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DOE/SPR/EIS-0075-SA01

SUPPLEMENT ANALYSIS OF SITE-SPECIFIC AND PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENTS:

OPERATIONAL AND ENGINEERING MODIFICATIONS, REGULATORY REVIEW, AND SOCIOECONOMIC VARIATION

U.S. Department of Energy

Strategic Petroleum Reserve

900 Commerce Road East

New Orleans, Louisiana 70123

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SUPPLEMENT ANALYSIS DETERMINATION

The Department of Energy, Strategic Petroleum Reserve (SPR) Project Management Office, has prepared a Supplement Analysis (SA) to determine whether the site-wide and programmatic Environmental Impact Statements (EISs) adequately address the current project operations or if additional documentation is necessary under the National Environmental Policy Act (NEPA). The SA was prepared in accordance with DOE regulations [10 CFR 1021.330(d)] that require the evaluation of site-wide EISs at least every five years, as provided at 10 CFR 1021.314. The SA compares key impact assessment parameters analyzed in the original site-wide and programmatic EISs with the current site configurations and processes, the current regulatory environment, and the current socioeconomic climate adjacent to each site and each SPR pipeline.

Based on the application of criteria presented in the SA and the concurrence of counsel, DOE has determined that the current configurations and processes of the SPR sites do not constitute a significant change from those evaluated in the original EISs and, thus, do not affect the existing Records of Decision (RODs). As well, the current regulatory environment does not constitute new information and the current socioeconomic climate represents no significant un-assessed impacts. Therefore, pursuant to 10 CFR 1021.314(c)(2), no further NEPA documentation is necessary.

Issued at New Orleans, this 15th day of June, 2004.

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Prepared for the U. S. Department of Energy
Strategic Petroleum Reserve Project Management Office
under Contract No. DE-AC96-93PO92207

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Executive Summary

On February 6, 2003, Mr. W. C. Gibson, Department of Energy (DOE) Project Manager, directed DynMcDermott Petroleum Operations Company (DM), the Management and Operations (M&O) Contractor for the Strategic Petroleum Reserve (SPR), to prepare a Supplement Analysis for the SPR. The purpose of this analysis is threefold: to document changes of National Environmental Policy Act (NEPA) significance to the SPR and to document the changes to environmental laws, regulations, and orders since the original and supplemental Environmental Impact Statements (EIS) documents listed below were prepared, to analyze the impacts of these changes to the original Record(s) Of Decision(s) (RODs) and to detail any recommended additional NEPA actions, if needed. In order to maintain compliance with NEPA, DOE is required to address NEPA as part of project planning and to re-evaluate previously prepared EISs for validity. Section 1021.330 (d) of the 10 CFR states that DOE shall, every five years, evaluate site-wide NEPA documents prepared under Sec. 1021.330.

Such a review was conducted as described in this document. Further evaluation of each site for particular potential issues was initiated based on three criteria identified to properly assess the current state of the SPR sites and the program relative to NEPA compliance with the RODs for existing EISs and Environmental Assessments (EAs). The criteria selected were based on interpretation of DOE's NEPA policies, SPR history and best professional judgment. They are:

- Operational and engineering (O&E) modifications;
- Regulatory amendments and enactments; and
- Population dynamics and other socioeconomic variations in the vicinity of each of the sites.

It was ultimately determined that O&E modifications and site capacities, while different, were not significant under the Council on Environmental Quality (CEQ) criteria. As well, it was concluded that the SPR sites not only operated within the state and Federal regulations and statutes, but set internal standards that far exceeded state and Federal minimum requirements. Moreover, despite having been established some twenty years ago, sites are also compliant with newer Executive Orders regarding environmental justice and the protection of children. Relative to potential socioeconomic impacts, the variations in locales affected by SPR sites could not be attributed to significant influence by the presence and/or operation of the SPR facility. Rather, analysis indicated that locales were primarily affected by systemic trends, not project-related influences.

Finally, there was no foundation on which to base the preparation of a new EIS or Supplemental EIS as the review as conducted resulted in a determination that the SPR currently operates within the scope of potential impacts evaluated in the original and

supplemental EISs and EAs and that the RODs resulting from these are still valid and applicable to SPR operations. A revision of the NEPA-final capacities for the storage of crude oil by the DOE at each site resulted from the analysis, and this SA constitutes additional NEPA documentation that no significant impacts are associated with the increased capacities at Big Hill and Bryan Mound. Historical NEPA documentation evaluated and a discussion of the current status of impacts to media documented in this Supplement Analysis, by the SPR sites and the SPR as a program, follows.

NEPA Documents Evaluated

Final Environmental Impact Statement (Final Supplement to FEA FES 76/77-6), Strategic Petroleum Reserve, Bryan Mound Salt Dome, [redacted] County, Texas, EIS-0001

Final Environmental Impact Statement (Final of DEIS, FEA-DES-77-10 and of DS-FEIS, FEA-FES-76/77-6) Strategic Petroleum Reserve, Seaway Group Salt Domes (Bryan Mound expansion, Allen, Nash, Damon Mound, and West Columbia) [redacted] County, Texas, Volumes I–III, EIS-0021

Final Environmental Impact Statement (Final Statement to FEA-DES-77-9) Strategic Petroleum Reserve, Capline Group Salt Domes (Iberia, Napoleonville, Weeks Island Expansion, Bayou Choctaw Expansion, Chacahoula)[redacted] parishes, Louisiana Volume I–IV, EIS-0024

Final Environmental Impact Statement (Final Statement to FEA-DES-77-8) Strategic Petroleum Reserve, Texoma Group Salt Domes (West Hackberry Expansion, Black Bayou, Vinton, Big Hill) [redacted] parishes, Louisiana and[redacted] county, Texas Volumes I–V, EIS-0029

Final Supplement to Final Environmental Impact Statement FEA-FES-76-2, Strategic Petroleum Reserve, Expansion of Reserve, EIS-0034

Final Supplement to Final Environmental Impact Statements DOE/EIS-0021,0029, Strategic Petroleum Reserve, Phase III Development Texoma and Seaway Group Salt Domes (West Hackberry and Bryan Mound Expansion, Big Hill Development) [redacted] Parish, Louisiana and[redacted] Counties, Texas, EIS-0075

Final Environmental Impact Statement for Bayou Choctaw Salt Dome, FES 76-5

Final Environmental Statement on the Bryan Mound Salt Dome, FES 76/77-6

Supplement to Final Environmental Impact Statement, West Hackberry Salt Dome, FEA/S-77/114

Supplement to Final Environmental Impact Statement for Bayou Choctaw Salt Dome, FEA/S-77/129

Strategic Petroleum Reserve. Final Environmental Impact Statement. West Hackberry Salt Dome, PB 262 508

Impacts

Land Use

It was determined that each site and the SPR as a program remains within its original evaluated footprint or within the footprint contemplated by subsequent NEPA documentation. Land use impacts present no basis for preparation of a new or supplemental EIS.

Air Quality

It was determined that impacts to air quality remain well below the magnitude of impacts originally evaluated for each site and the SPR as a program. The original evaluation of impacts to air quality assumed that each site would be a major source of air pollution within its air shed and that five full fill and drawdown cycles would occur within approximately a twenty year time period. As SPR sites are, at worst, classified as minor sources of air pollution within their air shed and a full drawdown and fill cycle has yet to occur, the majority of potentially adverse impacts evaluated have yet to occur. Thus, impacts to air quality present no basis for preparation of a new or supplemental EIS.

Water Resources

It was determined that impacts to the water environment have occurred essentially as evaluated, but have not achieved a magnitude of impacts originally evaluated. Impacts to the water environment were reduced as the sites have not accomplished the five full fill and drawdown cycles that were originally assumed. Thus, impacts associated with raw water withdrawal for 5 full drawdowns have yet to occur. As well, impacts associated with brine discharge for only 1 fill cycle has occurred for most sites. Where sites have yet to be filled to their evaluated capacity, these impacts are further diminished. Thus, impacts to water resources present no basis for preparation of a new or supplemental EIS.

Noise Impacts

It was determined that noise impacts to the environment have occurred essentially as evaluated, especially relative to construction. Still, these have likely not achieved a magnitude of impacts originally evaluated as impacts to the environment are diminished at the sites that have not accomplished the five full fill and drawdown cycles that were originally assumed.

Biodiversity (species, ecosystems, natural resources)

It was determined that each site and the SPR as a program remains within its original evaluated footprint or within the footprint contemplated by subsequent NEPA documentation. Impacts to biodiversity, therefore, remain within the scope and magnitude of impacts originally evaluated and present no basis for preparation of a new or supplemental EIS.

Cultural / Aesthetic Resources

It was determined that each site and the SPR as a program remains within its original evaluated footprint or within the footprint contemplated by subsequent NEPA documentation. Impacts to cultural / aesthetic resources, therefore, remain within the scope and magnitude of impacts originally evaluated and present no basis for preparation of a new or supplemental EIS.

Socioeconomics

It was determined that each site remains within its original evaluated operations phase or within the operations phase contemplated by subsequent NEPA documentation. The project has outlasted its originally evaluated life span. Cumulative long-term impacts to socioeconomics, therefore, are difficult to ascertain given regional and local trends in the adjacent areas. As socioeconomic impacts are deemed indirect or secondary impacts by the Council for Environmental Quality and cannot, by themselves, invalidate a ROD, these present no basis for preparation of a new or supplemental EIS.

New Guidance Applicable to the SPR

Recommendations for Analyzing Accidents under the National Environmental Policy Act

DOE issued guidance regarding the analysis of 'reasonably foreseeable' accidents and their impacts during preparation of an EIS or EA in July 2002. This guidance recommends that accident analyses in a NEPA document consider a range of 'reasonably foreseeable' scenarios and their impacts on workers and the environment. It was determined that accident analysis consisting of brine and oil spills resulting from pipeline breaks and wellhead ruptures evaluated in the EISs was appropriate and, thus, this guidance presents no basis for preparation of a new or supplemental EIS.

Clean Air Act General Conformity Requirements and the National Environmental Policy Act Process

DOE issued guidance regarding the coordination of the Clean Air Act (CAA), CAA Conformity, and the NEPA Process in April 2000. This guidance recommends that the CAA and CAA Conformity be considered early in the NEPA process. In 2001, the SPR received concurrence from Texas and Louisiana regarding CAA conformity. Thus, this guidance presents no basis for preparation of a new or supplemental EIS.

2003 Amendment of 10 CFR 1022

In 2003, the DOE promulgated revisions to 10 CFR 1022 intended to streamline floodplains and wetlands assessment under NEPA. In response, floodplains assessment has been incorporated into all aspects of the NEPA process. Thus, this guidance presents no basis for preparation of a new or supplemental EIS.

Introduction[1]

The National Environmental Policy Act (NEPA) was enacted in 1969. In this statute, Congress recognized that technological, social, and economic forces have a profound influence on the quality of the human environment. The Department of Energy's (DOE's) procedure per the *SPRMO NEPA Implementation Plan* (SPRMO O 451.1B) is to follow the letter and spirit of NEPA and to comply fully with the Council on Environmental Quality's (CEQ's) regulations (40 CFR 1500-1508). All activities on the Strategic Petroleum Reserve (SPR) must have, or have had, a NEPA review to determine NEPA applicability (10 CFR 1021). Compliance with Federal Statutes such as NEPA and incorporation of these into DOE project planning and overview is of paramount importance per the *SPRMO Environmental Policy Statement* (SPRMO P 451.1).

Strategic Petroleum Reserve Project Background

The creation of the SPR was mandated by Congress as part of the Energy Policy and Conservation Act on December 22, 1975. The objective of the SPR is to provide the United States with petroleum should a supply disruption occur. At its inception, the DOE (then the Federal Energy Administration [FEA]) evaluated the potential impacts of implementation of the SPR mission at the proposed sites as well as the potential impacts of its mission as a whole. The evaluations undertaken by the FEA resulted in a programmatic Environmental Impact Statement (EIS) (FES-76-2) that addressed the potential environmental impacts of the SPR as a federal program. This EIS identified 32 potential crude oil storage sites throughout the contiguous United States. This number was narrowed, however, when implementation of the Early Storage Reserve (ESR) program was considered. Consideration of timely implementation of the ESR left 8 potential sites that provided for the storage of oil underground in salt caverns.

Of these, five sites were chosen based on their immediate utility for the ESR and the ease with which they could be used or developed for permanent storage. These sites were then evaluated specifically for the purpose and needs of the ESR and the SPR, the potential impacts of the initial implementation of the SPR program, and the long-term operation of these sites relative to the SPR's mission. The initial site-specific evaluations for these sites resulted in five draft EISs (DES 76-4 through DES-76-8) that were subsequently finalized (FES 76/77-4 through

[1] For ease of review, a List of Acronyms is provided in Attachment A and references have been provided in Attachment C.

FES 76/77-8) and have, since the actual implementation of the program, been amended/superseded by additional EISs. Subsequent to the development of the initial sites, major changes have occurred on the SPR including the expansion of the SPR with the development of the Big Hill (BH) site and accompanying [redacted] Group pipeline distribution enhancements [redacted] the development and subsequent leasing of an oil distribution river terminal at St. James (St. James) and accompanying pipelines to [redacted] the construction and operation of a pipeline by Shell Pipe Line Corporation (Shell) connecting [redacted], the construction and operation of a pipeline from the [redacted] the decommissioning of the Sulphur Mines (SM) and Weeks Island (WI) sites, the sale of the accompanying WI pipeline [redacted] for use, the sale of the accompanying SM pipelines for salvage, the rebuilding of all sites through the Life Extension (LE) project and the implementation of two oil degasification (degas) projects. These major activities have been evaluated in more recent NEPA documents. A list of applicable EISs and Environmental Assessments (EAs) is provided with this submittal as Attachment B, as evidence of the SPR's continuous compliance with NEPA.

The crude oil currently stored by the SPR in salt caverns along the Louisiana (LA) and Texas (TX) Gulf Coast serves to mitigate the effects of a significant oil supply interruption. Due to the location of these reserves, oil can be distributed through interstate pipelines to nearly half of the Nation's oil refineries or transported via barge to more remote refineries. Currently, the SPR consists of four Gulf Coast underground salt dome oil storage facilities in LA and TX and a project management facility in LA. A warehouse facility contained within the Stennis Space Center (Stennis) is currently under preparation for use by the SPR, but has not yet become an active facility. A general description of these sites is provided below.

Only the four active *storage* sites still under the control of DOE will be evaluated for NEPA compliance in the present document. Previously decommissioned storage sites, WI and SM, and their aforementioned accompanying pipelines, facilities leased to third parties, St. James, and its aforementioned accompanying pipelines and pipelines constructed and operated by other operators such as [redacted] will not be addressed in this document. As well, DOE-occupied facilities which are leased from third parties such as SPR Headquarters in New Orleans and not yet operational facilities such as Stennis will not be addressed in this document as these sites are not DOE-owned and are covered by the ongoing DOE NEPA process. As to decommissioned facilities, the SM Site and the WI Site, and facilities leased to third parties, St. James, there are existing EAs with Finding(s) of No Significant Impact (FONSI) which are described

below. No evaluation of decommissioned facilities, facilities leased to third parties, DOE-occupied facilities leased from third parties, or inactive sites will be presented.

Site Descriptions

General site information for *all* SPR sites except for the Stennis Warehouse has been derived from the *Site Environmental Report* and is provided in the subsections below. Facilities have been described along with the applicable NEPA documentation. Site descriptions properly include the discussions of the surrounding environment as well as site location and history.

Bayou Choctaw

The SPR BC storage facility occupies 356 acres in [redacted] Parish, LA. The BC salt dome was selected as a storage site early in the SPR program due to its existing brine caverns, which could be readily converted to oil storage and its proximity to commercial marine and pipeline crude oil distribution facilities. Development of the site was initiated in 1977 and operations commenced late that year. Small canals and bayous flow through the site area and join larger bodies of water off-site. The area surrounding the site is a freshwater swamp, which includes substantial stands of bottomland hardwoods with interconnecting waterways. The site proper is normally dry and protected from spring flooding by the site's flood control levees and pumps. The surrounding forest and swamp provides habitat for a diverse wildlife population, including many kinds of birds and mammals such as raccoon and deer, and reptiles including the American alligator.

Big Hill

The SPR BH storage facility covers approximately 270 acres over the BH salt dome in [redacted] County, TX. The BH storage facility is the SPR's most recent storage facility and is located close to commercial marine and pipeline crude oil distribution facilities. Development of the site was initiated in 1982 and operations commenced in 1987. Most of the site is upland habitat, consisting of tall grass. A few 150-year-old live oak trees are present on the site. Identified bird concentrations and rookeries are located in the area of the site. No rare, threatened, or endangered species habitat has been identified in the vicinity of the BH site. Wildlife in the area includes coyote, rabbits, raccoon, and many bird species. The nearby ponds and marsh provide excellent habitat for the American alligator and over-wintering waterfowl.

Bryan Mound

The SPR BM storage facility occupies 500 acres, which almost encompasses the entire BM salt dome, in [redacted] County, TX. The BM salt dome was selected as a storage site early in the SPR program due to its existing brine caverns, which could be readily converted to oil storage, and its proximity to commercial marine and pipeline crude oil distribution facilities. Development of the site was initiated in 1977 and operations commenced in 1979. The marsh and prairie areas surrounding BM are typical of those found throughout this region of the TX Gulf Coast. Brackish marshland dominates the low-lying portions of the site. The coastal prairie is covered with tall grass forming a cover for wildlife. Water bodies surrounding the site provide a diverse ecosystem. Marshes and tidal pools are ideal habitats for a variety of birds, aquatic life, and mammals. Migratory waterfowl as well as nutria, raccoon, skunks, rattlesnakes, turtles, and frogs can be found on and in the area surrounding BM.

