Frances Kelley
Director of Organizing
935 Linden Street
Shreveport LA 71104
O: 225.590.7765
C: 318.780.4138
frances@louisianaprogress.org

An Open Letter Regarding the Proposed Open Burn at Camp Minden

To: EPA Administrator Gina McCarthy
EPA Region 6 Administrator Ron Curry
EPA Region 6 Superfund Division Director Carl Edlund

Governor Bobby Jindal
Secretary Peggy Hatch, Louisiana Department of Environmental Quality
Major General Glenn Curtis, Adjutant General, Louisiana National Guard

John M. McHugh, Secretary of the Army
Craig R. Schnauder, Deputy General Counsel, Installations, Environment & Civil Works, Department of the Army

In October, your agencies collectively signed an agreement to conduct an open burn of over 15 million pounds of M6 propellant at Camp Minden along with the disposal of 3 million pounds of additional chemical explosives and propellants. We understand that representatives from each agency are meeting this week to "allow the federal government to demonstrate why it chose the open burn tray method for disposal of munitions at Camp Minden."[1]

Since the EPA has not followed its own guidelines that mandate community involvement at each step in the decision process, the people who will be the most affected by your decisions have not been a part of the remedy selection process, nor were we invited to participate in this meeting. However, we refuse to be excluded from these key decisions that will affect us so profoundly.

We are the ones whose health and safety will be affected and whose community could suffer economic consequences from an unsafe disposal method. We refuse to be left out of the process. The EPA, the Army, and the state of Louisiana will not treat the citizens of North Louisiana any differently than any other community in any other state would be treated. We request that a Dialogue Committee be formed, as has been done in other communities, that would give citizens a seat at the table. Furthermore, the EPA, the Army, and the state of Louisiana must agree to the following:

1) Hold the meeting referred to in the January 22 letter and any other meetings where decisions are being made about Camp Minden in North Louisiana

[1] January 22, 2015 letter from Secretary Peggy Hatch of Department of Environmental Quality to EPA Administrator Gina McCarthy

2) Such meetings must be open to the public
3) Subject matter experts from the EPA who disagree with the open burn must be present as well
4) Local elected officials must be allowed to attend these meetings
5) The media must be allowed to attend these meetings to ensure complete transparency

Below are some of the most important reasons why the open burn cannot and will not be allowed to go forward at Camp Minden. Moreover, this is why you must, with community involvement, select an alternative method that is backed by scientific data to safely dispose of the propellant.

RCRA Violations

The planned open burn is not allowed under the *Resource Conservation and Recovery Act* and there are no waivers of the applicable or relevant and appropriate requirements discussed in either the *Administrative Settlement Agreement and Order on Consent for Removal Action*[2] or the *Request for Approval of a Time-Critical Removal at the Explo Systems, Inc. Site, Minden, Webster Parish, Louisiana.*[3]

RCRA prohibits open burning of hazardous waste:

> "Open burning of hazardous waste is prohibited except for the open burning and detonation of waste explosives. Waste explosives include waste which has the potential to detonate and bulk military propellants which cannot safely be disposed of through other modes of treatment." **§265.382**[4]

M6 can be safely disposed of through various other modes of treatment; the EPA's Material Safety Data Sheet clearly states that M6 "MAY ALSO BE BURNED IN AN INCINERATOR APPROVED FOR EXPLOSIVES."[5] <u>When a safer mode of treatment exists for a military propellant, the propellant cannot be legally disposed of through an open burn.</u>

> In the preamble to the rule where EPA adopted the exclusion for the open burning of waste explosives, EPA states:
> "...a ban on open burning of hazardous wastes was contained in the General Facility Standards of the proposed regulation. This requirement has been incorporated into the interim status standards for thermal treatment because the potential human health hazards associated with the practice dictate that open burning be ended now. Comments received on the proposed standard centered around the military's need to dispose of explosives in the open. The Agency agrees that open burning and open detonation are currently the only alternatives for disposal of most munitions, and thus a modified and more detailed version of the proposed variance for waste explosives has been retained in the final rules." 45 Fed. Reg. at 33,217

