



DOE-SPR-EIS-0075-SA-02

**OPERATIONAL AND ENGINEERING MODIFICATIONS,
AND REGULATORY REVIEW**

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

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 (DOE), 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) and Environmental Assessments (EAs) 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, a programmatic EA and the previous Supplement Analysis with the current site configurations and processes and the current regulatory environment for each SPR site and pipeline.

Based on the application of criteria presented in this 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 site-wide and programmatic EISs and EA, thus, do not affect the existing Records of Decision (RODs). As well, the current regulatory environment does not constitute new information and 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 1st day of June, 2009.



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I. Introduction

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 SPRPMO NEPA Implementation Plan (SPRPMO 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 SPRPMO Environmental Policy Statement (SPRPMO P 451.1).

II. 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 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 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 occurred on the SPR including the expansion of the SPR with the development of the Big Hill (BH) site and accompanying Texoma Group pipeline distribution enhancements [BH to Unocal Nederland and tie-in to the Texaco pipeline system from BH and West Hackberry (WH)], the development and subsequent leasing of an oil distribution river terminal at St. James (SJ) and accompanying pipelines to Capline Terminal and LOCAP, the construction and operation of a pipeline by Shell Pipe Line Corporation (Shell) connecting the Bayou Choctaw (BC) facility to the Placid Refinery, the construction and operation of a pipeline from the Bryan Mound (BM) facility to the Arco Terminal, the decommissioning of the Sulphur Mines (SM) and Weeks Island (WI) sites, the sale of the accompanying WI pipeline (WI to SJ) for use, the sale of the accompanying SM pipelines for salvage, the upgrade 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 EISs and Environmental Assessments (EAs) since the last SA 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 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. The SPR also operates a warehouse facility contained within the Stennis Space Center (Stennis). A general description of these sites is provided below.

The four active storage sites still under the control of DOE will be evaluated for NEPA compliance in the present document. The WI site was decommissioned 1995 and was sold in 2008 and is not a part of this SA. However, SJ which is still owned by DOE is leased to other operators and is also not part of this SA. As well, DOE-occupied facilities which are leased from third parties such as SPR Headquarters in New Orleans and the Stennis warehouse will not be addressed in this document as these sites are not DOE-owned and are not covered by the ongoing DOE NEPA process.

In 2005, Congress tasked the Secretary of the DOE to select a new site for expansion and develop a plan to expand capacity at 1-3 of the existing SPR sites. The goal of the Congressional action is to increase the total SPR capacity to 1 billion barrels. The DOE prepared an Environmental Impact Statement (DOE/EIS-0385 Site Selection for the Expansion of the Strategic Petroleum Reserve Final Environmental Impact Statement February 2008) along with supporting studies and chose the Richton, Mississippi salt dome as the location for the new site and to expand the existing SPR sites at BC and BH to accomplish this goal. The new site would have 16 caverns with a total capacity of 160 million barrels of oil. BC would add three caverns and 33 million more barrels of oil and BH would add 8 new caverns for 80 million more barrels of oil. The Record of Decision (ROD) was signed on February 14, 2007 giving approval to the proposed plan. However, since the ROD was issued, concerns over the location of the Richton site's raw water intake structure (RWIS) and the discharge of brine into the Gulf of Mexico have resulted in the preparation of a Supplemental EIS to address this issue. As of the date of this SA, the SEIS is still in preparation and a ROD has not been issued. Environmental studies at the site proper have been conducted and reports prepared for the next steps in the process. All future actions are now dependent on the results of the SEIS and Congressional and Department of Energy approvals and funding.

III. Site Descriptions

General site information for all current, existing expansion, and proposed new SPR sites has been derived from the Site Environmental Report or Environmental Impact Statement for expansion 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.

1. Bayou Choctaw

The SPR BC storage facility occupies 356 acres in Iberville 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.

2. Big Hill

The SPR BH storage facility covers approximately 270 acres over the BH salt dome in Jefferson 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.

3. Bryan Mound

The SPR BM storage facility occupies 500 acres, which almost encompasses the entire BM salt dome, in Brazoria 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.

4. West Hackberry

The SPR WH storage facility covers approximately 565 acres on top of the WH salt dome in Cameron 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 interconnected 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.

5. SPR Headquarters (New Orleans)

The project management office for SPR operations is housed in two adjacent office buildings and a nearby warehouse in Harahan, 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.

6. Stennis Warehouse Facility

The Stennis Warehouse facility is located in Hancock County, Mississippi. The warehouse, and adjacent concrete aprons and parking lot occupy approximately 3.4 acres within the John C. Stennis Space Center. The warehouse has been leased from the U.S. Army since 2004. It is used to maintain and store heavy pieces of equipment and piping in support of the four storage sites. It also has office space permanently used by its tenants and, if needed, temporarily used by headquarters personnel.

7. Billion Barrel Expansion

i. Richton

According to the EIS, (DOE/EIS-0385), the Richton salt dome is located in northeastern Perry County, MS, 18 miles (29 kilometers) east of Hattiesburg and 3 miles (4.8 kilometers) northwest of the town of Richton. The Richton site would encompass approximately 238 acres (96 hectares) and would include a new 0.2 mile (0.3 kilometer) access road from Route 42. In addition, a surrounding security buffer would be created by clearing an area of 109 acres (44 hectares) 300 feet (91 meters) beyond an outer security fence line for line-of-sight surveillance. The area would be cleared of undergrowth, scrub, shrub, and any trees, and would be managed as an open field.

This proposed new site would consist of 16 new caverns with a combined capacity of up to 160 MMB. Crude oil would be transported to and from the Richton site through 2 pipelines. First, a 36-inch (91-centimeter) 88-mile (142-kilometer) pipeline would be used to transport crude oil from the Pascagoula terminal to the Richton site during site development. Second, a 36-inch (91-centimeter), 116-mile (186-kilometer) pipeline to the Capline Complex in Liberty including a tank farm (66 acres [27 hectares]) and intermediate pumping station (1.7-acre [0.7-hectare]) would be built. A tank farm like that at Liberty would also be built in the Pascagoula area. Brine disposal during site development would utilize a third pipeline. It would use an 87-mile (140-kilometer) 48-inch (122-centimeter) pipeline to transport brine from the Richton site to Pascagoula and would be disposed of in the Gulf of Mexico along a 48-inch (112-centimeter) 13-mile (20-kilometer) offshore pipeline from Pascagoula to the brine diffuser. After cavern creation, this pipeline would convert to crude oil distribution and receipt and the first pipeline would convert to brine disposal.

