Chapter 1. Purpose and Need for Action

1.1 BACKGROUND

The Strategic Petroleum Reserve (SPR) is a national stockpile of petroleum (crude oil). Following the 1973-74 oil embargo, the SPR was established pursuant to the Energy Policy and Conservation Act (EPCA) of 1975 to protect the United States from interruption in petroleum supplies that would be detrimental to our energy security, national security, and economy. The SPR currently consists of four underground oil storage facilities along the Gulf Coast—two in Louisiana (Bayou Choctaw and West Hackberry) and two in Texas (Big Hill and Bryan Mound)—and an administrative facility in New Orleans, LA. At the storage facilities, crude oil is stored in caverns constructed by the **solution mining** of **rock salt formations (salt domes)**. The four SPR facilities have a combined storage capacity of 727 million barrels (MMB) and an inventory of 688.5 MMB as of November 10, 2006.

Glossary Terms: To help readers more fully understand this Environmental Impact Statement (EIS), we have used bold type for technical and scientific terms the first time each appears in the text. The Glossary provides a full definition of each of these terms. In some cases, the definition of the term also appears in a highlighted text box near the first occurrence of the term in the text.

If the United States is confronted with an economically threatening disruption in oil supplies, the President can use the SPR as an emergency response tool, transferring oil from the SPR into the commercial oil distribution systems. The SPR has been used twice under these conditions. First, at the beginning of Operation Desert Storm in 1991, the United States joined its allies in assuring the adequacy of global oil supplies when war broke out in the Persian Gulf. An emergency sale of SPR crude oil was announced the day the war began. The second instance was in September 2005 after Hurricane Katrina devastated oil production, distribution, and refining facilities in the Gulf region of Louisiana and Mississippi. In addition to national energy emergencies, crude oil has been withdrawn many times from the SPR sites for other reasons. Small quantities of oil are routinely pumped from the storage caverns to test the reserve's equipment. In addition, oil has been removed from the caverns under the authority of the 1975 statute to "exchange" SPR crude oil with oil from private companies, by which the SPR ultimately receives more oil than it released.

The U.S. Department of Energy (DOE) conducted planning activities for the expansion of SPR's capacity to 1 billion barrels under congressional directives in 1988 and 1990. The expansion planning directive in 1988 resulted in an initial plan entitled *Report to Congress on Expansion of the Strategic Petroleum Reserve to One Billion Barrels* (DOE 1989b). The expansion planning directive in 1990 likewise resulted in a plan called *Report to Congress on Candidate Sites for Expansion of the Strategic Petroleum Reserve to One Billion Barrels* (DOE 1991b) and the preparation of *Draft Environmental Impact Statement on the Expansion of the Strategic Petroleum Reserve, DOE/EIS–0165–D* in 1992, which assessed 5 candidate sites for the expansion of the SPR to 1 billion barrels: Big Hill, TX; Stratton Ridge, TX; Weeks Island, LA; Cote Blanche, LA; and Richton, MS (DOE 1992a). DOE/EIS–0165–D is available on the DOE Fossil Energy Web site at http://www.fossil.energy.gov/programs/reserves/spr/expansion-eis.html. Prior to completion of the final EIS, DOE notified Congress that due to the existence of a large unfilled capacity in the SPR, DOE would be deferring any site selection decisions and expansion of the SPR until such time that the oil inventory of the SPR supported the need for further capacity development.

Vertical lines in left margin indicate where text in the draft EIS has been deleted, revised, or supplemented in this final EIS. Changes are not indicated in chapter 8, appendix N, or appendix O as these sections are new to the final EIS.

1.2 PURPOSE AND NEED

On August 8, 2005, the President signed the Energy Policy Act of 2005 (EPACT). Section 303 of EPACT states that:

> "Not later than 1 year after the date of enactment of this Act, the Secretary shall complete a proceeding to select, from sites that the Secretary has previously studied, sites necessary to enable acquisition by the Secretary of the full authorized volume of the Strategic Petroleum Reserve."

EPACT section 301(c) directs the Secretary to "… acquire petroleum in quantities sufficient to fill …" the SPR to 1 billion barrels, which is what was authorized by congressional directives. Thus, the purpose and need for agency action is to select and develop the sites to expand SPR capacity from 727 MMB to 1 billion barrels, that is, to add 273 MMB of capacity.

