professionals.

DATED: June 10, 2014

Respectfully Submitted,

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CORPORATE DISCLOSURE STATEMENT OF *AMICUS CURIAE* AIR ALLIANCE HOUSTON

Pursuant to FED. R. APP. P. 26.1 and Circuit Rule 26.1, Air Alliance Houston makes the following disclosures:

- Air Alliance Houston is a non-profit corporation organized and existing under the laws of the State of Texas.
- Air Alliance Houston has no parent corporations.
- No publically held company holds a 10% or greater ownership interest in Air Alliance Houston.

AAH, originally formed more than twenty-five years ago as GHASP (the Galveston-Houston Association for Smog Prevention), has a mission to reduce air pollution in the Houston region and protect public health and environmental integrity through research, education, and advocacy. AAH, as a regional advocate for Houston's environmental justice communities, educates communities about local air pollution issues and both state and federal policy, participates directly in regulatory and legislative processes, testifies at hearings, and comments on significant proposals that might affect the quality of the human environment in the Houston area.

DATED: June 10, 2014

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CORPORATE DISCLOSURE STATEMENT OF PLEASANTVILLE AREA SUPER NEIGHBORHOOD COUNCIL #57

Pursuant to FED. R. APP. P. 26.1 and Circuit Rule 26.1, *amicus curiae* Pleasantville Area Super Neighborhood Council #57 makes the following disclosures:

Pleasantville Area Super Neighborhood Council # 57 is a Houston-area non-profit civic organization.

Pleasantville Area Super Neighborhood Council # 57 has no parent corporations.

No publicly held company holds a 10% or greater ownership interest in Pleasantville Area Super Neighborhood Council # 57. It is made up of representatives and stakeholders from Pleasantville Civic League, Park Advisory Council, Groveland Terrace Civic Association, community churches, small business owners, non-profit organizations, neighborhood schools and area businesses. It provides residents with opportunities meet, voice concerns and discuss issues about their community, and to participate in decision-making that may affect their health and wellbeing.

DATED: June 10, 2014

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CORPORATE DISCLOSURE STATEMENT OF ENVIRONMENT TEXAS

Pursuant to FED. R. APP. P. 26.1 and Circuit Rule 26.1, *amicus curiae* Environment Texas makes the following disclosures:

Environment Texas is a statewide, non-profit citizen-based environmental advocacy organization, organized under the laws of Texas.

Environment Texas has no parent corporations.

No publicly held company holds a 10% or greater ownership interest in Environment Texas.

Environment Texas is dedicated to defending the Texas environment through independent research, advocacy and grassroots action. Environment Texas conducts research, educates the public and raises awareness of environmental issues and promotes sensible solutions. Environment Texas also advocates on behalf of the Texas environment and seeks to bring the voices of concerned citizen to the right people just when it matters most.

DATED: June 10, 2014

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