The location of the raw water intake structure (RWIS) and associated pipeline are the subject of the ongoing Supplemental Environmental Impact Statement being prepared by DOE HQ. Current consideration is to locate the RWIS near the confluence of the Leaf and Chickasawhay Rivers where it becomes the Pascagoula River. A 35 mile (51.8-kilometer) raw water pipeline will connect the site to the RWIS.

ii. Bayou Choctaw

In the final EIS (DOE/EIS-0385), DOE considered the expansion of the Bayou Choctaw site by 20 MMB, which would involve the development of two new 10 MMB caverns within the existing boundaries of the facility, a 0.6-mile (0.9-kilometer) brine disposal pipeline, and a 96- acre (39-hectare) brine injection field. In the SA (DOE/EIS-0385-SA-01), DOE considered the expansion of the Bayou Choctaw site by 33 MMB, which would involve the development of two new 11.5 MMB caverns within the existing boundaries of the facility and use of an existing commercial cavern. The length of the brine disposal pipeline and the size of the brine disposal injection field would be the same if Bayou Choctaw is 20 MMB or expanded to 33 MMB. Expansion beyond 33 MMB is limited due to the size of the salt dome.

iii. Big Hill

The Big Hill storage site has a current capacity of 170 MMB and could be expanded by acquiring land and developing several additional caverns. In the EIS (DOE/EIS-0385), DOE is proposing to expand the BH site by adding 8 or 9 new caverns with additional capacity of 80 to 96MMB.

IV. 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 (ASI5400.15), 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 Categorical Exclusion (CX) category, which suggests that the NEPA document be a Record of NEPA Review (RONR). A RONR is required if the project's value is greater than \$100,000 (for information systems, construction contracts, and service contracts) or for any project or task that might cause significant environmental impact. 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.

V. 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 also be evaluated in this document. Site-wide and programmatic documents are both broad in scope and cover both individual and cumulative impacts of DOE sites. Therefore, this document evaluates both site-wide and programmatic EISs and one programmatic EA. .

All of the SPR sites are utilized for the same purpose, oil storage and/or distribution; accordingly, two 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

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, CEQ regulations section 1508.14 calling for the implementation of NEPA states that the "human environment" is to be interpreted comprehensively to include the natural and physical environment and the relationship of people with the 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.

VI. SPR 2004 Supplement Analysis (SA)

In 2004, the SPR completed its first SA of Site-Specific and Programmatic Environmental Impact Statements: O&E Modifications, Regulatory Review and Socioeconomic Variations for the entire SPR. The 2004 SPR SA (DOE/SPR/EIS-0075-SA01) will be used as the starting point for data collection, verification, evaluation, and analysis in the 2009 SPR SA.

1. Operational and Engineering Modifications

As part of the 2004 SPR SA, a detailed checklist and question and answer forms were created as a part of the O&E modifications data collection. These forms and checklists were sent out to various M&O contractor staff asking them to mark up any changes since 2004. Their responses have been summarized by site and attached to this document as Attachment D. A checklist was also sent to the M&O contractor staff at the sites for review. The checklist for each site is contained in Attachment F and illustrates only changes to sites since the last SA.

2. Regulatory Review

A list of Federal statutes, regulations, and EOs applicable to the SPR with potential NEPA relevance is provided as Attachment E of this document. It also contains reference to laws and regulations from the two states with SPR sites located within their borders, Louisiana and Texas.

As a part of the compliance and regulatory review process of the M&O Environmental Compliance Specialist with the assistance of the M&O Environmental Department, a review of all changes to applicable Federal, state, and local laws, rules, and regulations is conducted monthly. This review utilizes a web based service that provides a list of changes published in the Federal Register and the State Registers of Louisiana and Texas that may be applicable to the SPR via e-mail. The results of these reviews are published quarterly in the ES&H Standards List and maintained electronically in the SPR document control system. Therefore, to conserve space in this SA, the entire list is not included, but may be provided upon any request.

VII. Socioeconomic Variations

Due to the slow dynamics of socioeconomic variations, this Supplement Analysis is considering the conclusions reported in the first SPR Site-Wide and Programmatic SA in 2004 to remain valid and true. Therefore, no further analysis is deemed necessary.

VIII. Data Verification

All data collected was reviewed by SPR staff prior to publication. Subject matter experts were consulted to verify the data for accuracy and completeness.

IX. Data Evaluation and 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.

1. Data Evaluation

An evaluation of data establishing a deviation from that assessed in the 2004 SPR SA was conducted for each site to determine NEPA significance. This was accomplished utilizing a multifunctional 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 F. Evaluation was based on analysis in accordance with the criteria for significance set forth by the CEQ and best professional judgment.

Evaluation proceeded against the baseline set forth in the 2004 SPR SA. Current site data that indicated a change from the 2004 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.

2. 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.

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 NEPA net). 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.

X. Operational and Engineering Modification Characterization

Changes evaluated and considered in the preparation of this Supplement Analysis (SA) are from the time period following the preparation of the Supplement Analysis of Site-Specific and Programmatic Environmental Impact Statements: Operational and Engineering Modifications, Regulatory Review, and Socioeconomic Variation (DOE/SPR/EIS-0075-SA01). This time period covers calendar years 2004 through 2008. As in the previous SA, checklists were sent to the sites asking for their input on changes at each active site.

