UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6

IN THE MATTER OF:	)	**CERCLA Docket No. _____**
	)	
	)	**Administrative Order on Consent for**
Falcon Refinery Site,	)	
(a.k.a National Oil Recovery Corporation)	)	**Remedial Investigation/Feasibility Study**
San Patricio County, Ingleside Texas,	)	
	)	**Proceeding under Sections 104,**
NATIONAL OIL RECOVERY	)	**122(a) and 122(d)(3) of the**
CORPORATION	)	**Comprehensive Environmental Response,**
Respondent	)	**Compensation and Liability Act, 42**
	)	**U.S.C. §§ 9604, 9622(a), and 9622(d)(3).**
	)	
_____	)	

ADMINISTRATIVE ORDER ON CONSENT FOR REMEDIAL INVESTIGATION AND FEASIBILITY STUDY

I. INTRODUCTION

1. This Administrative Order on Consent ("Order") is entered into voluntarily by the United States Environmental Protection Agency (EPA) and National Oil Recovery Corporation (NORCO). The Order requires that NORCO prepare and perform a Remedial Investigation and Feasibility Study (RI/FS) for the Falcon Refinery Site in San Patricio County, Ingleside, Texas (the "Site"). NORCO must also reimburse EPA for all future response costs and oversight costs incurred in connection with the RI/FS, subject to the reservations of rights in Sections XXIII and XXIV.

II. JURISDICTION

2. This Order is issued under the authority vested in the President of the United States by Sections 104, 122(a) and 122(d)(3) of the Comprehensive Environmental Response, Compensation, and Liability Act, as amended, 42 U.S.C. §§ 9604, 9622(a) and 9622(d)(3) (CERCLA). This authority was delegated to the Administrator of EPA on January 23, 1987, by Executive Order 12580, 52 Fed. Reg. 2926 (1987); further delegated to Regional Administrators by EPA Delegation No. 14-14-C (September 13, 1987); and redelegated by the Regional Administrator to the Director, Superfund Division, by EPA Delegation No. R6-14-14-C (June 8, 2001).

3. NORCO agrees to undertake all actions required by the terms and conditions of this Order. In any action by EPA or the United States to enforce the terms of this Order, NORCO consents to and agrees not to contest the authority or jurisdiction of EPA to issue or enforce this Order, and agrees not to contest the validity of this Order or its terms.

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4. NORCO and EPA agree that this Site was proposed for listing by the EPA on the National Priorities List ("NPL") on September 5, 2002 (67 Federal Register 56794), and may be eligible to be placed on a final NPL. EPA agrees to suspend the listing of this site on a final NPL and NORCO agrees that EPA will suspend the listing of this site on a final NPL so long as NORCO undertakes the actions equivalent to those required at NPL sites in accordance with the terms and conditions of this Order and the EPA's memorandum addressing alternative sites ("Response Selection and Enforcement Approach for Superfund Alternative Sites," June 24, 2002; OSWER 92-08.0-17 [Superfund Alternative Sites Guidance]).

III. PARTIES BOUND

5. This Order applies to and is binding upon EPA and upon NORCO, its agents, successors, and assigns. NORCO is responsible for carrying out all actions required of it by this Order. The signatories to this Order certify that they are authorized to execute this Order and legally bind the parties they represent to this Order. Any change in the ownership or corporate status of NORCO, or the Site, including any transfer of assets, will not alter NORCO's responsibilities under this Order.

6. NORCO shall provide a copy of this Order to any subsequent owners or successors before ownership rights or stock or assets in a corporate acquisition are transferred. NORCO shall provide a copy of this Order to all contractors, subcontractors, laboratories, and consultants retained to conduct any work performed under this Order, within 14 days after the effective date of this Order or the date of retaining their services, whichever is later. NORCO shall condition all such contracts upon satisfactory compliance with this Order. Notwithstanding the terms of any contract, NORCO is responsible for compliance with this Order and for ensuring that its subsidiaries, employees, contractors, consultants, subcontractors, agents and attorneys comply with this Order.

IV. STATEMENT OF PURPOSE

7. By entering into this Order, the objectives of EPA and NORCO are: (a) to determine the nature and extent of contamination and any threat to the public health, welfare, or the environment caused by the release or threatened release of hazardous substances, pollutants or contaminants at or from the Site, by conducting a remedial investigation; (b) to determine and evaluate alternatives for remedial action to prevent, mitigate or otherwise respond to or remedy any release or threatened release of hazardous substances, pollutants, or contaminants at or from the Site or facility, by conducting a feasibility study; and (c) to recover future response and oversight costs incurred by EPA as specified in this Order.

8. The activities conducted under this Order are subject to approval by EPA and shall provide all appropriate necessary information for the RI/FS, and for a Record of Decision (ROD) that is consistent with CERCLA and the National Contingency Plan (NCP), 40 C.F.R. 300. The activities conducted under this Order shall be conducted in compliance with all applicable EPA guidance documents, policies, and procedures. In addition, EPA intends, to the

extent practicable and consistent with CERCLA and the National Contingency Plan (NCP), 40 C.F.R. Part 300, to consult with the State with regard to activities in connection with the Site and avoid duplicative efforts by working with the Texas Commission on Environmental Quality, and the State and Federal Natural Resource Trustees.

V. DEFINITIONS

9. Unless otherwise expressly provided in this Order, terms used in this Order that are defined in CERCLA or in regulations promulgated under it will have the meaning assigned to them in CERCLA or the regulations. Whenever terms listed below are used in this Order, the following definitions apply:

"ARARs" means all "applicable requirements" or "relevant and appropriate requirements" as defined at 40 CFR § 300.5 and 42 U.S.C. § 9621(d).

"CERCLA" means the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. §§ 9601 et seq.

"Day" means a calendar day unless expressly stated to be a business or working day. In computing any period of time under this Order, where the last day would fall on a Saturday, Sunday, or Federal holiday, the period runs until the end of the next day not a Saturday, Sunday, or Federal holiday.

"Deliverable" means any action, activity, task, or submission required to be done by NORCO under this Order. A deliverable is Work.

"EPA" means the United States Environmental Protection Agency and its successor agencies.

"Falcon" means the Falcon Refinery Site.

"Future Response Costs" shall mean all costs, including, but not limited to, direct and indirect costs, that the United States incurs in reviewing or developing plans, reports and other items pursuant to this Order, verifying the Work, or otherwise implementing, overseeing, or enforcing this Order, including but not limited to, payroll costs, contractor costs, and laboratory costs.

"National Contingency Plan" or "NCP" means the National Oil and Hazardous Substances Pollution Contingency Plan promulgated under Section 105 of CERCLA, 42 U.S.C. § 9605, codified at 40 C.F.R. Part 300, including any amendments.

"NORCO" means National Oil Recovery Corporation, owner of the Falcon Refinery Site.

"Order" means this document, including the RI/FS Statement of Work and all other attachments to this document and other documents incorporated by reference into this document, and any EPA-approved submissions required under the terms of this document. EPA-approved submissions will be incorporated into and become a part of the Order upon final written approval by EPA.

"Oversight Costs" shall mean all costs that EPA incurs in monitoring and supervising Settling Defendant's performance of the Work to determine whether such performance is consistent with the requirements of this Order, including direct and indirect costs incurred in reviewing plans, reports and other documents submitted pursuant to this Order and the RI/FS Statement of Work, as well as costs incurred in overseeing implementation of the Work.

"Paragraph" means a portion of this Order identified by an Arabic numeral followed by a period. References to paragraphs in the RI/FS Statement of Work (SOW) will be so identified (for example, "SOW Paragraph 15").

"Schedule" means the list of RI/FS activities and deliverables with dates for completion, prepared and submitted as a part of the RI/FS Work Plan in accordance with RI/FS SOW Paragraph 11.

"Section" means a portion of this Order identified by a Roman numeral and includes one or more paragraphs. References to sections in the RI/FS SOW will be so identified (for example, "SOW Section V").

"Site" means the Falcon Refinery Site. The Site includes the area shown on the attached map (Attachment B to this Order).

"State" means the State of Texas and Texas Commission on Environmental Quality.

"Statement of Work" or "SOW" means the RI/FS Statement of Work for the development of an RI/FS for the Site, as set forth in Attachment A to this Order. The RI/FS Statement of Work is incorporated into this Order and is an enforceable part of this Order.

"Submission" means any written materials NORCO is required to produce under this Order, including correspondence, memoranda, notifications, plans, reports, specifications, and schedules. A submission is a Deliverable. Submissions include work plans and the schedules therein. Once a submission is approved in writing by EPA, the submission is incorporated into this Order and becomes an enforceable part of this Order.

"TCEQ" means the Texas Commission on Environmental Quality.

"Work" means all activities NORCO is required to perform under this Order. Work includes Deliverables.

"Work Plan" means a plan, to be developed by NORCO for EPA review and approval in accordance with the RI/FS Statement of Work, that includes schedules for and descriptions of Work that NORCO will undertake under this Order.

VI. EPA's FINDINGS OF FACT

10. Respondent NORCO is known as National Oil Recovery Corporation, a corporation incorporated under the laws of Delaware.

11. The Site occupies approximately 104 acres and is located 1.7 miles southeast of State Highway 361 near the intersection of FM 2725 and Bishop Road near Ingleside, Texas. Ingleside is located approximately 18 miles northeast of Corpus Christi. The Site lies approximately five feet above sea level. The geodetic coordinates of 27°51'38.61" north latitude and 97°10'45.50" west longitude (taken from the U.S. Geological Survey, Port Ingleside Quadrangle, 7.5 Minute Series Map [1975]) represent the entrance to the main process area and were measured from the entrance on Bishop Road.

12. The Site consists of an abandoned refinery that Respondent has operated intermittently since 1980. During peak operations, Respondent operated the refinery at a 40,000 barrels per day capacity with primary products consisting of naphtha, jet fuel, kerosene, diesel, and fuel oil. The refinery processed material that consisted not only of crude oil but also hazardous substances.

13. The Site is located in the San Antonio-Nueces Coastal Basin adjacent to Redfish Bay, which connects Corpus Christi Bay to the Gulf of Mexico. Surface water drainage from the Site enters the wetlands along the southeastern section of the abandoned refinery. A culvert connects the on-site palustrine/estuarine wetlands to estuarine wetlands. The wetlands then connect to the Intracoastal Waterway and Redfish Bay. The Site is bordered by wetlands to the northeast and southeast, residential areas to the north and southwest, an abandoned refinery to the northwest, and a construction company to the southwest.

14. In May 2000, the Texas Natural Resource Conservation Commission (now known as the Texas Commission on Environmental Quality) conducted sampling activities at the Site and documented the following hazardous substances: cyclohexane, methlycyclohexane, toluene, ethylbenzene, xylenes (totals), fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, ideno(1,2,3-cd)pyrene, benzo(g,h,i)perylene, aluminum, arsenic, barium, cadmium, chromium, copper, lead, manganese, mercury, nickel, selenium, thallium, vanadium, and zinc.

15. The findings of an Expanded Site Inspection, completed in November 2000, revealed releases from the Site of the following hazardous substances: fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, ideno(1,2,3-cd)pyrene, benzo(g,h,i)perylene, dibenz(a,h,)anthracene, barium, manganese, and mercury.

16. Sediments in the Redfish Bay fishery, contiguous wetlands and on-site soils are affected by releases from the Site. The following hazardous substances were documented in sediments obtained in Redfish Bay and nearby wetlands at elevated concentrations that require further investigation: fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, ideno(1,2,3-cd)pyrene, benzo(g,h,i)perylene, barium, manganese, and mercury.

17. The hazardous substances, identified in Paragraphs 14, 15, and 16 above, under certain conditions of dose, duration, or extent of exposure, may produce adverse health and environmental effects, including the following:

Arsenic – Arsenic can damage many tissues, including the nerves, stomach and intestines, and skin. Low levels of exposure to inorganic arsenic may cause nausea, vomiting, and diarrhea; decreased production of red and white blood cells; abnormal heart rhythm; and blood vessel damage. Ingesting inorganic arsenic increases the risk of skin cancer and tumors of the bladder, kidney, liver, and lung. Arsenic is a known human carcinogen. Breathing inorganic arsenic increases the risk of lung cancer.

Benzo(a)anthracene – This chemical is a probable human carcinogen that can produce tumors in mice exposed by gavage; intraperitoneal, subcutaneous or intramuscular injection; and topical application. This chemical produced mutations in bacteria and in mammalian cells, and transformed mammalian cells in culture.

Benzo(a)pyrene – This chemical is a probable human carcinogen. There are multiple animal studies in many species demonstrating that this chemical is carcinogenic following administration by numerous routes. This chemical has produced positive results in numerous genotoxicity assays.

Benzo(b)fluoranthene – This chemical is a probable human carcinogen that can produce tumors in mice after lung implantation, intraperitoneal or subcutaneous injection, and skin painting.

Benzo(k)fluoranthene – This chemical is a probable human carcinogen that can produce tumors after lung implantation in mice and when administered with a promoting agent in skin-painting studies. Equivocal results have been found in a lung adenoma assay in mice. This chemical is mutagenic in bacteria.

Cadmium – Long-term exposure to low levels of cadmium in air, food, or water can lead to a build up of cadmium in the kidneys and possible kidney disease. Other potential long

term effects are lung damage and fragile bones. Cadmium is classified as a probable human carcinogen.

Chromium – The most common forms of chromium are chromium(0), chromium(III), and chromium(VI). Chromium(VI) is more toxic than chromium(III). Long-term exposures to high or moderate levels of chromium(VI) can damage the nose (bleeding, itching, sores) and lungs, and it can increase the risk of lung cancer. Skin contact with liquids or solids containing chromium(VI) may lead to skin ulcers. Chromium(VI) is a known human carcinogen.

Chrysene – Chrysene is a probable human carcinogen that can produce carcinomas and malignant lymphoma in mice after intraperitoneal injection and skin carcinomas in mice following dermal exposure. This chemical can produce chromosomal abnormalities in hamsters and mouse germ cells after gavage exposure, positive responses in bacterial gene mutation assays, and transformed mammalian cells exposed in culture.

Copper – Long-term exposure to copper dust can irritate the nose, mouth, and eyes, and cause headaches, dizziness, nausea, and diarrhea. Ingestion of higher than normal levels of copper may cause vomiting and stomach cramps. Very young children are sensitive to copper, and long-term exposure to high levels of copper in food or water may cause liver damage and death.

Ethylbenzene –Exposure to ethylbenzene can cause liver, kidney and developmental toxicity.

Fluoranthene – Exposure to fluoranthene can cause nephropathy (any functional or morphologic change in the kidney produced by an ingested, injected, inhaled, or absorbed chemical or biologic agent), increased liver weights, hematological alterations, and clinical effects.

Ideno(1,2,3-cd)pyrene – This chemical is a probable human carcinogen produce tumors in mice following lung implants, subcutaneous injection, and dermal exposure. This chemical tested positive in bacterial gene mutation assays.

Lead – Lead can affect almost every organ and system in the body. The most sensitive is the central nervous system, particularly in children. Lead also damages kidneys and the immune system. Exposure to lead is more dangerous for young and unborn children. Harmful effects include premature births, smaller babies, decreased mental ability in the infant, learning difficulties, and reduced growth in young children. These effects are more common after exposure to high levels of lead. In adults, lead may decrease reaction time, cause weakness in fingers, wrists, or ankles, and possibly affect the memory. Lead may cause anemia. It can cause abortion and damage the male reproductive system. Lead is classified as a probable human carcinogen.

Mercury – Methylmercury, builds up in the tissues of fish. Larger and older fish tend to have the highest levels of mercury. A person may be exposed to mercury by eating fish or shellfish contaminated with methylmercury. The human nervous system is very sensitive to all forms of mercury. Methylmercury and metallic mercury vapors are more harmful than other forms, because more mercury in these forms reaches the brain. Exposure to high levels of metallic, inorganic, or organic mercury can permanently damage the brain, kidneys, and developing fetus. Effects on brain functioning may result in irritability, shyness, tremors, changes in vision or hearing, and memory problems. Short-term exposure to high levels of metallic mercury vapors may cause effects including lung damage, nausea, vomiting, diarrhea, increases in blood pressure or heart rate, skin rashes, and eye irritation. The EPA has determined that mercuric chloride and methylmercury are possible human carcinogens.

Pyrene – Exposure to pyrene can cause kidney effects (renal tubular pathology, decreased kidney weights).

Toluene – Exposure to toluene can cause changes in liver and kidney weights.

Zinc – Ingestion of large amounts of zinc over time can cause anemia, pancreas damage, and lower levels of high density lipoprotein cholesterol. Irritation was also observed on the skin of rabbits, guinea pigs, and mice when exposed to some zinc compounds.

Xylenes – Exposure to xylenes can cause hyperactivity, decreased body weight, and increased mortality (males).

18. The Site has been proposed to the National Priorities List (NPL), 40 C.F.R. Part 300, App. B., in accordance with Section 105 of CERCLA, 42 U.S.C. § 9605 (National Priorities List for Uncontrolled Hazardous Waste Sites; Proposed Rule No. 38; Federal Register Vol. 67; No. 172; Thursday, September 5, 2002). The Site is not currently listed on the National Priorities List. On November 1, 2002, NORCO submitted comments in opposition to the proposal to list the Site on the NPL, requesting that the Site not be placed on the NPL and stating that it be allowed to negotiate an administrative order with Region 6 according to the requirements of the Superfund alternative sites memorandum issued by the EPA on June 24, 2002.

