

Chapter 8. Draft EIS Comment-Response

8.1 INTRODUCTION

The Notice of Availability for the draft EIS was published on May 26, 2006. The comment period for the draft EIS ended on July 10, 2006, 45 days later. During the comment period, DOE held five public hearings between June 20, 2006, and June 28, 2006, in Pascagoula, MS; Richton, MS; Port Gibson, MS; Lake Jackson, TX; and Houma, LA.

DOE received oral or written comments from the following:

- 9 elected officials;
- 15 government agencies;
- 8 companies or other organizations; and
- 76 individuals.

These commenters submitted 93 written comment letters and 21 of them provided oral comments at the public hearings.

This chapter contains the text of comments extracted from the comment letters and hearing transcripts, together with DOE responses to the extracted comments. The transcripts of the public hearings and comment letters are reproduced in appendix N.

Section 8.2 describes DOE's methodology for acquiring, categorizing, addressing, and documenting the comments. Section 8.3 provides guidance to help readers find comments and responses. Section 8.4 presents the comments and the corresponding responses. See section 1.4.4 for a summary of the major comments received on the draft EIS and the major changes to the EIS that resulted from the public comments.

8.2 METHODOLOGY

In preparing the EIS, DOE considered all comments, including those submitted after the close of the comment period. After identifying specific comments in the comment documents, DOE categorized the comments by the issues they addressed, prepared responses, and modified the EIS if appropriate. In some cases, more than one commenter submitted comments on the same issue. In this situation, DOE grouped the comments and prepared a single response.

Comments were extracted from comment documents as submitted by the commenters. DOE has neither edited nor rewritten the comments submitted. In some cases to ensure clarity, DOE added words, which are indicated with brackets. DOE did not modify comments excerpted from certified transcripts of public meetings. However, where transcripts contained obvious errors (for example, misspelled names or words), DOE made corrections.

8.3 HOW TO FIND COMMENTS AND RESPONSES

Comments on the draft EIS and the corresponding DOE responses can be located using the two tables in this section. As described further below, table 8.3-1 lists the commenters and the categories of issues each commenter addressed; table 8.3-2 outlines these issue categories, which generally follow the organization of the EIS, and provides the page number for responses to comments on each issue category.

In table 8.3-1, comment documents are organized by the following groups of commenters: Federal, state, or local elected official; Federal, state, or local agencies; other organizations; and individuals. Comment documents are in alphabetical order by commenter within each commenter category. In addition to identifying the person submitting the comment and any associated organization, the table lists the document number, the comment numbers, and the comment issue categories.

- DOE assigned each comment letter a number based on when it was received. For example, D0074 was the 74th comment document received. For the public meeting transcripts, DOE assigned a number for the testimony of each oral commenter. These comment document numbers go from D0083 through D0103. See the footnotes to table 8.3-1.
- Within each comment document or public hearing statement, DOE numbered the comments sequentially starting with “1.” Each of these numbered comments was assigned to a comment category or, in a few instances, two or more comment categories.

Table 8.3-2 indexes the comments by issue category, generally following the structure of the EIS, and provides the page number for DOE responses, found in section 8.4.

Section 8.4 presents the comments, sorted by issue category, and DOE responses. Some issues were addressed by multiple comments, which are listed in order of commenter number. The corresponding responses are numbered sequentially. For example, the response to the fifth comment on the issue of Land Use, which is issue 3.3, is numbered 3.3-5.

Appendix N presents the comment documents organized by document number and identifies the numbered comments in each document.

As an actual example, Martin Mayer submitted a letter on behalf of the U.S. Army Corps of Engineers. To read the DOE responses to these comments, first find the name of the agency in the “Agencies-Federal Government” section of table 8.3-1. In addition to the name of the agency, the table includes the number of the comment document (D0074) and the comment categories for the five comments in the letter. For example, the second comment is directed to comment category 2.2 on capacity issues of specific alternatives. To see this comment and DOE’s response, go to category 2.2 on capacity in section 8.4 and look for comment D0074-02. To read the comment in the context of the entire comment document go to table N.1-1 in appendix N and find U.S. Army Corps of Engineers under the “Agencies-Federal Government” section, then turn to the page listed.

Table 8.3-1: Index of Comment Documents and Comments

Commenter Organization/Title	Commenter	Comment Document #	Comment # (Comment Issue Category)	Comment Issue Category (Comment #)
ELECTED OFFICIALS				
Federal Government				
Representative Ron Paul	Diane Kile	D0097 ^a	1 (2.2.2), 2 (3.3), 3 (2.2.2)	2.2.2 (1), 2.2.2 (3), 3.3 (2)
Senator Thad Cochran and Senator Trent Lott	Senators Thad Cochran and Trent Lott	D0016	1 (2.2.1), 2 (2.2.1)	2.2.1 (1), 2.2.1 (2)
Local Government				
Brazoria County Precinct 1, Commissioner	Donald Payne	D0021	1 (3.8), 2 (2.2.2), 3 (3.8), 3 (3.3), 3 (5), 4 (3.3), 5 (3.8), 6 (3.8), 7 (3.8)	2.2.2 (2), 3.3 (3), 3.3 (4), 3.8 (1), 3.8 (3), 3.8 (5), 3.8 (6), 3.8 (7), 5 (3)
Brazoria County Precinct 1, Commissioner	Donald Payne	D0095 ^a	1 (3.8), 2 (2.2.2), 3 (3.8)	2.2.2 (2), 3.8 (1), 3.8 (3)
Claiborne County Board of Supervisors, President	Charles Shorts	D0015	1 (2.2.1)	2.2.1 (1)
Claiborne County Board of Supervisors	James Miller	D0090 ^b	1 (2.2.1)	2.2.1 (1)
Jackson County Board of Supervisors	Frank Leach	D0084 ^c	1 (1.2), 2 (3.3), 3 (2.2), 4 (3.6.2.2), 5 (2.2), 6 (2.2), 7 (2.2), 8 (1.1), 9 (3.7.6.1), 10 (1.2), 11 (1.2), 12 (2.2.2)	1.1 (8), 1.2 (1), 1.2 (10), 1.2 (11), 2.2 (3), 2.2 (5), 2.2 (6), 2.2 (7), 2.2.2 (12), 3.3 (2), 3.6.2.2 (4), 3.7.6.1 (9)
Jackson County Board of Supervisors, District IV Supervisor	Frank Leach	D0010	-	-
Lafourche Parish, President	Charlotte Randolph	D0103 ^d	1 (2.2.1), 2 (2.2.3)	2.2.1 (1), 2.2.3 (2)
Lake Jackson, Immediate and Former Mayor	Shane Pirtle	D0099 ^a	1 (2.2.2)	2.2.2 (1)
AGENCIES				
Federal Government				
NOAA Fisheries	Rickey N. Ruebsamen	D0073	1 (3.7.1), 2 (3.7.6.2), 3 (3.7.6.2), 4 (3.7.6.2), 5 (3.7.6.2), 6 (3.7.6.2), 7 (3.7.6.2), 8 (3.7.4.2), 9 (3.3), 10 (3.7.6.2), 11 (4.2), 12 (2.2.3)	2.2.3 (12), 3.3 (9), 3.7.1 (1), 3.7.4.2 (8), 3.7.6.2 (2), 3.7.6.2 (3), 3.7.6.2 (4), 3.7.6.2 (5), 3.7.6.2 (6), 3.7.6.2 (7), 3.7.6.2 (10), 4.2 (11)
U.S. Army Corps of Engineers, New Orleans District	Martin S. Mayer	D0074	1 (2.2), 1 (3.7.3.2), 2 (2.2), 3 (2.2), 4 (4.3.2), 5 (3.7.4.2), 5 (3.7.6.2)	2.2 (1), 2.2 (2), 2.2 (3), 3.7.3.2 (1), 3.7.4.2 (5), 3.7.6.2 (5), 4.3.2 (4)

^a See Lake Jackson Public Hearing transcript, which covers Documents #D0091 to D0100.

^b See Port Gibson Public Hearing transcript, which covers Documents #D0088 to D0090.

^c See Pascagoula Public Hearing transcript, which covers Documents #D0083 to D0086.

^d See Houma Public Hearing transcript, which covers Documents #D0101 to D0103.

^e See Richton Public Hearing transcript, which covers Document #D0087.

^f USFWS and Mississippi Natural Heritage Program submitted joint comments.

Table 8.3-1: Index of Comment Documents and Comments

Commenter Organization/Title	Commenter	Comment Document #	Comment # (Comment Issue Category)	Comment Issue Category (Comment #)
U.S. Department of Agriculture, Natural Resources Conservation Service, Texas Office	James M. Greenwade	D0006	1 (3.3)	3.3 (1)
U.S. Department of the Interior	Stephen R. Spencer	D0078	1 (3.7.2.1), 2 (3.7.4.1), 3 (3.7.3.2), 4 (3.7.2.1), 5 (3.7.5.2), 6 (3.7.2.1), 7 (3.3), 7 (3.7.5.2), 8 (2.1), 9 (3.7.3.1), 10 (3.7.4.1), 11 (3.7.2.1), 12 (3.7.5.1), 13 (3.7.3.1), 14 (3.7.2.1)	2.1 (8), 3.3 (7), 3.7.2.1 (1), 3.7.2.1 (4), 3.7.2.1 (6), 3.7.2.1 (11), 3.7.2.1 (14), 3.7.3.1 (9), 3.7.3.1 (13), 3.7.3.2 (3), 3.7.4.1 (2), 3.7.4.1 (10), 3.7.5.1 (12), 3.7.5.2 (5), 3.7.5.2 (7)
U.S. Department of the Interior, National Park Service, Gulf Islands National Seashore	Stephen R. Spencer	D0081	1 (3.3), 2 (3.7.4.2), 3 (3.3), 4 (3.7.6.2), 5 (3.6.2.2), 5 (3.7.6.2), 6 (3.7.4.2), 7 (3.7.4.2), 8 (3.6.5.1), 9 (3.7.5.2), 10 (3.7.6.2), 11 (3.7.3.1)	3.3 (1), 3.3 (3), 3.6.2.2 (5), 3.6.5.1 (8), 3.7.3.1 (11), 3.7.4.2 (2), 3.7.4.2 (6), 3.7.4.2 (7), 3.7.5.2 (9), 3.7.6.2 (4), 3.7.6.2 (5), 3.7.6.2 (10)
U.S. Department of the Interior, National Park Service, Natchez Trace Parkway	Wendell A. Simpson	D0001	1 (3.3), 1 (3.9), 2 (3.9)	3.3 (1), 3.9 (1), 3.9 (2)
U.S. Department of the Interior, National Park Service, Natchez Trace Parkway	Stennis R. Young	D0114	1 (3.3), 2 (1.3), 3 (3.9), 4 (3.3), 5 (3.9), 6 (3.9)	1.3 (2), 3.3 (1), 3.3 (4), 3.9 (3), 3.9 (5), 3.9 (6)
U.S. Environmental Protection Agency, Region 6	Rhonda M. Smith	D0077	1 (1.3), 2 (4.2), 3 (2.3.1), 4 (2.3.6), 5 (3.4), 6 (3.5.2), 7 (3.5.3), 8 (2.3.1), 9 (3.6.2.2), 10 (3.6.2.1), 11 (3.6.2.2), 12 (3.6.2.2), 13 (3.6.2.2), 14 (3.6.2.2), 15 (3.8), 16 (3.8), 17 (3.9), 18 (3.10), 19 (4.1), 20 (4.3.6), 21 (4.3.9), 22 (3.5.2), 23 (3.5.2), 24 (3.5.2), 25 (3.5.3), 26 (3.5.2), 27 (3.7.3.1), 28 (2.2.3), 28 (3.7.3.2), 29 (3.7.3.1), 30 (3.7.3.1), 31 (3.7.3.1), 32 (3.7.3.1), 33 (3.6.2.2), 33 (3.7.2.1), 34 (2.1)	1.3 (1), 2.1 (34), 2.2.3 (28), 2.3.1 (3), 2.3.1 (8), 2.3.6 (4), 3.4 (5), 3.5.2 (6), 3.5.2 (22), 3.5.2 (23), 3.5.2 (24), 3.5.2 (26), 3.5.3 (7), 3.5.3 (25), 3.6.2.1 (10), 3.6.2.2 (9), 3.6.2.2 (11), 3.6.2.2 (12), 3.6.2.2 (13), 3.6.2.2 (14), 3.6.2.2 (33), 3.7.2.1 (33), 3.7.3.1 (27), 3.7.3.1 (29), 3.7.3.1 (30), 3.7.3.1 (31), 3.7.3.1 (32), 3.7.3.2 (28), 3.8 (15), 3.8 (16), 3.9 (17), 3.10 (18), 4.1 (19), 4.2 (2), 4.3.6 (20), 4.3.9 (21)

^a See Lake Jackson Public Hearing transcript, which covers Documents #D0091 to D0100.

^b See Port Gibson Public Hearing transcript, which covers Documents #D0088 to D0090.

^c See Pascagoula Public Hearing transcript, which covers Documents #D0083 to D0086.

^d See Houma Public Hearing transcript, which covers Documents #D0101 to D0103.

^e See Richton Public Hearing transcript, which covers Document #D0087.

^f USFWS and Mississippi Natural Heritage Program submitted joint comments.

Table 8.3-1: Index of Comment Documents and Comments

Commenter Organization/Title	Commenter	Comment Document #	Comment # (Comment Issue Category)	Comment Issue Category (Comment #)
U.S. Fish and Wildlife Service and Mississippi Natural Heritage Program ^f	Ray Aycock	D0106	1 (3.7.3.1), 2 (2.2), 3 (3.6.2.2), 4 (3.7.4.2), 5 (3.7.4.2), 6 (4.3.5), 7 (2.2), 8 (3.7.3.1), 9 (3.7.4.1), 10 (3.6.5.1), 11 (3.7.3.2), 12 (3.7.2.1), 13 (3.2), 14 (3.7.2.1), 15 (3.2), 16 (3.7.3.1), 17 (3.6.2.2), 17 (3.7.4.2), 18 (3.7.2.1), 19 (3.7.2.1), 20 (3.7.2.1), 21 (3.7.4.2), 22 (3.7.4.2), 23 (3.7.3.1), 24 (3.7.4.2), 25 (3.7.4.2), 26 (3.7.4.2), 27 (3.6.2.2), 27 (3.7.4.2), 28 (2.2.2), 29 (3.6.5.1), 30 (3.7.2.2), 31 (3.6.2.2), 32 (3.7.3.2)	2.2 (2), 2.2 (7), 2.2.2 (28), 3.2 (13), 3.2 (15), 3.6.2.2 (3), 3.6.2.2 (17), 3.6.2.2 (27), 3.6.2.2 (31), 3.6.5.1 (10), 3.6.5.1 (29), 3.7.2.1 (18), 3.7.2.1 (19), 3.7.2.1 (20), 3.7.2.1 (12), 3.7.2.1 (14), 3.7.2.2 (30), 3.7.3.1 (1), 3.7.3.1(8), 3.7.3.1 (16), 3.7.3.1 (23), 3.7.3.2 (11), 3.7.3.2 (32), 3.7.4.1 (9), 3.7.4.2 (4), 3.7.4.2 (5), 3.7.4.2 (17), 3.7.4.2 (21), 3.7.4.2 (22), 3.7.4.2 (24), 3.7.4.2 (25), 3.7.4.2 (26), 3.7.4.2 (27), 4.3.5 (6)
State Government				
Louisiana Department of Wildlife and Fisheries	Brandt Savoie	D0080	1 (3.7.3.1), 2 (3.7.4.2), 3 (3.7.4.2)	3.7.3.1 (1), 3.7.4.2 (2), 3.7.4.2 (3)
Louisiana Department of Environmental Quality	Lisa L. Miller	D0005	1 (3.6.2.1), 1 (3.7.3.1), 2 (3.7.3.1), 3 (3.6.4.1), 4 (3.5.3)	3.5.3 (4), 3.6.4.1 (3), 3.7.3.1 (1), 3.7.3.1 (2)
Mississippi Development Authority	Jack Moody	D0087 ^e	1 (2.2.1)	2.2.1 (1)
Mississippi Development Authority	Jack Moody	D0088 ^b	1 (2.2)	2.2 (1)

^a See Lake Jackson Public Hearing transcript, which covers Documents #D0091 to D0100.

^b See Port Gibson Public Hearing transcript, which covers Documents #D0088 to D0090.

^c See Pascagoula Public Hearing transcript, which covers Documents #D0083 to D0086.

^d See Houma Public Hearing transcript, which covers Documents #D0101 to D0103.

^e See Richton Public Hearing transcript, which covers Document #D0087.

^f USFWS and Mississippi Natural Heritage Program submitted joint comments.

Table 8.3-1: Index of Comment Documents and Comments

Commenter Organization/Title	Commenter	Comment Document #	Comment # (Comment Issue Category)	Comment Issue Category (Comment #)
Mississippi Natural Heritage Program ^f and U.S. Fish and Wildlife Service	Ray Aycock	D0106	1 (3.7.3.1), 2 (2.2), 3 (3.6.2.2), 4 (3.7.4.2), 5 (3.7.4.2), 6 (4.3.5), 7 (2.2), 8 (3.7.3.1), 9 (3.7.4.1), 10 (3.6.5.1), 11 (3.7.3.2), 12 (3.7.2.1), 13 (3.2), 14 (3.7.2.1), 15 (3.2), 16 (3.7.3.1), 17 (3.6.2.2), 17 (3.7.4.2), 18 (3.7.2.1), 19 (3.7.2.1), 20 (3.7.2.1), 21 (3.7.4.2), 22 (3.7.4.2), 23 (3.7.3.1), 24 (3.7.4.2), 25 (3.7.4.2), 26 (3.7.4.2), 27 (3.6.2.2), 27 (3.7.4.2), 28 (2.2.2-1), 29 (3.6.5.1), 30 (3.7.2.2), 31 (3.6.2.2), 32 (3.7.3.2)	2.2 (2), 2.2 (7), 2.2.2.1 (28), 3.2 (13), 3.2 (15), 3.6.2.2 (3), 3.6.2.2 (17), 3.6.2.2 (27), 3.6.2.2 (31), 3.6.5.1 (10), 3.6.5.1 (29), 3.7.2.1 (12), 3.7.2.1 (14), 3.7.2.1 (18), 3.7.2.1 (19), 3.7.2.1 (20), 3.7.2.2 (30), 3.7.3.1 (1), 3.7.3.1 (8), 3.7.3.1 (16), 3.7.3.1 (23), 3.7.3.2 (11), 3.7.3.2 (32), 3.7.4.1 (9), 3.7.4.2 (4), 3.7.4.2 (5), 3.7.4.2 (17), 3.7.4.2 (21), 3.7.4.2 (22), 3.7.4.2 (24), 3.7.4.2 (25), 3.7.4.2 (26), 3.7.4.2 (27), 4.3.5 (6)
Texas Department of State Health Services	Eduardo J. Sanchez	D0004	none	none
Texas Parks and Wildlife Department	Amy Hanna	D0116	1 (3.7.3.2)	3.7.3.2 (1)
County and Local Government				
Greater Lafourche Port Commission	Ted M. Falgout	D0002	1 (2.3.3), 2 (2.3.3), 3 (1.3)	1.3 (3), 2.3.3 (2), 2.3.3 (1)
OTHER ORGANIZATIONS				
Anabasis, LLC	Vernon Phillips	D0089 ^b	1 (2.2.1), 2 (2.2.1), 3 (2.3.1), 4 (2.3.1), 5 (2.3.1), 5 (3.6.4.2), 6 (2.3.1), 7 (2.3.1), 8 (2.3.1), 9 (2.3.1)	2.2.1 (1), 2.2.1 (2), 2.3.1 (3), 2.3.1 (4), 2.3.1 (5), 2.3.1 (6), 2.3.1 (7), 2.3.1 (8), 2.3.1 (9), 3.6.4.2 (5)
Audubon Society, Houston	Flo Hannah	D0115	1 (3.7.2.1), 2 (3.7.3.2), 3 (3.7.2.1), 4 (3.7.5.2), 5 (3.7.3.1)	3.7.2.1 (1), 3.7.2.1 (3), 3.7.3.1 (5), 3.7.3.2 (2), 3.7.5.2 (4)
Brazosport Area Chamber of Commerce, Chairman	L.G. Murrell, Jr.	D0110	1 (3.8)	3.8 (1)
Dominion Natural Gas Storage, Inc.	David Kohler	D0101 ^d	1 (2.2.1), 2 (3.7.3.2), 3 (2.2.1)	2.2.1 (1), 2.2.1 (3), 3.7.3.2 (2)

^a See Lake Jackson Public Hearing transcript, which covers Documents #D0091 to D0100.

^b See Port Gibson Public Hearing transcript, which covers Documents #D0088 to D0090.

^c See Pascagoula Public Hearing transcript, which covers Documents #D0083 to D0086.

^d See Houma Public Hearing transcript, which covers Documents #D0101 to D0103.

^e See Richton Public Hearing transcript, which covers Document #D0087.

^f USFWS and Mississippi Natural Heritage Program submitted joint comments.

Table 8.3-1: Index of Comment Documents and Comments

Commenter Organization/Title	Commenter	Comment Document #	Comment # (Comment Issue Category)	Comment Issue Category (Comment #)
Dominion Natural Gas Storage, Inc.	Anne E. Bomar	D0075	1 (2.2.1), 2 (2.2.1)	2.2.1 (1), 2.2.1 (2)
Dow Chemical Company	Paul Bork	D0079	1 (4.2), 2 (3.5.3), 3 (5), 4 (3.5.3), 5 (3.7.3.2), 6 (3.7.4.2), 7 (3.11), 8 (1.3), 9 (2.2.2), 10 (3.3), 11 (3.3), 12 (3.8), 13 (2.2.2), 13 (3.3), 13 (3.8), 14 (2.2.2), 15 (3.3), 16 (2.2.2), 17 (2.2.2), 17 (3.3), 18 (3.3), 19 (3.8), 20 (3.8), 21 (3.8), 21 (5), 22 (3.4), 23 (3.3), 24 (3.2), 25 (3.4), 26 (3.8), 27 (3.8), 28 (3.3), 29 (4.2), 30 (3.3), 31 (3.2), 32 (3.4), 33 (3.2), 34 (3.8), 35 (3.11), 36 (2.2.2), 36 (3.8), 37 (2.3.6),	1.3 (8), 2.2.2 (9), 2.2.2 (13), 2.2.2 (14), 2.2.2 (16), 2.2.2 (17), 2.2.2 (36), 2.3.6 (37), 3.2 (24), 3.2 (31), 3.2 (33), 3.3 (10), 3.3 (11), 3.3 (13), 3.3 (15), 3.3 (17), 3.3 (18), 3.3 (23), 3.3 (28), 3.3 (30), 3.4 (22), 3.4 (25), 3.4 (32), 3.5.3 (2), 3.5.3 (4), 3.7.3.2 (5), 3.7.4.2 (6), 3.8 (12), 3.8 (13), 3.8 (19), 3.8 (20), 3.8 (21), 3.8 (26), 3.8 (27), 3.8 (34), 3.8 (36), 3.11 (7), 3.11 (35), 4.2 (1), 4.2 (29), 5 (3), 5 (21)
Dow Chemical Company	Bob Walker	D0091 ^a	-	-
Economic Development Alliance	David Stedman	D0092 ^a	1 (2.2.2), 2 (3.8), 3 (2.2.2)	2.2.2 (1), 2.2.2 (3), 3.8 (2)
Freeport LNG	Bill Henry	D0093 ^a	1 (4.2), 2 (4.2), 3 (4.2)	4.2 (1), 4.2 (2), 4.2 (3)
Gulf Restoration Network	Cynthia M. Sarthou	D0013	1 (2.2), 2 (3.6.5.1), 2 (3.7.2.1), 3 (2.2), 4 (2.2.3), 5 (2.2), 6 (3.7.3.2), 7 (3.7.4.2), 8 (3.7.5.2), 9 (3.7.2.2), 10 (2.2.3)	2.2 (1), 2.2 (3), 2.2 (5), 2.2.3 (4), 2.2.3 (10), 3.6.5.1 (2), 3.7.2.1 (2), 3.7.2.2 (9), 3.7.3.2 (6), 3.7.4.2 (7), 3.7.5.2 (8)
Pinto Energy Partners	Tommy Soriero	D0098 ^a	1 (3.3)	3.3 (1)
Sierra Club, Houston Regional Group	Brandt Mannchen	D0113	1 (3.7.3.2), 2 (4.2), 3 (4.2), 4 (1.3)	1.3 (4), 3.7.3.2 (1), 4.2 (2), 4.2 (3)
Sierra Club, Mississippi Chapter	Becky Gillette	D0083 ^c	1 (2.2), 2 (1.2), 3 (3.6.2.2), 4 (4.4.5), 5 (1.2), 6 (3.4), 7 (3.6.4.2), 8 (3.7.2.1), 9 (4.2)	1.2 (2), 1.2 (5), 2.2 (1), 3.4 (6), 3.6.2.2 (3), 3.6.4.2 (7), 3.7.2.1 (8), 4.2 (9), 4.4.5 (4)

^a See Lake Jackson Public Hearing transcript, which covers Documents #D0091 to D0100.^b See Port Gibson Public Hearing transcript, which covers Documents #D0088 to D0090.^c See Pascagoula Public Hearing transcript, which covers Documents #D0083 to D0086.^d See Houma Public Hearing transcript, which covers Documents #D0101 to D0103.^e See Richton Public Hearing transcript, which covers Document #D0087.^f USFWS and Mississippi Natural Heritage Program submitted joint comments.

Table 8.3-1: Index of Comment Documents and Comments

Commenter	Comment Document #	Comment # (Comment Issue Category)	Comment Issue Category (Comment #)
INDIVIDUALS			
Aguilar, Jesse Jr.	D0031	see D0017 (form letter)	
Ault, Daniel B.	D0032	see D0017 (form letter)	
B., Tim	D0055	see D0017 (form letter)	
Basaldua, Richard Jr.	D0042	see D0017 (form letter)	
Basaldua, Rick	D0025	see D0017 (form letter)	
Bilich, Bernice	D0109	1 (3.8)	3.8 (1)
Bland, Tony	D0014	1 (2.2.2), 2 (3.6.2.2), 3 (3.7.6.2), 4 (3.6.4.2)	2.2.2 (1), 3.6.2.2 (2), 3.6.4.2 (4), 3.7.6.2 (3)
Brown, Brint	D0052	see D0017 (form letter)	
Browning, Bruce	D0012	1 (2.2.2)	2.2.2 (1)
Bumpers, Jeanette	D0054	1 (2.2.2), 1 (3.8)	2.2.2 (1), 3.8 (1)
Church, Jill	D0064	see D0017 (form letter)	
Cummins, Fred	D0047	1 (2.2.1)	2.2.1 (1)
Dickens, Dan	D0049	see D0017 (form letter)	
Edwards, Dennis	D0067	see D0017 (form letter)	
Edwards, Janice	D0100 ^a	1 (2.2)	2.2 (1)
Edwards, Sheri	D0028	see D0017 (form letter)	
Filippi, Carlo	D0111	see D0017 (form letter)	
Fischer, Tim	D0070	see D0017 (form letter)	
Fischer, Wanda	D0023	see D0017 (form letter)	
Fuentes, Manuel	D0046	see D0017 (form letter)	
Garza, Herbert	D0105	see D0017 (form letter)	
Griffin, Randy	D0045	see D0017 (form letter)	
Grimmett, Larry	D0018	see D0017 (form letter)	
Grossman, Karl	D0063	see D0017 (form letter)	
Guidry, Sybil	D0102 ^d	1 (3.7.3.2), 2 (2.2.2)	2.2.2 (2), 3.7.3.2 (1)
Havens, June	D0009	1 (3.6.4.2), 1 (2.2.2), 1 (3.4), 2 (3.7.4.2)	2.2.2 (1), 3.4 (1), 3.6.4.2 (1), 3.7.4.2 (2)
Holden, Mike	D0039	see D0017 (form letter)	

^a See Lake Jackson Public Hearing transcript, which covers Documents #D0091 to D0100.^b See Port Gibson Public Hearing transcript, which covers Documents #D0088 to D0090.^c See Pascagoula Public Hearing transcript, which covers Documents #D0083 to D0086.^d See Houma Public Hearing transcript, which covers Documents #D0101 to D0103.^e See Richton Public Hearing transcript, which covers Document #D0087.^f USFWS and Mississippi Natural Heritage Program submitted joint comments.

Table 8.3-1: Index of Comment Documents and Comments

Commenter	Comment Document #	Comment # (Comment Issue Category)	Comment Issue Category (Comment #)
Hollingsworth, Holly	D0071	see D0017 (form letter)	
Hudgins, Anthony	D0037	see D0017 (form letter)	
Jacobson, Lin	D0086 ^c	1 (1.2), 2 (3.6.5.1), 3 (1.2)	1.2 (1), 1.2 (3), 3.6.5.1 (2)
Jimenez, Xavier	D0072	see D0017 (form letter)	
Johnson, Bob Ed	D0022	see D0017 (form letter)	
Johnson, Bob Ed	D0030	see D0017 (form letter)	
Johnson, Bob I.	D0026	see D0017 (form letter)	
Johnson, Jennifer	D0048	see D0017 (form letter)	
Johnson, Nan	D0011	1 (2.2.2), 2 (3.4), 3 (3.7.4.2)	2.2.2 (1), 3.4 (2), 3.7.4.2 (3)
Jones, Sharon L.	D0065	see D0017 (form letter)	
Kennedy, Kevin	D0061	see D0017 (form letter)	
Kier, Danny	D0024	see D0017 (form letter)	
Lampard, Rick	D0107	1 (2.1)	2.1 (1)
Ledesma, Jaime	D0053	see D0017 (form letter)	
Lemon, Fred	D0085 ^c	1 (2.2.2), 2 (3.3), 3 (3.6.5.1), 4 (1.2), 5 (3.6.4.2), 6 (2.2.2), 7 (3.6.4.2), 8 (3.4), 9 (2.2.2)	1.2 (4), 2.2.2 (1), 2.2.2 (6), 2.2.2 (9), 3.3 (2), 3.4 (8), 3.6.4.2 (5), 3.6.4.2 (7), 3.6.5.1 (3)
Logan, Bill and Brenda	D0076	1 (2.2.2), 1 (3.8)	2.2.2 (1), 3.8 (1)
Major, Alex	D0008	1 (3.6.2.2)	3.6.2.2 (1)
Masterson, Teri	D0096 ^a	-	-
Matt (last name not provided)	D0034	see D0017 (form letter)	
McCleary, Mike	D0029	see D0017 (form letter)	
Mihalovich, James M.	D0033	see D0017 (form letter)	
Mondragon, Chad	D0036	see D0017 (form letter)	
Mondragon, Jesse	D0020	see D0017 (form letter)	
Morgan, Chester	D0035	see D0017 (form letter)	
Murrell, Randy	D0040	see D0017 (form letter)	
Pavlik, Matt	D0059	see D0017 (form letter)	

^a See Lake Jackson Public Hearing transcript, which covers Documents #D0091 to D0100.^b See Port Gibson Public Hearing transcript, which covers Documents #D0088 to D0090.^c See Pascagoula Public Hearing transcript, which covers Documents #D0083 to D0086.^d See Houma Public Hearing transcript, which covers Documents #D0101 to D0103.^e See Richton Public Hearing transcript, which covers Document #D0087.^f USFWS and Mississippi Natural Heritage Program submitted joint comments.

Table 8.3-1: Index of Comment Documents and Comments

Commenter	Comment Document #	Comment # (Comment Issue Category)	Comment Issue Category (Comment #)
Price, Charles	D0041	see D0017 (form letter)	
Price, Jason	D0069	see D0017 (form letter)	
Sanchez, Santos Jr.	D0062	see D0017 (form letter)	
Schroeder, Norman	D0082	see D0017 (form letter)	
Schuelke, Timmy	D0060	see D0017 (form letter)	
Singletary, Charlie	D0017	1 (2.2.2), 1 (3.8)	2.2.2 (1), 3.8 (1)
Smith, Larry R.	D0051	see D0017 (form letter)	
Solano, Mario	D0056	see D0017 (form letter)	
Suggs, Cindy	D0104	1 (2.2.2), 2 (3.8)	2.2.2 (1), 3.8 (2)
Thomason, Allen	D0068	see D0017 (form letter)	
Thornberg, Mike	D0019	see D0017 (form letter)	
Tullis, R. Duke	D0027	see D0017 (form letter)	
Tyler, Scott	D0057	see D0017 (form letter)	
Tywater, E.R.	D0058	see D0017 (form letter)	
Vaughn, Donald	D0050	1 (2.2.2), 1 (3.8)	2.2.2 (1), 3.8 (1)
Voss, Johnny	D0038	see D0017 (form letter)	
Wade, Vick	D0094 ^a	1 (2.2.2)	2.2.2 (1)
Waldorf, Elizabeth	D0007	1 (3.6.2.2), 2 (3.6.2.2), 3 (3.6.4.2), 4 (3.7.4.2)	3.6.2.2 (1), 3.6.2.2 (2), 3.6.4.2 (3), 3.7.4.2 (4)
Wessels, Kimmy	D0043	see D0017 (form letter)	
Whitworth, Mary	D0003	1 (3.7.5.2)	3.7.5.2 (1)
Williams, Hannah	D0066	see D0017 (form letter)	
Woods, William	D0044	see D0017 (form letter)	

^a See Lake Jackson Public Hearing transcript, which covers Documents #D0091 to D0100.

^b See Port Gibson Public Hearing transcript, which covers Documents #D0088 to D0090.

^c See Pascagoula Public Hearing transcript, which covers Documents #D0083 to D0086.

^d See Houma Public Hearing transcript, which covers Documents #D0101 to D0103.

^e See Richton Public Hearing transcript, which covers Document #D0087.

^f USFWS and Mississippi Natural Heritage Program submitted joint comments.

Table 8.3-2: Issue Categories (Outline of Comment Responses in Section 8.4)

	Page Number
1. NEPA Procedural Issues and need	8-15
1.1 Agency Consultation	8-15
1.2 Public Involvement	8-15
1.3 Other	8-19
2. Chapter 2. Proposed Action and Alternatives	8-21
2.1 Proposed Action: Comments Applicable to All Alternatives	8-21
2.2 Alternatives: Comments on Specific Alternatives	8-23
Feasibility	8-23
Capacity	8-27
Water Withdrawal and Brine Disposal	8-28
Location	8-31
2.2.1 Recommendations	8-34
2.2.2 Opposition	8-43
2.2.3 Environmentally Preferred	8-54
2.3 Site Specific Issues ^a	8-57
2.3.1 Bruinsburg	8-57
2.3.2 Chacahoula	^a
2.3.3 Clovelly	8-61
2.3.4 Clovelly-Bruinsburg	^a
2.3.5 Richton	^a
2.3.6 Stratton Ridge	8-62
2.3.7 Bayou Choctaw	^a
2.3.8 Big Hill	^a
2.3.9 West Hackberry	^a
3. Chapter 3. Affected Environment and Potential Impacts	8-63
3.1 General	<i>no comments received</i>
3.2 Environmental Risks, Public and Occupational Safety, and Health	8-63
3.3 Land Use	8-66
3.4 Geology and Soils	8-82
3.5 Air Quality	8-84
3.5.1 Methodology	<i>no comments received</i>
3.5.2 Impacts Common to Multiple Sites	8-84
3.5.3 Impacts to Specific Sites	8-86
3.6 Water Resources	8-89
3.6.1 Methodology	<i>no comments received</i>
3.6.2 Surface Water	8-89
3.6.2.1 General Impacts	8-89
3.6.2.2 Site or Alternative Specific Impact	8-90
3.6.3 Floodplains	<i>no comments received</i>
3.6.4 Groundwater	8-98

Table 8.3-2: Issue Categories (Outline of Comment Responses in Section 8.4)

	Page Number
3.6.4.1 General Impacts	8-98
3.6.4.2 Site or Alternative Specific Impact	8-99
3.6.5 Brine Discharge	8-102
3.6.5.1 General Impacts	8-102
3.6.5.2 Site or Alternative Specific Impact	<i>no comments received</i>
3.7 Biological Resources	8-104
3.7.1 Methodology and Common Impacts	8-104
3.7.2 Plants and Wildlife	8-105
3.7.2.1 General Impacts	8-105
3.7.2.2 Site or Alternative Specific Impact	8-118
3.7.3 Wetlands	8-119
3.7.3.1 General Impacts	8-119
3.7.3.2 Site or Alternative Specific Impact	8-129
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3.7.4.2 Site or Alternative Specific Impact	8-143
3.7.5 Special Status Areas	8-158
3.7.5.1 General Impacts	8-158
3.7.5.2 Site or Alternative Specific Impact	8-159
3.7.6 Essential Fish Habitat	8-162
3.7.6.1 General Impacts	8-162
3.7.6.2 Site or Alternative Specific Impact	8-164
3.8 Socioeconomics	8-172
3.9 Cultural Resources	8-183
3.10 Noise	8-187
3.11 Environmental Justice	8-187
4. Chapter 4. Cumulative Impacts	8-188
4.1 Methodology	8-188
4.2 General Cumulative Impacts	8-189
4.3 Cumulative Biological Impacts	8-195
4.3.1 Bruinsburg	<i>no comments received</i>
4.3.2 Chacahoula	8-195
4.3.3 Clovelly	<i>no comments received</i>
4.3.4 Clovelly and Bruinsburg	<i>no comments received</i>
4.3.5 Richton	8-196
4.3.6 Stratton Ridge	8-196
4.3.7 Bayou Choctaw	<i>no comments received</i>
4.3.8 Big Hill	<i>no comments received</i>
4.3.9 West Hackberry	8-197
4.4 Cumulative Water Impacts	8-197
4.4.1 Bruinsburg	<i>no comments received</i>
4.4.2 Chacahoula	<i>no comments received</i>
4.4.3 Clovelly	<i>no comments received</i>

Table 8.3-2: Issue Categories (Outline of Comment Responses in Section 8.4)

	Page Number
4.4.4 Clovelly and Bruinsburg	<i>no comments received</i>
4.4.5 Richton	8-197
4.4.6 Stratton Ridge	<i>no comments received</i>
4.4.7 Bayou Choctaw	<i>no comments received</i>
4.4.8 Big Hill	<i>no comments received</i>
4.4.9 West Hackberry	<i>no comments received</i>
5. Chapter 5. Irretrievable and Irreversible Resources	8-198

^a Site specific comments are also included in this table under the issue categories for chapters 3, 4, and 5.

