



# United States Department of the Interior

OFFICE OF THE SECRETARY  
Office of Environmental Policy and Compliance  
P.O. Box 26567 (MC-9)  
Albuquerque, New Mexico 87125-6567



IN REPLY REFER TO:

July 7, 2006

File 9043.1  
ER 06/499

Mr. Donald Silawsky  
Office of Petroleum Reserves (FE-47)  
U.S. Department of Energy  
1000 Independence Avenue, SW  
Washington, D.C. 20585-0301

Dear Mr. Silawsky:

The U.S. Department of the Interior (DOI) has reviewed the Department of Energy (DOE) Draft Environmental Impact Statement (EIS) for the Expansion of the Strategic Petroleum Reserve (SPR) at sites in Mississippi, Louisiana, and Texas. The DOE conducted planning activities for the expansion of the SPR to 1 billion barrels under prior congressional directives in 1988 and 1990. The expansion planning directive in 1988 resulted in an initial plan titled Report to Congress on Expansion of the Strategic Petroleum Reserve to One Billion Barrels. The expansion planning directive in 1990 likewise resulted in a Report to Congress on Candidate Sites for Expansion of the Strategic Petroleum Reserve to 1 billion barrels and the preparation of a Draft EIS on the Expansion of the Strategic Petroleum Reserve, DOE/EIS-0165-D in 1992, which assessed five candidate sites for the expansion of the SPR to 1 billion barrels: Big Hill, Texas; Stratton Ridge, Texas; Weeks Island, Louisiana; Cote Blanche, Louisiana; and Richton, Mississippi.

We have reviewed the information provided and offer the following comments in accordance with provisions of the National Environmental Policy Act of 1969 (83 Stat. 852; 42 U.S.C. 4321 et seq.), the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.), the Migratory Bird Treaty Act (40 Stat. 755, as amended; 16 U.S.C. 703 et seq.), and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.).

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, Louisiana. 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 current storage capacity of 727 Million Barrels (MMB) and an inventory of 688 MMB as of May 4, 2006.

The DOE is proposing to expand the SPR as required by the Energy Policy Act of 2005 (P.L. 109-58). The DOE would develop one new site or a combination of two new sites and would expand the capacity at two or three existing sites. New pipelines, marine terminal facilities, and other infrastructure could be required. Potential new SPR sites are located in Lafourche Parish, Louisiana; Perry and Claiborne Counties, Mississippi; and Brazoria County, Texas. Existing SPR storage sites that could be expanded are located in Cameron, Calcasieu, and Iberville Parishes, Louisiana, and Jefferson County, Texas. Associated pipelines, marine terminals, and other facilities that might be developed are located in East Baton Rouge, East Feliciana, St. James, Terrebonne, West Baton Rouge, and West Feliciana Parishes, Louisiana; Adams, Amite, Forrest, George, Greene, Hinds, Jackson, Jefferson, Lamar, Lincoln, Marion, Pike, Warren, Walthall, and Wilkinson Counties, Mississippi; and Galveston County, Texas.

## GENERAL COMMENTS

The DOI brings to DOE's attention the potential significance of impacts to fish and wildlife habitat that would be caused by the expansion and new construction of the SPR sites, associated pipelines, marine terminals, facilities, and other infrastructure, and offers to cooperate with DOE on actions that may help alleviate these concerns. The Draft EIS should consider what compensatory measures may help minimize the unavoidable losses which may occur. The U.S. Fish and Wildlife Service (FWS) is currently working with the DOE to evaluate the extent of the permanent losses that may occur and to develop an appropriate compensation plan; however, we believe this information should be included in the Final EIS before issuance of a Record of Decision (ROD).

Because the DOE is in the process of evaluating potential sites for the expansion of the SPR, a complete analysis of potential impacts to federally threatened and endangered species has not yet been conducted. However, the DOE has issued a document of findings of "no effect" or "may affect" for each species that may occur at each proposed site. Once an alternative is selected, additional investigations will be conducted and Endangered Species Act (ESA) consultations with the FWS will be completed. According to the Draft EIS, the DOE will initiate formal consultation with the FWS should a finding of "may affect" be determined for the selected sites. We look forward to working with the DOE in developing mitigative measures to ensure no adverse affects to federally listed species occur. However, the FWS would be willing to enter into formal consultation should the DOE make that request.