VII. CONCLUSIONS OF LAW AND DETERMINATIONS

19. The Site is a "facility" as defined in Section 101(9) of CERCLA, 42 U.S.C. § 9601(9).

20. Materials at the Site and disposed of at the Site, including the materials described in Paragraphs 14, 15 and 16, and the constituents thereof, are "hazardous substances" as defined in Section 101(14) of CERCLA, 42 U.S.C. § 9601(14).

21. The presence of hazardous substances at the Site, and the past, present or potential movement of hazardous substances at or emanating from the Site, constitute actual and/or threatened "releases" as defined in Section 101(22) of CERCLA, 42 U.S.C. § 9601(22).

22. NORCO is a "person" as defined in Section 101(21) of CERCLA, 42 U.S.C. § 9601(21).

23. NORCO is a potentially responsible party under Sections 104, 107 and 122 of CERCLA, 42 U.S.C. §§ 9604, 9607 and 9622. NORCO is the current owner and operator of the Site.

24. NORCO's operations have caused the release of hazardous substances into soil; surface water, including sediments; and ground water at the Site.

25. The actions required by this Order are necessary to protect the public health or welfare or the environment, are in the public interest, 42 U.S.C. § 9622(a), are consistent with CERCLA and the NCP, 42 U.S.C. §§ 9604(a)(1), 9622(a), and will expedite effective remedial action and minimize litigation, 42 U.S.C. § 9622(a).

VIII. NOTICE AND CONSULTATION WITH STATE

26. By providing a copy of this Order to the State, EPA is notifying the State that this Order is being issued. Further, in accordance with the Superfund Alternative Approach, by providing a copy of this Order to the State, EPA is notifying the State that EPA is the lead agency for coordinating, overseeing, and enforcing the response action required by the Order, but EPA will consult with the State on remedy selection, site management, and on the proposed enforcement actions prior to initiating formal negotiations for cleanup with NORCO and other Potentially Responsible Parties (PRPs). EPA will provide the State the opportunity to participate in negotiations and settlement.

IX. WORK TO BE PERFORMED

27. All Work performed under this Order shall be performed under the direction and supervision of qualified personnel. Within 21 days of the effective date of this Order, and before the Work outlined below begins, NORCO must notify EPA in writing of the names, titles, and qualifications of the supervising personnel of its prime contractors and laboratories to be used in carrying out the Work. Within 7 days of selection, and at least 7 days before commencement of the Work, NORCO must notify EPA in writing of the names, titles and qualifications of supervisory personnel of any subcontractor. The qualifications of the persons undertaking the Work for NORCO will be subject to EPA's review and disapproval. This Order is contingent on NORCO's demonstration to EPA's satisfaction that NORCO is qualified to perform properly and promptly the actions set forth in this Order. If EPA disapproves in writing of any supervising person's qualifications, NORCO must notify EPA of the identity and qualifications of the replacement within 21 days of the written notice. If EPA subsequently disapproves of the

replacement, EPA may terminate this Order and conduct a complete RI/FS, and seek reimbursement for costs and penalties from NORCO. During the course of the RI/FS, NORCO must notify EPA in writing of any changes or additions in the supervising personnel used to carry out the Work, providing their names, titles, and qualifications. EPA has the same right to disapprove changes and additions to supervisory personnel as it has regarding the initial notification.

28. NORCO must conduct activities and submit Deliverables as provided by the RI/FS Statement of Work (SOW), as implemented by the Work Plan, for the development of the RI/FS. The RI/FS SOW is incorporated into and made an enforceable part of this Order. All such Work must be conducted in accordance with CERCLA; the NCP; EPA guidance, including the "Interim Final Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA" (EPA/540/G-89/004; OSWER Directive # 9355.3-01; October 1988), guidance documents referenced therein, and guidance documents referenced in the RI/FS SOW, as may be amended or modified by EPA; the RI/FS SOW; the standards, specifications and other requirements of work plans and sampling and analysis plan approved by EPA; and schedules approved by EPA.

29. NORCO must make all submissions to EPA in accordance with the schedule contained in the RI/FS SOW or other schedules approved by EPA.

30. All major deliverables (as listed in this Order and the RI/FS SOW) that NORCO submits to EPA must contain the following statement, signed by a responsible corporate official or by NORCO's Project Coordinator (as named and approved under Paragraph 59 of this Order):

> To the best of my knowledge, after thorough investigation, I certify that the information contained in or accompanying this submission is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations

In all other instances in which this Order requires a submission to EPA, the submission must be signed by a responsible corporate official of NORCO or by the Project Coordinator. Notwithstanding such a delegation of responsibility, NORCO remains liable for the proper performance of the Work required by this Order. For purposes of this Order, a responsible corporate official is an official who is in charge of a principal business function.

31. After review of any submission, EPA may: (a) approve (in whole or in part) the submission; (b) approve the submission but require modifications, which may include deletions or additions prepared by EPA, which NORCO must incorporate into the text of the submission as directed by EPA in writing; (c) disapprove (in whole or in part) the submission and direct NORCO to resubmit the submission after incorporating EPA's modifications, which may include deletions or additions prepared by EPA, which NORCO must incorporate into the text of the submission exactly as directed by EPA in writing; (d) disapprove the submission and assume responsibility for performing all or any part of the RI/FS; or (e) any combination of the above. Once approved by EPA in writing, and subject to the result of any dispute resolution, a

submission or an approved portion of a submission is incorporated into and fully enforceable under this Order, and NORCO must proceed to take any action required by the submission.

32. In the event of approval or approval with modifications by EPA, NORCO must proceed to take any action required by the submission, as approved or modified by EPA.

33. Within 14 days of receipt of a notice of disapproval or approval with modifications, or within the time specified by EPA in its notice of disapproval or approval with modifications, NORCO must correct the deficiencies and resubmit the submission for approval. Notwithstanding the notice of disapproval or approval with modifications, NORCO must proceed, at the written direction of EPA, to take any action required by any non-deficient portion of the submission.

34. If, on resubmission by NORCO, EPA again disapproves a previously disapproved submission, EPA may deem the submission untimely and inadequate, and stipulated penalties will begin to accrue as of the date of EPA's notice of disapproval under this paragraph. EPA also retains the right to perform its own studies, complete the RI/FS (or any portion of the RI/FS) under CERCLA and the NCP, and seek reimbursement from NORCO for its costs, and to seek any other appropriate relief.

35. If EPA takes over some of the tasks, but not the preparation of the RI/FS, NORCO must fully incorporate and integrate information supplied by EPA into the final RI/FS report.

36. Failure of EPA to comment on, approve of, or disapprove of NORCO's submissions within a specified period will not constitute approval by EPA. Any failure by EPA to comment on, approve or disapprove any submission before the scheduled date of commencement of Work, when approval is required by that date under the terms of the RI/FS SOW, operates to extend the Schedule until EPA so acts. In such an instance, the Schedule will be extended by the number of days between the date approval was required and the date EPA acts.

37. **Off-site shipments of hazardous substances.**

(a) Before any off-site shipment of hazardous substances from the Site for disposal related to this Order, NORCO must provide written notification of the shipment to EPA's designated Remedial Project Manager (RPM). This notification must include evidence that NORCO has inquired of the appropriate regulatory authority regarding the recipient facility's present compliance with all applicable environmental permits and/or interim status requirements, and the results of such inquiry. This notification requirement does not apply to any such off-site shipments when the total volume of such shipments will not exceed 10 cubic yards.

(b) For an off-site, out-of-state shipment of hazardous substances from the Site for disposal related to this Order that exceeds a total volume of 10 cubic yards, the written notification described in part (a) of this paragraph

must also be submitted to the appropriate state environmental official in the receiving state, and must include the following additional information where available: (1) the name and location of the facility to which the hazardous substances are to be shipped; (2) the type and quantity of the hazardous substances to be shipped; (3) the expected schedule for the shipment of the hazardous substances; and (4) the method of transportation. NORCO must notify the same official in the receiving state of major changes in the shipment plan, such as a decision to ship the hazardous substances to another facility within the same state, or to a facility in another state.

(c) The identity of the receiving facility and state will be determined by NORCO following the award of the contract for the RI/FS study or removal activities. NORCO must provide all relevant information on the off-site shipments of hazardous substances from the Site for disposal related to this Order, including information under the categories noted in Paragraph 37 (a) and b) above, as soon as practicable after the award of the contract and at least 14 days before the hazardous substances are actually shipped.

X. RISK ASSESSMENTS

38. NORCO will perform the baseline human health risk assessment and the ecological risk assessment as specified in the RI/FS SOW (Attachment A). NORCO must support EPA in the effort by providing various information to EPA through the Technical Coordination Group process as outlined in this Order and RI/FS SOW. EPA will review and provide comments on the risk assessment deliverables to ensure adherence to the specifications in the RI/FS SOW and all applicable guidance. NORCO shall incorporate the comments into these deliverables.

XI. MODIFICATION OF THE WORK PLAN

39. If, at any time during the implementation of this Order, NORCO identifies a need for additional data, NORCO must submit a written proposal to the RPM within 20 days of identification. The proposal must outline the additional data needs, state the general plan to collect or generate the additional data, identify specific changes or additions to relevant approved plans, and describe necessary schedule modifications. EPA, in its discretion, will determine whether the additional data will be collected and whether it will be incorporated into reports and deliverables.

40. EPA may determine that, in addition to tasks defined in the initially approved Work Plan, other work may be necessary to accomplish the objectives of the RI/FS as set forth in the RI/FS Statement of Work. EPA may require that NORCO perform such Work in addition to those required by the initially approved Work Plan, including any approved modifications, if it

determines that such actions are necessary for a complete RI/FS. NORCO must confirm its willingness to perform the additional Work in writing to EPA within seven days of receipt of the EPA request, or NORCO may invoke dispute resolution. Subject to EPA resolution of any dispute, NORCO must implement the additional tasks that EPA determines are necessary. The additional Work must be completed according to the standards, specifications, and schedule set forth or approved by EPA in a written modification to the Work Plan or written Work Plan supplement. EPA reserves the right to conduct the Work itself at any point, to seek reimbursement from NORCO, and/or to seek any other appropriate relief.

41. If during implementation of the field work required under this Order, NORCO identifies a technical improvement in investigative procedures, NORCO may complete and submit to EPA a Workplan Refinement Notice. The Workplan Refinement Notice must provide a description of the proposed refinement, a rationale for use of such refinement, a discussion of technical merit, any potential or actual impact on project schedule or costs, and impacts on other approved plans. EPA may indicate approval by signing and dating the signed Workplan Refinement Notice submitted to EPA. NORCO may not conduct any activity incorporating a change proposed by the Workplan Refinement Notice until the notice is approved by the RPM.

XII. EMERGENCY RESPONSE AND NOTIFICATION OF RELEASES

42. If activities conducted under this Order cause or threaten to cause a release of hazardous substances, pollutants, or contaminants from the Site that presents or may present an endangerment to the public health, welfare, or the environment, NORCO shall immediately take all appropriate action to prevent, abate or minimize the release and endangerment caused or threatened by the release. NORCO must take these actions in accordance with all applicable provisions of this Order. In addition to notifications otherwise required by law, NORCO also must immediately notify the RPM of the incident and related Site conditions. In addition, NORCO must submit a written report to EPA within seven (7) days after each release, setting forth the events that occurred and the measures taken or to be taken to mitigate the release or endangerment caused or threatened by the release and to prevent the recurrence of such an event. NORCO shall also comply with any other notification requirements, including those in CERCLA Section 103, 42 U.S.C. § 9603, and Section 304 of the Emergency Planning and Community Right-To-Know Act, 42 U.S.C. § 11004.

43. In the event of unanticipated or changed circumstances at the Site, NORCO must notify the RPM by telephone within 24 hours of discovery of the unanticipated or changed circumstances. In addition to its authority under the NCP, if EPA determines that the immediate threat or the unanticipated or changed circumstances warrant changes in the work plan, EPA may modify or amend the work plan in writing accordingly pursuant to Section XI of this Order, or may direct NORCO to submit a proposed amended work plan within a specified amount of time. NORCO must perform the work plan as modified or amended and approved by EPA.

XIII. SAMPLING AND QUALITY ASSURANCE

44. Unless shorter notice is agreed to by EPA, NORCO shall orally notify EPA at least 15 days before conducting significant field events, and follow up this request in writing at least 10 days before conducting significant field events as described in the RI/FS Statement of Work, Work Plan, or Sampling and Analysis Plan.

45. NORCO shall ensure that Work performed, samples taken and analyses conducted conform to the requirements of the RI/FS Statement of Work and guidance documents identified therein. NORCO must ensure that field personnel used by NORCO are properly trained in the use of field equipment and in chain of custody procedures.

46. To provide quality assurance and maintain quality control regarding all samples collected pursuant to this Order, NORCO shall:

(a) Ensure that all contracts with laboratories utilized by NORCO for analysis of samples taken in accordance with this Order provide for access of EPA personnel and EPA authorized representatives.

(b) Ensure that all laboratories utilized by NORCO for analysis of samples taken in accordance with this Order perform analyses according to EPA methods or alternative methods satisfactory to EPA.

(c) Ensure that all laboratories utilized by NORCO for analysis of samples taken in accordance with this Order participate in an EPA or EPA-approved QA/QC program or alternative methods as determined by EPA. As part of the QA/QC program and upon request by EPA, such laboratories must perform, at no expense to EPA, analyses of samples provided by EPA to demonstrate the quality of each laboratory's data.

47. The Quality Assurance and Sampling shall be performed as follows:

(a) All sampling and analyses performed pursuant to this Order shall conform to EPA direction, approval, and guidance regarding sampling, quality assurance/quality control ("QA/QC"), data validation, and chain of custody procedures. Respondents shall ensure that the laboratory used to perform the analyses participates in a QA/QC program that complies with the appropriate EPA guidance. Respondents shall follow, as appropriate, "Quality Assurance/Quality Procedures" (OSWER Directive No. 9360, 4-01, April 1, 1990), as guidance for QA/QC and sampling. Respondents shall only use laboratories that have a documented Quality System that complies with ANSI/ASQC E-4 1994, "Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs" (American National Standard, January 5, 1995), and "EPA Requirements for Quality Management Plans (QA/R-2) (EPA/240/B-01/002, March 2001)," or equivalent documentation as determined by EPA. EPA may consider laboratories accredited under the National

Environmental Laboratory Accreditation Program ("NELAP") as meeting the Quality System Requirements.

(b) Upon request by EPA, Respondents shall have such a laboratory analyze samples submitted by EPA for QA monitoring. Respondents shall provide to EPA the QA/QC procedures followed by all sampling teams and laboratories performing data collection and/or analysis.

(c) Upon request by EPA, NORCO shall allow EPA or its authorized representatives to take split and/or duplicative samples. EPA shall have the right to take any additional samples that EPA deems necessary. Upon request, EPA shall allow NORCO to take split or duplicative samples of any samples it takes as part of its oversight of Respondents' implementation of the Work. All split samples will be analyzed by the methods identified in the RI/FS SOW.

XIV. FINAL RI/FS, PROPOSED PLAN, PUBLIC COMMENT, RECORD OF DECISION, ADMINISTRATIVE RECORD

48. EPA retains the responsibility for the approval and release to the public of the RI/FS Report. EPA retains responsibility for the preparation and release to the public of the Proposed Plan and Record of Decision (ROD) in accordance with CERCLA and the NCP.

49. EPA will provide NORCO with the proposed RI/FS Report, Proposed Plan and ROD.

50. EPA will compile the administrative record file for selection of the remedial action. NORCO must submit to EPA documents developed during the course of the RI/FS upon which selection of the response action may be based. NORCO must provide copies of plans, task memoranda for further action, quality assurance memoranda and audits, raw data, field notes, laboratory analytical reports and other reports. NORCO must also submit any previous studies conducted under state, local or other federal authorities relating to selection of the response action, and all communications between NORCO and state, local or other federal authorities concerning selection of the response action. EPA has established a community information repository near the Site, which will house one copy of the administrative record and other documents that may be of public interest. The address of the repository is:

Ingleside Public Library
2775 Waco St.
Ingleside, TX 78362

XV. PROGRESS REPORTS AND MEETINGS

51. NORCO must make presentations at, and participate in, meetings at the request of EPA during the initiation, conduct, and completion of the RI/FS. In addition to discussion of the technical aspects of the RI/FS, topics will include anticipated problems or new issues. Meeting dates will be coordinated by the EPA RPM and the Project Coordinator.

52. In addition to the deliverables set forth in this Order, NORCO must provide to EPA monthly progress reports beginning on the 10th day of the month following the Effective Date of this Order, until termination of this Order, unless directed in writing by the RPM. At a minimum, with respect to the preceding month, these progress reports must: (1) describe the actions taken to comply with this Order during that month; (2) include all results of sampling and tests and all other data received by NORCO; (3) provide an index of raw data collected during the month; (4) describe work planned for the next two months with schedules relating such work to the overall project schedule for RI/FS completion; and (5) describe all problems encountered and any anticipated problems, any actual or anticipated delays, and solutions developed and implemented to address any actual or anticipated problems or delays.