West Hackberry

The SPR WH storage facility covers approximately 565 acres on top of the WH salt dome in [redacted] Parish, LA. The WH salt dome was also selected as a storage site early in the SPR program due to its existing brine caverns, which could be readily converted to oil storage and its proximity to commercial marine and pipeline crude oil distribution facilities. Development of the site was initiated in 1977 and operations commenced in 1979. Numerous canals and natural waterways bisect the area. The surrounding area consists of marshland with natural ridges. These ridges, called cheniers, typically support grass and trees and affect water flow through the marshes. In many areas, lakes, bayous, and canals are concentrated so that the marsh may not seem to be a landmass, but rather a large region of small islands. The marshlands surrounding the WH site provide excellent habitat for a variety of wetland species. Many bird species frequent the area, including southern bald eagle, Arctic peregrine falcon, brown pelicans, and waterfowl. Other inhabitants include red fox, raccoon, nutria, opossum, wolf, bobcat, rabbits, and white-tailed deer. The American alligator is extremely common, breeding and nesting in this area. The marsh also supports a variety of other reptiles, fish, shellfish, and mammals.

SPR Headquarters (New Orleans)

The project management office for SPR operations is housed in two adjacent office buildings and a nearby warehouse in [redacted] Louisiana. This facility is the main Project Management Office through which the DOE, with support of DynMcDermott Petroleum Operations Company (DM), the current Management and Operations Contractor (M&O Contractor) for the SPR, manages, operates, and maintains the crude oil reserve sites. Activities conducted at the New Orleans office complex are predominantly administrative with nearby

warehouse capacity to augment project-wide equipment storage. Office and warehouse space is leased, not owned, by the DOE.

Stennis Warehouse Facility

Most recently, warehouse space has been leased at the Stennis Space Center. The leasing of this space has been reviewed to determine potential activities under NEPA. This determination resulted in the preparation of a categorical exclusion (CX) on August 18, 2003. It is important to note that this site is not currently active and is still in the preparation stage. It is intended for use as a warehouse facility and as an emergency operations office.

Weeks Island

The WI facility located in [redacted] Parish, LA was decommissioned in 1999 and is currently under ongoing long term environmental monitoring. The area surrounding the island is a combination of marsh, bayous, manmade canals, and bays, contiguous with the Gulf of Mexico (GOM), that provide a vast estuarine nursery ground for an array of commercially and recreationally important finfish and shellfish. The vegetation communities on WI are diverse. Lowland hardwood species proliferate in the very fertile loam soil common at the higher elevations. The predominant tree species are oak, magnolia, and hickory, and extend down to the surrounding marsh. Pecan trees are also present. Gulls, terns, herons, and egrets are common in the marsh area. Mink, nutria, river otter, and raccoon are the most common inhabitants of the intermediate marshes. Other mammals found at WI are opossum, bats, squirrels, swamp rabbit, bobcat, white-tailed deer, and coyote. WI is the home of one of the densest breeding populations of the LA black bear, which has been listed as a threatened species by the U.S. Fish and Wildlife Service (F&WS) under authority of the Endangered Species Act (ESA). WI and the surrounding wetlands are also frequented by a variety of endangered or threatened avian species, including the brown pelican, bald eagle, peregrine falcon, the piping plover, and least tern. The wetlands to the southwest of WI are a breeding area for least terns. The American alligator occurs in the marshes adjacent to the site.

The decommissioning of the WI site and pipeline initiated the preparation of an EA, DOE/EA-0151, the result of which was a FONSI in December 1995.

St. James Terminal

The St. James facility located on LA Highway 18 near [redacted] LA was leased to Shell in 1997. St. James consists of six aboveground storage tanks with a total capacity of 0.3 million m^3 (2 MMB) and two tanker docks. The site encompasses 149 acres. Wetlands and agriculturally viable land surround the terminal. The potential for the presence of two endangered species, the Pallid Sturgeon (endangered) and the Arctic Peregrine Falcon (threatened), near the site has been

previously identified as has the presence of the southern bald eagle. As well, habitat for frogs, snakes, turtles, nutria, rabbit, raccoon, armadillo, muskrat, opossum, squirrel, egret, ibis, and heron can be found on the site and surrounding the site. In January of 1995, DOE prepared an environmental assessment (DOE/EA-1003) for leasing St. James to private industry as a commercial terminal, the result of which was a FONSI. The lease was awarded to Shell and turnover of the custody of the terminal and accompanying pipelines and operations occurred on January 31, 1997.

Since Shell is now responsible for all operations at St. James, no further evaluation is necessary until such time as this facility is operated by DOE. Currently, DOE's activities relative to St. James are on-going lease oversight comprised of site inspections and monitoring.

Sulphur Mines

The SM site and accompanying pipelines were decommissioned in 1990. The oil inventory originally stored at SM was relocated to the BH facility, resulting in a subsequent inventory increase and expansion of site capacity at BH. The decommissioning of the SM site and relocation of its inventory to the BH site were addressed in an EA (DOE/EA-0401) prepared January 1990. The preparation and submittal of DOE/EA-0401 resulted in a FONSI for these activities. The SM facility was sold in its entirety in May 1993, leaving the current owner entirely responsible for maintaining the necessary environmental compliance. The accompanying pipeline was eventually sold for salvage with no lingering environmental responsibility. DOE retains residual environmental responsibility only at the brine disposal well site. Thus, other than acknowledgment of the potential for 'environmental legacy' issues that generally accompany sale of industrial property, no further evaluation is necessary. As DOE has effected no operation and/or process changes at this site and/or its accompanying pipeline since the transfer of ownership (and no longer has any authority to do so), the aforementioned EA for this site remains valid as original.

National Environmental Policy Act Program Overview

DOE puts forth great effort to apply the NEPA review process early in the planning stages for DOE proposals. Pursuant to this, DOE adopted Title 10 CFR 1021, NEPA Implementing Procedures, which requires through local DOE order, SPRMO O 451.1B, and DM procedure (ASIS400.15), a review of all SPR projects in the early stages to ensure that environmental impacts and requirements are adequately evaluated. This includes the review of conceptual design reports, definitive engineering scopes, statements of work, purchase requisitions, work or service orders, and engineering change proposals (ECPs). Most SPR projects are

either addressed in an existing NEPA document or they fall into the CX category, which suggests that the NEPA document be a Record of NEPA Review (RONR). For a few projects, if not addressed by a RONR, a higher level of NEPA review may be required, which will impact the planning process by triggering an EA and/or an EIS. A SPR project requiring a RONR is based on its value(s). Projects that would require a RONR include information systems contracts with a project value of at least $50,000, construction contracts with project value of at least $50,000, and service contracts with a project value of at least $100,000.

Requirements for Supplement Analysis

In order to maintain compliance, DOE is required not only to address NEPA as part of project planning, but also to re-evaluate previously prepared EISs for validity. Section 1021.330 (d) of the 10 CFR states that DOE shall, every five years, evaluate site-wide NEPA documents prepared under Sec. 1021.330. This section regulates EISs prepared for large, multiple facility DOE sites, of which the SPR has four. Title 10 further stipulates that DOE shall evaluate these site-wide NEPA documents by means of a Supplement Analysis (SA), which serves to determine whether the existing EIS and ROD rendered remains adequate, or whether DOE needs to prepare a new site-wide EIS or a supplement to the existing EIS, as appropriate. No time constraints are given for document preparation and the final determination shall be made available in appropriate DOE public reading rooms or in other appropriate location(s) for a reasonable time. Site-wide EISs and EAs must be evaluated every five years. Although the SPR does not have any site-wide EAs for active sites, one programmatic EA was evaluated for completeness of the analysis. Due to increased reliance on inter- and intrastate pipelines to distribute oil receipts, programmatic EISs prepared for the SPR will be also be evaluated in this document. Therefore, this document evaluates both site-wide and programmatic EISs and one programmatic EA. Historical NEPA documentation evaluated in this Supplement Analysis includes the following:

Final Environmental Impact Statement (Final Supplement to FEA FES 76/77-6), Strategic Petroleum Reserve, Bryan Mound Salt Dome, [redacted] County, Texas, EIS-0001;

Final Environmental Impact Statement (Final of DEIS, FEA-DES-77-10 and of DS-FEIS, FEA-FES-76/77-6) Strategic Petroleum Reserve, Seaway Group Salt Domes (Bryan Mound expansion, Allen, Nash, Damon Mound, and West Columbia) [redacted] County, Texas, Volumes I–III, EIS-0021;

Final Environmental Impact Statement (Final Statement to FEA-DES-77-9) Strategic Petroleum Reserve, Capline Group Salt Domes (Iberia, Napoleonville, Weeks Island Expansion, Bayou Choctaw Expansion, Chacahoula) [redacted] parishes, Louisiana Volume I–IV, EIS-0024;

Final Environmental Impact Statement (Final Statement to FEA-DES-77-8) Strategic Petroleum Reserve, Texoma Group Salt Domes (West Hackberry Expansion, Black Bayou, Vinton, Big Hill) [redacted] parishes, Louisiana and [redacted] County, Texas Volumes I–V, EIS-0029;

Final Supplement to Final Environmental Impact Statement FEA-FES-76-2, Strategic Petroleum Reserve, Expansion of Reserve, EIS-0034;

Final Supplement to Final Environmental Impact Statements DOE/EIS-0021,0029, Strategic Petroleum Reserve, Phase III Development Texoma and Seaway Group Salt Domes (West Hackberry and Bryan Mound Expansion, Big Hill Development) [redacted] Louisiana and [redacted] Counties, Texas, EIS-0075;

Final Environmental Impact Statement for Bayou Choctaw Salt Dome, FES 76-5;

Final Environmental Statement on the Bryan Mound Salt Dome, FES 76/77-6;

Supplement to Final Environmental Impact Statement, West Hackberry Salt Dome, FEA/S-77/114;

Supplement to Final Environmental Impact Statement for Bayou Choctaw Salt Dome, FEA/S-77/129;

Strategic Petroleum Reserve. Final Environmental Impact Statement. West Hackberry Salt Dome, PB 262 508;

All of the SPR sites are utilized for the same purpose, oil storage and/or distribution; accordingly, three criteria have been identified to properly assess their current state relative to NEPA compliance with the existing EISs and EAs. The criteria were selected based on interpretation of DOE's NEPA policies, SPR history and the best professional judgment of the M&O Contractor's environmental staff. These are:

- Operational and engineering (O&E) modifications including process changes and capacity;
- Regulatory amendments and enactments including but not limited to state and Federal Statutes and Regulations, Federal Executive Orders (EOs), agency guidance, amendments to 10 or 40 CFR, etc.; and
- Population dynamics and other socioeconomic variations in the vicinity of each of the sites, which may have changed considerably since the 1970's.

According to the US Supreme Court in their decision, *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 109 S.Ct. 1851 (1989) (companion case to *Robertson v. Methow Valley Citizens Council*), O&E modifications must be reviewed as an agency has a duty to continue reviewing environmental effects of a proposed action even after its initial approval. Although modifications may have triggered previous NEPA reviews throughout the life of the project, periodic re-evaluation is required for a definitive conclusion concerning NEPA compliance. Periodic evaluation such as is provided by this SA is especially important to document NEPA compliance relative to potential cumulative impacts of multiple minor changes at each site and within the SPR project.

Likewise, as NEPA directly and indirectly interacts with various state and Federal environmental statutes and regulations, these need to be considered when performing an environmental analysis. CEQ regulations at 1502.25(b) direct Federal agencies to integrate NEPA analysis with any other applicable environmental analyses, related surveys, and studies.

Finally, section 1508.14 of the CEQ regulations for the implementation of NEPA states that the "human environment" be interpreted comprehensively to include the natural and physical environment and the relationship of people with that environment. Effects to be interpreted include ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, and health, whether direct, indirect, or cumulative. Thus, to fulfill the requirements of NEPA analysis, population dynamics and other socioeconomic variations must be evaluated for potential impact by site operations and the SPR program as a whole.

Characterization Methodology

In order to appropriately assess current site information in comparison to the large volume of information contained within the original and supplemental EISs and EAs, a comprehensive characterization methodology was developed. The methodology described below sets forth a strategy for the efficient, orderly collection, verification, and evaluation of the NEPA compliance of the SPR. Each phase of the assessment is described in detail in the subsections below.

Data Collection and Verification

To determine whether an original or supplemental EIS and the ROD rendered remains valid or, alternatively, that a new or supplemental EIS (SEIS) would be required, physical aspects of the site, site operations, and current activities were first investigated, verified, and evaluated for significance of environmental impacts that have not been addressed or are not addressed in the evaluated EISs. Data collection was then extended to encompass the conceptual site data initially evaluated, any regulatory requirements that are applicable to the site, whether or not they have initiated modifications to the site design and/or operations, and any community/socioeconomic changes that occurred subsequent to the initial NEPA assessment of the impacts of each site. Additionally, data was also compiled from subsequent site-wide and programmatic EISs prepared to address modifications to the site or site operations.

Specific data regarding SPR-wide changes, site-specific changes, regulatory amendments and enactments, and population variations collected and verified were then evaluated to determine their significance relative to NEPA.

Data Collection

For this project, the following documentation was initially gathered for review:

- Historical environmental documentation and records including EISs, EAs, RONR, and RODs;
- Documentation regarding state and Federal regulatory amendments and enactments; and
- Documentation of census bureau data for populations affected by SPR sites and pipelines.

Upon review of this documentation, the criteria for the SA set forth previously was corroborated based on the conclusions regarding topics addressed in these

documents that could potentially provide a basis for the need to prepare a new EIS or SEIS. Other data sources and methodology were then utilized to determine if, at a particular site, that topic and/or criteria is significant relative to NEPA compliance, i.e. compelling of a new EIS or SEIS. Refer to Attachment C for a listing all external reference documents, websites, and reports utilized.

Operational and Engineering Modifications

Data collection regarding O&E modifications included the compilation of the initial site layout, processes, and operations originally evaluated, the investigation of current processes and operations at each site, and any programmatic revisions that have affected site operations/processes. An intensive review of all original site-wide EISs and any subsequent site-wide EISs was the fundamental task conducted to determine the initial site configuration, processes, and operations evaluated. Then, several members of the SPR Engineering and Construction (E&C) department were contacted along with the engineering design and process engineering groups. They were provided with the specifications listed in the original EISs and their comments relative to the current site configuration were solicited. Their responses have been summarized by site and attached to this document as Attachment D. Additionally, site reviewers were contacted and information was requested regarding changes as well as current site operations and activities. Their responses have been summarized by site and are included with comments by the SPR E&C department in Attachment D.

Regulatory Review

Data collection regarding the regulatory review was completed with the assistance of ICF Consulting (ICF) under contract to DOE SPR Program Office at Headquarters. A list of Federal statutes, regulations, and EOs applicable to the SPR was provided to ICF with the caveat that their support was required to complete the list of applicable regulations through addition of the corresponding applicable state regulations and agency guidance. A submittal from ICF containing a summary of state regulations deemed potentially significant was received on September 26, 2003 and is provided as Attachment E of this document.

The list of applicable state statutes and regulations submitted by ICF was reviewed and expanded to ensure consistency of the state and Federal regulatory reviews and to provide a complete picture of the regulatory compliance at both the state and Federal levels. A complete list of applicable Federal and state statutes and regulations and Federal EOs has been provided in Attachment F.

Socioeconomic Variations

Data collection regarding the compilation of socioeconomic variations accrued since the original site-wide EISs was completed with the assistance of ICF. Parishes, counties and cities affected by SPR sites and pipelines were submitted to ICF with links to the corresponding Census Bureau uniform resource locater (URL). Their support was required to complete compilation of the detailed information relative to these affected locales for use in an environmental justice assessment pursuant to EO 12898. A submittal containing a summary of the methodology and sources utilized by ICF to compile this information was received on September 26, 2003, and is attached as Attachment G of this document. Current data compiled for each site evaluation and the accompanying analysis is presented for review in Attachment H. Current data compiled for each pipeline evaluation and the accompanying analysis is presented for review in Attachment I.

A complete listing of applicable socioeconomic data for comparison to the original EISs was compiled by the M&O Contractor. This endeavor provided a thorough picture of the demographics and socioeconomics of populations in proximity to each site. Data was summarized in checklists as discussed in the subsection titled 'Data Evaluation.' The checklists are presented in Attachment J.

Data Verification

Data verification occurred throughout the initial data gathering. As potentially significant topics were identified, the appropriate M&O Contractor's environmental staff member verified the data submitted for accuracy and completeness. Staff members verified data as provided by comparison to current and historical environmental documentation and records. The compilation of EAs and EISs in Attachment B has been completed as part of the verification process. All O&E modifications submitted by site ES&H personnel and members of the M&O Contractor's E&C department for review, regulatory amendments, enactments or agency guidance that impacts the sites, and socioeconomic changes that have occurred over time in the vicinity of the site were also verified as appropriate via comparison to the technical baseline, current permitting, regulatory updates, etc.

Data verification is a quality assurance / quality control measure intended to facilitate the use of only reliable, accurate information. Therefore, the specific sources of all information were documented and copies maintained as part of this SA project. The methodology utilized for data verification included cross-

referencing the significant activity, process, impact and site characteristic change identified via comparison of historical EISs and EAs to each other and to the current technical baselines for validation. Responses relating to current practices were verified against current procedures, plans and system description documents. A review of ECPs, Deviations, Waivers, etc. was conducted and compared to the results of a similar review of CXs for verification (10 CFR 1021 subpart D). Other methodology for data verification was utilized as necessary for completeness.

Data collection and verification occurred on each task of this SA project. Once data was collected and verified, it was organized and recorded by task for each site in a tabular format as discussed in the subsection titled 'Data Evaluation.' After all information was compiled, verified, and recorded, data evaluation and analysis was performed.

Data Evaluation & Analysis for Significance

Each SPR site is unique relative to its surrounding environment, its particular environmental challenges and regulations, its storage capacity, historical uses, current operations and future potential in support of the SPR's mission. Thus, it is clear that each unique site requires site-specific determination of the potential need for preparation of a new EIS or SEIS. As well, the cumulative impacts of program-wide trends must also be evaluated for conclusion regarding the validity of the RODs issued for existing EISs and EAs.