1.3 DOE ALTERNATIVES

As outlined more completely in chapter 2 of this document, DOE has analyzed potential impacts from a new site at Bruinsburg, MS; Chacahoula, LA; Richton, MS; and Stratton Ridge, TX and from expanding capacity at Bayou Choctaw, LA, Big Hill, TX, and West Hackberry, LA. DOE has eliminated alternatives that were analyzed in the draft EIS that involved a potential new site in Clovelly, LA. DOE has identified the Richton alternative with expansion of the Bayou Choctaw, Big Hill, and West Hackberry sites as its preferred alternative.

1.4 NATIONAL ENVIRONMENTAL POLICY ACT AND PUBLIC INVOLVEMENT

DOE has determined that the expansion of the SPR required by EPACT constitutes a major Federal action that is subject to the National Environmental Policy Act (NEPA). This EIS document has been prepared in accordance with NEPA, the Council on Environmental Quality (CEQ) NEPA regulations (40 CFR Parts 1500–1508), DOE NEPA regulations (10 CFR Part 1021) and **wetland** and **floodplain** regulations (10 CFR 1022). This EIS assesses the potential environmental impacts of the development of new SPR sites and the expansion of existing SPR sites and their associated infrastructures.

1.4.1 Scoping and Public Involvement

DOE published a Notice of Intent (NOI) to Prepare an EIS on September 1, 2005 (70 FR 52088). The NOI invited interested agencies, organizations, Native American tribes, and members of the public to submit comments or suggestions to assist DOE in identifying significant environmental issues and determining the appropriate scope of the EIS. The notice also identified the dates and locations of public scoping meetings and stated that the public scoping period would run from September 1 to October 14, 2005.

As a result of the effects of Hurricanes Katrina and Rita on the Gulf Coast region, DOE issued a Notice to Extend the Public Scoping Period and Reschedule Public Scoping Meetings, extending the scoping period by 2 weeks until October 28, 2005 (70 FR 56649, September 28, 2005). In the notice, DOE provided new dates and locations for the public scoping meetings and announced the cancellation of the public scoping meetings in Hattiesburg and Pascagoula, MS, because the meeting facilities were no longer available. Instead, DOE held a meeting in Jackson, MS. DOE contacted everyone on the project mailing list about these changes and published six newspaper advertisements and two online advertisements for both the Jackson, MS, meeting and the Houma, LA, meeting.

On October 27, 2005, Governor Haley Barbour of Mississippi requested the Secretary of Energy to include a new site in the EIS. In response, DOE extended the public scoping period until December 19, 2005 (70 FR 70600, November 22, 2005) and scheduled another scoping meeting. Overall, DOE held four public scoping meetings, as shown in table 1.4.1-1.

Table 1.4.1-1: Scoping Meetings

Location	Date	Proposed Sites Close to Meeting Location	Attendance	Speakers
Lake Jackson, TX	October 11, 2005	Stratton Ridge, TX	16	0
Jackson, MS	October 17, 2005	Richton, MS	24	4
Houma, LA	October 18, 2005	Chacahoula, LA	19	3
Port Gibson, MS	December 7, 2005	Bruinsburg, MS	21	7

The public scoping meetings were attended by approximately 80 people, some of whom provided oral and written comments. During the scoping period, DOE also met with Federal and state agencies with jurisdiction over the proposed new and existing SPR expansion sites in Louisiana, Mississippi, and Texas. At these meetings, DOE received comments from the agencies on environmental issues to be analyzed. See appendix K for additional information regarding agency consultation.

1.4.2 Summary of Scoping Comments

DOE received 67 scoping comment documents (letters and/or oral testimony) from 48 members of the public, companies, organizations, and government agencies. Comments focused mainly, but not exclusively, on the impacts of the construction and operation of the SPR facilities on water, land, and marine resources, and on various habitats of land and marine species. The following paragraphs summarize the major scoping comments received by DOE on the NOI to prepare an EIS. Unless otherwise noted, the discussions and analyses included in the EIS address the core topics of these comments. Copies of the comment letters received during the scoping period and complete public scoping meeting transcripts are available from the Internet site: http://www.fossil.energy.gov/programs/reserves/spr/expansion-eis.html.