53. If EPA determines that any monthly report is deficient, the RPM will notify NORCO within 10 days of receipt of the monthly report. NORCO must submit a revised monthly report within 10 days of receipt of notice of deficiency.

XVI. ACCESS AND DATA AVAILABILITY/ADMISSIBILITY

54. EPA will make available to NORCO validated data generated by EPA, in accordance with this Order, unless the data are exempt from disclosure under any federal or state law or regulation. Existing data that NORCO seeks to use as part of the Work performed under this Order will be provided to EPA in a Geographic Information System (GIS) compatible format to the extent feasible, with all GIS data sets in a Universal Transverse Mercator or State Plane coordinate system.

55. At all reasonable times, EPA and its authorized representatives have the authority to enter and freely move about all property at the Site (and off-site areas where work is being performed), and to use a camera, sound recording device or other documentary equipment, for these purposes:

inspecting conditions, activities, the results of activities, records, operating logs, and contracts related to the Site or NORCO and its contractor as authorized by this Order;

reviewing the progress of NORCO in carrying out the terms of this Order;

conducting tests as EPA or its authorized representatives deem necessary; and

verifying the data submitted to EPA by NORCO.

reviewing all non-privileged records and documentation related to the conditions at the Site and the actions conducted pursuant to this Order.

EPA and its representatives entering the Site will comply with the requirements of the Site Health and Safety Plan. NORCO must allow these persons to inspect and copy all records, files, photographs, documents, sampling and monitoring data, and other writings related to work undertaken in carrying out this Order. Nothing herein may be interpreted as limiting or affecting EPA's right of entry or inspection authority under federal law.

56. NORCO may assert a claim of business confidentiality covering part or all of the information submitted to EPA in accordance with the terms of this Order under 40 C.F.R. Section 2.203, provided the claim is allowed by Section 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7). This claim must be asserted in the manner described by 40 C.F.R. Section 2.203(b) and substantiated at the time the claim is made. Information determined to be confidential by EPA will be given the protection specified in 40 C.F.R. Part 2. If no such claim accompanies the information when it is submitted to EPA, it may be made available to the public by EPA or the state without further notice to NORCO. NORCO agrees not to assert confidentiality claims with respect to any data related to environmental Site conditions, or Site features or conditions that could cause a release to the environment; Site health and safety; archaeological, historical, or cultural resources; sampling; or monitoring.

57. In entering into this Order, NORCO agrees not to object to any data gathered, generated, or evaluated by EPA, the State or NORCO in the performance or oversight of the Work, if the data has been verified according to the quality assurance/quality control (QA/QC) procedures required by the Order or any EPA-approved work plans or sampling and analysis plans. If NORCO objects to any other data relating to the RI/FS, NORCO must submit to EPA a report that identifies and explains its objections, describes all acceptable uses of the data, and identifies any limitations to the use of the data. The report must be submitted to EPA within 15 days of the monthly progress report containing the data. This paragraph does not limit NORCO's right to object to the relevance, use, or interpretation of the data.

58. If any part of the Site, or an off-site area that is to be used for access or is within the scope of the RI/FS, is not owned by NORCO, NORCO must obtain, or use its best efforts to obtain, site access agreements from the present owner(s) within 30 days of the effective date of this Order or within 30 days of identifying the need for such access, if that need is not identified until after the effective date of this Order. EPA will assist in such efforts with respect to land owned by the United States. The agreements must provide access for EPA, its contractors and oversight officials, the state and its contractors, and NORCO or its authorized representatives, and must specify that NORCO is not EPA's representative with respect to liability associated with site activities. NORCO must provide a copy of the pertinent access agreement to EPA before initiating field activities on any property that is the subject of an access agreement. NORCO's best efforts include providing reasonable compensation to any off-site property owner. If access agreements are not obtained within 30 days of the effective date, NORCO must immediately notify EPA of its failure to obtain access. If NORCO cannot obtain access agreements, EPA may obtain access for NORCO, perform the field activities with EPA contractors, or terminate the Order. If EPA performs the field activities with EPA contractors and does not terminate the Order, NORCO must perform all other activities not requiring access to that Site, and must reimburse EPA for all costs incurred in performing the activities. NORCO additionally must integrate the results of any such activities undertaken by EPA into its reports

and deliverables. Further, NORCO agrees to indemnify the U.S. Government as specified in Section XXVI of this Order. In accordance with Paragraph 58, NORCO also must reimburse EPA for all costs and attorney fees incurred by the United States to obtain access for NORCO.

XVII. DESIGNATION OF PROJECT COORDINATOR AND RPM

59. On or before the effective date of this Order, NORCO must designate a Project Coordinator, who will be responsible for administering all of NORCO's Work required by the Order. NORCO must submit the designated Project Coordinator's name, address, telephone number, and qualifications to EPA. To the greatest extent possible, during Work on the Site, the Project Coordinator must be present at the Site or readily available. EPA retains the right to at any time disapprove of any Project Coordinator selected by NORCO. If EPA disapproves in writing of a selected Project Coordinator, NORCO must designate a new Project Coordinator and notify EPA of that person's name, address, telephone number, and qualifications within seven days following EPA's disapproval. NORCO has designated as its Project Coordinator:

(Designate a name here)

60. NORCO has the right to change its Project Coordinator. At least seven days before the change, NORCO must notify EPA in writing of the designated Project Coordinator's name, address, telephone number, and qualifications.

61. EPA has designated Rafael Abrego Casanova of the EPA Region 6 Superfund Division as its Remedial Project Manager (RPM) for the Site. EPA's RPM has the authority lawfully vested in an RPM and On-Scene Coordinator (OSC) by the NCP. In addition, the RPM has the authority, consistent with the NCP, to halt, conduct or direct any Work required by this Order, and to take any necessary response action upon determining that conditions at the Site may present an immediate and substantial endangerment to public health or welfare or the environment. The absence of the RPM from the area under study pursuant to this Order is not cause for the stoppage or delay of work. EPA has the right to change its designated RPM. EPA will notify NORCO of the change.

62. To the greatest extent possible, communications between NORCO and EPA should be in writing and directed to the Project Coordinator on behalf of NORCO and RPM on behalf of EPA. Communications include, but are not limited to, all documents, notices, reports, approvals, disapprovals, and other correspondence submitted under this Order.

(a) NORCO shall submit all documents to the EPA to:

Rafael Abrego Casanova (Remedial Project Manager, Environmental Scientist)
U.S. Environmental Protection Agency (Region 6)
Superfund Division (6SF-AP)
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733
Telephone Number: (214) 665-7437

Fax Number: (214) 665-6660
E-Mail: casanova.rafael@epa.gov

and any other addresses the EPA may designate in writing.

(b) Documents to be submitted to NORCO should be sent to:

(Designate a name here)

NORCO must notify EPA in writing of any change in this address.

63. EPA will arrange for a qualified person to assist in its oversight and review of the conduct of the RI/FS, as required by Section 104(a) of CERCLA, 42 U.S.C. § 9604(a). The oversight assistant may observe work and make inquiries in the absence of EPA, but is not authorized to modify the work plan.

XVIII. OTHER APPLICABLE LAWS

64. NORCO shall comply with all applicable laws when performing the RI/FS. No local, state, or federal permit is required for any portion of any action conducted entirely on the Site, including studies, if the action is selected and carried out in compliance with Section 121 of CERCLA. For purposes of this Order, on-site is defined in accordance with 40 CFR 300 (e).

XIX. RECORD PRESERVATION

65. All records and documents in EPA's and NORCO's possession that relate to the conduct of Work under this Order must be preserved for the duration of this Order and for at least 10 years after commencement of construction of any remedial action. NORCO must acquire and retain copies of all documents that relate to the conduct of work under this Order and are in the possession of its employees, agents, accountants, contractors, or attorneys. After this 10-year period, NORCO must notify EPA at least 90 days before the documents are scheduled to be destroyed. If EPA requests that the documents be saved, NORCO must, at no cost to EPA, give EPA the documents or copies of the documents.

XX. DISPUTE RESOLUTION

66. Any disputes concerning activities or deliverables required under this Order will be resolved as follows:

(a) The RPM and the Project Coordinator should first attempt to resolve informally all matters in dispute. Whenever possible, the RPM and the Project Coordinator are to operate by consensus.

(b) If the RPM and the Project Coordinator cannot resolve a dispute within 24 hours, or if NORCO objects to an EPA notice of deficiency or any other decision made by EPA under this Order, NORCO may submit to EPA's

RPM a written notice of objection within 14 days of receipt of EPA's notice or decision. NORCO's written objection must define the issue in dispute and state the basis of NORCO's objections. EPA then has 21 days to provide NORCO with a written response addressing NORCO's objections. EPA and NORCO then have an additional 14 days to reach agreement on the issue in dispute.

(c) If an agreement is not reached within 14 days after EPA provides NORCO with a written response to NORCO's written objections, NORCO may request a determination by EPA's Chief of the Arkansas/Texas Branch of the Superfund Division, EPA Region 6 ("Branch Chief"). The Branch Chief's determination will be in writing. Within two days of receiving the Branch Chief's determination, NORCO may request a review by the Director of the Superfund Division, EPA Region 6 ("Division Director") of any determination made by the Branch Chief. The Division Director's decision is EPA's final decision. NORCO must proceed in accordance with EPA's final decision regarding the matter in dispute, regardless of whether NORCO agrees with the decision. If NORCO does not agree to perform or does not actually perform the work in accordance with EPA's final decision, EPA reserves the right in its sole discretion to conduct the work itself, to seek reimbursement from NORCO, to seek enforcement of the decision, to seek stipulated penalties, and to seek any other appropriate relief.

(d) EPA will consider all objections, responses, and determinations for inclusion in the administrative record, in accordance with 40 C.F.R. § 300.810.

67. While a matter is pending in dispute resolution, NORCO is not relieved of its obligations to perform and conduct activities and submit deliverables on the schedule set forth in the work plan. The invocation of dispute resolution does not stay the accrual of stipulated penalties under this Order.

XXI. DELAY IN PERFORMANCE/STIPULATED PENALTIES

68. For each day that NORCO fails to complete a deliverable in a timely manner or fails to produce a deliverable of acceptable quality, or otherwise fails to comply with the requirements of this Order, NORCO will be liable for stipulated penalties as specified in this Section XXI. Penalties begin to accrue on the day that performance is due or a violation occurs, and extend through the period of correction. Where a revised submission by NORCO is required, stipulated penalties will continue to accrue until a satisfactory deliverable is produced. EPA will provide written notice for violations that are not based on timeliness; nonetheless, penalties will accrue from the day a violation commences. Payment will be due within 30 days of receipt of a demand letter from EPA.

69. NORCO must pay interest on the unpaid balance, which will begin to accrue at the end of the 30-day period, at the rate established by the Department of Treasury in accordance with 30 U.S.C. Section 3717. NORCO must further pay a handling charge of 1 percent, to be assessed at the end of each 31 day period, and a 6 percent per annum penalty charge, to be assessed if the penalty is not paid in full within 90 days after it is due.

70. NORCO must make all payments by forwarding a certified check to:

EPA Superfund - NORCO Refinery Site (06MC)
CERCLIS # TXD086278058
Superfund Accounting
P.O. Box 360582M
Pittsburgh, Pennsylvania 15251
ATTN: COLLECTION OFFICER FOR SUPERFUND

The certified check should be made payable to the "Hazardous Substance Superfund" and should reference the "Falcon Refinery Site, Ingleside, San Patricio County, Texas", the EPA Region and Site/Spill ID Number "06MC", and "EPA Docket Number _____." NORCO must submit notice of payment including a copy of the check to the EPA Project Coordinator/Remedial Project Manager and to:

Chief, Superfund Cost Recovery Section (6SF-AC)
U.S. Environmental Protection Agency, Region 6
1445 Ross Avenue
Dallas, Texas 75202-2733

71. For the following major deliverables, stipulated penalties will accrue in the amount of $1000 per day, per violation, for the first 14 days of noncompliance; $1500 per day, per violation, for the 15th through 30th days of noncompliance; and $5000 per day, per violation, for all violations lasting beyond 30 days.

1) An original and any revised work plan.

2) An original and any revised sampling and analysis plan.

3) An original and any revised remedial investigation report.

4) An original and any revised treatability testing work plan.

5) An original and any revised treatability study sampling and analysis plan.

6) An original and any revised feasibility study report.

72. For all other deliverables, stipulated penalties will accrue in the amount of $500 per day, per violation, for the first 7 days of noncompliance; $750 per day, per violation, for the 8th through 14th days of noncompliance; $1200 per day, per violation, for the 15th through 30th

days of noncompliance; and $2000 per day, per violation, for all violations lasting beyond 30 days.

73. For the monthly progress reports, stipulated penalties will accrue in the amount of $100 per day, per violation, for the first 7 days of noncompliance; $500 per day, per violation, for the 8th through 14th days of noncompliance; $1000 per day, per violation, for the 15th through 30th days of noncompliance; and $1500 per day, per violation, for all violations lasting beyond 30 days.

74. NORCO may dispute EPA's right to penalties by invoking the dispute resolution procedures under Section XX. Penalties will accrue but need not be paid during the dispute resolution period. If NORCO does not prevail upon resolution, all penalties are due to EPA within 30 days of resolution of the dispute. If NORCO prevails upon resolution, the penalties at issue in the dispute resolution need not be paid. EPA in its discretion may forgive all or part of any stipulated penalties under this Order.

75. The stipulated penalties provisions do not preclude EPA from pursuing any other remedies or sanctions available to EPA because of NORCO's failure to comply with this Order, including conduct of all or part of the RI/FS by EPA. Payment of stipulated penalties does not alter NORCO's obligation to complete performance of any obligations under this Order.

XXII. FORCE MAJEURE

76. NORCO's activities under this Order must be performed within the time limits set forth in this Order and in the attached RI/FS SOW, unless performance is delayed by events constituting a force majeure. "Force majeure," for purposes of this Order, is defined as any event arising from causes entirely beyond the control of NORCO or any entity controlled by NORCO, including contractors and subcontractors, that delays the timely performance of any obligation under this Order notwithstanding NORCO's best efforts to avoid the delay. The requirement that NORCO exercise "best efforts to avoid the delay" includes using best efforts to anticipate any potential force majeure event and best efforts to address the effects of any potential force majeure event (1) as it is occurring and (2) after it occurs, so that the delay is minimized to the greatest extent practicable. Examples of events that are not force majeure events include increased costs or expenses of any Work to be performed under this Order or the financial difficulty of NORCO to perform any Work.

77. If any event occurs or has occurred that may delay the performance of any obligation under this Order, whether or not caused by a force majeure event, NORCO must notify by telephone the Remedial Project Manager or, in his absence, the Director of the Superfund Division, EPA Region 6, within 48 hours of when NORCO knew or should have known of the event that might cause a delay. Within seven days thereafter, NORCO must provide in writing the reasons for the delay; the anticipated duration of the delay; all actions taken or to be taken to prevent or minimize the delay; a schedule for implementation of any measures to be taken to mitigate the effect of the delay; and a statement as to whether, in the opinion of NORCO, the event may cause or contribute to an endangerment to public health, welfare or the environment. NORCO must exercise best efforts to avoid or minimize any delay and any effects of a delay.

Failure to comply with the above requirements will preclude NORCO from asserting any claim of force majeure.

78. If EPA agrees that the delay or anticipated delay is attributable to force majeure, the time for performance of the obligations under this Order that are directly affected by the force majeure event will be extended by agreement of the parties, in accordance with Paragraph 109 of this Order, for a period of time not to exceed the actual duration of the delay caused by the force majeure event. An extension of the time for performance of the obligation directly affected by the force majeure event will not, of itself, extend the time for performance of any subsequent obligation.

79. If EPA does not agree that the delay or anticipated delay has been or will be caused by a force majeure event, or does not agree with NORCO on the length of the extension, the issue will be subject to the dispute resolution procedures set forth in Section XX of this Order. In any such proceeding, to qualify for a force majeure defense, NORCO will have the burden of demonstrating by a preponderance of the evidence that the delay or anticipated delay has been or will be caused by a force majeure event, that the duration of the delay was or will be warranted under the circumstances, that NORCO did exercise or is exercising due diligence by using its best efforts to avoid and mitigate the effects of the delay.

80. If NORCO carries the burden set forth in Paragraph 78, the delay at issue will be deemed not to be a violation of the affected obligation of this Order.

