IT Questionnaire

To demonstrate that the environmental impacts resulting from the project included in this modification request have been considered, the following five "Environmental Impact Questions" have been addressed:

Q. Have the potential and real adverse environmental effects of the proposed facility (activity) been avoided to the maximum extent possible?

A. Yes. MOUSA operates its petroleum refinery to mitigate all potential and real adverse environmental impacts. Potential and real environmental impacts are minimized by the application of stringent air pollution controls; containment and drainage systems; and programs to prevent spills, inspect mitigation systems, and provide necessary training to MOUSA personnel.

The Meraux Refinery utilizes effective air pollution control equipment to substantially reduce air emissions. These controls include, but are not limited to, external floating roof tanks, internal floating roof tanks, low NO_x burners in selected stationary combustion sources, a stringent leak detection and repair program, and multiple sulfur recovery units. Additionally, the Meraux Refinery is equipped with advanced instrumentation to monitor and control the facility operations.

As part of its commitment to comply with the Louisiana air toxic regulations, MOUSA is completing the installation of additional air emission controls to further reduce the emission of volatile hazardous air pollutants. Air emissions from other parts of the facility are also reduced, where necessary, to comply with applicable state and federal air quality regulations.

Process wastewater from the proposed new and modified facilities will be handled in the refinery's existing wastewater treatment plant and NPDES wastewater outfall. Rainfall outside the process area will be discharged through permitted outfalls that are monitored for potential contamination. The results of this monitoring are reported to the LDEQ in accordance with the LPDES permit. Stormwater discharged during construction activities will comply with all appropriate regulatory requirements.

Secondary containment dikes will be provided for storage tanks holding materials that may have a negative impact on water quality (if there was a spill). The materials of construction for the proposed tanks will be compatible with the stored materials. During construction, the tanks will be inspected to ensure that the materials and welds meet required standards.

Groundwater protection is an integrated part of the design for the proposed facilities. Equipment and procedures are in place to avoid any potential adverse impacts to groundwater. Process piping will be above grade to allow early detection and containment of any potential leaks or spills. Any spill or leak that could affect groundwater will be promptly removed to prevent any adverse impact to groundwater.

MOUSA conducted a review of the proposed facilities to minimize the volume, toxicity, and impact of any additional wastes that may be generated. There is no on-site disposal of hazardous waste. Any solid waste produced by the proposed facilities will be treated or disposed of in accordance with all applicable federal, state and local laws and regulations.

MOUSA has created an emergency response plan that is coordinated with the Local Emergency Planning Committee. State and federal regulations have been promulgated specifically to address the accidental release and off site consequence for toxic and/or flammable substances. These rules contain requirements for hazard assessment, release prevention, emergency response and risk management with which the proposed facilities will comply. The design of the proposed facilities will be subjected to a detailed Process Hazard Analysis to further reduce the likelihood of accidental airborne emissions.

MOUSA will avoid potential adverse effects, such as the release of hazardous chemicals, by designing systems and training personnel to: (1) reduce the possibility of leakage of hazardous chemicals; (2) minimize the amount of leakage should leakage occur; (3) promptly inform the public and relevant agencies regarding possible off site impacts as required by law; and (4) quickly respond to mitigate any adverse effects of the leaks.

To reduce the possibility of leakage of hazardous chemicals to the environment, MOUSA has designed and selected compounds and systems to properly contain hazardous chemicals in accordance with good engineering practices. Materials of construction for tanks, equipment, piping and accessories will be compatible with process fluids to prevent failure from corrosion, stress cracking or fatigue. Periodic inspections and preventative maintenance of all equipment will be performed to keep all process and safety systems in optimum operating condition.

Operations, maintenance and support personnel are trained in the use of appropriate safety equipment and will be able to quickly identify the potential hazards associated with all chemicals and processes within the Meraux Refinery (including the proposed facilities).

Personnel training are provided in (but not limited to) the following:

- Hazardous Communication
- Personal Protective Equipment
- Confined Space Entry
- Emergency Response Procedures
- Hot Work Procedures
- Lockout/Tagout Procedures
- Spill Prevention, Control and Containment

Through proper design, construction, training and operation, the potential for release of hazardous materials will be minimized.

The following is a summary of the general accident prevention program in place at the Meraux Refinery.

The Meraux Refinery encourages employees to participate in all facets of process safety management and accident prevention. Examples of employee participation range from updating and compiling technical documents and chemical information to participating as a member of an incident investigation team. Employees have access to all information created as part of the plant accident prevention program.