1. Site Specific Modifications

iv. Bayou Choctaw

Based on the response from the site and a review of the Categorical Exclusions (CX) performed for the site during the time period, the following changes occurred at BC.

a. Operational and Engineering Modifications

From the review of the CXs and site-specific EAs that have been approved and may or may not have been completed:

- New Communications Tower
- LOCAP pipeline connection to St. James, adds oil distribution when domestic supply disrupted
- New Building on Brine Disposal Well Pad #2
- New Potable Water Line Connection
- Raised security fence base elevation to 8 feet.
- 42 acre Security Clear Zone around the site
- Hydraulic Security Barrier and Small Craft Intrusion Barrier

b. Capacity

In regard to changes in capacity, BC was evaluated in the EIS (Site Selection for the Expansion of the Strategic Petroleum Reserve Final Environmental Impact Statement, February 2008 DOE/EIS-0385) to choose a new site location and expand the SPR to

one billion barrels. BC was considered as an existing site expansion site to help reach 1 billion barrels by expanding Bayou Choctaw with 3 additional 11.5 million barrel caverns for a total of 33 million barrels. The caverns would consist of one purchased existing cavern in use by a neighbor on the dome and forming 2 new caverns on the BC site.

v. Big Hill

Based on the response from the site and a review of the Categorical Exclusions (CX) performed for the site during the time period, the following changes occurred at BH.

a. Operational and Engineering Modifications

From the review of the CXs and site-specific EAs that have been approved and may or may not have been completed:

- Installation of bonding stations on 36 inch crude oil pipeline
- Protective shelters for Raw Water and Crude Oil pump pads
- Motor Operated Valve for cavitation problems
- Access to pipeline right-of-way for access to valves
- Hydraulic Security Barrier and Small Craft Intrusion Barrier

b. Capacity

In regard to changes in capacity, BH was evaluated in the EIS (Site Selection for the Expansion of the Strategic Petroleum Reserve Final Environmental Impact Statement, February 2008 DOE/EIS-0385) to choose a new site location and expand the SPR to one billion barrels. BH was considered as an existing site expansion site to help reach 1 billion barrels by expanding BH with 8 new 10 million barrel caverns for a total of 80 million barrels. The SPR would purchase land adjacent to and on the north side of the site to place 8 new caverns.

vi. Bryan Mound

Based on the response from the site and a review of the Categorical Exclusions (CX) performed for the site during the time period, the following changes occurred at BM.

a. Operational and Engineering Modifications

From the review of the CXs and site-specific EAs that have been approved and may or may not have been completed:

- New sump and sump pumps to drain site pad 110
- Relief valve to BMT piping

- Crude oil surge tank BMT-3 converted to an external floating roof tank from an internal floating roof tank
- Hydraulic Security Barrier and Small Craft Intrusion Barrier

b. Capacity

No changes in capacity were considered during the last five years.

vii. West Hackberry

Based on the response from the site and a review of the Categorical Exclusions (CX) performed for the site during the time period, the following changes occurred at WH.

a. Operational and Engineering Modifications

From the review of the CXs and site-specific EAs that have been approved and may or may not have been completed:

- New Raw Water pump shelters and replacement raw water pipeline
- Right-of-way for emergency evacuation road to the west from the site
- Hydraulic Security Barrier and Small Craft Intrusion Barrier

b. Capacity

Changes in capacity were considered in the Billion Barrel Expansion EIS (Site Selection for the Expansion of the Strategic Petroleum Reserve Final Environmental Impact Statement, February 2008 DOE/EIS-0385). During the EIS process circumstances at WH changed and the possible increase in capacity at WH was dropped from consideration.

2. Programmatic Modifications

During the time period for this SA, there were no programmatic changes conducted at any of the sites of the SPR. Therefore, this section is not being included in this SA.

3. 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 site-wide and programmatic and supplemental EISs or site-specific EAs, or subsequent RONR such as a CX.

Assessment of the current capacity of the SPR sites and the SPR as a program indicated that the current inventory is below the NEPA-final capacity addressed in the

original site-wide and programmatic and supplemental EISs and site-specific EAs, except for BM which is at capacity.

As of the date of this SA, the Billion Barrel Expansion SEIS is still in process and a ROD has not been issued. Various assessments (biological assessment, archeological assessment, Phase I Environmental Site Assessment, and Federal Information Management System Report) at the Richton main site have been conducted and reports prepared for the next steps in the process. No construction has been done in regard to expansion and all future actions are now dependent on the results of the SEIS and Congressional and Department of Energy approvals and funding.

XI. Regulatory Review and Characterization

The M&O environmental compliance specialist with the assistance of the staff of M&O Environmental Department reviewed the regulatory review section of the 2004 SA for the SPR and noted any changes in regulations on all levels of government for consideration. The 2004 SA included 2 lists and as mentioned previously, only one list is included in this SA and can be found in Attachment E of this document.

4. State and Federal Statutes and Regulations

In Attachment E, changes in state and federal statutes and regulations are mentioned. They were analyzed for their potential impact on the SPR. Only major changes will be discussed in this section.

i. Site Specific Applicability

No major changes occurred on the site specific level. Therefore, no additional review was performed.

ii. Programmatic Applicability

During the time period for this review, one major change occurred on the programmatic level of the SPR. The Executive Order (EO) 13423 Strengthening Federal Environmental, Energy, and Transportation Management was enacted. This new EO revoked five prior EOs, 13101, 13123, 13134, 13148, and 13149, all dealing with different aspects of greening the federal government. The SPR was tasked with implementing this EO across the project. The M&O contractor under the supervision

of the SPRPMO, began preparation of an implementation and execution plan. The plan covers from 2008 and on into 2015. The SPR met all the 2008 goals and deadlines established by the SPRPMO implementation and execution plan. There are eight major goals of the EO and the SPR has successfully created the management programs to fulfill these goals. The goals are included in the sustainable practices in the following areas:

- Energy efficiency and reduced greenhouse gases
- Renewable power
- Water conservation
- Sustainable practices, green procurement/biobased/recycled content
- Pollution prevention, waste reduction, recycling
- Sustainable high-performance buildings
- Transportation management, alternative fuel vehicles/reduction of petroleum consumption
- Electronics management, electronics challenge, and recycling

XII. 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 developed some thirty years ago, had achieved environmental excellence. Relative to potential socioeconomic impacts, due to the slow dynamics of socioeconomic variations, this Supplement Analysis is considering the conclusions reported in the first SPR Site-Wide and Programmatic SA in 2004 to remain valid and true. Therefore, no further analysis is deemed necessary.

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 recent EIS and ROD (DOE/EIS-0385 Site Selection for the Expansion of the Strategic Petroleum Reserve Final Environmental Impact Statement February 2008) the oil storage capacities were updated and a revised NEPA-Final Capacity Chart has been prepared and is provided in Attachment G.