XXIII. REIMBURSEMENT OF, AND SPECIAL ACCOUNT FOR, FUTURE RESPONSE COSTS AND OVERSIGHT COSTS

81. Pursuant to the authority in Section 122(b)(3) of CERCLA, 42 U.S.C. Section 9622(b)(3), Respondents agree to pay to EPA all Future Response Costs not inconsistent with the National Contingency Plan in accordance with the procedures and time frames described in this Section. EPA shall establish a special account, the Falcon Refinery Site Special Account (hereinafter Special Account or SA), to retain funds provided by Respondents that the EPA, and the State and Federal Natural Resource Trustees, shall use in connection with the performance of this Order. EPA shall use such funds for the payment of future response costs and oversight costs in connection with the performance of this Order. The State and Federal Natural Resource Trustees shall use such funds for providing technical assistance to the EPA. The total amount to be paid by Respondents shall be deposited in this Special Account. EPA has estimated that the amount of Response Costs that will be expended at this Site on an annual basis will be $450,000 (hereinafter referred to as the SA Startup), including $200,000 for Response Costs to EPA, and $100,000 for the State and Federal Natural Resource Trustees to provide technical assistance to the EPA. This amount also includes $50,000 which the EPA plans to award to a local community group as a Technical Assistance Grant and $100,000 which the EPA plans to use for the technical services of an oversight contractor.

82. Response costs include all future response costs as well as costs incurred by the United States in overseeing NORCO's implementation of the requirements of this Order and activities performed by the government as part of the RI/FS and community relations, including:

time and travel costs of EPA and associated indirect costs, contractor costs, attorney costs, cooperative agreement costs, technical assistance grant costs, compliance monitoring, collection and analysis of split samples, inspection of RI/FS activities, Site visits, discussions regarding disputes that arise under this Order, review and approval or disapproval of reports, costs of obtaining access to property as may be necessary to carry out activities required under this Order, costs of performing risk assessment, costs of redoing any of NORCO's tasks, and all other direct and indirect costs, and interest. Costs of technical assistance shall include all costs by the State and Federal Natural Resource Trustees in connection with their technical assistance to the EPA.

83. Within thirty (30) days of the effective date of this Order, Respondents shall pay the EPA $450,000 which the EPA shall place in the SA and use in accordance with Paragraph 81 above. Within thirty (30) days following the effective date of the Order, Respondents shall forward the SA Startup to be deposited in the NORCO Site Special Account by Electronic Funds Transfer ("EFT"), in accordance with EFT instructions provided by EPA, or by submitting a certified check. Certified checks should be made payable to the Hazardous Substances Superfund and should include the name of the site, the site identification number, the account number and the title of this Order. Checks should be forwarded to:

EPA Superfund - Falcon Refinery Site (06MC)
CERCLIS TXD086278058
Superfund Accounting
P.O. Box 360582M
Pittsburgh, Pennsylvania 15251
ATTN: COLLECTION OFFICER FOR SUPERFUND

The certified check should be made payable to the "Hazardous Substance Superfund" and should reference the "Falcon Refinery Site, Ingleside, San Patricio County, Texas", the EPA Region and Site/Spill ID Number "06MC", and "EPA Docket Number _____." NORCO shall submit notice of payment including a copy of the EFT transmittal documentation or check to the EPA Project Coordinator/Remedial Project Manager and to:

Chief, Superfund Cost Recovery Section (6SF-AC)
U.S. Environmental Protection Agency, Region 6
1445 Ross Avenue
Dallas, Texas 75202-2733

84. In addition, EPA will submit to Respondents an accounting summary of Response Costs paid (debited) from the Special Account since the effective date of this Order. The Future Response Costs accounting summary shall be in the form of an unreconciled SCORPIOS cost summary report or some equivalent unreconciled EPA accounting summary. If Respondents need more detailed information about a specific cost summarized on the SCORPIOS Report, Respondents may contact in writing the RPM to inquire about the specific details. The RPM will, within 14 days of such contact, attempt to provide the requested information. After the expiration of this 14-day period, Respondents may request that EPA prepare and certify a Response Cost accounting of some or all Response Costs paid since the effective date of this

Order. The EPA's cost of preparing the certified Response Cost accounting is a Response Cost payable from the Special Account.

85. Whenever the Special Account is drawn down to a balance of approximately $50,000, EPA will send a notice to Respondents and will provide an adjusted estimate of Future Response Costs to be expended annually. Respondents shall, within twenty (20) days of receipt of a notice and Response Cost accounting summary (i.e., the SCORPIOS report or its equivalent), remit to the Special Account (by EFT, certified check, or cashier's check) the amount EPA identifies as necessary to replenish the Special Account to a balance of $100,000 or to replenish the account to a balance of EPA's adjusted estimate of Response Costs to be expended annually (whichever amount is greater). If the Special Account is depleted to an amount of $10,000 or less at the time EPA submits a notification and cost accounting summary to Respondents, Respondents shall pay, within ten days of EPA's notice, $25,000 to the Special Account. Respondents shall remit the remaining amount to replenish the Special Account to $100,000 or to the amount of EPA's adjusted estimate of annual Response Costs (whichever amount is greater). Respondents shall make such payments according to the procedures described in Paragraph 83. Neither dispute resolution nor a request to the RPM for more detailed information nor a request for a certified cost accounting shall delay the date that Respondents' payments are due under this paragraph.

86. EPA will remit and return to Respondents the difference between any balance in the Special Account and the annual Response Costs estimated in Paragraph 81 that remains on the date of termination of this Order, or "rollover" the balance to another oversight account for the benefit of the Respondents in any subsequent action on this Site, for which the Respondents assume the lead. Termination and satisfaction of the terms of this Order will be in accordance with Section XXIX (Termination and Satisfaction). EPA's obligation to return funds to Respondents from the Special Account shall terminate upon EPA's assumption of performance of any portion of the work pursuant to this Order.

87. NORCO may invoke the Dispute Resolution provisions of this Order regarding Response Costs only after NORCO has made the inquiry of the EPA RPM outlined in Paragraph 66 and the RPM has responded or failed to respond within the fourteen (14) day period. Respondents agree to limit any disputes concerning Response Costs to accounting errors and the inclusion of costs outside the scope of this Order. If NORCO prevails in dispute resolution of Response Costs, EPA will make proper adjustments to the Falcon Refinery Site Special Account to reflect the correct amount determined in the resolution of the dispute. Respondents bear the burden of establishing an EPA accounting error or the inclusion of costs outside the scope of this Order, or the inclusion of costs that are inconsistent with the NCP. Likewise, any dispute over costs resolved under the dispute resolution provisions of this Order will be adjusted as determined in the written agreement reached or in the final binding decision made under the dispute resolution provisions of this Order.

XXIV. RESERVATIONS OF RIGHTS AND REIMBURSEMENT OF OTHER COSTS

88. EPA reserves the right to perform its own studies; to terminate, take over, or undertake activities required under this Order in the event of deficient submissions or other nonperformance; to seek reimbursement for the costs of those actions; and to seek any other appropriate relief. If EPA performs its own studies or terminates, takes over, or undertakes activities required under this Order, those studies and activities will be conducted under CERCLA and will not be inconsistent with the NCP. EPA will consult with NORCO's Project Coordinator in advance regarding such studies and activities.

89. EPA reserves the right to bring an action against NORCO under Section 107 of CERCLA for recovery of all response costs, including oversight costs, incurred by the United States at the site that are not reimbursed by NORCO, any costs incurred in the event EPA performs the RI/FS or any part of it, and any future costs incurred by the United States in connection with response activities conducted under CERCLA at this Site.

90. EPA reserves the right to bring an action against NORCO to enforce the response and oversight cost reimbursement requirements of this Order, to collect stipulated penalties assessed pursuant to section XXI of this Order, and to seek penalties pursuant to Section 109 of CERCLA, 42 U.S.C. § 9609.

91. Except as expressly provided in this Order, each party to this Order reserves all rights and defenses it may have. Nothing in this Order affects EPA's removal authority or EPA's response or enforcement authorities, including the right to seek injunctive relief, stipulated penalties, statutory penalties, and/or punitive damages.

92. After satisfying the requirements of this Order, NORCO will have resolved its liability to EPA for the work performed by NORCO pursuant to this Order. The activities conducted pursuant to this Order, if approved by EPA, will be considered consistent with the NCP. NORCO is not released from liability, if any, for any costs not paid by NORCO pursuant to this Order, or for response actions beyond the scope of this Order regarding removals, other operable units, remedial design/remedial action of this operable unit, or activities arising pursuant to Section 121(c) of CERCLA, 42 U.S.C. § 9621(c).

XXV. DISCLAIMER

93. By signing this Order and taking actions under this Order, NORCO does not admit, adopt, or concede EPA's Findings of Fact or Conclusions of Law, nor does it acknowledge that the release or threatened release of hazardous substances at or from the Site constitutes an imminent or substantial endangerment to the public health or welfare or the environment. NORCO reserves the right to contest the Findings of Fact and Conclusions of Law in any proceeding regarding the Site other than an action brought by the United States to enforce this Order. Further, the participation of NORCO in this Order may not be considered an admission of liability and is not admissible in evidence against NORCO in any judicial or administrative proceeding, other than a proceeding brought by the United States to enforce this

Order or a judgment relating to it. NORCO agrees not to contest the validity or terms of this Order, or the procedures underlying or relating to it, in any action brought by the United States to enforce its terms. NORCO retains its rights to assert claims against other potentially responsible parties at the Site under Section 113 of CERCLA, 40 U.S.C. § 9613.

94. Nothing in this Order is intended by the Parties to be used against NORCO as a collateral estoppel in any proceeding other than one by the United States to enforce this Order (including any collection proceeding pursuant to Section XXI (Delay in Performance/Stipulated Penalties)). NORCO represents that it has agreed to this Order to provide assistance to EPA and to avoid unnecessary conflict or litigation.

XXVI. OTHER CLAIMS

95. By entering into this Order, NORCO waives any right to seek reimbursement under Section 106(b) of CERCLA, 42 U.S.C. § 9606(b). NORCO also waives any right to present a claim under Section 111 or 112 of CERCLA. This Order does not constitute any decision on preauthorization of funds under Section 111(a)(2) of CERCLA. NORCO further waives all other statutory and common law claims against EPA, including contribution and counterclaims, relating to or arising out of conduct of the RI/FS.

96. By entering into this Order and agreeing to settle in accordance with the Superfund Alternative Approach, NORCO waives any right to assert a challenge to the United States and State Natural Resource Damages (NRD) claims based on a Statute of Limitations ("SOL") defense. NORCO shall agree to waive such a SOL defense even for those NRD claims which are not known at the time that this Order is effective.

97. By entering into this Order and agreeing to settle in accordance with the Superfund Alternative Approach, should there be an inadequate cleanup or an interruption in response actions, NORCO waives any right to challenge a final listing based on changed conditions due to a partial cleanup. In the event that NORCO performs only a portion of the activities in this Order, EPA will proceed to list the Site based on the Site conditions prior to the initiation of any response activities by NORCO. EPA will use the initial scoring for proposing the Site for listing on the NPL and will not take into account any of the response activities performed by NORCO.

98. Nothing in this Order constitutes or may be construed as a release from any claim, cause of action or demand in law or equity against any person, firm, partnership, agency, subsidiary or corporation not a signatory to this Order for any liability it may have arising out of or relating in any way to the generation, storage, treatment, handling, transportation, release, or disposal of any hazardous substances, pollutants, or contaminants found at, taken to, or released from the Site. Nothing in this Order may be construed to create any rights in, or grant any cause of action to, any person not a party to this Order.

99. Nothing in this Order is a finding that NORCO is the sole responsible party under CERCLA for the Site. EPA and NORCO expressly reserve all rights (including any right to

contribution, including any contribution claims that may exist against the United States and its agents and instrumentalities, excluding EPA), defenses, claims, demands, and causes of action that each may have with respect to any matter, transaction, or occurrence relating in any way to the Site against any person not a party to this Order.

100. NORCO must bear its own costs and attorneys fees.

XXVII. FINANCIAL ASSURANCE, INSURANCE, AND INDEMNIFICATION

101. Within 30 days after the Effective Date, NORCO must propose a fully-secured financial assurance instrument in the amount of $2,000,000. The financial assurance instrument must be, but is not limited to, a letter of credit, surety bond, performance bond, or a fully-funded trust fund. If EPA approves the proposal, within 30 days after that approval NORCO must execute the financial assurance instrument. If EPA disapproves the proposal, within 15 days NORCO must submit an alternative proposed financial assurance instrument.

102. In the event that NORCO fails to complete all or part of Work required by this Order, and EPA is required to complete all or part of the remedial Work required by this Order, NORCO shall provide EPA with the necessary access to the fully-secured financial assurance instrument in order to takeover the Work and prevent any delays in cleanup.

103. Beginning one hundred and eighty days after the Effective Date, and each calendar year thereafter, NORCO must adjust, if appropriate, the financial assurance sufficiently to perform the work and other activities required under this Order. The amount of the adjustment is subject to EPA approval.

104. If at any time the net worth of the financial instrument or trust account is insufficient to perform the work and other obligations under the Order for the upcoming quarter, NORCO must provide written notice to EPA within seven days after the net worth of the financial instrument or trust account becomes insufficient. The written notice must describe why the financial instrument or trust account is funded insufficiently and explain what actions have been or will be taken to fund the financial instrument or trust account adequately.

105. (a) Before commencement of any work under this Order, NORCO must secure, and must maintain in force for the duration of this Order, and for two years after the completion of all activities required by this Order, Commercial General Liability (CGL) and automobile insurance, with limits of $1,000,000, combined single limit, naming as additional insured the United States EPA. The CGL insurance must include Contractual Liability Insurance in the amount of $1,000,000 per occurrence, and Umbrella Liability Insurance in the amount of $2,000,000 per occurrence.

(b) NORCO must also secure, and maintain in force for the duration of this Order and for two years after the completion of all activities required by this Order, the following:

i. Professional Errors and Omissions Insurance in the amount of $1,000,000.00 per claim/aggregate.

ii. Pollution Liability Insurance in the amount of $1,000,000.00 per occurrence.

(c) For the duration of this Order, NORCO must satisfy, and must ensure that its contractors and subcontractors satisfy, all applicable laws and regulations regarding the provision of employer's liability insurance and workmen's compensation insurance for all persons performing work on behalf of NORCO in furtherance of this Order.

(d) If NORCO demonstrates by evidence satisfactory to EPA that any contractor or subcontractor maintains insurance equivalent to that described above, or insurance covering the same risks but in a lesser amount, then with respect to that contractor or subcontractor NORCO need provide only that portion of the insurance described above that is not maintained by the contractor or subcontractor.

(e) Before commencement of any work under this Order, and annually thereafter on the anniversary of the effective date of this Order, NORCO must provide to EPA proof of such insurance and a copy of each insurance policy.

106. At least seven days before commencing any work under this Order, NORCO must certify to EPA that the required insurance has been obtained by that contractor.

107. NORCO agrees to indemnify and hold the United States Government, its agencies, departments, agents, and employees harmless from any and all claims or causes of action arising from or on account of negligent or wrongful acts or omissions of NORCO, its employees, agents, servants, receivers, successors, or assignees, or any persons, including firms, corporations, subsidiaries and contractors, in carrying out activities under this Order. The United States Government or any agency or authorized representative thereof may not be held as a party to any contract entered into by NORCO in carrying out activities under this Order.

XXVIII. EFFECTIVE DATE/ COMPUTATION OF TIME/ SUBSEQUENT MODIFICATION

108. The effective date of this Order will be the date it is signed by EPA and NORCO. For purposes of this Order, the term "day" shall mean a calendar day.

109. This Order may be amended by mutual agreement of EPA and NORCO. Amendments must be in writing and will be effective when signed by EPA. The RPM does not have the authority to sign amendments to the Order.

110. No informal advice, guidance, suggestions, or comments by EPA regarding reports, plans, specifications, schedules, and any other writing submitted by NORCO may be construed as relieving NORCO of its obligation to obtain such formal approval as may be required by this Order. Any deliverables, plans, technical memoranda, reports (other than progress reports), specifications, schedules and attachments required by this Order are automatically incorporated into this Order upon approval by EPA.

XXIX. TERMINATION AND SATISFACTION

111. This Order will terminate upon the EPA's signature of the Record of Decision for the Site and when NORCO demonstrates in writing and certifies to the satisfaction of EPA that all activities required under this Order, including all activities required under the RI/FS Statement of Work, any additional Work, payment of response costs and oversight costs, and any stipulated penalties demanded by EPA, have been performed, and EPA has approved the certification; or when EPA terminates the Order in accordance with the provisions of this Order.

112. The certification described in the preceding paragraph must be signed by a responsible official representing NORCO. The representative must make the following attestation: "I certify that the information contained in or accompanying this certification is true, accurate, and complete." For purposes of this Order, a responsible official is a corporate official who is in charge of a principal business function.

113. EPA will approve the certification and terminate this Order when it is satisfied that all activities required under this Order have been performed, including any additional work, payment of Response Costs including oversight costs, and any stipulated penalties demanded by EPA. Termination of this Order in accordance with this section will not terminate NORCO's obligation to comply with Sections XIX (Record Preservation), and XXIII (Reimbursement of, and Special Account for Future Response and Oversight Costs) of this Order.