Data Evaluation

An evaluation of data establishing a deviation from that assessed in the original and supplemental programmatic and site-wide EISs was conducted for each site to determine NEPA significance. This was accomplished utilizing a multi-functional checklist format that was developed and utilized for the recordation of all necessary data as well as evaluation of each site and the SPR program as a whole. The use of checklists for the analysis of data and, especially, for the evaluation of potential cumulative effects is recommended in CEQ guidance (CEQ, 1997). All analysis was documented by site and for the SPR program as a whole in these checklists. Each checklist provides the reviewer with:

- A record of previously evaluated data, data regarding modifications, regulatory information and socioeconomic data;
- A side-by-side comparison of previously evaluated data and data regarding modifications;

- Assessment of each line item of data regarding its effects at the site and programmatic levels;
- Substantiation of the thorough evaluation of each line item of data including rationale and documentation of sources of data and RONR, where appropriate;
- The basis for further assessment or lack thereof; and
- The final determination of significance relative to NEPA and the need to prepare a new EIS or SEIS, if necessary.

These checklists have been provided as Attachment J. Evaluation was based on analysis in accordance with the criteria for significance set forth by the CEQ and best professional judgment.

Evaluation proceeded initially as current site data collected and verified was compared to the technical baseline set forth in the original EISs, applicable subsequent EISs, EAs, etc. Current site data that indicated a change from the original site data was documented in the checklist and further inquiry into each site's circumstance was conducted for a RONR such as a CX or a finding that the change did not meet the criteria to trigger NEPA review. Any item that was not associated with documentation of a NEPA review was considered as having the potential for significance relative to the need for preparation of a new EIS or SEIS.

Analysis for Significance

To accommodate this last level of review, specifications that would designate the change represented by the data applicable to either the site or to the SPR program as significant relative to NEPA and potentially providing a potential basis for the need to prepare a new EIS or SEIS were identified. Determination of significance under the CEQ guidelines is a function of both the context and intensity (40 CFR 1508.27) of the effects of the modifications and is dependant on best professional judgment. In support of this SA, the determination of significance was focused on eight of the ten criteria identified in the CEQ guidelines as indicative of the potential intensity of the modification relative to significance. These specifications are:

- The degree to which the proposed action affects public health or safety;
- The degree to which the effects on the quality of the human environment are likely to be highly controversial;
- The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks;

- The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration;
- Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts;
- The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources;
- The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973; and
- Whether the action threatens a violation of Federal, state, or local law or requirements imposed for the protection of the environment. [40 CFR §1508.27(b)]

The following two additional criteria under the CEQ guidelines were addressed in the initial evaluation for each area of analysis and are not applicable for the purpose of this SA:

- The potential for significant impacts to be beneficial
- The potential for significant effects to result from the unique geographic areas in which the sites are located.

Throughout the initial evaluation, effects of modifications were assessed for potential adverse and beneficial effects as well, in the regulatory review, the potential for effects due to unique geographic areas was specifically assessed relative to the applicable state and Federal regulations and statutes and Federal EOs. Thus, following the initial evaluations, a final determination of significance was based on context [40 CFR 1508.27(a)], the above indicated eight intensity specifications suggested in the available CEQ guidance at 40 CFR 1508.27(b) and best professional judgment.

A discussion of the assessment methodology utilized for each task is provided in each task section below. Additionally, refer to the individual task flow charts in Attachment K for illustration of the process utilized to evaluate each set of data.

Here, the determination of significance ultimately bears on the validity of the current NEPA documents and their associated RODs. CEQ guidance states that terming an action temporary or by proceeding in phases cannot defeat the

significance of the overall action (CEQ NEPAnet). Thus, the significance of data relative to compelling the need to prepare a new EIS or SEIS hinges on the context in which the magnitude and potential effects of deviations / modifications from previously evaluated operations, activities, and effects are addressed, i.e. in the original EISs, any subsequent applicable EISs, any subsequent EAs, CXs, etc. Moreover, the potential cumulative effects and impacts of the various modifications at each site were considered during the evaluation process as required by NEPA. The programmatic checklist specifically addresses program-wide trends / modifications and any potential cumulative effects. Cumulative effects were also considered in analysis of modifications of each site.

Operational and Engineering Modifications Characterization

For each site and the SPR program as a whole, current operational and process data was collected, summarized and analyzed. Historical data and modifications for each site and the SPR as a program are summarized by site in the checklists provided in Attachment J. The original engineering specification provided by the site-wide EIS for each site and the response of the site reviewers and the SPR E&C personnel are provided in Attachment D of this document. Documentation of analysis is also provided in the checklists in Attachment J. Only modifications that were further assessed for significance are discussed by site in the subsection "Site-Specific Modifications."

As there exists potential for the site-specific modifications noted below to affect the SPR program as a whole, historical data, modifications, and program-wide trends are summarized and evaluated for completeness in the Programmatic checklist provided in Attachment J. Modifications are addressed in the "Programmatic Modifications" section below; however, only modifications that were further assessed for significance are discussed. In addition to O&E modifications, alteration of the storage capacity at each site and within each distribution 'group' of the SPR program, i.e. Capline, Texoma, and Seaway, was evaluated.

The current DOE-authorized storage capacity, current inventory, and NEPA-final storage capacity evaluated were compared. All data were assessed to determine (1) if any changes had occurred at the site; (2) whether such change was the result of maintenance, Life Extension (LE), or other project that would be addressed by an existing NEPA document; (3) whether impacts resulting from a previously un-reviewed modification were significant or non-significant relative to the criteria set forth above. Refer to Attachment L for a visual representation of history of the NEPA-final storage capacities by site and by group. A comparison of the current inventory for each site and group can be found as appropriate in the subsections below. O&E modifications and modifications to storage capacity are discussed as separate subsections site-specifically and programmatically below.

Site-Specific Modifications

Information solicited from site reviewers and members of the SPR E&C department and historical information were then evaluated to determine if modifications existed. If site configuration modifications were noted,

investigation was conducted to determine if modifications had undergone a NEPA review and, if so, if a RONR was on file. If no RONR was found, modifications were assessed for potential significance under the CEQ criteria (40 CFR 1508.27), which is adopted in 10 CFR 1021.103 and has been previously described.

Bayou Choctaw

Operational and Engineering Modifications

Site personnel noted O&E modifications for BC. While the majority of modifications were addressed individually by NEPA documents such as CXs, one modification, construction of a new flammable storage building, was determined to require additional analysis as it was constructed several years ago. A RONR was executed in May 1992.

Capacity

EISs for the BC site specifically address impacts as related to the storage capacity of the site. Initially, the site was evaluated for adverse environmental impacts associated with the construction and operation of a storage capacity of 99 MMB of oil in the Final EIS for Bayou Choctaw Salt Dome (FES 76-5). The Capline Group EIS (DOE/EIS-0024) later contemplated expansion of the BC site to 150 MMB including the construction of additional caverns and facilities. Thus, the total storage capacity for which the environmental impacts of five fill and drawdown cycles over 20 years have been evaluated is 150 MMB. Currently, BC has a DOE-authorized storage capacity and inventory of 76 MMB, which is within the capacity previously evaluated for adverse environmental effects. Therefore, additional assessment of storage capacity at this site is not warranted at this time.

Big Hill

Operational and Engineering Modifications

Site personnel noted O&E modifications for BH. These included addition of a slop oil tank for use on-site, modification of an ammonium bisulfite tank for use as a slop oil tank, installation of an additional tank for freshwater, which is now used for raw water, reduction in the number of raw water injection pumps, which is still greater than the number originally evaluated, installation of a commercial potable water line, and increased diameter of the brine and raw water pipelines.

Inspection of historical NEPA documentation revealed that the installation of the potable water line, the construction of a raw water tank on-site, and the addition

of raw water pumps had received a NEPA review prior to construction, that a CX applied, and that a RONR is on file. The installation of the potable water line received an individual NEPA review resulting in a CX determination. The construction of the raw water tank on-site and the addition of raw water pumps occurred as part of a consolidated LE task (BH-LE-321) in 1998 and were reviewed as such.

Impacts resulting from the addition of one slop oil tank and the modification of a tank to store slop oil were resolved to be within the scope of impacts assessed in the original EIS (DOE/EIS-0029). This original EIS evaluated impacts resulting from the construction of two blanket oil tanks with a capacity of 13,000 barrels (bbls) and two slop oil tanks with a capacity of 9,000 bbls. Such construction would have resulted in a larger disrupted footprint and potential operating impacts, e.g. emissions from throughput and seals, on-site for the length of operation as well as greater impacts during the construction phase due to preparation of the site for construction of four separate structures. The construction of two 10,000 barrel slop oil tanks on-site has resulted in a much smaller footprint, significantly decreased construction impacts, and decreased operational impacts resulting not only from the shortened duration of operations but also from decreased overall capacity, throughput, and seals that could potentially contribute to impacts such as general air and fugitive air emissions. Additionally, as one tank has yet to be placed into operation for slop oil, operational impacts have yet to occur. So, the current configuration likely considerably minimized the potential impacts evaluated in the EISs. Further assessment is not warranted as construction of the tanks are activities whose impacts have been previously assessed.

The diameter difference between the raw water and brine pipelines evaluated and the raw water and brine pipelines installed at the site is nominal, 2 and 6 inches, respectively. The originally evaluated raw water pipeline was to be 46 inches in diameter and the installed pipeline is 48 inches in diameter. The percent difference in diameter for the raw water pipeline is less than 5%. The originally evaluated brine pipeline was to be 42 inches in diameter and the installed pipeline is 48 inches in diameter. The percent difference in diameter for the brine pipeline is less than 15%. These differences are incremental and it is likely that substitutions occurred during construction to ease construction costs and future maintenance of the pipelines. Differences in impact to the environment would not have been measurable and likely occurred along the pipeline right-of-way during the construction phase, from which the environment adjacent to the right-of-way has long since recovered. As well, impacts resulting from general operations are likely only incrementally greater than the impacts originally evaluated and would certainly not be significant. The supplemental EIS (DOE/EIS-0075) supports this conclusion in that it references

but does not re-evaluate the impacts of installation and operation of a nominally larger diameter pipeline. All indications are that the impacts of only incrementally larger diameter pipelines are substantially similar in magnitude.

The site is currently permitted by the Environmental Protection Agency (EPA) and the Railroad Commission of Texas (RCT) and operates in accordance with all existing discharge permits. Thus, no further assessment of these is necessary. An additional O&E modification noted for the Big Hill site is the construction of the degas plant. An EA was published in September of 1994 to assess the impacts of implementation of this degas plan and construction of the necessary facilities. No additional NEPA documentation was needed to assess impacts associated with the second degas project scheduled to commence operations in 2004, as documented by an Action Description Memorandum.

Capacity

EISs for the BH site specifically address impacts as related to the storage capacity of the site. Initially, the site was evaluated for the construction and storage of a capacity of 100 MMB (DOE/EIS-0029). The Phase III Texoma and Seaway EIS (DOE/EIS-0075) contemplated expansion of the BH site by 40 MMB to a total storage capacity of 140 MMB including the construction of additional caverns and facilities. Finally, the SM Decommissioning and BH Expansion EA (DOE/EA-0401) evaluated the addition of 20 to 22 MMB to the NEPA-final capacity of BH, including additional incremental construction or related impacts. Thus, the total storage capacity for which the environmental impacts of five fill and drawdown cycles over 20 years have been evaluated is 162 MMB. Currently, BH has a DOE-authorized storage capacity of 170 MMB and inventory of 129.4 MMB. Actual inventory is within the capacity previously evaluated for adverse environmental effects. However, the DOE-authorized capacity exceeds the NEPA-final capacity. Neither the DOE-authorized capacity nor the NEPA-final capacity exceeds the capacities for which the site is permitted through RCT permits [redacted] and [redacted]

DOE has an internal requirement to survey and track cavern size and capacity via sonar at least every ten years. DOE-authorized capacities are set based on sonar of the caverns and reflect the actual capacity of each cavern. This requirement allows DOE to maintain awareness of the effects of cavern creep and oil movements on cavern capacity and compliance with permits as issued by RCT. DOE has been vigilant regarding fulfillment of this requirement, updating the authorized storage capacity of each site to reflect variations in cavern storage capacity as shown by the results of the sonar investigations. That actual cavern capacity would increase and eventually exceed the NEPA-final capacity was anticipated as a consequence of drawdown in the original BH EIS (DOE/EIS-

0029) and its supplemental EIS (DOE/EIS-0075). As oil has been moved from the BH site through the introduction of raw water into the caverns to displace oil, additional leaching has occurred in affected caverns, increasing the cavern capacity beyond what was originally leached and filled. Leaching is expected throughout the life of the project due to oil movements, etc and was evaluated in the original EISs. As actual capacities increase, they are reported via the results of the sonar investigations. A correlative increase in overall site capacity results. Such increases are a culmination of minute modifications to cavern storage capacity that are permitted appropriately through RCT and for which the environmental impacts have already been evaluated via the original and subsequent EISs' evaluation of five fill and drawdown cycles.

Leaching of caverns in salt domes to a specific storage capacity is achieved via an estimation method. The storage capacity of a cavern is estimated based on an anticipated ratio of brine discharge to cavern space created. The original NEPA documentation evaluated potential impacts associated with the leaching of caverns based on these assumptions. The ratio utilized when leaching the original SPR caverns was seven barrels of brine discharged equals the creation of one barrel of oil storage. Most recently, the ratio of brine discharged to storage capacity created utilized for budgetary purposes has been decreased. Thus, for the purposes of budgeting potential expansion of the SPR, it was estimated that six barrels of brine discharged equals the creation of one barrel of oil storage. Actual storage created, however, is dependant on the saturation or lack thereof of the brine being discharged. Although the leaching process is as controlled as possible, it is not an absolute process and results, i.e. the final storage capacity created, vary based on the conditions present in each dome during the leaching of each cavern. Hence, an increase in DOE-authorized capacity based on minute increases in individual cavern capacities as reported in the results of the sonar investigations is of little consequence when the uncertainty of the cavern creation process is considered and given that the original NEPA documentation anticipated and evaluated the potential adverse environmental impacts of the additional leaching of cavern capacity that accompanies the drawdown portion of the fill and drawdown cycle.

These potential adverse environmental impacts to water resources, air quality, land use, biodiversity, natural and cultural resources, and socioeconomics included impacts associated with noise pollution and the potential for brine and oil spills associated with operations as well as each drawdown and fill cycle. Impacts were evaluated for all SPR sites for a total of five full fill and drawdown cycles. The design of the SPR sites including cavern specifications and anticipated permitting have been set to accommodate the increasing cavern capacity due to additional leaching. The BH site was evaluated for a total drawdown of [redacted] MMB of crude oil over approximately a 20 year period and for

total fluid movements (on to and off of the site) of [redacted] MMB of crude oil. These oil movements were evaluated with all accompanying operational requirements that could have direct adverse environmental effects such as displacement and disposal of brine during fill cycles and introduction of raw water as required during drawdown cycles.

Relative to drawdown, displacement of raw water was evaluated as to depression of the raw water source, i.e. surface water body, as well as potential biological and hydrological effects on the source such as decreased biodiversity, increased salinity, and decreased overall water quality during each full drawdown cycle. Displacement of raw water was evaluated as if it was occurring in accordance with permit specifications and any adverse environmental effects associated with modification of existing permits were also evaluated. Displacement of raw water currently occurs according to permit as evaluated. The current permit authorizing raw water withdrawal at the BH site is Texas permit [redacted]

Relative to fill and refill, displacement and disposal of brine from the cavern requires discharge of brine to the environment. Such discharge occurs as evaluated in EIS-0075, i.e. via brine diffusal in the Gulf of Mexico, and as permitted by EPA Region 6 NPDES permit [redacted] Potential adverse environmental impacts evaluated relative to brine disposal include impacts associated with a brine spill on-site as well as off-site (due to failure of the brine line), hydrocarbon emissions associated with entrained oil from the oil/brine interface, increases in salinity and decreases in water quality and biodiversity at the receiving surface water body, the Gulf of Mexico, and other effects on the benthic and marine environment at/near the point of discharge. The impacts currently associated with disposal occur within permit limitations as was assumed during the initial evaluation. As disposal of brine for five fill cycles totaling [redacted] MMB was evaluated, disposal of brine that would result from the eventual initial filling of the additional authorized storage capacity of 8 MMB comprises approximately 1.1% of the evaluated impacts for the remaining 4 refill cycles. Further, the potential impacts associated with the movement of only [redacted] MMB from the BH site since its inception has resulted in a current condition of the caverns that is far below the increase in actual cavern storage capacity for the five drawdown cycles anticipated ([redacted] MMB) and whose potential adverse environmental effects were evaluated within the aforementioned EISs.

So, as to direct effects, any potential adverse environmental effects that could be associated with an increase in authorized cavern capacity due to minor oil movements and balanced against the effects of cavern creep are much less than the impacts previously evaluated for total fluid movements on and off site of approximately [redacted] MMB (five full fill and drawdown cycles). However, the

EISs evaluated indirect impacts as well as direct impacts. Secondary environmental effects evaluated for the five fill and drawdown cycles included hydrocarbon emissions resulting from distribution, increased risk of oil and brine spills during distribution, socioeconomic impacts, and impacts resulting from noise associated with site operation and maintenance.

In the Phase III Texoma and Seaway Group Salt Domes EIS (DOE/EIS-0075), direct and indirect impacts were evaluated based on the design criteria of five fill and drawdown cycles, i.e. total fluid movement of approximately [redacted] MMB. Each operational phase, leach, initial fill, drawdown, and refill, is evaluated for its contribution of the overall effects of the site over its intended life. To date, the site has never been completely drawn down. Thus, direct and indirect impacts associated with the minor oil movements and the additional 8 MMB in DOE-authorized capacity are well below the magnitude of impacts to air quality, surface water bodies including the Gulf of Mexico and raw water sources, land use, socioeconomics, and natural and cultural resources that were evaluated in the NEPA documentation for this site. What's more, the impacts attributable to minor oil movements and any additional capacity are not associated with any modification to the footprint of the site, which remains unchanged.

In summary, the impacts of the currently authorized 170 MMB capacity represent no un-assessed impacts. Given that the site footprint remains unchanged and no impacts can be attributed to additional construction or leaching, additional assessment of storage capacity at this site for the new authorized storage capacity is unnecessary to comply with NEPA. Thus, this SA will serve as the necessary NEPA documentation that no significant or un-assessed impacts are associated with an authorized capacity of 170 MMB for the BH site.

