D0106

July 12, 2006

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

Dear Mr. Silawsky:

This is in regard to the U.S. Department of Energy's (DOE) Draft Environmental Impact Statement, Site Selection for the Expansion of the Strategic Petroleum Reserve (DEIS). The U.S. Fish and Wildlife Service (Service) has reviewed the DEIS and offer the following comments for your consideration. Our comments cover the two sites for Mississippi (the Bruinsburg and Richton sites). Our field offices in Louisiana and Texas will provide comments on those sites in Louisiana and Texas. We have also coordinated our comments with the Mississippi Natural Heritage Program (MNHP), and their comments have been incorporated. The MNHP plans to submit written comments, and we concur with their comments.

General Comments

The DEIS provides, in general, a good discussion of impacts to fish and wildlife resources in Mississippi. However, there are several inadequacies and omissions that should be addressed in the document. These inadequacies and omissions deal with disagreements regarding the severity of the impacts. The document only mentions mitigation for jurisdictional wetlands. The National Environmental Policy Act (NEPA), E.O. 11990, our mitigation policy, and the Fish and Wildlife Coordination Act require that non jurisdictional wetlands of high value to our trust resources be also adequately mitigated. In addition, the DEIS discusses only alternatives that use surface water to develop caverns in salt domes. The Service believes that serious consideration should be given to an alternative that utilizes ground water to develop caverns.

Moreover, the DEIS does not adequately address potential for destabilization of the channel structure of Bayou Pierre consequent to installation of the Bruinsburg facility in its floodplain near its confluence with the Mississippi River. There may be no significant problem, but considering the history of channel destabilization in Bayou Pierre, the subject should be discussed in the document. Bayou Pierre is the only stream supporting the federally threatened Bayou darter, and also supports the state-endangered crystal darter. Our specific comments are provided below.

Specific Comments

Page S-29, Richton. This section summarizes impacts of the Richton alternative to the endangered yellow-blotched map turtle and Gulf sturgeon and the pearl darter, a candidate species. The document should also state that the raw water intake would also adversely affect these species through impairment of water quality.

Page S-32, CUMULATIVE IMPACTS, paragraph 1. The paragraph concludes by stating that DOE does not expect the cumulative effects to threatened and endangered species to be significant. Operation of the proposed raw water intake on the Leaf River in combination with other major water users on the river could have significant cumulative effects especially during low flow conditions. For example, although the water removed from the Leaf River by the paper mill at New Augusta and the power plant upstream is eventually returned to the River, these facilities frequently hold this water for some time. Unpermitted water removal for other purposes such as irrigation and livestock watering is also greater during low flow conditions. These activities in combination with the operation of the raw water intake could result in significant cumulative, adverse effects.

Page 2-1, Chapter 2, Proposed Action and Alternatives. This chapter provides a detailed discussion on development and selection of alternatives. The alternatives being considered in detail for Mississippi include surface water withdrawal to construct caverns in the salt domes for crude oil storage. Agency representatives during an interagency meeting on June 22, 2006, reached consensus that the surface water withdrawal from the Leaf River would be damaging to aquatic resources including listed species, and other water sources including ground water should be given detailed consideration for dissolution of the caverns. Geologists with the State of Mississippi provided locations of potential wells to provide water for cavern construction. The Fish and Wildlife Service recommends that the DOE develops and give detailed consideration to an alternative that would use primarily groundwater, or water from reservoir storage, to construct the caverns during low flow conditions.

Page 2-72, Table 2.8-3: Impacts to Wetlands. This table provides an estimation of wetland acres filled and permanently converted by construction of the storage and expansion sites and ancillary facilities. It also estimates the acres of wetlands within the temporary and permanent easement for the project rights-of-ways (ROWs). The table should also give estimated acres for wetlands filled and permanently converted in the temporary and permanent ROWs. This information would be necessary to adequately assess impacts of the proposed alternatives.

Page 2-74, Richton, bullets 3 through 5. These bullets provide a summary of impacts by the Richton alternative to the federally endangered yellow-blotched map turtle and Gulf sturgeon and the pearl darter (candidate species). The impact summary should mention that operation of the raw water intake on the Leaf River would adversely affect these species through degradation of water quality during low flow periods.

Page 2-80, Table 2.8-1: Comparison of Impacts for Alternatives with Three Expansion Sites and No-Action Alternative. This table compares impacts of the new sites, the three expansion sites, and the no-action alternative. The Richton site would discharge brine into the Gulf of Mexico through 75 diffusers placed about 60 feet apart. Modeling indicates that there would be a small increase in water salinity (about 4 parts per thousand) and this increase is within natural salinity variation. The Service believes there should be further elaboration on this conclusion. The brine discharged in the Gulf of Mexico would be released near the bottom and would have a salinity of over 235 parts per thousand (ppt). The salinity of the water in the vicinity of the release is 35 ppt. Since the brine is denser than the surrounding water, the brine would flow along the bottom and there would be considerable time before mixing is complete. Therefore, we believe there would be a mixing zone over a large area with elevated salinity levels. The mixing zone would be avoided by highly mobile animals such as fish and shrimp, and could seriously impacts benthos dwelling in the mixing zone. In short, the mixing zone could potentially be a depressed zone for aquatic life. The Service believes that brine water released into the Gulf should be closely monitored for effects on aquatic life.