BY: _____ DATE:_____
National Oil Recovery Corporation

_____
Print Name and Title

BY: _____ DATE:_____
Director, Superfund Division
U.S. Environmental Protection Agency
Region 6

Attachment A
Remedial Investigation and Feasibility Study
Statement of Work

ATTACHMENT A
DRAFT STATEMENT OF WORK
REMEDIAL INVESTIGATION AND FEASIBILITY STUDY
NATIONAL OIL RECOVERY CORPORATION
FALCON REFINERY SITE
SAN PATRICIO COUNTY, TEXAS

I. INTRODUCTION

Purpose of the Statement of Work

1. This Draft Statement of Work (SOW) sets forth certain requirements of the Administrative Order on Consent (AOC) for implementation of the Work pertaining to a Remedial Investigation and Feasibility Study (RI/FS) for the Falcon Refinery Site (hereinafter "the Site," a.k.a National Oil Recovery Corporation). National Oil Recovery Corporation (NORCO), the Respondent, shall undertake the RI/FS according to the AOC, including, but not limited to, this SOW.

Objectives of the Remedial Investigation/Feasibility Study

2. The objectives of the RI/FS are to investigate the nature and extent of contamination at the Site and to develop and evaluate potential remedial alternatives, in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA, 42 U.S.C. § 9601, et seq.); as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA); and in accordance with the National Oil and Hazardous Substances Pollution Contingency Plan (National Contingency Plan [NCP]). Specifically, these objectives are to determine the presence or absence, types, and quantities (concentrations) of contaminants; mechanism of contaminant release to pathway(s); direction of pathway(s) transport; boundaries of source(s) and pathway(s); and environmental/public health receptors.

Scope of the Remedial Investigation and Feasibility Study

3. The general scope of the RI/FS shall be to address all contamination at the Site resulting from the hazardous substances present at the Site.

Description of the Site

4. The Site occupies approximately 104 acres and is located 1.7 miles southeast of State Highway 361 near the intersection of FM 2725 and Bishop Road near Ingleside, Texas. Ingleside is located approximately 18 miles northeast of Corpus Christi. The Site lies approximately five feet above sea level. The geodetic coordinates of 27°51′38.61" north latitude and 97°10′45.50″ west longitude (taken from the U.S. Geological Survey, Port Ingleside Quadrangle, 7.5 Minute Series Map [1975]) represent the entrance to the main process area and were measured from the entrance on Bishop Road.

5. The Falcon Refinery Site consists of an abandoned refinery that has operated intermittently since 1980. When in operation, the refinery operated at a 40,000 barrels per day capacity with primary products consisting of naphtha, jet fuel, kerosene, diesel, and fuel oil. The refinery processed material that consisted not only of crude oil but also hazardous substances.

The Site is located in the San Antonio-Nueces Coastal Basin adjacent to Redfish Bay, which connects Corpus Christi Bay to the Gulf of Mexico. Surface water drainage from the Site enters the wetlands along the southeastern section of the abandoned refinery. A culvert connects the on-site palustrine/estuarine wetlands to estuarine wetlands. The wetlands then connect to the Intracoastal Waterway and Redfish Bay. The Site is bordered by wetlands to the northeast and southeast, residential areas to the north and southwest, an abandoned refinery to the northwest, and a construction company to the southwest.

In May 2000, the Texas Natural Resource Conservation Commission (now the Texas Commission on Environmental Quality) conducted sampling activities at the Site and documented the following hazardous substances: cyclohexane, methlycyclohexane, toluene, ethylbenzene, xylenes (totals), fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, ideno(1,2,3-cd)pyrene, benzo(g,h,i)perylene, aluminum, arsenic, barium, cadmium, chromium, copper, lead, manganese, mercury, nickel, selenium, thallium, vanadium, and zinc.

The findings of an Expanded Site Inspection, completed in November 2000, revealed releases from the Site of the following hazardous substances: fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, ideno(1,2,3-cd)pyrene, benzo(g,h,i)perylene, dibenz(a,h,)anthracene, barium, manganese, and mercury.

The media affected are sediments in the Redfish Bay fishery and contiguous wetlands and on-site soils. The following hazardous substances were documented in sediments obtained in Redfish Bay and nearby wetlands at elevated concentrations that require further investigation: fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, ideno(1,2,3-cd)pyrene, benzo(g,h,i)perylene, barium, manganese, and mercury.

II. PERFORMANCE STANDARDS

6. The Performance Standards for this RI/FS shall include substantive requirements, criteria, or limitations which are specified in the AOC, including, but not limited to, this SOW. Submissions approved by the U.S. Environmental Protection Agency (EPA) are an enforceable part of the AOC; consequently, cleanup goals and other substantive requirements, criteria, or limitations which are specified in EPA-approved submissions are Performance Standards. The EPA will use the Performance Standards to determine if the work, including, but not limited to, the RI/FS, has been completed. The Respondent shall ensure that the RI/FS is consistent with the EPA's "Interim Final Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA" (EPA 1988b, hereinafter "the RI/FS guidance") and other EPA guidance cited

herein; unless, the RI/FS guidance or other guidance is inconsistent with the AOC as determined by the EPA, in which case the Respondent shall follow the AOC. If the EPA approves a schedule for any work pursuant to the AOC, the schedule shall supersede any timing requirements established in the RI/FS guidance or other guidance. Likewise, if the EPA, pursuant to the AOC, requires the Respondent to perform certain work at a point in time which is not consistent with the RI/FS guidance or other guidance, the Respondent shall perform the work. For example, on page B-2, the RI/FS guidance says that the Field Investigation is complete when the contractors or subcontractors are demobilized from the field; however, if the EPA, pursuant to the AOC, requires the Respondent to perform additional field investigation activities once the contractors or subcontractors have demobilized, the Respondent shall remobilize the contractors or subcontractors and perform the additional work. Except where it is inconsistent with this AOC, as determined by the EPA, the RI/FS guidance and the other EPA guidance cited herein are Performance Standards.

III. ROLE OF THE EPA

7. The EPA's approval of deliverables, including, but not limited to, submissions, is administrative in nature, and allows the Respondent to proceed to the next steps in implementing the Work of the RI/FS. The EPA's approval does not imply any warranty of performance, nor does it imply that the RI/FS, when completed, will meet Performance Standards nor does it imply that the RI/FS will function properly and be ultimately accepted by the EPA. The EPA retains the right to disapprove submissions during the RI/FS. The EPA may disapprove deliverables including, but not limited to, submissions concerning such matters as the contractor selection, plans and specifications, work plans, processes, sampling, analysis and any other deliverables within the context of the AOC. If a submission is unacceptable to the EPA, the EPA may require the Respondent to make modifications in the submission, and the EPA may require the Respondent to do additional work to support those modifications. That is, if a submission reports certain work that is unacceptable to the EPA, the EPA may require the Respondent to modify the submission text and to perform the work until it is acceptable to the EPA. The Respondent shall modify the submission and perform the work as required by the EPA.

IV. RESPONDENT'S KEY PERSONNEL

Respondent's Project Coordinator

8. When necessary, as determined by the EPA, the EPA will meet with the Respondent and discuss the performance and capabilities of the Respondent's Project Coordinator. When the Project Coordinator's performance is not satisfactory, as determined by the EPA, the Respondent shall take action, as requested by the EPA, to correct the deficiency. If, at any time, the EPA determines that the Project Coordinator is unacceptable for any reason, the Respondent, at the EPA's request, shall bar the Project Coordinator from any work under the AOC and give notice of the Respondent's selected new Project Coordinator to the EPA.

Respondent's Quality Assurance Official

9. Oversight, including, but not limited to confirmation sampling, by the Respondent's Quality Assurance Official (QAO) will be used to provide confirmation and assurance to the Respondent and to the EPA that the Respondent is performing the RI/FS in a manner that will meet the Performance Standards. The QAO shall ensure that the work performed by the Respondent meets the standards in the Quality Assurance Project Plan described in this SOW. The QAO shall selectively test and inspect the work performed by the Respondent.

V. TASKS TO BE PERFORMED AND DELIVERABLES

Conduct of the Remedial Investigation/Feasibility Study

10. This SOW specifies the Work to be performed and the deliverables which shall be produced by the Respondent. The Respondent shall conduct the RI/FS in accordance with this SOW and all applicable guidance that the EPA uses in conducting RI/FS projects under CERCLA, as amended by SARA, as well as any additional requirements in the AOC. The Respondent shall furnish all necessary personnel, materials, and services necessary for, and incidental to, performance of the RI/FS, except as otherwise specified in the AOC.

Submittal of Deliverables

11. All draft and final deliverables specified in this SOW shall be provided in hard copy and electronic format, by the Respondent, to the EPA (three hard copies), EPA's RI/FS Oversight Contractor (one hard copy), Texas Commission on Environmental Quality (TCEQ, two hard copies), and the Natural Resource Trustees[1] (one hard copy each). Draft and Final deliverables shall be provided to these entities in Adobe® PDF format. Final deliverables shall be provided in hard copy and electronic format (specifically, Adobe® PDF format) to the Information Repository(ies) established for the Site. Additionally, all deliverables specified in this SOW shall be submitted, by the Respondent, according to the requirements of this SOW and Appendix A (Schedule of Deliverables/Meetings).

12. All deliverables shall be developed in accordance with the guidance documents listed in Appendix B[2] (Guidance Documents) to this SOW. If the EPA disapproves of or requires

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[1]The Natural Resource Trustees for the Site have been preliminarily identified as the U.S. Department of the Interior, U.S. Fish and Wildlife Service, National Oceanic and Atmospheric Administration, United States Geological Survey, Texas Commission on Environmental Quality, Texas Parks and Wildlife Department, and Texas General Land Office.

[2]Appendix B of this SOW does not include all guidance documents that are applicable to the RI/FS for the Site. The Respondent shall consult with EPA's Remedial Project Manager for additional guidance and to ensure that these guidance documents have not been superseded.

revisions to any of these deliverables, in whole or in part, the Respondent shall submit to the EPA, within fourteen (14) calendar days of receiving the EPA's directions or comments, revised plans which are responsive to such directions or comments.

Tasks to be Performed by the Respondent

13. The Respondent shall perform each of the following Tasks (Tasks 1-10) as specified in this SOW. These Tasks shall be developed in accordance with the guidance documents listed in Appendix B (Guidance Documents) to this SOW and any additional guidance applicable to the RI/FS process.

Task 1: Project Planning

14. The purpose of Task 1 (Project Planning) is to determine how the RI/FS will be managed and controlled. The following activities shall be performed by the Respondent as part of Task 1:

a) Attend Scoping Phase Meeting - The Respondent shall contact the EPA's Remedial Project Manager after the effective date of the AOC to schedule a scoping phase meeting. The scoping phase meeting shall occur within fourteen (14) calendar days after the effective date of the AOC.

b) Evaluate Existing Information - The Respondent shall compile and review all existing Site data. The Respondent shall refer to Table 2-1 (Data Collection Information Sources) of the RI/FS Guidance for a list of data collection information sources, and the Respondent shall exhaust all of those sources in compiling the data.

The Respondent shall compile all existing information describing hazardous substance sources, migration pathways, and potential human and environmental receptors. The Respondent shall compile all existing data relating to the varieties and quantities of hazardous substances released on and near the Site. The Respondent shall compile and review all available data relating to past disposal practices of any kind on and near the Site. The Respondent shall compile existing data concerning the physical and chemical characteristics of the hazardous substances, and their distribution among the environmental media (ground water, soil, surface water, sediments, and air) on and near the Site.

The Respondent shall compile existing data which resulted from any previous sampling events that may have been conducted on and near the Site. The Respondent shall gather existing data which describes previous responses that have been conducted on and near the Site by local, state, federal, or private parties.

The Respondent shall gather existing information regarding geology, hydrogeology, hydrology, meteorology, and ecology of the Site. The Respondent shall gather existing data regarding background ground water, background soil, background surface water,

background sediments, and background air characteristics. The Respondent shall gather existing data regarding demographics and land use. The Respondent shall gather existing data which identifies and locates residential, municipal, or industrial wells on and near the Site. The Respondent shall gather existing data which identifies surface water uses for areas surrounding the Site including, but not limited to, downstream of the Site. The Respondent shall gather existing information describing the flora and fauna of the Site. The Respondent shall gather existing data regarding threatened, endangered, or rare species, sensitive environmental areas, or critical habitats on and near the Site. The Respondent shall compile existing results from any previous biological testing to document any known ecological effect such as acute or chronic toxicity or bioaccumulation in the food chain.

The Respondent shall use data compiled and reviewed to describe additional data needed to characterize the Site, to better define potential applicable or relevant and appropriate requirements (ARARs), and to develop a range of preliminarily identified remedial alternatives.

Task 2: Remedial Investigation and Feasibility Study Work Plan

15. The Respondent shall prepare and submit a Draft RI/FS Work Plan within forty-five (45) calendar days after the effective date of the AOC. The Respondent shall use information from appropriate EPA guidance and technical direction provided by the EPA's Remedial Project Manager as the basis for preparing the RI/FS Work Plan.

16. The Respondent shall develop the Draft RI/FS Work Plan (WP) in conjunction with the Draft RI/FS Sampling and Analysis Plan (Task 3 [RI/FS Sampling and Analysis Plan]) and the Draft RI/FS Site Health and Safety Plan (Task 4 [RI/FS Site Health and Safety Plan]), although each plan may be submitted to the EPA under separate cover. The Draft RI/FS WP shall include a comprehensive description of the Work to be performed, the methodologies to be utilized, and a corresponding schedule for completion. In addition, the Draft RI/FS WP shall include the rationale for performing the required activities.

17. Specifically, the Draft RI/FS WP shall present a statement of the problem(s) and potential problem(s) posed by the Site and the objectives of the RI/FS. Furthermore, the Draft RI/FS WP shall include a Site background summary setting forth the Site description which includes the geographic location of the Site, and to the extent possible, a description of the Site's physiography, hydrology, geology, and demographics; the Site's ecological, cultural and natural resource features; a synopsis of the Site history and a description of previous responses that have been conducted at the Site by local, state, federal, or private parties; and a summary of the existing data in terms of physical and chemical characteristics of the contaminants identified, and their distribution among the environmental media at the Site. In addition, the Draft RI/FS WP shall include a description of the Site management strategy developed during scoping, and a preliminary identification of remedial alternatives and data needs for evaluation of remedial alternatives. The Draft RI/FS WP shall reflect coordination with treatability study requirements

(Task 8 [Treatability Studies]) and will show a process for and manner of identifying Federal and State chemical-, location-, and action-specific Applicable or Relevant and Appropriate Requirements (ARARs, Appendix C [Applicable or Relevant and Appropriate Requirements]).

18. Finally, the major part of the Draft RI/FS WP shall be a detailed description of the Tasks (Tasks 1-10) to be performed, information needed for each Task and for the Baseline Risk Assessments, information to be produced during and at the conclusion of each Task, and a description of the Work products and deliverables that the Respondent will submit to the EPA. This includes the deliverables set forth in the remainder of this SOW; a schedule for each of the required activities which is consistent with the EPA's guidance documents; a project management plan, including a data management plan (e.g., requirements for project management systems and software, minimum data requirements, data format and backup data management) and monthly reports to the EPA; and meetings and presentations to the EPA at the conclusion of each major phase of the RI/FS. The Respondent shall refer to the EPA's guidance document titled "Interim Final Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA" (EPA 1988b) which describes the RI/FS WP format and the required content.

19. The Respondent is responsible for fulfilling additional data and analysis needs identified by the EPA consistent with the general scope and objectives of this RI/FS. Because of the nature of the Site and the iterative nature of the RI/FS, additional data requirements and analyses may be identified throughout the process. If any significant additional Work is required to meet the objectives stated in the RI/FS WP, based upon new information obtained during the RI/FS, the Respondent shall submit a Draft RI/FS WP Amendment to the EPA for review and approval prior to any additional Work being conducted in accordance with the AOC. The EPA may, at its discretion, give verbal approval for Work to be conducted prior to providing written approval of the Draft RI/FS WP Amendment.

20. The Respondent shall prepare and submit to the EPA an Amended Draft RI/FS Work Plan within fourteen (14) calendar days after the receipt of the EPA's comments. A Final RI/FS Work Plan shall be submitted to the EPA within fourteen (14) calendar days after the receipt of the EPA's approval of the Amended Draft RI/FS Work Plan.

Task 3: <u>RI/FS Sampling and Analysis Plan</u>

21. The Respondent shall prepare a Draft RI/FS Sampling and Analysis Plan (SAP) within forty-five (45) calendar days after the effective date of the AOC. This Draft RI/FS SAP shall provide a mechanism for planning field activities and shall consist of an RI/FS Field Sampling Plan and Quality Assurance Project Plan as follows:

a) RI/FS Field Sampling Plan (FSP)- The RI/FS FSP shall define in detail the sampling and data gathering methods that will be used for the project to define the nature and extent of contamination and ecological risk assessment-related studies (Task 7, Risk Assessments). It shall include, but not be limited to, sampling objectives, sample location and frequency, sampling equipment and procedures, and sample handling and analysis.