The Meraux Refinery maintains a variety of documents on safety which address hazards of the chemicals, safe operation of the processes, the technology of the processes, and the equipment used in the processes. Specific departments within the plant are assigned responsibility for maintaining up to date process safety information. Chemical specific information, including exposure hazards and emergency response/exposure treatment considerations, is provided in material safety data sheets (MSDS). MSDSs are readily available through the Meraux Refinery's computer system. The plant also maintains records of materials of construction, design pressure and temperature ratings, electrical area classifications, piping and instruments diagrams (P&ID), etc.

The Meraux Refinery has a comprehensive program to help ensure that hazards associated with the various processes are identified and controlled. Within the program, each process is systematically examined to identify reasonably foreseeable hazards and ensure that adequate controls are in place to manage these potential hazards. The plant uses hazard and operability (HAZOP) analysis technique to perform these evaluations. The incident investigation team findings are entered into a computer database and assigned to appropriate departments for resolution. To help ensure that the process controls and/or process hazards do not eventually deviate significantly from the original process hazard analysis, the Meraux Refinery periodically updates and revalidates the hazard analysis results.

The Meraux Refinery maintains written procedures that address various modes of process operations, such as (1) unit startup, (2) normal operations, (3) temporary operations, (4) emergency shutdown, (5) normal shutdown, and (6) initial startup of a new process. These procedures are periodically reviewed and annually certified as current and accurate. In addition to Operating Procedures, the facility has long standing safe work practices in place to help ensure worker and process safety.

The Meraux Refinery uses contractors for routine maintenance activities, maintenance during shutdown periods, and for construction activities. Contractors performing these activities are subject to stringent safety requirements to assure that they: (1) perform their work in a safe manner, (2) have the appropriate safety knowledge, (3) are aware of the hazards of the workplace, (4) understand what they should do in the event of an emergency, (5) understand and follow site safety rules, and (6) inform plant personnel of any hazards that they find during their work. A contractor's safety performance is reviewed and must meet certain standards prior to being placed on Murphy's bidder's list.

The Meraux Refinery promptly investigates all incidents that resulted, or reasonably could have resulted in, a fire/explosion, toxic gas release, major property damage, environmental

loss, or personal injury. The goal of each investigation is to determine the facts and develop corrective actions to prevent recurrence of the incident or a similar incident. Incident investigation reports can be reviewed during future process hazard assessments and process hazard assessment revalidations.

To help ensure that the accident prevention program is functioning properly, audits are periodically conducted to determine whether the procedures and practices required by the accident prevention program are being implemented. The final resolutions of each finding are documented in a computer database, and the two most recent audit reports are retained.

The processes at the plant have hazards that must be managed to ensure continued safe operation. Collectively, the previously summarized prevention program activities help prevent potential accident scenarios that could be caused by (1) equipment failures and (2) human errors.

Some release containment and control methods used at the Meraux Refinery are

- Process relief valves that discharge to a flare to capture and incinerate episodic releases.
- Remotely activated valves that discharge to a closed flare system for emergency depressuring.
- Manual and remotely operated emergency shutdown valves to permit isolation of the process.
- Hardwire alarms for specific process parameters.
- Automated emergency shutdown systems for specific parameters.
- Computer control of specific process parameters for maximizing process stability.
- Curbing and diking to contain potential liquid releases.
- Grade paved and sloped to oily water sewer system designed to collect spills.
- Firewater system, supplied by multiple fire water pumps, with hydrants and monitors throughout the facility.
- Fire extinguishers located throughout the facility.
- Water spray systems installed on specific pieces of equipment.
- Portable fire fighting equipment.
- Trained emergency response personnel.

The Meraux Refinery maintains a written emergency response program, which is in place to protect worker and public safety as well as the environment. The program consists of procedures for responding to a release of a regulated substance, including the possibility of a fire or explosion if a flammable substance is accidentally released. The procedures address all aspects of emergency response, including reporting of an emergency response, first aid and medical treatment for exposures, evacuation plans, accounting for personnel, notification of local emergency response, and post incident cleanup and decontamination requirements. The overall emergency response program for the Meraux Refinery is coordinated with the Local Emergency Planning Committee (LEPC). This coordination includes periodic meetings of the committee, which includes local emergency response officials, local government officials, and industry representatives.

Thus, MOUSA operates and manages on-site activities in a manner that minimizes any potential damage to the surrounding area.

Q. Does a cost benefit analysis of the environmental costs balanced against the social and economic benefits of the proposed facility (activity) demonstrate that the latter outweighs the former?

A. Yes. Social, economic and environmental benefits from the Meraux Refinery far outweigh the environmental impact costs. MOUSA uses state-of-the-art refining technology to produce various petroleum products.