Over the past 15 years, the Department of Defense Explosives Safety Board (DDESB) has certified a number of technologies as safe for the destruction of hazardous wastes that are

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[2] http://www2.epa.gov/sites/production/files/2015-01/documents/714208.pdf
[3] http://www2.epa.gov/sites/production/files/2014-12/documents/final_signed_explo_action_memo_-_oct_28-2014_v1.pdf
[4] http://www.gpo.gov/fdsys/pkg/CFR-2011-title40-vol26/xml/CFR-2011-title40-vol26-sec265-382.xml
[5] http://www2.epa.gov/sites/production/files/2014-12/documents/06-9530601.pdf

explosive.[6] Those technologies have been adopted and are now in use by the Department of Defense and the private sector for the destruction of explosive hazardous waste. Some of these technologies were part of a joint technology assessment project which included the Department of Defense, the Environmental Protection Agency, the states affected by our nation's weapons stockpiles, and citizens from those states.Several of these same technologies have been adopted and employed by other countries facing the challenge of destroying older stockpiles of munitions in Europe and Asia. Since alternatives clearly exist to the open burning of munitions, the exclusion originally adopted by EPA is no longer valid.

Community exposure to Dioxins, Furans, and PCBs

Dioxins are among the most carcinogenic substances currently known to mankind. The form of dioxin (2,3,7,8-tetrachlorodibenzo-p-dioxin) that contaminated Agent Orange is associated with multiple types of cancer and other serious health conditions.[7] Dioxins, along with its highly toxic cousins, furans and PCBs, are created during open burns of aromatic organic compounds (DNT, DPB) that are in the M6 through chemical reactions with ambient chlorine in the air.[8] Moreover, these and other products of incomplete combustion bioaccumulate in the ecosystem and in human tissue, including developing fetuses and nursing infants, who are the most vulnerable to these toxins. It is important to note that the most toxic congeners of dioxin are more carcinogenic than plutonium.

The Chlorine Chemistry Division of the American Chemistry Council states that dioxin and furan production during combustion can be minimized by:

"1. Complete destruction of dioxins and furans and their chemical "building blocks" in waste material during combustion. This is achieved through the "3-T Rule":

- High combustion **Temperature** to maximize waste destruction;
- Adequate combustion **Time** (usually two seconds) to maximize waste destruction; and
- High combustion **Turbulence** to distribute heat evenly and ensure complete waste destruction.

2. Prevention of conditions that favor formation of dioxins and furans immediately following combustion. This is achieved by the following design specifications:

- Use a "fast-quench" of post-combustion gases by cooling them quickly from higher temperatures through the temperature range of approximately 400C down to 250C, to avoid prolonged exposure in the temperature range known to favor dioxin and furan formation; and
- Minimize the presence of certain metals, such as copper, on particulate matter, that are known to facilitate dioxin and furan formation."

In an open burn, it is impossible to deploy conditions that minimize the formation of dioxins and furans because there is no way to control the residence time of the waste in the combustion zone, nor the turbulence of the waste material, or the cooling rate. Advanced treatment technologies are all designed to greatly increase the destruction efficiency of the waste treatment process and to curtail the conditions known to form and emit dioxins, furans, and PCBs. The wastes at Camp Minden need to be treated using these advanced treatment technologies.

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[6] http://www.louisianaprogressaction.org/2-2/317-2/

[7] http://www.publichealth.va.gov/exposures/agentorange/conditions/

[8] http://www.dioxinfacts.org/sources_trends/the_way.html

Dr. Gullett's studies on measuring emissions during Open Burn/Open Detonation

In the Louisiana DEQ's January 22 letter to the EPA, Secretary Hatch writes that the Army has requested the presence of the EPA's Dr. Brian K. Gullett. Dr. Gullett has been involved in multiple studies looking at the feasibility of new technology to accurately measure emissions during open burns or open detonations of munitions. The Department of Defense's *Strategic Environmental Research and Development Program* (SERDP) funded two of these studies.[9] In reviewing the two SERDP studies, it is clear that much of this technology is still in the development phase and remains unproven. Thus, this research cannot be used to definitively say that open burning is safe, especially when there is so much scientific evidence showing that open burning is not safe.