The RI/FS FSP shall contain a completed Sample Design Collection Worksheet and a Method Selection Worksheet. These worksheet templates can be found in the EPA's guidance document titled "Guidance for Data Useability in Risk Assessment" (EPA 1992a). In addition, the FSP(s) shall include a comprehensive description of the Site including geology, location, and physiographic, hydrological, ecological, cultural, and natural resource features of the Site, a brief synopses of the history of the Site, summary of existing data, and information on fate and transport and effects of chemicals. As such, the Respondent shall provide a strategy that includes both biased sampling and random sampling. The human health and ecological risk assessments require that the sampling be conducted to demonstrate that data is statistically representative of the Site. The respondent shall also confirm that the detection limits for all laboratories are in accordance within the goals stated in the EPA's risk assessment guidance. The FSP shall consider the use of all existing data and shall justify the need for additional data whenever existing data will meet the same objective. The FSP shall be written so that a field sampling team unfamiliar with the Site would be able to gather the samples and field information required. The Respondent shall refer to EPA's guidance document titled "Interim Final Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA" (EPA 1988b) which describes the RI/FS FSP format and the required content.

b) RI/FS Quality Assurance Project Plan (QAPP) - The RI/FS QAPP shall describe the project objectives and organization, functional activities, and quality assurance and quality control (QA/QC) protocols that will be used to achieve the desired DQOs. The DQOs shall at a minimum reflect use of analytical methods for identifying contamination and remediating contamination consistent with the levels for remedial action objectives identified in the NCP. In addition, the RI/FS QAPP shall address sampling procedures; sample custody; analytical procedures; data reduction, validation, and reporting; and personnel qualifications. The Respondent shall refer to EPA's guidance document titled "EPA QA/R-5" (EPA 2001) which describes the RI/FS QAPP format and the required content.

The Respondent shall prepare and submit to the EPA an Amended Draft RI/FS SAP within fourteen (14) calendar days after the receipt of the EPA's comments. A Final RI/FS SAP shall be submitted to the EPA within fourteen (14) calendar days after the receipt of the EPA's approval of the Amended Draft RI/FS SAP.

22. The Respondent shall demonstrate in advance, to the EPA's satisfaction, that each analytical laboratory it may use is qualified to conduct the proposed Work. This includes use of methods and analytical protocols for the chemicals of concern in the media of interest within detection and quantification limits consistent with both QA/QC procedures and the DQOs approved in the RI/FS QAPP for the Site by the EPA. The laboratory must have, and follow, an approved QA program. If a laboratory not in the Contract Laboratory Program (CLP) is selected, methods consistent with CLP methods shall be used where appropriate. Any methods not consistent with CLP methods shall be approved by EPA prior to their use. Furthermore, if a

laboratory not in the CLP program is selected, a laboratory QA program must be submitted to the EPA for review and approval. The EPA may require the Respondent to submit detailed information to demonstrate that the laboratory is qualified to conduct the Work, including information on personnel and qualifications, equipment, and material specifications.

Task 4: RI/FS Site Health and Safety Plan

23. The Respondent shall prepare and submit to the EPA an RI/FS Site Health and Safety Plan (HSP) within forty-five (45) calendar days after the effective date of this AOC. This RI/FS HSP shall be prepared in accordance with the Occupational Safety and Health Administration regulations and protocols. The EPA will review, but not approve, the RI/FS Site HSP to ensure that all necessary elements are included and that the plan provides for the protection of human health and the environment. The EPA may, at its discretion, disapprove the Site HSP and provide comments concerning those aspects of the plan which pertain to the protection of the environment and the health of persons not employed by, or under contract to, the Respondent. In addition, EPA may require a revised RI/FS Site HSP to be submitted for review in the event that the RI/FS WP is changed or amended (e.g., such as in the performance of pilot studies which may result in the airborne emissions of hazardous substances from the Site). The Respondent shall refer to the EPA's guidance document titled "Interim Final Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA" (EPA 1988b) which describes the RI/FS Site HSP format and the required content.

Task 5: Community Involvement Plan

24. The EPA shall prepare a Community Involvement Plan (CIP). This CIP shall outline the community involvement activities to be conducted during the RI/FS for the Site. This CIP shall include, but not be limited to, the following elements: 1) the Site's background including location, description and history; 2) community overview including a community profile, concerns, and involvement; 3) community involvement objectives and planned activities along with a schedule to accomplish those objectives; 4) mailing list of contacts and interested parties; 5) name and address of the information repositories and public meeting facility locations; 6) mailing list; 7) list of acronyms; and 8) a glossary. The Respondent shall support the EPA's community relations efforts and implementation of the CIP. Specifically, but not limited to, the Respondent shall provide representatives, audio-visual equipment, and meeting facilities for public meetings and open houses at the EPA's request. The Respondent shall assist the EPA in the preparation and mailing of fact sheets and meeting notices, and in the publication of public notices. The Respondent's community relations responsibilities, if any, will be specified in the CIP. All community relations activities conducted by the Respondent will be subject to oversight by the EPA.

Task 6: Site Characterization

25. As part of the Remedial Investigation (RI), the Respondent shall perform the activities described in this Task, including the preparation of a Preliminary Site Characterization Summary and a RI Report (Task 9 [Remedial Investigation Report]). The overall objective of the Site's characterization will be to describe areas of the Site that may pose a threat to human health or the environment. This will be accomplished by first determining the Site's physiography, geology, and hydrology. Surface and subsurface pathways of migration shall be defined by the Respondent. The Respondent shall identify the sources of contamination and define the nature, extent, and volume of the sources of contamination, including their physical and chemical constituents. The Respondent shall also investigate the extent of migration of this contamination as well as its volume and any changes in its physical or chemical characteristics, to provide for a comprehensive understanding of the nature and extent of contamination at the Site. Using this information, contaminant fate and transport will then be determined and projected.

26. The Respondent shall implement the Final RI/FS WP, SAP, and the HSP during this phase of the RI/FS. Field data will be collected and analyzed to provide the information required to accomplish the objectives of the study. The Respondent shall notify the EPA at least fifteen (15) calendar days in advance of the field work regarding the planned dates for field activities, including, but not limited to, ecological field surveys, field layout of the sampling grid, installation of wells, initiating sampling (air, surface water, ground water, sediments, soils, and biota), installation and calibration of equipment, aquifer tests, and initiation of analysis and other field investigation activities (including geophysical surveys and borehole geophysics). The Respondent shall demonstrate that the laboratory and type of laboratory analyses that will be utilized during the Site's characterization meets the specific QA/QC requirements and the DQOs of the investigation of the Site as specified in the Final RI/FS SAP. Activities are often iterative, and to satisfy the objectives of the RI/FS it may be necessary for the Respondent to supplement the Work specified in the Final RI/FS WP.

27. The Respondent shall perform the following activities as part of Task 6 (Site Characterization):

a) Field Investigation - The field investigation shall include the gathering of data to define the Site's physical and biological characteristics, sources of contamination, and the nature and extent of contamination at the Site. These activities shall be performed by the Respondent in accordance with the Final RI/FS WP and SAP. At a minimum, this field investigation shall address the following:

i) Implementation and Documentation of Field Support Activities - The Respondent shall initiate field support activities following the Final RI/FS WP and SAP approved by the EPA. Field support activities may include obtaining

access to the Site; scheduling; and procurement of equipment, office space, laboratory services, and/or contractors. The Respondent shall notify the EPA at least fifteen (15) calendar days prior to initiating field support activities so that the EPA may adequately schedule oversight activities. The Respondent shall also notify the EPA in writing upon completion of field support activities.

ii) Investigation and Definition of Site Physical and Biological Characteristics - The Respondent shall collect data on the physical and biological characteristics of the Site and its surrounding areas including the physiography, geology, hydrology, and specific physical characteristics identified in the Final RI/FS WP. This information shall be ascertained through a combination of physical measurements, observations, and sampling efforts, and will be utilized to define potential transport pathways and human and ecological receptor populations (including risks to endangered or threatened species). In defining the Site's physical characteristics, the Respondent shall also obtain sufficient engineering data for the projection of contaminant fate and transport, and development and screening of remedial action alternatives, including information to assess treatment technologies.

iii) Definition of Sources of Contamination - The Respondent shall locate each source of contamination. For each location, the areal extent and depth of contamination will be determined by sampling at incremental depths on a sampling grid. The physical characteristics and chemical constituents and their concentrations will be determined for all known and discovered sources of contamination. The Respondent shall conduct sufficient sampling to define the boundaries of the contaminant sources to the level established in the Final RI/FS QAPP and DQOs. Defining the source of contamination shall include analyzing the potential for contaminant release (e.g., long-term leaching from soil), contaminant mobility and persistence, and characteristics important for evaluating remedial actions, including information to assess treatment technologies.

iv) Description of the Nature and Extent of Contamination - The Respondent shall gather information to describe the nature and extent of contamination as a final step during the field investigation. To describe the nature and extent of contamination, the Respondent shall utilize the information on the Site's physical and biological characteristics and sources of contamination to give a preliminary estimate of the contaminants that may have migrated. The Respondent shall then implement an iterative monitoring program and any study program identified in the Final RI/FS WP or SAP such that by using analytical techniques sufficient to detect and quantify the concentration of contaminants, the migration of contaminants through the various media at the Site can be determined. In addition, the Respondent shall gather data for calculations of contaminant fate and transport. This process shall be continued until the area and depth of contamination are known to the level of contamination established in the Final

RI/FS QAPP and DQOs. The EPA will use the information on the nature and extent of contamination to determine the level of risk presented by the Site and to help determine aspects of the appropriate remedial action alternatives to be evaluated.

b) Data Analyses - The Respondent shall analyze the data collected and develop or refine the Conceptual Site Model by presenting and analyzing data on source characteristics, the nature and extent of contamination, the transport pathways and fate of the contaminants present at the Site, and the effects on human health and the environment:

i) Evaluation of Site Characteristics - The Respondent shall analyze and evaluate the data to describe the Site's physical and biological characteristics, contaminant source characteristics, nature and extent of contamination, and contaminant fate and transport. Results of the Site's physical characteristics, source characteristics, and extent of contamination analyses are utilized in the analysis of contaminant fate and transport. The evaluation will include the actual and potential magnitude of releases from the sources, and horizontal and vertical spread of contamination as well as the mobility and persistence of the contaminants. Where modeling is appropriate, such models shall be identified by, the Respondent, to the EPA in a Technical Memorandum prior to their use.

All data and programming, including any proprietary programs, shall be made available to the EPA together with a sensitivity analysis. The RI data shall be presented in a format to facilitate the Respondent's preparation of the Baseline Human Health and Ecological Risk Assessments (Task 7 [Risk Assessments]). All data shall be archived in a database in a such a format that would be accessible to investigators as needed.

The Respondent shall agree to discuss and then collect any data gaps identified by the EPA that are needed to complete the risk assessments. Also, this evaluation shall provide any information relevant to the Site's characteristics necessary for evaluation of the need for remedial action in the risk assessments and for the development and evaluation of remedial alternatives. Analyses of data collected for the Site's characterization shall meet the DQOs developed in the Final RI/FS QAPP and stated in the Final RI/FS SAP (or revised during the RI).

c) Data Management Procedures - The Respondent shall consistently document the quality and validity of field and laboratory data compiled during the RI as follows:

i) Documentation of Field Activities - Information gathered during the Site's characterization shall be consistently documented and adequately recorded by the Respondent in well maintained field logs and laboratory reports. The method(s) of documentation shall be specified in the Final RI/FS WP and/or the SAP. Field logs shall be utilized to document observations, measurements, and significant

events that have occurred during field activities. Laboratory reports shall document sample custody, analytical responsibility and results, adherence to prescribed protocols, nonconformity events, corrective measures, and data deficiencies.

ii) Sample Management and Tracking - The Respondent shall maintain field reports, sample shipment records, analytical results, and QA/QC reports to ensure that only validated analytical data are reported and utilized in the risk assessments and the development and evaluation of remedial alternatives. Analytical results developed under the Final RI/FS WP shall not be included in any characterization reports of the Site unless accompanied by or cross-referenced to a corresponding QA/QC report. In addition, the Respondent shall establish a data security system to safeguard chain-of-custody forms and other project records to prevent loss, damage, or alteration of project documentation.

d) Site Characterization Deliverables - The Respondent shall prepare the Preliminary Site Characterization Summary Report as follows:

i) Preliminary Site Characterization Summary Report- After completing the field sampling and analysis and as specified in the project schedule in the Final RI/FS WP, the Respondent shall submit a concise Draft Preliminary Site Characterization Summary Report (PSCSR) to the EPA for review and approval. This report shall review the investigative activities that have taken place, and describe and display the Site's data documenting the location and characteristics of surface and subsurface features and contamination at the Site including the affected medium, location, types, physical state, and concentration and quantity of contaminants. In addition, the location, dimensions, physical condition, and varying concentrations of each contaminant throughout each source, and the extent of contaminant migration through each of the affected media shall be documented.

The Draft PSCSR shall provide the EPA and the Respondent with a preliminary reference for developing the Baseline Human Health and Ecological Risk Assessments, evaluating the development and screening of remedial alternatives, and the refinement and identification of ARARs. The Respondent shall submit to the EPA an Amended Draft PSCSR within fourteen (14) calendar days from the receipt of the EPA's comments. A Final PSCSR shall be submitted to the EPA within fourteen (14) calendar days after the EPA's approval of the Amended Draft PSCSR.

Task 7: Risk Assessments

28. The Respondent shall perform a Baseline Human Health Risk Assessment, Screening Level Ecological Risk Assessment, and a Baseline Ecological Risk Assessment (if necessary) for

the Site, which will be a part of the RI Report. The Respondent will prepare one section of the Final RI/FS WP (Task 2) which discusses the risk assessment process and outlines the steps necessary for coordinating with the EPA at key decision points within the process. Submittal of deliverables, meetings and/or conference calls, and presentations to the EPA will be reflected in the project schedule in the Final RI/FS WP to demonstrate the progress made on the risk assessments. The DQOs listed within the Final RI/FS QAPP will include DQOs specific to risk assessment needs, and critical samples needed for the risk assessments will be so identified within the Final RI/FS SAP. The Respondent shall develop an initial Conceptual Site Model which may be revised as new information is obtained. These risk assessments shall consist of both Human Health and Ecological Risk Assessments as follows:

a) Baseline Human Health Risk Assessment - The Respondent shall perform a Baseline Human Health Risk Assessment (BHHRA) to evaluate and assess the risk to human health posed by the contaminants present at the Site. The Respondent shall refer to the appropriate EPA's guidance documents (EPA 1989b, 1991a, 1991b, 1991c, and 1992a) in conducting the BHHRA. The Respondent shall address the following in the BHHRA:

i) Hazard Identification (sources) - The Respondent shall review available information on the hazardous substances present at the Site and identify the major contaminants of concern.

ii) Dose-Response Assessment - The Respondent, with concurrence from the EPA, shall select contaminants of concern based on their intrinsic toxicological properties.

iii) Conceptual Exposure/Pathway Analysis - The Respondent shall identify and analyze critical exposure pathways (e.g., drinking water). The proximity of contaminants to exposure pathways and their potential to migrate into critical exposure pathways shall be assessed.

iv) Characterization of Site and Potential Receptors - The Respondent shall identify and characterize human populations in the exposure pathways.

v) Exposure Assessment - During the exposure assessment, the Respondent shall identify the magnitude of actual or potential human exposures, the frequency and duration of these exposures, and the routes by which receptors are exposed. The exposure assessment shall include an evaluation of the likelihood of such exposures occurring and shall provide the basis for the development of acceptable exposure levels. In developing the exposure assessment, the Respondent shall develop reasonable maximum estimates of exposure for both current land use conditions and potential future land use conditions at the Site.

vi) Risk Characterization - During risk characterization, the Respondent shall compare chemical-specific toxicity information, combined with quantitative and

qualitative information from the exposure assessment, to measured levels of contaminant exposure levels and the levels predicted through environmental fate and transport modeling. These comparisons shall determine whether concentrations of contaminants at or near the Site are affecting or could potentially affect human health.

vii) Identification of Limitations/Uncertainties - The Respondent shall identify critical assumptions (e.g., background concentrations and conditions) and uncertainties in the BHHRA.

viii) Conceptual Site Model - Based on contaminant identification, exposure assessment, toxicity assessment, and risk characterization, the Respondent shall develop a Conceptual Site Model for the Site.

The Respondent shall prepare and submit to the EPA for review and approval, according to the schedule specified in the Final RI/FS Work Plan, a Draft BHHRA. The Respondent shall submit an Amended Draft BHHRA within fourteen (14) calendar days of the receipt of the EPA's comments. The Respondent shall submit a Final BHHRA within fourteen (14) calendar days after the receipt of the EPA's approval of the Amended Draft BHHRA.

b) The Baseline Ecological Risk Assessment (BERA) shall be performed concurrently with the BHHRA. The BERA shall conform to current EPA guidance, including but not limited to EPA 1989b, EPA 1992a, EPA 1992b, and EPA 1993. The scoping of all phases of the BERA shall follow the general approach provided in EPA 1992b and shall include discussions between the Respondents and the EPA's risk assessors and risk managers. The BERA shall conform to the general outline provided in EPA 1997.