## SPECIFIC COMMENTS

### Texas Sites

Stratton Ridge Storage Site and Associated Infrastructure Impacts, section 3.7.8.2.1, page 3-265  
Stratton Ridge Rights-of-Way (ROW) Impacts, section 3.7.8.2.2, page 3-268

### Plants, Wetlands, Wildlife

**Habitat losses:** Permanent impacts caused by the construction of the Stratton Ridge Storage Site and associated infrastructure are approximately 258 acres of rare and ecologically important

bottomland hardwood forested wetlands. In addition, 35 acres of deciduous forests, 23 acres of palustrine-emergent wetlands, 12 acres of scrub-shrub, and 45 acres of old field and roads will be impacted. The permanent pipeline Right-of-Way (ROW) impacts are estimated to include 373 acres of bottomland hardwood forest, 40 acres of grassland and scrub-shrub, 11 acres of water and emergent wetlands, 124 acres of sand flats and beach habitat, and 140 acres of disturbed or managed land.

The bottomland hardwood forests adjacent to the Brazos, Colorado, and San Bernard Rivers of the upper Texas coast are known regionally as the Columbia Bottomlands. The Columbia Bottomlands extend from the Texas coast, approximately 150 km inland, and include parts of seven counties. It is estimated that the Columbia Bottomlands comprised over 283,000 hectares (ha) at the beginning of the last century. Today, the forest covers about 71,632 ha, and the remaining stands are highly fragmented and continuously lost or degraded through residential and commercial development, overgrazing, timbering, and infestation of invasive plants. Recent studies utilizing Geographic Information Systems suggested a loss of approximately 17 percent between 1979 and 1995.

Bottomland forests adjacent to the Gulf of Mexico provide stopover and staging habitat for Nearctic-Neotropical migrant landbirds. Millions of Nearctic-Neotropical migrant landbirds move through the coastal forests of the Gulf of Mexico during annual migration. The Columbia Bottomlands provides the only expanse of forest adjacent to the Gulf of Mexico in Texas. An estimated 29 million Nearctic-Neotropical migrant landbirds represented by 65-70 species migrate through the Columbia Bottomlands annually. Forest stands in the Columbia Bottomlands provide structural complexity and resources known to be important for sustaining an abundance of forest-dwelling birds.

Mitigation is being offered for the loss of forested wetlands, due to construction of the storage site, at a ratio of 7:1. This may be adequate and acceptable depending on field evaluations. However, no mitigation is being considered for the loss of the 373 acres of forest proposed to be cleared for the pipeline routes. Insufficient information has been provided describing the quality of the 140 acres of managed land or the 120 acres of sand flat and beach habitat. Therefore, field evaluations and continued coordination is recommended in order for the FWS to determine if these impacts will have an adverse effect on fish and wildlife and their habitats. The FWS believes that additional mitigation will be needed to compensate for the loss of 373 acres of bottomland hardwood forest, impacts to sandflats and beach habitats, and possibly the managed land in the pipeline routes. We look forward to working with DOE in developing a stronger mitigation plan to be included in the Final EIS.

#### Special Status Areas

**Migratory Bird Concerns:** The DOI is concerned with the impacts on migratory birds caused by the construction of the large storage tanks, the electrical transmission lines, and any other tall structures proposed for the SPR facilities and work associated with the pipeline installation activities. Migratory birds (e.g., waterfowl, shorebirds, passerines, hawks, owls, vultures, falcons) are afforded protection under the Migratory Bird Treaty Act (40 Stat. 755; 16 U.S.C. 703-712). To ascertain potential effects, the Final EIS should identify locations and heights of

storage tanks, transmission lines, and all tall structures proposed for the project sites. Transmission lines often pose a hazard to migratory birds in flight and can pose a threat to nesting birds attracted to the site; therefore, we recommend the burial of the transmission lines to significantly reduce bird strikes in the area.