8.4 COMMENTS AND RESPONSES

This section presents all the comments received on the draft EIS and the corresponding DOE responses. This section is organized by the comment categories listed in table 8.3-2, which generally follow the organization of the EIS for chapters 1 through 5.

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COMMENT	RESPONSE
1. NEPA Procedural Issues	
1.1 Agency Consultation	
<p>Comment D0084-8 (Frank Leach, Jackson County Board of Supervisors) <i>I would further ask that the Gulf of Mexico program office be consulted with regard to any and all concerns as well as national marine fisheries simply because our Gulf is a very -- is very much an impact financially and economically across the entire southern United States.</i></p>	<p>Response 1.1-1 DOE met and consulted with EPA Region 4, where the Gulf of Mexico Program Office is based. DOE contacted NOAA offices in Panama City and St. Petersburg, FL, Baton Rouge, LA, and Galveston, TX. DOE sent each office an initial consultation letter in September 2005, as well as subsequent project mailings, including copies of the draft EIS. Appendix K contains a complete list of the agencies consulted, as well as sample consultation letters.</p>

COMMENT	RESPONSE
1. NEPA Procedural Issues	
1.2 Public Involvement	
<p>Comment D0083-2 (Becky Gillette, Sierra Club) <i>Now, specific to the draft EIS, when I made - I made this point with the scoping comments, that when this hearing was held in Jackson we were still recovering from the nation's largest national disaster. Local residents, nobody was aware of this. Our elected officials were not aware of it. The environmental community was not aware of it. I am co-chair of the Mississippi Chapter of the Sierra Club. I only became aware of this the day after when a reporter called me for comment and said that there were no opponents or nobody at the scoping meeting in Jackson.</i></p> <p>Comment D0083-5 (Becky Gillette, Sierra Club) <i>Also, even though you only see a few members of the public here I would like to make the point that there was a proposal simply to put a dam on the buoy in Hattiesburg for which flows into the Leaf. That was involved about a year or two ago. I guess it was two years ago now in an area where the gulf sturgeon spawns. There was -- they filled up the</i></p>	<p>Response 1.2-1 DOE was aware that residents in the project area were recovering from the devastating effects of Hurricane Katrina. For example, DOE had to cancel 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, after extending the scoping period. The scoping period was extended twice; it ran from September 1 through December 19, 2005.</p> <p>DOE publicized the project in various media outlets and notified organizations and the public. In accordance with NEPA and its implementing regulations and guidance and in light of the hurricanes, DOE mailed notices for the scoping and public comment meetings, including one to the Mississippi chapter of the Sierra Club, placed multiple meeting announcements in newspapers in the Gulf region—the Clarion-Ledger, the Hattiesburg American, and the Sun Herald—and ran online announcements.</p>

COMMENT	RESPONSE
1. NEPA Procedural Issues	
1.2 Public Involvement	
<p><i>whole - a room bigger than this with people who were opposed to that project, so I think if people knew about the impact -- if people in the Hattiesburg area knew about the impact to the Leaf River water quality alone, that there would be a large number people that would have turned out for that.</i></p>	<p>[See response 1.2-1 above]</p>
<p>Comment D0084-1 (Frank Leach, Jackson County Board of Supervisors)</p> <p><i>Dr. Osborne and Mr. Johnson, especially on behalf of Jackson County, I would like to say welcome here this evening. And to the rest of you folks that are here to support this, the effort, I am appreciative of your coming our way. I suppose that I would much rather have been able to say that I appreciated being officially invited here this evening, but as you well know I was not officially invited and as far as I am aware, there is not a member of the Jackson County Board of Supervisors that was officially invited or notified as to this meeting or this hearing. Neither was there a notification on October 5th, which was to be a local scoping meeting for this -- Environmental Impact Statement was there any notice given to our Board of Supervisors nor our port authority, nor was there any local meeting relative to input that I am aware of in either Jackson County nor was there one on October the 4th, I believe, as it was scheduled in Hattiesburg, either.</i></p> <p><i>So with regard to the fact that none of the meetings have been held on a local level and I don't believe there has been adequate notice relative to this issue being placed before the citizens of Jackson County, I would say that I think this Environmental Impact Statement needs to take a step backward and I think in taking a step backward we need to then recognize and realize that the citizens of the Gulf Coast of Mississippi should be apprised and especially those individuals that are elected to represent a constituency, especially in Jackson County, should be one of the very first people that are on mailing list.</i></p>	<p>Response 1.2-2</p> <p>See response 1.2-1. DOE acknowledges the communications difficulties posed by Hurricane Katrina.</p> <p>The Jackson County, MS, Board of Supervisors has been on the EIS mailing list from the initiation of the project. To facilitate future information distribution, the Jackson County Port Authority has been added to the project distribution list. After the Pascagoula public hearing, DOE met with representatives of the Pascagoula Naval Station, Pascagoula Refinery, and the Pascagoula Port Authority on July 18, 2006, to increase communication between DOE and the local government, businesses, and citizens of Pascagoula. DOE will continue to consult with the Port Authority in the future, as necessary.</p>

COMMENT	RESPONSE
1. NEPA Procedural Issues	
1.2 Public Involvement	
<p><i>I would further request that the Board of Supervisors be advised of why we have not been on an official mailing list and I would like to also know who has been notified as to any scoping meetings or any of the publications of the record that are taking place with regard to this Environment Impact Statement.</i></p> <p><i>I am aware that also within this Environmental Impact Statement it makes reference to establishing a marine terminal within the Port of Pascagoula. The Port of Pascagoula is represented by nine board members. Five of those being appointed by the Board of Supervisors. Four of those being appointed by the governor of the State of Mississippi and they, too, were not in the loop with regard to this project at all.</i></p> <p><i>I notified -- after having found out via the grapevine today that this meeting was taking place, I notified Mark McAndrews, the director of the Port of Pascagoula, as to this meeting and suggested that -- I wondered if he was aware of this and he apprised me that he was not.</i></p> <p><i>Mr. Johnson, it's my understanding that a meeting was scheduled at 3:00 p.m. this afternoon to bring Mr. McAndrews as well as George Freeland, the director of the Jackson County Economic Development Foundation, QUASI, up to speed on what may be taking place here. I think all of this is a little bit on the ridiculous side as far as our federal government not working with local government to at least apprise it of what is going on.</i></p>	<p>[See response 1.2-2 above]</p>

COMMENT	RESPONSE
1. NEPA Procedural Issues	
1.2 Public Involvement	
<p>Comment D0084-10 (Frank Leach, Jackson County Board of Supervisors)</p> <p><i>So with that you can gather from my comments that I am concerned. I am very much displeased with the fact that a federal agency has come to Pascagoula, Mississippi on this date without having had any prior meeting in Jackson County with regard to something that is going to ultimately end up here in our county and guess what, it is not appropriate I do not believe for this local government to be ignored and to be glossed over. So for that I would say y'all have not done justice to our local government. It is with great disdain that I stand here having to say this evening that I don't appreciate any or all of this. I don't appreciate that many federal agencies have been involved, but yet, none of have had any discussion with the people that are elected to care about our county and how we go forward.</i></p>	<p>[See response 1.2-2 above]</p>
<p>Comment D0084-11 (Frank Leach, Jackson County Board of Supervisors)</p> <p><i>In that I am going to close and I am going to say once again I thank you for allowing us the opportunity to come. I am saddened by the fact that this was not very well publicized. I am saddened by the fact that we do not have an abundance of people here this evening to respond to what I think could be an issue that could provide a critical situation in Jackson County as we go forward.</i></p> <p>Comment D0085-4 (Fred Lemon, individual)</p> <p><i>Now, as far as us having this meeting, I am not sure it's a legal meeting because if it wouldn't have been for Ms. Gillette I wouldn't have even known about it, so, you know, I think we need to look at that.</i></p> <p>Comment D0086-1 (Lin Jacobson, individual)</p> <p><i>I was amazed to see a small blurb in Saturday's Mississippi Press</i></p>	<p>Response 1.2-3</p> <p>See responses 1.2-1 and 1.2-2 above.</p>

COMMENT	RESPONSE
1. NEPA Procedural Issues	
1.2 Public Involvement	
<p><i>announcing this public hearing. And in my asking around town the past three days, does anybody have any information on this public hearing. Nobody knew the first thing about it.</i></p> <p>Comment D0086-3 (Lin Jacobson, individual) <i>The planning on this may have been exquisite for you guys, but your public relations as to what is going on to the people of Jackson County has been a zero and that's unfortunate.</i></p>	<p>[See response 1.2-3 above]</p>

COMMENT	RESPONSE
1. NEPA Procedural Issues	
1.3 Other	
<p>Comment D0002-3 (Greater Lafourche Port Commission) <i>From a brief review of the EIS, it does not appear that the huge savings and efficiency of tying in with a proven system and existing support infrastructure [for the Clovelly alternatives] has been fully evaluated.</i></p>	<p>Response 1.3-1 After additional studies were completed by DOE, the Clovelly and Clovelly-Bruinsburg alternatives that involve cavern development at Clovelly are no longer considered reasonable alternatives. They are discussed in Section 2.7 Alternatives Eliminated from Detailed Study in the final EIS. Further detail on why these alternatives were eliminated appears in response 2.2-1.</p>
<p>Comment D0077-1 (EPA Region 6) <i>EPA rates the DEIS as "EC-2," i.e., EPA has "Environmental Concerns and Requests Additional Information in the Final EIS (FEIS)." EPA has identified environmental impacts that should be avoided to protect the environment. These concerns may require changes to the preferred alternative or application of mitigation measures that can reduce environmental impact. EPA has identified the need for additional information to be included in the FEIS to complement and to more fully insure compliance with the requirements of NEPA and the Council on Environmental Quality (CEQ) regulations. Areas requiring additional</i></p>	<p>Response 1.3-2 In accordance with your specific comments, DOE has included additional factual information in the final EIS. General information was added to chapter 2; air quality information was added to section 3.5; wetlands information was added to section 3.7, appendix E, and appendix O; and water permit information was added to sections 3.6 and 3.7 and appendix L.</p>

COMMENT	RESPONSE
1. NEPA Procedural Issues	
1.3 Other	
<p><i>information or clarification include: general information, air quality, wetlands, and water permits. Detailed comments are enclosed with this letter, which more clearly identify our concerns and the informational needs requested for incorporation into the FEIS.</i></p> <p><i>Our classification will be published in the Federal Register according to our responsibility under Section 309 of the Clean Air Act to inform the public of our views on proposed Federal actions. If you have any questions, please contact Mike Jansky of my staff at (214) 665-7451 for assistance.</i></p>	<p>[See response 1.3-2 above]</p>
<p>Comment D0079-8 (Dow Chemical Company)</p> <p><i>[DOW Chemical] urges DoE to re-review its entire examination of the potential Stratton Ridge site, because since this error was made (and the error about the actual co-located nesting Bald Eagle and the continuing installation of the Freeport LNG facility), there may well be other errors relating to the Stratton Ridge potential site that would need to be found and corrected before DoE could select the Stratton Ridge potential site as the SPR expansion site</i></p>	<p>Response 1.3-3</p> <p>DOE has incorporated this information into the final EIS. See response 3.7.4.2-7 for a discussion of the bald eagle and responses 2.3.6-1, 4.2-4, 4.2-5, and 4.2-6 for discussions of the proposed Freeport LNG facility.</p>
<p>Comment D0113-4 (Sierra Club, Houston Regional Group)</p> <p><i>The HSC requests that the DEIS be revised and put out again for a 60 day public review and comment period. The HSC appreciates this opportunity to comment.</i></p>	<p>Response 1.3-4</p> <p>The Houston Regional Group Sierra Club has requested that the draft EIS be revised and reissued for public comment for reasons explained in comments D0113-1, D0113-2, and D0113-3 (see appendix N to read the entire document). As explained in responses 3.7.3.2-10, 4.2-2, and 4.2-3, DOE believes that the draft EIS provides a meaningful analysis and discussion of the potential impacts of DOE's proposed action (40 CFR 1502.9(a)). In response to comments on the draft EIS, DOE has provided additional clarifying information and analyses. None of the comments on the draft EIS, nor the additional analyses conducted in the final EIS, present new information that would significantly alter the results of DOE's analysis of the potential environmental impacts of the</p>

COMMENT	RESPONSE
1. NEPA Procedural Issues	
1.3 Other	
[See comment D0113-4 text above]	proposed action. Therefore, DOE believes issuing a revised draft of the EIS is not required.
<p>Comment D0114-2 (NPS, Natchez Trace Parkway) <i>Because of this change in our position, we now respectfully submit our request to be a cooperating agency on your proposed EIS for the proposed petroleum pipeline crossings of the Natchez Trace Parkway. A detailed section in the proposed EIS which describes the impacts to the Parkway including mapping is requested so that it will suffice for National Park Service (NPS) National Environmental Policy Act (NEPA) compliance to be attached to the right-of-way applications. A Statement of Findings will also be required if the proposed construction impacts any wetlands on Parkway land. Archeological clearance and the Section 106 of the National Historic Preservation Act compliance process will also be required regardless of which alternative you propose on Park lands.</i></p>	<p>Response 1.3-5 In response to this correspondence, DOE has contacted the National Park Service and reviewed the development of the EIS. Both agencies concluded that it is too late in the NEPA process for the National Park Service to effectively contribute as a cooperating agency (see appendix K, page K-23, for DOE’s written response). If DOE selects one of the the Bruinsburg alternatives, DOE would consult with the National Park Service and provide the Service with project-specific information for its specific NEPA compliance requirements.</p>

COMMENT	RESPONSE
2. Proposed Action and Alternatives	
2.1 Proposed Action: Comments Applicable to All Alternatives	
<p>Comment D0077-34 (EPA Region 6) <i>Additionally, the facility will be hydrostatic tested when complete. Basically, the salt cavern is a large bottle shaped structure, taller than wide, holding from 275 to 500 million gallons liquid. The salt dome will not hold 100 percent oil, water will be used as a means to maintain pressure on the system. A single site may have several such domes at its location. EPA is interested in knowing what volume of water will be required for hydrostatic testing; the volume of water needed for pipeline infrastructure; and where the discharged is located and the rate of discharge. Please provide this information in the FEIS.</i></p>	<p>Response 2.1-1 After DOE has completed developing the caverns and before they are filled with oil, the caverns would contain a brine solution. For hydrostatic testing, as discussed in section 2.3-1, a small amount of brine (up to 0.022 MMB) would be withdrawn from the onsite brine pond and pumped into the cavern along with nitrogen to increase the pressure inside the caverns to complete the hydrostatic test where any loss of pressure would be recorded. After the test is complete, the excess water would be discharged back into the onsite brine pond as discussed in section 2.3.3. All water withdrawals and discharges would</p>

COMMENT	RESPONSE
2. Proposed Action and Alternatives	
2.1 Proposed Action: Comments Applicable to All Alternatives	
<p>[See comment D0077-34 text above]</p>	<p>be within permitted withdrawal and discharge rates, and they would be far less in volume and duration than the volume withdrawn and discharged during cavern development.</p> <p>The volume of water needed to fill the pipeline from the RWI structure to the proposed storage site would be site-specific, and would depend on the diameter of the pipe and length of the pipeline. The volume would range from 0.04 MMB to 0.09 MMB. After the water is in the pipeline, it would be used for either solution mining or to displace oil during a drawdown event. In either situation, after the water would be displaced from the cavern, it would be disposed of through the brine disposal system. All water withdrawals and discharges would be within permitted withdrawal and discharge rates, and they would be far less in volume and duration than that withdrawn and discharged during cavern development.</p>
<p>Comment D0078-8 (DOI)</p> <p><i>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.</i></p>	<p>Response 2.1-2</p> <p>As discussed in section 2.3.9, directional drilling would be one of the pipeline construction methods. The specific conditions when directional drilling would be performed are discussed in section 3.7.2.1.2, which includes rivers and streams greater than 100 feet (30-meters) wide. DOE did consider alternative ROWs to avoid wetlands impacts as described in section 3.7 and appendix B, section B.7. In addition, DOE attempted to co-locate new ROWs with existing ROWs to further reduce the potential impacts. The pipeline installation and postconstruction monitoring plans to reduce effects on fish and wildlife habitats would be included in the final project plans as appropriate.</p>

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<p>Comment D0107-1 (Rick Lampard, individual) <i>Why not do like There doing now and take the salt out of the water before they pump it anywhere. That way it doesn't leave a dead spot in our Gulf !</i></p>	<p>Response 2.1-3 The flow rate required for cavern leaching is approximately 1.1 to 1.2 MMBD. DOE has not identified any demand for or capability to process that much brine and extract the salt. For example, Dow, the largest brine consumer of the Stratton Ridge salt dome, would not be able to use the brine as indicated in its comments on the draft EIS (see appendix N, comment document D0079). In addition, DOE has accumulated many years of experience in ocean disposal of brine. Disposal to the Gulf of Mexico through a pipeline has been accomplished at three existing SPR sites: Bryan Mound and Big Hill, TX, and West Hackberry, LA. DOE's specially designed diffusers and extensive monitoring programs have demonstrated that this method can be used with minimal effect on marine life.</p>

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Feasibility	
<p>Comment D0074-1 (U.S. Army Corps of Engineers) <i>Clarify why the proposed new facility at Clovelly is not technically practicable. There is existing infrastructure, proximity to LOOP and appears compatible with petroleum support function and development trends in the Port Fourchon area. This alternative appears to be one of less environmentally damaging options.</i></p>	<p>Response 2.2-1 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 not feasible and therefore are not reasonable. After the draft EIS was published, DOE completed additional studies of the geotechnical suitability of the Clovelly salt dome for SPR development (Arguello et al. 2006; Rautman and Loeff 2006). The dome's hourglass shape and its small size required that DOE propose to place new SPR caverns for 120-MMB capacity below and in between Clovelly's existing caverns. This configuration has been found to present several risk factors to the integrity of the Clovelly</p>

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Feasibility	
<p>[See comment D0074-1 text above]</p>	<p>caverns and infrastructure and overall operation of the proposed site.</p> <p>Because of the potential mechanical interaction of the SPR caverns with the LOOP cavern field in the Clovelly dome formation, the maximum operating pressures for the SPR caverns would be greatly reduced to avoid severely damaging the bonding of the well casing within the salt formation. This reduction in maximum operating pressures would cause the following effects:</p> <ul style="list-style-type: none"> • Substantially limit the maximum rate of filling and withdrawing oil from the caverns, and • Reduce DOE's ability to maintain the storage volume of the cavern. (Caverns at the depth DOE had proposed would incur high geological pressures that would cause the cavern volume to close or shrink, unless high pressures within the cavern are maintained.) <p>Because of these issues, development of the Clovelly 120-MMB alternative is no longer considered reasonable nor feasible. DOE has removed the alternative from detailed consideration in the EIS.</p> <p>In addition, DOE consulted with LOOP officials on whether an 80- or 90-MMB Clovelly facility, proposed in the draft EIS to be developed in conjunction with the Bruinsburg site, could be developed by constructing conventional SPR storage caverns entirely in the upper level of the unused portion of the salt dome around the existing LOOP caverns. LOOP indicated that it required space for three future caverns, which would leave space for only four to seven potential SPR caverns. That arrangement would provide only about 30 to 55 MMB of storage capacity. In addition, this concept would not meet DOE's minimum standoff distances from the edge of the dome and DOE's standard pillar-to-diameter ratio for the proposed caverns. Because of the small amount of overall capacity and the risk factors associated with cavern construction in the small salt dome, DOE does not consider this change</p>

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Feasibility	
[See comment D0074-1 text above]	in the conceptual plan for the Clovelly 80-MMB–Bruinsburg 80-MMB and the Clovelly 90-MMB–Bruinsburg 80-MMB alternatives to result in reasonable alternatives. Thus, DOE has removed these alternatives from detailed consideration in the EIS.
<p>Comment D0074-3 (U.S. Army Corps of Engineers) <i>Address alternative storage mechanisms (e.g., tanks).</i></p>	<p>Response 2.2-2 Alternative techniques for storing crude oil such as aboveground steel tanks and inground concrete reservoirs were considered during the SPR’s early development in the mid-1970s. Salt domes, which have been used around the world for hydrocarbon storage for many decades, were determined to be the most advantageous method for long-term storage of very large volumes of crude oil in terms of cost, safety, environmental impacts, and security. For example, the size of a 160-MMB concrete reservoir site would be almost four times greater than the size of a 160-MMB site in a salt dome; a steel tank farm would be almost 25 times greater in size, and the cost of constructing a steel tank site would be at least twice that of a salt dome site. A concrete reservoir site or steel tank farm site would result in between 4 and 25 times as much land-disturbing impacts and it would present a far greater fire, spillage, and security risk. In addition, the depth of the salt dome caverns and the selfsealing characteristic of the formation make salt dome storage virtually immune to natural disasters (hurricanes and earthquakes) as well as to adversarial activities from a security perspective.</p>
<p>Comment D0084-6 (Frank Leach, Jackson County Board of Supervisors) <i>I am also very concerned about the fact that these -- that there is such a concern about life cycle costs and if you want to look at life cycle costs why couldn't we merely look at another investment as opposed to merely incurring all of this capital outlay of pipelines and terminals and such as that by looking at a public/private partnership within some</i></p>	<p>Response 2.2-3 The Energy Policy and Conservation Act of 1975, which is the authorizing legislation for the Strategic Petroleum Reserve, provides the Federal government with wide latitude for the design of the SPR. It includes authorization for an Industrial Petroleum Reserve that would shift the responsibility for ownership of the strategic stockpile to private refiners and importers. When the original Strategic Petroleum Reserve</p>

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Feasibility	
<p><i>of our refineries whereby I am certain that an arrangement could be made for them to store some of this needed reserve product and could probably be done in such a fashion that it would be much less costly and would be ever present for productivity at those refineries so that that product that is called "crude" could then certainly be converted to something that would be consumable by the citizens of the United States?</i></p>	<p>Plan was formulated in 1976, the option of decentralized storage was given serious consideration; however, at that time, however, the analysis showed that centralized storage of crude oil in very large facilities would be significantly less expensive than any other option. The Plan also noted that, from a philosophical perspective, the SPR is meant to benefit the whole economy and all citizens; it was not meant to primarily support the U.S. refining industry.</p> <p>In 1997, DOE revisited major assumptions regarding the composition, location, and ownership of the SPR. These issues were presented to the public for comment in the Federal Register "Opportunity for Public Comment on Strategic Petroleum Reserve Policy" (62 FR 23437, April 30, 1997). Neither DOE analysis nor any public comments made a case for changing the philosophy underpinning the current plan for SPR development. Federal government ownership assures that the SPR will be used only in the public interest and that the costs and benefits will be public. The cost of the SPR would be minimized by building very large storage caverns in salt domes located on the coast of the Gulf of Mexico.</p>
<p>Comment D0084-7 (Frank Leach, Jackson County Board of Supervisors)</p> <p><i>I would ask that the prior Environmental Impact Statement that was developed in the 90's be returned to the website or that copies of that specifically be made available as far as a CD ROM or such so that we could compare what prior findings were made as compared to today's Environmental Impact Statement. That we probably are just merely recreating the wheel and all of this has been studied and studied and studied again, so it would be my opinion that we probably ought to quit studying and we ought to just try to get down to the brass tacks of the matter of the fact that there are some alternatives other than</i></p>	<p>Response 2.2-4</p> <p>The 1992 draft EIS can be found at: http://www.fossil.energy.gov/programs/reserves/publications/. It will remain on the Web site.</p>

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Feasibility	
<i>Mississippi becoming this process of having oil stored in our salt domes and then have to be concerned with this brine sludge or whatever is going to come down this pipeline for introduction into the Gulf of Mexico.</i>	[See response 2.2-4 above]

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Capacity	
<p>Comment D0074-2 (U.S. Army Corps of Engineers) <i>Explain limitations regarding maximizing expansion of the all existing SPR facilities, whether technical or administrative (e.g., 250 million barrel cap).</i></p>	<p>Response 2.2-5 Each existing SPR site does not have a cap of 250 MMB. As discussed in the EIS, several site-specific factors dictate the capacity at a site. In section 2.2.3 of the EIS, DOE states that, “In developing the range of reasonable alternatives to fulfill its proposed action, DOE first considered expansions of the three existing storage sites, which would capitalize on existing site infrastructure and operations and thereby minimize development time and construction and operations costs. DOE, however, cannot reach its goal of 273 MMB simply by expanding capacity at existing sites. The amount of new capacity that could be developed at each existing site is limited by the physical size of the salt dome, the site’s infrastructure for cavern development, the capacity of the commercial petroleum distribution infrastructure to handle an increased rate of oil withdrawal from the site, and other constraints. DOE has determined that, at most, it could create up to 153 MMB of new capacity by expanding existing SPR sites: DOE’s site at Bayou Choctaw, LA, could be expanded by up to 30 MMB; Big Hill, TX, by up to 108 MMB; and West Hackberry, LA, by up to 15 MMB. Accordingly, DOE must develop one or more new SPR storage sites to</p>

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Capacity	
[See comment D0074-2 text above]	meet its 273 MMB target and the alternatives discussed below are various proposals for combinations of expanded sites and new sites.”
<p>Comment D0013-5 (Gulf Restoration Network) <i>DOE asserts that 160 MMB is needed to provide capability to store two types of crude oil and support a drawdown rate of 1 million barrels per day. (DEIS at p. S-3). It is unclear from the DEIS why this is necessary, or why 160 MMB was not included in setting the target (i.e. a target of 313 MMB would include the 160 MMB). What is clear, however, is that by making this claim DOE eliminates from possibility the selection of one of the least environmentally damaging sites (Clovelly, LA) unless combined with another site. (i.e. Clovelly has capacity for 120 MMB but not 160 MMB).</i></p>	<p>Response 2.2-6 As discussed in section 2.2.3 of the EIS, DOE cannot reach its goal of 273 MMB of expanded capacity simply by expanding capacity at the existing SPR sites. The expansion of the existing sites could create up to 153 MMB of additional capacity, which would result in a 120-MMB shortfall in capacity. See response 2.2-5 for more details.</p> <p>According to additional studies completed by DOE (see response 2.2-1), the alternatives involving cavern development at Clovelly are no longer considered reasonable alternatives. They are discussed in Section 2.7 Alternatives Eliminated from Detailed Study in the final EIS.</p>

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Water Withdrawal and Brine Disposal	
<p>Comment D0106-2 (USFWS) <i>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</i></p>	<p>Response 2.2-7 The flow rate required for cavern leaching is approximately 1.2 MMB per day. A typical water well can be expected to yield an average rate of 0.026 MMBD (760 gallons per minute). At this rate, a field of about 75 wells (50 operating and 25 spare) would be required. As a result of such large water volume consumption, depletion of water reserves and subsidence can occur. In addition, during the June 22, 2006, agency consultation meeting, MDEQ indicated that local aquifers are already in</p>

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Water Withdrawal and Brine Disposal	
<p>Comment D0106-7 (USFWS) <i>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.</i></p>	<p>high demand from public utilities and other industries. During the permitting and Biological Assessment process, DOE would work with the regulatory and resource agencies to refine the water withdrawal and conservation plan, refine the concept plan for the RWIs, and identify additional supplemental sources of water if necessary.</p> <p>To further mitigate the impacts of the RWI on the Leaf River, DOE has modified the conceptual design for the RWI on the Leaf River to reduce the potential for impingement and entrainment of aquatic organisms. The revised conceptual plan would use cylindrical screens located in the water column and oriented parallel to the river flow (see section 2.4.3 and figure 2.4.3-3). To minimize the likelihood of entrainment and impingement, this design takes advantage of the sweeping velocity of the river, whereby the velocity of the water flows parallel and adjacent to the RWI screen surface (Gowan et al. 1999). DOE would use a relatively low intake velocity of 0.5 feet/second and relatively small screen size of 0.5 inches to further reduce impingement and entrainment. DOE would refine the conceptual plan for the RWI and water withdrawal during the Section 7 Consultation with the USFWS, NOAA Fisheries, and the Mississippi Natural Heritage Program and coordination with the USACE and MDEQ for the Section 404/401 permit and the water withdrawal permit.</p> <p>To reduce DOE's dependence on the Leaf River, DOE has added in the final EIS a RWI structure on Singing River Island in Pascagoula, which would withdraw water from the Gulf of Mexico to reduce withdrawal from the Leaf River during low-flow conditions. See response 2.2.2-1 and section 3.6.5.1.2 in the EIS for a summary of the modified Richton alternatives.</p>

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Water Withdrawal and Brine Disposal	
[See comment D0106-7 text above]	See response 3.6.2.2-1 for a discussion of impacts to water resources and 3.7.4.2-18 for a discussion of impacts to biological resources.
<p>Comment D0013-3 (Gulf Restoration Network)</p> <p><i>The DOE has already identified alternatives to ocean dumping at some sites. For example, expansion of the Bayou Choctaw and West Hackberry sites would involve disposal of the brine in underground injection wells (DEIS at pp. 2-10, 2-11). Similarly, construction of a storage site at Clovelly and/or Bruinsburg would involve disposal of brine via underground injection. Accordingly, it is clear that discharge of brine to the Gulf is not the only disposal option. Yet, despite the potential for harmful impacts to marine species, the DEIS does not consider alternative disposal scenarios for brine at the other sites. The final EIS must fully analyze alternatives to disposal of brine in the Gulf of Mexico at other sites, and if no other alternative exists, should eliminate those sites from consideration.</i></p>	<p>Response 2.2-8</p> <p>DOE has accumulated many years of experience in both underground injection and ocean disposal of brine. Injection into deep underground formations incurs technical and operational challenges as described in response 3.7.2.1-1.</p> <p>As described in section 2.5.1, a new brine injection well field would be constructed at Bayou Choctaw to dispose of the brine associated with cavern development and cavern filling operations. The existing brine injection wells could not dispose of the brine at the rate generated during solution mining. At West Hackberry, DOE would acquire existing caverns that would be tied into the existing brine disposal wells. Disposal to the Gulf of Mexico by pipeline has been accomplished at three existing SPR sites: Bryan Mound, Big Hill, and West Hackberry. Currently brine injection wells are used to dispose of the limited amount of brine at West Hackberry during cavern filling, but during cavern development when large volumes of brine were generated an offshore brine diffusion system was used.</p> <p>DOE's specially designed diffusers and extensive monitoring programs have shown that this method can be used with minimal effect on marine life. For these reasons, ocean disposal is the preferred method of brine disposal. Underground injection is considered only when a candidate site is so far inland as to make constructing a large disposal pipeline impractical, such as in the case of a new SPR facility at Bruinsburg, MS.</p>

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<p>Comment D0013-1 (Gulf Restoration Network) <i>The GRN believes that the Draft Programmatic Environmental Impact Statement (DEIS) does not meet the requirements of the National Environmental Policy Act (NEPA). We recognize that Congress, in section 303 of the Energy Policy Act of 2005, required 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 the acquisition by the Secretary of the full authorized volume of the Strategic Petroleum Reserve.</i></p> <p><i>Nonetheless, the GRN would argue that circumstances surrounding the DOE's decision have changed substantially, particularly in light of the 2005 hurricane season and the prediction of increasing hurricane severity in the Gulf of Mexico over the next ten years. Although the DEIS notes that its existing facilities and the proposed sites survived the storm, existing storm barriers (wetlands, barrier islands, etc) in Louisiana, Mississippi, and Texas are being lost, putting coastal facilities at greater risk. It is not, therefore, in the national interest to expand the SPR in the coastal areas of the Gulf states. Instead, the DOE should request that Congress revisit the provisions of the Act to allow consideration of sites outside the coastal area of the Gulf that were not previously considered.</i></p> <p>Comment D0083-1 (Becky Gillette, Sierra Club) <i>First I would like to make a comment that's not really directed to the Department of Energy, but to Congress. And it seems to me that it's -- at a time when global warming is a huge concern and when we've had evidence of that through Hurricane Katrina and are now facing</i></p>	<p>Response 2.2-9 In accordance with NEPA, its implementing regulations (40 CFR Parts 1500 to 1508) and the DOE regulations for implementing NEPA (10 CFR Part 1021), DOE evaluated a range of reasonable alternatives.</p> <p>In Section 303 of the Energy Policy Act, Congress directed DOE to “consider and give preference to the five sites which the Secretary previously addressed in the [1992] Draft Environmental Impact Statement, DOE/EIS-0165-D. However, the Secretary, in his discretion may select other sites as proposed by a State where a site has been previously studied by the Secretary to meet the full authorized volume of the Strategic Petroleum Reserve [1 billion barrels].” Section 2.3.6 Storm Protection Measures discusses the effects of hurricanes on the existing SPR sites and explains that the operation of the existing SPR sites was able to be restored immediately after the hurricanes. In addition, the analysis presented in sections 3.3, 3.6, 3.7, and 3.8 supports the conclusion that hurricanes are not a threat to the safe and secure operation of existing and proposed facilities. In addition, two noncoastal sites, Bruinsburg and Richton, are evaluated in the EIS.</p> <p>In 1998, DOE revisited major assumptions regarding the composition, location, and ownership of the SPR. These issues were presented to the public for comments (DOE 1998). Neither DOE analysis nor any public comments made a case for changing the philosophy underpinning the current plan for SPR development. Federal government ownership assures that the SPR will be used only in the public interest, and that the costs and benefits will be public. The cost of the SPR would be minimized by building very large storage caverns in salt domes located on the coast of the Gulf of Mexico. Because</p>

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<p><i>stronger hurricanes as a result, the fact that the government would spend billions of dollars to store more oil rather than investing in the renewable energy and energy conservation is a shame and it's an outrage. That's where our efforts need to be placed, not squirrelling away more oil while we spend it like there's no tomorrow.</i></p> <p>Comment D0084-5 (Frank Leach, Jackson County Board of Supervisors)</p> <p><i>I am very also much interested in the fact that we are -- are looking for alternatives for storage and why are the locations all within a three-state area of the southern United States on the Gulf of Mexico. It would seem as though to me with regard for a need -- we certainly have a great need in the northeastern quadrant of the United States as well as the West Coast, so would it not be appropriate to establish some other location as opposed to a concentration of strategic petroleum reserve being stored in such close proximity to each other? I do not have any earthly idea what the impact from a security standpoint may be, but with the fact that this is all around the Gulf, it would seem as though to me it could be better if it were spread out into other jurisdictions and this were not basically crammed down a couple or three states' throats as it appears as though we sometimes become the whipping posts for our government.</i></p> <p>Comment D0084-3 (Frank Leach, Jackson County Board of Supervisors)</p> <p><i>We further, I believe, would be concerned about the fact that here we are about to -- it appears as though if this were found to be the right site --incur a significant capital outlay into an area that is right on the face of the Gulf of Mexico and with the onslaught of the various and</i></p>	<p>Congress directed DOE to consider specific locations and results of the review conducted in 1998, DOE concluded that it should not request Congress to revisit the Act to allow consideration of sites outside the Gulf Coast area.</p>