List of Preparers

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ATTACHMENT A: LIST OF ACRONYMS

APD – Air Permits Division
Bbls – Barrels
BC – Bayou Choctaw
BH – Big Hill
BM – Bryan Mound
CEQ- Council for Environmental Quality
CFR – Code of Federal Regulations
CUP – Coastal Use Permit
CX – Categorical Exclusion
CZMA – Coastal Zone Management Act
CZMP – Coastal Zone Management Plan
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
EEZ – Exclusive Economic Zone
EFH – Essential Fish Habitat
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
FMP – Fisheries Management Plan
FONSI – Finding of No Significant Impact
GOM – Gulf of Mexico
ICF – ICF Consulting
ISO – International Organization for Standardization
LA – Louisiana
LAC – Louisiana Administrative Code
LAELP – Louisiana Environmental Leadership program
LCRP – Louisiana Coastal Resources Program
LE – Life Extension
µg - Micrograms
M³ – Cubic Meters
M&O – Management and Operations
MMB – Million Barrels
MS - Mississippi

NEPA – National Environmental Policy Act
nmi – nautical mile(s)
NOAA – National Oceanic and Atmospheric Administration
O&E – Operations and Engineering
OPA – Oil Pollution Act
OSHA – Occupational Safety and Health Administration
P-Track – Performance Track Program
P2 – Pollution Prevention
PTSA – Port and Tanker Safety Act
RCRA – Resource Conservation and Recovery Act
RCT – Railroad Commission of Texas
ROD – Record of Decision
RONR – Record of NEPA Review
RWIS – Raw Water Intake Structure
SA – Supplement Analysis
SDWA – Safe Drinking Water Act
SEIS – Supplemental EIS
Shell – Shell Pipeline Company
SIA – Socioeconomic Impact Assessment
SM - Sulphur Mines
SME – Subject Matter Expert
SPR – Strategic Petroleum Reserve
SPRPMO - Strategic Petroleum Reserve Project Management Office
SJ – Oil Distribution River Terminal at St. James, LA
SWAP – Source Water Assessment Program
TAC – Texas Administrative Code
TCEQ – Texas Commission on Environmental Quality, formerly TNRCC – Texas
Natural Resources Conservation Commission
TX – Texas
UIC – Underground Injection Control
URL – Uniform Resource Locator
USACE – U.S. Army Corps of Engineers
USCG – U.S. Coast Guard
VPP – Voluntary Participation Program
VTSS – Vessel Traffic Service/Separation
WH – West Hackberry
WI – Weeks Island

ATTACHMENT B: EIS/EA SUMMARY

Strategic Petroleum Reserve EIS/EA Summary (CY 2004 through CY 2008)

Type of Document	Document Title	Public Record Number	Date Of Completion	Sites Addressed/ Affected	Scope of Document	Document Summary	Associated NEPA Documents		Original in Library
							Document Number	Document Type	
SA	Supplement Analysis of Site-Specific and Programmatic Environmental Impact Statements: Operational and Engineering Modifications, Regulatory Review, and Socioeconomic Variation	EIS-0075-SA01	March-04	Entire Strategic Petroleum Reserve Complex	Direct and indirect environmental, socioeconomic and ecological impacts, resource commitment, alternatives, and secondary impacts		EIS-0075	EIS	Yes
EA	Environmental Assessment for the Strategic Petroleum Reserve: West Hackberry Facility Raw Water Intake Pipeline Replacement	EA-1497	August-04	West Hackberry	Direct environmental, socioeconomic and ecological impacts.	Environmental impacts of replacing the raw water intake pipeline at the West Hackberry Facility	EA-1523	EA	Yes
EA	Environmental Assessment for the Proposed Increase in the Facility Capacity and Petroleum Inventory at the Strategic Petroleum Reserve's Bryan Mound Storage Facility, Freeport, Brazoria County, Texas	EA-1505	November-04	Bryan Mound	Direct environmental, socioeconomic and ecological impacts.	Environmental impacts of storing commercial crude oil in unused cavern storage space at the Bryan Mound Facility	NA	EA	Yes

Type of Document	Document Title	Public Record Number	Date Of Completion	Sites Addressed/ Affected	Scope of Document	Document Summary	Associated NEPA Documents		Original in Library
							Document Number	Document Type	
EA	Environmental Assessment to Address Proposed Site Modifications at the Strategic Petroleum Reserve's West Hackberry Raw Water Intake Structure Site, Calcasieu Parish, Louisiana	EA-1523	November-05	West Hackberry	Direct environmental, socioeconomic and ecological impacts.	Environmental impacts of modifying the raw water intake structure at the West Hackberry Facility	EA-1497	EA	Yes
EIS	Site Selection for the Expansion of the Strategic Petroleum Reserve Final Environmental Impact Statement	EIS-0385	February-08	Bayou Choctaw, Big Hill, Richton-new site	Direct and indirect environmental, socioeconomic and ecological impacts, resource commitment, alternatives, and secondary impact	Selection of a new site, expansion of existing sites Bayou Choctaw, Big Hill, and West Hackberry	EIS-0385-SA01, EIS-0385-S1	SA, SEIS	Yes
SA	Supplement Analysis to the Site Selection for the Expansion of the Strategic Petroleum Reserve Final Environmental Impact Statement	EIS-0385-SA01	February-08	Richton-new site	Direct and indirect environmental, socioeconomic and ecological impacts, resource commitment, alternatives, and secondary impact	Modifications to Raw Water Intake Structure location from EIS-0385, and dropping West Hackberry from expansion, increasing expansion at Bayou Choctaw	EIS-0385, EIS-0385-S1	EIS, SEIS	Yes
SEIS	Supplemental Environmental Impact Statement: Site Selection for the Expansion of the Strategic Petroleum Reserve	EIS-0385-S1	ongoing	Richton- new site	Direct and indirect environmental, socioeconomic and ecological impacts, resource commitment, alternatives, and secondary impact	Modification to the selected new site (EIS-0385) for the location of the raw water intake structure	EIS-0385, EIS-0385-SA01	EIS, SA	No
Notes:									
EA = Environmental Assessment			SA = Supplement Analysis			NA = Not Applicable			
EIS = Environmental Impact Statement			SEIS = Supplemental Environmental Impact Statement						

ATTACHMENT C: REFERENCES

References

Applicable Department of Energy and Strategic Petroleum Reserve NEPA documentation

Records of NEPA Review can be found in the Strategic Petroleum Reserve Electronic Library and/or Project Files.