The proposed SPR facility and pipeline route may be located within the vicinity of documented bird rookeries and colonial nesting bird sites. Of particular concern is Drum Bay bird rookery located in Brazoria County and Little Pelican Island located in Galveston County. There are several others within Brazoria, Galveston, and Jefferson Counties. These rookery sites can be identified on the FWS's Texas Coastal Program website at <http://texascoastalprogram.fws.gov/TCWC.htm>. Development operations, which include drilling, dredging, seismic exploration, construction activity, or watercraft landing occurring within 1,000 feet of a rookery should be restricted to the non-nesting period (i.e., September 1 through February 15, depending on species present). We recommend that DOE develop a monitoring plan that identifies these rookeries and documents that they will not be disturbed by construction activities.

Previous pipeline projects have used bright lighting on associated above-ground pipeline structures such as meter stations, compressor stations, connection stations, main line valve stations, and other small facilities associated with the pipeline projects. The SPR water intake structure may be an example of this type of small above-ground facility. We recommend all bright lighting associated with these above-ground structures be down-shielded to significantly reduce disturbance to resident and migratory birds and other resident wildlife. In addition, security lighting for on-ground facilities and equipment, such as storage tanks, should be down-shielded to keep light within the boundaries of the site.

Raw Water Intake section 3.7.8.2.3, page 3-270

#### Special Status Areas

**National Wildlife Refuge (NWR) System:** Since the raw water intake pipeline, brine disposal line, and oil distribution line are each greater than 24 inches in diameter, they would all require Congressional approval per 50 CFR 29.21-9(m) for an application for a ROW on the Brazoria NWR. The oil distribution line may be deemed a common-carrier per 50 CFR 29.21-9(j1).

Refuge compatibility issues must be addressed for all three lines regardless of size. If the oil distribution line can be located within the existing, heavily disturbed 23 inch and greater pipeline corridor (commonly referred to as the Dow Corridor), compatibility issues and concerns can be better addressed. The raw water intake and brine disposal lines, however, occur in a nationally-recognized declining habitat type - Gulf cordgrass and adjacent wetlands. The area in question (Freshwater Lake area) also has minimal to no disturbance; therefore, construction of two new lines and the resulting wide ROW (150 feet in wetlands and 100 feet in uplands) would be of concern to the refuge during the compatibility determination. Compatibility stipulations may include boring of the two lines underground to minimize habitat loss or other means to replace refuge habitat lost. Please coordinate with Jennifer Sanchez or Floyd Truetken, at 979-849-7771 for additional questions regarding the Brazoria NWR.

Appendix B: Floodplains and Wetlands, Impact Avoidance and Minimization, section B.7.4, page B-88

**Pipeline Corridors:** Alternative routes and directional drilling should be evaluated and the least environmentally damaging route/method should be selected. Installation of pipelines and other transmission lines have caused irreversible damage in coastal marsh environments. Damage is often not limited to the permitted ROW; damage occurs outside the ROW when construction equipment ranges through the marsh. Enclosed are specific pipeline conditions the FWS, in concert with the U.S. Army Corps of Engineers (USACE), Texas Parks and Wildlife Department, and National Oceanic and Atmospheric Administration – Fisheries (NOAA Fisheries), developed for pipeline installation and post-construction monitoring plans to reduce impacts to fish and wildlife habitats. These conditions should be included in the final project plans.

**Compensatory Mitigation Recommendations:** After all alternatives are considered and wetland impacts are deemed unavoidable, compensatory mitigation for unavoidable wetlands losses should be considered. Compensatory mitigation plans should be developed in order to significantly reduce impacts to fish and wildlife habitats. Once final sites are chosen, the FWS will provide recommendations to reduce impacts to fish and wildlife habitats.

Pipeline construction activities through emergent marsh habitats will be considered temporary if the attached USACE pipeline monitoring conditions are incorporated into final project plans. Any impacts to forested wetland areas are considered permanent and the FWS recommends compensation by the preservation or enhancement of forested wetlands within the same watershed. Compensatory mitigation ratios will be dependent upon the condition and value of habitats proposed to be impacted.

**Louisiana Sites**

Of the five sites proposed for the construction of a new SPR facility, those in Louisiana include Chacahoula and Clovelly in Lafourche Parish. The Bayou Choctaw facility in Iberville Parish and the West Hackberry facility in Cameron and Calcasieu Parishes are existing facilities proposed for expansion. The DOE is evaluating eight alternatives which include a combination of a proposed new site with the expansion of two or three existing sites throughout the entire tri-state study area.