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<p><i>sundry not only tropical storms, but catastrophic hurricanes it would appear as though to me we will be in a constant state of maintenance with regard to a marine terminal that is going to be placed within the brunt of a zone that would be impacted by each and every hurricane that enters the Gulf and comes our way.</i></p> <p>Comment D0088-1 (Jack Moody, Mississippi Development Authority)</p> <p><i>Mississippi feels like it would be a strategic move for the Strategic Petroleum Reserve to spread the geography out on this reserve, because when something comes up, whether it's a natural disaster or something else, and we need it, it would be good -- and in our pocket: We're trying to sell Mississippi -- it would be good to have us up and away from that concentration and be able to supply those crude oils that are going to go up to the Midwest and to the center part of the United States, coming out of what we hope would be this Bruinsburg location.</i></p> <p>Comment D0100-1 (Janice Edwards, Individual)</p> <p><i>And my question to you-all is -- I understand we need strategic oil reserves. But looking at the map where they all are, they all reside in the Gulf Coast. I realize most of our refineries are here; but the problem I see is if we have a major disaster like a Katrina and a Rita again and you cannot get to the strategic oil reserves, it'd do you no good. I suggest that you consider some place a little bit further inland that would not be impacted by the hurricanes that we are going to continue to receive down in the Gulf Coast.</i></p>	<p>[See response 2.2-9 above]</p>

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<p>Comment D0016-1 (Senators Thad Cochran and Trent Lott) <i>While the recently-filed Draft EIS sets forth a number of options to accomplish this capacity expansion of the SPR, including the possible construction of five potential new sites and/or the expansion of three existing sites, we believe that the two sites under consideration in Bruinsburg and Richton, Mississippi, respectively, are two of the best values for the federal government in terms of cost, efficiency, and security, and one or both should ultimately be selected in any expansion of the SPR.</i></p> <p>Comment D0016-2 (Senators Thad Cochran and Trent Lott) <i>First, these sites are located significantly further inland than other sites being considered, and substantially further away from the vulnerable coastline, the selection of which would effectively diversify our currently homogenously and centrally-located SPR. The devastating catastrophes last year in the forms of Hurricanes Katrina and Rita should have taught us the importance of locating our emergency stockpiles of petroleum in alternative, diverse locations throughout the Gulf Coast region. The current vulnerability of the SPR from potential hazards, whether natural disasters because of the proximity of SPR facilities to the coastline or, even terrorist acts because of the closely clustered locations of SPR facilities, is unacceptable. Correcting this potential liability, however, can begin by selecting an expansion site for SPR at Bruinsburg or Richton, thus alleviating to a substantial degree this continuing potential for hazards to the SPR. With the recent predictions of major hurricanes with increased frequency, it is imperative that DOE choose a site that is more inland and better insulated from such disasters. By not choosing an inland site such as Bruinsburg or Richton, we are perpetuating the vulnerability of the SPR to such disasters, including potentially devastating damage and possible closure of SPR facilities in emergency situations when the SPR</i></p>	<p>Response 2.2.1-1 DOE did not have a preferred alternative at the time the draft EIS was issued, but now it has designated Richton with expansion at Bayou Choctaw, Big Hill, and West Hackberry as the preferred alternative based on crude oil distribution system capabilities, environmental factors, project risks, and project costs. However, the three commercial caverns at the West Hackberry site were recently sold to Sempra Pipelines and Storage and ProLiance Transportation and Storage. As a result, DOE may not be able to acquire the West Hackberry site caverns at a reasonable cost. DOE will weigh the cost of expansion at the West Hackberry site as a factor in selecting sites.</p> <p>DOE will identify the environmentally preferable alternative in the Record of Decision.</p> <p>DOE did not select one of the Bruinsubrg alternatives after comparing the crude oil distribution needs, environmental factors, project risks, and project costs with the other proposed alternatives. See also section 2.4.1 for a discussion of uncertainty regarding the size and shape of the Bruinsburg salt dome.</p>

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<p><i>is needed most.</i></p> <p><i>Second, the geography, geology and topography presented by these two new sites at Bruinsburg and Richton are superior to other new sites being considered. These sites are located in the highlands, avoiding environmental and economic problems associated with constructing or expanding in expansive coastal wetlands or sensitive areas. This will not only be much more cost-effective to the federal government, but will also be more environmentally sound for future generations. Further, the geologic structure of the potential domes is better suited for SPR expansion, resulting in lower cost cavern construction, cavern integrity and easier petroleum distribution. These sites also can be completely under DOE control, maximizing security at what will be one of the nation's most important energy installations.</i></p> <p><i>Finally, these sites also have numerous other attributes that make their selection optimal. For instance, the Bruinsburg site is strategically located on the Mississippi River and only a short distance from a major pipeline - the Capline system. This strategic location along the river gives the site many advantages, through an abundance of resources in raw water intake as well as opportunities for lower costs in construction and distribution of petroleum through the use of marine transportation. Further, easy and efficient access to the Capline system gives the Bruinsburg site a major resource for distribution. With both marine and pipeline alternatives of distribution, the Bruinsburg site has maximum flexibility to use this strategic energy resource and provide the most economic and functional security for the SPR, ensuring the continued access and availability of SPR resources to the rest of the country when SPR facilities located on or near the coast are closed due to natural disasters. The Richton site also has many beneficial characteristics, including a distribution alternative at a new location</i></p>	<p>[See response 2.2.1-1 above]</p>

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<p><i>along the Gulf Coast away from current SPR locations which contributes to the diversification of SPR locations generally; its utilization of the Calpine pipeline at a point less vulnerable than coastal alternatives; and its proposed raw water intake which would not cause upstream migration of salinity gradient as it would in some other alternative sites being considered.</i></p> <p><i>Mr. Secretary, we firmly believe the sites being considered in Mississippi are the most strategically-located sites and the best value for the federal government, and strongly urge the selection of one of these sites in any expansion of the SPR. Thank you again for your generosity and assistance as the State of Mississippi recovers. We look forward to working with you on this and additional projects as we continue to move forward in rebuilding the Gulf Coast and the State of Mississippi.</i></p>	<p>[See response 2.2.1-1 above]</p>
<p>Comment D0015-1 (Clairborne County Board of Supervisors)</p> <p><i>As stated in our letter dated December 14, 2005, the Clairborne County Board of Supervisors supports the efforts of the Department of Energy to expand our nations Strategic Petroleum Reserve (SPR). The Energy Policy Act of 2005 set out a number of initiatives to address this country's present dependency. The expansion of the SPR is one of these positive responses.</i></p> <p><i>The Bruinsburg site here in Clairborne County is well suited for emergency distribution to the middle USA refineries using not only the Capline pipeline but the Mississippi River as well. The Bruinsburg site also appears to have substantial merit for the 160-million barrel expansion site or the 80-million barrel expansion set out in the Department of Energy's options for expansion.</i></p>	<p>Response 2.2.1-2</p> <p>See response 2.2.1-1 for discussion of the preferred alternative. In addition, Section 3.8 Socioeconomics discusses the potential socioeconomic benefits of developing an SPR facility at Bruinsburg.</p>

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<p><i>With the expected multi-million dollar investment, several hundred construction jobs and high payment permanent jobs to be created, coupled with the limited impact on the environment as outlined in the Draft Environmental Impact Statement, this board continues to support the efforts of Governor Haley Barbour and our congressional delegation in selecting Bruinsburg as a potential site to expand the United States Strategic Petroleum Reserve.</i></p> <p>Comment D0090-1 (James Miller, Claiborne County Board of Supervisors)</p> <p><i>I want to first and foremost say the Claiborne County Board of Supervisors totally supports this effort. And, as a matter of fact, we, the county, we have been talking to our congressional delegation about this particular endeavor for the last couple or three years. Congressman Pickering, I think, was very instrumental in bringing this to the forefront, in terms of Claiborne County being included in the process, as well as Governor Barbour. So the Claiborne County Board of Supervisors is totally committed to doing whatever it needs to do to support this.</i></p>	<p>[See response 2.2.1-2 above]</p>
<p>Comment D0087-1 (Jack Moody, Mississippi Development Authority)</p> <p><i>First of all, I would like to acknowledge the very thorough job that Dave and his people have done in Mississippi and Mississippi is delighted to have two candidates for consideration in this expansion.</i></p> <p><i>As he pointed out, there was a second candidate put into it and, really, we've got two features in Mississippi, very very different, and can serve two different purposes, in a sense. Where we are, it's got the biggest, prettiest, shallowest piece of salt anywhere in Mississippi. It's a fabulous natural resource with tremendous storage capacities, but as</i></p>	<p>Response 2.2.1-3</p> <p>See response 2.2.1-1 for a discussion of the preferred alternative.</p>

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<p><i>you saw, the plumbing involved in this is quite extensive, so it would take two different views of our two different sites.</i></p> <p><i>One would be a very long term, very major, strategic decision here, money going in up front, investing in something very big, but that's what y'all live on top of in the Richton salt dome; tremendous capabilities.</i></p> <p><i>We've got room in there.</i></p> <p><i>Our state geologist and one of his staff is with us. They've put out publications. I think Stan published a summary of all of our salt domes here in Mississippi just a few years ago and that document puts about 5,800 acres under -- above 2,000 feet in the salt. That's a lot of storage capability. So, again, the Richton site, you would have to think of almost building an interstate. It's the type of investment the government looked at, and yes, it's big; yes, it's expensive, but oh, when it gets done, it's going to do a great job.</i></p> <p><i>The other site that we have at Bruinsburg on the river, as Dave pointed out, is a smaller site. On a good day, you could put 160 million barrels in it. That's a yawn for the Richton site. Oh, yeah, it's a good beginning, but when we're really going to get going, you know.</i></p> <p><i>But there are two different sites and it will be up to his office and the amount of monies that they have going.</i></p> <p><i>But we, in Mississippi, are also saying we think it's a good idea. As you saw from those maps, the Strategic Petroleum Reserve is located on the coast and both of our sites are geographically removed from the coast,</i></p>	<p>[See response 2.2.1-3 above]</p>

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<p><i>geographically removed from surge influence that the hurricanes will bring. NOAA, which is the National Oceanic and Atmospheric Administration, has put out on its site that hurricane seasons are cyclical, just like everything else in life, and we have been in one of those really nice, low-intensity cycles for about 30 years and we are embarking -- starting about two seasons ago, on our next high-intensity, high-frequency cycle.</i></p> <p><i>So, that goes back to, we would politely -- we're going to put our best foot forward, that we would hope the DOE would take that into consideration. The Strategic Petroleum Reserve, we think it would be a strategic move to geographically pull part of that off of the coast and be able to serve the Midwest in the event that we had a repeat of a Katrina-type situation, but something, whether it would be a foreign import interruption or whether it would be domestic difficulties from natural disasters. But nevertheless, we would be removed from the coast and be able to continue to contribute to the stability of the country while they're dealing with whatever problems developed.</i></p> <p><i>But again, we really appreciate the thoroughness of the review the DOE has given Mississippi and we certainly wish them -- as a country, we wish them the best decision for the good of the country.</i></p>	<p>[See response 2.2.1-3 above]</p>
<p>Comment D0089-2 (Vernon Phillips, Anabasis)</p> <p><i>I would ask the Department of Energy to consider the following advantages that the Bruinsburg site offers: Number 1 is geographic distribution. The Bruinsburg site lies 100 miles north of existing storage sites to offer strategic supply advantages to the PADD, (spelling) P.A.D.D. Number 2 and removes the site from all possibilities of hurricane storm surge. Furthermore, the Bruinsburg site offers the strategic disbursement from other sites acquired by the original enabling legislation of the United States Strategic Petroleum</i></p>	<p>Response 2.2.1-4</p> <p>See response 2.2.1-1 for a discussion of the preferred alternative.</p>

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<p><i>Reserve.</i></p> <p><i>Number 2 is the minimal environmental impact. The Bruinsburg offers the shortest possible pipeline routes of all the candidate sites with the facilities completely under the Department of Energy's security procedures.</i></p> <p><i>The Bruinsburg site offers raw water availability out of the fragile brackish marsh environment.</i></p> <p><i>The Bruinsburg site offers highland pipeline construction for minimal environmental impact and least of cost.</i></p> <p><i>The Bruinsburg site offers abundant availability of disposal zones underground, which completely protect the underground fresh water supplies and result in no discharge to the environment of hyper-saline brine.</i></p> <p><i>The Bruinsburg site offers cost-effective construction options with excellent distribution by pipeline and barge to PADD, PADD II, and PADD III.</i></p>	<p>[See response 2.2.1-4 above]</p>
<p>Comment D0089-1 (Vernon Phillips, Anabasis)</p> <p><i>I commend the DOE for consideration of the Bruinsburg site as a candidate for expansion of the United States Petroleum Strategic Reserve.</i></p>	<p>Response 2.2.1-5</p> <p>See response 2.2.1-1.</p>
<p>Comment D0103-1 (Charlotte Randolph, Lafourche Parish)</p> <p><i>Because LOOP had been a good environmental storage for many years, we feel that any expansion could actually be best achieved in that site. We feel that LOOP would certainly be a good monitor of the situation,</i></p>	<p>Response 2.2.1-6</p> <p>Cavern development at the Clovelly salt dome is no longer considered reasonable, as explained in response 2.2-1. Also see response 2.2.1-1 for a discussion of the preferred alternative.</p>

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<i>as well.</i>	[See response 2.2.1-6 above]
<p>Comment D0047-1 (Fred Cummins, individual) <i>Concerning expansion of the oil reserve in the Stratton ridge area of Clute, Texas. There is some other reason that Dow opposes this project obviously. They seem to have a lock on the Texas environmental People so it may be that they have injected something that they do not want exposed. I have lived here and worked on the Gulf as a Sea Captain for fifty years. I have seen this coast destroyed by the Chemical industry.</i></p> <p><i>The community wets itself if Dow makes rumors of moving or laying off. I suggest you take the country into account and let the chips fall for Dow and the Community as they will. Dow is not a trustworthy company but it has a good PR department and the local newspaper is their cheerleader.</i></p> <p><i>This is one citizen's opinion. Do what is best for the Country.</i></p>	<p>Response 2.2.1-7 Comment noted.</p>
<p>Comment D0075-1 (Dominion Natural Gas Storage) <i>Dominion Natural Gas Storage, Inc. (DNGS) hereby submits comments on the U.S. Department of Energy (DOE) Draft Environmental Impact Statement (DEIS) "Site Selection for the Expansion of the Strategic Petroleum Reserve." Specifically, DNGS reiterates its support for the environmental compatibility of DNGS's salt cavern storage facilities located in West Hackberry, Louisiana adjacent to DOE's existing West Hackberry Strategic Petroleum Reserve (SPR) facility.</i></p> <p>Comment D0075-2 (Dominion Natural Gas Storage) <i>The DEIS considers the expansion of the existing DOE West Hackberry facility through the annexation, or acquisition, of the DNGS salt cavern storage facilities. A summary of the benefits of the DNGS/West</i></p>	<p>Response 2.2.1-8 See response 2.2.1-1 for a discussion of the preferred alternative.</p>

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<p><i>Hackberry site, as described in the DEIS, are highlighted below:</i></p> <ol style="list-style-type: none"> <i>1) DOE's West Hackberry site can be readily expanded into the existing DNGS storage facilities since they are immediately adjacent to each other.</i> <i>2) The DNGS storage facility can expeditiously provide 15 million barrels of storage within approximately six months after being selected.</i> <i>3) The existing DOE-SPR West Hackberry facility currently has all of the required infrastructure in place to integrate the three DNGS salt caverns at minimal expense.</i> <i>4) As detailed in the DEIS, there are no significant environmental impacts associated with the DNGSNI West Hackberry site and it is the least environmentally invasive expansion option under consideration.</i> <i>5) The DNGSI West Hackberry site is the most economical expansion option under consideration.</i> <p>Comment D0101-1 (David Kohler, Dominion Natural Gas Storage)</p> <p><i>I'm with Dominion. We own the Hackberry facility. It's one of the facilities that is pre-existing. I'll just comment further on Dave Johnson's comments, that our facility actually has three completed caverns, five million barrels each that have already been bleached and are just sitting empty. So as far as meeting the criteria -- or the four criteria that were outlined, one of them being cost effectiveness, expeditiously, you know, in service, and the third one being the least impact.</i></p> <p>Comment D0101-3 (David Kohler, Dominion Natural Gas Storage)</p> <p><i>Dominion is very interested in pursuing and hoping that our alternative is considered. It does make a lot of sense. Obviously it could be put in</i></p>	<p>[See response 2.2.1-8 above]</p>

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<i>service probably the quickest of any of the alternatives. Although it is small, it certainly meets the criteria.</i>	[See response 2.2.1-8 above]

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<p>Comment D0106-28 (USFWS) <i>...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.</i></p>	<p>Response 2.2.2-1 In accordance with NEPA, its implementing regulations (40 CFR Parts 1500 to 1508), and the DOE regulations for implementing NEPA (10 CFR Part 1021), DOE has designated Richton and expansion at Bayou Choctaw, Big Hill, and West Hackberry as the preferred alternative in the final EIS, and DOE will identify the environmentally preferable alternative in the Record of Decision. See response 2.2.1-1 for a discussion of the preferred alternative.</p> <p>DOE acknowledges that withdrawal of water from the Leaf River may result in adverse impacts on water resources (see 3.6.5.1.2) and aquatic resources, such as endangered species (see 3.7.5.1.2). To reduce DOE's dependence on the Leaf River, DOE has added to the Richton alternatives a RWI structure on Singing River Island in Pascagoula, which would allow DOE to withdraw water from the Gulf of Mexico to reduce withdrawal from the Leaf River during low-flow conditions.</p> <p>If DOE selects one of the Richton alternatives, DOE would develop a Water Conservation Plan for water withdrawal during cavern creation, drawdown, and maintenance. During cavern creation, drawdown, or maintenance, withdrawal from the Leaf River would be used during normal and high-flow conditions. Under low-flow conditions in the Leaf River, the withdrawal would be supplemented by a secondary</p>

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<p>[See comment D0106-28 text above]</p>	<p>source, the Pascagoula RWI, which would withdraw water from the Gulf of Mexico.</p> <p>The Pascagoula RWI would be designed to handle about 0.5 MMBD of the total required volume, which is 1.2 MMBD. During construction or maintenance, when flows in the Leaf River reach the Minimum Instream Flow that is designated by the regulatory agencies to protect special status species, withdrawal from the Leaf River would be reduced or terminated until the Minimum Instream Flow in the Leaf River is reached. During this period, DOE would withdraw water from the Gulf of Mexico.</p> <p>If necessary, during Section 7 Consultation with the regulatory agencies, DOE would consider possible supplemental sources including possible groundwater sources, withdrawals from other surface water bodies, and a possible onsite off-stream reservoir. 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 water withdrawal rate of 1.2 MMBD, from the Leaf River.</p> <p>To further mitigate the impacts of the RWI on the Leaf River, DOE has modified the conceptual design for the RWI on the Leaf River to reduce the potential for impingement and entrainment of aquatic organisms. The revised conceptual plan would use cylindrical screens located in the water column and oriented parallel to the river flow (see section 2.4.3 and figure 2.4.3-3). To minimize the likelihood of entrainment and impingement, this design takes advantage of the sweeping velocity of the river, whereby the velocity of the water flows parallel and adjacent to the RWI screen surface (Gowan et al. 1999). DOE would use a relatively low intake velocity of 0.5 feet/second and relatively small screen size of 0.5 inches to further reduce impingement and</p>

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<p>[See comment D0106-28 text above]</p>	<p>entrainment. DOE would refine the conceptual plan for the RWI and water withdrawal during the Section 7 Consultation with the USFWS, NOAA Fisheries, and the Mississippi Natural Heritage Program and coordination with the USACE and MDEQ for the Section 404/401 permit and the water withdrawal permit.</p> <p>See response 3.6.2.2-1 for a discussion of impacts to water resources for the Richton site.</p>
<p>Comment D0009-1 (June Havens, individual) <i>Richton, MS is inappropriate for a Strategic Petroleum Reserve storage site. The salt domes are not stable and the ground water for the coastal area could be in jeopardy. Hasn't the Coast suffered enough.</i></p> <p>Comment D0011-1 (Nan Johnson, individual) <i>I am writing in opposition to the proposed expansion of the Strategic Petroleum Reserve in the Richton Salt Domes....especially as it would impact on the Leaf and Pascagoula Rivers.</i></p> <p>Comment D0012-1 (Bruce Browning, individual) <i>This sounds, at best, a very flaky project.....Please reconsider this theory and do more research on how to solve your problem.....water and air are quite possibly the most important assets to life here in Mississippi - and elsewhere! There must be a better way!!</i></p> <p>Comment D0014-1 (Tony Bland, individual) <i>I am writing to let you know of my opposition to the proposal to expand the nation's Strategic Petroleum Reserve in the Richton Salt Domes. I am concerned about the environmental impact of the project.</i></p>	<p>Response 2.2.2-2 See response 2.2.1-1 for discussion of the preferred alternative and 2.2.2-1 for a discussion of sources of water withdrawal for the Richton site.</p> <p>See response 3.4-1 and response 3.6.2.2-1 for a discussion of geology and water resources at the Richton site, respectively.</p>

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<p>Comment D0085-6 (Fred Lemon, individual) <i>But let's don't screw this salt dome up with petroleum. It needs to go somewhere. Let's put it back in the ground where it came out of, but let's don't put it there[Richton].</i></p> <p>Comment D0085-9 (Fred Lemon, individual) <i>I think that's mainly the points I wanted to get in and I hope they'll be taken with -- seriously. So I would like to close with one word. No.</i></p> <p>Comment D0085-1 (Fred Lemon, individual) <i>They just took the wrong trail, especially when it came to Richton. I don't think that the Richton deal -- it's kind of like the pleasure is not worth the pain. You know, I just don't think it's a good idea at all.</i></p> <p>Comment D0084-12 (Frank Leach, Jackson County Board of Supervisors) <i>And I personally do not believe it would be in our best interest and the State of Mississippi necessarily to have this million barrels of oil stored here when it could be stored other ways and other places. Thank you very much.</i></p>	<p>[See response 2.2.2-2 above]</p>
<p>Comment D0097-1 (Diane Kile, Office of Congressman Ron Paul) <i>I want to join with others tonight in expressing my concerns regarding the Stratton Ridge expansion of the Strategic Petroleum Reserve. In the recent past, President Bush has stated the need to judiciously diminish the reserve in order to reduce non-market demand, thus helping to reduce energy costs. In light of that, we should seriously consider not only where but also whether or not to increase the reserve. Certainly if high energy prices are a legitimate concern -- and they clearly are at this time -- we should not undertake such an expansion in a way that</i></p>	<p>Response 2.2.2-3 Response 2.2-9 discusses the history of SPR and a DOE study directed by Congress. The socioeconomic impacts of each alternative are addressed in Section 3.8 Socioeconomics.</p> <p>DOE is required by law to select sites to expand the SPR. 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</p>

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<p><i>could negatively impact any component of the petrochemical industry. Any federal action that would threaten to raise costs to business, which would be passed along to consumers, is a bad policy at any time. However, this is a particularly bad time for any such policy to be enacted.</i></p> <p>Comment D0079-14 (Dow Chemical Company) <i>I want to join with others tonight in expressing my concerns regarding the Stratton Ridge expansion of the Strategic Petroleum Reserve (SPR). In the recent past President Bush has stated the need to judiciously diminish the reserve in order to reduce nonmarket demand, thus helping to reduce energy costs. In light of that, we should seriously consider not only where, but also whether or not, to increase the reserve.</i></p> <p><i>Certainly, if high energy prices are a legitimate concern (and they clearly are at this time) we should not undertake such an expansion in a way that could negatively impact any component of the petro-chemical industry. Any federal action that would threaten to raise costs to business, which would be passed along to consumers, is a bad policy at anytime. However, this is a particularly bad time for any such policy to be enacted.</i></p> <p>Comment D0102-2 (Sybil Guidry, individual) <i>Well, I feel that it would impact severely the fragile ecosystem that's already wounded from exploitation by oil companies, by some thoughtless locals, as well as the natural forces.</i></p> <p><i>Terrebonne Parish has been negatively impacted by Hurricanes Katrina and Rita. And so that's my concern, is that, here goes some</i></p>	<p>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.” In Section 303 of EPACT, Congress directed DOE to “consider and give preference to the five sites which the Secretary previously addressed in the [1992] Draft Environmental Impact Statement, DOE/EIS-0165-D. However, the Secretary, in his discretion may select other sites as proposed by a State where a site has been previously studied by the Secretary to meet the full authorized volume of the Strategic Petroleum Reserve [1 billion barrels].”</p>

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<i>more wetlands, some more destruction. And I'd just like to see the funding that DOE would expend on building the petroleum oil reserves in the development of alternative sources of clean energy. Thank you.</i>	[See response 2.2.2-3 above]
<p>Comment D0079-13 (Dow Chemical Company) <i>The Board of The Economic Development Alliance for Brazoria County unanimously passed the attached resolution opposing expansion of the Strategic Petroleum Reserve at Stratton Ridge in our meeting of June 12, 2006 for the following reasons:</i></p> <ol style="list-style-type: none"> <i>1. The SPR uses underground salt formations as the basis for their oil storage operations. For their purposes they remove the salt and discharge it into the ocean. Placing the SPR at Stratton Ridge would waste salt that the chemical industry could use to make useful products in the future. The DoE time line to remove the salt from the salt dome and other operational considerations would not allow this salt to be used to make products and thus would be wasted. As I understand it, the other sites under consideration do not have co-located salt based production facilities, so the salt wasted into the ocean isn't salt that can be made into useful products, as can the salt at Stratton Ridge.</i> <i>2. There is also concern over the government taking of Stratton Ridge property and perhaps even closure of Stratton Ridge Road. We have experienced this sort of thing in the past, and it runs contrary to everything America stands for.</i> <i>3. At a time when the chemical industry is struggling with high energy and feedstock fuel costs and high construction costs, this waste of Stratton Ridge salt and concern over the government commandeering private property could dissuade industry from locating new jobs in the area and it may even negatively affect business decisions to make any further investments in support of current operations.</i> <i>4. The 40 or so jobs created for managing the SPR site could</i> 	<p>Response 2.2.2-4 The analysis contained in the EIS accounts for the various attributes of each alternative including socioeconomics and land use. Specifically, see response 3.8-3 for further discussion of socioeconomic impacts and responses 3.3-1 and 3.3-2 for further discussion of land use impacts. Also, see response 5.1 for a discussion of the value of salt waste through solution mining of SPR caverns.</p> <p>DOE has designated Richton with expansion at Bayou Choctaw, Big Hill, and West Hackberry as the preferred alternative in the final EIS. DOE will identify the environmentally preferable alternative and announce its selection in the Record of Decision.</p> <p>Also, see response 5-1 for a discussion of the value of salt lost through solution mining of SPR caverns.</p>

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<p><i>jeopardize literally thousands of direct chemical industry jobs and four to eight times that many of indirect jobs with contractors and suppliers.</i></p> <p><i>5. We also understand that Bryan Mound was removed from consideration because it did not have adequate capacity for expansion and that the plans for Stratton Ridge would include facilities to off-load foreign crude in Texas City and bring the oil in through pipeline. So it seems this would not even benefit Port Freeport.</i></p> <p>Comment D0017-1 (Charlie Singletary, individual) <i>I oppose the DOE selecting the Stratton Ridge Site in Texas. I feel this will eliminate jobs in Brazoria County. I'm not opposed to having more oil for reserve, just not in Brazoria County.</i></p> <p>Comment D0021-2 (Brazoria County Commissioner) <i>As County Commissioner of Brazoria County Precinct 1, I do not support the use of Stratton Ridge for the expansion of the SPR.</i></p> <p>Comment D0050-1 (D.L. Vaughn, individual) <i>I am not opposed to more oil reserves. I am opposed to having them in Brazoria County, Texas as I feel that using the underground storage facility at Stratton Ridge will be detrimental to our local economy. I am afraid that it will cause local jobs to be lost over the long term.</i></p> <p>Comment D0054-1 (Jeanette Bumpers, individual) <i>As a concerned citizen of Brazoria County, I am asking you not to choose Stratton Ridge as the location of the petroleum reserve. This will completely ruin the lives of so many people and the future economy of this area. Please choose one of the locations that is more receptive to this project. This decision would be very devastating to the 6,000</i></p>	<p>[See response 2.2.2-4 above]</p>

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<p><i>employees of Dow Chemical and their families. This would effect every business in Brazoria County and leave this area extremely depressed.</i></p> <p>Comment D0076-1 (Bill Logan, individual) <i>We in the Brazoria County, TX, area are concerned that the plan to take over Dow's Stratton Ridge facilities would do a great deal of harm to our economy. According to an editorial in The Facts, the people near the proposed Mississippi sites are generally in favor of having storage facilities there.</i></p> <p>Comment D0079-9 (Dow Chemical Company) <i>Let me start by stating that while we are not opposed to expanding the Strategic Petroleum Reserves, Dow DOES NOT support the use of Stratton Ridge for this expansion. The reasons for this are fairly straight forward.</i></p> <p>Comment D0079-16 (Dow Chemical Company) <i>Again, I wish to join with the Economic Development Alliance for Brazoria County, the Dow Chemical Company, and other concerned members of the community in expressing my concern regarding the siting of an SPR expansion at Stratton Ridge.</i></p> <p>Comment D0079-17 (Dow Chemical Company) <i>We wholeheartedly support the expansion of the Strategic Petroleum Reserve, which already includes a site in Brazoria County at Bryan Mound. But it is with just as much vehemence that we join others in Brazoria County in asking the federal government to choose a site other than Stratton Ridge at which to store the oil in underground caverns.</i></p>	<p>[See response 2.2.2-4 above]</p>

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<p><i>This is not simply another tired case of "not in my backyard." Rather, the caverns near Clute already are filled with a precious resource to industry in this area: salt.</i></p> <p>Comment D0079-36 (Dow Chemical Company) RESOLUTION NO. R-06-516 RESOLUTION OF THE CITY OF LAKE JACKSON, TEXAS, INOPPOSITION TO A STRATEGIC PETROLEUM RESERVE ATSTRATTON RIDGE</p> <p><i>WHEREAS, it is understood that the Energy Policy Act of 2005 directs the Secretary of Energy to fill the Strategic Petroleum Reserve to its one billion barrel capacity, and this will require the Department of Energy to expand the Strategic Petroleum Reserve, such plans to include adding one new storage site, and</i></p> <p><i>WHEREAS, Stratton Ridge, Texas is one of the new sites being considered from the group of sites previously assessed in the Draft Environmental Impact Statement, and Stratton Ridge is located within Brazoria County, Texas, and</i></p> <p><i>WHEREAS, the proposal to locate a Strategic Petroleum Reserve storage operation at Stratton Ridge, Texas would have an adverse affect on the area's chemical manufacturing industry which constitutes the very foundation of the economy of South Brazoria County with over five thousand direct jobs and as many as four to eight times that number of indirect jobs among contractors and suppliers; and</i></p> <p><i>WHEREAS, the City of Lake Jackson and other cities in Southern Brazoria County would be harmfully affected by expansion of the Strategic Petroleum Reserve at Stratton Ridge, Texas, since much of the annual revenue for the cities flows from the Chemical Manufacturing</i></p>	<p>[See response 2.2.2-4 above]</p>

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<p><i>Industries; and</i></p> <p><i>WHEREAS, the expansion of the Strategic Petroleum Reserve at Stratton Ridge would create virtually no significant economic benefit that could conceivably compensate for the potential harm it would do the local economy; and</i></p> <p><i>WHEREAS, the Department of Energy has other options to meet its mandated expansion of the Strategic Petroleum Reserve capacity;</i></p> <p><i>NOW, THEREFORE, BE IT RESOLVED, that the Council of the City of Lake Jackson, Texas hereby opposes said location of a Strategic Petroleum Reserve at Stratton Ridge, Texas.</i></p> <p><i>APPROVED AND ADOPTED by the Council of the City of Lake Jackson, Texas, this 3rd day of July, 2006. City of Lake Jackson, Texas</i> <i>City Secretary.</i></p> <p>Comment D0099-1 (Shane Pirtle, Lake Jackson)</p> <p><i>I say that -- as you've already heard, Dow Chemical is a major -- the primary employer in this community, largest employer in this community; and obviously it's a substantial contributor to this community.</i></p> <p><i>So, with that being said, we wouldn't want to see anything that jeopardizes what we've seen as a great partner in this community both as an employer and contributing in a number of other activities. So, I think that would -- and as well as the cities -- all those -- most of the large cities are members of The Economic Development Alliance and we're a part of this resolution.</i></p>	<p>[See response 2.2.2-4 above]</p>

COMMENT	RESPONSE
2. Proposed Action and Alternatives	
2.2.2 Opposition	
<p>Comment D0092-1 (David Stedman, Economic Development Alliance) <i>And so, on the 12th of June, our board met to represent the entire business community of Brazoria County and unanimously adopted this resolution, the Resolution, In Opposition to the Strategic Petroleum Reserve At Stratton Ridge.</i></p> <p>Comment D0092-3 (David Stedman, Economic Development Alliance) <i>And so, I urge you to look at all your alternatives and pick some place other than Stratton Ridge for the Strategic Petroleum Reserve expansion.</i></p> <p>Comment D0094-1 (Vick Wade, individual) <i>My name is Vick Wade. I'm coming to you as a local, long-time Brazoria County resident. And I -- I mean, I'm just here to express -- I'm not going to give you a long speech or anything but I'm just putting my vote in and my vote would be that we don't -- do not have you-all come in. I just -- I see it as an eminent domain thing that -- and I do have a small business here, and I have long-term interests in our area. And I don't see it as a -- this as a long-term positive for our area.</i></p> <p>Comment D0095-2 (Donald Payne, Brazoria County Commissioner) <i>Now, therefore be it resolved, that Brazoria County hereby opposes any location of a Strategic Petroleum Reserve at Stratton Ridge, Texas.</i></p>	<p>[See response 2.2.2-4 above]</p>

COMMENT	RESPONSE
2. Proposed Action and Alternatives	
2.2.2 Opposition	
<p>Comment D0104-1 (Cindy Suggs, individual) <i>As a lifetime resident of the greater Brazosport area, I am terribly concerned about the proposed Strategic Energy Reserve at Stratton Ridge.</i></p> <p>Comment D0097-3 (Diane Kile, Office of Congressman Ron Paul) <i>Again, I wish to join with The Economic Development Alliance for Brazoria County, the Dow Chemical Company, and other concerned members of the community in expressing my concern regarding the siting of an SPR expansion at Stratton Ridge.</i></p>	<p>[See response 2.2.2-4 above]</p>

COMMENT	RESPONSE
2. Proposed Action and Alternatives	
2.2.3 Environmentally Preferred	
<p>Comment D0077-28 (EPA Region 6) <i>The DEIS identifies the Clovelly site as least environmentally damaging to wetlands. Section 404 of the Clean Water Act requires the least damaging practicable alternative be selected. It appears from the information provided by DOE that the proposed Clovelly site plus the expansion of the 3 existing facilities (Bayou Choctaw, Big Hill and West Hackberry) should be selected as the preferred alternative.</i></p> <p>Comment D0073-12 (NOAA Fisheries) <i>NMFS has carefully reviewed the potential impacts associated with the three alternatives to expand SPR capacity by 273 MMB. Because no major new pipeline segments would be required for the Clovelly site, NMFS believes that impacts to tidally influenced wetlands and EFH would be minimized by the selection of the alternative that would include increasing storage capacity to 120 MMB at the Clovelly</i></p>	<p>Response 2.2.3-1 The alternatives involving cavern development at Clovelly are no longer considered reasonable alternatives, as explained in response 2.2-1.</p> <p>In accordance with NEPA, its implementing regulations (40 CFR Parts 1500 to 1508), and the DOE regulations for implementing NEPA (10 CFR Part 1021), DOE has designated Richton and expansion at Bayou Choctaw, Big Hill, and West Hackberry as the preferred alternative in the final EIS, and DOE will identify the environmentally preferable alternative and selection in the Record of Decision.</p>