The studies' own results and conclusions cite their limitations. For example, the 2010 study attempted to measure concentrations of two organic compounds, benzene and napthalene, using a remote controlled balloon to navigate scientific instruments into the plume of the burn. However, most of the Summa canisters used to measure the volatile organic compounds in that study did not function properly because of problems with the valve system.[10] The 2012 study used similar equipment, but did not detect any volatile organic compounds using smaller Summa canisters. The authors write that "the smaller sampling volume may have limited our ability to detect these trace compounds even at high CO2 concentrations in the plumes."[11] Such inconclusive and clearly flawed studies cannot serve as justification for the open burn of such toxic environmental poisons as DNT and DBT.

Additionally the studies do not appear to have tested for the original semi-volatile organic compounds in the propellant itself (i.e, DNT and DBT), which can vaporize as well as form a variety of extremely dangerous products of incomplete combustion, such as dioxins, furans, and PCBs. In an open burn, multiple reactions will take place because of the uncontrolled conditions and the access to potential reactants in the air. Studies that purport to demonstrate the safety of an open burn must test for the emissions of all possible toxic byproducts and must prove that the technology used to measure emissions can do so accurately.

Disagreement within the EPA about the safety and necessity of an open burn at Camp Minden

According to the EPA's own internal documents published on the Camp Minden administrative record page, it is clear that there was even sharp disagreement within the EPA, itself, about the decision to select the open burn as the only remedy that would be considered to dispose of the M6 propellant. The comments on this internal document include:

> "Because alternatives to open burning are available, we should not require, or even encourage, OB in this case. The RCRA and Superfund experiences, and DOD research, show that open burning/open detonation (OB/OD) is a relatively uncontrolled, dirty, polluting technology that should therefore be reserved for situations when there are no practical alternatives or for time-critical explosives safety emergencies, and with the understanding that there will be an extensive and costly clean-up/remedial action needed

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[9] http://www.army.mil/article/39848/TEAD_hosts_testing_for_OB_OD_emissions_study/

[10] https://www.serdp-estcp.org/Program-Areas/Weapons-Systems-and-Platforms/Energetic-Materials-and-Munitions/Munitions-Emissions/WP-1672/WP-1672/(language)/eng-US

[11] https://www.serdp-estcp.org/Program-Areas/Weapons-Systems-and-Platforms/Energetic-Materials-and-Munitions/Munitions-Emissions/WP-2153/WP-2153

at closure, which is especially true in this case when considering the volume to be treated at Camp Minden and the presence of DNT."

The response to this comment discusses a few alternatives that the EPA considered, but does not include any of the advanced technologies that have *Department of Defense Explosives Safety Board* certificates and are capable of dealing quickly and safely with large quantities of propellant.

Another comment states, "OB/OD is not necessarily cheaper and more expedient than other options, and will result in an environmental mess that someone will need to clean up. Although cheaper initially, the full life cycle costs and environmental consequences of open burning can be significant."

A later comment states that "the list of contaminants to be monitored must include DNT (dinitrotoluene)…M6 has 100,000 ppm DNT…and dioxin (a common contaminant at OB/OD sites)."[12] Open burns do not result in 100% combustion, and some portion of the organic compounds DNT and DBP will simply vaporize or partially combust, leading to the formation of numerous highly toxic byproducts (dioxins, furans, PCBs) in the air.[13]

Another comment states, "there are no EPA recognized protocols for air monitoring of open burning sites. Most of the methods tried (*e.g.*, plane, helicopter, balloons, backstops, nets, and pans on the ground) have been demonstrated to be meaningless." This means that key people within the EPA recognize that there are no reliable technologies that can adequately monitor emissions of toxins into the air during an open burn.