Bryan Mound

Operational and Engineering Modifications

Site personnel noted O&E modifications for BM. These included brine tank construction, establishment of a commercial potable water line and system for site use, and conversion of pump BMP-26 for use as a sparge pump. Both the construction of the brine tank and the conversion of BMP-26 occurred during LE activities, were reviewed under NEPA in 1998 and a CX (BM-LE-340) applied. A RONR for these is currently on file. As to the establishment of the commercial water line, an Army Corps of Engineers (COE) permit was obtained for the line and its installation. The application made to COE would have required assessment of environmental impacts in anticipation of public comment. A review of the permit documentation indicates that this requirement was met and a COE permit was issued for the pipeline, which was installed in 1985 as Task

MS-OM-013. Additionally, further review of this modification is unnecessary as impacts to the environment would have been insignificant based on the CEQ criteria when they occurred in 1985 and the adjacent environment has long since recovered. No further assessment is recommended.

Capacity

EISs for the BM site specifically address impacts as related to the storage capacity of the site. Initial construction of the site was evaluated for the construction and storage of a capacity of 63 MMB in the Final EIS for Bryan Mound Salt Dome (FES-76/77-6). The Seaway Group EIS (DOE/EIS-0021) contemplated expansion of the BM site by 100 MMB including the construction of additional caverns and facilities and the Phase III Texoma and Seaway EIS (DOE/EIS-0075) evaluated further expansion of the BM site by either 40 or 60 MMB including construction of additional caverns and facilities. Thus, the total storage capacity for which the environmental impacts of five fill and drawdown cycles over 20 years have been evaluated is 223 MMB. Currently, BM has a DOE-authorized storage capacity of 232 MMB and inventory of 230.4 MMB. Actual inventory exceeds the NEPA-final storage capacity previously evaluated for adverse environmental effects, but not the DOE-authorized capacity. However, the DOE-authorized capacity does exceed the NEPA-final capacity. Neither the DOE-authorized capacity nor the NEPA-final capacity exceeds the capacities for which the site is permitted through RCT permits [redacted] and [redacted]

As discussed above in the capacity subsection for the BH site, the DOE requirement to survey and track cavern size via sonar is applied at all SPR sites including BM. Thus, the DOE-authorized capacity for BM is also set based on sonar of actual caverns and reflects the actual capacity of each cavern. Also similar to BH is the realization that an increase in actual cavern capacity that has exceeded that of the NEPA-final capacity was anticipated as a consequence of drawdown in the original BM EIS (FES 76/77-6) and its supplemental EISs (DOE/EIS-0021 and DOE/EIS-0075). As [redacted] MMB of oil have been moved from the BM site via the introduction of raw water into the caverns, additional leaching has occurred in affected caverns, increasing the cavern capacity beyond what was originally leached and filled. As actual cavern capacities increase due to the aforementioned factors and are reported via the results of the sonar investigations, a correlative increase in overall site capacity results. Such increases are a culmination of minute modifications to cavern storage capacity that are permitted appropriately through RCT and for which the environmental impacts have already been evaluated via the original and subsequent EISs' evaluation of five fill and drawdown cycles.

As well, the original NEPA documentation for this site also evaluated potential impacts associated with the leaching of caverns based on given assumptions to be utilized in the leaching process. The assessment of impacts in the aforementioned EISs for this site was predicated upon the same assumptions that were utilized in the BH NEPA documentation. Both evaluated impacts while considering that cavern leaching to an estimated capacity may exceed or fail to complete the expected capacity during initial leaching and that additional leaching would occur via the introduction of raw water as required for oil movement. All impacts for BM were assessed for five fill and drawdown cycles. Hence, for BM as well as BH, an increase in DOE-authorized capacity based on minute increases in individual cavern capacities is of little consequence when the uncertainty of the cavern creation process is considered and given that the original NEPA documentation anticipated and evaluated the potential adverse environmental impacts of the additional leaching of cavern capacity that accompanies the drawdown portion of the fill and drawdown cycle.

These potential adverse environmental impacts to water resources, air quality, land use, biodiversity, natural and cultural resources, and socioeconomics included the impacts associated with noise pollution and the potential for brine and oil spills associated with operations as well as each drawdown and fill cycle. The design of the BM site including cavern specifications and anticipated permitting have been set to accommodate the increasing cavern capacity throughout these cycles . The BM site was evaluated for a total drawdown of [redacted]MMB of crude oil over approximately a 20 year period and for total fluid movements (on to and off of the site) of[redacted]MMB of crude oil. To date, the only potential impacts that have been realized relative to drawdown are impacts associated with the movement of[redacted]MMB of oil. That only 3.7% of the total oil evaluated for drawdown from the BM site has actually been moved indicates that current condition of the caverns relative to actual storage capacity is far below the increase in actual cavern storage capacity anticipated for five drawdown cycles[redacted]MMB) whose potential adverse environmental effects were evaluated within the aforementioned EISs. These oil movements were evaluated with all accompanying operational requirements that could have direct adverse environmental effects such as displacement and disposal of brine during fill cycles and introduction of raw water as required during drawdown cycles.

Site-specific effects relative to drawdown, i.e. displacement of raw water, and relative to fill and refill and displacement and disposal of brine, were evaluated in all EISs. For a capacity of 223 MMB, evaluation occurred in EIS-0075. Displacement of raw water was evaluated relative to depression of the raw water source, i.e. surface water body, as well as potential biological and hydrological effects on the source such as decreased biodiversity, increased salinity, and

decreased overall water quality during each full drawdown cycle. Displacement of raw water was evaluated as if it was occurring in accordance with permit specifications and any adverse environmental effects associated with modification of existing permits were also evaluated. Displacement of raw water currently occurs according to permit as evaluated. The current permit authorizing raw water withdrawal at the BM site is Texas permit [redacted]

Displacement and disposal of brine from the cavern requires discharge of brine to the environment during fill and refill. Such discharge occurs as evaluated in EIS-0075, i.e. via brine diffusal in the Gulf of Mexico, and as permitted by EPA Region 6 NPDES permit [redacted] Potential adverse environmental impacts evaluated relative to brine disposal include impacts associated with a brine spill on-site as well as off-site (due to failure of the brine line), hydrocarbon emissions associated with entrained oil from the oil/brine interface, increases in salinity and decreases in water quality and biodiversity at the receiving surface water body, the Gulf of Mexico, and other effects on the benthic and marine environment at/near the point of discharge. The impacts currently associated with disposal occur within permit limitations as was assumed during the initial evaluation. Disposal of brine that would result from the eventual initial filling of the additional authorized storage capacity of 9 MMB comprises only 1% of the evaluated impacts for the remaining 4 refill cycles. So, as to direct effects, any potential adverse environmental effects that could be associated with an increase in authorized cavern capacity due to minor oil movements and balanced against the effects of cavern creep are much less than the impacts previously evaluated for total fluid movements on and off site of approximately [redacted] MMB (five full fill and drawdown cycles).

As well, EIS-0075 evaluated indirect impacts associated with five full fill and drawdown cycles. Secondary environmental effects were evaluated for the five fill and drawdown cycles of 223 MMB, i.e. total fluid movement of approximately [redacted] MMB, in the Phase III Texoma and Seaway Group Salt Domes EIS (DOE/EIS-0075). These include hydrocarbon emissions, increased risk of oil and brine spills, socioeconomic impacts, and impacts resulting from noise associated with site operation and maintenance. Previous NEPA documentation for BM (DOE/EIS-0021) also evaluated the cumulative direct and indirect impacts of an expansion in the Seaway Group of up to 263 MMB for five full fill and drawdown cycles. Each phase of the site, construction and operation and maintenance, is evaluated for its contribution of the overall effects of the site over its intended life. To date, the site has never been completely drawn down. Thus, direct and indirect impacts associated with the minor oil movements and the additional 9 MMB in DOE-authorized capacity are well below the magnitude of impacts evaluated in the NEPA documentation for this site. What's more,

these are not associated with any modification to the footprint of the site, which remains unchanged.

In summary, the impacts of the currently authorized 232 MMB capacity represent no un-assessed impacts given the previous NEPA documentation of evaluation. That the site footprint remains unchanged and no impacts can be attributed to additional construction or leaching supports the determination that additional assessment of storage capacity at this site for the new authorized storage capacity is unnecessary to comply with NEPA. Thus, this SA will serve as the necessary NEPA documentation that no significant or un-assessed impacts are associated with an authorized capacity of 232 MMB for the BM site.

As to the current site inventory, the site foot print has not changed, nor have any additional caverns been leached to accommodate the additional oil, nor has the site incurred any permit non-compliances regarding the discharge of brine or general cavern capacity or specifications. The majority of adverse environmental effects evaluated in the aforementioned EISs resulted from the construction impacts of cavern creation, site preparation, and pipeline construction. On-site, potential impacts associated with the storage of additional oil result from its transport onto site up to the time of injection during fill and its withdrawal from the cavern during drawdown. Transport of this oil onto the site occurred without incident and the oil has been injected into the caverns. Transport onto the site and injection of the oil into the caverns has been conducted in accordance with all applicable Federal and state permits including NPDES permit [redacted], which governs all brine disposal, TCEQ[redacted], which governs air emissions from the site, RCT permits[redacted] and [redacted]which govern injection and storage in the caverns, etc. The storage of 9 MMB of additional oil on site is within the magnitude of impacts contemplated by the EISs as they contemplated total storage of [redacted]MMB of oil over approximately a twenty year period. The DOE-authorized capacity of 232 MMB plus the [redacted]MMB of oil transported from the site comprises approximately only one-fourth of the oil that was anticipated to be (1) transported to the site and (2) stored on-site. When the 263 MMB evaluated in the Seaway Group EIS (DOE/EIS-0021) are considered, the DOE-authorized capacity is less than one fill cycle of the impacts evaluated for the Seaway Group.

The potential adverse environmental impacts that could be associated with the transport of the oil to the site and injection into the caverns that were addressed by the previous NEPA documentation for BM attribute impacts primarily to the potential for a spill of oil and brine and the release of volatile organic compounds (VOCs) to the atmosphere during transport. The magnitude of risks evaluated in the EISs was for five fill and drawdown cycles of 223 MMB over approximately 20 years, a total fluid movement of[redacted]MMB of oil. Thus far, movement of

only 11.6% of the total fluid evaluated for transport to/from the site has occurred. An increase in the rate of spills and non-compliances has not resulted from the transport of additional oil to/from the site. An indirect impact of transport of the oil to the site and injection into the storage caverns are brine disposal and air emissions. Both have occurred in compliance with the respective permit and regulations. As air emissions are rate based and were originally evaluated for a 'major source' (emission of more than 25 tons per year of VOCs), the positive effects of conducting site operations as a 'minor source' (emission of less than 25 tons per year of VOCs) coupled with not having conducted the five full fill and drawdown cycles originally evaluated for impacts would more than compensate for the transport of a small quantity of additional oil to the site. Thus, these impacts are within the scope of impacts evaluated within the previous NEPA documentation.

As to the permanent storage of additional oil on-site, the adverse environmental impacts addressed in previous NEPA documentation has apportioned impacts to both the construction and operation and maintenance phases, which includes transport and its associated impacts. Once the oil has been injected into the caverns, it is no longer available for release to the environment and the associated VOCs are also contained and cannot volatilize into the atmosphere. Potential impacts associated with the additional oil currently stored that would result from its displacement and transport from the site in a drawdown would be minimized through compliance with current air permits. As the two degas projects have been implemented to further reduce downstream emissions from oil during distribution, these impacts would be further minimized. Therefore, the additional storage of oil in caverns on-site does not present potential significant environmental effects for which further review under NEPA would be required.

West Hackberry

Operational and Engineering Modifications

The M&O Contractor's E&C personnel noted O&E modifications at the site. These include the construction of a 7,000 barrel brine surge tank on site that was recently converted for raw water storage. Review of historical NEPA documentation revealed that a NEPA review for addition of the brine surge tank occurred in 1995, a CX was applied, and a RONR is currently on file. NEPA review for conversion to raw water occurred in 2001.

Capacity

EISs for the WH site specifically address impacts as related to the storage capacity of the site. Initially, the site was evaluated for the construction of storage capacity of 60 MMB of oil in the Final EIS for the West Hackberry Salt Dome (FEA/S-77/114). The Texoma Group EIS (DOE/EIS-0029)contemplated expansion of the WH site to 210 MMB including the construction of additional caverns and facilities and the Phase III Texoma and Seaway EIS (DOE/EIS-0075) evaluated further expansion of the WH site by either 10 or 30 MMB via construction of one additional cavern and facilities. Thus, the total storage capacity for which the environmental impacts of five fill and drawdown cycles over 20 years have been evaluated in 240 MMB. Currently, WH has a DOE-authorized storage capacity of 222 MMB and an inventory of 196.4 MMB, which is within the capacity previously evaluated for adverse environmental effects. Therefore, additional assessment of storage capacity at this site is not warranted at this time.

Programmatic Modifications

Trends resulting from cumulative and/or secondary impacts require additional evaluation of site-specific changes as a composite of all SPR sites relative to the SPR as a program. Analysis was conducted based on a comparison of the current program-wide data and configurations to the program-wide data and configurations originally evaluated. If there was a modification from the originally assessed configuration, these were compared to determine (1) whether such change was the result of maintenance, LE, or other project that would be addressed by an existing NEPA document and (2) whether impacts resulting from a previously un-reviewed modification were significant or non-significant relative to the criteria set forth above.

Active Storage Sites (West Hackberry, Bryan Mound, Big Hill, Bayou Choctaw)

Operational and Engineering Modifications

During evaluation of each site and its specific modifications, O&E trends were noted as occurring somewhat unilaterally across the current SPR sites. These trends could result in an overall programmatic modification, which must be noted and evaluated for significance. These trends include the construction of aboveground tanks for various purposes, the conversion of brine ponds to open-top tanks, the establishment of commercial potable water lines for use on-site, and an increase in small oil movements and distributions.

The first two trends noted are interrelated in that construction of aboveground storage tanks across the SPR generally coincided with LE activities. As ponds and other historical storage areas neared the end of their useful life, replacement with aboveground storage tanks effectively created more efficient operations with equivalent or decreased impacts when compared to those that were evaluated on a programmatic level in the original EISs. LE was evaluated for adverse environmental effects at both the concept and individual project levels. Generally, a CX was applicable and a RONR was generated to document the review.

At the TX sites, the establishment of commercial potable water lines for use on-site was observed. Previously, the sites had been utilizing raw water for sanitary waste and, in the interest of decreasing risk to human health and long-term cost, the utilization of potable water via a connection to commercial lines was determined to be the most viable option. Construction associated with connection to potable water sources was not assessed in the EISs; however, a NEPA review was conducted for each site prior to construction. A CX is currently on file for the BH site. Documentation of the NEPA review for construction of the potable water line at the BM site was not available in the library, but a review of the permitting file indicated that a NEPA review was a required portion of the application package for the COE permit that was obtained. From this record, it can be inferred that a NEPA review was conducted prior to construction, that a CX applied and that documentation in the form of a RONR was utilized to facilitate the permitting process.

Finally, an increase in small oil movements and distribution was noted. The original EISs evaluated five full fill and drawdown cycles for each site over a twenty year period. They did not necessarily contemplate smaller oil movements and distributions over a longer period of time that would clearly have smaller, more protracted impacts. Regardless of the nature of the impacts of these smaller oil movements, the decrease in barrels of oil actually moved since the inception of the program (a fraction of a single drawdown) and the barrels of oil anticipated to be moved in the EISs support a conclusion that impacts that have occurred are well within the scope of the impacts originally evaluated. Site-specifically, the SPR storage facilities have been evaluated for impacts associated with five full fill and drawdown cycles of [redacted] MMB of oil. To date, [redacted] MMB of oil have been 'moved' from the currently active SPR storage facilities. Of that, the amount of oil actually drawdown is approximately [redacted] MMB. Thus, only 2.35% of all oil anticipated to be transported and for which potential adverse environmental impacts were evaluated has actually been 'moved.' Of that, only 1% of the oil is actual oil that has been 'drawn down.' Thus, consideration of the sheer numbers associated with the original evaluation versus actual oil movements supports the determination that the scope and

magnitude of impacts originally evaluated encompasses the actual impacts resulting from oil movements from the SPR sites.

As a program, the SPR has been vigilant in adhering to the principles of NEPA. Inclusion of NEPA review early in the project management process allows DOE to remain compliant with both the spirit and the letter of NEPA. Trends noted at the programmatic level require no additional evaluation. Thus, this SA will serve as the necessary NEPA documentation that no significant or un-assessed impacts are associated with programmatic trends on the SPR.

Capacity

A physical increase in storage capacities has occurred across the sites. Several site-wide EISs have evaluated the original storage capacities and each increase in storage capacity for the sites. The SPR as a program, however, has evaluated the total storage capacity of the program to one billion barrels of oil in DOE/EIS-0034. What's more, NEPA documents have also evaluated storage capacity of oil for the SPR program based on regional 'groupings,' the Seaway Group, the Capline Group, and the Texoma. The total storage capacity that has been evaluated at the site-specific level is 775 MMB. The total storage capacity that has been evaluated by DOE in previous NEPA documentation at the regional 'group' level is 1052 MMB (DOE/EIS-0034).

A review of the applicable programmatic EISs has revealed that program level storage capacities for the Capline and Texoma Group are within the previously evaluated capacity. The program level storage capacity previously evaluated for the Seaway Group has been exceeded. The only SPR site contained within the Seaway Group is the BM site, which has been evaluated on a site-specific level for increases in capacity. Refer to the "Capacity" subsection of the Bryan Mound section of this document for a complete discussion of the site-specific evaluations of capacity and effects of current site inventory relative to potentially significant environmental effects. Further evaluation of storage capacity for the SPR program is not recommended at this time as modifications do not represent an impact beyond that previously identified for operation and maintenance of the SPR and do not provide a catalyst for preparation of a new EIS or SEIS.