COMMENT	RESPONSE
2. Proposed Action and Alternatives	
2.2.3 Environmentally Preferred	
<i>terminal.</i>	[See response 2.2.3-1 above]
<p>Comment D0013-4 (Gulf Restoration Network)</p> <p><i>The goal of the Energy Act of 2005 is to expand the SPR to 273 MMB. The final EIS should develop as their preferred alternative one that includes those site decisions that would lead to the least environmentally destructive options.</i></p> <p><i>It is evident from review of the DEIS that expansion of existing SPR sites would require minimal additional infrastructure and minimal impact, over and above that associated with initial construction, on environmental resources. Expansion of these sites could account for 153 MMB of the 273 MMB target (DEIS at p. S-3). Expansion of existing sites, should therefore, be part of the preferred alternative.</i></p> <p><i>With regard to the remaining 120 MMB short fall, the question then becomes identification of new sites which would be the least environmentally damaging (See Footnote 1). Although the 6 sites considered for a new facility could all - singly or in combination - meet the target, it is clear that some carry significantly greater potential environmental impact than others. Specifically, there are at least 3 sites that have the potential to inflict significant and irreparable (non-mitigable ?sp?) environmental impacts. These sites should be excluded from consideration and should not be included in any preferred alternative. These sites are:</i></p> <ol style="list-style-type: none"> (1) The Chacahoula, LA site... (2) The Richton, MS site... (3) The Stratton Ridge, TX site... 	<p>Response 2.2.3-2</p> <p>As discussed in section 2.2.3, DOE cannot reach its goal of 273 MMB of expanded capacity by expanding capacity at the existing sites. The expansion of the existing sites could create up to 153 MMB, which would result in a 120-MMB shortfall in capacity. See response 2.2-5.</p> <p>As further described in response 2.2-1, the alternatives involving cavern development at Clovelly are no longer considered reasonable alternatives.</p> <p>In accordance with NEPA, its implementing regulations (40 CFR Parts 1500 to 1508), and the DOE regulations for implementing NEPA (10 CFR Part 1021), DOE has designated Richton and expansion at Bayou Choctaw, Big Hill, and West Hackberry as the preferred alternative in the final EIS, and DOE will identify the environmentally preferable alternative in the Record of Decision.</p> <p>See response 2.2.2-1 for a discussion of sources of water withdrawal for the Richton site.</p>

COMMENT	RESPONSE
2. Proposed Action and Alternatives	
2.2.3 Environmentally Preferred	
<p>Comment D0013-10 (Gulf Restoration Network)</p> <p><i>In the opinion of the GRN, the site with the least environmental impacts is the Clovelly, LA site. The proposed Clovelly SPR site is located at the existing site of the Louisiana Offshore Oil Port (LOOP) dome storage facility. Except for the new RWI structure, the facility would, with the exception of a new RWI and 0.1 mile access road, rely on existing LOOP infrastructure, thereby reducing construction impacts. Although brine disposal in the Gulf is contemplated, there few, if any, additional environmental impacts from the selection of this alternative that are not already associated with the LOOP facility (DEIS, pp. 2-35-2-39). Although some dredging and filling of wetlands is contemplated, the impacts to jurisdictional wetlands associated with this site are much less than are those at other sites being considered. The GRN would argue, therefore, that if a new site in the coastal area of the Gulf states must be selected from those already considered by the DOE, Clovelly should be the chosen as the preferred (least environmentally destructive) alternative.</i></p> <p><i>We recognize that Clovelly only has the capacity for 120 MMB, and that DOE asserts that 160 MMB is required. However, under the Energy Act of 2005 the fully authorized volume for the SPR is 263 MMB, not 313 MMB. The Clovelly site if chosen would provide capacity for the fully "authorized" volume and thus should not be excluded from consideration on the basis that it does not have sufficient capacity. In the event that DOE persists in its assertion that it must have 160 MMB, some combination of the Clovelly site and the Bruinsburg, MS site should be considered. Although the Bruinsburg site involves unacceptable environmental impacts, it is evident that those impacts are not as egregious as are those associated with the three sites discussed above and thus must be considered the lesser of the evils presented by the restrictions placed on site selection by the</i></p>	<p>Response 2.2.3-3</p> <p>See responses 2.2-1, 2.2-5, 2.2.3-1, and 2.2.3-2.</p> <p>As presented in section 2.2.3, DOE recognizes that to reach the fully authorized volume of 1 billion barrels, DOE would need to expand the existing 727 MMB of capacity by 263 MMB, not 313 MMB. The total capacity of the new site and the expansion sites would be developed and filled as presented in table 2.2.3-1.</p>

COMMENT	RESPONSE
2. Proposed Action and Alternatives	
2.2.3 Environmentally Preferred	
<i>Energy Act of 2005.</i>	[See response 2.2.3-3 above]
<p>Comment D0103-2 (Charlotte Randolph, Lafourche Parish)</p> <p><i>The Chacahoula site is straddling the border between Lafourche and Terrebonne, and certainly we would be somewhat concerned about the ecosystem there, but at the same time -- we're open to discussion about that site, but certainly we would favor more a site that has already been developed, already been established, already been represented as a group that will certainly make certain that everything that is necessary to protect the environment, as well as to provide the storage for this very important American oil -- I think it would be best served at LOOP. Thank you very much</i></p>	<p>Response 2.2.3-4</p> <p>See response 3.7.3.1-6 for information regarding concerns over the Chacahoula ecosystem.</p> <p>The alternatives involving cavern development at Clovelly are no longer considered reasonable alternatives, which is explained in response 2.2-1.</p>

COMMENT	RESPONSE
2. Proposed Action and Alternatives	
2.3 Site-Specific Issues	
2.3.1 Bruinsburg	
<p>Comment D0077-3 (EPA Region 6)</p> <p><i>Pages 2-27 to 2-30, Section 2.4.1, Bruinsburg Storage Site: The Figure 2.4.1-5 is incorrect or at best misleading. The ExxonMobil Refinery is not on the west side of the Mississippi River as depicted. It is almost due east of the Placid Oil Refinery, but on the other side of the river. If there is a new crude oil pipeline planned to run from the proposed Anchorage Tank Farm under the Mississippi River to the ExxonMobil Refinery this should be discussed in the FEIS</i></p>	<p>Response 2.3.1-1</p> <p>The “ExxonMobil Refinery” label on figure 2.4.1-5 has been corrected to read “ExxonMobil Tank Farm.” The tank farm is located on the west side of the Mississippi River and, as noted in the comment, the refinery is located on the east side of the river. The ExxonMobil tank farm is connected to the refinery by existing pipelines. Other than the current proposed pipeline from the proposed DOE SPR site at Bruinsburg to the proposed DOE tank farm, which would cross the Mississippi River, there would be no additional river crossings for the development of the Bruinsburg site and associated infrastructure. The proposed DOE tank farm would connect to the ExxonMobil Refinery through existing pipelines.</p>

COMMENT	RESPONSE
2. Proposed Action and Alternatives	
2.3 Site-Specific Issues	
2.3.1 Bruinsburg	
<p>Comment D0077-8 (EPA Region 6) <i>Page 3-108, Section 3.6.2.1.3, Impacts Associated with Constructing Pipelines: The FEIS should identify any special procedures to be employed for the Mississippi River crossing from the Baton Rouge area to the proposed Anchorage tank farm included in the Bruinsburg proposal.</i></p>	<p>Response 2.3.1-2 As discussed in section 2.3.9, directional drilling would be one of the pipeline construction methods. The specific conditions when directional drilling would be performed are discussed in section 3.7.2.1.2, which includes rivers and streams greater than 100 feet (30 meters) wide. Therefore, the pipeline from Bruinsburg to the Anchorage tank farm would cross the Mississippi River in the Baton Rouge area, and directional drilling would be used to build the pipelines. The detailed design for Bruinsburg would include technical details for the crossing such as spotting of existing pipelines, length of new crossing, depth of crossing, location of directional drilling rig, area for pipe welding, and placement of pipe on rolls.</p>
<p>Comment D0089-3 (Vernon Phillips, Anabasis) <i>By locating the new road along the common right-of-way of the proposed power line, which the Department of Energy depicted on the southeast side of the facility, the visual impact of the historic Civil War landscape, which is alluded to in Section 2.3 of the Summary Draft EIS, will be totally eliminated.</i></p>	<p>Response 2.3.1-3 If one of the Bruinsburg alternatives is selected, the placement of the ROWs and roads as described in section 2.4.1 would be the proposed design. Rather than create a new ROW and road along the proposed power line, DOE would improve the existing access road to the site. As described in Section 3.9 Cultural Resources, DOE is preparing a programmatic agreement with the Mississippi SHPO and the Advisory Council on Historic Preservation to address potential impacts on the historic Civil War landscape. If one of the Bruinsburg alternatives is selected, DOE and the Mississippi SHPO would enter into a programmatic agreement to cover the additional actions that would be required to identify and resolve adverse effects to historic properties.</p>
<p>Comment D0089-4 (Vernon Phillips, Anabasis) <i>Structure of a brine disposal system with a pipeline paralleling the raw water supply line and constructing disposal wells perpendicular to the pipeline will allow minimal environmental impact.</i></p>	<p>Response 2.3.1-4 The proposed brine injection well field would run parallel to the raw water supply line; however, the location of the wells would not be perpendicular to the pipeline. The location and spacing of the wells were designed to maintain high individual well discharge rates that</p>

COMMENT	RESPONSE
2. Proposed Action and Alternatives	
2.3 Site-Specific Issues	
2.3.1 Bruinsburg	
<p>[See comment D0089-4 text above]</p>	<p>would not affect the operation of the other wells and to widely distribute the brine discharge into the formations. Placing the brine disposal wells perpendicular to the raw water supply line would not achieve a wide distribution of the brine discharge and the required spacing between the wells (minimum of 1,000 feet [300 meters]) would not reduce the environmental impacts over the current design.</p>
<p>Comment D0089-5 (Vernon Phillips, Anabasis) <i>Additionally, by using both the Sparta and Wilcox formations for brine disposal, the capacity of each well can be doubled or increased fourfold, thus reducing the number of disposal wells required, reducing the wellhead pressure of each well, and increasing injection runtime between workovers, which will commensurate reduced cost and enhance environmental safety</i></p> <p><i>Both the Sparta and Wilcox formations have proven to be safe, well known, and commonly used disposal zones in Mississippi with excellent disposal capacity. Both zones can be used at the same time in each well-bore further enhancing safety and the disposal capacity</i></p>	<p>Response 2.3.1-5 DOE has determined that brine injection into multiple formations simultaneously is not technically feasible for the reasons discussed below.</p> <p>Brine injection into multiple formations through one wellhead is not standard practice primarily because of the lack of hydraulic control on the injection process. Although access would be available for disposal in both formations, the pressure differentials in the formations would determine which formation the brine actually enters. Because there would be no controls on the rate of discharge into each formation, there is the possibility that injection into one of the formations could be overpressured and result in fracturing. In addition, the following issues are of concern to DOE:</p> <ul style="list-style-type: none"> • Crossflow through the well between the formations would occur during any periods when the injection well was not operating; • Properly installing a well into multiple formations would be difficult; and • Cleaning out the well screens and assuring that the screens in each formation are adequately clean to allow for flow into the formations would be difficult and hard to control.

COMMENT	RESPONSE
2. Proposed Action and Alternatives	
2.3 Site-Specific Issues	
2.3.1 Bruinsburg	
<p>Comment D0089-6 (Vernon Phillips, Anabasis) <i>Additionally, by constructing a dock at the Mississippi River, near the old ferry site, less than three miles to the southwest of the site, a short crude oil distribution line can be also laid parallel to the raw water supply pipeline and the brine disposal pipeline. To do this will minimize environmental impact. A dock there will also be available to be accessed by the old ferry road.</i></p>	<p>Response 2.3.1-6 The objective of the proposed crude oil distribution system associated with Bruinsburg would be to take advantage of existing infrastructure in lieu of building and maintaining additional government-owned facilities. In addition, the volume of crude oil that could be transferred from the dock location referenced in the comment would be far less than could be transferred from the existing facility in Anchorage, LA, as presented in the EIS. This is because crude oil tanker access is not possible north of Baton Rouge, and the new dock at the suggested location could serve only barges at a low pumping rate. Therefore, changing the alternative by developing a dock at the suggested location would not meet DOE's volume distribution requirement.</p>
<p>Comment D0089-7 (Vernon Phillips, Anabasis) <i>The 30-inch crude oil distribution pipeline to the Capline can be laid parallel to the proposed power line right-of-way and our proposed access road to the southeast side of the site. The pipeline then can be parallel to the Energy power line, which runs from the Grand Gulf Power Plant to Peetsville.</i></p>	<p>Response 2.3.1-7 As indicated in the comment, the ROW for the proposed 30-inch (76 centimeter) crude oil distribution pipeline from the Bruinsburg site to the Capline pipeline would follow the ROW of the power line from the Grand Gulf Power Plant to Peetsville; therefore, the proposed pipeline ROW is no different than the ROW suggested in the comment (see section 2.4.1).</p>
<p>Comment D0089-8 (Vernon Phillips, Anabasis) <i>As the DOE mentioned in the Summary Draft EIS on page S-23, the natural landscape can be preserved by placing pipelines underground and otherwise working with agencies to minimize impact. The issues addressed in the Summary Draft EIS on concerns with the Homochitto National Forest can be eliminated by routing the pipeline around the forest to the north for short distances necessary to avoid any problems on the east end of the Bruinsburg and Peetsville line.</i></p>	<p>Response 2.3.1-8 If one of the Bruinsburg alternatives is selected, the placement of the proposed pipelines as described in section 2.4.1 of the EIS would be the proposed conceptual design. The ROW for the proposed 30-inch (76 centimeter) crude oil distribution pipeline to the Capline would follow the ROW for the power line from the Grand Gulf Power Plant to Peetsville. The pipeline would be an underground pipeline that would follow an existing ROW through the Homochitto National Forest rather than create a new ROW around the forest.</p>

COMMENT	RESPONSE
2. Proposed Action and Alternatives	
2.3 Site-Specific Issues	
2.3.1 Bruinsburg	
<p>Comment D0089-9 (Vernon Phillips, Anabasis) <i>By moving the caverns and service facilities as far west on the site as practical, the maximum subsurface safety as to the geologic control and operational effectiveness can be obtained. By constructing a facility in that manner, visual resources, endangered species, cultural resources impact can be minimized or eliminated. The affected area will be less than 700 acres. This will result in an environmentally sound, very cost-effective site. I would like to submit to you for the record a proposal incorporating all of these features.</i></p>	<p>Response 2.3.1-9 If one of the Bruinsburg alternatives is selected, the conceptual design as described in section 2.4.1 of the EIS would be the proposed design. The proposed layout of the site is based primarily on the geologic characteristics of the salt dome, which dictate where the caverns could be located. The proposed onsite infrastructure would be located on the upland portion of the site to minimize the construction and impacts on the floodplain.</p>

COMMENT	RESPONSE
2. Proposed Action and Alternatives	
2.3 Site-Specific Issues	
2.3.3 Clovelly	
<p>Comment D0002-1 (Greater Lafourche Port Commission) <i>It seems to me that the existing infrastructure at this site which is already in place, would present a tremendous savings to the Government and me as a tax payer. I'm sure use of the existing 30 inch brine discharge line and the brine reservoir among many other things could be negotiated with LOOP, or better, a turn key contract for storage and delivery of oil could be negotiated. Loop is currently planning the addition of a new line from the offshore terminal to the dome as I type this. Now would be the time to plan for this expansion as well, which would greatly reduce costs and environmental impacts.</i></p>	<p>Response 2.3.3-1 Section 2.4 of the draft EIS describes the infrastructure associated with each proposed new site. At Clovelly, this would include the existing offshore brine disposal system.</p> <p>However, as a result of additional studies completed by DOE following the publication of the draft EIS (see response 2.2-1), the alternatives involving cavern development at Clovelly are no longer considered reasonable alternatives. They are discussed in section 2.7 in the final EIS.</p>

COMMENT	RESPONSE
2. Proposed Action and Alternatives	
2.3 Site-Specific Issues	
2.3.3 Clovelly	
<p>Comment D0002-2 (Greater Lafourche Port Commission) <i>Additionally, when I look at the drawing entitled Figure S.3.5.3-1: Proposed Location of Clovelly Storage Site and DOE Facility, on page S-10, I see the existing LOOP Storage Facility and Proposed SPR Storage Site and a proposed DOE Off-Dome Facility near Bayou Lafourche. I also see that you have the area due south of the dome (rectangular area) labeled as marsh.</i></p> <p><i>Please be advised that this is a 1500 acre industrial park which is owned by this Commission and houses the South Lafourche Airport (which we own) and several additional facilities including the newly constructed LOOP Tank Farm, which has 6- 500,000bbl tanks. The Industrial Park has direct connectivity to LOOP and presents huge opportunities for additional storage and any Off Dome Facilities. The adjacent airport is presently undergoing a runway extension to 6500ft. and strengthening. This area is not only not a wetland, but is enclosed within its own protection levee system as well as the South Lafourche Hurricane Protection Levee System (the only one that did not experience flooding during the hurricanes of 2005).</i></p>	<p>Response 2.3.3-2 Figure S.3.5.3-1 of the draft EIS was meant to show the general features around the proposed location; however, after DOE completed additional studies (see response 2.2.-1), the Clovelly alternatives involving cavern development at Clovelly are no longer considered reasonable alternatives. They are discussed in Section 2.7 Alternatives Eliminated from Detailed Study.]</p>

COMMENT	RESPONSE
2. Proposed Action and Alternatives	
2.3 Site-Specific Issues	
2.3.6 Stratton Ridge	
<p>Comment D0077-4 (EPA Region 6) <i>Page 2-52, Section 2.4.6, Stratton Ridge Storage Site: Figure 2.4.6-1 should reflect the proposed Freeport LNG underground gas storage</i></p>	<p>Response 2.3.6-1 Figure 2.4.4-1 has been updated to show the proposed Freeport LNG underground gas storage facility.</p>

COMMENT	RESPONSE
2. Proposed Action and Alternatives	
2.3 Site-Specific Issues	
2.3.6 Stratton Ridge	
<i>facility that either overlaps or immediately adjoins the proposed Stratton Ridge facility</i>	[See response 2.3.6-1 above]
<p>Comment D0079-37 (Dow Chemical Company) <i>See Figure "Proposed SPR Expansion- Stratton Ridge TX" in DOW's comments [In the figure, Dow shows that the proposed Stratton Ridge Caverns would be co-located with proposed Dow caverns. Dow indicated that an early layout of the proposed Stratton Ridge Caverns may avoid the potential conflict.]</i></p>	<p>Response 2.3.6-2 The cavern layout for Stratton Ridge DOE presented during the scoping process consisted of three rows of caverns oriented north-south. Because of environmental concerns, DOE changed the layout during draft EIS preparation to avoid the riparian hardwood forest along Oyster Creek. Three caverns originally located along Oyster Creek were relocated to the west of the site. The current layout shows four rows of caverns oriented north-south. DOE was not aware of any proposed Dow caverns during the development of the current cavern layout, and therefore, did not consider such caverns. See response 3.3-1 for additional information on potential conflict resulting from the current cavern layout.</p>

COMMENT	RESPONSE
3. Affected Environment and Potential Impacts	
3.2 Environmental Risks and Public and Occupational Safety and Health	
<p>Comment D0106-15 (USFWS) <i>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</i></p>	<p>Response 3.2-1 The detailed report of the damage associated with this spill (Final Bryan Mound Environmental Monitoring Status Report Brine Disposal Pipeline Leak Incident, October 12, 1990, Boeing Petroleum Services) determined that effects on vegetation were limited to an 8.3-acre (3.4-hectare) area. (See table 4, extracted from that report, which gives the requested physical properties.) The spill occurred in May 1989, and plant growth was observed by September. A severe freeze in December killed a significant quantity of vegetation. By April 1990, the new growth had reversed most of this damage in all but 2.5 acres (1 hectare).</p>

COMMENT	RESPONSE																																																																																																																																																																																																																																																																																							
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<p><i>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.</i></p>	<p>Extracted from Boeing Petroleum Services, Inc. 1990b</p> <p style="text-align: center;">TABLE 4 Additional Surface Water Physicochemical Parameters</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Parameter</th> <th rowspan="2">Station</th> <th colspan="7">1989</th> <th colspan="4">1990</th> </tr> <tr> <th>Jun^A</th> <th>Jul^A</th> <th>Aug^A</th> <th>Sept^A</th> <th>Oct</th> <th>Nov^A</th> <th>Dec</th> <th>Jan</th> <th>Feb</th> <th>Mar</th> <th>Apr</th> </tr> </thead> <tbody> <tr> <td rowspan="7">Temperature (°C)</td> <td>MP-1</td> <td>29</td> <td>28</td> <td>27</td> <td>29</td> <td>24</td> <td>21</td> <td>5</td> <td>12</td> <td></td> <td>16</td> <td>28</td> </tr> <tr> <td>MP-2</td> <td>28</td> <td>28</td> <td>27</td> <td>30</td> <td>24</td> <td>20</td> <td>5</td> <td>13</td> <td></td> <td>17</td> <td>28</td> </tr> <tr> <td>MP-3</td> <td>28</td> <td>28</td> <td>28</td> <td>30</td> <td>24</td> <td>20</td> <td>6</td> <td>14</td> <td></td> <td>17</td> <td>30</td> </tr> <tr> <td>MP-4^B</td> <td>28</td> <td>28</td> <td>28</td> <td>30</td> <td>25</td> <td>21</td> <td>6</td> <td>14</td> <td></td> <td>18</td> <td>27</td> </tr> <tr> <td>MS-1^B</td> <td>30</td> <td>31</td> <td>28</td> <td>29</td> <td>25</td> <td>21</td> <td>4</td> <td>13</td> <td></td> <td>16</td> <td>29</td> </tr> <tr> <td>MS-2</td> <td>27</td> <td>31</td> <td>27</td> <td>29</td> <td>25</td> <td>21</td> <td>3</td> <td>16</td> <td></td> <td>16</td> <td>28</td> </tr> <tr> <td>MS-3</td> <td>28</td> <td>27</td> <td>30</td> <td>31</td> <td>24</td> <td>21</td> <td>9</td> <td>14</td> <td></td> <td>16</td> <td>30</td> </tr> <tr> <td rowspan="7">pH (SU)</td> <td>MP-1</td> <td>7.0</td> <td>8.4</td> <td>7.8</td> <td>7.8</td> <td>6.9</td> <td>7.3</td> <td>7.7</td> <td>8.0</td> <td>8.1</td> <td>7.7</td> <td>7.6</td> </tr> <tr> <td>MP-2</td> <td>7.6</td> <td>8.4</td> <td>7.9</td> <td>7.7</td> <td>7.2</td> <td>7.2</td> <td>7.6</td> <td>8.1</td> <td>4.0</td> <td>8.0</td> <td>7.7</td> </tr> <tr> <td>MP-3</td> <td>7.6</td> <td>8.6</td> <td>8.0</td> <td>7.8</td> <td>7.3</td> <td>7.2</td> <td>7.8</td> <td>7.9</td> <td>3.5</td> <td>7.8</td> <td>7.8</td> </tr> <tr> <td>MP-4^B</td> <td>7.8</td> <td>8.0</td> <td>8.0</td> <td>7.8</td> <td>7.3</td> <td>7.7</td> <td>7.7</td> <td>8.0</td> <td>4.4</td> <td>8.0</td> <td>7.7</td> </tr> <tr> <td>MS-1^B</td> <td>7.1</td> <td>8.5</td> <td>7.8</td> <td>7.3</td> <td>6.7</td> <td>7.0</td> <td>7.3</td> <td>7.0</td> <td>6.3</td> <td>7.4</td> <td>7.7</td> </tr> <tr> <td>MS-2</td> <td>7.4</td> <td>8.1</td> <td>7.5</td> <td>7.4</td> <td>6.8</td> <td>7.0</td> <td>7.6</td> <td>7.3</td> <td>7.4</td> <td>7.4</td> <td>7.6</td> </tr> <tr> <td>MS-3</td> <td>7.6</td> <td>7.8</td> <td>7.4</td> <td>7.6</td> <td>7.2</td> <td>7.0</td> <td>7.6</td> <td>7.7</td> <td>6.0</td> <td>7.5</td> <td>7.8</td> </tr> <tr> <td rowspan="7">Dissolved Oxygen (mg/l)</td> <td>MP-1</td> <td>2.0</td> <td>5.8</td> <td>2.6</td> <td>3.2</td> <td>1.1</td> <td>1.0</td> <td>8.3</td> <td>10.2</td> <td></td> <td>6.2</td> <td>5.1</td> </tr> <tr> <td>MP-2</td> <td>5.9</td> <td>3.5</td> <td>7.0</td> <td>8.6</td> <td>5.0</td> <td>2.4</td> <td>8.1</td> <td>10.5</td> <td></td> <td>7.4</td> <td>5.9</td> </tr> <tr> <td>MP-3</td> <td>6.4</td> <td>6.9</td> <td>7.6</td> <td>10.0</td> <td>6.2</td> <td>2.2</td> <td>8.5</td> <td>7.7</td> <td></td> <td>6.5</td> <td>7.4</td> </tr> <tr> <td>MP-4^B</td> <td>6.4</td> <td>4.0</td> <td>6.8</td> <td>7.2</td> <td>4.5</td> <td>4.8</td> <td>7.5</td> <td>8.1</td> <td></td> <td>7.9</td> <td>6.1</td> </tr> <tr> <td>MS-1^B</td> <td>3.5</td> <td>6.4</td> <td>7.0</td> <td>2.4</td> <td>0.7</td> <td>1.9</td> <td>9.2</td> <td>5.1</td> <td></td> <td>6.1</td> <td>6.8</td> </tr> <tr> <td>MS-2</td> <td>4.4</td> <td>4.9</td> <td>4.4</td> <td>4.5</td> <td>0.9</td> <td>2.2</td> <td>8.7</td> <td>6.3</td> <td></td> <td>7.4</td> <td>6.3</td> </tr> <tr> <td>MS-3</td> <td>5.9</td> <td>4.6</td> <td>6.5</td> <td>6.1</td> <td>5.2</td> <td>2.3</td> <td>11.0</td> <td>10.6</td> <td></td> <td>6.0</td> <td>7.4</td> </tr> </tbody> </table> <p>A: Data represents an average of up to four data points these months. B: Control stations. SU: Standard units. MP: Marsh pond. MS: Tidal ditches.</p> <p>Depressed oxygen was observed in only one pond, and the effects were observable through October 1989 (see table 4). Frequent heavy rains or tides, or both, in the summer and fall contributed to the flushing of brine from the area.</p>	Parameter	Station	1989							1990				Jun ^A	Jul ^A	Aug ^A	Sept ^A	Oct	Nov ^A	Dec	Jan	Feb	Mar	Apr	Temperature (°C)	MP-1	29	28	27	29	24	21	5	12		16	28	MP-2	28	28	27	30	24	20	5	13		17	28	MP-3	28	28	28	30	24	20	6	14		17	30	MP-4 ^B	28	28	28	30	25	21	6	14		18	27	MS-1 ^B	30	31	28	29	25	21	4	13		16	29	MS-2	27	31	27	29	25	21	3	16		16	28	MS-3	28	27	30	31	24	21	9	14		16	30	pH (SU)	MP-1	7.0	8.4	7.8	7.8	6.9	7.3	7.7	8.0	8.1	7.7	7.6	MP-2	7.6	8.4	7.9	7.7	7.2	7.2	7.6	8.1	4.0	8.0	7.7	MP-3	7.6	8.6	8.0	7.8	7.3	7.2	7.8	7.9	3.5	7.8	7.8	MP-4 ^B	7.8	8.0	8.0	7.8	7.3	7.7	7.7	8.0	4.4	8.0	7.7	MS-1 ^B	7.1	8.5	7.8	7.3	6.7	7.0	7.3	7.0	6.3	7.4	7.7	MS-2	7.4	8.1	7.5	7.4	6.8	7.0	7.6	7.3	7.4	7.4	7.6	MS-3	7.6	7.8	7.4	7.6	7.2	7.0	7.6	7.7	6.0	7.5	7.8	Dissolved Oxygen (mg/l)	MP-1	2.0	5.8	2.6	3.2	1.1	1.0	8.3	10.2		6.2	5.1	MP-2	5.9	3.5	7.0	8.6	5.0	2.4	8.1	10.5		7.4	5.9	MP-3	6.4	6.9	7.6	10.0	6.2	2.2	8.5	7.7		6.5	7.4	MP-4 ^B	6.4	4.0	6.8	7.2	4.5	4.8	7.5	8.1		7.9	6.1	MS-1 ^B	3.5	6.4	7.0	2.4	0.7	1.9	9.2	5.1		6.1	6.8	MS-2	4.4	4.9	4.4	4.5	0.9	2.2	8.7	6.3		7.4	6.3	MS-3	5.9	4.6	6.5	6.1	5.2	2.3	11.0	10.6		6.0	7.4
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COMMENT	RESPONSE
3. Affected Environment and Potential Impacts	
3.2 Environmental Risks and Public and Occupational Safety and Health	
<p>Comment D0079-31 (Dow Chemical Company) <i>The EIS needs to evaluate the potential adverse impact the established security zone that will be established around the new SPR facility will have on planned and existing industrial facilities. The well developed Stratton Ridge salt dome will have more extensive potential adverse impacts than would location of the new SPR facility at a less well developed site.</i></p> <p>Comment D0079-33 (Dow Chemical Company) <i>IV. Public Health and Safety</i> <i>Dow raises one concern in the Public Health and Safety section of the EIS. The Stratton Ridge potential site for the new SPR facility is very close to existing security from existing and planned industrial facilities. The EIS has to evaluate the potential for the security of the new facility adversely interacting with the existing security from existing and planned industrial facilities and resulting in a decrease in the safety provided both by the new SPR facility and the existing industrial facilities.</i></p> <p>Comment D0079-24 (Dow Chemical Company) <i>The EIS needs to fully evaluate the impact of the security zone on the planned and established local industry.</i></p>	<p>Response 3.2-2 The need for additional security because of SPR operations offers an opportunity to enhance overall security rather than compromise current security. A more regional or geographic approach to implementing security measures (as opposed to individual facility-based measures) is discussed and promoted in the National Infrastructure Protection Plan (DHS 2006) and various Department of Homeland Security assessments such as its Comprehensive Reviews. The approach is to optimize infrastructure protection across adjacent or interacting sites, or many nonadjacent sites in the same general area. Sites can benefit from broader approaches to protection that encompass regional resources and not just those available at or for a single site.</p> <p>If one of the Stratton Ridge alternatives is selected, DOE would work with Dow and other owners of facilities on or near the salt dome to ensure that the proposed security measures enhance each other.</p>
<p>Comment D0106-13 (USFWS) <i>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.</i></p>	<p>Response 3.2-3 Table 3.2.1-1 focuses on the frequency and size of SPR brine spills to help predict future events. Providing the specifics of each historic release is not necessary for this purpose; however, spills were to the ground and did not reach either fresh water or the marine environment.</p>

COMMENT	RESPONSE
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<p>Comment D0021-3 (Brazoria County Commissioner) <i>The SPR uses underground salt formations as the basis for their oil storage operations. For their purposes they remove the salt and discharge it into the ocean. Placing the SPR at Stratton Ridge, would waste salt that the chemical industry could use to make useful products in the future. The DoE time line to remove the salt from the salt dome and other operational considerations would not allow this salt to be used to maker products and thus would be wasted.. As I understand it the other sites under consideration do not have co-located salt based production facilities, so the salt wasted into the ocean isn't salt that can be made into useful products, as can the salt at Stratton Ridge.</i></p> <p>Comment D0079-10 (Dow Chemical Company) <i>Over 50% of the more than 6,000 Dow employee and contractor jobs in our Freeport plant exist because of the salt we mine at Stratton Ridge. This salt is the critical raw material for our Chlor-Alkali production, which in turn is critical for our downstream user plants that are dependent on chlorine and caustic, as well as several fence line customer plants.</i></p> <p><i>From this Stratton Ridge salt, we make thousands of different products worth over \$5 billion annually. We also use the Stratton Ridge area to store raw materials and products. Approximately half of the \$120 million a year that we pay in state and local taxes for Dow's Texas Operations are dependent upon these assets.</i></p> <p><i>On the other hand, the SPR uses underground salt formations as the basis for their oil storage operations. For their purposes, they remove the salt and discharge it into the ocean. Placing the SPR at Stratton Ridge would waste salt that Dow could otherwise mine and convert into</i></p>	<p>Response 3.3-1 DOE acknowledges that the proposed SPR storage facility at Stratton Ridge has the potential to conflict with other current and future land uses at the Stratton Ridge site, including the operations of Dow Chemical. The EIS text has been modified to provide additional information on this topic in the discussion of land use in section 3.3.</p> <p>See the discussion in section 3.8 on the potential socioeconomic impact of proposed development of the Stratton Ridge site. Also see response 3.3-5 on eminent domain.</p> <p>Response 5-1 and section 5.3 discuss the economic value of salt lost because of SPR cavern development. Also, response 2.1-3 discusses why salt from solution mining cannot feasibly be recovered.</p> <p>DOE acknowledges that its proposed layout of caverns on the Stratton Ridge salt dome has changed since its initial presentation during the scoping process. See response 2.3.6-2.</p>

COMMENT	RESPONSE
3. Affected Environment and Potential Impacts	
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<p><i>useful, value added products that support the economy of this region.</i></p> <p><i>The use of seawater for mining, the speed of mining the caverns in the salt dome, and the lack of a fully saturated brine solution as a discharge, precludes this salt from being consumed by Dow to make useful products. This salt would simply be wasted into the ocean.</i></p> <p><i>We understand that the other sites under consideration to locate the SPR facility, DO NOT have co-located salt-based production facilities. So that salt wasted into the ocean IS NOT salt that could be used otherwise as a feedstock for manufacturing purposes.</i></p> <p>Comment D0079-11 (Dow Chemical Company)</p> <p><i>In addition, we have concerns about our current Stratton Ridge operations, as these assets are critical to the economic operation of our Freeport site, which happens to be Dow's largest manufacturing facility globally. We experienced the concept of eminent domain first hand when the US government used its power to take Bryan Mound - now the local SPR site - from us, when we were an unwilling seller.</i></p> <p><i>Allow me to demonstrate this impact with some numbers. At the moment - without the SPR at Stratton Ridge- we estimate that Dow has access to salt reserves that should last for more than 30 years. The 16 proposed SPR caverns would waste 130 billion pounds of salt, or the equivalent of 7 years of Dow salt consumption. But it does not stop there!</i></p> <p><i>When the Department of Energy presented its initial plan in the fall of 2005, two of Dow's planned wells on Dow land would have been directly impacted, wasting another 4 years of salt that Dow could use for raw material.</i></p>	<p>[See response 3.3-1 above]</p>

COMMENT	RESPONSE
3. Affected Environment and Potential Impacts	
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<p><i>Since that initial plan, the DoE has expanded the area that it needs for the SPR. This impacts another 3 planned Dow wells, thus reducing Dow's potential salt consumption up to 11 years.</i></p> <p><i>So, under the DoE's current proposal, 18 years of equivalent Dow salt consumption is wasted.</i></p> <p><i>The waste of Stratton Ridge salt, and the possibility that the government may take some business critical property from Dow, is a grave concern for our internal business analysts, who make investment recommendations to Dow's leaders.</i></p> <p>Comment D0079-13 (Dow Chemical Company) <i>The Board of The Economic Development Alliance for Brazoria County unanimously passed the attached resolution opposing expansion of the Strategic Petroleum Reserve at Stratton Ridge in our meeting of June 12, 2006 for the following reasons:</i></p> <ol style="list-style-type: none"> <i>1. The SPR uses underground salt formations as the basis for their oil storage operations. For their purposes they remove the salt and discharge it into the ocean. Placing the SPR at Stratton Ridge would waste salt that the chemical industry could use to make useful products in the future. The DoE time line to remove the salt from the salt dome and other operational considerations would not allow this salt to be used to make products and thus would be wasted. As I understand it, the other sites under consideration do not have co-located salt based production facilities, so the salt wasted into the ocean isn't salt that can be made into useful products, as can the salt at Stratton Ridge.</i> <i>2. There is also concern over the government taking of Stratton Ridge</i> 	<p>[See response 3.3-1 above]</p>