There are eight steps in the Baseline Ecological Risk Assessment (BERA) process include: Step 1 - Screening-Level Problem Formulation and Ecological Effects Evaluation, Step 2 - Screening-Level Preliminary Exposure Estimate and Risk Calculation, Step 3 - Baseline Risk Assessment Problem Formulation, Step 4 - Study Design and Data Quality Objectives, Step 5 - Field Verification and Sampling Design, Step 6 - Site Investigation and Analysis of Exposure and Effects, Step 7 - Risk Characterization, and Step 8 - Risk Management. The Respondent shall perform the BERA in accordance with the appropriate EPA's guidance documents (EPA 1992a, 1997, and 1998a). The Respondent shall interact closely with the EPA's Remedial Project Manager and risk assessment staff assigned to the Site to ensure that draft deliverables are acceptable and major rework is avoided on subsequent submittals. The scope of the BERA will be determined via a phased approach as outlined in the EPA's guidance documents and documented in the following deliverables:

i) Step 1, Screening Level Problem Formulation and Ecological Effects Evaluation - The "Screening Level Problem Formulation and Ecological Effects

Evaluation" step is part of the initial ecological risk screening assessment. For this initial step, it is likely that site-specific information for determining the nature and extent of contamination and for characterizing ecological receptors at the Site is limited. This step includes all the functions of problem formulation (Steps 3 and 4) and ecological effects analysis, but on a screening level. The results of this step will be used in conjunction with exposure estimates during the preliminary risk calculation in Step 2 (Screening-Level Preliminary Exposure Estimate and Risk Calculation).

For the screening level problem formulation, the Respondent shall develop a Conceptual Site Model that addresses these five issues: 1) environmental setting and contaminants known or suspected to exist at the Site, 2) contaminant fate and transport mechanisms that might exist at the Site, 3) the mechanisms of ecotoxicity associated with contaminants and likely categories of receptors that could be affected, 4) the complete exposure pathways that might exist at the Site, and 5) selection of endpoints to screen for ecological risk.

The next step in the initial ecological risk screening assessment will be the preliminary ecological effects evaluation and the establishment of contaminant exposure levels that represent conservative thresholds for adverse ecological effects. Screening ecotoxicity values shall represent a no-observed-adverse-effect-level for long-term exposures to a contaminant. Ecological effects of most concern are those that can impact populations (or higher levels of biological organizations) and include adverse effects on development, reproduction, and survivorship. For some of the data reported in the literature, conversions may be necessary to allow the data to be used for measures of exposure other than those reported. The Respondent shall consult with the EPA's Remedial Project Manager and risk assessors concerning any extrapolations used in developing screening ecotoxicity values.

ii) Step 2, Screening-Level Exposure Estimate and Risk Calculation - The "Screening-Level Exposure Estimate and Risk Calculation" comprises the second step in the ecological risk screening assessment for the Site. Risk is estimated by comparing maximum documented exposure concentrations with the ecotoxicity screening values from Step 1. At the conclusion of Step 2, the Respondent shall decide, with concurrence from the EPA, that either the screening-level ecological risk assessment is adequate to determine that ecological threats are negligible, or the process should continue to a more detailed ecological risk assessment (Steps 3 through 7). If the process continues, the screening-level assessment serves to identify exposure pathways and preliminary contaminants of concern for the BERA by eliminating those contaminants and exposure pathways that pose negligible risks.

To estimate exposures for the screening-level ecological risk calculation, on-site contaminant levels and general information on the types of biological receptors that might be exposed should be known from Step 1. Only complete exposure pathways should be evaluated and the highest measured or estimated on-site contaminant concentration for each environmental medium should be used to estimate exposures, thereby ensuring that potential ecological threats are not missed.

The Respondent will estimate a quantitative screening-level risk using the exposure estimates developed according to Step 2 and the screening ecotoxicity values developed according to Step 1. For the screening-level risk calculation, the hazard quotient approach, which compares point estimates of screening ecotoxicity values and exposure values, is adequate to estimate risk.

At the end of Step 2, the Respondent shall decide, with concurrence from the EPA, whether the information available is adequate to support a risk management decision. The three possible decisions at this point will be: 1) There is adequate information to conclude that ecological risks are negligible and therefore no need for remediation on the basis of ecological risk; 2) The information is not adequate to make a decision at this point, and the ecological risk assessment process will continue to Step 3; or 3) The information indicates a potential for adverse ecological effects, and a more thorough assessment is warranted. The Respondent shall document the decision and the basis for it in a Draft Screening Level Ecological Risk Assessment (SLERA) Report and submit it to the EPA for review and approval according to the project schedule in the Final RI/FS WP. The Respondent shall submit an Amended Draft SLERA within fourteen (14) calendar days of the receipt of the EPA's comments. The Respondent shall submit a Final SLERA within fourteen (14) calendar days of the EPA's approval of the Amended Draft SLERA.

iii) Step 3, Baseline Risk Assessment Problem Formulation - The "Baseline Risk Assessment Problem Formulation" step of the BERA will refine the screening-level problem formulation and expands on the ecological issues that are of concern at the Site. In the screening-level assessment, conservative assumptions are used where site-specific information is lacking. In Step 3, the results of the screening assessment and additional site-specific information are used to determine the scope and goals of the BERA. Steps 3 through 7 will be required only if the screening-level assessment, in Steps 1 and 2, indicated a need for further ecological risk evaluation.

Problem formulation at Step 3 will include the following activities: a) refining preliminary contaminants of ecological concern; b) further characterizing ecological effects of contaminants; c) reviewing and refining information on contaminant fate and transport, complete exposure pathways, and ecosystems

potentially at risk; d) selecting assessment endpoints; and e) developing a Conceptual Site Model (CSM) with working hypotheses or questions that the Site investigation will address.

At the conclusion of Step 3, the Respondent shall submit a Draft BERA Problem Formulation (PF) Report to the EPA for review and approval according to the project schedule in the Final RI/FS Work Plan. The Respondent shall submit an Amended Draft BERA PF Report within fourteen (14) calendar days of the receipt of the EPA's comments. The Respondent shall submit a Final BERA PF Report within fourteen (14) calendar days of the receipt of the EPA's approval of the Amended Draft BERA PF Report. This report shall discuss the assessment endpoints, exposure pathways, risk questions, and the CSM integrating these components. The products of Step 3 will be used to select measurement endpoints and to develop the BERA Work Plan (WP) and Sampling and Analysis (SAP) for the Site in Step 4.

iv) Step 4, Study Design and Data Quality Objective Process - The "Study Design and Data Quality Objective Process" step of the BERA will establish the measurement endpoints which complete the CSM in Step 3. The CSM will then be used to develop the study design and DQOs. The deliverables of Step 4 will be the BERA WP and SAP, which describe the details of the Site's investigation as well as the data analysis methods and DQOs. The Draft BERA WP shall describe the assessment endpoints, exposure pathways, questions and testable hypotheses, measurement endpoints and their relation to assessment endpoints, and uncertainties and assumptions. The Draft BERA SAP shall describe data needs; scientifically valid and sufficient study design and data analysis procedures; study methodology and protocols, including sampling techniques; data reduction and interpretation techniques, including statistical analyses; and quality assurance procedures and quality control techniques. The Respondent shall submit to the EPA for review and approval a Draft BERA WP and SAP according to the schedule specified in the Final RI/FS Work Plan. The Respondent shall submit an Amended Draft BERA WP and SAP within fourteen (14) calendar days of the receipt of the EPA's comments. The Respondent shall submit a Final BERA WP and SAP with fourteen (14) calendar days of the receipt of the EPA's approval of the Amended Draft BERA WP and SAP.

v) Step 5, Field Verification of Sampling Design - The "Field Verification of Sampling Design" step of the BERA process will ensure that the DQOs for the Site can be met. This step verifies that the selected assessment endpoints, testable hypotheses, exposure pathway model, measurement endpoints, and study design from Steps 3 and 4 are appropriate and implementable at the Site. Step 6 of the BERA process cannot begin until the Final BERA WP and SAP are approved by the EPA.

vi) Step 6, Site Investigation and Analysis Phase - The "Site Investigation and Analysis Phase" of the BERA process shall follow the Final BERA WP and SAP developed in Step 4 and verified in Step 5. The Step 6 results are then used to characterize ecological risks in Step 7.

The Final BERA WP for the Site investigation will be based on the CSM and will specify the assessment endpoints, risk questions, and testable hypotheses. During the Site investigation, the Respondent shall adhere to the DQOs and to any requirements for co-located sampling. The analysis phase of the BERA process will consist of the technical evaluation of data on existing and potential exposures and ecological effects at the Site. This analysis will be based on the information collected during Steps 1 through 5 and will include additional assumptions or models to interpret the data in the context of the CSM. Changing field conditions and new information on the nature and extent of contamination may require a change to the Final BERA SAP.

vii) Step 7 - Risk Characterization - The "Risk Characterization" step is considered the final phase of the BERA process and will include two major components: risk estimation and risk description. Risk estimation will consist of integrating the exposure profiles with the exposure-effects information and summarizing the associated uncertainties. The risk description will provide information important for interpreting the risk results and will identify a threshold for adverse effects on the assessment endpoints. At the end of Step 7, the Respondent shall submit a Draft BERA Report to EPA for review and approval according to the project schedule in the Final RI/FS WP. The Respondent shall submit an Amended Draft BERA Report within fourteen (14) calendar days of the receipt of the EPA's comments. The Respondent shall submit a Final BERA Report within fourteen (14) calendar days of the receipt of the EPA's approval of the Amended Draft BERA Report.

viii) Step 8 - Risk Management - "Risk Management" at the Site will be the responsibility of the EPA's Remedial Project Manager, who must balance risk reductions associated with cleanup of contaminants with potential impacts of the remedial actions themselves. In Step 7, a threshold for effects on the assessment endpoint as a range between contamination levels identified as posing no ecological risk and the lowest contamination levels identified as likely to produce adverse ecological effects will be identified. In Step 8, the EPA's Remedial Project Manager will evaluate several factors in deciding whether or not to clean up to within that range. This risk management decision will be finalized by the EPA in the Record of Decision for the Site.

Task 8: Treatability Studies

29. Treatability testing shall be performed by the Respondent to assist in the detailed analysis of alternatives. In addition, if applicable, testing results and operating conditions shall be used in the detailed design of the selected remedial technology. The following activities shall be performed by the Respondent:

a) Determination of Candidate Technologies and of the Need for Testing - The Respondent shall identify in a Candidate Technologies Technical Memorandum (CTTM) the candidate technologies for a treatability studies program. The Respondent shall submit a Draft CTTM to the EPA for review and approval according to the project schedule specified in the Final RI/FS WP. The Respondent shall submit an Amended Draft CTTM within fourteen (14) calendar days of the receipt of the EPA's comments. The Respondent shall submit a Final CTTM within fourteen (14) calendar days of the receipt of the EPA's approval of the Amended Draft CTTM.

The listing of candidate technologies will cover the range of technologies required for alternatives analysis. The specific data requirements for the testing program will be determined and refined during the characterization of the Site and the development and screening of remedial alternatives. The Respondent shall perform the following activities:

i) Conduct of Literature Survey and Determination of the Need for Treatability Testing - The Respondent shall conduct a literature survey to gather information on performance, relative costs, applicability, removal efficiencies, operation and maintenance requirements, and implementability of candidate technologies. If practical technologies have not been sufficiently demonstrated, or cannot be adequately evaluated for this Site on the basis of available information, treatability testing may need to be conducted. Where it is determined by the EPA that treatability testing is required, and unless the Respondent can demonstrate to the EPA's satisfaction that they are not needed, the Respondent shall be required to submit a Treatability Study Work Plan to the EPA outlining the steps and data necessary to evaluate and initiate the treatability testing program.

ii) Evaluation of Treatability Studies - Once a decision has been made to perform treatability studies, the Respondent and the EPA will decide on the type of treatability testing to use (e.g., bench versus pilot). Because of the time required to design, fabricate, and install pilot scale equipment as well as perform testing for various operating conditions, the decision to perform pilot testing shall be made as early in the process as possible to minimize potential delays of the Feasibility Study (Task 10). The Respondent shall submit a Draft Treatability Study Work Plan (TSWP), Sampling and Analysis Plan (SAP), and Health and Safety Plan within thirty (30) calendar days after the receipt of the notice from the EPA that treatability studies are required. The Respondent shall submit an Amended Draft

TSWP, SAP, and HSP within fourteen (14) calendar days of the receipt of the EPA's comments. The Respondent shall submit a Final TSWP, SAP, and HSP within fourteen (14) calendar days of the receipt of the EPA's approval of the Amended Draft TSWP, SAP, and HSP. The EPA will not approve the TS HSP but may provide comments to the Respondent. The Respondent shall submit a Draft Treatability Study (TS) Report to the EPA for review and approval according to the project schedule in the Final Treatability Study Work Plan. The Respondent shall submit an Amended Draft TS Report within fourteen (14) calendar days of the receipt of the EPA's comments. The Respondent shall submit a Final TS Report within fourteen (14) calendar days of the receipt of the EPA's approval of the Amended Draft TS Report. This report shall evaluate the technology's effectiveness and implementability in relation to the Preliminary Remediation Goals established for the Site. Actual results must be compared with predicted results to justify effectiveness and implementability discussions.

Task 9: Remedial Investigation Report

30. The Respondent shall prepare and submit a Remedial Investigation (RI) Report. The Respondent shall refer to the EPA's guidance document titled "Interim Final Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA" (EPA 1988b) and shall specifically follow Table 3-13 (Suggested RI Report Format) for the RI Report format and the required content. The information shall include a summary of the results of the field activities to characterize the Site, classification of ground water beneath the Site, nature and extent of contamination, and appropriate site-specific discussions for fate and transport of contaminants. The Respondent shall incorporate the results of Task 7 (Risk Assessments) into the RI Report. The Respondent shall submit a Draft RI Report to the EPA for review and approval according to the project schedule in the Final RI/FS Work Plan. The Respondent shall submit an Amended Draft RI Report within fourteen (14) calendar days of the receipt of the EPA's comments. The Respondent shall submit a Final RI Report within fourteen (14) calendar days of the receipt of the EPA's approval of the Amended Draft RI Report.

Task 10: Feasibility Study

31. The Respondent shall perform a Feasibility Study (FS) as specified in this SOW. The FS shall include, but not be limited to, the Development and Screening of Alternatives for Remedial Action, a Detailed Analysis of Alternatives for Remedial Action, submittal of Draft and Final FS Reports, and other reports/memoranda as follows:

a) Development and Screening of Alternatives for Remedial Action - The Respondent shall develop an appropriate range of remedial alternatives that will be evaluated through development and screening. The Respondent shall submit a Draft Alternative Development and Screening Memorandum (ADSM) to the EPA for review and approval according the project schedule in the Final RI/FS Work Plan. The Draft ADSM shall summarize the assembled alternatives for each affected medium and the chemical-,

location-, and action-specific ARARs for each of the considered alternatives. The reasons for eliminating alternatives during the preliminary screening process shall be specified. The ADSM shall summarize the results of the screening process in relation to the Remedial Action Objectives and the more specific Preliminary Remediation Goals for the Site. The Respondent shall submit an Amended Draft ADSM within fourteen (14) calendar days of the receipt of the EPA's comments. The Respondent shall submit a Final ADSM within fourteen (14) calendar days of the receipt of the EPA's approval of the Amended Draft ADSM.

b) Detailed Analyses of Alternatives for Remedial Action - The Respondent shall conduct a detailed analysis of remedial alternatives for the candidate remedies identified during the screening process described in this Task. This detailed analysis shall follow the EPA's guidance document titled "Interim Final Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA" (EPA 1988b) and other appropriate guidance documents. The major components of the Detailed Analysis of Alternatives for Remedial Action shall consist of an analysis of each option against a set of evaluation criteria and a separate discussion for the comparative analysis of all options with respect to each other in a manner consistent with the NCP. The Respondent shall not consider state and community acceptance during the Detailed Analysis of Alternatives. The EPA will perform the analysis of these two criteria. At the conclusion of the Detailed Analysis of Alternatives and within the time frame specified in the project schedule in the Final RI/FS WP, the Respondent shall provide the EPA with a Draft FS Report as outlined below. The analysis of remedial alternatives shall consist of the following deliverables:

i) Nine Criteria Analysis Memorandum - The Respondent shall submit to the EPA a Draft Nine Criteria Analysis Memorandum (NCAM), summarizing the results of the nine criteria evaluation, according to the project schedule in the Final RI/FS WP. The evaluation criteria will include: overall protection of human health and the environment; compliance with ARARs; long-term effectiveness and permanence; reduction of toxicity, mobility, or volume; short-term effectiveness; implementability; cost; state acceptance; and community acceptance. The Respondent shall submit an Amended Draft NCAM within fourteen (14) calendar days of the receipt of the EPA's comments. The Respondent shall submit a Final NCAM within fourteen (14) calendar days of the receipt of the EPA's approval of the Final NCAM.

ii) Remedial Alternatives Comparative Analysis Report - The Respondent shall submit a Remedial Alternatives Comparative Analysis (RACA) Report, which summarizes the results of the comparative analysis of the remedial alternatives, according the project schedule in the Final RI/FS WP. The Respondent shall submit an Amended Draft RACA Report within fourteen (14) calendar days after the receipt of the EPA's comments. The Respondent shall submit a Final RACA

Report within fourteen (14) calendar days after the receipt of the EPA's approval of the Amended Draft RACA Report.

iii) Presentation to EPA - The Respondent shall conduct a presentation to the EPA according the project schedule in the Final RI/FS WP; at which the Respondent shall present and discuss the findings of the RI, Remedial Action Objectives, alternatives evaluated in the FS, and the comparative analysis.

iv) Draft Feasibility Study Report - The Respondent shall submit to the EPA, for review and approval, a Draft FS Report which documents the activities conducted during the Development and Screening of Alternatives and the Detailed Analyses of Alternatives, as described above, according to the project schedule in the Final RI/FS WP. The Respondent shall refer to the EPA's guidance document titled "Interim Final Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA" (EPA 1988b), specifically Table 6-5 (Suggested FS Report Format) for FS Report content and format. The Respondent shall submit an Amended Draft FS Report within fourteen (14) calendar days of the receipt of the EPA's comments.

c) Final Feasibility Study Report - The Draft FS Report shall provide the basis for the Proposed Plan developed by the EPA under CERCLA and shall document the development and analysis of remedial alternatives. The Draft FS Report may be subject to change following comments received during the public comment period on the EPA's Proposed Plan. The EPA will forward any comments pertinent to the content of the Draft FS Report to the Respondent. The Respondent shall submit a Final FS Report within fourteen (14) calendar days of the receipt of these comments.