Public Health and Safety, Accidental Releases: Commenters stated that DOE needs to address public health issues and the potential impacts on health and safety. One concern was the cumulative and secondary impacts the project would present for the increased risks of terrorism or accidents because of proposals to build liquefied natural gas (LNG) facilities near the proposed Stratton Ridge site. The affected environment and analysis of potential environmental risks and public and occupational safety and health impacts are discussed in chapter 3, section 3.2 and cumulative impacts are discussed in chapter 4.

Land Use: Commenters asked that DOE examine various potential impacts including loss of prime farmland, adverse effects on coastal areas, and land use changes at storage sites, pipelines **rights-of-way** (ROWs), and other facilities. Commenters expressed concern that the proposed locations of the caverns for the Richton and Stratton Ridge sites would preclude other uses of the salt domes or affect mineral rights and expressed concern that the proposed Stratton Ridge site would be located in the vicinity of security areas of existing and proposed industrial facilities. Affected land uses and site-specific analysis of potential land use impacts associated with the SPR sites are discussed in chapter 3, section 3.3. One commenter suggested that the EIS address impacts on the Gulf Islands National Seashore (GUIS), and this is addressed in section 3.3.5.

Geology: Commenters expressed concerns about cavern **creep** and **subsidence** that might be caused by the creation of additional oil storage caverns at the already extensively developed Stratton Ridge salt dome, and suggested that the EIS evaluate this potential for adverse impacts. The affected environment and site-specific analysis of potential geology and soils impacts for each SPR site are discussed in chapter 3, section 3.4.

Air Quality: Noting that the Bayou Choctaw, Big Hill, and Stratton Ridge sites are in air quality nonattainment areas for the **8-hour ozone ambient standards for ozone** and that they are subject to the Clean Air Act General Conformity rule and related state regulations, commenters asked that DOE estimate the potential emissions of **volatile organic compounds** (VOCs) and oxides of nitrogen during construction and operation at these sites and compare them to conformity threshold levels. Conformity analyses for the Bayou Choctaw, Big Hill, and Stratton Ridge sites are discussed in chapter 3, section 3.5. Other issues raised by commenters included cumulative air pollutant emissions and emissions from the **oil blanket** during solution mining. The affected environment and analysis of potential air quality impacts of construction and operation of the proposed action are discussed in chapter 3, section 3.5. The methodology for analyzing air quality impacts is discussed in appendix A. The related cumulative impacts are discussed in chapter 4.

Water Resources: Commenters requested that DOE evaluate the potential impacts of construction and operation of new oil storage **caverns** and underground injection wells on local **aquifers**, and the secondary and cumulative impacts of SPR expansion on **wetlands** and water quality, including water salinity. Commenters expressed concern about potential impacts to rivers and coastal areas. Commenters also requested analyses of potential impacts of water withdrawal from freshwater bodies for SPR expansion and operation, runoff from construction and operation of SPR facilities, and **brine** disposal in the Gulf of Mexico. Commenters suggested alternate sources of **raw water intake** (RWI) for the Stratton Ridge and Richton sites. The affected environment and analysis of potential impacts to water resources from construction and operation of the proposed action are discussed in chapter 3, section 3.6 and appendices B, C, and O. The related cumulative impacts are discussed in chapter 4.

Biological Resources: Commenters asked that the EIS analyze the potential primary, secondary, and cumulative impacts of SPR expansion on a variety of habitats and species. Habitats of particular concern included wetlands and essential fish habitat (EFH). Fauna of concern included shrimp, oysters, and native fish species including those that are commercially important; migratory marine species including sharks and billfishes; water birds; migratory birds; and some threatened and **endangered species** such as the bald eagle, diamondback terrapin, Gulf sturgeon, red-bellied turtle, brown pelican, and Louisiana black bear, and also **candidate species**. Commenters identified specific biological resource areas (e.g., forested wetlands, wildlife refuges, national seashores, national forests, and **benthic** communities crossed by offshore brine disposal pipelines) or specific flora or fauna species (e.g., specific locations of bald eagle nesting areas) near specific SPR sites, pipeline rights-of-way, raw water withdrawal areas, and brine disposal areas.