Because there is such obvious discord and disagreement within the EPA, all subject matter experts, including those who disagree with the decision to do the open burn, must be allowed to weigh in on the science. The public also has a right to know what all of the experts at the EPA think about the proposed open burn at Camp Minden as well as the numerous safer alternatives. Without a full and transparent discussion and evaluation of the science, the safest decision cannot be made.

The lack of community involvement in the selection of the Open Burn method

Every environmental expert that we have consulted has commented on the highly abnormal lack of community involvement in the decision making process at Camp Minden. The intent of *CERCLA* (*Comprehensive Environmental Response, Compensation, and Liability Act*) and especially of *SARA* (*Superfund Amendment and Reauthorization Act*) was for the citizens directly affected in a cleanup to be involved in every step of the way, to be given access to all the scientific information, and to weigh in on the selection of a remedy. Furthermore, the EPA often gives out Technical Assistance Grants to community groups so that they can hire scientific experts, who can ensure that citizens have access to all the information needed to participate in the decision making process in an informed way.

An EPA memorandum from 2001 titled "Early and Meaningful Community Involvement" instructs EPA workers that "Early and meaningful community involvement at removals is important. Whether it is an emergency response or a non-time critical action, community involvement should not be neglected or postponed. While initial calls should be to state and local authorities, soon thereafter you should reach out to the entire community, which may have a high level of anxiety and concern about health and safety. You need to demonstrate

[12] http://www2.epa.gov/sites/production/files/2015-01/documents/714976.pdf

[13] http://www.dioxinfacts.org/sources_trends/the_way.html

our sincere concern and credibility in order to set the stage for the community cooperation that may be critical during the response." The memo also identifies as a key practice that the EPA should "change planned actions where community input has merit."[14]

Furthermore, the National Oil and Hazardous Substances Pollution Contingency Plan lists nine criteria that must be used to evaluate alternatives in remedy selection:

A) *Overall protection of human health and the environment.*
B) *Compliance with ARARs.*
C) *Long-term effectiveness and permanence.*
D) *Reduction of toxicity, mobility, or volume through treatment.*
E) *Short-term effectiveness.*
F) *Implementability.*
G) *Cost.*
H) *State acceptance.*
I) *Community acceptance.*[15]

The proposed open burn clearly does not meet the criteria for A, B, C, D, E, and I, and it may fail several other criteria as well. Clearly, the open burn does not protect human health and the environment, it does not comply with the ARARs, and it actually would increase the toxicity of the waste through the creation of dioxins, furans, and PCBs as well as increasing the mobility of the waste by putting it into the air, soil, and water where the toxic chemicals will harm humans and wildlife. The lack of community acceptance of the EPA's open burn as a suitable remedy should be clear to anyone who has been paying attention in North Louisiana.

The EPA's community relations in this project have been a disaster, and this has undermined the public's trust in the EPA and in the process. Moving forward, the EPA, the Army, and the State of Louisiana must commit to include the public in every part of the process, including in the selection of a safer remedy to dispose of the M6 propellant. No decisions can be made behind closed doors. All subject matter experts at the EPA, including those who disagree with the open burn, must be allowed to publicly weigh in on the credibility of the science.

We appreciate your cooperation in this matter. We look forward to working with you in reviewing all relevant scientific data and in selecting a safe and proven remedy for the clean up at Camp Minden.

Sincerely,

Frances Kelley
Director of Organizing, Louisiana Progress Action
Organizer, Concerned Citizens of the Camp Minden Open Burn

c: US Senator David Vitter, US Senator Bill Cassidy, Congressman John Fleming, Congressman Ralph Abraham, Louisiana State Legislature, Mayor Tommy Davis, Mayor Ollie S. Tyler, Mayor Lorenz Walker, Mayor Jimmy Williams, Mayor Carroll Breaux, Mayor Ronny Walker

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[14] http://www.epa.gov/superfund/policy/pdfs/early.pdf

[15] http://www.ecfr.gov/cgi-bin/text-idx?SID=a601ce771eb299f5408e58358f9b1206&node=se40.28.300_1430&rgn=div8