The DOE has determined that the proposed development of the Clovelly site in Lafourche Parish and the expansions of the Bayou Choctaw site in Iberville Parish and the West Hackberry site in Cameron and Calcasieu Parishes would have “no effect” on federally listed species. Those determinations were based on the fact that no new construction would be conducted outside existing facility boundaries. Additionally, no federally listed species are documented within the immediate vicinity of the proposed sites according to the database maintained by the Louisiana Department of Wildlife and Fisheries. Based on the above information, the FWS concurs with the determination that the proposed activities associated with those alternatives would have no adverse effects on threatened or endangered species. However, should the project not be

initiated within 1 year or the scope or location of the proposed activities change, follow-up consultation should be initiated with the FWS as soon as possible.

Depending upon their configuration, electrical transmission lines can present electrocution hazards to raptors and other birds protected under the Migratory Bird Treaty Act. According to the Draft EIS, the proposed electrical transmission lines would be spaced wider than the largest local raptor's wingspan. DOE would also follow guidelines recommended by the Edison Electric Institute's Avian Power Line Interaction Committee (APLIC). The FWS, in cooperation with the APLIC, released those voluntary guidelines designed to help electrical utilities protect and conserve migratory birds, and we fully support the implementation of those guidelines to reduce bird mortality.

The proposed Chacahoula and Bayou Choctaw project sites are also located within areas where colonial nesting waterbirds may be present. Colonies may be present that are not currently listed in the database maintained by the Louisiana Department of Wildlife and Fisheries. That database is updated primarily by monitoring the colony sites that were previously surveyed during the 1980s. Should a Louisiana site be chosen as the preferred alternative, we recommend that a qualified biologist inspect the proposed work areas for the presence of undocumented nesting colonies during the nesting season. To minimize disturbance to colonial nesting birds (i.e., herons, egrets, night-herons, ibis, roseate spoonbills, anhingas, and/or cormorants), all activity occurring within 1,000 feet of a rookery should be restricted to the non-nesting period (i.e., September 1 through February 15, depending on species present). In addition, we recommend that on-site contract personnel be informed of the need to identify colonial nesting birds and their nests, and they should avoid affecting them during the breeding season.

According to the Draft EIS, once the DOE selects an alternative, a wetland delineation of the selected sites would be conducted and approved by the appropriate USACE District. The DOE would then submit an application to initiate the Section 404 of the Clean Water Act permitting process, and the proposed project would be evaluated to avoid and minimize impacts to jurisdictional wetlands. Compensatory mitigation will also be required to fully offset remaining unavoidable project-related wetland habitat losses. Such mitigation should be designed in consultation with the USACE, the FWS, and other interested natural resource agencies, and should be implemented prior to, or concurrently with, project implementation. To minimize impacts to emergent and forested wetlands, the FWS recommends that the horizontal directional drilling method be used at all major stream and/or river crossings (including adjacent floodplains), as well as at coastline interfaces (i.e., beachfronts), and that the construction ROWs through such areas be minimized as much as practicable for safe working conditions. Should a Louisiana site be chosen as the preferred alternative, the FWS looks forward to working with the DOE and the USACE to develop measures to avoid, minimize, and mitigate wetland impacts as much as possible. For assistance during the early stages of project planning in Louisiana, please contact

## SUMMARY

The Draft EIS should more thoroughly address several important issues involving the reduction of impacts and protection of fish and wildlife resources. We offer to assist you in developing conservation features to be incorporated into the project plans to further reduce impacts. The Final EIS should contain a comprehensive mitigation plan to compensate for the cumulative loss of the coastal habitats and forested areas found along the proposed project facilities and pipeline. These issues should be addressed before the Final EIS is approved or a ROD is issued.

We appreciate the opportunity to comment on the Draft EIS and look forward to working with you in enhancing the conservation measures proposed.

Sincerely,

Stephen R. Spencer, Ph.D.  
Regional Environmental Officer

Enclosure

**U.S. Army Corps of Engineers Pipeline Monitoring Conditions developed in coordination with the U.S. Fish and Wildlife Service, Texas Parks and Wildlife Department, and the National Oceanic and Atmospheric Administration**

These special conditions can be used to address impacts to non-forested wetlands along pipeline routes.