The affected environment and potential impacts to biological resources from construction and operation of the proposed action are discussed in chapter 3, section 3.7, and appendices B, C, D, E, F, G, H, I, K, and O. The impact assessment methodology for plants, wetlands, and wildlife is described in section 3.7.1.1 and appendix B. **Special status species** (including threatened and endangered species, marine mammals, and managed fisheries) are discussed in section 3.7.1.2 and appendices B, C, D, E, F, G, H, I, K, and O. EFH is discussed in section 3.7.1.3 and appendix E. Special status areas (including national wildlife refuges, wilderness areas, Coastal Wetlands Planning, Protection and Restoration Act areas, and coastal natural resource areas) are discussed in section 3.7.1.4. Potential impacts associated with specific areas of concern and specific species of concern identified by commenters are addressed in the site-

specific impact analyses in chapter 3, section 3.7 and appendices B, C, E, F, G, H, I, and O. The related cumulative impacts are discussed in chapter 4.

Socioeconomics: Commenters requested that DOE evaluate potential economic impacts on local communities, commercial and recreational fishing interests, tourism, and other economic interests in Louisiana, Mississippi, and Texas, particularly in areas affected by Hurricane Katrina. Similarly, commenters expressed concern about impacts to local industries by competition for workers and housing already in short supply. The affected environment and analysis of potential socioeconomic impacts of construction and operation of the proposed action are discussed in chapter 3, section 3.8.

Cultural Resources: Commenters addressed potential Native American concerns, particularly for the Richton and Bruinsburg sites. Commenters also identified themselves as having cultural affiliation with specific SPR sites, and requested that they be notified and that specific procedures be followed in the event that cultural artifacts are discovered during SPR site development. They also suggested the need for archaeological and cultural surveys at the Stratton Ridge, Richton, and Big Hill sites should these sites be selected by DOE. The site-specific cultural resources that could be affected environment and the potential impacts for each SPR site are discussed in chapter 3, section 3.9. Specific procedures that would be implemented by DOE for the selected sites are also discussed in section 3.9.

Environmental Justice: A commenter requested that DOE fully consider the environmental justice impacts of additional environmental risk and pollution associated with SPR expansion in low-income communities in light of the effects of Hurricane Katrina. Commenters also identified specific aspects (e.g., income level) of their communities. The affected environment and site-specific environmental justice impact analyses for each SPR site are presented in chapter 3, section 3.11 and appendix J.

Alternatives: Commenters proposed alternative locations for storage of crude oil. The suggestions included sites in Louisiana, Texas, New Mexico, and Virginia. A discussion of the proposed action and alternatives, including the statutory basis for selection of alternatives and alternatives considered but eliminated from detailed study, is included in sections S.3 and S.4 and chapter 2, section 2.6.

Irreversible and Irretrievable Commitment of Resources: A commenter expressed concern that development of SPR storage caverns would result in the irretrievable loss of salt resources that could otherwise be used for chlorine production. This issue is analyzed in chapter 3, section 3.3 and chapter 5.

Cumulative Impacts: Commenters requested that secondary and cumulative impacts of the proposed action and similar past, ongoing, or future actions, including cumulative impacts to water quality, biological resources, air quality, and socioeconomics, be addressed. Commenters identified specific actions (e.g., proposed LNG facilities, future oil and gas production and pipelines, commercial fishing) and requested that impacts of these actions be considered in the cumulative impacts analysis. Commenters also identified specific impacts (e.g., fish mortality caused by Hurricane Katrina) and requested that such impacts be considered in the cumulative impact analysis. Relevant actions and analysis of potential cumulative impacts of the proposed action are discussed in chapter 4.

Mitigation: Commenters requested that measures to avoid, minimize, and offset impacts (e.g., impacts to wetlands) of construction and operation of the proposed action be discussed in a mitigation section of the EIS. Commenters suggested specific mitigation measures for proposed SPR storage sites, pipeline ROWs, RWI areas, or brine disposal areas. The potential impacts and the associated mitigation measures are discussed in the relevant sections of the EIS (e.g., potential impacts and mitigation measures for impacts to wetlands are both discussed in section 3.7 and appendices B and O).