FEA FES 76/77-6 Final Supplement to Final Environmental Impact Statement, Strategic Petroleum Reserve, Bryan Mound Salt Dome, Brazoria County, Texas

FEA-DES-77-6 Final Statement to Final Environmental Impact Statement Strategic Petroleum Reserve, Sulphur Mines

FEA-DES-77-10 and FEA-FES-76/77-6 Final Environmental Impact Statement Strategic Petroleum Reserve, Seaway Group Salt Domes (Bryan Mound expansion, Allen, Nash, Damon Mound, and West Columbia) Brazoria County, Texas, Volumes I-III

FEA-DES-77-9 Final Environmental Impact Statement Strategic Petroleum Reserve, Capline Group Salt Domes (Iberia, Napoleonville, Weeks Island Expansion, Bayou Choctaw Expansion, Chacahoula) Iberia, Iberville, and Lafourche parishes, Louisiana Volumes I-IV

FEA-DES-77-8 Final Environmental Impact Statement Strategic Petroleum Reserve, Texoma Group Salt Domes (West Hackberry Expansion, Black Bayou, Vinton, Big Hill) Cameron and Calcasieu parishes, Louisiana and Jefferson County, Texas Volumes I-V

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

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

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

PB 261 799, PB 261 700, DOE/EIS-0034, FEA/S-76/502, FEA/S-76/503 Draft Environmental Impact Statement on the Expansion of the Strategic Petroleum Reserve, Alabama, Louisiana, Mississippi, and Texas

FES 76-2 Final Environmental Impact Statement Volumes I – III

PB 257 506/ FES 76-5 Final Environmental Impact Statement for Bayou Choctaw Salt Dome

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

FES 76/77-8 Final Environmental Impact Statement for Weeks Island Mine

FEA 76/77-4 Supplement Final Environmental Impact Statement West Hackberry Salt Dome

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

FES 76/77-10 Final Environmental Impact Statement for Ironton Mine

FES 76/77-9 Final Environmental Impact Statement for Central Rock Mine

FEA 76/77-7 and FES 76/77-8 Supplement to Final Environmental Impact Statements for Weeks Island/Cote Blanche Mines

FES 77-2 Final Environmental Impact Statement for Kleer Mine

FES 76-5 Strategic Petroleum Reserve. Final Environmental Impact Statement. West Hackberry Salt Dome

PB 263 051 Strategic Petroleum Reserve. Statement for Cote Blanche Mine

Preliminary Draft- September 1991 Draft Environmental Impact Statement on the Expansion of the Strategic Petroleum Reserve

DOE/EA-0151 Environmental Assessment for Decommissioning the Strategic Petroleum Reserve Weeks Island Facility, Iberia Parish, Louisiana

DOE/REA-0252 Environmental Assessment, Strategic Petroleum Reserve, Seaway Complex Distribution Enhancements, Brazoria, Galveston, and Brazoria Counties, Texas

DOE/EA-0252 Revised Environmental Assessment Strategic Petroleum Reserve Seaway Complex Distribution Enhancements, Brazoria, Galveston, and Harris Counties, Texas

DOE/EA-0272 Environmental Assessment, Strategic Petroleum Reserve, Texoma Complex Distribution Enhancements, Orange and Jefferson Counties, Texas and Calcasieu and Cameron Parishes, Louisiana

DOE/EA-0299 Revised Environmental Assessment, Strategic Petroleum Reserve, Seaway Complex Distribution Enhancements, Brazoria, Galveston, and Harris Counties, Texas

DOE/EA-0401 Environmental Assessment Strategic Petroleum Reserve Sulphur Mines Decommissioning and Big Hill Expansion, Calcasieu Parish, Louisiana and Jefferson County, Texas

DOE/EA-0804 Environmental Assessment of the Brine Pipeline Replacement for the Strategic Petroleum Reserve Bryan Mound Facility in Brazoria County, Texas

DOE/EA-0954 Environmental Assessment of Oil Degasification at Four Strategic Petroleum Reserve Facilities in Texas and Louisiana

DOE/EA-1003 Environmental Assessment on the Leasing of the Strategic Petroleum Reserve St. James Terminal, St. James Parish, Louisiana

DOE/EA-1251 Environmental Assessment of Bayou Choctaw Pipeline Extension to Placid Refinery, Iberville and West Baton Rouge Parishes, Louisiana

DOE/EA-1254 Environmental Assessment of Bayou Choctaw Pipeline Extension to Placid Refinery, Iberville and West Baton Rouge Parishes, Louisiana

DOE/EA-1289 Environmental Assessment for the Strategic Petroleum Reserve, Big Hill Facility, Storage of Commercial Crude Oil Project, Jefferson County, Texas

FE-0221P Report to the Congress on Candidate Sites for Expansion of the Strategic Petroleum Reserve to One Billion Barrels

DOE/EA-1497 Environmental Assessment for the Strategic Petroleum Reserve: West Hackberry Facility Raw Water Intake Pipeline Replacement

Literature

2005 U.S. Department of Energy, Environment, Safety and Health, Office of NEPA Policy and Compliance. *Recommendations for the Supplement Analysis Process*.

Internet Resources

Unites States Code and Code of Federal Regulations at www.cyberregs.com

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

U.S. Department of Energy NEPA Website, <http://www.gc.energy.gov/NEPA//>

CEQ NEPANet, <http://ceq.hss.doe.gov/nepa/nepanet.htm>

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)

**ATTACHMENT D:
RESPONSES: ENGINEERING/PROCESS AND OPERATIONAL CHANGES BY
SITE**

Bryan Mound

**Site-Wide
Bryan Mound Responses: Engineering/Process and
Operational Changes
(CY 2004 through CY 2008)**

DM Engineering Responses to Process Changes From Original EIS: Bryan Mound Salt Domes DOE/EIS-0021 6/78.