1. The permittee must notify the U.S. Army Corps of Engineers (USACE) Galveston District, Regulatory Branch, Compliance Section Chief (Compliance) in writing within 7 days of the completion of the pipeline construction. The permittee must restore all impacted jurisdictional waters of the United States including wetlands within the permit area, to pre-project contours and elevations within 30 calendar days of completion of the pipeline construction.

2. The permittee will conduct four separate reports that will be used to compare pre- and post-construction site conditions, including one pre-construction report and three restoration reports. All reports will use Geographical Information System (GIS)/Remote Sensing analysis based on aerial imagery and ground surveys of the project site according to the "Protocols for Data Submission" (Protocols), which are described below. The restoration reports must compare pre- and post-construction conditions in the permit area, present conclusions on the success or failure of the restoration activities, and include a proposal to bring the project into compliance, if restoration is not successful. Reports will include the following:

a. The **first** report will be conducted before pipeline construction begins. The permittee will conduct aerial and ground surveys as part of the GIS analyses of the permit area (including any proposed temporary work areas) according to the Protocols below.

b. The **second** report will be an initial restoration report and submitted to Compliance within 60 calendar days of the completion of pipeline construction. This second report will be based on post-construction aerial and ground surveys conducted after the completion of the pipeline construction. Should some wetland areas not be restored satisfactorily, remedial action, such as planting, addition of fill material, or additional mitigation, may be required, at the discretion of Compliance.

c. The **third** report will be a supplemental restoration report submitted to Compliance one year after the completion of pipeline construction. This third report will be based on post-construction aerial and ground surveys conducted 1 year after the completion of the pipeline construction (or the end of first growing season, whichever comes first). The third report must be submitted 60 days after the surveys are conducted. The re-vegetation of disturbed areas should be at least 30 percent of the pre-construction aerial coverage of non invasive, native vegetation, to be considered on target for eventual restoration. Should some wetland areas not be restored satisfactorily, remedial action, such as replanting, addition of fill material, or additional mitigation, may be required, at the discretion of Compliance.

d. The **fourth** report will be a supplemental restoration report submitted to Compliance within 2 years after the completion of pipeline construction. The fourth report must be

submitted 60 days after the 2-year time limit. This fourth report will be based on post-construction aerial and ground surveys conducted 2 years after the completion of the pipeline construction (or the end of second growing season, whichever comes first). The re-vegetation of disturbed areas should be 100 percent of the pre-construction aerial coverage with non-invasive, native vegetation, to be considered on target for complete restoration. Should some wetland areas not be restored satisfactorily, remedial action, such as replanting, addition of fill material, or additional mitigation, may be required, at the discretion of Compliance.

### **Protocols for Data Submission (Protocols)**

- a. Aerial Imagery Protocol: The first report must utilize recent aerial imagery (within the last 5 years) of the permit area and an area 300-feet-wide on each side of the permit area. The second report must utilize aerial images taken within 2 months of project completion. The third image must be taken approximately 1 year after pipeline construction is complete. The fourth image must be taken approximately 2 years after pipeline construction is complete. The aerial imagery must be color infrared, ortho-corrected, with a maximum of 6-inch pixel size, and +/- 1 meters spatial accuracy, presented at a scale of 1 inch = 200 feet.
- b. Ground Survey Protocol: Each of the restoration reports will include GIS analysis of the permit area, accompanied by a ground survey that includes sample points with geographic coordinates, a wetland data sheet percent of relative vegetation cover, and elevations for each change in plant community (described in the USACE 1987 Wetland Delineation Manual) throughout the entire permit area. The survey coordinates must have sub-meter accuracy; data must be recorded and submitted in NAD 1983 UTM zones and coordinates.
- c. GIS/Remote Sensing Analysis Protocol: Each report must include aerial imagery of the permit area and an area 300-feet-wide on each side of the permit area with a GIS analysis of the aerial imagery. Survey reports will assess all existing plant communities, open water, and special aquatic sites (in acres) within the entire permit area. The GIS analysis must be submitted in the reports as an 8 ½ by 11-inch hard copy. Upon request by Compliance, the permittee shall submit the GIS analysis in Arcview Shapefile format with Federal Geographic Data Committee (FGDC) compliant metadata, and all raster imagery in GGeoTiff format with FGDC compliant metadata, on a CD-ROM.