1.4.3 Draft EIS Public Comment Period

DOE filed the draft EIS with the Environmental Protection Agency (EPA) on Friday, May 19, 2006. EPA published a Notice of Availability in the *Federal Register* on May 26, 2006 (71 FR 30400), starting the 45-day public comment period that ended July 10, 2006. DOE held public hearings to receive comments on the draft EIS in the following five locations:

Table 1.4.3-1: Public Hearings on the Draft EIS

Location	Date	Proposed Sites Close to Hearings Location	Attendance	Speakers
Pascagoula, MS	June 20, 2006	Richton, MS	7	4
Richton, MS	June 21, 2006	Richton, MS	21	1
Port Gibson, MS	June 22, 2006	Bruinsburg, MS	12	3
Lake Jackson, TX	June 27, 2006	Stratton Ridge, TX	48	10
Houma, LA	June 28, 2006	Chacahoula, LA	17	3

The public hearings were attended by approximately 105 people, some of whom provided oral and written comments. See appendix N for the transcripts of these hearings.

1.4.4 Public Review of the Draft EIS and Changes to the Final EIS

DOE received 93 written comment letters and 21 people testified at 5 public hearings for a total of 114 comment documents on the draft EIS from 108 members of the public, companies, organizations, and government agencies. Comments focused mainly, but not exclusively, on the potential impacts of the construction and operation of the SPR facilities on water, land, and marine resources and on various habitats of land and marine species. Section 1.4.4.1 summarizes the major issues raised by commenters on the draft EIS. (To view these comments see www.fe.doegov/programs/reserves/spr/expansion-eis.html or appendix N.) Section 1.4.4.2 describes the major changes that DOE has made in the final EIS. (To view the draft EIS, see www.fe.doegov/ programs/reserves/spr/expansion-eis.html.) In addition, chapter 8 presents the comments—organized by issue category—and the corresponding DOE responses.

1.4.4.1 Major Issues Raised in Comments on Draft EIS

Use of the Leaf River: Commenters expressed concern that raw water withdrawal from the Leaf River during low flow conditions for the Richton alternatives would result in adverse water quality and endangered species impacts. They suggested that DOE consider other sources for water withdrawals for the Richton alternatives. DOE consulted with natural resource agencies, but identified no other practicable alternative for the entire proposed RWI withdrawal rate of 1.2 MMBD.

DOE has modified the Richton alternatives to reduce its dependence on the Leaf River by adding a supplemental water source, a RWI in the Gulf of Mexico at Pascagoula. The draft EIS identified a 16-inch (41-centimeter) diameter, 88-mile (142-kilometer) pipeline between Pascagoula and the Richton site to transport crude oil (to serve as blanket oil) from Pascagoula to Richton at the start of cavern development. DOE has changed this conceptual design by increasing the diameter of the pipeline to 36 inches (91 centimeters) so that the pipeline would also be available to transport sea water from the Gulf of Mexico to Richton during periods of low flow in the Leaf River, both for cavern development and for drawdown operations.

Other features of the conceptual design or use of pipelines between Pascagoula and the Richton site remain unchanged from the draft EIS. That is, once development of all the caverns has been completed, the 36-inch pipeline described above would discharge small volumes of brine associated with cavern filling as was described in the draft EIS for the 16-inch (41-centimeter) pipeline. A second, larger pipeline in the same ROW (48-inch [112-centimeter] diameter), as described in the draft EIS, would discharge brine during cavern development and transport crude oil during operation.

The Pascagoula RWI and associated pipeline would transport water from the Gulf of Mexico, if needed, for cavern development, maintenance, and drawdown as follows:

- During normal and high flow conditions, DOE would withdraw water only from the Leaf River.
- During low flow conditions, excluding emergency drawdown events (declared as a National Emergency), DOE would withdraw water from the Gulf of Mexico and reduce or terminate its withdrawal from the Leaf River so that it would not cause the Leaf River to be below the Minimum Instream Flow designated by regulatory agencies to protect special status species.
- If low flow conditions exist in the Leaf River during emergency drawdown events (declared as a National Emergency), DOE would withdraw water from the Gulf of Mexico and, as necessary to reach the oil drawdown rate of 1.0 MMBD, from the Leaf River even if it caused the Leaf River to be below the Minimum Instream Flow.