Page 2-83, Table 2.8-1: Comparison of Impacts for Alternatives with Three Expansion Sites and No-Action Alternative. The table discusses that only jurisdictional wetlands will be mitigated because of the importance of wetlands. The Service has determined that non jurisdictional wetlands of shorter hydro periods including forested and emergent wetlands are also of regional importance and recommends that the loss of these areas be mitigated. Our recommendation is in accordance with E.O. 11990, which requires no net loss of wetlands. Our recommendation is also in accordance with NEPA, our mitigation policy, and the Fish and Wildlife Coordination Act.

Page 3-5, paragraph 1. This paragraph discusses brine spills in marine environments at existing SPR sites, and concludes by stating that these spills had little impact on fish and wildlife habitat. We recommend that the paragraph also discuss impacts of brine spills in freshwater habitats. Brine spills in freshwater habitats are usually more damaging than spills in marine habitats.

Page 3-5, Table 3.2.1-1. This table provides information on brine spills at existing SPR sites from 1982 through 2003. The table should also mention whether the spills occurred in freshwater or a marine environment.

Page 3-11, paragraph 4. The document discusses that oil spills would occur during operation of the proposed project. It further mentions some ways oil cleanup could be handled to reduce impacts to the environment. This section should also discuss compensation responsibilities for oil spill injuries to our trust resources (e.g. migratory waterfowl, wetlands, endangered and threatened species, etc.) and state trust resources. This information allows for a more complete disclosure and discussion of impacts to the natural environment.

Page 3-13, paragraph 3, lines 1 through 9. This section discusses the impacts of a large brine spill in the Gulf Intracoastal Waterway. The discussion implies that the brine spill did not have a significant impact on fish and wildlife resources, and thus, any future large brine spills would not have significant impacts on the environment. However, the last two sentences state that decay of organic matter in some ponds depressed dissolved oxygen levels and increased water temperature. Further elaboration is needed on these statements to better assess impacts of this large brine spill. For example, it should be stated what percentage of the vegetation in the ponds was killed by the brine spill and how long was required for the area to revegetate. The document should also mention to what extent was dissolved oxygen levels depressed, and the ambient water temperature increased. If the brine spill killed a significant percentage of the vegetation and resulted in severely depressed oxygen levels and significantly increased water temperature, the spill had significant impacts on fish and wildlife resources.

Page 3-191, paragraph 3, lines 3 through 5. It is stated that unavoidable wetland impacts would be compensated by creating, restoring, and/or preserving wetlands, paying an in-lieu of fee, or buying credits from an approved mitigation bank. We request DOE consider as a mitigation option acquiring in holdings or lands adjacent to Wildlife Management Areas (WMA) and National Wildlife Refuges (NWR). In holdings and adjacent lands are usually areas owned by private landowners. Certain criteria would need to apply including acquisition on a willing seller basis, operation and maintenance costs should be included in the cost, and habitat of in holding should be similar to the wetland habitat lost.

In addition, Bayou Pierre has a serious headcutting problem, which causes bank sloughing and sedimentation. The headcutting problem is having adverse impacts on the endangered Bayou darter. As the Bruinsburg alternative may potentially exaggerate the head cutting problem, we recommend measures to address the head cutting problem be considered as an option for stream mitigation.

Page 3-193, paragraphs 3 and 4. These paragraphs present the findings of several studies regarding the effects of brine discharges in marine environments at existing sites. It is concluded that brine discharges were having "no significant biological impacts." However, it was stated that researchers found that fish avoided the brine discharge areas, a decrease in abundance of benthic organisms was found within 31 to 2000 acres of the brine diffusers, and shrimp species would avoid the discharge areas. These findings indicate that the brine discharges have a significant impact on biological resources.

Page 3-195, Raw Water Intake Structure, paragraph 1, lines 13 through 16. The DEIS states that studies have shown that large volume water intake structures can impinge and entrain thousands of fish during the course of the year, but effective traveling screens and bypass systems can ensure a survival rate of 80 to 90 percent of the impinged fish. We fail to see how the traveling screens and bypasses would work to ensure the survival of up to 90 percent of the impinged fish. Impingement, especially for the small fish, would be expected to result in death. The Service requests further elaboration to understand how the traveling screens and bypass systems would be

expected to result in such a high survival rate for impinged fish. A drawing of a typical traveling screen and bypass system in the technical appendices would also be helpful.

Page 3-245, paragraph 2, last line. The sentence states that darters along with a host of fish species "adapt well to changes in the environment." The document should explain how darters adapt well to changes in the environment. Darters are freshwater species that are very sensitive to changes in their environment such as head cutting, increase in sedimentation, and changes in water quality.