COMMENT	RESPONSE
3. Affected Environment and Potential Impacts	
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<p><i>property and perhaps even closure of Stratton Ridge Road. We have experienced this sort of thing in the past, and it runs contrary to everything America stands for.</i></p> <p><i>3. At a time when the chemical industry is struggling with high energy and feedstock fuel costs and high construction costs, this waste of Stratton Ridge salt and concern over the government commandeering private property could dissuade industry from locating new jobs in the area and it may even negatively affect business decisions to make any further investments in support of current operations.</i></p> <p><i>4. The 40 or so jobs created for managing the SPR site could jeopardize literally thousands of direct chemical industry jobs and four to eight times that many of indirect jobs with contractors and suppliers.</i></p> <p><i>5. We also understand that Bryan Mound was removed from consideration because it did not have adequate capacity for expansion and that the plans for Stratton Ridge would include facilities to off-load foreign crude in Texas City and bring the oil in through pipeline. So it seems this would not even benefit Port Freeport.</i></p> <p>Comment D0079-17 (Dow Chemical Company)</p> <p><i>We wholeheartedly support the expansion of the Strategic Petroleum Reserve, which already includes a site in Brazoria County at Bryan Mound. But it is with just as much vehemence that we join others in Brazoria County in asking the federal government to choose a site other than Stratton Ridge at which to store the oil in underground caverns.</i></p> <p><i>This is not simply another tired case of "not in my backyard." Rather, the caverns near Clute already are filled with a precious resource to industry in this area: salt.</i></p>	<p>[See response 3.3-1 above]</p>

COMMENT	RESPONSE
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<p>Comment D0079-23 (Dow Chemical Company) <i>The EIS needs to fully evaluate the conflict of the SPR oil storage with the developing natural gas storage on the Stratton Ridge salt dome.</i></p> <p>Comment D0079-18 (Dow Chemical Company) <i>The same brine the Department of Energy is contemplating siphoning out of 16 caverns at Stratton Ridge is vital to Dow Chemical Co., Brazoria County's largest employer. The method of brine removal for a petroleum reserve could waste about 130 billion pounds of salt, Dow Texas Operations Vice President Bob Walker said at a public meeting on the proposed expansion last week. The proximity of the project also would prevent Dow from using five planned wells on property the company owns at Stratton Ridge.</i></p> <p>Comment D0079-28 (Dow Chemical Company) <i>First, the EIS needs to address the impact of wasting the chlorine from the Stratton Ridge salt dome. This is salt that is located near a major commercial chemical facility that is currently using salt solely from the Stratton Ridge salt dome to produce chlorine that is either itself in many products or used in the manufacturing of many products. In addition the chlorine produced from Stratton Ridge salt is used in products that are critical in providing many services. See Testimony for a discussion of the utility of Chlorine.</i></p> <p><i>All of the potential locations for the new SPR facility do not have the potential for use of the salt for chemical manufacturing. This location specific aspect of wasted essential natural resources needs to be evaluated in the Land Use section of the EIS.</i></p> <p><i>The magnitude of the potential salt diversion/waste can be calculated</i></p>	<p>[See response 3.3-1 above]</p>

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<p><i>from two of the figures in the DoE's Proposed Action Information pamphlet distributed in the public meetings associated with the public comments this EIS scoping effort. On page 3 of that pamphlet, DoE says that the proposed new SPR facility will have up to 160 million barrel of oil storage capacity and that leaching a cavern generates approximately 8 barrels of brine for each barrel of created cavern space. This means that locating the new SPR facility in Stratton Ridge will potentially divert 1,280,000,000 barrels of brine from the US economy and waste it into the Gulf of Mexico.</i></p>	<p>[See response 3.3-1 above]</p>
<p>Comment D0079-30 (Dow Chemical Company)</p> <p><i>The potential adverse impact of the locating of the new SPR facility on the Stratton Ridge on the developing natural gas storage industry related to the Freeport Liquid Natural Gas terminal (FLNG). While over a handful of Liquid Natural Gas terminals (LNG) have been proposed, the FLNG is the only one moving forward into the construction phase. There are commercial transactions related to the construction of storage wells. Given the well developed nature of the Stratton Ridge salt dome, taking the only large property remaining on the salt dome for oil storage prevents the expansion of natural gas storage on the Stratton Ridge salt dome. Given the even more critical need for natural gas development in the energy policy of the US, it would be an inappropriate use of DoE resources to quench this ongoing commercial development in the natural gas area in locating the new SPR facility on the Stratton Ridge salt dome. DoE has a greater ability to construct the pipelines and spend the capital needed to develop a salt dome farther from commercial pipelines than does industry. DoE needs to spend its resources in a way that supports the current and developing land use and that encourages developing industry in the natural gas storage area.</i></p>	<p>Response 3.3-2</p> <p>DOE acknowledges that the proposed SPR storage facility at Stratton Ridge potentially could conflict with other current and future land uses at the Stratton Ridge site, including the proposed Freeport LNG terminal. The EIS text in section 3.3.6 has been modified to provide additional information on this topic in the discussion of land use at Stratton Ridge. See also response 2.3.6-1 on the Stratton Ridge alternatives.</p>

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<p><i>Dow incorporates as if set forth in full in these comments, the DoE discussion of the importance of natural gas storage on its web page http://www.fossil.energy.gov/programs/oilgas/delivery/index.html . Dow mentions the discussion in the attached Slack Letter of the impact of the energy crisis and the impact of natural gas pricing and availability on Dow, the chemical industry and the US industry in general. Dow also mentions the discussion of the energy crisis and the impact of natural gas pricing and availability on Dow and the chemical industry.</i></p> <p>Comment D0098-1 (Tommy Soriero, Pinto Energy Partners)</p> <p><i>We have in the last year worked a deal with Freeport LNG. They are building their cavern -- both their caverns, and they are permitted on our property. We also have additional development underway on the property for additional caverns both for gas storage to support the LNG and the local consumption of the chemical facilities in the area. We also have, obviously, a very large interest in the mineral value of the salt that Mr. Walker alluded to in his speech that we hate to see that -- that mineral wasted and it seems like it'd certainly be a way to accomplish both goals both realizing the mineral value of the salt as it is mined and not being wasted since there is a consumer in the area that could take the salt and it's also something, I said, the company has owned for -- in the range of years -- maintain the ownership of this land for this specific reason. And we anticipate that there's probably going to be a difference in the economic value as being proposed by -- by the DOE versus our company and how long we've held the property with the development plans that we have and this would certainly interfere with all of those plans.</i></p>	<p>[See response 3.3-2 above]]</p>

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<p>Comment D0085-2 (Fred Lemon, Individual) <i>Number one, we might want that salt [from the Richton salt dome] for something else.</i></p>	<p>Response 3.3-3 DOE acknowledges that salt contained within any of the potential SPR storage sites potentially could be used for other purposes, and use of the salt caverns for SPR purposes would preclude the future use of that salt for other purposes. DOE does not know of other proposed uses of the Richton caverns.</p>
<p>Comment D0001-1 (NPS, Natchez Trace Parkway) <i>The Natchez Trace Parkway was authorized by Congress May 18, 1938. The Parkway is an elongated park of 51,150 acres covering a distance of 444 miles in Mississippi, Alabama, and Tennessee between Natchez, Mississippi, and Nashville, Tennessee. The purpose, as set forth by Congress, of the Parkway is to provide and maintain a scenic and recreational motor road commemorating the historic Old Natchez Trace and to provide access to significant natural and cultural resources. The Natchez Trace Parkway is characterized by numerous prehistoric Indian mounds and Chickasaw village sites, a military road associated with General Jackson's famous victory over the British at New Orleans, and its historic sites associated with the westward expansion of the British Colonies and the United States from 1763 - 1898.</i></p> <p><i>As one of the four nationally recognized rural parkways, the Natchez Trace Parkway, in its entirety, is eligible for the National Register of Historic Places as a designed cultural landscape and as a tribute to Landscape Architectural design and road way engineering partnerships at their best.</i></p> <p><i>The Parkway is presently not authorized to grant an easement or right-of-way (ROW) for either pipeline crossing through Parkway land in accordance with Director's Order 53. The proposed pipelines would</i></p>	<p>Response 3.3-4 DOE recognizes the need for additional National Park Service evaluation of any proposed pipeline through the Natchez Trace Parkway and acknowledges the Service's approval process. EIS section 3.3.3.2.1 states that if one of the Bruinsburg alternatives is selected, DOE would coordinate with the NPS to obtain the proper ROW easements through the Natchez Trace Parkway.</p> <p>Also, see response 1.3-5 for more information on how DOE would consult with the National Park Service if one of the Bruinsburg alternatives is selected.</p>

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<p><i>require a Congressional authorization being as there is no current deed reservation for the use of US Government land for this purpose in either location.</i></p> <p><i>Assuming that authorization is granted, a right-of-way cannot be approved at this level and would require approval by the Southeast Regional Director. Right-of-ways are not given freely and are scrutinized very closely by the National Park Service (NPS). Moreover, the NPS has a Congressional mandate to manage NPS lands in a manner that will not result in derogation of the values and purposes for which the park was established. It would be difficult, and perhaps impossible, to explain the relationship between the proposed development and the purpose and values for which the Parkway was established.</i></p> <p>Comment D0114-1 (NPS, Natchez Trace Parkway)</p> <p><i>In our June 02, 2006 correspondence, we stated that the Natchez Trace Parkway did not have the authority to grant a right-of-way across Parkway land. We requested clarification from our Regional Solicitor of an existing law which we felt could allow us the authority for granting pipeline crossings of the Natchez Trace Parkway. Our Regional Solicitor agrees that we do in fact have the authority to issue right-of-ways for new pipeline crossings of the Parkway.</i></p> <p>Comment D0114-4 (NPS, Natchez Trace Parkway)</p> <p><i>In general, rights-of-way and easements represent tools for managing and controlling access to, use of, and interest in National Park Service land in order to preserve limited park resources. It is the responsibility of the park Superintendent to see that these interests are granted or acquired in a way that will not cause the derogation of values and</i></p>	<p>[See response 3.3-4 above]</p>

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<p><i>purposes for which the park was established. It is important to note that although park resource management professionals serve as key support to the Superintendent in evaluating right-of-way proposals, only the Southeast Regional Director of the National Park Service has approval authority for granting rights-of-way for the Parkway. Right-of-ways are not given freely and are scrutinized very closely by the National Park Service. Moreover, the NPS has a Congressional mandate to manage NPS lands in a manner that will not result in derogation of the values and purposes for which the park was established.</i></p>	<p>[See response 3.3-4 above]</p>
<p>Comment D0021-4 (Brazoria County Commissioner) <i>There is also concern over government taking of Stratton Ridge property and perhaps even closure of Stratton Ridge Road. We have local experience on the use of eminent domain by the government.</i></p> <p>Comment D0079-15 (Dow Chemical Company) <i>In addition, it is always a concern of local property owners that federal activity will result in a taking of private property. Such takings have a direct negative impact not merely on the property owner, who has every right to expect that government will protect his property interests, but also upon economic activity. When property rights are in jeopardy property owners do not take the kinds of economic actions that benefit themselves as well as other economic actors.</i></p> <p><i>As a leading advocate of property rights, I share the strong concern of others in the area that locating this reserve expansion at Stratton Ridge will negatively impact property owners. Moreover, I join with the local government authorities and taxpayers who are always concerned about taking property off of the local tax roles. With many suffering from property evaluation inflation, further erosion of the tax base will only</i></p>	<p>Response 3.3-5 DOE acknowledges that the use of eminent domain powers is a public concern. DOE would negotiate with any current land owners for lands needed for SPR purposes. Powers of eminent domain would be used only if circumstances warrant, and the procedure would be conducted according to U.S. law and only for public use of land needed for SPR purposes. See section 3.8.3 for a discussion of socioeconomic impacts.</p>

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<p><i>serve to further increase property taxes upon already strapped homeowners and businesses.</i></p> <p>Comment D0097-2 (Diane Kile, Office of Congressman Ron Paul) <i>It is always a concern of local property owners that federal activity will result in a taking of private property. Such takings have a direct negative impact not merely on the property owner who has every right to expect that government will protect its property interest but also upon economic activity. When property rights are in jeopardy, property owners do not take the kinds of economic actions that benefit themselves as well as other economic actors.</i></p> <p><i>As a leading advocate of property rights, I share the strong concern of others in the area that locating this reserve expansion in Stratton Ridge will negatively impact property owners. Moreover, I join with the local government authorities and taxpayers who are always concerned about taking property off of the local tax rolls. With many suffering from property valuation inflation, further erosion of the tax base will only serve to further increase property taxes upon already strapped homeowners and businesses.</i></p>	<p>[See response 3.3-5 above]</p>
<p>Comment D0073-9 (NOAA Fisheries) <i>The Singing River Island site has been subjected to various activities, including the establishment of a dredged material disposal site, the development of the Port of Pascagoula Special Management Area Plan, and the construction of a U.S. Navy facility. The site also is incorporated into the Corps of Engineers' proposed Dredged Material Management Plan for the Port of Pascagoula and the federal channel. Accordingly, the Singing River Island site may not be available to construct a terminal, even if the DOE is willing to provide offsetting mitigation unavoidable impacts. The availability of this site as well as</i></p>	<p>Response 3.3-6 DOE acknowledges that there are many past and potential future land uses at the proposed Pascagoula terminal site and RWI structure. As noted in section 3.3.5.2.1, DOE expects no substantive land use effects associated with the Pascagoula terminal facilities and RWI structure. DOE met with representatives of the Pascagoula Naval Station, ChevronTexaco Pascagoula Refinery, and the Pascagoula Port Authority on July 18, 2006, to reaffirm availability of land on Singing River Island for potential use as a terminal site and to increase communication between DOE and the local government, businesses and</p>

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<p><i>other alternative sites in the Pascagoula area should be fully explored prior to DOE making a selection on terminal locations.</i></p> <p>Comment D0084-2 (Frank Leach, Jackson County Board of Supervisors)</p> <p><i>I further am very concerned about the fact that there seems to be some idea that has been quote, unquote, concocted that we are going to build a marine terminal on Singing River Island that is in the process of base realignment and the closure process. And I think in that regard and the fact that we do have an organization that has been recognized in Jackson County by the federal government as being an organization that would work toward the adaptive reuse of the island and look at it as to what may transpire there in the future that even that organization, I do not believe, is aware of this proposed marine terminal. I think in that regard things that are up for discussion is the future ownership, maintenance and the adaptive reuse of the Singing River Island as we try to proceed and as we try to solidify economic development within Jackson County with regard to that island, which the State of Mississippi and the Jackson County citizens have certainly made significant investment toward.</i></p>	<p>citizens of Pascagoula.</p>
<p>Comment D0078-7 (DOI)</p> <p><i>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(j 1).</i></p> <p><i>Refuge compatibility issues must be addressed for all three lines regardless of size. If the oil distribution line can be located within the</i></p>	<p>Response 3.3-7</p> <p>DOE agrees and acknowledges that use of National Wildlife Refuge lands associated with the Stratton Ridge pipelines would require approval by the USFWS. EIS text in section 3.3.6.2.1 states that if one of the Stratton Ridge alternatives is selected, DOE would coordinate with the USFWS to obtain the proper ROW easements as a mitigation measure. This text has been supplemented in the final EIS to include information on the need for congressional approval of the pipeline ROW. See also the discussion of this issue in section 3.7.6.2.2.</p>

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<p><i>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 (1150 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.</i></p>	<p>[See response 3.3-7 above]</p>
<p>Comment D0081-1 (NPS, Gulf Islands National Seashore) <i>The GUIS was authorized by Congress in 1971 (P.L. 91-660,84 Stat. 1967, 16 U.S.C. 459h) "to preserve for public use and enjoyment certain areas possessing outstanding natural, historic, and recreational values." As part of the coastal barrier island system, the gulf islands are among the last surviving portions of a natural ecological continuum that once extended from Cape Cod to Mexico.</i></p> <p><i>The natural resources of GUIS are, in and of themselves, highly significant. The water areas are exceptional and, in conjunction with the salt marshes, bayous, and submerged grassbeds, play a crucial role in the economy and ecology of the entire area. The GUIS' estuarine areas serve as an important nursery for a majority of the fin and shell fish species of the greater Gulf.</i></p> <p><i>Of particular significance, the Mississippi islands are among the most pristine examples of intact coastal barrier ecosystems remaining. The significance of these resources is only amplified by the loss of similar habitats in the adjacent areas through development. Open space along</i></p>	<p>Response 3.3-8 DOE recognizes that development of the Richton site and associated infrastructure, such as the terminal and RWI structure at Pascagoula, could affect the GUIS. The text of section 3.3.5 has been modified to provide additional information on this topic. See also section 3.7.5.2.2 for further discussion of the potential biological impacts on GUIS.</p>

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<p><i>the coasts, accessible to the public, is at a premium.</i></p> <p><i>In the Richton alternative, the DOE is considering diffused brine disposal approximately 13 miles offshore. In pursuing this disposal alternative, it appears that DOE would seek to locate the outfall pipeline across GUIS to reach waters of the Gulf of Mexico. While the Secretary of the Interior has clear authority under GUIS enabling statute to consider allowing new rights-of-way or easements for the transport of oil and gas pipelines to cross the park, this authority may not extend to a brine/waste disposal pipeline. The pertinent GUIS enabling provision is as follows:</i></p> <p><i>Any acquisition of lands, waters, or interests therein shall not diminish any existing rights-of- way or easements which are necessary for the transportation of oil and gas minerals through the seashore which oil and gas minerals are removed from outside the boundaries thereof; and, the Secretary, subject to appropriate regulations for the protection of the natural and recreational values for which the seashore is established, shall permit such additional rights-of-way or easements as he deems necessary and proper (16 U.S.C. 459h-3; P.L. 91- 660 4).</i></p> <p><i>Further, an examination of 16 U.S.C. §79 regarding rights-of-way for public utilities leads us to conclude that the brine pipeline does not fit under this public utility provision.</i></p> <p><i>If a right-of-way could be issued for the disposal pipeline to cross GUIS, National Park Service (NPS) permitting and consent would be necessary. This permitting would be in addition to full analysis under the National Environmental Policy Act and other statutes. Regulations found in 36 CFR Parts 9 and 14 provide standards which must be used</i></p>	<p>[See response 3.3-8 above]</p>

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<p><i>in the determination of necessary and proper. Specifically, in order for the Secretary to grant a permit, sufficient justification must be provided to make a reasonable determination that it is necessary for this operation to pass through the boundaries of the Seashore and that the procedures utilized in construction and operation are proper, in that they provide adequate protection to the resources of the area. Most, if not all, of the natural resources and visitor use values for which GUIS was established have the potential to be adversely affected by construction of an outfall line and brine disposal in the vicinity of the seashore.</i></p> <p><i>In 1978, Congress designated Horn and Petit Bois Islands as wilderness through the establishment of the Gulf Islands Wilderness Area (P.L. 95-625). The islands are managed to maintain their primeval character in accordance with the Wilderness Act of 1964 (P.L. 88-577) whose purpose is to establish an enduring and unimpaired wilderness resource, where nature predominates, for public use and enjoyment. Wilderness status places significant restraints on possible developments on or near the two islands and requires substantial measures be taken to guarantee an undisturbed, wilderness experience for visitors.</i></p> <p><i>Specific Comments</i> <i>Specific GUIS resources that are put at risk by the proposed pipeline and brine disposal include:</i></p> <p><i>Land Use</i> <i>The GUIS is not listed as a potentially affected property in the DEIS, thus no impacts were evaluated. In addition, GUIS is not listed as a Special Status Area. The DEIS Summary stated that the "proposed</i></p>	<p>[See response 3.3-8 above]</p>

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<p><i>action will not affect the [Gulf Islands National] Seashore." Congressionally-designated areas of the NPS must be given a much higher degree of consideration and protection when considering potential impacts to park natural and cultural resources. This consideration is lacking in the DEIS.</i></p> <p>Comment D0081-3 (NPS, Gulf Islands National Seashore)</p> <p><i>The brine disposal pipeline is proposed to traverse the pass between Horn and Petit Bois Islands. These islands were designated wilderness by Congress in 1978 and are managed to maintain their primeval character in accordance with the Wilderness Act of 1964 whose purpose is to establish an enduring and unimpaired wilderness resource, where nature predominates, for public use and enjoyment. Wilderness status places significant restraints on possible developments on or near the two islands and requires substantial measures be taken to guarantee an undisturbed, wilderness experience for visitors.</i></p> <p><i>Any significant construction near these islands must consider intangible wilderness values such as visibility, night sky conditions, acoustic conditions, and solitude, which have consistently been recognized as critical components of wilderness. Potential impacts include but are not limited to: pipeline construction activities and scheduling, pipeline inspections, and aircraft use.</i></p>	<p>[See response 3.3-8 above]</p>
<p>Comment D0006-1 (NRCS, Texas Office)</p> <p><i>We have previously rated the soils at the Big Hill, Stratton Ridge and the Texas City Terminal sites which are located in Texas. We developed composite rating for the soils at the SPR Sites and completed the AD-1006 and CPA-106 forms for each site. You have discussed Important Farmlands in Section S.6.2. Thank you for considering the importance of protecting soils in these projects. We know of no other environmental</i></p>	<p>Response 3.3-9</p> <p>Comment noted.</p>

COMMENT	RESPONSE
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<i>concerns.</i>	[See response 3.3-9 above]

COMMENT	RESPONSE
3. Affected Environment and Potential Impacts	
3.4 Geology and Soils	
<p>Comment D0011-2 (Nan Johnson, individual) <i>I find the existing EIS to be inadequate, especially as it does not seem to address the stability of the salt domes with any new studies.</i></p> <p>Comment D0083-6 (Becky Gillette, Sierra Club) <i>One point that I do take exception to is this idea that the salt domes are completely stable and nothing ever happens. That isn't true. It's my understanding there have been no new engineering studies at the Richton dome. These domes are inherently unstable. They do change and there should have been new engineering studies done before signing off on saying that this is a stable salt dome that would have no problems.</i></p> <p>Comment D0009-1 (June Havens, individual) <i>Richton, MS is inappropriate for a Strategic Petroleum Reserve storage site. The salt domes are not stable and the ground water for the coastal area could be in jeopardy. Hasn't the Coast suffered enough.</i></p>	<p>Response 3.4-1 DOE revised the EIS to add two subsections, 3.4.1.5 and 3.4.2.5, that further explain why the salt domes are geologically stable; however, the final EIS has the same conclusion as the draft EIS—the salt domes considered for SPR expansion are geologically stable, and the geology would not threaten storage cavern integrity. Following is a list of specific reasons for this stability include the following:</p> <ul style="list-style-type: none"> • Peak acceleration of an earthquake at any SPR site would likely be too small to endanger salt dome stability (see also response 3.4-4). • The faults in the region are either nonactive or active with movement that is very gradual along the fault. • The self-healing property of salt would minimize the formation of discontinuities in the salt dome because salt tends to fill in any cracks that develop. • The growth rate of salt domes is extremely slow in the Gulf Coast region, approximately 2.3×10^{-4} inches (5.8×10^{-3} millimeters) per year, meaning the salt domes in the Gulf Coast region are geologically stable and there would be no threat to cavern integrity. • The successful construction and operation of storage caverns during the past decades have shown the salt domes in the Gulf Coast region to be geologically stable.

COMMENT	RESPONSE
3. Affected Environment and Potential Impacts	
3.4 Geology and Soils	
<p>Comment D0079-22 (Dow Chemical Company) <i>b) The EIS needs to fully evaluate the potential that the new SPR facility will create a significantly larger creep and subsidence in an area near important brine, liquid storage and natural gas storage caverns and important commercial pipelines.</i></p> <p>Comment D0079-25 (Dow Chemical Company) <i>a) The EIS need to fully evaluate the increased creep and subsidence that will be caused by locating the new SPR facility in Stratton Ridge directly under this section.</i></p> <p>Comment D0079-32 (Dow Chemical Company) <i>Dow raises one important issue that the EIS needs to evaluate in the Geological and Soil Resources section of the EIS and consider the adverse impact that the new facility may have on Geological and Soil Resources. The Stratton Ridge, Texas salt dome has been extensively developed. The parcel of land proposed for the location for the SPR new location is the only large parcel of land not already developed or under development on the Stratton Ridge salt dome. Locating the same series of caverns for oil storage on such a well developed salt dome will increase both the creep and subsidence in comparison to the same series of caverns for oil storage on a salt dome that is not developed to the same extent. The EIS needs to take the existing and planned (permitted) wells on salt domes to have a valid comparison of the creep and subsidence between the various alternative locations for the new SPR location. First, the adverse impact on existing and planned salt, liquid storage and gas storage caverns on Stratton Ridge needs to be evaluated. Second the adverse impact on planned and existing pipelines, including those in the nearby existing commercial pipeline corridors needs to be evaluated.</i></p>	<p>Response 3.4-2</p> <p>The draft EIS analyzed the potential for creep and subsidence and concluded that subsidence would not jeopardize other structures co-located on the dome. The construction and operation of the SPR caverns would increase subsidence only in an area that is close to the SPR caverns with the increment decreasing rapidly with distance from the cavern field. Because the DOE SPR Level III Design Criteria would ensure that the SPR caverns are located far from the existing structures on the dome, the subsidence increment in the area of the existing structures would be small and the existing structures would not be jeopardized.</p> <p>At Stratton Ridge, the proposed Freeport LNG caverns are more than 2,000 feet (610 meters) away from the SPR caverns and the incremental subsidence caused by construction and operation of SPR caverns would be small.</p> <p>Although the integrity of pipelines on the Stratton Ridge salt dome would be affected by the differential subsidence (ratio of subsidence difference to length between two locations along the LNG pipeline) because of the construction and operation of the SPR caverns, it would be small and likely would not damage the integrity of LNG pipelines. Therefore, the multiple-use impacts would be negligible for the SPR caverns at Stratton Ridge and the Freeport LNG facility.</p>

COMMENT	RESPONSE
3. Affected Environment and Potential Impacts	
3.4 Geology and Soils	
<p>Comment D0077-5 (EPA Region 6) <i>Page 3.61, Section 3.4.8, Stratton Ridge (Multi-Use Impacts): There is no discussion of the proposed use of the Stratton Ridge dome by Freeport LNG as an underground gas storage site.</i></p>	<p>Response 3.4-3 DOE has augmented its discussion of the Freeport LNG storage facility. That discussion appears in section 3.4.6.2 of the final EIS. The proposed SPR caverns would be located more than 2,000 feet (610 meters) away from the Freeport LNG storage caverns, which is more than twice the cavern web thickness criterion (480 feet) set out in the DOE SPR Level III Design Criteria: therefore, the multiple-use impacts would be negligible. See also response 3.4-2.</p>
<p>Comment D0085-8 (Fred Lemon, individual) <i>Now, I was watching a program the other night on the earthquake. If you put that petroleum in there and we do have an earthquake -- because I think it's a New Madrid fault. Is that right, Frank and Becky? A New Madrid fault between Memphis and St. Louis and if it comes and breaks that thing open and dumps it into our water supply we've all lost, so, you know, it's not practical. It's not practical at all.</i></p>	<p>Response 3.4-4 The USGS map (figure 3.4.2.3-1) includes the strongest projected New Madrid earthquakes that would affect the Gulf Coast region. As stated in section 3.4.2.3, and based on this map, the peak acceleration with 2 percent probability of exceedance (i.e., frequency of exceedance of 0.0004) would be smaller than 7.5 percent g at all of the SPR sites, where g is the acceleration of gravity. Thus, an earthquake with peak acceleration smaller than 7.5 percent g likely would not result in damages at the SPR sites.</p>

COMMENT	RESPONSE
3.5 Air Quality	
3.5.2 Impacts Common to Multiple Sites	
<p>Comment D0077-23 (EPA Region 6) <i>The DEIS provides a breakdown of emissions expected from each type of activity (i.e., pipeline construction, salt dome construction, emissions from worker vehicles, etc.) for each potential site. Please clarify in the final EIS that emissions for all co-located activities occurring within the same calendar year have been summed in general conformity applicability analysis. In other words, if the salt dome construction and pipeline construction are occurring in the same year and within the</i></p>	<p>Response 3.5.2-1 Additional clarifying statements have been added to the summary discussion for each potential site in section 3.5 to indicate that the annual emission rate totals include co-located sources of emissions for comparison with the general conformity applicability analysis.</p>

COMMENT	RESPONSE
3.5 Air Quality	
3.5.2 Impacts Common to Multiple Sites	
<i>same nonattainment area, then these emissions should be summed in order to consider their impact on the airshed within the nonattainment area.</i>	[See response 3.5.2-1 above]
<p>Comment D0077-24 (EPA Region 6) <i>To compare VOC emissions to the conformity de minimis levels, a correction factor of 20 percent is applied to the total non-methane hydrocarbon emissions modeling results to essentially remove ethane from the equation. Please justify the use of 20 percent as a correction factor.</i></p>	<p>Response 3.5.2-2 VOC emissions exclude both methane and ethane because they have very little ozone-forming potential. NMHC by definition excludes methane. Solution mining emits significant amounts of ethane. SPR solution mining measurements have shown that ethane ranges from 6 to 39 percent of the total NMHC emissions (DOE 1981). The mean observed ethane fraction was 20 percent. Thus, VOC emissions were estimated from the NMHC emissions by applying this 20 percent reduction to account for the mean ethane fraction in the solution mining emissions.</p> <p>This issue is discussed in section 3.5.6.2 of the EIS.</p>
<p>Comment D0077-26 (EPA Region 6) <i>Appendix A indicates that construction equipment emission estimates were made with the assumption that any diesel equipment will meet the EPA Tier 1 emission standards, or, in other words, that relatively new (model year 2000 or newer) equipment will be used for construction activity on this project. Please clarify this assumption and explain whether this will be a requirement of the construction bidding process.</i></p>	<p>Response 3.5.2-3 DOE will specify that the bidding process for construction contractors requires the use of nonroad diesel-fueled equipment meeting the Tier 1 emission standards (generally model year 2000 or newer). This approach has been successfully used by various government agencies in several ozone nonattainment areas. This issue is described in a footnote in appendix A, section A.2.</p>
<p>Comment D0077-22 (EPA Region 6) <i>In Chapter 3, the potential emissions from backup diesel generators are estimated and provided for public review. However, it is unclear from the document whether or not the emissions from the backup generators are to be included in any necessary state or federal permits for the facility. Please note that if the backup generator emissions are not accounted for in a permit and occur in a nonattainment area, then these emissions must be part of the general conformity applicability analysis.</i></p>	<p>Response 3.5.2-4 In section 3.5.2.2 of the EIS, the concluding discussion on backup diesel generator emissions states that these emissions would be further evaluated together with other sources of emissions during operation and maintenance activities. The discussion in section 3.5.2.2 shows the potential permitted emissions for all sources (including diesel generators) at the Big Hill facility, which is used to estimate potential operations and maintenance emissions at the other proposed sites. The</p>

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<p><i>If the emissions from these backup generators are included in a permit, then they may be excluded from the general conformity applicability analysis. Please clarify this in the FEIS.</i></p>	<p>emissions from the backup diesel generators would be included in an operating permit for the facility.</p> <p>To clarify this issue, DOE added a footnote to section 3.5.2.2 stating that if the backup diesel generators are included in the permit process, they may be excluded from the general conformity applicability analysis.</p>
<p>Comment D0077-6 (EPA Region 6) <i>Page 3-70, Section 3.5.1-3, Greenhouse Gas Emissions: The analysis of the release of methane gas during the solution mining of the salt domes should be compared to the analysis conducted by the US Coast Guard and Sandia National Laboratories for the salt dome storage construction impacts at the proposed Main pass Energy Hub (pp. 4-1 03 and 4-1 04, Final EIS March 2006) off the coast of Louisiana.</i></p>	<p>Response 3.5.2-5</p> <p>A comparison of the estimated greenhouse gas emissions from the expansion of the SPR and the development of three salt dome caverns to be used for natural gas storage at the proposed U.S. Coast Guard Main Pass Energy Hub to be located off the coast of Louisiana is relevant considering the location and recent nature of the EIS. A discussion of this issue has been added to section 3.5.2.3.</p> <p>The greenhouse gas emissions for the proposed SPR expansion would be three times the emissions from the proposed Main Pass Energy Hub project.</p>

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3.5.3 Impacts to Specific Sites	
<p>Comment D0005-4 (Louisiana Department of Environmental Quality) <i>Currently, Iberville Parish is classified as nonattainment with the National Ambient Air Quality Standards. Currently, Lafourche, Cameron, and Calcasieu Parishes are classified as attainment parishes with the National Ambient Air Quality Standards for all criteria air</i></p>	<p>Response 3.5.3-1</p> <p>The nonattainment air quality status is discussed at the beginning of each of the proposed SPR sites. In section 3.5.7.1 of the EIS, DOE states that the Bayou Choctaw site in Iberville Parish is located in an ozone nonattainment area. Similar discussion is presented in sections 3.5.4 for Chacahoula and 3.5.9 for West Hackberry, both of which are</p>

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<i>pollutants.</i>	located in attainment areas for site locations in Louisiana.
<p>Comment D0077-7 (EPA Region 6) <i>Page 3-92, Section 3.5.8.2, Construction Impacts: The discussion of State Implementation Plan (SIP) requirements incorrectly references Louisiana statutory and regulatory standards instead of the Texas standards that actually apply to Stratton Ridge. The Louisiana SIP would be applicable to part of the Bruinsburg proposal (pipeline construction/operation with the Baton Rouge air shed (Ascension, East Baton Rouge, Iberville, Livingston, and West Baton Rouge parishes in Louisiana) and the tank farm construction/operation at Anchorage) as well as the various proposals that include expansion of the Bayou Choctaw facility. The Texas SIP would apply to the proposed Stratton Ridge facility and the pipelines in the Houston-Galveston- Brazoria air shed (Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller counties in Texas) as well as the various proposals that include expansion of the Big Hill facility within the Beaumont-Port Arthur air shed (Hardin, Jefferson, and Orange counties in Texas).</i></p>	<p>Response 3.5.3-2 The commenter correctly noted that the State of Louisiana was incorrectly identified as the entity responsible for implementation of the SIP requirements for the Stratton Ridge facility, which is located in Texas. DOE has corrected this mistake in the final EIS.</p>
<p>Comment D0077-25 (EPA Region 6) <i>Since the Stratton Ridge emission estimates appear to be quite close to the conformity de minimis threshold, if this site is selected as the preferred alternative in the FEIS, we recommend inclusion of the updated applicability analysis and conformity determination (if necessary) in the FEIS.</i></p> <p>Comment D0079-2 (Dow Chemical Company) <i>In Chapter 3 (Section 3.6) and Chapter 4, the Draft EIS addresses ambient air quality. The Draft EIS notes that Stratton Ridge is among three potential expansion sites that are in non-attainment for the 8-hour ozone standard. While this is not an unmanageable situation, it makes</i></p>	<p>Response 3.5.3-3 Several commenters noted that the Stratton Ridge facility is close to the 100-ton-per-year threshold trigger for full conformity determination. Section 3.5.6 states that an updated applicability analysis and conformity determination would be undertaken if DOE selects the Stratton Ridge alternative and DOE would take the necessary measures to confirm to the standards.</p>

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<p><i>no sense to choose the one site out of three which will have a minor adverse impact on the non-attainment area into which the facility is located. The other potential sites would not have the filling emissions placed in a non-attainment area.</i></p> <p>Comment D0079-4 (Dow Chemical Company)</p> <p><i>On page 3-93, the Draft EIS notes that that the maximum VOC emissions are estimated to be only slightly (7.3%) below the threshold that triggers a full conformity determination. The Draft EIS also commits DOE to conduct an additional conformity review if the Stratton Ridge site is selected to ensure that the maximum VOC emissions are really below the threshold. This is the only potential expansion site that has this notation in the Draft EIS. This means that the selection of the Stratton Ridge site will, at best, require more effort and delay than would any other of the potential expansions sites. Further, if this additional conformity review failed to show that the current maximum VOC emission estimate was not sufficiently accurate and conservative; a full conformity determination would be required with the associated increased delays, costs and potential changes and constraints to the expansion and/or operation of the SPR facilities newly placed at Stratton Ridge, TX. None of the other potential expansion sites have this actual minor drawback or the potential for a much more significant drawback. Dow urges DOE not to under estimate these related drawbacks to the Stratton Ridge, TX site when determining which potential site to use to expand the SPR.</i></p>	<p>[See response 3.5.3-3 above]</p>