Conclusion

Assessment of the current O&E characteristics of the SPR sites and the SPR as a program indicated that the configuration remains within the scope of impacts

evaluated under the original and supplemental EISs or subsequent RONR such as an EA or CX. In fact, under LE, environmental impacts and potential environmental impacts associated with site configurations and resulting from site operations were reduced as more controls were introduced and processes were refined. Examples of this include the use of injection pump filters, heat exchangers, diffusers and the degas projects. The addition of degas plants at each site was covered for all four active sites in DOE/EA-954. The plant is currently being constructed at the BH site and has not yet commenced operations.

Assessment of the current capacity of the SPR sites and the SPR as a program indicated that, for all sites except BM, current inventory is below the NEPA-final capacity addressed in the original and supplemental EISs and EAs and that for two sites, BM and BH, the DOE-authorized capacity exceeds the NEPA-final capacity addressed in the original and supplemental EISs. Further assessment of the current inventory and DOE-authorized capacity for BM indicated that the current site status is compliant with state and Federal permits as discussed in the section titled Bryan Mound- *Capacity*, did not represent a significant impact relative to NEPA with less lifecycle impact than originally projected due to reduced drawdown and refill frequency and, thus, would not provide a basis for the preparation of a new EIS or SEIS. Additionally, assessment of the DOE-authorized Capacity for BH indicated that expansion of the caverns based on additional leaching during oil movements was also compliant with state and federal permits, was within the scope of impacts originally evaluated and would not provide a basis for preparation of a new EIS or SEIS.

Regulatory Review and Characterization

SPR sites are analogous in their mission and the applicability of Federal environmental regulations. However, that SPR sites are located in both LA and TX presents a unique situation relative to the surrounding environment, any particular environmental challenges, and state regulatory requirements. Thus, for each site and the SPR program as a whole, relevant state and Federal statutes, regulations, and agency guidance and Federal EOs were summarized and analyzed for applicability. Applicable Federal and state statutes and regulations and Federal EOs are presented as Attachment F. In further consideration of each site's unique setting, a site-specific determination of the need to prepare a new EIS or SEIS based on the particular state regulations applicable to that site is necessary. Likewise, an evaluation of the SPR as a program must be conducted to determine whether the original programmatic EISs still adequately address the potential cumulative impacts of both state and Federal regulations that have been amended and/or newly enacted.

Evaluation of compliance with current environmental laws is appropriate as new statutes, regulations, and executive orders have been promulgated since the inception of the program. It is important to note, however, that new statutes or regulations do not necessarily constitute a change in the proposed action or new information such that they could compel preparation of a new EIS or SEIS. Further, according to CEQ regulations, an activity may be considered significant when it threatens a violation of Federal, state, or local law or requirements imposed for the protection of the environment and as such may provide a basis for preparation of a new EIS or SEIS. Thus, compliance with applicable regulations does not ensure that the threat of a violation is not present, or that the effects to the environment are insignificant, or that a new EIS or SEIS is not necessary. Analysis is required for completeness and documentation of analysis is provided in the checklists in Attachment J. Only statutes, regulations, guidance, and/or executive orders that were further assessed for significance are discussed in the following subsections.

State and Federal Statutes and Regulations

Potentially significant state regulations were analyzed and an evaluation of potential significance was provided by ICF in Attachment E. Additional analysis was performed by the M&O Contractor relative to the site-specific and programmatic effects of the overall regulatory environment. Thorough analysis indicates that it is more likely that SPR compliance with said regulations conferred a benefit to the environment. Since 1993, DM, the current DOE M&O

Contractor for the SPR, has focused on attainment of environmental excellence. The SPR's charter membership in the EPA's National Environmental Performance Track program (P-Track) constitutes validation that, under DM's contract, the SPR Environmental Program has achieved a level of performance beyond minimum compliance criteria. The applicability and potential significance of state and Federal statutes and regulations are addressed at the site level in the subsection, "Site-Specific Applicability" and at the programmatic level in the subsection "Programmatic Applicability" below.

Site-Specific Applicability

A review of all applicable state and Federal statutes and regulations indicated compliance and conformity at all sites. Regular regulatory reviews are conducted to maintain awareness of any regulatory changes potentially affecting the SPR and to allow reaction time should action be required to maintain compliance. Most recently, activities to maintain compliance include modification of the NEPA process to accommodate DOE guidance regarding 2003 amendment of 10 CFR 1022 (floodplain / wetlands assessment and review). To ensure that the requirements of this regulation are met, assessment of floodplains / wetlands has been added as a specific aspect for assessment during the NEPA process. As well, in 2001, the SPR received concurrence from both Texas and Louisiana regarding Clean Air Act conformity in accordance with amendment to applicable state and Federal regulations and DOE guidance.

Additionally, the effects of site operations and discharges were evaluated. In light of site participation in several *voluntary* environmental excellence programs and DOE's objective of continuous improvement, it was determined that the standard established on the SPR as a program and at each SPR site far exceeds the mere minimum requirements of state and Federal statutes and regulations pertaining to environmental impacts and safety. Operations at SPR sites are governed not only by state and Federal regulations, but also by strict internal requirements, and occur "only in an environmentally responsible manner" according to policy.

Currently, each site operates under a centralized environmental management system (EMS) conformant with International Organization for Standardization (ISO) 14001, and DM has voluntarily attained and maintains certification to the ISO 14001 standard. Further, DM has also attained accreditation in the ISO 9001 Quality Management Program. DM's memberships include membership in EPA's P-Track, which consists of one registration that includes all five sites as members based on their operation under the EMS, and membership in state initiatives such as the Clean Texas / Cleaner World program and the Louisiana

Environmental Leadership Program (LAELP). In conjunction with these, each site has individually attained Occupational Safety and Health Administration (OSHA) Voluntary Participation Program (VPP) Star status as well as DOE VPP Star status, to emphasize a safe working environment for employees. Attainment of these indicates that the SPR has achieved excellence in providing a safe work environment as well as environmental excellence

In order for each site to attain these accreditations, they must demonstrate conformance with the environmental excellence initiatives of each program. For continued participation in many programs, continuous improvement objectives are required. Thus, each site is continually striving to further decrease any environmental burdens associated with its operations. Based on the sites continued compliance and dedication to operation only in an environmentally responsible manner, no further assessment is recommended.

Programmatic Applicability

A review of all SPR sites including non-facilities indicates that the SPR as a program is managed to far exceed compliance and conformity with all applicable statutes and regulations. The participation in several *voluntary* environmental excellence programs and objective of continuous improvement is applied throughout the SPR program as evidenced by the membership in P-Track under DM's contract and the various SPR initiatives and programs that have achieved award-winning status for environmental excellence. Participation in these has been largely the result of implementation of the centralized EMS that conforms with ISO 14001, DM's voluntarily attainment and maintenance of certification to the ISO 14001 standard, and internal requirements such as Pollution Prevention (P2).

Membership in P-Track is accompanied by a requirement that the SPR set and meet objectives for continuous improvement to reduce environmental burdens at a program level. As well, internal requirements such as P2 are continuous improvement requirements to reduce overall waste through preventative measures such as education and source reduction as well as responsive measures such as recycling and reuse. Thus, the SPR program is continually striving to improve its operations and reduce operational impacts on the environment. Based on the SPR's record of compliance and its recognition for environmental excellence, no further assessment is recommended.

Executive Orders

All EOs that have been amended or enacted since the original EISs were published were evaluated for potential effects on the SPR. Only EOs with potentially significant effects were analyzed and an evaluation of potential significance was provided by ICF in a submittal received September 26, 2003 (See Attachment G). Additional analysis of site-specific and programmatic effects of these was performed by the M&O Contractor as necessary and where indicated by screening. Analyses conducted relative to both the applicability and potential significance of Federal EOs 12898 and 13045 are addressed at the site level in the subsection, "Site-Specific Applicability" and at the programmatic level in the subsection "Programmatic Applicability" below.

Site-Specific Applicability

A review of all applicable Federal EOs indicated that sites were compliant with the nearly all applicable EOs. Sites had not, however, been assessed concerning the newer EOs regarding environmental justice (EJ) and protection of children, 12898 and 13045, respectively. Prior to a determination of compliance, assessment of each site was conducted utilizing accepted EPA National guidance and Region 6 methodology.

Executive Order 12898 – Environmental Justice

Assessment to determine if sites were compliant was performed by ICF using an EPA Headquarters screening tool applied to current socioeconomic data. Guidance associated with the screening tool utilizes a 50% minority population threshold and a 50% impoverished population threshold to determine whether the area adjacent to a site has the potential to be classified as an EJ community. Results indicated that one TX site, Bryan Mound, had an adjacent population that was greater than 50% minority and 36% impoverished and one LA site, Bayou Choctaw, had an adjacent population that was greater than 41% minority and 33% impoverished. As these sites exhibited characteristics that indicated that there was a potential for classification of adjacent communities as EJ communities, these were selected for further analysis. Refer to Attachment G for the ICF report regarding analysis of this data, and Attachment H for calculations and supporting documentation. Assessment was then performed for both sites by the M&O Contractor using a regional screening tool, the *Environmental Justice Index Methodology* (EPA, 1996). The methodology prepared by Region 6 utilizes a ranking system and equation to determine whether an area is vulnerable as an EJ

area. Essentially, the methodology utilizes a generalized population density factor ranking system coupled with a ranking system based on state poverty and minority averages to populate a 'degree of vulnerability' equation regarding the area. Degrees of vulnerability range from 1 to 100 and degree of vulnerability of an area increases with increasing values. Neither of the SPR sites evaluated using this methodology had a degree of vulnerability over 3, which is the threshold for further consideration. See Attachment M for calculations supporting this analysis.

Executive Order 13045 – Protection of Children

Assessment was performed to determine if sites were compliant. The percentage of the population comprised of children in the affected county adjacent to the site was compared to the percentage of the population comprised of children in the state where the site was located. Only one site, Bryan Mound, had a greater percentage of population which was comprised of children than the state in which it was located. All other sites were located in areas where the percentage of the population comprised of children was less than the state average. The percentage of the population comprised of children near the BM site was 12.6% while the average for the State of TX is 9.3%. Although there are 36% more children in the population of the affected county, relative to the protection of children, consideration of the isolated and secured location of the site approximately 2.2 miles away from residential areas, schools, playgrounds or other sensitive populations significantly decreases the likelihood of exposure of children that is substantially greater than exposure in other locales. That the site is isolated in a secluded location on the [redacted] that it has controlled entry due to fencing and other security measures, and that it has limited accessibility via a small levee road, all combine to negate any need for further assessment.

Programmatic Applicability

A review of all applicable Federal EOs indicated that the program was compliant with the nearly all applicable EOs. The program had not, however, been assessed concerning the newer EOs regarding EJ and protection of children, 12898 and 13045, respectively. Prior to a determination of compliance, assessment of SPR programmatic entities such as pipelines was conducted utilizing accepted EPA National guidance and Region 6 methodology.

Executive Order 12898 – Environmental Justice

As EJ is primarily concerned with the siting of facilities in impoverished and/or minority communities, an assessment was performed for each site to determine if

sites were compliant. As discussed in the previous sections, populations directly adjacent to SPR sites either did not possess characteristics that would serve to classify them as EJ communities or were not vulnerable to classification as an EJ community based on comparison to state and/or regional factors.

However, as the SPR consists of programmatic entities such as pipelines, additional analyses of these were also undertaken. As stated above, guidance associated with the screening tool utilizes a 50% minority population threshold and a 50% impoverished population threshold to determine whether the area adjacent to a pipeline has the potential to be classified as an EJ community. Results indicated that two [redacted] pipelines, [redacted] which had an adjacent population that was greater than 42% minority and 25% impoverished and [redacted] which had an adjacent population that was greater than 25.2% minority and 7.3% impoverished exhibited characteristics that indicated that there was a potential for classification of the adjacent communities as an EJ community. Thus, these pipelines were selected for further analysis. Refer to Attachment G for the ICF report regarding analysis of this data, and Attachment I for calculations and supporting documentation. Additional assessment was then performed for both pipelines as it was for the sites, i.e. via the *Environmental Justice Index Methodology* prepared by Region 6. Neither of the SPR pipelines evaluated using this methodology had a degree of vulnerability over 3, which is the threshold for further consideration. Consequently, further analysis was not required. See Attachment N for calculations supporting this analysis.

Executive Order 13045 – Protection of Children

Assessment was performed to determine if the SPR as a program was compliant. An average of the percentage of the population comprised of children in the population adjacent to SPR pipelines was compared to an average of the percentage of the population comprised of children in TX and LA, the two states where all SPR pipelines are located. As a whole, the SPR pipelines program-wide are located such that, in areas adjacent to these, the percentage of the population comprised of children is comparable to an average of the states over which the sites range. Further assessment was not required.

Conclusion

The results of the regulatory review relative to each site and the SPR as a program were consistent with the outcome in *National Indian Youth Council v. Watt, 664 F.2d 220 (10th Cir. 1981)* in that there were no state and/or Federal regulations that constituted new information such that it would/could provide a basis for preparation of a new EIS or SEIS. Initial review of the Federal EOs,

however, indicated that further assessment of EOs 12898 and 13045 were necessary to determine compliance. Analysis of each site and SPR programmatic entities indicated that sites were compliant with the spirit and the letter of these and would provide no foundation for preparation of a new EIS or SEIS.

Socioeconomic Variations Characterization

Evaluation of socioeconomic variations was conducted for completeness. Under section 1508.14, CEQ regulations for the implementation of NEPA state that economic or social effects are not intended by themselves to require preparation of an EIS. In fact, the CEQ guidelines provide no specific thresholds of significance for socioeconomic impacts, which are considered to be indirect or secondary. Support for this task provided by ICF focused on evaluation for environmental justice indicia and is discussed in the previous section. See Attachment G.

The original EISs used the classic Socioeconomic Impact Assessment (SIA) as described in *Guidelines and Principles for Social Impact Assessment* (U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, 1994) to evaluate the impacts of the SPR based on factors utilized to assess the socioeconomic impacts of all other "short-lived" energy projects. The classic SIA model was predicated on distinct construction, operation, and decommissioning phases of a fixed term (e.g. 20 year) project. Assumptions such as a "boom" during the short-lived construction, a "lighter, less demanding" operations phase, and a "bust" following decommissioning are part and parcel of the application of an SIA. However, the SPR has outlived its original term and is projected to continue to 2020 or beyond; thus, such a model is not applicable to evaluate socioeconomic impacts to communities in close proximity to SPR facilities now.

SPR facilities, while sited in or near rural communities, maintain reasonable proximity to more urban areas and were not designed to be a facility, the siting of which would overwhelm a smaller community. Such design is consistent with historical interaction between socioeconomics and industrialization in the Gulf Coast region. Historically, the demography of the Gulf Coast in general is not "project-driven" and industrialization has occurred independent of urbanization. Industries have been purposefully sited outside of large cities. The result of this has not been urbanization of the affected rural area, but development of much smaller "ribbon" communities (Luton and Cluck, 2003). Typically, workers do not settle in 'ribbon" communities, but commute from larger towns and cities. This trend is still visible in areas adjacent to the SPR sites.

It is these characteristics that are juxtaposed with the most basic premise of the Classic SIA and make it clear that systemic demographic effects in the Gulf Coast region are not project-related and, thus, the classic SIA sheds no light on them (Luton and Cluck, 2003). Even more specifically, the recent conclusion that the

effects of oil and gas related industry on the Gulf Coast are systemic in nature further evidence the hypothesis that oil-involved communities along the Gulf Coast experience industry not as discrete projects, but as a continuation of business (Luton and Cluck, 2003).

Such is true of the communities in which the SPR facilities have been sited. The population adjacent to the sites has evolved and adjusted in accordance with much larger, systemic trends – not in accordance with projects and / or industry. Thus any effects exerted by the SPR, a small-scale long-term project, would be negligible contributions in comparison to larger systemic trends, and further diluted as they are dispersed over two decades. Communities that may have experienced minimal socioeconomic impacts during the construction phase have long since been 'restored.' In the oil-affected Gulf Coast, a dynamic environment, restoration is a relative principle, as the 'baseline' is non-existent because all communities are and have been affected since the 1960's. Hence, for the SPR and other oil and gas related industry that has developed in this area, closure and / or socioeconomic impacts are impossible to discern for individual locales. Data was, however, analyzed for completeness.

Site-Specific Variations

All SPR sites are located near the Gulf Coast in LA and TX. Each SPR site is unique relative to its surrounding environment especially population dynamics and other socioeconomic factors. Clearly, a site-specific evaluation of each site based on the socioeconomic variations applicable to that site is necessary. The socioeconomic variations in areas adjacent to each site were evaluated based on a comparison of the baseline conditions evaluated in the original EIS to the current socioeconomic conditions. Variations in the socioeconomic characteristics of locales were compared to variations in the socioeconomic characteristics of the state in which the site was located. Effects potentially exerted by other factors, i.e. proximity to urban areas, etc. were also considered. These SPR site-specific variations are addressed in the individual checklists in Attachment J. Calculations and supporting documentation are provided in the Socioeconomic Variation Worksheets (Attachment O).

Socioeconomic variations were noted in all adjacent areas; however, it was determined that any effect these small facilities could have on the areas is not significant relative to other potential sources in each adjacent area; e.g. in LA, suburbanization or growth of outlying parishes was found to result primarily from "white flight" and was not a byproduct of oil and gas or other industrial development (Luton and Cluck, 2003). As well, other studies have concluded that locales affected by oil and gas related activities exhibit similarities, but

trends or effects cannot be attributed to a specific source, i.e. there is not a "single story" (Wallace et al.) No further analysis was necessary as initial assessment resulted in a determination that any influence exerted by each site was negligible.

Programmatic Variations

While it is unlikely for the SPR program to affect socioeconomic variations even when considered in its totality, that the sites are concentrated within the Gulf Coast region indicates a potential for production of cumulative and/or secondary socioeconomic impacts that would require additional evaluation. While a review of the programmatic EISs are not required, whether the original programmatic EISs still adequately address the potential impacts of these cumulative SPR sites must be evaluated for completeness. The socioeconomic variations in areas previously evaluated were determined via a comparison of baseline conditions as evaluated in the EISs to the current socioeconomic conditions. These variations were the evaluated by comparison to variations in the socioeconomic characteristics of the state in which the site was located. Effects potentially exerted by other factors, i.e. proximity to urban areas, etc. were also considered. These SPR programmatic variations are addressed in the Programmatic checklist in Attachment J. Calculations and supporting documentation are provided in the Socioeconomic Variation Worksheets (Attachment O).