1. **Original Specifications: Permitted leaching rate is 680,000 bbl/d originally. The Environmental Protection Agency (EPA) granted an amended permit 8/23/81 to increase leaching to 980,000 bbl/d. Oil-brine separator with capacity of 300,000-bbl/d planned in 1981.**

DM Engineering Response: Oil brine separators have been removed.

2. **Original Specifications: Oil distribution handled through terminal facilities -dock and storage tanks. Crude oil pipelines were constructed to connect the dome to the Seaway docks. Two new tanker docks will be constructed.**

DM Engineering Response: BM crude oil distribution delivers oil to the "Teppco (formerly "Seaway") Group" composed of Jones Creek, Freeport Docks and Texas City. (Source: SPR Receipt & Fill Configuration Chart).

3. **Original Specifications: Estimated emission during leach/fill could be up to 121 TPY.**

DM Engineering Response: BM is essentially leached and is still filling.

ATTACHMENT E: REGULATORY REVIEW

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

EAs and EISs 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 EOs, 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 SPR operates four crude oil storage sites in TX and LA. This SA is being conducted to evaluate the SPR as called for in 10 CFR Section 1021.330 (d), that DOE shall, every five years, evaluate site-wide NEPA documents prepared under 10 CFR Section 1021.330. An SA was prepared in 2004 which covered activities through 2003. The 2004 SA evaluated all previous NEPA work on the SPR along with all laws applicable to the project. This regulatory review picks up where the previous SA stopped (2004 through 2008). 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.

The major laws that may have an impact on SPR operations are listed in the following pages. A primary criterion for the selection was whether the Act or EO provided a way to identify a potentially affected segment of the human population or natural environment.

For all Acts, Executive Orders, and State Laws and Regulations listed below, there have been no changes affecting the SPR since the last SA and no further actions or activities would be required by the SPR for compliance.

- **Acts**
 - **Safe Drinking Water Act of 1974**
 - **Port and Tanker Safety Act of 1978**
 - **Clean Air Act of 1963, as amended 1970 and 1990.**
 - **Coastal Zone Management Act of 1972**
 - **National Marine Sanctuaries Act of 1972**
 - **Magnuson Act of 1976, as amended Magnuson-Stevens Act of 1996**
 - **Endangered Species Act of 1973**
 - **Resource Conservation and Recovery Act of 1976**
 - **Oil Pollution Act of 1990**
 - **Pipeline Safety Improvement Act of 2002**
- **Executive Orders**
 - **Executive Order 13112, Invasive Species, signed on February 3, 1999**
 - **Executive Order 13186, Migratory Birds, signed January 10, 2001**
 - **Executive Order 11988, Floodplain Management, signed May 24, 1977**
 - **Executive Order 11990, Protection Of Wetlands, signed May 24, 1977**
 - **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**
- **Texas and Louisiana State Laws and Regulations**
 - **Texas- Clean Air Act and Coastal Zone Management**
 - **Louisiana- Clean Air Act and Coastal Zone Management**

New Executive Order

Executive Order 13423 Strengthening Federal Environmental, Energy, and Transportation Management was signed on January 24, 2007. This new EO requires the SPR to develop an implementation plan and budget for carrying out the goals of the order. The SPR through the M&O contractor has developed an implementation plan and budget approved by the SPRPMO to meet the goals of the EO.

**ATTACHMENT F: ENGINEERING AND OPERATIONS CHECKLISTS BY
SITE**

Bayou Choctaw

SUPPLEMENT ANALYSIS CHECKLIST (CY 2004 THROUGH 2008)

BAYOU CHOCTAW FACILITY

IBERVILLE PARISH, LOUISIANA

Initial Assumptions	Current Situation/ Considerations	Prog. Appl. Yes/No	Site-Specific Applicability Yes/No	Evaluation for Significance Necessary Yes/No	Basis for additional assessment	Rationale	Signific. Yes/No	Rationale	Significant relative to the ROD(s) Yes/No	Rationale	Doc. No.	Sect.
<i>Site Preparation/Operations</i>												
On-Site Enclosed Structures												
Use of Halon systems for fire protection	Halon system was phased out.	No	Yes	No	Halon systems were originally for fire protection. A DOE mandate (EO 13148) requires the elimination of use of ozone-depleting substances by 2010 and, thus, these systems will be removed from the site by the end of 2004.		NA					
Notes:												
ROD(s) = Record(s) of Decision	NA = Not Applicable		BCT = Bayou Choctaw Tank	MOU = Memorandum of Understanding	ISO - International Standards Organization							
EIS = Environmental Impact Statement	EPA = Environmental Protection Agency		TRI = Toxic Release Inventory	SPR = Strategic Petroleum Reserve	DOI - Department of the Interior							
MMB = Million Barrels	EO = Executive Order		KV = KiloVolt	bbl = barrels	NAV = Not Available							
RCRA = Resource Conservation and Recovery Act	SARA = Superfund Amendment and Reauthorization Act.		FEA = Federal Energy Administration	NEPA - National Environmental Policy Act	LDEQ = Louisiana Department of Environmental Quality							
CX = Categorical Exclusion	RIK = Royalty in Kind		EA = Environmental Assessment	DOE = Department of Energy	GOM = Gulf of Mexico							
(a) Source: SPR Receipt and Fill Configuration Chart												
(b) The regulatory review assesses the effect of amendments to regulations existing at the time of the EIS and effect of newly promulgated regulations on the validity of the ROD for each EIS.												
*Please refer to the NEPA Final Capacity for Storage of Crude Oil by the Department of Energy for details regarding authorizing NEPA documentation.												