The supplemental water source at Pascagoula would be designed to provide 0.5 MMBD of supplemental water, rather than the full 1.2 MMBD for two reasons. First, expanding the RWI system capacity would involve substantial construction and operational costs, even though this extra capacity may never be needed during cavern development and drawdown. The costs would be higher, for example, because of a large diameter pipeline, high pumping capacity, and the electricity needed to pump water 88 miles. Second, due to its salinity, water from the Gulf of Mexico is less efficient in solution mining than fresh water from the Leaf River and its use would take more time than using freshwater, thereby increasing operational costs.

DOE has determined that withdrawal from the Leaf River during an emergency drawdown (declared as a National Emergency) may result in adverse impacts on water resources, may adversely affect aquatic communities, and may adversely affect species protected under the Endangered Species Act (ESA). In addition, withdrawal of water from the Leaf River at other times may adversely affect aquatic communities and protected species. If one of the Richton alternatives were selected, these potential impacts would require DOE to initiate formal consultation with U.S. Fish and Wildlife Service (USFWS) and National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries). During this consultation, DOE would develop a Water Conservation Plan as a mitigation measure. DOE also would consider supplemental water sources, such as water from underground sources, existing reservoirs, or river intakes during drawdown. DOE also would coordinate with the Mississippi Department of Environmental Quality (MDEQ) to secure a Beneficial Use of Public Waters Permit, which would include withdrawal conditions.

Wetlands Impacts: Commenters stated that the Chacahoula and Stratton Ridge alternatives would have substantial adverse effects to wetlands. Commenters noted that the Clovelly alternative would be the environmentally preferable alternative because it would potentially affect the smallest amount of wetlands. Since the draft EIS was issued, however, DOE has determined that the Clovelly and Clovelly-Bruinsburg alternatives are not reasonable, as described above in section S.4. Commenters noted that DOE did not conduct Clean Water Act Section 404/401 permitting, delineate wetlands, or present a compensation plan during the preparation of the EIS and instead will wait until after the Record of

Decision (ROD). DOE determined that, to inform decisionmaking, general impacts to wetlands could be analyzed without conducting wetland delineations, and instead used National Wetlands Inventory data and conducted spot checks at each site. Also, in light of the broad geographic area covered by the alternatives, consultations with the U.S. Army Corps of Engineers (USACE) indicated that it would be a better use of USACE's and DOE's resources to wait until DOE selects an alternative in the ROD before delineating wetlands and initiating the Section 404/401 consultation and permitting process. DOE has added a conceptual wetland compensation plan (appendix O) that provides more information on possible mitigation strategies for wetland impacts.

Brine Discharge to Gulf of Mexico: Commenters requested additional analysis of the potential impacts of brine discharge into the Gulf of Mexico. Commenters also questioned the conclusion for the Richton alternatives that the increase in water salinity resulting from the brine discharge would be within natural salinity variation. The EIS presents an expanded analysis of brine discharge and explains that DOE would conduct additional modeling and monitoring of the brine discharge for the selected SPR alternative consistent with the permits needed from the state and Federal agencies.

Stratton Ridge Site Resource Conflicts: Commenters opposed SPR development of the Stratton Ridge storage site because it would conflict with Dow Chemical's desire to use salt that DOE would solution mine to create storage caverns. The commenters stated that loss of access to that salt would have a substantial adverse effect on Dow Chemical's long-term operations and would result in a loss of jobs in Brazoria County. Commenters also stated that construction of caverns at the Stratton Ridge site would result in irreversible and irretrievable loss of salt. DOE acknowledges that SPR development of the Stratton Ridge site could potentially conflict with Dow Chemical's future operations and thereby result in adverse socioeconomic impacts in Brazoria County. In addition, DOE acknowledges that solution mining of SPR caverns would result in the irreversible and irretrievable loss of salt.