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3.6.2.1 General Impacts	
<p>Comment D0005-1 (Louisiana Department of Environmental Quality) <i>The Office of Environmental Services recommends that you investigate the following requirements that may influence your proposed project :</i></p> <ol style="list-style-type: none"> <i>1. If your project results in a discharge to waters of the state, submittal of a Louisiana Pollutant Discharge Elimination System (LPDES) application may be necessary.</i> <i>2. If the project results in a discharge of wastewater to an existing wastewater treatment system, that wastewater treatment system may need to modify their LPDES permit before accepting the additional wastewater.</i> <i>3. LDEQ has storm water general permits for construction areas equal to or greater than one acre. It is recommended that you contact Aaron Cox at (225) 219- 3092 to determine if your proposed improvements require one of these permits.</i> <p><i>4All precautions should be observed to control nonpoint source pollution from construction activities.</i></p>	<p>Response 3.6.2.1-2 As discussed throughout the EIS, including section 3.6, DOE would obtain the required state and Federal permits for construction and operation of any new facilities, or for expansion of existing facilities. Table L-1 lists permits and other requirements.</p> <p>The States of Louisiana, Mississippi, and Texas each have a state program that administers the requirements of the Federal NPDES program under the Clean Water Act. These permits would be required for any discharges to surface water, including wastewater from onsite wastewater treatment facilities, stormwater runoff, construction-related runoff, and brine discharge into the Gulf of Mexico. DOE would obtain discharge permits where required.</p> <p>DOE would institute nonpoint source discharge controls where required during construction through the use of best management practices, required by the erosion and sedimentation control permit.</p>
<p>Comment D0077-10 (EPA Region 6) <i>Page 3-117, Section 3.6.2.1.9, Impacts from On-Site Wastewater Treatment Plants: Would new wastewater treatment plants or enhancements of existing wastewater plants at the 3 SPR facilities considered for expansion be necessary to handle the larger workforces?</i></p>	<p>Response 3.6.2.1-4 A review of current plant capacities and projected staffing does not indicate a potential need to expand or replace wastewater treatment plants at this time; however, this issue may be reassessed during the detailed design phase of the projects.</p>

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<p>Comment D0014-2 (Tony Bland, individual) <i>My overwhelming concern is the impact on the Pascagoula River Basin by diverting the flow of the Leaf River. The Pascagoula, as one of the few remaining natural river systems in the U.S., is a national treasure. I do not want to see it affected by having the flow of one of its main tributaries diverted.</i></p> <p>Comment D0083-3 (Becky Gillette, Sierra Club) <i>The Leaf River flows into the Pascagoula River which is one of the great river systems of the United States. It is the last large undammed river system in the entire U.S. It's incredibly important. The Leaf River is important. I lived up there near the Leaf River myself for 13 years and I can tell you that in periods of drought like now it gets very low and there is an impact from that, water usage.</i></p> <p>Comment D0084-4 (Frank Leach, Jackson County Board of Supervisors) <i>Not only am I concerned about the fact that -- that is an issue, but with regard to what was described by Ms. Gillette as far as water resources and the extraction of water from a water supply that Jackson County has been concerned about for a long period of time. It would be my idea on S when it talks about water resources, we address surface water, and it says the proposed facilities would draw water from nearby surface water bodies for use in the cavern solution mining -- if I can read up here in the dark. Two of the proposed new sites would withdraw the water from the ICW the proposed, et cetera, et cetera.</i></p> <p><i>Then you get down to the fact the new Richton site, the flow rate of the Leaf River is highly variable and there would be a potential for</i></p>	<p>Response 3.6.2.2-1 DOE acknowledges that withdrawal of water from the Leaf River may result in adverse impacts on water resources (see 3.6.5.1.2) and aquatic resources, such as endangered species (see 3.7.5.1.2). To reduce DOE's dependence on the Leaf River, DOE has added to the Richton alternatives a RWI structure on Singing River Island in Pascagoula, which would allow DOE to withdraw water from the Gulf of Mexico to reduce withdrawal from the Leaf River during low-flow conditions.</p> <p>If DOE selects one of the Richton alternatives, DOE would develop a Water Conservation Plan for water withdrawal during cavern creation, drawdown, and maintenance. During cavern creation, drawdown, or maintenance, withdrawal from the Leaf River would be used during normal and high-flow conditions. Under low-flow conditions in the Leaf River, the withdrawal would be supplemented by a secondary source, the Pascagoula RWI, which would withdraw water from the Gulf of Mexico.</p> <p>The Pascagoula RWI would be designed to handle about 0.5 MMBD of the total required volume, which is about 1.2 MMBD. During construction or maintenance, when flows in the Leaf River reach the Minimum Instream Flow that is designated by the regulatory agencies to protect special status species, withdrawal from the Leaf River would be reduced or terminated until the Minimum Instream Flow in the Leaf River is reached. During this period, DOE would withdraw water from the Gulf of Mexico.</p> <p>If necessary, DOE would consider possible supplemental sources during Section 7 Consultation with the regulatory agencies, including possible groundwater sources, withdrawals from other surface water</p>

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<p><i>withdrawing a significant fraction of the total river flow during drought periods. This withdrawal could exceed the minimum in stream flow levels established by the Mississippi Department of Environmental Quality during periods of low flow in the Leaf River. Well, we have certainly experienced low flow within that river system and the fact that the Jackson County Board of Supervisors is presently in the final stages of a water supply for industrial purposes as well as for potential potable water for drinking water for our municipalities, a project by which we would continue to withdraw sizable amounts of water from the Pascagoula River. I am concerned about the fact that all of this could certainly place quite a strain upon the water resources, so I would ask that some additional consideration with regard to that be given and the fact that we are presently -- have in the last five years, I know, had to purchase water from the Pat Harrison Waterway through the Port of Pascagoula in order to stabilize industrial water supply for the local industries. I think we need to reconsider the fact -- withdrawing from the local surface water supply as far as this cavern is concerned</i></p> <p>Comment D0007-1 (Elizabeth Waldorf, individual) <i>We are writing to oppose the use of Leaf River water in the Richton petroleum storage. This practice would create more problems than it solves.</i></p> <p>Comment D0007-2 (Elizabeth Waldorf, individual) <i>South Mississippi is developing a vigorous ecotourism industry. Eliminating a large input to the Pascagoula River would imperil that pristine ecosystem.</i></p>	<p>bodies, and a possible onsite off-stream reservoir. 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 water withdrawal rate of 1.2 MMBD, from the Leaf River.</p> <p>The general 7Q10 requirement was developed by the State of Mississippi to protect surface waters in the State from overuse and depletion. The 7Q10 is the 7-day average low stream flow over a 10-year period.</p> <p>As discussed in section 3.6.5 of the EIS, DOE based its evaluation of potential impacts to the Leaf River on a review performed by the Mississippi Department of Environmental Quality of 52 years of hydrographic data from the Leaf River. Based on this review, DOE determined that a sustained period of low-flow in the Leaf River likely would not occur during the 4 to 5-year cavern dissolution phase, when the maximum volume of water would be withdrawn. However, DOE concluded that during a drought, the withdrawal could result in a flow below the 7Q10 and would have an adverse impact on the Leaf River.</p> <p>For the Richton alternatives, cavern creation and the associated brine discharge could last up to approximately 9 years if the flow in the Leaf River persists below the Minimum Instream Flow for 9 consecutive years and DOE draws water exclusively from the Gulf of Mexico to create the Richton caverns. It is highly unlikely, however, that flows would remain below the Minimum Instream Flow in the Leaf River for 9 consecutive years. More likely, only a portion of the water for cavern creation would come from the Gulf of Mexico. The length of time</p>

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<p>Comment D0008-1 (Alex Major, individual) <i>PLEASE don't turn the Leaf/Pascagoula rivers into dry streambeds! This is far worse a proposal than the dams on the Leaf proposed for flood control that was so successfully opposed by a large number of people in Hattiesburg.</i></p>	<p>required for cavern creation and the associated brine discharges for the Richton site could be longer for two reasons: (1) the rate of withdrawal from the available water sources may be smaller than the planned rate of withdrawal from the Leaf River, and (2) each barrel of saltwater from the Gulf of Mexico has less capacity than each barrel of freshwater from the Leaf River to dissolve salt and therefore a larger volume of saltwater would be needed to create the 160 MMB of storage capacity at Richton. If the total rate of water withdrawal for solution mining is reduced, the rate of brine discharged into the Gulf of Mexico would be lower and the size of the brine plume would also be slightly smaller. During brine refill events, after emergency drawdown or maintenance, brine discharge may be slightly longer if water is withdrawn from the Gulf of Mexico, as compared to water from the Leaf River.</p> <p>The Mississippi Natural Heritage Program indicated during informal consultation that to protect the Gulf sturgeon, raw water withdrawal from the Leaf River may need to be discontinued when flow is 30 percent of the mean daily discharge (section 3.7.5.2.3). Based on review of 21 years of stream data from the Leaf River, DOE calculated that this flow would be approximately 1,131 cubic feet per second (32 cubic meters per second). This flow is higher than the 7Q10 of 503 cubic feet per second (14 cubic meters per second), but may be the permitted Minimum Instream Flow limit considering the Gulf sturgeon habitat.</p> <p>If one of the Richton alternatives is selected, DOE would initiate formal consultation with the USFWS and NOAA Fisheries under Section 7 of the ESA and initiate permit coordination with the MDEQ and USACE for the Section 404/401 permit and the surface water withdrawal permit.</p>

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<p>[See comment D0008-1 text above]</p>	<p>Withdrawal of raw water from the Leaf River on downstream surface water resources in the watershed, such as the Pascagoula River, could result in a cumulative adverse impact on water resources as discussed in section 4.5.4 of the EIS.</p> <p>Based on a review of existing withdrawal and discharge permits, DOE identified no significant industrial water removal from the Leaf River. Although the Eaton Plant of the Mississippi Power Company withdraws large volumes of water from the Leaf River, its discharge back into the river is roughly equivalent, resulting in no net loss of water.</p> <p>See response 3.7.4.2-18 for a discussion of impacts to biological resources.</p>
<p>Comment D0106-27 (USFWS)</p> <p><i>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.</i></p>	<p>Response 3.6.2.2-2</p> <p>See responses 3.6.2.2-1 and 3.7.4.2-18 for a discussion of impacts to water resources and biological resources, respectively.</p>

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<p>Comment D0106-3 (USFWS) <i>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.</i></p> <p>Comment D0106-17 (USFWS) <i>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.</i></p> <p>Comment D0106-31 (USFWS) <i>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</i></p>	<p>Response 3.6.2.2-3 Pipelines in the Clovelly-Bruinsburg alternatives would have crossed Bayou Pierre; however, this alternative is no longer under consideration in the final EIS (see response 2.2-1). In the current Bruinsburg alternatives, an overhead power line would cross Bayou Pierre.</p> <p>The current Bruinsburg alternatives would not involve construction in or directly adjacent to Bayou Pierre and the likelihood of direct effects from construction on the floodplain would be low. The engineering design of the Bruinsburg project would consider any methods to protect Bayou Pierre from headcutting (erosional downcutting of the stream channel that begins at the stream mouth and progresses upstream and up tributary streams). DOE would co-locate pipes where possible to minimize overall impacts. As stated in the EIS, DOE would use directional drilling to cross surface waters where possible, and DOE would follow all permit requirements.</p> <p>If one of the Bruinsburg alternatives is selected in the ROD, DOE would work with the USFWS and other state and Federal agencies during the Section 404/401 permit process to develop a compensation plan for impacts to streams and jurisdictional wetlands. If the plan were deemed appropriate compensation by the permitting agencies, DOE would consider measures to further minimize the potential for project-related headcutting in Bayou Pierre, which is an existing issue for this water body.</p> <p>Directional drilling cannot be used to create the storage caverns. The wells must be installed vertically to control the cavern shape during leaching. See figure 2.3.1 for a representation of typical cavern</p>

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[See comment D0106-31 text above]	<p>construction.</p> <p>See also response 3.7.4.2-12.</p>
<p>Comment D0081-5 (NPS, Gulf Islands National Seashore)</p> <p><i>Surface and bottom water current data should be included to define seasonal velocities and direction as well as an analysis of seasonal variations in the potential extent of turbidity plumes and sedimentation. This will assist in assessing the potential impacts as a result of the turbidity plume created by pipeline burial. It will also help determine the potential of creating a new tidal pass which could serve as a source of excess suspended matter for a protracted time.</i></p> <p><i>To evaluate properly the extent of downstream turbidity and sedimentation, the effectiveness of proposed turbidity control devices needs to be determined. This information is critical in assessing the expected environmental impacts. In addition, a turbidity monitoring program should be conducted during and for a period of time following construction. The program design and time period should be determined by subject-matter experts.</i></p>	<p>Response 3.6.2.2-4</p> <p>DOE acknowledges that the model used to assess the extent and nature of the brine discharge does not consider seasonal variation and surface current data, but the model does include bottom current direction and velocity. DOE believes that the model adequately represents the nature and extent of the brine impacts and acknowledges that site-specific or temporal conditions could affect the results of the brine plume. The model does not address the sedimentation plume from pipeline construction.</p> <p>After DOE identifies a selected alternative in the ROD, DOE would conduct additional modeling of the brine plume using a model such as EPA’s CORMIX discharge model. DOE would conduct the modeling as part of the NPDES permit for the brine discharge. If one of the Richton alternatives is selected, DOE would continue to coordinate with the NPS and GUIs to ensure that the effects from brine discharge and sedimentation resulting from pipeline construction are minimized.</p> <p>Data on seasonal current velocities are included in appendix C of the EIS. DOE acknowledges in section 3.7.2.1.2 that pipeline construction would create temporary increases in turbidity and sedimentation as a result of offshore pipeline construction. DOE would minimize these potential impacts by implementing best management practices as discussed below and in section 3.7.5.2.</p> <p>DOE’s subject matter specialists would work with various permitting agencies involved in the permitting process. This group would calculate required preconstruction analyses and develop mitigation measures</p>

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[See comment D0081-5 text above]	and monitoring programs. Installation of buried pipelines would require a permit pursuant to Section 10 of the Rivers and Harbors Act of 1899 and the Clean Water Act Section 404 and a Section 401 Water Quality Certificate. DOE would comply with all requirements of these permits, including construction monitoring as required. DOE would use appropriate best management practices to reduce the effects of turbidity during pipeline construction, including installing silt curtains and monitoring water quality during construction to identify and resolve turbidity and sedimentation problems as required by the permits.
<p>Comment D0077-11 (EPA Region 6) <i>Pages 3-120 to 3-122, Section 3.6.3.1.1, Bruinsburg Surface Water: Table 3.6.3-1 includes a footnote (a) in the header, but the explanation given is only applicable to surface water bodies in Mississippi. There is no corresponding reference to the use designations or classifications for water bodies in Louisiana, although several Louisiana water bodies are included in the table. The table would be more helpful if the surface water bodies were listed by geographic order (north to south) so that those surface water bodies crossed by the Bruinsburg to Anchorage crude oil pipeline could be designated as being in Mississippi or Louisiana</i></p>	<p>Response 3.6.2.2-5 The surface waters are in both Louisiana and Mississippi. Table 3.6.3-1 now includes the Louisiana designations, and the water bodies are listed in the table in north-to-south order.</p>
<p>Comment D0077-12 (EPA Region 6) <i>Page 3-124, Section 3.6.3.1.1, Bruinsburg Surface Water: An incorrect inference could be drawn (2nd paragraph) that all of the impaired water bodies crossed by the crude oil pipeline are in Mississippi. But according to the information in Table 3.6.3-1 (portion on p. 3- 12 I), some of the impaired water bodies are in Louisiana.</i></p>	<p>Response 3.6.2.2-6 The crude oil pipeline would pass through Louisiana as well as Mississippi, and it would cross water bodies in both states. Section 3.6.3.1 of the EIS has been revised to more clearly reflect this.</p>

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<p>Comment D0077-13 (EPA Region 6) <i>Page 3-146, Section 3.6.7.1.2, Richton Surface Water: While the surface water bodies crossed by the crude oil pipeline going to the Liberty tank farm are in Mississippi, several of them drain into Louisiana. The FEIS should explain whether potential impacts to designated uses in Louisiana have been incorporated into the environmental analysis.</i></p>	<p>Response 3.6.2.2-7 The analysis presented in the EIS of potential impacts to surface waters from crude oil pipelines is also applicable to downstream water bodies. Only the water bodies that would be crossed have been identified. Because these water bodies are within the Mississippi River drainage area, any contaminants that migrated from the original point of discharge at the crude oil pipeline would drain toward the Mississippi River.</p> <p>Designated uses of surface waters located in Louisiana are listed in table 3.6.3-1, and they have been analyzed for potential impacts. See response 3.6.2.2-5 above.</p>
<p>Comment D0077-14 (EPA Region 6) <i>Page 3-162 to 3-165, Section 3.6.9.1, Bayou Choctaw Surface Water: Bayou Bourbeaux and Bayou Borbeaux appear to be used interchangeably throughout this section. For example, Bayou Borbeaux is on Table 3.6.9-1, but Bayou Bourbeaux is on Figure 3.6.9-1. The text on p.3-162 uses both spellings in different paragraphs. Are both references to the same water body or are there actually two different bayous? If the latter is correct, the table and figure should be revised to reflect two different water bodies.</i></p>	<p>Response 3.6.2.2-8 The EIS has been revised to use the correct name, Bayou Bourbeaux.</p>
<p>Comment D0077-33 (EPA Region 6) <i>Region 6 EPA would have oversight on the two sites in the State of Texas, new site Stratton Ridge, and expansion at Big Hill. Our concern is that while the activity does not fall under the 316(b) regulations for cooling water intake structures, it seems that EPA could possibly make a case-by-case determination using Best Professional Judgement (BPJ) to use equivalent technology. The facility will need 50.4 MGD for solution mining, and they will withdraw the water from the intercostal</i></p>	<p>Response 3.6.2.2-9 As stated in section 3.7.2.2.2 of the EIS, RWI structures would be equipped with screens with openings of approximately 0.5 inches (1.3 centimeters).</p> <p>No chemicals would be used to inhibit marine growth on the RWI structures.</p>

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3.6.2.2 Site or Alternative Specific Impact	
<p><i>waterway off the Texas coast. The DEIS states that they will have the structure in a shipping channel maintained by the COE. The intake structure will have rotating marine removal screens, and the velocity would be maintained at 0.5 feet per sec.</i></p> <p><i>EPA is interested in knowing what size openings are on the screens and whether any chemicals will be used to inhibit marine growth on the intake structures.</i></p>	<p>See response 3.7.2.1-9 for a discussion of the potential impacts to biota resulting from the RWI operations for Stratton Ridge.</p>
<p>Comment D0077-9 (EPA Region 6) <i>Page 3-111, Section 3.6.2.1 -5, Impacts of Oil Spills to Surface Waters: There is only a reference made to Louisiana SPCC regulations. Are there Mississippi and Texas SPCC regulations that would be applicable to one or more proposals?</i></p>	<p>Response 3.6.2.2-10 A SPCC plan is required by Federal law (40 CFR 112) and the plan would be required for all SPR facilities. The SPR facility SPCC plans would also meet the requirements of the applicable regulations of Louisiana, Mississippi, and Texas.</p>

COMMENT	RESPONSE
3.6 Water Resources	
3.6.4 Groundwater	
3.6.4.1 General Impacts	
<p>Comment D0005-3 (Louisiana Department of Environmental Quality) <i>6. All precautions should be observed to protect the groundwater of the region (SEE ATTACHMENT).</i></p>	<p>Response 3.6.4.1-1 DOE would follow all permit requirements and appropriate best management practices to protect groundwater resources.</p>

COMMENT	RESPONSE
3.6 Water Resources	
3.6.4 Groundwater	
3.6.4.2 Site or Alternative Specific Impact	
<p>Comment D0007-3 (Elizabeth Waldorf, individual) <i>Currently excess water pumping is mining ground water from Mississippi soils. On average over the state our water table drops a foot a year. Your proposed withdrawals would combine with this excess.</i></p>	<p>Response 3.6.4.2-1 DOE proposes to withdraw water from the Leaf River and/or the Gulf of Mexico to solution mine caverns and maintain and operate the SPR during drawdown, maintenance, and fill events. See section 3.6.5.1.2 and response 3.6.2.2-1 for a discussion of an additional source of water withdrawal for the Richton alternatives, which was not presented in the draft EIS.</p> <p>The incremental impacts on groundwater from surface water withdrawal from the Leaf River would be negligible. Because recharge typically flows from groundwater toward the surface waters at all of the proposed new and expansion sites, the proposed pumping of surface water would not affect groundwater or the groundwater table under most hydraulic conditions.</p> <p>A slight impact on groundwater could be expected during short periods of high water following extended periods of heavy precipitation. During these conditions, surface water would recharge aquifers. In addition, withdrawal from surface water during periods of low water could result in an increase in hydraulic gradient and flow from the aquifer to the surface water. Even during these nontypical conditions, the effect on the groundwater table would be very small at Richton.</p> <p>DOE would follow state permitting requirements and adhere to monitoring or withdrawal restrictions.</p> <p>DOE added section 3.6.2.2.3 to the EIS to discuss the potential impacts of surface water withdrawal on groundwater.</p>

COMMENT	RESPONSE
3.6 Water Resources	
3.6.4 Groundwater	
3.6.4.2 Site or Alternative Specific Impact	
<p>Comment D0009-1 (June Havens, individual) <i>Richton, MS is inappropriate for a Strategic Petroleum Reserve storage site. The salt domes are not stable and the ground water for the coastal area could be in jeopardy. Hasn't the Coast suffered enough?</i></p> <p>Comment D0014-4 (Tony Bland, individual) <i>I am also concerned about the inherent lack of stability of salt domes and the potential for groundwater contamination from oil stored there.</i></p> <p>Comment D0085-5 (Fred Lemon, individual) <i>But let's get on back to our water. Our water comes through those salt domes. How much of it comes out, how much of it gets salted because our water down here -- and I've traveled this country from one end to the other and crisscrossed in a camper and in only one-third of the sites would I put the water in that campground in my camper it was so bad and we have good water. Are we are going to take a chance -- are we going to take a chance in polluting it with this petroleum? I don't think it's -- I don't think it's worth it.</i></p> <p>Comment D0083-7 (Becky Gillette, Sierra Club) <i>I am also concerned about the ability of the Mississippi Department of Environmental Quality to adequately monitor any problems that might be associated with the salt dome if it leaked oil or if it leaked salt. I believe that some of our drinking water actually comes from up in that area in the underground flow, so I would be concerned about the drinking water quality.</i></p>	<p>Response 3.6.4.2-2</p> <p>As discussed in section 3.6.2.2.2, the probability of oil leaking from the salt cavern would be very low for the reasons listed below:</p> <ul style="list-style-type: none"> • The salt is essentially impermeable, and it would not allow the oil to flow through it. • Although it is unlikely that leaks would occur through fractures in the salt, the caverns would be geophysically surveyed and pressure tested to check for fractures before oil was injected. <p>The oil would be injected into the cavern through wells drilled from the surface down thousands of feet to the caverns. Following is a list of measures that would guard against oil leaking from the wells:</p> <ul style="list-style-type: none"> • Wells would be installed with features designed to prevent leakage. They would be double cased and grouted. • After installation and before oil is introduced, the wells would be pressure tested. <p>In addition, the water surrounding the domes is thousands of feet below ground surface, and it is high salinity; therefore, it is not suitable for drinking water.</p> <p>DOE does not plan to monitor deep groundwater at the depth of the caverns for oil or salt leaks. Based on the factors presented above and in the EIS, there is a very low probability of leakage from the caverns themselves. The probability of leaks, although also low, is greater along the length of the injection well. DOE would monitor shallow water quality at the proposed SPR facilities, as it does at existing SPR facilities.</p>

COMMENT	RESPONSE
3.6 Water Resources	
3.6.4 Groundwater	
3.6.4.2 Site or Alternative Specific Impact	
<p>Comment D0085-7 (Fred Lemon, individual) <i>Let's see. There's a couple of other points I would like to get if I can see them. We've got to have good drinking water and we have good drinking water.</i></p>	<p>See response 3.4-1 for additional information on the stability of the salt dome.</p>
<p>Comment D0089-5 (Vernon Phillips, Anabasis) <i>Additionally, by using both the Sparta and Wilcox formations for brine disposal, the capacity of each well can be doubled or increased fourfold, thus reducing the number of disposal wells required, reducing the wellhead pressure of each well, and increasing injection runtime between workovers, which will commensurate reduced cost and enhance environmental safety.</i></p> <p><i>Both the Sparta and Wilcox formations have proven to be safe, well known, and commonly used disposal zones in Mississippi with excellent disposal capacity. Both zones can be used at the same time in each well-bore further enhancing safety and the disposal capacity</i></p>	<p>Response 3.6.4.2-3 DOE has determined that brine injection into multiple formations simultaneously is not technically feasible for the reasons discussed below.</p> <p>Brine injection into multiple formations through one wellhead is not standard practice primarily because of the lack of hydraulic control on the injection process. Although access would be available for disposal in both formations, the pressure differentials in the formations would determine which formation the brine actually entered. Because there would be no controls on the rate of discharge into each formation, there is a possibility that injection into one of the formations could be overpressured and result in fracturing.</p> <p>DOE would not inject brine into multiple formations for the following additional reasons:</p> <ul style="list-style-type: none"> • Crossflow through the well between the formations would occur during any periods when the injection well was not operating. • It is difficult to properly install a well into multiple formations. • It is difficult and hard to control cleaning the well screens and assuring that the screens in each formation are adequately clean to allow for flow into the formations.

COMMENT	RESPONSE
3.6 Water Resources	
3.6.5 Brine Discharge	
3.6.5.1 General Impacts	
<p>Comment D0106-10 (USFWS) <i>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.</i></p> <p><i>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.</i></p> <p>Comment D0013-2 (Gulf Restoration Network) <i>The DOE must fully analyze the potential impacts of, and where possible, avoid alternatives that would require disposal of brine in the Gulf of Mexico. Depending on the season, a salinity change of 4.23 may or may not be a "normal" variability as claimed by the DOE. In</i></p>	<p>Response 3.6.5.1-1 Although the brine would have a salinity of 235 parts per thousand, field studies at active SPR brine diffusers and modeling efforts indicate that the initial mixing caused by the high velocity of discharge through the brine diffuser would reduce the salinity of the discharge within the mixing zone.</p> <p>The maximum resultant salinity would be 4.3 parts per thousand, which is usually within the normal salinity variability reported in the Gulf of Mexico, as stated in section 3.6.2.1.2 of the EIS; however, a condition could occur where resultant salinities were 4.3 parts per thousand above the normal maximum salinity. See response 3.7.2.1-1 for a discussion of potential impacts to biota and sections 3.7.2.1.5, 3.7.4.2.4, and 3.7.5.2.6 and appendix E.</p> <p>As discussed in appendix C, the two most important factors determining the mixing zone are the brine discharge rate and the bottom current velocity. The brine would be discharged at a high flow rate of 30 feet (9.2 meters) per second, which would enhance the mixing process in the immediate vicinity of the diffuser. After this initial mixing phase, the bottom current would be the main determinant. The bottom current used for the models is representative of the site, and the data should provide a reasonable estimate of the mixing zone. The model was developed based on field salinity data at active SPR brine diffusers in the Gulf of Mexico. The model indicates that the highest resultant increase in salinity would be less than 5 parts per thousand. Salinity increases would be 4 parts per thousand at 0.60 to 0.80 nautical miles (1.11 to 1.48 kilometers) from the brine diffuser, and less than 4 parts per thousand beyond this area.</p>

COMMENT	RESPONSE
3.6 Water Resources	
3.6.5 Brine Discharge	
3.6.5.1 General Impacts	
<p><i>either case, during the summer, discharge near the bottom can contribute to low oxygen, which in turn, can affect finfish and other marine species.</i></p> <p>Comment D0085-3 (Fred Lemon, individual) <i>Number two, are we going to change the salinity?</i></p> <p>Comment D0086-2 (Lin Jacobson) <i>I would like to learn a lot about the brine situation as a result of the salt dome. Brine to me is a concentrated, concentrated salt water solution and I don't think that needs to be pumped out into our front yard in the Gulf, but I will need further information</i></p> <p>Comment D0106-29 (USFWS) <i>Also, measures should be included to avoid elevated salinity levels at the end of the outflow pipe in the Gulf.</i></p> <p>Comment D0081-8 (DOI) <i>Brine disposal from the Richton, Mississippi site is estimated to be 1,280,000,000 barrels (53,760,000,000 gallons) of hypersaline water. Brine disposal will be at an average rate of 1.2 million barrels per day over a 3-to-4 year period. The brine plume is expected to cover an area of 19.5 square nautical miles. The disposal site is proposed to be located approximately 1.5 miles south of the park boundary in the Gulf of Mexico. The brine will have a salt content of 263 parts per thousand (ppt) and be disposed of in seawater with a salt content of 35 ppt resulting in an increase of ambient salinity. In addition, the introduction of metals and other inorganic contaminants is highly</i></p>	<p>Additional modeling using the CORMIX model would be required to further evaluate the mixing zone before a discharge permit is issued. Also, NPDES permitting through the appropriate state agency would include requirements for monitoring during the operational period.</p> <p>Regarding possible discharge of metals and inorganics in the brine, state pollution discharge permits would establish discharge limits for inorganics and initiate a monitoring program to demonstrate compliance.</p> <p>The primary method that would be used to avoid elevated salinity levels at the end of the outflow pipe in the Gulf of Mexico would be the high velocity of the discharge through multiple ports that enhances initial mixing of the brine and significantly decreases the resultant salinities.</p>

COMMENT	RESPONSE
3.6 Water Resources	
3.6.5 Brine Discharge	
3.6.5.1 General Impacts	
<i>possible.</i>	[See response 3.6.5.1-1 above]

COMMENT	RESPONSE
3.7 Biological Impacts	
3.7.1 Methodology	
<p>Comment D0073-1 (NOAA Fisheries) 3.0 AFFECTED ENVIRONMENT AND POTENTIAL IMPACTS 3.7 Biological Resources 3.7.1 Methodology 3.7.1.3 Essential Fish Habitat</p> <p><i>Page 3-184, paragraphs 1 and 2. This section of the document describes methods to identify essential fish habitat (EFH) associated with this project at the brine diffuser and offshore pipeline rights-of-way (ROW) only. Onshore components of some of the various new and proposed expansion sites would potentially impact EFH for various federally managed species as well. Methods to identify and quantify onshore impacts of SPR expansion activities should be included in this section of the DEIS.</i></p>	<p>Response 3.7.1-1</p> <p>DOE acknowledges that it failed to identify the onshore component of EFH in the draft EIS. In the final EIS, DOE has identified and described the potential site development effects on onshore EFH at each site. The onshore EFH generally comprises tidally influenced streams, estuaries, and wetlands, which are considered EFH for early life stages of brown shrimp, white shrimp, and red drum.</p> <p>DOE has modified appendix E and the relevant sections of the EIS (section 3.7, chapter 4, and chapter 2) to reflect the impacts to onshore EFH not originally discussed in the draft EIS.</p>

COMMENT	RESPONSE
3.7 Biological Impacts	
3.7.2 Plants and Wildlife	
3.7.2.1 General Impacts	
<p>Comment D0083-8 (Becky Gillette, Sierra Club) <i>We have very productive, important natural estuaries here on the Gulf Coast and if you dump salt water into that you can kill it for years. These are important to our seafood industry and it can take a long time to recover.</i></p>	<p>Response 3.7.2.1-1</p> <p>DOE has expanded its presentation in the EIS where it identified the important estuaries and fisheries resources in the project area and assessed potential effects on both that could result from the proposed alternatives. See response 3.7.1-1 concerning onshore fisheries resources.</p> <p>In section 3.7.2.1.5 and appendix E, DOE examined the effect of brine discharge into the Gulf of Mexico. DOE concluded that there would be no significant adverse effect on the Gulf, estuaries, or managed fisheries because the potential increase in salinity would usually be within the typical range of salinity.</p> <p>The impact to estuarine species would occur for 4 or 5 years or less during cavern development. The area effected by a slight increase in salinity would be localized. For example, salinity would increase 4 or more parts per thousand in 1.2 square miles (4.1 square kilometers) or less surrounding the brine diffuser (see appendix C).</p> <p>For the Richton alternatives, cavern creation and the associated brine discharge could last up to approximately 9 years if the flow in the Leaf River persists below the Minimum Instream Flow for 9 consecutive years and DOE draws water exclusively from the Gulf of Mexico to create the Richton caverns. It is highly unlikely, however, that flows would remain below the Minimum Instream Flow in the Leaf River for 9 consecutive years. More likely, only a portion of the water for cavern creation would come from the Gulf of Mexico. The length of cavern creation and the associated brine discharges could be longer for two reasons: (1) the rate of withdrawal from the available water sources</p>

COMMENT	RESPONSE
3.7 Biological Impacts	
3.7.2 Plants and Wildlife	
3.7.2.1 General Impacts	
<p>[See comment D0083-8 text above]</p>	<p>may be smaller than the planned rate of withdrawal from the Leaf River, and (2) each barrel of saltwater from the Gulf of Mexico has less capacity than each barrel of freshwater from the Leaf River to dissolve salt and therefore a larger volume of saltwater would be needed to create the 160 MMB of storage capacity at Richton. If the total rate of water withdrawal for solution mining is reduced, the rate of brine discharged into the Gulf of Mexico would be lower and the size of the brine plume would also be slightly smaller. During brine refill events, after emergency drawdown or maintenance, brine discharge may be slightly longer if water is withdrawn from the Gulf of Mexico, as compared to water from the Leaf River.</p> <p>Previous analyses examining the effect of brine disposal on fish from brine contaminants discharged at existing SPR sites showed that some brine contaminants can be present at slightly elevated levels around the diffusers, but that fish populations do not suffer adverse effects because fish are mobile and contaminant salt concentrations are low and below established water quality criteria (Hann et al. 1984). Previous studies examining the effect of brine diffusion on benthic biodiversity at the West Hackberry and Bryan Mound diffusion sites indicated a localized reduction in benthic biomass within a range of 656 to 6,889 feet (200 to 2,100 meters) from the diffusers during operation of the discharge (Hann et al. 1984; see appendix E, section E.5). These effects generally persist for a short period after the discharge terminates. Recovery of the macroinvertebrate and fish community could be expected.</p> <p>Appendix E describes for each site the direct and indirect effects of the construction of brine disposal pipelines, periodic maintenance of offshore pipeline ROWs, and discharge of brine and brine diffusion on</p>

COMMENT	RESPONSE
3.7 Biological Impacts	
3.7.2 Plants and Wildlife	
3.7.2.1 General Impacts	
[See comment D0083-8 text above]	EFH (see section E.5) for the managed fish species and their major food sources (see section E.3). The EIS also notes in section 3.6.2.1.2 that all discharges would comply with the NPDES and associated state permit regulations, which were established to protect aquatic resources as well as human health.
<p>Comment D0106-12 (USFWS) <i>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.</i></p>	<p>Response 3.7.2.1-2 Section 3.2.1.2 and table 3.2.1-1 in the EIS contain data for reported brine spills to freshwater and marine habitats. The effects of brine spills on freshwater habitats are discussed in section 3.2.2.2; section 3.6.2.1.6, and section 3.7.2.2.5.</p>
<p>Comment D0106-14 (USFWS) <i>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.</i></p>	<p>Response 3.7.2.1-3 The EIS describes in section 3.7.2.2.5 the response and mitigation actions for biological resource effects resulting from brine or petroleum release. DOE has expanded the material presented in the EIS to more fully describe the response and mitigation actions for oil spill effects to trust resources.</p>
<p>Comment D0013-2 (Gulf Restoration Network) <i>The DOE must fully analyze the potential impacts of, and where possible, avoid alternatives that would require disposal of brine in the Gulf of Mexico. Depending on the season, a salinity change of 4.23 may or may not be a “normal” variability as claimed by the DOE. In</i></p>	<p>Response 3.7.2.1-4 As stated in section 3.6.2.1.2 of the EIS, the maximum resultant salinity would be 4.3 parts per thousand, which is typically within the normal range of salinity reported in the Gulf of Mexico. This section also states, however, that a condition could occur where resultant salinities</p>

COMMENT	RESPONSE
3.7 Biological Impacts	
3.7.2 Plants and Wildlife	
3.7.2.1 General Impacts	
<p><i>either case, during the summer, discharge near the bottom can contribute to low oxygen, which in turn, can affect finfish and other marine species.</i></p>	<p>would be 4 parts per thousand above the normal maximum salinity (i.e., if current velocities are low and ambient bottom salinities are high). The potential effects of this increased salinity on biota are evaluated in section 3.7 and appendix E.</p> <p>Brine injection wells were not proposed for use at sites other than Bruinsburg, Bayou Choctaw, and West Hackberry for the following reasons:</p> <ul style="list-style-type: none"> • Injection wells can be difficult and expensive to operate, the geology must be appropriate for wells to be drilled, and the receiving aquifer must be hydrologically suited for injections. Dispersion of brine into the Gulf of Mexico has been successful at existing SPR sites. The alternative of brine injection into underlying aquifers has not been widely used, especially at the volumes generated by cavern leaching. Underground injection of brine presents technical, operational, and hydrogeological obstacles, and typically it is used only when the distance between a salt storage site and the Gulf of Mexico is large, as is the case for the Bruinsburg site, or when brine volumes are relatively small (as is the case at Bayou Choctaw and West Hackberry). • Brine injection wells pose some risk to overlying drinking water sources such as freshwater aquifers. For example, potential effects of brine injection could include readjustment of surrounding strata and displacement of existing fluids due to pressure changes, displacement of saline water to fresh water zones, and fracturing of geological formations causing migration of brine into overlying fresh aquifers. • Building injection wells requires a significant amount of land, which