APPENDIX A
SCHEDULE OF DELIVERABLES/MEETINGS
DRAFT STATEMENT OF WORK
REMEDIAL INVESTIGATION AND FEASIBILITY STUDY
NATIONAL OIL RECOVERY CORPORATION, FALCON REFINERY SITE

DELIVERABLES/MEETINGS	DUE DATES (CALENDAR DAYS)
1. Scoping Phase Meeting	Meeting to occur within fourteen (14) days after the effective date of the AOC.
2. Draft, Amended Draft, and Final RI/FS Work Plan	Draft due within forty-fve (45) days after the effective date of the AOC. Amended Draft due within fourteen (14) days after the receipt of the EPA's comments. Final due within fourteen (14) days of the receipt of the EPA's approval of the Amended Draft RI/FS WP.
3. Draft, Amended Draft, and Final RI/FS Sampling and Analysis Plan	Draft due within forty-five (45) days after the effective date of the AOC. Amended Draft due within fourteen (14) days after the receipt of the EPA's comments. Final due within fourteen (14) days of the receipt of the EPA's approval of the Amended Draft RI/FS SAP.
4. RI/FS Site Health and Safety Plan	Plan due within forty-five (45) days after the effective date of the AOC.
5. Draft, Amended Draft, and Final Preliminary Site Characterization Summary Report	Draft due as specified in the Final RI/FS Work Plan. Amended Draft due within fourteen (14) days of the receipt of the EPA's comments. Final due within fourteen (14) days of the receipt of the EPA's approval of the Amended Draft RI/FS PSCSR.
6. Draft, Amended Draft, and Final Baseline Human Health Risk Assessment	Draft due as specified in the Final RI/FS Work Plan. Amended Draft due within fourteen (14) days of the receipt of the EPA's comments. Final due within fourteen (14) days of the receipt of the EPA's approval of the Amended Draft RI/FS BHHRA.
7. Draft, Amended Draft, and Final Screening Level Ecological Risk Assessment Report	Draft due as specified in the Final RI/FS Work Plan. Amended Draft due within fourteen (14) days of the receipt of the EPA's comments. Final due within fourteen (14) days of the receipt of the EPA's approval of the Amended Draft SLERA Report.

APPENDIX A (CONTD.)
SCHEDULE OF DELIVERABLES/MEETINGS
DRAFT STATEMENT OF WORK
REMEDIAL INVESTIGATION AND FEASIBILITY STUDY
NATIONAL OIL RECOVERY CORPORATION, FALCON REFINERY SITE

DELIVERABLE	DUE DATE (CALENDAR DAYS)
8. Draft, Amended Draft, and Final Baseline Ecological Risk Assessment Problem Formulation Report	Draft due as specified in the Final RI/FS Work Plan. Amended Draft due within fourteen (14) days of the receipt of the EPA's comments. Final due within fourteen (14) days of the receipt of the EPA's approval of the Amended Draft BERAPF Report.
9. Draft, Amended Draft, and Final Baseline Ecological Risk Assessment Work Plan and Sampling and Analysis Plan	Draft due as specified in the Final RI/FS Work Plan. Amended Draft due within fourteen (14) days of the receipt of the EPA's comments. Final due within fourteen (14) days of the receipt of the EPA's approval of the Amended Draft BERA WP and SAP.
10. Draft, Amended Draft, and Final Baseline Ecological Risk Assessment Report	Draft due as specified in the Final RI/FS Work Plan. Amended Draft due within fourteen (14) days of the receipt of the EPA's comments. Final due within fourteen (14) days of the receipt of the EPA's approval of the Amended Draft BERA Report.
11. Draft, Amended Draft, and Final Candidate Technologies Technical Memorandum	Draft due as specified in the Final RI/FS Work Plan. Amended Draft due within fourteen (14) days of the receipt of the EPA's comments. Final due within fourteen (14) days of the receipt of the EPA's approval of the Amended Draft CTTM.
12. Draft, Amended Draft, and Final Treatability Study Work Plan, Sampling and Analysis Plan, and Health and Safety Plan	Draft due within thirty (30) days of the receipt of EPA's notice that treatability studies are required. Amended Draft due within fourteen (14) days of the receipt of the EPA's comments. Final due within fourteen (14) days of the receipt of the EPA's approval of the Amended Draft TSWP and SAP.
13. Draft, Amended Draft, and Final Treatability Study Report	Draft due as specified in the Final Treatability Study Work Plan. Amended Draft due within fourteen (14) days of the receipt of the EPA's comments. Final due within fourteen (14) days of the receipt of the EPA's approval of the Amended Draft TS Report.
14. Draft, Amended Draft, and Final Remedial Investigation Report	Draft due as specified in the Final RI/FS Work Plan. Amended Draft due within fourteen (14) days of the receipt of the EPA's comments. Final due within fourteen (14) days of the receipt of the EPA's approval of the Amended Draft RI Report.

APPENDIX A (CONTD.)
SCHEDULE OF DELIVERABLES/MEETINGS
DRAFT STATEMENT OF WORK
REMEDIAL INVESTIGATION AND FEASIBILITY STUDY
NATIONAL OIL RECOVERY CORPORATION, FALCON REFINERY SITE

DELIVERABLE	DUE DATE (CALENDAR DAYS)
16. Draft, Amended Draft, and Final Alternative Development and Screening Memorandum	Draft due as specified in the Final RI/FS Work Plan. Amended Draft due within fourteen (14) days of the receipt of the EPA's comments. Final due within fourteen (14) days of the receipt of the EPA's approval of the Amended Draft ADSM.
17. Draft, Amended Draft, and Final Nine Criteria Analysis Memorandum	Draft due as specified in the Final RI/FS Work Plan. Amended Draft due within fourteen (14) days of the receipt of the EPA's comments. Final due within fourteen (14) days of the receipt of the EPA's approval of the Amended Draft NCAM.
18. Draft, Amended Draft, and Final Remedial Alternatives Comparative Analysis Report	Draft due as specified in the Final RI/FS Work Plan. Amended Draft due within fourteen (14) days of the receipt of the EPA's comments. Final due within fourteen (14) days of the receipt of the EPA's approval of the Amended Draft RACA Report.
19. Presentation to the EPA.	Presentation due as specified in the Final RI/FS Work Plan.
20. Draft, Amended Draft, and Final Feasibility Study Report	Draft due as specified in the Final RI/FS Work Plan. Amended Draft due within fourteen (14) days of the receipt of the EPA's comments. Final due within fourteen (14) days of the receipt of the EPA's comments.
21. Monthly Progress Reports	Initially due as specified in the RI/FS Work Plan. Thereafter, due by the tenth day of the following month.

APPENDIX B
GUIDANCE DOCUMENTS
REMEDIAL INVESTIGATION AND FEASIBILITY STUDY
NATIONAL OIL RECOVERY CORPORATION
FALCON REFINERY SITE

The following list comprises some of the guidance documents that are applicable to the Remedial Investigation/Feasibility Study process. The Respondent should consult with EPA's Remedial Project Manager for additional guidance and to ensure that the following guidance documents have not been superseded:

U.S. Environmental Protection Agency (EPA) 1987a. "Data Quality Objectives for Remedial Response Activities." Office of Emergency and Remedial Response and Office of Waste Programs Enforcement. EPA/540/G-87/003. OSWER Directive No. 9335.0-7b. March 1987.

EPA 1987b. "Interim Guidance on Compliance with Applicable or Relevant and Appropriate Requirements." Office of Emergency and Remedial Response. OSWER Directive No. 9234.0-05. July 9, 1987.

EPA 1988a. "CERCLA Compliance with Other Laws Manual." Office of Emergency and Remedial Response. OSWER Directive No. 9234.1-01. August 1988.

EPA 1988b. "Interim Final Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA." Office of Emergency and Remedial Response. EPA/540/G-89/004. OSWER Directive No. 9355.3-01. October 1988.

EPA 1989a. "CERCLA Compliance with Other Laws Manual: Part II. Clean Air Act and Other Environmental Statutes and State Requirements." Office of Emergency and Remedial Response. OSWER Directive No. 9234.1-02. August 1989.

EPA 1989b. "Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part A)." Office of Emergency and Remedial Response. EPA/540/1-89/002. OSWER Directive No. 9285.7-01A. December 1989.

EPA 1991a. "Human Health Evaluation Manual, Supplemental Guidance: Standard Default Exposure Factors." Office of Emergency and Remedial Response. OSWER Directive No. 9235.6-03. March 1991.

EPA 1991b. "Risk Assessment Guidance for Superfund: Volume I, Human Health Evaluation Manual (Part B), Development of Risk-Based Preliminary Remediating Goals." Office of Emergency and Remedial Response. OSWER Directive No. 9285.7-01B. December 1991.

EPA 1991c. "Risk Assessment Guidance for Superfund: Volume I, Human Health Evaluation Manual (Part C), Risk Evaluation of Remedial Alternatives." Office of Emergency and Remedial Response. OSWER Directive No. 9285.7-01C. 1991.

EPA 1992a. "Guidance for Data Useability in Risk Assessment." Office of Emergency and Remedial Response. OSWER Directive No. 9285.7-09A. April 1992 (and Memorandum from Henry L. Longest dated June 2, 1992).

EPA 1992b. "Supplemental Guidance to RAGS: Calculating the Concentration Term." Office of Emergency and Remedial Response. OSWER Directive No. 9285.7-081. May 1992.

EPA 1993. "Data Quality Objectives Process for Superfund." Office of Solid Waste and Emergency Response. EPA/540-R-93-071. September 1993.

EPA 1997. "Ecological Risk Assessment Guidance for Superfund, Process for Designing and Conducting Ecological Risk Assessments." Office of Emergency and Remedial Response. EPA/540-R-97-006. June 5, 1997.

EPA 1998a. "Risk Assessment Guidance for Superfund, Volume 1 - Human Health Evaluation Manual (Part D, Standardized Planning, Reporting, and Review of Superfund Risk Assessments). Interim. Process for Designing and Conducting Ecological Risk Assessments." Office of Solid Waste and Emergency Response. EPA/540-R-97-033. January 1998.

EPA 1998b. "EPA Guidance for Quality Assurance Project Plans." Office of Research and Development. EPA QA/G-5. EPA/600/R-98/018. February 1998.

EPA 2001. "EPA Requirements for Quality Assurance Project Plans." Office of Environmental Information. EPA QA/R-5. EPA/240/B-01/003. March 2001.

APPENDIX C
APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS
REMEDIAL INVESTIGATION AND FEASIBILITY STUDY
NATIONAL OIL RECOVERY CORPORATION
FALCON REFINERY SITE

A preliminary list of probable Applicable or Relevant and Appropriate Requirements (ARARs) will be generated by the Respondent during the Remedial Investigation and Feasibility Study process. This list will be compiled according to established EPA guidance, research of existing regulations, and collection of site-specific information and data. Three types of ARARs will be identified:

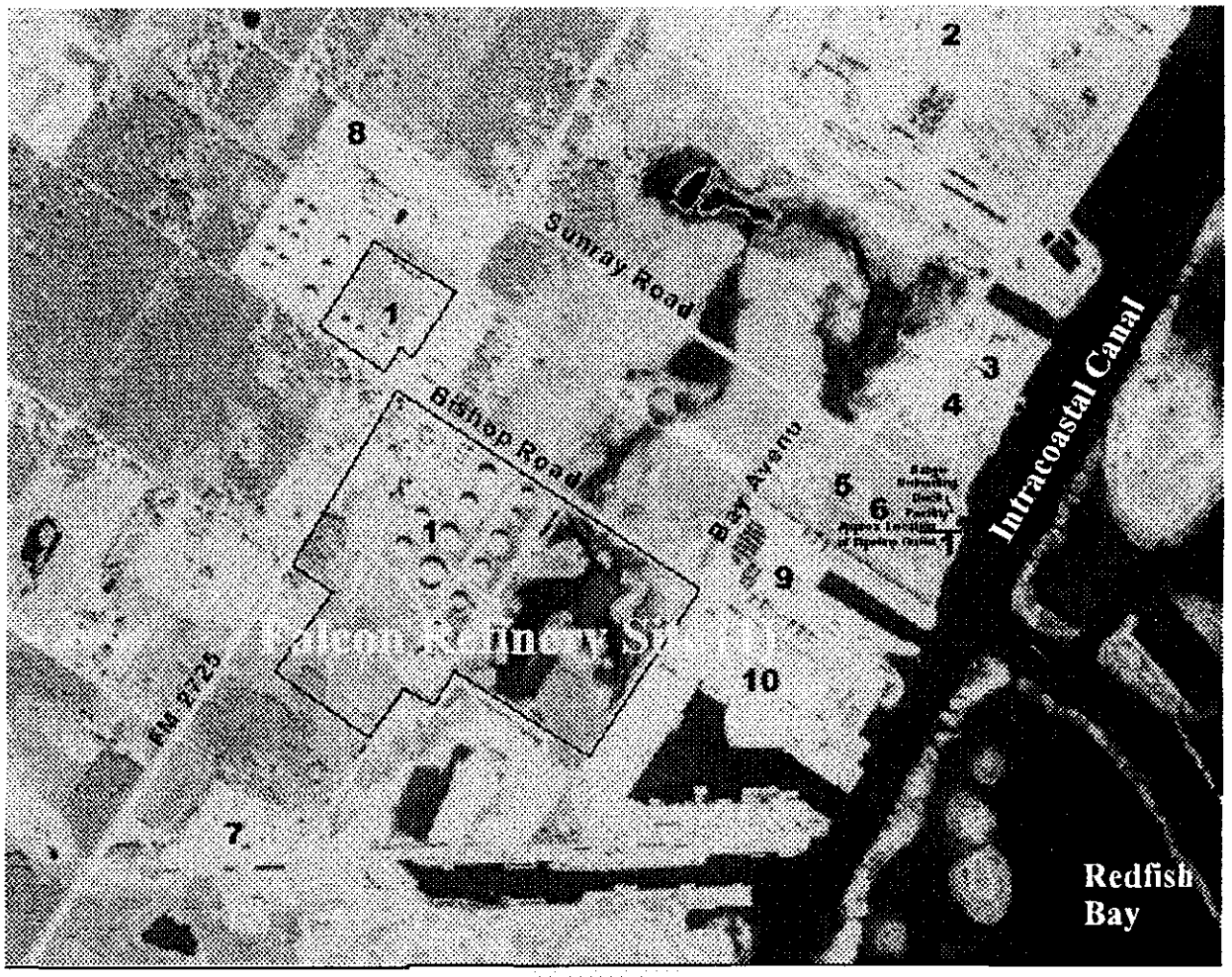
1) Chemical-Specific ARARs: These ARARs are usually health- or risk-based numerical values or methodologies used to determine acceptable concentrations of chemicals that may be found in or discharged to the environment (e.g., maximum contaminant levels that establish safe levels in drinking water).

2) Location-Specific ARARs: These ARARs restrict actions or contaminant concentrations in certain environmentally sensitive areas. Examples of areas regulated under various Federal laws include floodplains, wetlands, and locations where endangered species or historically significant cultural resources are present.

3) Action-Specific ARARs: These ARARs are usually technology- or activity-based requirements or limitations on actions or conditions involving specific substances.

Chemical- and location-specific ARARs are identified early in the process, generally during the site investigation, while action-specific ARARs are usually identified during the Feasibility Study in the detailed analysis of alternatives.

Attachment B
Map of Falcon Refinery Site



Falcon Refinery aka National Oil Recovery Corporation
Ingleside, San Patricio County, Texas
TXD 086 278 058

0.2 0 0.2 0.4 Miles

N W E S

Legend

1. Falcon Refinery Site and Dock Facility
   Approximate Boundary
2. Aker Gulf Marine - Aransas Pass Yard
3. Offshore Specialty Fabricators (Former Location of Gulf Conservation Corp.)
4. Alamo Concrete Products
5. IBC Petroleum, Inc.
6. Pi Energy Corporation
7. Garrett Construction Company
8. Plains Marketing
9. Brown & Root, Inc.
10. Ingleside Properties, Inc.

Source

The base data used is the Port Ingleside NE Digital Orthoquarter Quad (DOQQ), which is a digital version of an aerial photograph. This DOQQ was produced by the TNROC using USGS guidelines. UTM NAD83 Zone 14