Big Hill

SUPPLEMENT ANALYSIS CHECKLIST (CY 2004 THROUGH 2008)

BIG HILL FACILITY

JEFFERSON COUNTY, TEXAS

Initial Assumptions	Current Situation/Considerations	Prog. Appl. Yes/No	Site-Specific Applicability Yes/No	Evaluation for Significance Necessary Yes/No	Basis for additional assessment	Rationale	Signif. Yes/No	Rationale	Significant relative to the ROD(s) Yes/No	Rationale	Doc. No.	Sect.
<i>Site Preparation/ Operations</i>												
Pumps												
Four water intake pumps are proposed	There are six pumps and motors currently on-site at the RWIS. Four pumps for raw water and 2 pumps for fire protection.	No	Yes	No	Site-specific impacts for only 4 pumps were evaluated in EIS 0029. The number of pumps in this location has since been increased. NEPA assessment has been completed.	Addition of pumps occurred during Life Extension. A NEPA review was conducted and a CX was applied.	NA				EIS-0029	A.7.4.1.3
Ten water intake pumps are proposed	There are six pumps and motors currently on-site at the RWIS. Four pumps for raw water and 2 pumps for fire protection.	No	Yes	No	Site-specific impacts for only 4 pumps were evaluated in EIS 0075. The number of pumps in this location has since been increased. NEPA assessment has been completed.	Actual impacts on-site would be less than the impacts as evaluated due to the current configuration on-site.	NA				EIS-0075	2.2.1.2
Notes:												
BHT = Big Hill Tank	NA = Not Applicable	bbl = barrels		tpy = Tons per year	RIK = Royalty in Kind	MOU = Memorandum of Understanding						
ICW = Intracoastal Waterway	TRI = Toxic Release Inventory	NAV = Not Available		LE = Life Extension	CX = Categorical Exclusion	EPA = Environmental Protection Agency						
EMS = Environmental Management Systems	SARA = Superfund Amendment and Reauthorization Act.	bbl/day = Barrels per day		RWIS = Raw Water Intake Structure	QA/QC = Quality Assurance/Quality Control	EIS = Environmental Impact Statement						
MMB = Million Barrels	DOI - Department of the Interior	EO = Executive Order		SPR = Strategic Petroleum Reserve	RCT = Railroad Commission of Texas	GOM = Gulf of Mexico						
ISO - International Standards Organization	ROD(s) = Record(s) of Decision	RCRA = Resource Conservation and Recovery Act		EA = Environmental Assessment	TCEQ = Texas Commission on Environmental Quality	DOE = Department of Energy						
(a) Source: SPR Receipt and Fill Configuration Chart												
(b) The regulatory review assesses the effect of amendments to regulations existing at the time of the EIS and effect of newly promulgated regulations on the validity of the ROD for each EIS.												
*Please refer to the NEPA Final Capacity for Storage of Crude Oil by the Department of Energy for details regarding authorizing NEPA documentation.												

West Hackberry

SUPPLEMENT ANALYSIS CHECKLIST (CY 2004 THROUGH 2008)

WEST HACKBERRY FACILITY

CAMERON PARISH, LOUISIANA

Initial Assumptions	Current Situation/ Considerations	Prog. Appl. Yes/ No	Site-Specific Appl. Yes/ No	Evaluation for Significance Necessary Yes/ No	Basis for additional assessment	Rationale	Signif. Yes/ No	Rationale	Significant relative to the ROD(s) Yes/ No	Rationale	Doc. No.	Sect.
<i>Site Preparation/ Operations</i>												
Capacity*												
Proposed storage of 60 MMB total	NEPA authorized capacity is 240 MMB. Actual inventory is 228 MMB.	Yes	Yes	No	Site-specific impacts were evaluated in PB 262 508. Programmatic impacts were evaluated in EIS 76-2.	Current inventory is within the capacities evaluated in the all applicable original NEPA documents.	NA				PB 262 508	1.2.2
Withdrawal of Stored Oil												
Withdrawal of stored oil is proposed via the introduction of raw water from the ICW through a 42-inch pipeline and wellheads using pumps located in a central pump building	This is the current configuration with the new replacement building #328 built to protect the equipment.	No	Yes	No	Site-specific impacts were evaluated in EIS 0029.	Impacts as evaluated correspond to the current configuration on-site. New building covered by CX.	NA				EIS-0029	2.4.1
Oil Distribution												
Use of existing pipelines such as the 20-inch Cities Service pipeline and the 22-inch Texas Pipeline Co. pipeline	The 22-inch pipeline is now a Shell Pipeline.	Yes	Yes	No			NA				PB 262 508	7.2.1
Aboveground Storage Tanks												
Two 55,000 bbl ballast water tanks and their associated water clean-up systems at the Sun Terminal were also considered for use	Three 400,000 bbl surge tanks were constructed at Sun Terminal with the caveat that ownership would revert to Sun over time. The tanks have been turned over to Sun.	No	No	No	Impacts at the terminal were evaluated, but were not the responsibility of the SPR as the dock was constructed by Sun Terminal, who currently owns the facility	Any additional impacts are the responsibility of Sun Terminal as the current owners of the facility.	NA				FEA/S77/114	1.3.2
On-Site Enclosed Structures												
Use of Halon systems for fire protection	Halon system completely removed.	No	Yes	No	Halon systems were originally for fire protection. A DOE mandate (EO 13148) requires the elimination of use of ozone-depleting substances by 2010 and thus, these systems will be removed from the site by the end of 2004.	Halon system has been completely removed.	NA					
Pumps												
Eight 1500 hp brine injection pumps are proposed	There are 4 brine pumps currently on-site.	No	Yes	No	Site-specific impacts were evaluated in PB 262 508.	Actual impacts on-site would be less than the impacts as evaluated due to the current configuration on-site.	NA				PB 262 508	1.3.1
Eight 1500 hp brine disposal pumps are proposed	There are 4 brine pumps currently on-site.	No	Yes	No	Site-specific impacts were evaluated in PB 262 508.	Actual impacts on-site would be less than the impacts as evaluated due to the current configuration on-site.	NA				PB 262 508	1.3.1
Onsite, four 1000 hp pumps were proposed for use to withdraw oil	Oil withdrawal accomplished using water pressure.	No	Yes	No	Site-specific impacts were evaluated in FEA/77S/114.	Actual impacts on-site would be less than the impacts as evaluated due to the current configuration on-site.	NA				FEA/S77/114	1.3.2

SUPPLEMENT ANALYSIS CHECKLIST (CY 2004 THROUGH 2008)