COMMENT	RESPONSE
3.7 Biological Impacts	
3.7.2 Plants and Wildlife	
3.7.2.1 General Impacts	
[See comment D0013-2 text above]	<p>can have adverse environmental impacts.</p> <ul style="list-style-type: none"> • Injection wells can be more costly than building pipelines for brine disposal in the Gulf of Mexico, especially if the caverns are located relatively close to the Gulf. This discussion has been expanded in the final EIS (section 2.3.3). <p>See response 3.6.5.1-1 and 3.7.2.1-1 for a discussion of the potential effects resulting from the proposed brine discharge.</p> <p>As noted in section 3.6.2.1.2, DOE would apply for NPDES permits, which are required for any discharges to surface waters including the Gulf of Mexico. NPDES permits require that all regulated discharges are within water quality standards as set by EPA and state agencies. Because oxygen concentration is regulated through NPDES permits, discharges would operate within permitted effluent limits, which are designed to be protective of aquatic organisms. The EIS acknowledges that aquatic resources would occur because of the brine discharges. DOE concluded that there would be no significant adverse effect on the Gulf, estuaries, or managed fisheries because the potential increase in salinity would usually be within the typical range of salinity.</p> <p>The impact to estuarine species would occur for 4 or 5 years during cavern development. Impacts would also occur for six months or less during sporadic maintenance and drawdown events. The area effected by a slight increase in salinity would be localized. For example, salinity would increase 4 or more parts per thousand in 1.2 square miles (4.1 square kilometers) or less surrounding the brine diffuser (see appendix C). See response 3.7.2.1-1 for a discussion as to why brine</p>

COMMENT	RESPONSE
3.7 Biological Impacts	
3.7.2 Plants and Wildlife	
3.7.2.1 General Impacts	
[See comment D0013-2 text above]	disposal may last slightly longer and the brine plume would be slightly smaller for the Richton alternatives.
<p>Comment D0077-33 (EPA Region 6) <i>Region 6 EPA would have oversight on the two sites in the State of Texas, new site Stratton Ridge, and expansion at Big Hill. Our concern is that while the activity does not fall under the 3 16(b) regulations for cooling water intake structures, it seems that EPA could possibly make a case-by-case determination using Best Professional Judgment (BPJ) to use equivalent technology. The facility will need 50.4 MGD for solution mining, and they will withdraw the water from the intercostal waterway off the Texas coast. The DEIS states that they will have the structure in a shipping channel maintained by the COE. The intake structure will have rotating marine removal screens, and the velocity would be maintained at 0.5 feet per sec. EPA is interested in knowing what size openings are on the screens and whether any chemicals will be used to inhibit marine growth on the intake structures.</i></p>	<p>Response 3.7.2.1-5 The concept plans for the RWI calls for a mesh diameter that would be approximately 0.5 inches (1.3 centimeters). See section 3.7.2.2.2.</p> <p>DOE does not plan to use biocides to inhibit marine growth on RWI structures at this time.</p> <p>As stated in section 3.7.2.2.2 of the EIS, DOE would coordinate with the appropriate state and Federal agencies during the Section 404/401 process for the selected alternative. DOE would refine the concept plan for the RWI to meet any conditions required by the resource agencies for the RWI to ensure protection of aquatic resources.</p> <p>See response 3.6.2.2-1 for a discussion on the effects resulting from the raw water withdrawal and RWI design.</p>
<p>Comment D0078-1 (DOI) <i>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</i></p>	<p>Response 3.7.2.1-6 DOE acknowledges that the draft EIS did not include a detailed compensation plan for wetlands, EFH, and fish and wildlife impacts for each alternative; however, a conceptual compensation plan was included (section 3.7.2.1.3; appendix B, section B.4; and appendix E, section E.5). DOE has expanded on this information in the final EIS by creating appendix O, a more detailed conceptual plan for compensation to wetlands. DOE will continue to work with the USFWS, USACE, EPA, NOAA Fisheries, and other appropriate state and Federal agencies to develop detailed compensation plans for the selected alternative.</p>

COMMENT	RESPONSE
3.7 Biological Impacts	
3.7.2 Plants and Wildlife	
3.7.2.1 General Impacts	
<p><i>compensation plan; however, we believe this information should be included in the Final EIS before issuance of a Record of Decision (ROD).</i></p>	<p>DOE welcomes input from regulatory and conservation agencies on means to avoid and minimize the effects that might be caused by the expansion and new construction of the SPR sites, associated pipelines, marine terminals, facilities, and other infrastructure and ways to protect fish and wildlife resources throughout the NEPA and permitting process. A discussion of effects on fish and wildlife resources and proposed mitigation practices is included in chapter 3.7 and appendices B, E, F, G, H, and I of the EIS. Appendix O provides some information on possible mitigation sites that could be used. DOE has not developed a detailed compensation plan for wetlands and EFH impacts for each alternative, nor has it included a comprehensive mitigation plan in the final EIS because developing such plans for each alternative was not practicable. Moreover, the mitigation plan will be developed for the selected alternative after wetlands and waters delineations and jurisdictional determination are completed and a functional assessment of affected wetlands is completed. After that, it will be possible to develop a detailed compensation plan.</p> <p>If an alternative other than the no-action alternative is selected, after the ROD is issued DOE would develop the compensation plan for wetlands and EFH impacts and complete the consultation and coordination on special status species that may be affected (sections 3.7.1.1 and 3.7.1.2) because DOE and other agencies could then focus on a single alternative. DOE would include measures in the mitigation plan to protect and preserve upland forest and coastal habitat to the extent that it would be practical within the compensation plan for effects on wetlands, EFH, and special status species.</p>

COMMENT	RESPONSE
3.7 Biological Impacts	
3.7.2 Plants and Wildlife	
3.7.2.1 General Impacts	
<p>Comment D0078-4 (DOI) <i>Migratory Bird Concerns:</i> <i>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.</i></p> <p><i>Comment D0115-3 (Audubon Society, Houston)</i> <i>We also share the FWS concerns about the impacts to migratory birds caused by the construction of large storage tanks, the electrical transmission lines and other tall structures. Insufficient information has been provided in the DEIS to determine the potential impacts. We agree with the recommendation that the transmission lines need to be buried to avoid bird strikes. We also agree that documented bird rookeries and colonial waterbird nesting sites must be left undisturbed, and a monitoring plan documenting this must be developed.</i></p>	<p>Response 3.7.2.1-7 DOE considered the effects on migratory birds in section 3.7.2.2 and in each description of site-specific effects in section 3.7. DOE would follow the voluntary guidelines developed by Edison Electric Institute's Avian Power Line Interaction Committee to reduce hazards to migratory birds (section 3.7.2.2.3). At the proposed Stratton Ridge site, DOE would bury transmission lines to avoid harm to migratory birds in and around Brazoria National Wildlife Reserve as stated in section 3.7.6.2.2.</p> <p>Power lines would be 75 feet (23 meters) tall (see section 3.7.2.1). The exact heights of transmission lines, storage tanks, and other tall buildings at proposed sites have not been determined because designs are still in the conceptual stage. During the development of designs for the selected alternative, DOE would continue consultation with USFWS to minimize or avoid impacts to migratory birds.</p>

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<p>Comment D0078-6 (DOI) <i>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 downshielded to keep light within the boundaries of the site.</i></p>	<p>Response 3.7.2.1-8 As stated in section 3.7.2.2.1, DOE would use downshielded lights and low mast lighting where possible to minimize the visual and disturbance to birds and wildlife.</p>
<p>Comment D0078-11 (DOI) <i>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.</i></p>	<p>Response 3.7.2.1-9 As stated in section 3.7.2.2.3, DOE would follow these guidelines for transmission lines to reduce the risk of bird mortality. See response 3.7.2.1-4 above for more details on this issue.</p>
<p>Comment D0078-14 (DOI) <i>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</i></p>	<p>Response 3.7.2.1-10 The analysis of impacts to fish and wildlife resources and a plan for compensation are described in response 3.7.2.1-3. DOE looks forward to continued coordination with USFWS.</p>

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<p><i>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.</i></p> <p><i>Commen D0115-1 (Audubon Society, Houston)</i></p> <p><i>This letter is submitted on behalf of the Houston Audubon Society, 440 Wilchester Blvd., Houston Texas 77079. Our mission is to promote the conservation and appreciation of birds and wildlife habitat. Accordingly, we share the concerns of the U.S. Fish and Wildlife Service (FWS) with regard to the Draft Environmental Impact Statement (DEIS) for the site selection for the expansion of the Strategic Petroleum Reserve in Texas. Houston Audubon concurs with the letter submitted by Stephen Spencer, Regional Environmental Officer, Department of the Interior dated July 7, 2006. We specifically agree with comments made concerning the potential habitat loss and detrimental effects on wildlife at the proposed Stratton Ridge Strategic Petroleum Reserve expansion site.</i></p>	<p>[See response 3.7.2.1-10 above]</p>
<p>Comment D0106-18 (USFWS)</p> <p><i>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 2,000 acres of the brine diffusers, and shrimp species would avoid the discharge areas. These findings indicate that the brine</i></p>	<p>Response 3.7.2.1-11</p> <p>As noted in section 3.7.2.1.4 and appendix E, DOE analyzed and reported impacts on biological resources from brine discharge by examining the result of relevant studies (i.e., DOE 1992a; DOT 1976 V.2; Barry A. Vittor & Associates 2002) and conducting DOE's own analysis by modeling the predicted size and concentration of the brine plume when brine is released during cavern development (appendix C). For example, the modeling indicated that the maximum increase in salinity would be approximately 4.3 parts per thousand, using conservative assumptions. This increase in salinity is usually within the</p>

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<p><i>discharges have a significant impact on biological resources.</i></p>	<p>typical range of salinity. Previous analyses examining the effect of brine disposal on fish have shown that some brine contaminants can be present at slightly elevated levels around the diffusers, but that fish populations do not suffer significant adverse effects because fish are mobile and contaminant concentrations are low and below established water quality standards (Hann et al. 1984; see appendix E and below for established water quality standards). Construction, operations, and maintenance of the brine diffuser would affect EFH and benthic organisms (appendix E); however, these effects would be limited to the area surrounding the diffuser. For example, previous studies examining the effect of brine diffusion on benthic biodiversity at the West Hackberry and Bryan Mound diffusion sites indicated a localized reduction in benthic biomass within a range of 656 to 6,889 feet (200 to 2,100 meters) from the diffusers during operation of the discharge (Hann et al. 1984; see appendix E, section E.5). These effects generally persist for a short period after the discharge terminates. Recovery of the macroinvertebrate and fish community could be expected.</p> <p>See responses 3.7.2-1 and 3.7.2.1-1 and response 3.6.5.1-1 for more information.</p>
<p>Comment D0106-19 (USFWS) <i>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</i></p>	<p>Response 3.7.2.1-12 DOE cites a reference paper (Henderson and Seaby 2000) in section 3.7.2.2.2 that describes the effects of RWIs and an 80- to 90-percent survival rate for impinged fish at existing RWIs, many of which are associated with power plants. DOE acknowledged in section 3.7.2.2.2 that “the severity of the impact from impingement and entrainment due to large volume intakes depends on the site-specific conditions at the intake site, the composition and life history of aquatic species, and whether those species disperse eggs in the water column or lay eggs in a</p>

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<p><i>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.</i></p>	<p>nest,” and it states that entrained organisms would be lost (see 3.7.2.2.2, 3.7.3.2.3, and 3.7.4.2.3). DOE developed a conceptual design for the RWI structure, discussed in EIS section 2.3.2. Its design features include a traveling screen, escape route, 0.5 foot per second (0.15 meters per second) intake velocity, and 0.5-inches (1.3-centimeters) mesh diameter on the intake screen.</p> <p>In the final EIS, DOE modified the conceptual design from that presented in the draft EIS for the RWI on Mississippi River for the Bruinsburg site and the RWI on the Leaf River for the Richton site, the only two RWIs on naturally flowing rivers. The modified RWIs are designed to reduce potential effects on aquatic resources by proposing a series of cylindrical screens located in the stream channel that would be oriented parallel to the river flow (see sections 2.4.1 and 2.4.3 and figure 2.4.3-3). This conceptual plan is typically recommended for river intakes because it uses the river flow to create a sweeping velocity across the screen surface to minimize the likelihood of impingement of organisms (Gowan et al. 1999). The screens would be fitted with air back flow systems to reduce clogging and reduce the likelihood of impingement of organisms. In addition, the intake system would be constructed within a cofferdam to minimize the potential for water quality impacts during construction.</p> <p>DOE also modified the final EIS by proposing a RWI in Pascagoula for the Richton alternatives. This RWI was added to reduce DOE’s dependence on the Leaf River, which can have variable flow and provides habitat for endangered species (see 3.6.5.1.2 and responses 3.6.2.2-1 and 3.7.4.1-2). If one of the Richton alternatives is selected, DOE would use a similar RWI conceptual plan for the RWI structure in</p>

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[See comment D0106-19 text above]	<p>Pascagoula, as that described for the RWI structure associated with the Chacahoula and Stratton Ridge alternatives (see section 2.4.3 and figure 2.4.3-4).</p> <p>In section 3.7.2.2.2, DOE addressed the effects of the RWI on aquatic resources and included mitigation measures to protect those resources. DOE would continue to coordinate with the USFWS, NOAA Fisheries, and state agencies responsible for fish and aquatic resources to incorporate their recommendations into the design of the RWI (where feasible) during the Section 404/401 permit process. Final designs for the traveling screen and bypass systems would be based on permit requirements and specific conditions onsite.</p>
<p>Comment D0106-20 (USFWS)</p> <p><i>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.</i></p>	<p>Response 3.7.2.1-13</p> <p>In section 3.7.5.1.2, DOE intended to state that <i>common</i> freshwater species are often not sensitive to changes in the environment. DOE included darters in this statement because some species of darters are abundant and considered common species. It was not DOE's intention for the statement to suggest that all species of darters are common.</p> <p>The pearl darter is a Federal candidate species, and it is identified as such in section 3.7.5.1.3 and section 3.7.5.1.4. The EIS states that the pearl darter is very sensitive to slight changes in the environment such as increased turbidity or changes to habitat from head cutting (section 3.7.5.2.3). Because the pearl darter is relatively rare and sensitive to changes in the environment, DOE determined that construction of the RWI on the Leaf River for the Richton site (section 3.7.5.2.3) and conventional construction of pipelines (section 3.7.5.2.2) would affect the pearl darter and that the operation of the RWI on the Leaf River</p>

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[See comment D0106-20 text above]	may have an adverse effect on the species.

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<p>Comment D0013-9 (Gulf Restoration Network) <i>The authors of the DEIS admit that some "wildlife would be killed or displaced to surrounding areas during construction at the Stratton Ridge." Due to the fact that forested wetland habitat is uncommon in the area, some wildlife species may be unable to find suitable habitat, including migrating neo-tropical birds that use palustrine forested wetlands as stopover habitat. Reduction in the quantity of forested habitat available to these birds would add to the stress of annual migration (DEIS at p. 3-266). In short, selection of this site would result in potential irretrievable injury to increasingly rare forested wetland habitats in the area and the bird species dependent upon those habitats, and will potentially undermine the purposes of an established NWR.</i></p>	<p>Response 3.7.2.2-1 DOE addresses the impacts to forested wetlands, migratory birds, and the pipeline through the Brazoria National Wildlife Refuge in the EIS (section 3.7.6.2.2). DOE acknowledges that it would coordinate with the USFWS and Brazoria National Wildlife Refuge for the easements for the pipeline, and it would continue to incorporate reasonable measures to protect important resources in the Brazoria National Wildlife Refuge. The EIS also describes the forested wetlands from this site and recognizes the "important ecological resource" they represent for the region (section 3.7.6.2.1).</p>
<p>Comment D0106-30 (USFWS) <i>The Bruinsburg alternative as planned would also result in significant impacts to fish and wildlife resources.</i></p>	<p>Response 3.7.2.2-2 DOE acknowledges this comment, and in section 3.7.3 describes the impacts to fish and wildlife resources by the proposed Bruinsburg site.</p>

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<p>Comment D0005-2 (Louisiana Department of Environmental Quality) <i>The Office of Environmental Services recommends that you investigate the following requirements that may influence your proposed project: [...]</i></p> <p><i>5. If any of the proposed work is located in wetlands or other areas subject to the jurisdiction of the U.S. Army Corps of Engineers, you should contact the Corps to inquire about the possible necessity for permits. If a Corps permit is required, part of the application process may involve a Water Quality Certification from LDEQ, observed to control nonpoint source pollution from construction activities.</i></p>	<p>Response 3.7.3.1-1</p> <p>As discussed in the EIS, DOE would apply for all required permits from the USACE and appropriate state agencies such as LDEQ for construction of RWI, ROWs, onsite facilities, and for RWI withdrawal (section 3.6.2.1.1). DOE has met with the USACE to discuss permitting issues. DOE would apply for Louisiana Pollutant Discharge Elimination (LPDES) permits for any discharges resulting from construction activities. In addition, Clean Water Act Section 404/401 permits for all impacts to waters including wetlands, a LPDES discharge permit, and possibly a Rivers and Harbors Act of 1899 Section 10 permit for potential impacts to navigable waterways would be obtained from USACE and the State for construction of the diffuser and brine diffuser pipeline and for brine diffuser discharge (section 3.6.2).</p>
<p>Comment D0077-27 (EPA Region 6) <i>Section 2.2.3: The FEIS should identify a preferred alternative without relegating avoidance, minimization and mitigation of wetlands to a later decision via the Section 404 process.</i></p>	<p>Response 3.7.3.1-2</p> <p>In the final EIS, DOE has designated the Richton alternative with three expansion sites as the preferred alternative. As stated in section 3.7.2.1.3; appendix B, section B.4; and appendix E, section E.5, and appendix O of the EIS, DOE has included a detailed discussion of avoidance and minimization measures and a conceptual plan for compensation to waters of the United States, including wetlands. In sections 3.7 and B.7 of the EIS, DOE describes how additional avoidance and minimization measures would continue as design proceeds for the selected alternative, which DOE will announce in the Record of Decision. For example, DOE would evaluate the practicability of directional drilling under wetlands and stream crossings greater than 100 feet (30 meters) (see section 2.3.8). Site-specific analysis of each possible crossing would be part of the design and permitting for the selected alternative.</p>

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[See comment D0077-27 text above]	A discussion of avoidance, is covered in minimization, and compensation for impacts to wetlands, in response 3.7.2.1-3.
<p>Comment D0077-29 (EPA Region 6) <i>Appendix B.4: The DEIS states that DOE would prepare a compensation plan and submit it with the application (404 permit). EPA recommends that a preference be made by DOE to look first for restoration opportunities where possible. Restoration of wetlands such as reforestation of prior converted cropland along with restoration of hydrology would more likely result in successful mitigation and would help meet the Administration's "No-Net-Loss" Policy.</i></p>	<p>Response 3.7.3.1-3 DOE is interested in pursuing wetlands restoration opportunities for wetlands compensation. If EPA or other agencies have ideas or knowledge about specific restoration opportunities within the watershed of the selected alternative, DOE would appreciate such information. DOE will also seek information on specific restoration opportunities from USACE, USFWS, state agencies, and NOAA Fisheries.</p>
<p>Comment D0077-30 (EPA Region 6) <i>Section 3.7.2.1.1: Page 186, paragraph 4, states that "only wetlands regulated under Section 404 and 401 of the Clean Water Act would be delineated." NEPA has a broader reach than Section 404 of the Clean Water, accordingly, EPA recommends that DOE more fully and accurately account for project impacts to the environment by delineating all wetlands and potential impacts that may occur as a result of the project. All impacts to aquatic resources should be identified and mitigated for regardless of jurisdictional status. DOE should submit maps showing the extent of all wetlands and differentiate those areas it perceives as jurisdictional and non-jurisdictional for final assessment under Section 404 and 401. Wetlands found to be jurisdictional and impacted directly or indirectly by the project would be evaluated according to Section 404 and 401 of the Clean Water Act. Wetlands identified and confirmed to be nonjurisdictional (isolated) should be mitigated for to fully offset project impacts and to comply with the Administration's "No-Net-Loss" and the President's 2004 Earth</i></p>	<p>Response 3.7.3.1-4 DOE acknowledges that wetlands delineations and jurisdictional determinations for each alternative have not been completed for the NEPA process. If DOE selects an alternative other than the no-action alternative, delineations would be completed after the ROD is issued. DOE used National Wetland Inventory data and spot checks in the field to identify wetlands for this EIS, and specifically its wetlands assessment, and described the effects on all mapped wetlands regardless of whether they are jurisdictional. Field-based delineations for all alternatives for the NEPA process are not practicable considering the distances covered by the alternatives (including, for example, the complexity of securing right of access).</p> <p>Consistent with Executive Order 11990, the Administration's "No-Net-Loss," and the President's "Net Gain" goals for the Nation's wetlands, DOE has included measures to avoid and minimize effects on nonjurisdictional and jurisdictional wetlands. Section B.7 of the EIS</p>

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<i>Day Goal of a "Net-Gain" of the Nations Wetlands.</i>	discusses in more detail the avoidance, minimization, and mitigation measures that would be used to reduce, avoid, and compensate for the impacts to wetlands. Appendix O of the EIS describes a conceptual compensation plan for impacts to wetlands. DOE will continue with this strategy as it proceeds with design and permitting for the selected alternative. See also response 3.7.2.1-3.
Comment D0077-31 (EPA Region 6) <i>Section 3.7.2.1.1: Page 186, last paragraph, states that "The USACE and state agency would review and approve the compensation plan through the Section 404/401 permit process". Section 404 affords both Federal and state resource agencies the opportunity to review and comment on any and all proposed compensatory mitigation plans prior to final approval. EPA recommends that the DEIS statement above be revised to read "Federal and state resource agencies would have the opportunity to review and comment on the proposed mitigation plan prior to final approval."</i>	Response 3.7.3.1-5 DOE has revised the statement in the final EIS as suggested.
Comment D0077-32 (EPA Region 6) <i>Section 4.2.7: Beyond compliance with NEPA and CWA Section 404, there is also a fundamental need to ensure that the proposed project is not inconsistent with Federal and state efforts to restore coastal Louisiana. The Federal and state interest in stemming the rapid loss of Louisiana's coastal wetlands and barrier islands has lead to a range of ongoing and proposed coastal restoration projects and programs. These include projects developed under the Coastal Wetlands, Planning, Protection and Restoration Act, as well as the proposed Louisiana Coastal Area Ecosystem Restoration Plan, which is currently being considered by Congress for possible authorization within the</i>	Response 3.7.3.1-6 DOE considered coastal restoration and hurricane protection projects in the assessment of cumulative impacts to wetlands resources in sections 4.2.2 and 4.2.6 of the EIS. In addition, DOE coordinated with the USACE and many state agencies prior to issuance of the EIS. DOE did not identify a conflict between its proposed actions in Louisiana and the goals or projects developed by these coastal restoration and hurricane protection projects. With regard to Louisiana, development of the proposed site at Chacahoula would have significant impact to Louisiana's coastal

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<p><i>Water Resources Development Act. Most recently, the Corps of Engineers and state of Louisiana have embarked on an ambitious effort to produce a plan that would increase hurricane protection in coastal Louisiana through structural measures such as levees and non-structural measures such as coastal restoration and protection.</i></p> <p><i>The aforementioned Federal investments in coastal restoration are motivated in part by the recognition that past and ongoing loss of Louisiana's coastal wetlands and barrier islands puts vital energy infrastructure at increasing risk from storm damage. In this way, coastal restoration efforts can be considered part of an overall strategy to provide secure and reliable energy for the nation's economy. Rigorous efforts to avoid and minimize adverse wetland impacts from the proposed project will help ensure that it is not in conflict with the Federal interest in these coastal restoration efforts, including the shared goal of energy security. Moreover, the project sponsor should also ensure that there is no conflict with any specific coastal restoration projects that may be in the vicinity of the various alternatives under consideration.</i></p>	<p>wetlands. DOE would avoid and minimize potential impacts to these wetlands by minimizing the proposed storage site's footprint and co-locating the proposed pipeline along existing utility ROWs to the maximum extent possible. Wetlands impacts and avoidance and minimization steps proposed for the Chacahoula site are discussed in appendices B and O of the EIS.</p> <p>If one of the Chacahoula alternatives is selected, DOE would continue consultation with EPA, USACE, USFWS, and state and local agencies to avoid or minimize impacts to these projects and important wetlands and coastal resources.</p>
<p>Comment D0078-9 (DOI)</p> <p><i>Compensatory Mitigation Recommendations:</i></p> <p><i>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.</i></p> <p><i>Pipeline construction activities through emergent marsh habitats will</i></p>	<p>Response 3.7.3.1-7</p> <p>DOE looks forward to further coordination during the permit process and to receiving recommendations on the compensation plan for impacts to wetlands and waters of the United States. DOE has stated its intent to conduct pipeline corridor monitoring after construction is complete as stated in section 3.7.2.2.3. DOE would follow all monitoring conditions that are established in the Section 404/401 permitting process and in consultation with natural resource agencies. DOE acknowledges in the EIS that compensatory mitigation ratios for impacts to jurisdictional waters (including wetlands) would consider the functions and value of the impacted wetlands if required by the Section</p>

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<p><i>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.</i></p> <p><i>Comment D0115-5 (Audubon Society, Houston)</i></p> <p><i>We believe that several issues relevant to our mission are outstanding in this DEIS including a mitigation plan that compensates for the loss of coastal habitats and forested areas. We urge the DOE to work with the FWS to ensure that adequate mitigation is provided.</i></p>	<p>404/401 permitting process (as stated in section 3.7.2.1.3).</p>
<p>Comment D0078-13 (DOI)</p> <p><i>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.</i></p> <p><i>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</i></p>	<p>Response 3.7.3.1-8</p> <p>DOE proposes in the EIS to use horizontal directional drilling at all major stream and river crossings, wetlands crossings greater than 100 feet (30 meters), and across beaches where practicable as described in section 3.7.2.1.2 and section 2.3.9. DOE will work with USACE, USFWS, and other appropriate resource agencies to develop a wetlands compensatory mitigation plan during Section 404/401 permitting for the selected alternative.</p>

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<p><i>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.</i></p>	<p>[See response 3.7.3.1-8 above]</p>
<p>Comment D0080-1 (Louisiana Department of Environmental Quality)</p> <p><i>According to the DEIS, for all filling and permanent conversion of wetlands the Department of Energy would complete a wetland delineation, secure a jurisdictional determination, and secure Clean Water Act Section 404/401 permits from the U.S. Army Corps of Engineers (USACE). LDWF requests that a USACE jurisdictional wetland determination be conducted at each alternative SPR site in order to verify/quantify the wetland impacts associated with each site.</i></p> <p><i>LDWF is concerned about the direct impact of the proposed SPR expansion on wetlands and inshore and offshore fishery resources of Louisiana. If need can be established, actions must be taken to avoid and/or minimize adverse impacts to fish and wildlife resources. Those actions and other measures designed to fully compensate for unavoidable wetland impacts must be addressed in a mitigation plan and approved by USACE, LDWF, and other interested natural resource agencies.</i></p> <p><i>To minimize impacts to wetlands, LDWF recommends that horizontal directional drilling be used at all perennial stream crossings (to include adjacent riparian wetlands) and at coastline interfaces. Also, construction right-of-ways through wetlands need to be minimized as much as practicable.</i></p>	<p>Response 3.7.3.1-9</p> <p>DOE acknowledges that it has not completed wetlands delineations and jurisdictional determinations for each alternative for the NEPA process, but would complete delineations after selecting an alternative, if an alternative other than the no-action alternative is selected. As explained in section 3.7.2.1.1 and section 3.7.2.1.3 of the EIS, DOE used a consistent approach to identify effects on both jurisdictional wetlands and nonjurisdictional wetlands. DOE used National Wetland Inventory data and spot checks in the field to identify wetlands for this EIS and described the impacts to all mapped wetlands regardless of whether they are jurisdictional. Field-based delineations for all alternatives for the NEPA process are not practicable considering the distances covered by the alternatives and the complexity of securing right of access.</p> <p>DOE acknowledges the concern the Louisiana Department of Environmental Quality has about effects on wetlands and inshore and offshore fisheries of Louisiana, and DOE commits to avoiding adverse impacts and protecting these resources to the extent practicable. DOE looks forward to working with the LA Department of Wildlife and Fisheries to develop a compensation plan for impacts to wetlands, waters of the United States, and EFH.</p> <p>As stated in appendix B, section B.7.4 of the EIS, DOE intends to use</p>

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[See comment D0080-1 text above]	directional drilling under larger stream and wetlands crossings and sensitive coastline interfaces where practical and feasible. DOE also identifies measures to avoid and minimize wetlands impacts along the proposed ROWs by using existing corridors as much as possible, restoring the pre-existing contours, reestablishing the native plant community, and monitoring the postconstruction conditions. DOE will continue with these strategies as the design and permitting proceed for the selected alternative.
<p>Comment D0081-11 (NPS, Gulf Islands National Seashore)</p> <p><i>The DEIS states in numerous places that analysis of impacts to certain biological resources would not be covered in the DEIS because additional assessments are required under Sections 401 and 404 of the Clean Water Act and several Executive Orders. A statement from DOE that it plans to obtain the necessary permits is not adequate to stipulate that sufficient analysis has been conducted. In order to evaluate this proposal fully, detailed information pertaining to these resources must be made available. Until these additional assessments are completed, a full evaluation of the DEIS is not possible.</i></p>	<p>Response 3.7.3.1-10</p> <p>The EIS assessed and disclosed the potential effects on biological resources. DOE acknowledges that the EIS stated that additional analysis of the avoidance and minimization of impacts to resources would occur during the Section 404/401 permitting process for the selected alternative because site-specific and design information would be available at that stage that is not currently available.</p> <p>The EIS provided a comprehensive analysis of the effects on biological resources based on conceptual plans. For example, the EIS analyzed a conservative footprint or limits of construction for the site storage area, ROW, RWI, and tank farms. As engineering design proceeds for the selected alternative, DOE will develop more detailed information such as proposed fill dimensions, elevations of roadways and well pads, site-specific feasibility analysis of directional drilling, and culvert size and type. This more detailed information would allow further analysis of avoidance and minimization measures. This multistage process of analyzing avoidance and minimization is typical of most projects that transition from the proposal stage to permitting and implementation because the more detailed design information needed for these analyses is available only at later project stages. See response 3.7.2.1-3.</p>

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3.7.3.1 General Impacts	
<p>Comment D0106-1 (USFWS) <i>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.</i></p>	<p>Response 3.7.3.1-11 Consistent with Executive Order 11990, the Administration’s “No-Net-Loss” and the President’s “Net Gain” goals for the Nation’s wetlands, DOE has included measures to avoid and minimize effects on nonjurisdictional and jurisdictional wetlands. Section B.7 of the EIS discusses in more detail the avoidance, minimization, and mitigation measures that would be used to reduce, avoid, and compensate for the impacts to wetlands. Appendix O of the EIS describes a conceptual compensation plan for impacts to wetlands. DOE will continue with the avoidance and minimization strategy as the design and permitting proceed for the selected alternative. DOE looks forward to input from the resource agencies as the detailed compensation plan is developed.</p>
<p>Comment D0106-8 (USFWS) <i>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.</i></p>	<p>Response 3.7.3.1-12 Table 2.8-3 summarizes wetlands affected by each alternative. As described in section 2.3.9, no wetlands would be filled within a pipeline ROW. All wetlands within the permanent easement would be converted to as emergent or open water wetlands. Permanent conversion includes clearing forested and scrub-shrub wetlands, which would be permanently converted to emergent wetlands. Emergent wetlands would be allowed to re-establish, but periodic clearing and maintenance would be performed to prevent trees and shrubs from growing.</p> <p>Wetlands within the temporary construction easement would be restored or converted to emergent or open water wetlands in accordance with Section 404/401 permit requirements. Temporary conversion includes clearing forested and scrub-shrub wetlands, which would be converted to emergent wetlands. Emergent wetlands would be allowed to re-establish and DOE would restore original contours, replace the</p>

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[See comment D0106-8 text above]	<p>original hydric topsoil back in the disturbed area (where practical) and seed with native species. Re-establishment of scrub-shrub or forested wetlands may take 5 - 25 years depending on the type of wetland affected.</p> <p>DOE discusses pipeline construction techniques within wetlands in section 3.7.2.1.2. Section 3.7 of the EIS discusses the amount of forested wetlands in the proposed ROWs. A full discussion of effects on wetlands for each proposed site is presented in appendix B of the EIS, which also provides details about effects on different types of wetlands including the amount of permanent and temporary conversion within the ROW. See tables B.6.1-2, B.6.1-3, B.6.2-2., B.6.2-3, B.6.3-1, B.6.4-3, B.6.5-2, B.6.6-1, and B.6.7-1.</p>
<p>Comment D0106-16 (USFWS)</p> <p><i>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.</i></p>	<p>Response 3.7.3.1-13</p> <p>DOE would consider compensating for wetlands impacts at sites adjacent to existing special status areas such as National Wildlife Refuges and Wildlife Management Areas or existing wetlands and coastal restoration projects. DOE welcomes specific recommendations about opportunities and sites that are available for wetlands compensation that fit into broader natural resource preservation and restoration plans.</p>
<p>Comment D0106-23 (USFWS)</p> <p><i>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</i></p>	<p>Response 3.7.3.1-14</p> <p>As noted in the EIS, mitigation plans for wetlands losses will be reviewed by USACE, USFWS, NOAA Fisheries, EPA, and the appropriate state agencies (see section 3.7.2.1.3), and DOE will</p>

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<p><i>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.</i></p>	<p>incorporate their recommendations where feasible.</p>
<p>Comment D0005-1 (Louisiana Department of Environmental Quality)</p> <p><i>The Office of Environmental Services recommends that you investigate the following requirements that may influence your proposed project :</i></p> <ol style="list-style-type: none"> <i>1. If your project results in a discharge to waters of the state, submittal of a Louisiana Pollutant Discharge Elimination System (LPDES) application may be necessary.</i> <i>2. If the project results in a discharge of wastewater to an existing wastewater treatment system, that wastewater treatment system may need to modify their LPDES permit before accepting the additional wastewater.</i> <i>3. LDEQ has storm water general permits for construction areas equal to or greater than one acre. It is recommended that you contact Aaron Cox at (225) 219- 3092 to determine if your proposed improvements require one of these permits.</i> <i>4. All precautions should be observed to control nonpoint source pollution from construction activities.</i> 	<p>Response 3.7.3.1-15</p> <p>DOE has consulted with the USACE. Federal requirements for permits from the USACE are addressed in table L-1 of appendix L under Biological Resources (Federal) and in section 3.7 and appendix B of the EIS. The EIS also identified that a Section 401 Water Quality Certification would be required from the appropriate state agency (section 3.7.2.1.1). In the case of a Louisiana site, that agency would be the Louisiana Department of Environmental Quality.</p>