Socioeconomic variations were noted; however, it was determined that any effect these small facilities would have on the region would be negligible relative to other potential regional sources exerting effects. This is corroborated by a comparison of the total budget of the SPR project for the year 2000, $120,800,315, and the combined Gross State Products (GSP) of the affected states, Louisiana and Texas, for the year 2000, $912,571,000,000. The yearly budget of the entire SPR project is only 0.013% of the GSP of the affected states combined, only 0.08% of the GSP of Louisiana and only 0.016% of the GSP of Texas. Based on this comparison, it is clear that the SPR project would have only negligible effects.

It is likely, however, that potential effects would be obscured by larger, more systemic trends and, indeed, assessment of regional trends was very difficult due to the effects of confounding sources. Ultimately, analysis concluded that the most likely effect exerted by the SPR program, if any, would be a beneficial one. Benefits to the economy of affected states would result from SPR operation in the region providing residents with stable employment, income, and non-monetary compensation such as health insurance, while producing negligible, if any, environmental impacts.

Conclusion

Socioeconomic variations can be expected to occur over 20 years especially in more rural communities as urban areas become overdeveloped and overcrowded. Variations in the socioeconomics of the locales and the Gulf Coast region have been studied extensively by the Minerals Management Service to determine the effect of oil and gas related industry on affected areas. Conclusions of the MMS studies cited above are similar to the conclusions of this analysis. Refer to http://www.mms.gov/eppd/socecon/index.htm for more information on the social science program for the Gulf of Mexico Region. Specifically, larger trends were noted to have influenced most of the variations, i.e. suburban sprawl, urban flight, etc., and any project-related influences were negligible and not differentiable from systematic trends.

Analysis was conducted at the state level for each affected locale and conclusions regarding comparability to overall state trends. Often, the local trend was comparable to the corresponding state-wide trend and the effects of other local socioeconomic characteristics considered during the analysis could be discerned as influential. Ultimately, the analysis concluded that socioeconomic impacts were considered in the original and supplemental EISs and that any socioeconomic effects exerted by the SPR sites and/or the SPR project were within the scope evaluated and negligible in comparison to larger, systemic trends in LA and TX. Hence, socioeconomic impacts resulting from operation of SPR sites and/or the SPR project could not provide a foundation for preparation of a new EIS or SEIS.

Summary, Conclusions, and Recommendations

A complete review of the SPR site configurations, O&E modifications, and capacities, the state and Federal regulatory environment, and socioeconomic impacts initiated further evaluation of each site for particular issues as discussed above. It was ultimately determined that O&E modifications and site capacities, while different, were not significant under the CEQ criteria. As well, it was ultimately determined that the SPR sites not only operated within the state and Federal regulations and statutes, but, despite having been sited some twenty years ago, had achieved environmental excellence, and were also compliant with newer EOs regarding environmental justice and the protection of children. Relative to potential socioeconomic impacts, it was determined that variations in locales affected by SPR sites could not be attributed to significant influence exerted by the presence and/or operation of the SPR facility. Rather, analysis indicated that locales were primarily affected by systemic trends, not project-related influences.

The review as conducted resulted in a determination that the SPR currently operates within the scope of potential impacts evaluated in the original and supplemental EISs and EAs and that the RODs resulting from these are still valid and applicable to SPR operations. No further assessment is necessary and preparation of a new EIS or SEIS is not recommended. However, based on the assessment of oil storage capacities, a revised NEPA-Final Capacity Chart has been prepared and is provided in Attachment P.

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ATTACHMENT A

LIST OF ACRONYMS

Attachment A:
List of Acronyms

COE – Army Corps of Engineers
Bbls – Barrels
BC – Bayou Choctaw
BH – Big Hill
BM – Bryan Mound
CEQ- Council for Environmental Quality
CFR – Code of Federal Regulations
CX – Categorical Exclusion
Degas - oil degasification
DES – Draft Environmental Statement
DM – DynMcDermott Petroleum Operations Company
DOE – Department of Energy
E&C – Engineering and Construction
EA – Environmental Assessment
ECPs – Engineering Change Proposals
EIS – Environmental Impact Statement
EMS – Environmental Management System
EO – Executive Order
EPA – Environmental Protection Agency
ES&H – Environmental Safety and Health
ESA – Endangered Species Act
ESR – Early Storage Reserve
F&WS – Fish and Wildlife Service
FEA – Federal Energy Administration
FES – Final Environmental Statement
FONSI – Finding of No Significant Impact
GOM – Gulf of Mexico
ICF – ICF Consulting
ISO – International Organization for Standardization
LA – Louisiana
LAELP – Louisiana Environmental Leadership program
LE – Life Extension
M^3 – Cubic Meters
MMB – Million Barrels
NEPA – National Environmental Policy Act
O&E – Operations and Engineering
OSHA – Occupational Safety and Health Administration
P-Track – Performance Track Program
P2 – Pollution Prevention
RCT – Railroad Commission of Texas
ROD – Record of Decision
RONR – Record of NEPA Review

SEIS – Supplemental EIS
Shell – Shell Pipeline Company
SIA – Socioeconomic Impact Assessment
SM – Sulfur Mines
SME – Subject Matter Expert
SPR – Strategic Petroleum Reserve
St. James – Oil Distribution River Terminal at St. James, LA
TX – Texas
URL – Uniform Resource Locator
VPP – Voluntary Participation Program
WH – West Hackberry
WI – Weeks Island

ATTACHMENT B

EIS / EA SUMMARY

ATTACHMENT C

REFERENCES

References

Applicable Department of Energy and Strategic Petroleum Reserve NEPA documentation

Refer to Attachment B for a list of Environmental Impact Statements and Environmental Assessments. Records of NEPA Review can be found in the Strategic Petroleum Reserve Electronic Library and/or Project Files.

2003. ICF Consulting Reports. Refer to Attachments E, G, H, and I for text and supporting data, calculations, and documentation.

2003. SPR Fill and Receipt Chart.

2003. Site Environmental Report

Literature

2003. Luton, Harry D. and Cluck, Rodney E., *Social Impact Assessment and Offshore Oil and Gas in the Gulf of Mexico (Draft)*

2001. Wallace, B., Kirkley, J., McGuire, T., Austin, D., Goldfield, D., *Assessment of Historical, Social, and Economic Impacts of OCS Development on Gulf Coast Communities.*

1996. EPA Region 6, Office of Planning and Analysis, *Environmental Justice Index Methodology*

1997. Council on Environmental Quality, *Considering Cumulative Effects Under The National Environmental Policy Act*, http://ceq.eh.doe.gov/nepa/ccenepa/ccenepa.htm

1994. U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, *Guidelines and Principles for Social Impact Assessment*

Internet Resources

Unites States Code Annotated at www.westlaw.com

Selected Environmental Statutes (West Group, 2000) the Cornell Law Search Page for the United States Code Annotated at www4.law.cornell.edu

The Library of Congress via Thomas at http://thomas.loc.gov, www.findlaw.com

The NEPA Call-In page for GSA at http://hydra.gsa.gov/pbs/call-in/statutes/htm,

The PBS NEPA Desk Guide at
http://www.gsa.gsa.gov/attachments/GSA_PUBLICATIONS/pub/DeskGuide_1.pdf

The NEPA Fact Sheet at http://hydra.gsa.gov/pbs/pt/call-in/factshet/0397/03_97_9.htm

Attachment 4: Potentially Applicable Laws, Regulations, and Executive Orders at
http://www.em.doe.gov/em75/nepa/guide/att4.htm

The US National Archives and records Administration at http://www.archives.gov

NARA Federal Register search engine at
http://www.archives.gov/federal_register/executive_orders/executive_orders.html;

BNA ES&H Library at http://esweb.bna.com/

Major Cases Interpreting the National Environmental Policy Act, *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 109 S.Ct. 1851 (1989) (companion case to *Robertson v. Methow Valley Citizens Council*), *National Indian Youth Council v. Watt, 664 F.2d 220 (10th Cir. 1981),* citing *Concerned Citizens v. Secretary of Transportation, 641 F.2d 1, 6 (1st Cir. 1981)*
http://www.naep.org/NEPAWG/content.html

The U.S. Census Bureau Website, http://www.census.gov/

U.S. Department of Energy NEPA Website, http://tis.eh.doe.gov/nepa/

Urban and Rural Populations in Texas, http://brcsun15.tamu.edu/html/rururb.pdf

Employment Rates in Texas, http://recenter.tamu.edu/Data/empct/CT170800.htm

EPA Environmental Justice Geographical Assessment Tool, http://www.epa.gov/enviro/ej/

State of Texas Public Information, http://www.window.state.tx.us/ecodata/forecast/fore70-80.html

State of Louisiana Census Information, http://www.state.la.us/demo.htm

CEQ NEPAnet, http://ceq.eh.doe.gov/nepa/nepanet.htm

United States Census Bureau – State Rankings,
http://www.census.gov/statab/ranks/rank28.html

ATTACHMENT D

RESPONSES: ENGINEERING / PROCESS AND OPERATIONAL CHANGES BY SITE

ATTACHMENT E

ICF DELIVERABLE: REGULATORY REVIEW

Laws and Associated Regulations, and Executive Orders with Potential NEPA Relevance

Environmental Assessments and Environmental Impact Statements completed under NEPA provide an umbrella for considering a wide range of potential impacts to the human and natural environment. Federal laws and the associated regulations and Executive Orders, in general, focus on protecting a particular resource (e.g., endangered species) or a particular environmental media (e.g., air, water, drinking water). The combination of NEPA and relevant laws, regulations, and orders, ensures that Federal agencies consider the potential effects of the proposed action on environmental resources and media. As specified in DOE regulations, 10 CFR Part 1021, Sec. 1021.341, DOE is required to integrate the NEPA process and coordinate NEPA compliance with other environmental review requirements to the fullest extent possible in accordance with the CEQ regulations for implementing NEPA, 40 CFR 1500.4(k) and (o), 1502.25, and 1506.4.

The Strategic Petroleum Reserve (SPR) operates four crude oil storage sites in Texas and Louisiana. The original site-specific EISs for these sites were completed in the 1970s and 1980s, and DOE is currently performing a Supplement Analysis to determine if there is a need to supplement or replace these EISs or if they still remain valid. ICF Consulting has been asked by DOE to review regulatory changes to support the Supplement Analysis. As outlined in our memo of August 11, 2003, our analysis of both NEPA regulations and judicial precedents indicates that changes in laws, regulations, and executive orders will not be sufficient reason to require a Supplemental EIS.

To fulfill the requirements of the Task Order, ICF has provided below an update on laws and executive orders of potential relevance to the SPR. As detailed in our August 11 deliverable, we began with an extensive list of laws and regulations, provided by DM prior to the task initiation. We reviewed the operational changes memo prepared by DM on June 4, 2003. With our general awareness of SPR operations and our background in NEPA compliance for a range of agencies, we then selected laws that may have an impact on SPR operations. A primary criterion for the selection was whether the Act or EO provided a new way to identify a potentially effected segment of the human population or natural environment.

ICF Consulting completed a similar analysis in 1991 for the DOE's Supplement Analysis for the Programmatic EIS. Thus, the current analysis focuses on changes in since 1991. The updates provide an overview of the law or order and would enable the SPR to determine whether there is a need for further review.

After completion of this regulatory review, ICF reaffirms the position stated in the August deliverable – laws, regulations, and executive orders do not provide a sufficient basis to supplement an EIS. Further, we did not uncover any specific laws, regulations, or executive orders that would cause us to waiver on the applicability of the original generalized finding to the SPR sites.

Safe Drinking Water Act of 1974

The Safe Drinking Water Act (SDWA) requires that each Federal agency having jurisdiction over a Federally owned or maintained public water system must comply with all federal, state, and local requirements; administrative authorities; and processes and sanctions regarding the provision of safe drinking water. The 1996 amendments to the SDWA, (PL 104-182), establish a new charter for the nation's public water systems in protecting the safety of drinking water. The amendments include, among other things, new prevention approaches, improved consumer information, changes to improve the regulatory program, and funding for States and local water systems. One program in particular calls for the development of Source Water Assessment Program (SWAP), which includes:

- Delineating the source water protection area
- Conducting a contaminant source inventory
- Determining the susceptibility of the public water supply to contamination from the inventoried sources
- Releasing the results of the assessments to the public

To date, EPA has approved 52 SWAPs, including SWAPs from Texas and Louisiana. The DOE SPRs should coordinate with the state if they are located in or may affect a source water protection area.

In addition, under the SDWA, EPA regulates the use of underground injection wells through the Underground Injection Control (UIC) program of the Safe Drinking Water Act (SDWA). Both Texas and Louisiana have EPA authorized state run UIC programs.

Port and Tanker Safety Act of 1978

The Port and Tanker Safety Act (PTSA), Public Law 95-474, and the Oil Pollution Act of 1990 (OPA), is designed to promote navigation, vessel safety, and protection of the marine environment. Generally, the PWSA applies in any port or place under the jurisdiction of the U.S., or in any area covered by an international agreement negotiated pursuant to section. Title 33 CFR 2.05-30 defines waters subject to the jurisdiction of the U.S. as navigable waters, other waters on lands owned by the U.S., and waters within U.S. territories and possessions of the U.S.

The PWSA authorizes the U.S. Coast Guard (USCG) to establish vessel traffic service/separation (VTSS) schemes for ports, harbors, and other waters subject to congested vessel traffic. The VTSS apply to commercial ships, other than fishing vessels, weighing 300 gross tons (270 gross metric tons) or more. The OPA amended the PWSA to mandate that appropriate vessels must comply with the VTSS.

Clean Air Act of 1963, as amended 1970 and 1990.

Federal facilities are required to comply with air quality standards to the same extent as nongovernmental entities (42 U.S.C. 7418). Part C of the 1977 amendments stipulates requirements to prevent significant deterioration of air quality and, in particular, to preserve air quality in national parks, national wilderness areas, national monuments and national seashores (42 U.S.C. 7470). Section 176(c)(1) of the CAA requires Federal agencies to assure that their actions conform to applicable implementation plans for achieving and maintaining the National Ambient Air Quality Standards for criteria pollutants. In 1993, the EPA issued general conformity regulations (40 CFR Part 93, Subpart B) containing procedures and criteria for determining whether a proposed Federal action would conform with CAA implementation plans. The regulations apply to a proposed Federal action that would cause emissions of criteria air pollutants above certain levels to occur in locations designated as nonattainment or maintenance areas for the emitted criteria pollutants, sulfur dioxide, nitrogen dioxide, carbon monoxide, ozone, lead, and particulate matter. In April 2000, DOE Environment, Safety and Health Office of NEPA Policy and Assistance published "Clean Air Act General Conformity Requirements and The National

Environmental Policy Act Process," which provides guidance specific to DOE actions.

In 1997, modifications to the CAA included revised ozone and particulate matter standards. The new ozone standard adopted by EPA is an 8-hour standard with a level of 0.08 ppm to provide greater protection to public health. The revised 24-hour PM_{10} standard is very similar to the current standard. However, by using the 99th percentile concentration approach, the revised standard better accounts for the effects on public health and inherently compensates for missing data, and simplifies the data handling requirements. The annual $PM_{2.5}$ standard is 15 µg/m3, and the 24-hour standard is 65 µg/m3.

Coastal Zone Management Act of 1972

The Coastal Zone Management Act was again reauthorized and amended as part of the Omnibus Budget Reconciliation Act of 1990 (P.L. 101-508). As amended, the statute now requires that "any Federal activity within or outside of the coastal zone that affects any land or water use or natural resource of the coastal zone" shall be "consistent to the maximum extent practicable with the enforceable policies" of a State's coastal zone management plan. Federal agencies, in carrying out their functions and responsibilities, shall consult with, cooperate with, and, to the maximum extent practicable, coordinate their activities with other interested Federal agencies. Each Federal agency activity within or outside the coastal zone that affects any land or water use or natural resource of the coastal zone shall be carried out in a manner which is consistent to the maximum extent practicable with the enforceable policies of approved State management programs.

The 1992 amendments (P.L. 102-587) made minor technical corrections to the law. The law was amended most recently in June 1996 (P.L. 104-150) to allow the Secretary of Commerce to provide development grants to states to develop management programs, with the provision that the grant will not exceed $200,000.

National Marine Sanctuaries Act of 1972

Title I of the original Act authorized the Environmental Protection Agency to regulate ocean dumping of industrial wastes, sewage sludge, and other wastes through a permit program. Title III of the Act, as enacted in 1972, authorized the Secretary of Commerce to designate national marine sanctuaries based on statutory criteria and stipulated factors to be considered by the Secretary as a basis for designation. Consultation requirements with various Federal agencies, Congressional committees, State agencies and regional fishery councils were also stipulated. The law also provided notice requirements and mandatory procedures pursuant to the National Environmental Policy Act.

Public Law 104-283, October 11, 1996, 110 Stat. 3363, 3364, 3367, 3368 reauthorizes the National Marine Sanctuaries Act, and enhances support for the National Marine Sanctuaries, including amending the boundaries of the Flower Garden Banks National Marine Sanctuary (located in the Gulf of Mexico off the Texas coast), and making other technical boundary corrections to existing sanctuaries.

Each Sanctuary has its own set of regulations within 15 CFR Part 922 in what are called subparts. The specific regulations for the Flower Garden Banks National Marine Sanctuary are found in Subpart L. The Flower Garden Banks National Marine Sanctuary consists of three separate areas of ocean waters over and surrounding the East and West Flower Garden Banks and Stetson Bank, and the submerged lands thereunder including the Banks, in the northwestern Gulf of Mexico. The area designated at the East Bank is located approximately 120 nautical miles (nmi) south-southwest of Cameron, Louisiana, and encompasses 19.20 square nmi. The area designated at the West Bank is located approximately 110 nmi southeast of Galveston, Texas, and encompasses 22.50 square nmi. The area designated at Stetson Bank is located approximately 70 nmi southeast of Galveston, Texas, and encompasses 0.64 square nmi. The three areas encompass a total of 42.34 square nmi (145.09 square kilometers).