**WEST HACKBERRY FACILITY
CAMERON PARISH, LOUISIANA**

Initial Assumptions	Current Situation/ Considerations	Prog. Appl. Yes/ No	Site-Specific Appl. Yes/ No	Evaluation for Significance Necessary Yes/ No	Basis for additional assessment	Rationale	Signif. Yes/ No	Rationale	Significant relative to the ROD(s) Yes/ No	Rationale	Doc. No.	Sect.
Seven 600 hp brine disposal pumps and four 600 hp standby pumps are proposed	There are 4 brine pumps and no standby pumps on-site.	No	Yes	No	Site-specific impacts were evaluated in EIS 0029.	Actual impacts on-site would be less than the impacts as evaluated due to the current configuration on-site.	NA				EIS-0029	A.4.4.1.3
Notes:												
ROD(s) = Record(s) of Decision	EPA = Environmental Protection Agency	NEPA - National Environmental Policy Act		RWIS = Raw Water Intake Structure	EA = Environmental Assessment	RCRA = resource Conservation and Recovery Act						
EIS = Environmental Impact Statement	MOU = Memorandum of Understanding	ISO - International Standards Organization		FEA/S = Federal Energy Administration/ Supplement	LDEQ = Louisiana Department of Environmental Quality	SARA = Superfund Amendment and Reauthorization Act.						
NAV = Not Available	bbl = barrels			bbl/day = Barrels per day	GOM = Gulf Of Mexico	DOI - Department of the Interior						
LE = Life Extension	WHT = West Hackberry Tank	NA = Not Applicable		EO = Executive Order	RIK = Royalty in Kind	TRI = Toxic Release Inventory						
SPR = Strategic Petroleum Reserve	MMB = Million Barrels	hp = horsepower		CX = Categorical Exclusion	ICW = Intracoastal Waterway	DOE = Department of Energy						
(a) Source: SPR Receipt and Fill Configuration Chart												
(b) The regulatory review assesses the effect of amendments to regulations existing at the time of the EIS and effect of newly promulgated regulations on the validity of the ROD for each EIS.												
*Please refer to the NEPA Final Capacity for Storage of Crude Oil by the Department of Energy for details regarding authorizing NEPA documentation.												

ATTACHMENT G: NEPA-FINAL STORAGE CAPACITIES

SITE-SPECIFIC	NEPA DOCUMENT	TITLE/ FOOTNOTE	STORAGE ADDRESSED UNDER NEPA(MMB)	CUMULATIVE TOTAL STORAGE ADDRESSED UNDER NEPA(MMB)
Bryan Mound	DOE/EIS-76/77-6	1	63	63
	DOE/EIS-0021	2	100	163
	DOE/EIS-0075	3	60	223
	DOE/SPR/EIS-0075-SA01	4	9	232
	DOE/EA-1505	5	22	254
			Total	254
Bayou Choctaw	FES-76-5	6	99	99
	DOE/EIS-0024	7	51	150
	DOE/EIS-0385	12	33	183
			Total	183
West Hackberry	DOE/PB 262 508	8	60	60
	DOE/EIS-0029	9	150	210
	DOE/EIS-0075	3	30	240
			Total	240
Big Hill	DOE/EIS-0029	9	100	100
	DOE/EIS-0075	3	40	140
	DOE/EA-0401	10	22	162
	DOE/SPR/EIS-0075-SA01	4	8	170
	DOE/EIS-0385	12	80	250
			Total	250
Richton	DOE/EIS-0385	12	160	160
SPR CAPACITY(a)				1087

PROGRAMMATIC	NEPA DOCUMENT	TITLE/ FOOTNOTE	STORAGE ADDRESSED UNDER NEPA(MMB)	CUMULATIVE TOTAL STORAGE ADDRESSED UNDER NEPA(MMB)
Associated Pipelines/ Storage Tanks	DOE/EIS-0075	3	2	2
	DOE/EIS-0385	12	5	7
			Total	7
Seaway	DOE/EIS-0034	11	200	200
	DOE/SPR/EIS-0075-SA01	4	32	232
			Total	232
Texoma	DOE/EIS-0034	11	350	350
	DOE/EIS-0385	12	80	430
			Total	430
Capline	DOE/EIS-0034	11	500	500
	DOE/EIS-0385	12	193	693
			Total	693
SPR CAPACITY(b)				1362

Notes:				
	FES = Final Environmental Statement	MMB = Million Barrels	EA = Environmental Assessment	EIS = Environmental Impact Statement
	DES = Draft Environmental Statement	DEIS = Draft EIS	DOE = Department of Energy	SPR = Strategic Petroleum Reserve
	FEA = Federal Energy Administration		DS-FEIS = Draft Supplement to a Final EIS	
	A draft document, EIS-0165-D [Expansion of the SPR], addressed additional storage options.			
1	Final Environmental Statement on the Bryan Mound Salt Dome, January 1977			
2	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) Brazoria County, Texas, Volumes I-III			
3	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) Cameron Parish, Louisiana and Brazoria and Jefferson Counties, Texas			
4	Supplement Analysis of Site-Specific and Programmatic Environmental Impact Statements: Operational and Engineering Modifications, Regulatory Review, and Socioeconomic Variation			
5	Environmental Assessment for the Proposed Increase in Facility Capacity and Petroleum Inventory at the Strategic Petroleum Reserve's Bryan Mound Facility, Freeport, Brazoria County, Texas			
6	Final Environmental Impact Statement for Bayou Choctaw Salt Dome, December 1976			
7	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) Iberia, Iberville, and Lafourche Parishes, Louisiana, Volumes I -IV			
8	Strategic Petroleum Reserve, Final Environmental Impact Statement, West Hackberry Salt Dome, January 1977			
9	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) Cameron and Calcasieu Parishes, Louisiana and Jefferson County, Texas, Volumes I -V			
10	Environmental Assessment, Strategic Petroleum Reserve, Sulphur Mines Decommissioning and Big Hill Expansion, Calcasieu Parish, Louisiana and Jefferson County, Texas, January 1990			
11	Final Supplement to Final Environmental Impact Statement FEA-FES 76-2, Strategic Petroleum Reserve, Expansion of the Reserve, January 1979			
12	Record of Decision-Final Environmental Impact Statement DOE/EIS-0385, Site Selection for the Expansion of the Strategic Petroleum Reserve, February 2007			
(a)	The SPR-authorized storage capacity or inventory of crude oil for each site should not exceed the NEPA-final capacity.			
(b)	The SPR-authorized storage capacity or inventory of crude oil for the SPR total should not exceed the NEPA-final capacity.			