MOUSA spent $27 million in wages/benefits/taxes/contract labor in 1995.

- Approximately $1.5 million in property taxes
- Just under $400,000 in taxes in St. Bernard Parish
- Approximately $500,000 in sales tax to the State of Louisiana
- Just under $14 million in wages/benefits of which about $11 million stayed in St. Bernard Parish
- Approximately $10.6 million in contract labor

Costs to the community as a result of the Meraux Refinery are minimal. Arrangements exist with local area emergency response organizations for assistance in responding to emergency situations.

Given the facility's positive statewide environmental impacts, insignificant local environmental impacts, and positive social and economic contributions; MOUSA believes its overall social and economic benefits far outweigh any associated environmental costs associated with the operation of the Meraux Refinery.

Q. Are there alternative projects which would offer more protection to the environment than the proposed facility (activity) without unduly curtailing nonenvironmental benefits?

A. There are no alternative projects which offer more protection to the environment. Petroleum refineries such as the Meraux facility, subject to scores of environmental regulations, now operate perhaps the most regulated industry in America. For example, the Meraux Refinery is subject to the Benzene Waste Operations NESHAP, to state Maximum Achievable Control Technology (MACT) standards, and to various New Source Performance Standards (NSPS). Since the MOUSA facility efficiently and effectively utilizes crude oil to produce products for the general public's use, the MOUSA facility is beneficial to the protection of our environment.

The "Clean Fuels Phase II" project as proposed offers more protection to the environment than any other possible alternative without unduly curtailing nonenvironmental benefits.

There are no known alternative process modifications which would result in the desired process improvement as described in the application.

Q. Are there alternative sites which offer more protection to the environment that the proposed facility (activity) site without unduly curtailing nonenvironmental benefits?

A. No. This is an existing facility; portions of which were originally built by Sinclair Oil Company and commenced operation in the 1920's. The Meraux Refinery was purchased by MOUSA in 1962. The cost of changing sites would be economically impossible. This project involves modification and addition of similar existing units and not construction of a new facility.

The site is in an area that has been developed for industrial use and is zoned accordingly. Finally, the facility has good access to transportation via highways, rail, and water. The potential for transportation incidents is minimal. The roads, railways, and waterways near the site are maintained to accommodate industrial traffic.

In summary, the site was chosen because:

- It existed as a heavy industrial site
- Roads, rail, and waterways are adequate for traffic
- No other site offers better environmental features

Because the MOUSA Meraux Refinery is an existing facility and because this permit is for modification of the existing processes and equipment, a traditional alternative site analysis was not appropriate here. Nevertheless, in considering the permit applications, the LDEQ closely reviewed the existing operations, the surrounding area, and other matters pertinent to the site.

As the Meraux Refinery is an existing facility and the project will affect the existing process units and equipment, the Meraux Refinery is the only viable site for the proposed project.

Q. Are there mitigating measures which would offer more protection to the environment that the facility (activity) as proposed without unduly curtailing nonenvironmental benefits?

A. No. As described above and detailed in the MOUSA permit applications, the facility is designed and operated to maximize environmental protection, prevent any adverse environmental impacts with mitigative measures judged to be fully protective of the environment. The facility utilizes state-of-the-art refining technology and is operated under the most stringent operational guidelines and requirements. As such, there are no known impacts that could be alleviated by additional mitigating measures.

It is of merit to point out and summarize the protective measures that are on-site to deal with emergency situations. For example, the facility has a Spill Prevention Control and Countermeasures Plan and an Emergency Response Plan. The site also has in place:

- Emergency first aid facilities,
- A fire fighting brigade,
- A fire water supply system,
- A Halon fire protection system,
- Portable fire extinguisher, and
- Built in sumps, dikes, and pumps to deal with spills.

The facility is protected from unauthorized ingress and egress be a security system consisting of:

- 24-hour guard,
- 7-foot high fence,
- TV security cameras, and
- Perimeter and process area lighting

As important as are the state-of-the-art equipment systems, it is equally important to have qualified people to operate the systems. MOUSA recruits qualified personnel and fully trains them in the operation of the facilities. All personnel participate in MOUSA training programs on safety and quality assurance/quality control. Additionally, there are written procedures for site-specific activity; site personnel are trained in these written procedures prior to on-the-job training.

MOUSA is committed to its environmental and safety performance and will continue to minimize any environmental impact. The Meraux Refinery is dedicated to continuous improvement of the compatibility of its operations that meet their customers' needs. MOUSA recognizes the importance of efficiently meeting society's needs while responsibly working with the public and government to protect human health and the environment.