Magnuson Act of 1976, as amended Magnuson-Stevens Act of 1996

The Magnuson Fishery Conservation and Management Act (Magnuson Act) was signed into law on April 13, 1976. On March 1, 1977, fisheries resources within 200 miles of all U.S. coasts (later know as the Exclusive Economic Zone, or EEZ) came under Federal jurisdiction, and a multifaceted regional management system began allocating harvesting

rights, with priority given to domestic enterprises. Under provisions of the Magnuson Act, eight Regional Fishery Management Councils were established for the New England, Mid-Atlantic, South Atlantic, Caribbean, Gulf of Mexico, Pacific, Western Pacific, and North Pacific regions.

The Sustainable Fisheries Act, which amended the Magnuson-Stevens Act, was signed into law on October 11, 1996. Provisions related to fishery habitat included a mandate that the Regional Fishery Management Councils shall, by October 11, 1998, amend each fishery management plan (FMP) to include a description of essential fish habitat (EFH), which is defined as those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity, including adverse impacts on EFH, and actions that may be taken to conserve EFH. The Magnuson-Stevens Act directs each Council to minimize, to the extent practicable, adverse effects of fishing upon EFH.

Each Federal agency is required to consult with the Secretary regarding actions that may adversely affect EFH. Federal agencies that authorize, fund, or undertake actions that may adversely affect EFH must consult with the secretary of commerce, through NOAA Fisheries, regarding potential effects to EFH, and NOAA Fisheries must provide conservation recommendations. To carry out this mandate efficiently, NOAA Fisheries combines EFH consultations with existing environmental reviews required by other laws, so almost all of the consultations are completed within the time frames of those other reviews. The Magnuson-Stevens Act reiterates that the Councils may, or in the case of anadromous fisheries, must comment on Federal or state actions that affect fishery habitat, including EFH. Federal agencies are required to respond in writing within 30 days of receiving EFH conservation recommendations from NMFS or the Councils.

Endangered Species Act of 1973

The Endangered Species Act provided for the conservation of ecosystems upon which threatened and endangered species of fish, wildlife, and plants depend, both through Federal action and by encouraging the establishment of State programs. Section 7 of the Endangered Species Act requires Federal agencies to insure that any action authorized, funded or carried out by them is not likely to jeopardize the continued existence of

listed species or modify their critical habitat. The designations of which species are threatened and endangered species and the habitats of these species can change. An ongoing relationship with USFWS and NMFS should help to ensure that the SPR is alerted of any changes.

Resource Conservation and Recovery Act of 1976

Resource Conservation and Recovery Act (RCRA) regulates the treatment, transportation, storage, and disposal of solid and hazardous wastes. The Service is required to comply with standards for wastes generated at its facilities. The key provisions include:

- Subtitle C. Identification and listing of hazardous waste and standards applicable to hazardous waste -- Requires reporting of hazardous waste, permitting for storage, transport, and disposal, and it includes provisions for oil recycling and Federal hazardous waste facilities inventories.
- Subtitle D. Management for solid waste, including landfills.
- Subtitle F. Applicability of Federal, State, and local laws to Federal agencies. Procurement (recycling) provisions.
- Subtitle G. Citizen suits, judicial review, and enforcement authority.
- Subtitle I. Management, replacement, and monitoring of underground storage tanks.

Oil Pollution Act of 1990

The Oil Pollution Act, Public Law 101-380 (33 U.S.C. 2701 et seq.; 104 Stat. 484) established new requirements and extensively amended the Federal Water Pollution Control Act (33 U.S.C. 1301 et. seq.) to provide enhanced capabilities for oil spill response and natural resource damage assessment by the Service. It required consultation with the U.S. Fish and Wildlife Service on developing a fish and wildlife response plan for the National Contingency Plan, input to Area Contingency Plans, review of Facility and Tank Vessel Contingency Plans, and to conduct damage assessments associated with oil spills. Title I, section 1006, provided that Federal trustees shall assess natural resource damages for natural resources under their trusteeship. Trustees shall develop and implement a plan for the restoration, rehabilitation, replacement, or acquisition of the equivalent of natural resources under their trusteeship.

In August 1992, National Oceanic and Atmospheric Administration promulgated the natural resource damage assessment regulations, which replaced the Department of the Interior regulations at 43 CFR Part 11 for oil spills only. The definition of natural resources damages was amended to include restoration as the basic measure. Damages collected must be retained in a revolving account for use only to reimburse assessment costs and restore, replace, or acquire the equivalent natural resources.

Pipeline Safety Improvement Act of 2002

The Act applies to pipeline facilities which transport natural gas or hazardous liquids in interstate commerce, and gathering facilities in populated areas. The act also applies to intrastate pipelines and local distribution companies, but the states can regulate those entities if their regulations satisfy federal standards. In order to help prevent leaks and ruptures, the Act establishes mandatory inspections of all U.S. oil and natural gas pipelines within ten years, and problematic pipelines will be inspected within the next five years. All pipelines would then be re-inspected every seven years following the ten-year interval. The Act permits the Secretary of the Department of Transportation to order corrective action of a pipeline facility, including physical inspection, testing, repair, or replacement.

Executive Orders

Executive Order 13112, Invasive Species, signed on February 3, 1999

The purpose of this Executive Order is to prevent the introduction of invasive species and provide for their control, as well as to minimize the economic, ecological, and human health impacts that invasive species cause. An “invasive species” is defined as a species that is 1) non-native (or alien) to the ecosystem under consideration and 2) whose introduction causes or is likely to cause economic or environmental harm or harm to human health. Under this Executive Order Federal agencies whose actions may affect the status of invasive species shall: (1) identify such actions, (2) use relevant programs and authorities to prevent, control, monitor, and research such species, and (3) not authorize, fund, or carry out actions that it believes are

likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere.

Federal agencies shall pursue these duties in consultation with the Invasive Species Council, consistent with the Invasive Species Management Plan, dated January 2001. This order also establishes an Invasive Species Council, which provides national leadership regarding invasive species. The Council shall oversee the implementation of this order and see that the Federal agency activities concerning invasive species are coordinated, complementary, cost-efficient, effective, and rely on existing organizations already in place that address invasive species issues. The National Invasive Species Management Plan details and recommends performance-oriented goals and objectives and specific measures of success for Federal agency efforts concerning invasive species.

Executive Order 13186, Migratory Birds, signed January 10, 2001

The purpose of this Executive Order is to provide additional directions for executive departments and agencies to take certain actions to further implement the Migratory Bird Treaty Act. The Executive Order requires that each Federal agency taking actions which have, or are likely to have, a measurable negative effect on migratory bird populations to develop and implement, within 2 years, a Memorandum of Understanding (MOU) with the Fish and Wildlife Service (Service). The MOU shall promote the conservation of migratory bird populations. Each agency shall advise the public of the availability of its MOU through a notice published in the Federal Register.

Executive Order 11988, Floodplain Management, signed May 24, 1977

The purpose of this Executive Order is to prevent Federal agencies from contributing to the "adverse impacts associated with the occupancy and modification of floodplains" and the "direct or indirect support of floodplain development." In the course of fulfilling their respective authorities, Federal agencies "shall take action to reduce the risk of flood loss, to minimize the impact of floods on human safety, health and welfare, and to restore and preserve the natural and beneficial values served by floodplains." Before proposing, conducting, supporting or allowing an action in a floodplain, each

agency is to determine if planned activities will affect the floodplain and evaluate the potential effects of the intended actions on its functions. Agencies shall avoid siting development in a floodplain "to avoid adverse effects and incompatible development in the floodplains."

DOE has issued regulations to comply with the Executive Order at 10 CFR Part 1022. In accordance with the regulations, DOE will avoid to the extent possible the long- and short-term adverse impacts associated with the destruction of wetlands and the occupancy and modification of floodplains and wetlands, and avoid direct and indirect support of floodplain and wetlands development wherever there is a practicable alternative. DOE will incorporate floodplain management goals and wetlands protection considerations into its planning, regulatory, and decisionmaking processes. DOE will promote public awareness of flood hazards by providing conspicuous delineations of past and probable flood heights on DOE property which has suffered flood damage or is in an identified flood hazard area and which is used by the general public; and provide opportunity for early public review of any plans or proposals for actions in floodplains and new construction in wetlands.

Executive Order 11990, Protection Of Wetlands, signed May 24, 1977

The purpose of this Executive Order is the furtherance of the National Environmental Policy Act of 1969, in order to avoid to the extent possible the long and short term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative. Each agency shall provide leadership and shall take action to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in carrying out the agency's responsibilities for (1) acquiring, managing, and disposing of Federal lands and facilities; and (2) providing Federally undertaken, financed, or assisted construction and improvements; and (3) conducting Federal activities and programs affecting land use, including but not limited to water and related land resources planning, regulating, and licensing activities.

DOE has issued regulations to comply with the Executive Order at 10 CFR Part 1022. In accordance with the regulations, DOE will avoid to the

extent possible the long- and short-term adverse impacts associated with the destruction of wetlands and the occupancy and modification of floodplains and wetlands, and avoid direct and indirect support of floodplain and wetlands development wherever there is a practicable alternative. DOE will incorporate floodplain management goals and wetlands protection considerations into its planning, regulatory, and decisionmaking processes. DOE will promote public awareness of flood hazards by providing conspicuous delineations of past and probable flood heights on DOE property which has suffered flood damage or is in an identified flood hazard area and which is used by the general public; and provide opportunity for early public review of any plans or proposals for actions in floodplains and new construction in wetlands.

Executive Order 12898, Federal Actions To Address Environmental Justice In Minority Populations And Low-Income Populations, signed on February 11, 1994; and amended by Executive Order 12948, signed on January 30, 1995

This Executive Order mandates that each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations. The Order is also intended to promote nondiscrimination in federal programs substantially affecting human health and the environment. In addition it places emphasis on providing minority communities and low-income communities access to public information on, and an opportunity for public participation in, matters relating to human health or the environment. This order also creates an Interagency Working Group on Environmental Justice to provide guidance to Federal agencies in overcoming these issues.

Executive Order 12898 was amended by 12948 by postponing the deadline of achieving environmental justice of part of an agency mission to March 24, 1995.

Texas and Louisiana State Laws

This section provides a brief overview of the Clean Air Act and coastal zone laws in the two states where the SPR has facilities.

Texas

In accordance with the Clean Air Act, states are responsible for preparing and implementing "State Implementation Plans" to achieve and maintain the air quality standards within their borders. As part of these plans, states divide their total area into "Air Quality Control Regions." State and local air pollution control authorities then establish individual requirements for controlling air pollution within each region.

Under Title 30 Texas Administrative Code Chapter 122 (30 TAC Chapter 122), Federal Operating Permits, owners or operators of major source sites and certain affected source-specific sites are required to obtain an operating permit. Owners or operators of these sites should submit an operating permit application to the Texas Natural Resource Conservation Commission (TNRCC) Air Permits Division (APD) as specified in 30 TAC § 122.130

In accordance with the CZMA, the Texas Coastal Zone Management Program (CZMP) was developed to make more effective and efficient use of public funds and to more effectively and efficiently manage coastal natural resource areas and the uses that affect them. The directive for development of the CZMP passed in 1991, which made the Texas General Land Office (TGLO) lead agency for development of a long-term plan for management of uses affecting coastal natural resource areas such as gulf beaches and critical dune areas, state and private submerged lands; coastal historic areas; coastal parks, wildlife refuges, and preserves; and the water and submerged land of the open Gulf of Mexico within the jurisdiction of the state.

The Texas CZMP gives the state the ability to review permits for consistency with the CZMP. This provides the state the ability to review for consistency of Sections 10 and 404 permits as currently done by the Galveston District. The state of Texas has developed water quality standards for differing water quality issues prior to the CZMP and will continue to enforce them and ensure consistency under the CZMP. Coordination between the state and the Galveston District has developed

similar guidelines for permit applications and public notices. This coordination will allow for joint state-Corps public notices and concurrent review.

Louisiana

Air quality in Louisiana is regulated through Title 30, Minerals, Oil, and Gas and Environmental Quality, Subtitle I, Environmental Quality Chapter 3, Louisiana Air Control Law, cited as the "Louisiana Air Control Law."

The Coastal Use Permit (CUP) process is part of the Louisiana Coastal Resources Program (LCRP), which is an effort among Louisiana citizens, as well as state, federal and local advisory and regulatory agencies to preserve, restore, and enhance Louisiana's valuable coastal resources. The purpose of the Coastal Use Permit process is to make certain that any activity affecting the Coastal Zone, such as a project that involves either dredging or filling, is performed in accordance with guidelines established in the LCRP. The guidelines are designed so that development in the Coastal Zone can be accomplished with the greatest benefit and the least amount of damage. CUP requires the submission of an application for projects that affect the coastal resources of Louisiana.

ATTACHMENT F

APPLICABLE FEDERAL AND STATE STATUTES AND REGULATIONS AND FEDERAL EXECUTIVE ORDERS

Attachment F
Applicable Federal and State Statutes and Regulations and Federal Executive Orders

APPLICABLE FEDERAL LAW

Statutes

American Indian Religious Freedom Act

Archeological and Historical Preservation Act

Archeological Resources Protection Act

Architectural Barriers Act

Atomic Energy Act

Bald and Golden Eagle Protection Act

Clean Air Act formerly Federal Water Pollution Control Act

Clean Water Act

Coastal Barrier Resources Act

Coastal Zone Management Act

Community Environmental Response Facilitation Act

Comprehensive Environmental Response, Compensation, and Liability Act

Emergency Planning and Community Right to Know Act

Emergency Wetlands Resources Act of 1986

Endangered Species Act

Energy and Conservation Standards for 1976

Energy Policy and Conservation Act

Environmental Quality Improvement Act

Environmental Programs Assistance Act

Estuary Protection Act

Farmlands Protection Policy Act

Federal Facility Compliance Act

Federal Insecticide, Fungicide, and Rodenticide Act

Federal Land Policy and Management Act of 1976

Federal Property and Administrative Services Act

Federal Records Act

Fish and Wildlife Conservation Act

Fish and Wildlife Coordination Act

Attachment F
Applicable Federal and State Statutes and Regulations and Federal Executive Orders

Flood Disaster Protection Act

The Federal Hazardous Materials Transportation Act (formerly the Hazardous Materials Transportation Act)

Historic Monuments Preservation Act

Historic Sites Act

Marine Mammal Protection Act

Migratory Bird Treaty/Conservation Act

National Historic Preservation Act

National Water Commission Act

Native American Graves and Repatriation Act

Noise Control Act of 1972

Ocean Dumping Act

Occupational Health and Safety act of 1970

Oil Pollution Act

Outer Continental Shelf Lands Act

Pollution Prevention Act of 1990

Public Buildings Act and Amendments

Public Buildings Cooperative Use Act

Resource Conservation and Recovery Act (formerly the Solid Waste Disposal Act)

Rivers and Harbors Act

Rural Development Act

Safe Drinking Water Act

Superfund Amendments and Reauthorization Act

Toxic Substances Control Act

Watershed Protection and Flood Prevention Act

Wild and Scenic Rivers Act

Wilderness Act

Forest and Rangeland Renewable Resources Planning Act

Regulations

Protection of Historic Properties

Coastal Zone Management Program

Attachment F
Applicable Federal and State Statutes and Regulations and Federal Executive Orders

Federal Consistency with Approved Coastal Management Programs

Natural Resource Damage Assessments

Basic Program Requirements for Federal Employee Occupational Safety and Health programs

Transportation of Hazardous Materials

National Ambient Air Quality Criteria

Emergency Planning and Community Right to Know Implementation

Clean Water Act Implementation, i.e. National Water Quality Criteria

Native Americans Graves Protection and Repatriation Implementation

National Pollutant Discharge Elimination System

Safe Drinking Water Implementation

Farmlands Protection Implementation

Federal Records Implementation, e.g. Schedules and Procedures

Comprehensive Environmental Response, Compensation and Liability Act Implementation, e.g. National Contingency Plan

Historic Sites Act Implementation, e.g. Procedures for Historic Preservation, National Register

Endangered Species Act Implementation, e.g. Designation, Protection of Species

Toxic Substances Control Act, e.g. Procedures for Application, Approval

Resource Conservation and Recovery Act, i.e. Procedures for Claims and Compensation

Executive Orders

Implementation of Section 311 of the Federal Water Pollution Control Act of October 18, 1972 as amended and the Oil Pollution Control Act of 1990

Greening the Government through Federal Fleet and Transportation Efficiency

Invasive Species

Conservation of Petroleum and Natural Gas

Protection and Enhancement of Environmental Quality

Floodplain Management

Protection of Wetlands

Federal Compliance with Pollution Control Standards

Greening the Government Through Waste Prevention, Recycling, and Waste Prevention

Superfund Implementation

Recreational Fisheries

Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations

Protection of Children from Environmental Health Risks and Safety Risks

Federal Space Management

Locating Federal Facilities on Historic Properties in Our Nation's Central Cities

Protection and Enhancement of the Cultural Environment (National Historic Preservation)

Intergovernmental Review of Federal Programs

Protection of Cultural Property

Preserve America

Actions to Expedite Energy-Related Projects

Responsibilities of Federal Agencies to Protect Migratory Birds

Marine Protected Areas

Greening the Government Through Leadership in Environmental Management

Federal Implementation of the North American Agreement on Environmental Cooperation

Greening the Government Through Efficient Energy Management

Indian Sacred Sites

Environmental Effects Abroad of Major Federal Actions

Occupational Safety and Health Programs For Federal Employees

Integrity and Efficiency in Federal Programs

Federal Use of Alternative Fueled Vehicles

Regulatory Planning and Review

Environmental Safeguards for Animal Damage Control on Federal Lands

APPLICABLE STATE STATUTES, REGULATIONS, AND AGENCY GUIDANCE

Louisiana

Regulations

Louisiana Environmental Regulatory Innovations Program

Notification for Unauthorized Discharges

Emergency Response Guidelines

Air - General Provisions

Fee System of the Air Quality Control Programs

Air Permitting Procedures

Attachment F
Applicable Federal and State Statutes and Regulations and Federal Executive Orders