Essential Fish Habitat: A commenter requested that DOE identify and examine impacts to onshore EFH for all alternatives and identify and examine impacts to seagrass near the brine disposal pipeline for the Richton alternative. DOE conducted additional geographic information system (GIS) analyses to identify and examine such potential impacts. As discussed in section 3.7 and appendix E, the underwater construction of an offshore brine pipeline and **diffuser** for Chacahoula, Richton, and Stratton Ridge may pass through EFH, which would permanently remove **submerged aquatic vegetation** (SAV) and EFH within the ROW. Construction of onshore pipelines, RWI structures in the Intercoastal Waterway (ICW), and the proposed new terminal and RWI in Pascagoula for the Richton alternative would affect EFH. DOE would avoid direct impacts to SAV and EFH (if practicable) and minimize indirect impacts. DOE's consultation with NOAA Fisheries would include a plan to mitigate and compensate for impacts to EFH, which would be included as part of the Section 404/401 permit.

1.4.4.2 Major Changes to the Final EIS

This section summarizes major changes DOE made in the final EIS.

Elimination of Clovelly Site Alternatives: Subsequent to the publication of the draft EIS, DOE determined that the Clovelly 120 MMB alternative and the Clovelly 80 or 90 MMB and Bruinsburg 80 MMB alternatives are neither reasonable nor feasible for geotechnical issues. DOE has eliminated these alternatives from detailed consideration in the final EIS, as discussed in S.4 and section 2.6.

Raw Water Source for Richton Alternatives: As discussed in the discussion of the Leaf River in section S.5.2.1, DOE has modified the Richton alternatives to provide a supplemental source of water for cavern construction, maintenance, and drawdown. During low flow conditions in the Leaf River, DOE would use water from a new RWI structure in the Gulf of Mexico at Pascagoula.

Preferred Alternative: DOE identifies the Richton alternative (with expansion of the existing Bayou Choctaw, Big Hill, and West Hackberry sites) as the preferred alterative based on crude oil distribution system capabilities, environmental considerations, project risks, and project costs as discussed in sections 1.4.4 and 2.2.3.

Wetlands Impacts: DOE added Appendix O Conceptual Compensation Plan for Impacts to Wetlands and Waters to the final EIS in response to requests for additional information regarding potential compensation sites required by the Clean Water Act Section 404. DOE revised appendix B to incorporate updated conceptual designs for RWI structures at Bruinsburg and Richton, an additional access road at the Chacahoula storage site, additional filling of floodplains at the Bruinsburg storage site, and the change to the Richton site infrastructure, as noted above. DOE also incorporated additional information into sections 3.6 and 3.7 to identify and examine potential impacts to wetlands as a result of the new conceptual designs.

Essential Fish Habitat and Brine Discharge: DOE conducted additional geographic information system analyses to identify and examine potential impacts to onshore EFH and offshore EFH, such as submerged aquatic vegetation and impacts due to the added RWI at Pascagoula for the Richton alternatives. The results are included in sections 3.6 and 3.7 and appendix E. The EIS also presents expanded analyses of potential impacts of brine discharge in sections 3.6.2 and 3.7.2, and appendices C and E.

1.4.5 Final Environmental Impact Statement and Record of Decision

DOE prepared this final EIS following the public comment period and after considering the comments received on the draft EIS. DOE considered all comments received during the public comment period, and also considered those after the comment period ended to the extent possible. These comments and responses are included in chapter 8 and appendix N.

A number of comments on the draft EIS requested that DOE change the document, conduct additional analyses, or provide additional information concerning potential impacts. DOE has made revisions or provided additional information where appropriate. These revisions are not a result of any significant new circumstances or information that became available since publication of the draft EIS, nor do they change the conclusions reached in the draft EIS.

The final EIS has been distributed to individuals and organizations that received the draft EIS and to others upon request (see chapter 7).

1.5 DOE DECISION

No decision on the proposed action will be made by DOE until a minimum of 30 days after the Environmental Protection Agency's notice of availability of the final EIS. After this period, DOE will issue a ROD concerning the proposed action. The ROD will notify the public of the alternative that DOE has selected and the reasons for that decision. In addition to the environmental consequences described in the EIS, DOE may evaluate other issues such as cost, oil distribution capability, and risk in making its decisions. DOE will publish the ROD in the Federal Register and post it on the DOE Fossil Energy Web site at http://www.fossil.energy.gov/ programs/reserves/spr/expansion-eis.html.

[This page intentionally left blank]