Page 3-245, Special Status Species, paragraph 2, last two lines. The paragraph states that candidate species such as the pearl darter are not regulated under the Endangered Species Act unless they are listed as threatened or endangered by the U.S. Fish and Wildlife Service or National Oceanographic and Atmospheric Administration before the proposed action is undertaken. The document should also mention that although the pearl darter has not been officially listed, federal agencies generally give it and other candidate species the same consideration as listed species. Furthermore, the American Fisheries Society considers the fish as threatened, and the State of Mississippi lists the pearl darter as a species of special concern and a state endangered species. Therefore, the Service requests the Department of Energy to treat the pearl darter as a listed species.

Page 3-247, paragraph 5, lines 3 through 5. The document states that the only area where the pearl darter spawning has been documented in recent decades is in the Leaf River near Hattiesburg, which is located upstream from the proposed raw water intake (RWI). The statement seems to imply that the pearl darter does not occur below the proposed location of the RWI. It would also contradict a statement made earlier on page 3-245 that "the pearl darter has been documented throughout the Leaf River..." The Service information also indicates that the pearl darter occur throughout the Leaf River into the Pascagoula River.

Page 3-253, Plants, Wetlands, and Wildlife, Paragraph 2. The Department of Energy discusses at length that, in order to obtain a construction permit and water quality certificate in accordance with the Clean Water Act, they will work with the Corps of Engineers (COE) and Mississippi Department of Environmental Quality (MDEQ) to develop a mitigation plan for the loss of jurisdictional wetlands. The Fish and Wildlife Coordination Act requires that federal agencies consult with the Service when their proposed activities in any waterbodies would result in the loss of fish and wildlife habitat including wetlands. Therefore, the DEIS should state that the mitigation plan for wetland losses will be developed in consultation with the COE, MDEQ, and the FWS.

Page 3-254, paragraph 5, lines 7 through 8. The document mentions that impinged yellow-blotched map turtles would be returned downstream of the intake by traveling screens. The DEIS omits any discussion regarding the condition of the turtles returned to the stream. We believe that a potentially significant percentage of the turtles could die from this traumatic incident.

Page 3-255, last paragraph, line 3 through 6. The document states that due to the small size of the pearl darter, impingement on the screens or entrainment through the screens would occur and would cause bodily harm that may lead to death of some individual fish. This paragraph appears to indicate that the fish entrained through the screens and impinged would not suffer high mortality. The Service disagrees with this conclusion. All of the entrained fish would be killed, and impingement of the fish would result in almost 100 percent mortality. This inadequacy should be remedied in the DEIS.

Page 3-256, paragraph 1. This paragraph discussed Section 7 consultation regarding the Gulf sturgeon. Section 7 consultation would also be required for the threatened yellow-blotched map turtle. This omission should be addressed in the EIS.

Page 3-256, paragraph 1 and 2. These paragraphs provide the conclusions regarding the impacts of the Richton RWI on endangered and threatened species. It is our understanding that the impacts would occur when the Leaf River is at average annual low-flow discharge of 720 cubic feet per second or near the 7Q10 discharge (503 cfs). During the June 22 interagency meeting, DOE mentioned that removal of water from the Leaf River would continue when river flows reached the 503 cfs discharge. Pumping of water from the Leaf River when flow is below 503 cfs would have severe impacts on listed and non threatened and endangered aquatic species. Impacts resulting from pumping water when flow is below 503 cfs should be discussed in the EIS.

Summary and Conclusions

The Richton alternative as planned would be damaging to fish and wildlife resources. Serious impacts to aquatic life would occur when water is being withdrawn from the Leaf River at average annual low flow discharge. If water withdrawal from the Leaf River is allowed to continue at or below 503 cfs (7Q10), the Gulf sturgeon, yellow-blotched map turtle, and pearl darter would be severely impacted. Therefore, the FWS recommends that the Richton alternative as planned not be selected as the preferred alternative. However, the Richton site would be acceptable if groundwater is used for dissolution of caverns instead of surface water from the Leaf River. Also, measures should be included to avoid elevated salinity levels at the end of the outflow pipe in the Gulf.

The Bruinsburg alternative as planned would also result in significant impacts to fish and wildlife resources. If the plan is selected as the preferred alternative, the Service recommends the following measures be considered for inclusion in the plan: 1) directional drilling from outside the Bayou Pierre floodplain to create and service the storage caverns, 2) within the floodplain structural engineering to protect the Bayou Pierre system from future rounds of head-cuts, 3) co-location of pipes within existing ROWs, 4) directional drilling beneath sensitive streams, and 5) placing the proposed Jackson tank farm in upland areas to avoid wetland losses. Finally, the DOE should fulfill their obligations under NEPA and the Fish and Wildlife Coordination Act regarding mitigation of fish and wildlife habitat including jurisdictional wetlands as well as non jurisdictional wetlands.

We appreciate the opportunity to provide comments on the DEIS for the Strategic Petroleum Reserve. If you have any questions, contact Mr. Lloyd E. Inmon of my staff . Please keep us apprised of actions being taken on our comments.

Sincerely,

Ray Aycock
Field Supervisor

Cc: Mr. Matt Hicks,

U.S. Fish and Wildlife Service, :

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