Ambient Air Quality

Control of Emissions and Emissions Standards

Air - Conformity

Control of Emissions of Organic Compounds

Hazardous Waste - General Provisions and Definitions

Generators

Transporters

Prohibitions on Land Disposal

Universal Wastes

Used Oil

Recyclable Materials

Lists of Hazardous Wastes

Fee Schedules (Hazardous Waste)

Hazardous Material Information Development, Preparedness, and Response Act

Motor Carrier Safety and Hazardous Materials

Hazardous Waste Regulations for Carriage by Highway, Rail, Air, and Vessel

Alcohol and Controlled Dangerous Substances

Hazardous Waste Regulations for Carriage by Rail, Air, and Vessel

Transportation of Hazardous Liquids by Pipeline

Hazardous Liquids Pipeline Enforcement

Solid Waste Regulations

Water Quality Regulations

Hydrocarbon Storage Wells in Salt Dome Cavities

Statewide Order No. 29-B

Natural Resources Damage Assessment

Water and Wastewater Operator Certification

Certified Solid Waste Operators

Statutes

Louisiana Pesticide Law

Underground Storage of Liquid or gaseous Hydrocarbons

Underground Injection Control

Waste of Oil or Gas

Regulation of Exploration, Drilling, Production, and Subsurface Disposal

Enforcement Inspections

Permits, Licenses, Variances, and Monitoring Fees

Environmental Assessments

Permit Applications, variance requests, and Notifications

Record of Notice of Hazardous or Solid Waste Site by Land Owner

Louisiana Air Control Law

Louisiana Water Control Law

Louisiana Solid Waste Management and Resource Recovery Law

Louisiana Hazardous Waste Control Law

Hazardous Materials Information Development, Preparedness, and Response

Solid Waste Recycling and Reduction Law

Oil Spill Prevention and Response Act

Louisiana Environmental Regulatory Innovations Program

Hazardous Materials Transportation and Motor Carrier Act

Louisiana Solid Waste Operator Certification and Training Program

Ground Water Resources Conservation

Agency Guidance

Construction of Geotechnical Boreholes and Groundwater Monitoring Systems Handbook

Water Well Rules, Regulations, and Standards

Texas

Regulations

Pesticides

Railroad Commission of Texas - Oil and Gas Division

Pipeline Safety Regulations

Pesticide Applicators

Hazard Communication

Flammable Liquids Equipment Testing Laboratory Rules

Attachment F
Applicable Federal and State Statutes and Regulations and Federal Executive Orders

Texas Commission on Environmental Quality

Environmental Testing Laboratory Accreditation and Certification

Occupational Licenses and Registrations

Financial Assurance

Regulatory Flexibility

General Air Quality Rules

Permits by Rule

Control of Air Pollution from Motor Vehicles

Control of Air Pollution from Volatile Organic Compounds

Control of Air Pollution by Permits for New Construction or Modification

General Permits for Waste Discharges

Impact Statements

Water Quality Certification

On-site Sewage Facilities

Texas Surface Water Quality Standards

Domestic Wastewater Effluent Limitation and Plant Siting

Sludge Use, Disposal, and Transportation

Design Criteria for Sewerage Systems

Used Oil Standards

Spill Prevention and Control

Waste Minimization and Recycling

Underground Injection Control

Underground and Aboveground Storage Tanks

Texas Risk Reduction Program

Coastal Area Planning

Oil Spill Prevention and Response

Natural Resources Damages Assessment

Coastal Management Program

Statutes

Pesticide Regulation

Attachment F
Applicable Federal and State Statutes and Regulations and Federal Executive Orders

Solid Waste Disposal Act

On-Site Sewage Disposal Systems

Texas Toxic Chemical Release Reporting Act

Texas Used Oil Collection, Management, and Recycling Act

Texas Clean Air Act

Hazardous Substances

Hazard Communication Act

Nonmanufacturing Facilities Community Right To Know Act

Oil Spill Prevention and Response Act of 1991

Texas Water Rights

Provisions Generally Applicable to Water Rights

Texas Hazardous Substances Spill Prevention and Control Act

Underground and Aboveground Storage Tanks

Injection Well Act

Subsurface Excavations

Notes:

Sources include the Unites States Code Annotated at www.westlaw.com, Selected Environmental Statutes (West Group, 2000), the Cornell Law Search Page for the United States Code Annotated at www4.law.cornell.edu, the Library of Congress via Thomas at http://thomas.loc.gov, www.findlaw.com, and the NEPA Call-In page for GSA at http://hydra.gsa.gov/pbs/call-in/statutes/htm, the PBS NEPA Desk Guide at http://www.gsa.gsa.gov/attachments/GSA_PUBLICATIONS/pub/DeskGuide_1.pdf, the NEPA Fact Sheet at http://hydra.gsa.gov/pbs/pt/call-in/factshet/0397/03_97_9.htm, Attachment 4: Potentially Applicable Laws, Regulations, and Executive Orders at http://www.em.doe.gov/em75/nepa/guide/att4.htm, and the US National Archives and records Administration at http://www.archives.gov; NARA Federal Register search engine at http://www.archives.gov/federal_register/executive_orders/executive_orders.html; BNA ES&H Library at http://esweb.bna.com/

ATTACHMENT G

ICF DELIVERABLE: POPULATION DYNAMICS

ATTACHMENT H

SUPPORTING DOCUMENTATION FOR ICF ENVIRONMENTAL JUSTICE ANALYSIS BY SITE

Note: Supporting data for the analyses provided herein by ICF are presented in the order that they are listed in the summary tables presented in the preceding attachment.

ATTACHMENT I

SUPPORTING DOCUMENTATION FOR ICF ENVIRONMENTAL JUSTICE ANALYSIS BY PIPELINE

Note: Supporting data for the analyses provided herein by ICF are presented in the order that they are listed in the summary tables presented in the preceding attachment.

ATTACHMENT J

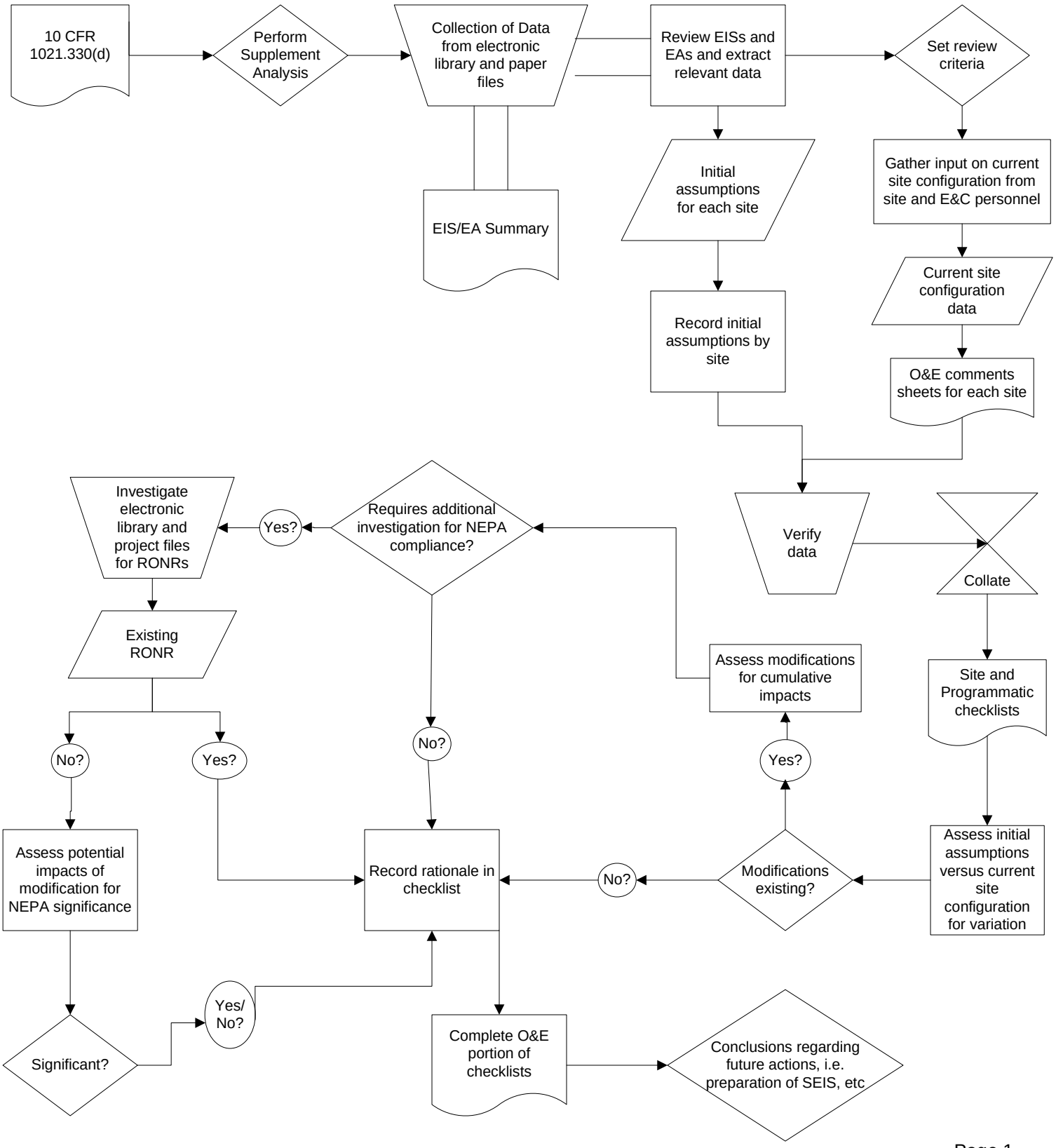
CHECKLISTS BY SITE AND PROGRAM

ATTACHMENT K

TASK FLOWCHARTS

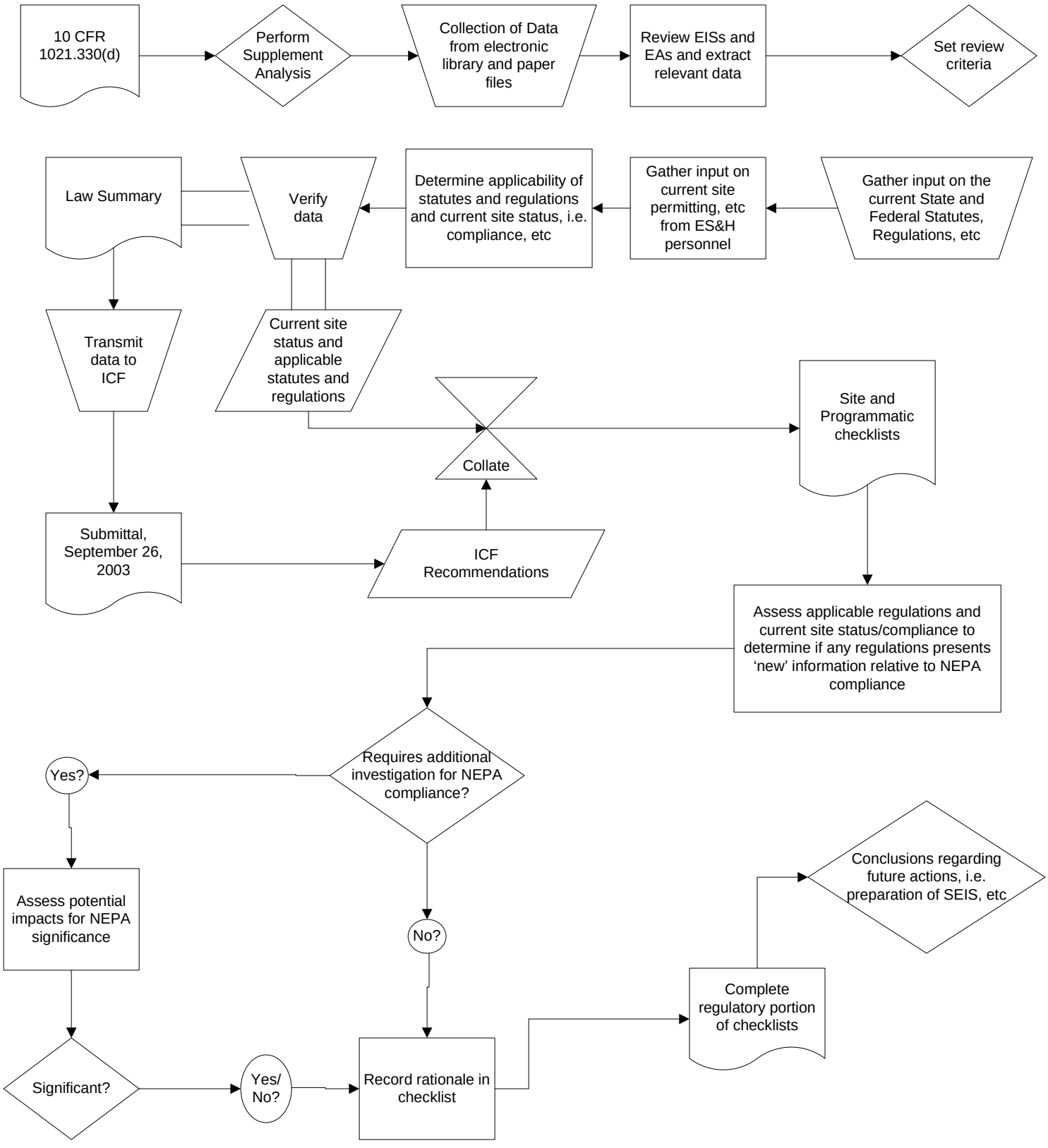
Supplement Analysis: Operational and Engineering Modifications Review

Wednesday, December 31, 2003



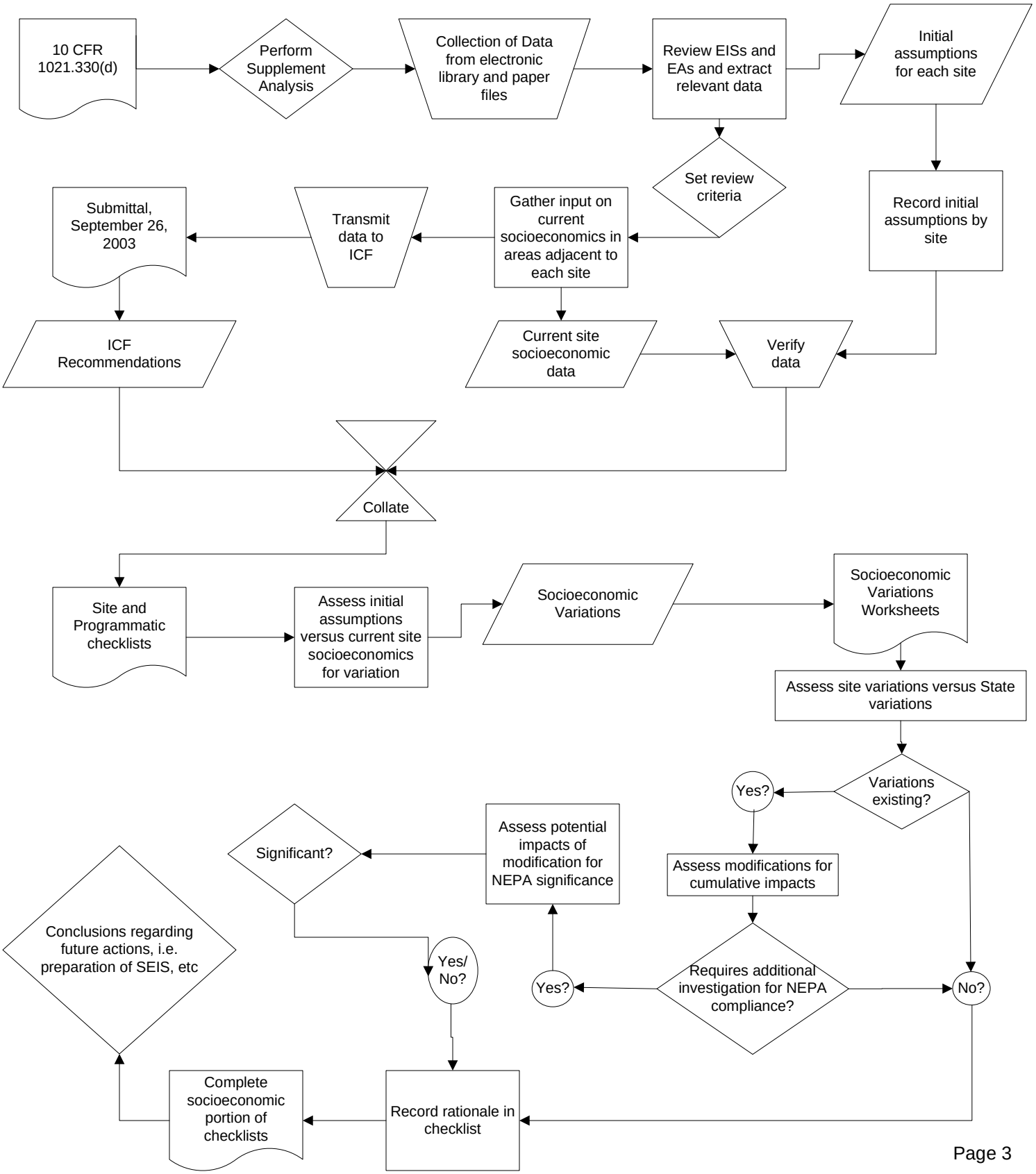
Supplement Analysis: Regulatory Review

Wednesday, December 31, 2003



Supplement Analysis: Socioeconomic Variations Review

Wednesday, December 31, 2003



ATTACHMENT L

NEPA-FINAL STORAGE CAPACITIES

ATTACHMENT M

ENVIRONMENTAL INDEX METHODOLOGY AS APPLIED TO SPR SITES

ATTACHMENT N

ENVIRONMENTAL INDEX METHODOLOGY AS APPLIED TO SPR PIPELINES

ATTACHMENT O

SOCIOECONOMIC VARIATION WORKSHEETS

ATTACHMENT P

REVISED NEPA-FINAL STORAGE CAPACITIES