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<p>Comment D0013-6 (Gulf Restoration Network)</p> <p><i>Development of the Chacahoula site would require the clearing of 239 acres of cypress-tupelo swamp, and removal of trees from an additional 90 acres. The DEIS notes that the site falls within a large continuous patch of cypress-tupelo wetlands in the area and also indicates that there is an abundance of this habitat in the region (DEIS, p 3-220). The DEIS ignores environmental realities as reflected by the conclusions of a Science Working Group (SWG) empanelled by Governor Blanco (LA).</i></p> <p><i>It is true that cypress-tupelo swamps were once abundant in coastal Louisiana. These forests were extensively clear-cut early in the last century and extensive parts of Louisiana's Maurepas Basin and other parts of the Deltaic plain where such clear-cutting occurred have witnessed no significant regeneration of cypress trees. In fact, some scientists doubt that cypress swamps can regenerate in the face of rising water levels and the continuing deterioration of wetlands being experienced in coastal Louisiana. Successful sprouting of seeds can take place only during prolonged drought conditions when deep swamps have exposed unsaturated soils, conditions which are not likely today in coastal Louisiana.</i></p> <p><i>The Governors' SWG scientists have identified three "condition classes" for the coastal wetland forests:</i></p> <p><i>Class I: Sites with Potential for Natural Regeneration;</i></p> <p><i>Class II: Sites with the Potential for Artificial Regeneration Only (through use of aggressive reforestation techniques); and</i></p> <p><i>Class III: Sites with No Potential for either Natural or Artificial</i></p>	<p>Response 3.7.3.2-1</p> <p>In section 3.7.4.1.1, section 3.7.4.1.2, and appendix B of the EIS, DOE recognizes the importance of forested wetlands habitat at the proposed Chacahoula site and along ROWs. Where wetlands impacts cannot be avoided, DOE would conduct the required wetlands delineations, secure jurisdictional determinations, and then complete and submit the appropriate permit application to USACE, the appropriate state agency responsible for the Section 401 process and appropriate state and Federal resource agencies. Unavoidable wetlands impacts would be compensated for by creating, restoring, or preserving wetlands, paying an in-lieu-of fee, or buying credits from an approved mitigation bank. In the final EIS, DOE has expanded on the conceptual compensation plan by adding appendix O, which describes possible mitigation for Chacahoula and the other candidate sites.</p> <p>DOE recognizes the uniqueness and importance of the cypress swamp at the Chacahoula site and the complexity of compensating for effects on cypress swamp impacts. The draft EIS stated that a functional assessment (and similar classification or categorization such as that developed by the Governor's Science Working Group) would be completed during the Section 404/401 permit process to determine appropriate mitigation for the selected alternative. If one of the Chacahoula alternatives is selected in the ROD, DOE would work with appropriate state and Federal agencies to develop a mitigation plan that compensates for the functions and values of the wetlands that are affected.</p>

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<p><i>Regeneration</i></p> <p><i>Within the final EIS the DOE must determine the class of Cypress/Tupelo wetlands located on the Chacahoula site. If, as suspected, the Chacahoula site consists of Class III cypress/tupelo swamps. The wetland impacts associated with development of this site will not be mitigable in-kind or in region. If it is found that the forests on the site are a Class II wetlands, the DOE must include within any mitigation plan, an acknowledgement that mitigation will be in-kind requiring aggressive reforestation, to ensure replacement of this dwindling natural resource.</i></p>	<p>[See response 3.7.3.2-1 above]</p>
<p>Comment D0074-1 (U.S. Army Corp of Engineers)</p> <p><i>Based on our June 29th, 2006, meeting, I offer the following points for consideration in the FEIS:</i></p> <p><i>1. Clarify why the proposed new facility at Clovelly is not technically practicable. There is existing infrastructure, proximity to LOOP and appears compatible with petroleum support function and development trends in the Port Fourchon area. This alternative appears to be one of less environmentally damaging options.</i></p>	<p>Response 3.7.3.2-2</p> <p>See response to 2.2-1 for a discussion of why a new SPR facility at Clovelly is infeasible and therefore not reasonable.</p>
<p>Comment D0077-28 (EPA Region 6)</p> <p><i>The DEIS identifies the Clovelly site as least environmentally damaging to wetlands. Section 404 of the Clean Water Act requires the least damaging practicable alternative be selected. It appears from the information provided by DOE that the proposed Clovelly site plus the expansion of the 3 existing facilities (Bayou Choctaw, Big Hill and West Hackberry) should be selected as the preferred alternative.</i></p>	<p>Response 3.7.3.2-3</p> <p>DOE has determined that the Clovelly and Clovelly-Bruinsburg alternatives are infeasible and therefore not reasonable. See response 2.2-1 for a description of why DOE reached this conclusion.</p>

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<p>Comment D0078-3 (DOI)</p> <p><i>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.</i></p> <p><i>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.</i></p> <p><i>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</i></p>	<p>Response 3.7.3.2-4</p> <p>The EIS states in appendix B that DOE would undertake mitigation measures for effects on wetlands (including bottomland forests) and waters of the United States. The EIS identifies the effects on wetlands from the permanent maintained easement and the temporary construction easement (from forested/scrub shrub wetlands to emergent wetlands, then a return to forested scrub shrub wetlands within 5-25 years) within the ROW (see response 3.7.3.1-12). The EIS states in appendix B that compensation would be required for permanent conversion of forested wetlands within the ROW and for temporary effects on forested wetlands within the construction easement where required by the Section 404/401 permit. DOE stated that the mitigation ratio would be determined based on the wetlands functions and values that were affected by the selected alternative. DOE welcomes input on the wetlands compensation plan, and intends to develop a detailed plan for the selected alternative. DOE will continue to consult with the USFWS to mitigate impacts to fish and wildlife resources, including managed lands.</p> <p>See response 3.7.2.2-1.</p>

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<p><i>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.</i></p> <p><i>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.</i></p> <p><i>Comment D0115-2 (Audubon Society, Houston)</i></p> <p><i>We are particularly concerned with the potential impacts to bird and wildlife habitat and the lack of adequate compensation for the losses that may occur at each Texas site location. Impacts to the Columbia Bottomlands are highly undesirable because of the Neartic- Neotropical birds that migrate through these properties. We agree with the concerns of the FWS that adequate mitigation may not have been offered to</i></p>	<p>[See response 3.7.3.2-4 above]</p>

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<i>compensate for these losses.</i>	[See response 3.7.3.2-4 above]
<p>Comment D0079-5 (Dow Chemical Company) <i>The Draft EIS notes that developing the Stratton Ridge, TX site would require the most filled wetlands acres at 227, with the next largest potential expansion site only requiring 150 acres of filled wetlands. Again, this is something that can be managed, but Dow urges DOE not to under-estimate the advantage to the environment of making a choice that does not maximize the amount of wetlands that would need to be filled.</i></p> <p><i>The Draft EIS notes that developing the Stratton Ridge, TX site would involve filling and converting some 258 acres of relatively rare and ecologically important bottom hardwood forest. While, as the Draft EIS notes, some of this has been invaded by exotic plants and animals, this is still "relatively rare and ecologically important." Again Dow urges DOE not to under-estimate the advantages of not having government action fill and complete the conversion of this "relative rare and ecologically important" bottom hardwood forest.</i></p>	<p>Response 3.7.3.2-5 See response 3.7.3.2-4.</p>
<p>Comment D0101-2 (David Kohler, Dominion Natural Gas Storage) <i>And that's the reason why we wanted to come here and have our comments heard, because in the Draft EIS there's a comment in there that really was misdirected, and I want to read it to you. It's on Page S, Paragraph 2 of the Draft Order, and it says, "The Chacahoula alternative, including the Chacahoula storage site and two of the three SPR expansion sites, Bayou Choctaw and West Hackberry, would affect the most acres of wetland of any alternative in the combination with other projects in the same ecosystem. The Clovelly alternative would have the smallest effect the combination with the other projects. Louisiana has lost substantial amounts of wetlands associated with</i></p>	<p>Response 3.7.3.2-6 The analysis presented in the EIS (section 3.7.9) indicates that expansion of the West Hackberry site may affect approximately 5 acres (2 hectares) of palustrine scrub-shrub wetlands. These wetlands are contained within the proposed security buffer and new access road. The proposed security buffer and access road are away from the existing storage caverns and outside of the commenter's property.</p> <p>DOE appreciates the efforts by Dominion on this issue. If DOE selects the Chacahoula alternative with the expansion of West Hackberry, DOE would complete a wetlands delineation and secure a jurisdictional</p>

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<p><i>agricultural activities, land development, natural land subsidence, erosive forces over the many decades."</i></p> <p><i>Well, our facility happens to sit juxtaposed to the SPR facility. We share a fence line with them. It's 18 feet above sea level, and when Hurricane Rita came through we didn't even have any water in the wells, so we found it kind of difficult to think that there may be a wetland issue, so we actually invited the Corps of Engineers to come out with us. We actually met them today down at the facility just to have a walk-through, because they're the ones that made the comment.</i></p> <p><i>And I think the reason why the comment was probably made was misconstrued, because we do own some other property that does go out into Black Lake, and I think they misconstrued that the development would go into Black Lake. The three caverns sit up 18 feet above sea level.</i></p> <p><i>We had them come out, and they said if the DOE pursues the plan that they have outlined in their depiction, said that there would be no need for a wetlands permit and there's no issue. So we wanted to make sure that was made very clear.</i></p>	<p>determination from USACE.</p> <p>Also, as described in section 2.2.3, the Chacahoula alternatives consist of constructing the 160-MMB Chacahoula storage site and either expanding Bayou Choctaw, Big Hill, and West Hackberry existing storage sites for a total of 275 MMB, or expanding the Big Hill and Bayou Choctaw facilities for a total 276 MMB of storage. Most of the effects on wetlands in the Chacahoula alternative, including the expansion of West Hackberry, are associated with the proposed new storage site at Chacahoula and the associated infrastructure as described in section 3.7.4.1.</p>
<p>Comment D0106-32 (USFWS)</p> <p><i>If the (Bruinsburg) plan is selected as the preferred alternative, the Service recommends the following measures be considered for inclusion in the plan: [...]</i></p> <p><i>5) placing the proposed Jackson tank farm in upland areas to avoid wetland losses. Finally, the DOE should fulfill their obligations under</i></p>	<p>Response 3.7.3.2-7</p> <p>The Clovelly-Bruinsburg alternatives have been determined to be infeasible and therefore not reasonable (see response 2.2-1), and for this reason is not considered further in the final EIS. Thus, the Jackson tank farm is not part of any reasonable alternative.</p>

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<i>NEPA and the Fish and Wildlife Coordination Act regarding mitigation of fish and wildlife habitat including jurisdictional wetlands as well as non jurisdictional wetlands.</i>	[See response 3.7.3.2-7 above]
<p>Comment D0106-11 (USFWS) <i>Page 2-83, Table 2.8-1: Comparison of Impacts for Alternatives with Three Expansion Sites and No-Action Alternative.</i></p> <p><i>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.</i></p>	<p>Response 3.7.3.2-8 See responses 3.7.3.1-9 and 3.7.3.1-11.</p>
<p>Comment D0102-1 (Sybil Guidry, individual) <i>I'm a resident of Terrebonne Parish. I'd like to voice my concerns regarding the destruction of wetlands in Chacahoula, the Department of Energy and disappointingly on the recommendation of the State of Louisiana.</i></p>	<p>Response 3.7.3.2-9 Comment noted.</p>
<p>Comment D0113-1 (Sierra Club, Houston Regional Group) <i>1) The HSC is appalled that the DOE has no wetlands delineation to document the potential damage. The wetlands delineation for the Stratton Ridge site is needed to create an adequate mitigation plan. This DEJS should be withdrawn or supplemented with a new public comment period when the DOE conducts a wetlands delineation and the Corps of Engineers verifies its accuracy. The public and decision-</i></p>	<p>Response 3.7.3.2-10 DOE acknowledges that it has not completed wetlands delineations and jurisdictional determinations for each alternative, but would complete delineations after selecting an alternative, if any alternative other than the no-action alternative is selected. DOE used National Wetland Inventory data and spot checks in the field to identify wetlands for this EIS and wetlands assessment, and described the effects on all mapped</p>

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<p><i>makers need the wetlands delineation in the DEIS to review, comment on, and understand the full environmental impacts of the SPRE.</i></p> <p><i>2) The HSC requests that a 30:1 compensation ratio (in acres) be assigned to any Columbia Bottomlands that are destroyed or damaged by the proposed SPRE. This means that the reported 258 acre loss of Columbia Bottomlands would be mitigated with compensation that results in land acquisition, protection, and management of 2,580 acres of Columbia Bottomlands forested wetlands. The HSC recommends that an amount of money that will buy 2,580 acres of Columbia Bottomlands forested wetlands be earmarked and given to the U.S. Fish & Wildlife Service for the acquisition of this compensation land.</i></p> <p><i>An EIS is not complete unless it contains "a reasonably complete discussion of possible mitigation measures." Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 352. 109 S.Ct. 1835, 104 L.Ed.2d 351 (1989). (" ..omission of a reasonably complete discussion of possible mitigation measures would undermine the "action-forcing" function of NEPA. Without such a discussion, neither the agency nor other interested groups and individuals can properly evaluate the severity of the adverse effects.") That requirement is implicit in NEPA's demand that an EIS must discuss " 'any adverse environmental effects which cannot be avoided should the proposal be implemented.' " /d. at 351-52, 109 S.Ct. 1835 (quoting NEPA, 42 U.S.C. § 4332(C)(ii)); see also 40 C.F.R. § 1502.16(h) (stating that an EIS must contain "[m]eans to mitigate adverse environmental impacts").</i></p> <p><i>A "mitigated FONSI" is upheld when the mitigation measures significantly compensate for a proposed action's adverse environmental</i></p>	<p>wetlands regardless of whether they are jurisdictional. Field-based delineations for all alternatives for the NEPA process are not practicable considering the distances covered by the alternatives, and the complexity of securing right of access. When DOE was planning field studies, the selected type of field studies were based on a congressionally mandated project schedule.</p> <p>DOE would coordinate with state and Federal resource and permitting agencies when it develops the detailed wetlands compensation plan after an alternative has been selected. DOE would consider an in-lieu-of fee for wetlands impacts if those agencies and DOE determine it is appropriate compensation.</p> <p>See also response 3.7.3.1-7.</p>

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<p><i>impacts. Friends of Endangered Species, Inc. v. Jantzen. 760 F.2d 976, 987 (9th Cir. 1985); Greenpeace Action, 14 F.3d at 1332-33. See also City of Auburn, 154 F.3d at 1033 (agency may condition its decision not to prepare a full EIS on adoption of mitigation measures). However, although mitigation measures need not completely compensate for adverse environmental impacts, Friends of the Payatte v. Horseshoe Bend Hydroelectric Co., 988 F.2d 989, 993 (9th Cir.1993), the agency must analyze mitigation measures in detail and explain how effective the measures would be. Northwest Indian Cemetery Protective Ass'n v. Peterson, 795 F.2d 688, 697 (9th Cir.1986), rev'd on other grounds, Lyng v. Northwest Indian Cemetery Protective Ass'n, 485 U.S. 439, 108 S.Ct 131 9, 99 L.Ed.2d 534 (1988). "A mere listing of mitigation measures is insufficient to qualify as the reasoned discussion required by NEPA." Id. Instead, mitigation measures should be supported by analytical data, Idaho Spotting Congress v. Thomas, 137 F.3d 1146, 11 51 (9th Cir.1998), even if that data is not based on the best scientific methodology available. Greenpeace Action. 14 F.3d at 1333. The general invocation of a term like "Best Management Practices" does not satisfy the NEPA requirement that the analysis discuss measures to mitigate the proposed action's adverse environmental impacts. Northwest Indian Cemetery Protective Ass'n v. Peterson. 565 F.Supp. 586(D.C.Cal., 1983)</i></p> <p><i>In other words, the applicable regulations require that a DEIS discuss means to mitigate adverse environmental impacts of the proposed action. Those mitigation measures must be analyzed in detail and must explain, in detail, how effective they will be in mitigating any adverse environmental impacts. Without analytical data to support the proposed mitigation measures they amount to nothing more than a "mere listing" of good management practices. A mere listing of mitigation measures is</i></p>	<p>[See response 3.7.3.2-10 above]</p>

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<p><i>insufficient to qualify as the reasoned discussion required by NEPA. Simply pointing out, for instance, that BMPs will be followed is not an adequate discussion of means to mitigate adverse environmental impacts</i></p> <p><i>The DEIS does not analyze any mitigation measures in detail or explain how effective these measures would be. This could hardly qualify as a detailed analysis.</i></p> <p><i>The DEIS does not adequately analyze mitigation measures in detail and lacks an explanation of how these measures would be effective for this particular project. The mitigation measures are not supported by any site-specific analytical data. Therefore the DEIS violates NEPA. Without this analysis and a showing that the mitigation measures will be effective at averting significant environmental effects the DEIS is deficient.</i></p>	<p>[See response 3.7.3.2-10 above]</p>
<p>Comment D0116-1 (Texas Parks and Wildlife Department)</p> <p><i>All wetland impacts at the Stratton Ridge site should be mitigated within the Austin's Woods (Columbia Bottomlands) region of Southeastern Texas. The Austin's Woods, the southern most extensive forest in Texas, is recognized as being a nationally important stopover and resting area for spring and fall neo-tropical migrant song birds. It is estimated that approximately 29,000,000 migrant land birds of 65-70 species migrate through these bottomlands. Impacts to these forested wetland impacts should be compensated at a 7:1 wetland preservation ratio. Opportunities exist for forested wetland preservation through the San Bernard National Wildlife Refuge. All forested wetlands cleared and maintained for permanent pipeline right-of-way are permanent</i></p>	<p>Response 3.7.3.2-11</p> <p>In section 3.7.6 of the EIS, DOE acknowledges that the Stratton Ridge alternatives could have effects on Brazoria National Wildlife Refuge. Appendix O of the EIS provides some information on possible compensation sites. Following DOE's selection of an alternative in the ROD, DOE will first delineate the wetlands that would be affected at any new and expansion sites, and then it will consult with all relevant resource agencies including Texas Parks and Wildlife Department, USFWS, and the NOAA Fisheries. In these consultations, DOE will take into account the Austin's Woods/Columbia Bottomlands regions of southeastern Texas as a compensation area. DOE will apply appropriate best management practices to reduce effects caused by pre- and post-pipeline construction phases, and it also will consult with</p>

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<p><i>wetland losses and should be compensated as above.</i></p> <p><i>The major potential impact regarding the Big Hill site expansion arises from the need to replace the 24 mile long crude oil distribution pipeline between the Big Hill site and refineries in Nederland, Texas. Permanent wetland impacts from pipeline installation has been well documented (Polasek, 1997). Although the proposed pipeline will follow existing ROWS, there will likely be additional wetland impacts from installation. TPWD recommends proposed ROW and work corridors be minimized for all pipeline installation through wetlands and other sensitive habitat.</i></p> <p><i>All pipeline installation (for both the Stratton Ridge site and the Big Hill Site) corridor should be monitored utilizing the monitoring criteria developed by TPWD, US Fish and Wildlife Service and National Marine Fisheries Service (attached). The wetlands in the vicinity of the Big Hill site are especially vulnerable to permanent impacts from pipeline installation due to the high organic content and compressibility of the soils. Extreme care should be taken to minimize impacts to these wetlands.</i></p>	<p>resource agencies on monitoring protocols and conditions.</p> <p>DOE appreciates the Texas Parks and Wildlife Department recommendations concerning the wetland compensation strategy and ratio and a possible location for a wetland compensation site for the impacts to wetlands that would be caused by the Stratton Ridge site alternatives. DOE looks forward to continued coordination with Texas Parks and Wildlife Department and other resource agencies on the wetland compensation plan during the Section 404/401 permitting for the selected alternative. DOE also would coordinate with the permitting and resource agencies to determine appropriate compensation for the effects on wetlands resulting from the ROWs for the selected alternative.</p> <p>Section 3.7.10 and appendix B of the EIS describe the effects on wetlands, special status species and special status areas that would occur from the ROWs for the proposed Big Hill expansion. DOE described the proposed measures that would be used to avoid and minimize effects on wetlands and other sensitive habitat. After selecting an alternative in the ROD, DOE will continue to coordinate with TPWD and other resource agencies to further avoid and minimize impacts to biological resources. For example, see response 3.7.3.1-2. In addition, DOE has committed to monitoring the pipeline corridors after construction is completed using protocols that are established by the Section 404/401 permitting process (section 3.7.2.1.2). If the Stratton Ridge site or Big Hill expansion are part of the alternative selected in the ROD, DOE will continue to consult with the TPWD and other permitting and resource agencies to develop and implement the postconstruction monitoring program.</p>

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[See comment D0116-1 text above]	See responses 3.6.2.2-4, 3.7.2.1-3, and 3.7.3.2-12.

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<p>Comment D0078-2 (DOI) <i>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.</i></p>	<p>Response 3.7.4.1-1 As noted in section 3.7.1.2 of the EIS, after DOE has issued a ROD and selected an alternative for development, DOE will perform site- and species-specific habitat screenings and surveys for all the species that received a finding of "may affect" for the selected alternative. If any part of the selected alternative could adversely affect a listed species, DOE would complete a formal consultation with USFWS or NOAA Fisheries and prepare a Biological Assessment as mandated under Section 7 of the ESA (section 3.7.1.2). DOE looks forward to continued coordination with the USFWS and NOAA Fisheries to ensure no adverse effects occur to federally listed species.</p>
<p>Comment D0106-9 (USFWS) 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</p>	<p>Response 3.7.4.1-2 DOE amended these bullets in section 2.8.6 of the final EIS to include degradation of water quality.</p> <p>DOE acknowledges that withdrawal of water from the Leaf River may result in adverse impacts on water resources (see 3.6.5.1.2) and aquatic</p>

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<p><i>affect these species through degradation of water quality during low flow periods.</i></p>	<p>resources, such as endangered species (see 3.7.5.1.2). To reduce DOE's dependence on the Leaf River, DOE has added to the Richton alternatives a RWI structure on Singing River Island in Pascagoula, which would allow DOE to withdraw water from the Gulf of Mexico to reduce withdrawal from the Leaf River during low-flow conditions.</p> <p>If DOE selects one of the Richton alternatives, DOE would develop a Water Conservation Plan for water withdrawal during cavern creation, drawdown, and maintenance. During cavern creation, drawdown, or maintenance, withdrawal from the Leaf River would be used during normal and high-flow conditions. Under low-flow conditions in the Leaf River, the withdrawal would be supplemented by a secondary source, the Pascagoula RWI, which would withdraw water from the Gulf of Mexico.</p> <p>The Pascagoula RWI would be designed to handle about 0.5 MMBD of the total required volume, which is about 1.2 MMBD. During construction or maintenance, when flows in the Leaf River reach the Minimum Instream Flow that is designated by the regulatory agencies to protect special status species, withdrawal from the Leaf River would be reduced or terminated until the Minimum Instream Flow in the Leaf River is reached. During this period, DOE would withdraw water from the Gulf of Mexico.</p> <p>If necessary, DOE would consider possible supplemental sources during Section 7 Consultation with the regulatory agencies, including possible groundwater sources, withdrawals from other surface water bodies, and a possible onsite off-stream reservoir. 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 water withdrawal</p>

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[See comment D0106-9 text above]	<p>rate of 1.2 MMBD, from the Leaf River.</p> <p>Operation of the Pascagoula RWI may affect the Gulf sturgeon, which is a federally threatened species, because of impingement and entrainment of sturgeon and its prey (see section 3.7.5.2.3).</p> <p>To further mitigate the impacts of the RWI on the Leaf River, DOE has modified the conceptual design for the RWI on the Leaf River to reduce the potential for impingement and entrainment of aquatic organisms. The revised conceptual plan would use cylindrical screens located in the water column and oriented parallel to the river flow (see section 2.4.3 and figure 2.4.3-3). To minimize the likelihood of entrainment and impingement, this design takes advantage of the sweeping velocity of the river, whereby the velocity of the water flows parallel and adjacent to the RWI screen surface (Gowan et al. 1999). DOE would use a relatively low intake velocity of 0.5 feet per second and relatively small screen size of 0.5 inches to further reduce impingement and entrainment. DOE would refine the conceptual plan for the RWI and water withdrawal during the Section 7 Consultation with the USFWS, NOAA Fisheries, and the Mississippi Natural Heritage Program and coordination with the USACE and MDEQ for the Section 404/401 permit and the water withdrawal permit.</p>
<p>Comment D0078-10 (DOI)</p> <p><i>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</i></p>	<p>Response 3.7.4.1-3</p> <p>DOE has determined that both the Clovelly and the Clovelly-Bruinsburg alternatives are infeasible and therefore not reasonable. These alternatives have been eliminated from the final EIS as potential alternatives.</p> <p>See response 2.2-1.</p>

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<p><i>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.</i></p>	<p>[See response 3.7.4.1-3 above]</p>

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<p>Comment D0007-4 (Elizabeth Waldorf, individual) <i>Endangered species are protected by federal law. Sturgeon survive in the Pascagoula. Dramatically reducing its flow would put this remnant population of ancient fish at greater risk.</i></p>	<p>Response 3.7.4.2-1 In section 3.7.5.2.3 of the EIS, DOE concludes that withdrawal of water from the Leaf River may have an adverse effect on the Gulf sturgeon. See response 3.7.4.1-2.</p>
<p>Comment D0009-2 (June Havens, individual) <i>Also the devastating impact on endangered species is unacceptable. The loss of the Leaf River flow into the Pascagoula River could be detrimental to the only unfettered river bed in the area. And with the current drought situation any loss of water is crucial.</i> <i>Why would it even be considered since it would violate the Endangered Species Act?</i></p>	<p>Response 3.7.4.2-2 The EIS acknowledges that withdrawal of water from the Leaf River may have an adverse effect on endangered species and aquatic resources that depend on the Leaf River or Pascagoula drainage system (see section 3.7.5.2.3). See response 3.7.4.1-2.</p>

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<p>Comment D0011-3 (Nan Johnson, individual) <i>The U.S. Fish and Wildlife Service Mississippi field office has stated there are concerns over potential negative impacts to 17 threatened or endangered species and their habitats. Black bears, sturgeon, bald eagles and sea turtles, among others, could all be "adversely impacted by the proposed construction or operation of the oil storage facility."</i></p>	<p>Response 3.7.4.2-3 The Mississippi Field Office of USFWS provided a list during scoping of all federally protected species known to exist in the counties affected by the proposed action. DOE used this list to assess whether the proposed action may affect endangered or threatened species. DOE found that the proposed Richton site may have an adverse effect or may affect the Gulf sturgeon, pearl darter, yellow-blotched map turtle, black pine snake, and gopher tortoise (see section 3.7.5.2.3). If one of the Richton alternatives is selected in the ROD, DOE would complete a biological assessment if any part of the proposed action may adversely affect a listed species. DOE would initiate formal Section 7 Consultation with USFWS, complete a biological assessment, and implement any conditions of the biological opinion.</p> <p>See response 3.7.4.2-1.</p>
<p>Comment D0013-7 (Gulf Restoration Network) <i>The Richton, MS site:</i></p> <p><i>Selection of this site also poses a significant risk of environmental degradation and irreparable damage to endangered species. Predominantly these impacts are associated with water withdrawal associated with salt dome excavation. As currently planned, water will be withdrawn from the Leaf River (DEIS at p. 2-44). The DEIS authors admit that "the flow rate of the Leaf River is highly variable and there would be significant potential for withdrawing a significant fraction of the total river flow during drought periods" (DEIS at p. 2-70). In fact, during low flow, withdrawal from the Leaf River could constitute as much as 11% or more of total flow in the river. Such a withdrawal rate during low flow conditions, as aptly noted by the DEIS, could</i></p>	<p>Response 3.7.4.2-4 As stated in section 2.8.6 and section 3.7.5.2.3 in the EIS, withdrawal of water from the Leaf River for the Richton site may result in adverse effects to aquatic species and several endangered, threatened, or candidate species. See response 3.7.4.1-2.</p> <p>The EIS also acknowledges that site excavation and pipeline construction may affect the black pine snake and gopher tortoise (see section 2.8.6 and section 3.7.5.1.1).</p> <p>If one of the Richton alternatives is selected in the ROD, DOE would initiate formal Section 7 Consultation with the USFWS and NOAA Fisheries as required by the ESA for potential adverse effects to listed species. DOE would prepare a biological assessment and implement</p>

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<p><i>significantly impact downstream aquatic communities as the decrease in flow would lower water depth, reduce stream channel width, and change currents. The severity of the effect on species would depend on the length and frequency of low-flow rate in the Leaf River during the four to five years of cavern solution mining (DEIS at pp.3-253, 3-254). Water withdrawal could also potentially affect water quality as it would reduce capacity of river to assimilate waste from non-point and permitted dischargers (DEIS at p. 3-254). In addition, several pipeline Right of Ways (ROWs) will cross the lower Pascagoula drainage, potentially affecting habitat for resident endangered species.</i></p> <p><i>The area of the Leaf River that will be the site of this activity is designated habitat for several species listed as threatened or endangered under the Endangered Species Act or that are candidates for listing. For example, the pearl darter (a federal candidate species) has been documented throughout the Leaf River to the lower Pascagoula drainage. The black pine snake (another federal candidate species) and the gopher tortoise (a federally listed species) are found within close proximity of both the proposed storage site and all ROWs. In fact, the segment containing the RWI is designated as critical habitat for the federally threatened gulf sturgeon (DEIS, p. 3-247). Both the USFWS and Mississippi Natural Heritage Program have expressed serious concern about the effect that selection of the Richton site will have on water flow and the Gulf sturgeon, due to the importance of the Leaf River near Hattiesburg to spawning and juvenile sturgeon (DEIS at p 3-255).</i></p>	<p>any conditions of the biological opinion, as described in section 3.7.1.2. DOE would consult with the USFWS and Mississippi Natural Heritage Program for potential adverse effects to the pearl darter, a candidate species.]</p>
<p>Comment D0073-8 (NOAA Fisheries) <i>Also, Mississippi Sound is designated as critical habitat for the Gulf sturgeon under provisions of the Endangered Species Act.</i></p>	<p>Response 3.7.4.2-5 DOE acknowledges that the draft EIS did not identify that the proposed Richton brine discharge pipeline crosses through designated critical habitat for the Gulf sturgeon. The proposed discharge location is</p>

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<p>[See comment D0073-8 text above]</p>	<p>located deep enough in the Gulf that the increased salinity would not affect the designated critical habitat. To reduce DOE's dependence on the Leaf River, which can have variable flow and is critical habitat for the Gulf sturgeon, DOE modified the Richton alternatives from that presented in the draft EIS to include an additional surface water source from the Gulf of Mexico as a supplemental source during low-flow conditions in the Leaf River. Operation of the Pascagoula RWI may affect the Gulf sturgeon, which is a federally threatened species, because of impingement and entrainment of sturgeon and its prey (see section 3.7.5.2.3).</p> <p>If one of the Richton alternatives is selected by DOE in the ROD, DOE would initiate formal Section 7 Consultation with NOAA Fisheries and the USFWS and follow the required ESA steps to avoid adverse impacts to the Gulf sturgeon. DOE has revised the language in the final EIS to include the Mississippi Sound as designated critical habitat for the Gulf sturgeon.</p> <p>See response 3.7.4.2-4.</p>
<p>Comment D0074-5 (U.S. Army Corp of Engineers) <i>In addition, EFH and ESA issues will likely require consultation.</i></p>	<p>Response 3.7.4.2-6 As noted in the EIS, DOE will consult with USFWS, NOAA Fisheries, and other appropriate agencies regarding EFH and ESA issues (section 3.7.1.2). DOE looks forward to continued coordination on these issues.</p>
<p>Comment D0079-6 (DOW Chemical Company) <i>The Draft EIS notes that developing the Stratton Ridge, TX site would create the potential of adversely affecting the "foraging, roosting and nesting habitat for bald eagles." While the Draft EIS study didn't find any bald eagles in the corridor, the Draft EIS notes that bald eagles are both an endangered species and our national bird. Incidentally, there is</i></p>	<p>Response 3.7.4.2-7 As described in section 3.7.6.2.1 and appendix H, DOE identified a known bald eagle nest northwest of the proposed Stratton Ridge storage site through informal consultation with USFWS.</p> <p>If one of the Stratton Ridge alternatives is selected by DOE in the ROD,</p>

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<p><i>a bald eagle that nests on the north side of CR-226 on the Stratton Ridge salt dome. Dow urges DOE to correct the mistake in the Draft EIS and, in DOE's recalculation of the relative merits of each potential expansion site, not to under-estimate the impact of this expansion of the SPR adversely affecting this endangered species and national bird which is actually nesting near the Stratton Ridge site.</i></p>	<p>DOE would survey the site, ROWs, and RWI for bald eagle nests, including the area mentioned by Dow Chemical. If a nest is identified, DOE will consult with USFWS and Texas Parks and Wildlife Department, and it will follow the procedures required by the ESA.</p>
<p>Comment D0080-2 (Louisiana Department of Wildlife and Fisheries)</p> <p><i>Our records indicate the proposed project may potentially impact 9 bald eagle (Haliaeetus leucocephalus) nesting sites. This species is listed as threatened under the Endangered Species Act. No major activities should occur during the nesting period (October 1- May 15) within one mile of the nest tree. To protect the core nesting area, there should be no activity within a 1,500-foot radius of the nest tree at any time. All bald eagle nests (active, inactive or seemingly abandoned) should be protected. Within the core nesting area, no large tree should be removed.</i></p> <p><i>The proposed project may impact two ground-nesting birds of concern in Louisiana. The Louisiana Waterthrush (Seiurus motacilla) and Worm-eating Warbler (Helmitheros vermivorus) are known to nest in East and West Feliciana Parishes of Louisiana. Breeding habitat for these birds include wet forested areas along streams and creeks flowing through hilly terrain. We recommend a qualified biologist conduct a survey along the proposed right way if activity takes place during the breeding season. Results of the survey should be sent to the above address care of LNHP. The breeding season for these two species is generally mid-April through July.</i></p>	<p>Response 3.7.4.2-8</p> <p>DOE evaluated the potential impacts of the proposed Chacahoula site on federally listed species and found that the proposed alternative may affect the bald eagle and brown pelican (see section 2.8.6). If one of the Chacahoula alternatives is selected, DOE would initiate formal Section 7 Consultation with the USFWS, prepare a biological assessment, and implement any conditions of the biological opinion as described in section 3.7.4.2.1.</p> <p>DOE also evaluates whether the proposed action would affect species regulated by state endangered species laws in appendix I. DOE found no additional species under State protection that may be affected beyond the federally listed species in Louisiana. The Louisiana waterthrush, worm-eating warbler, long-tailed weasel, southern shield wood-fern, and rooted spike-rush are not protected under State laws and were not evaluated for the EIS. If one of the Chacahoula alternatives is selected in the ROD, DOE will coordinate with the LA DWF during the design and permitting process to avoid and minimize effects on sensitive species.</p>

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<p><i>The proposed project may potentially impact the long-tailed weasel (Mustela frenata). This species is found in a wide variety of habitats, usually near water. Favored habitats include brushland and open woodlands, field edges, riparian grasslands, swamps, and marshes. Dens are in abandoned burrows of other mammals, rock crevice, brushpiles, stump hollows, or spaces among tree roots; one individual may use multiple dens. Research indicates that long-tailed weasels may be sensitive to agriculturally induced fragmentation of habitat and the importance of maintaining landscape connectivity for species conservation.</i></p> <p><i>The proposed project may impact Southern Shield Wood-fern (Dryopteris ludoviciana) and Rooted Spike-rush (Eleocharis radicans). Both of these plants are considered extremely imperiled in Louisiana due to extreme rarity. A forested seep with large populations of these plants is located in the direct path of the proposed pipeline right of way extending north from Baton Rouge.</i></p>	<p>[See response 3.7.4.2-8 above]</p>
<p>Comment D0080-3 (Louisiana Department of Wildlife and Fisheries)</p> <p><i>Our database indicates the presence of many waterbird nesting colonies within the proposed project area or within one mile of the proposed project. Please keep in mind that rookeries can move from year to year and no current information is available on the status of these rookeries. We recommend that a qualified biologist inspect the proposed worksite for the presence of nesting colonies during the nesting season. We recommend that on-site contract personnel be informed of the need to identify colonial nesting birds and their nests and should avoid disturbing them during the breeding season. No activity is permitted within 400 meters (700 meters for Brown Pelicans) around rookeries during the breeding season, which is generally March</i></p>	<p>Response 3.7.4.2-9</p> <p>If DOE selects an alternative other than the no-action alternative in the ROD, DOE would consult further with USFWS on nesting colonies and rookeries prior to construction. DOE would have a qualified biologist inspect proposed sites for the presence of nesting colonies during the nesting season. DOE would minimize the disturbance to rookeries during the breeding season for brown pelicans and during the nesting season for other bird colonies as practicable. As stated in section 3.7.1.2 of the EIS, DOE would initiate formal Section 7 Consultation with the USFWS if the selected alternative may adversely affect a listed species such as the brown pelican. DOE would work closely with the LA Department of Wildlife and Fisheries and USFWS to avoid adverse effects on the brown pelican, and DOE would follow all requirements</p>

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<p><i>15-July 15. Contact the US Fish and Wildlife Service at (337) 291-3100 to discuss impacts on rookeries. To minimize disturbance to colonial nesting birds, the following restrictions on activity should be observed:</i></p> <ul style="list-style-type: none"> <i>- For colonies containing nesting wading birds (i.e., herons, egrets, night-herons, ibis, roseate spoonbills, anhingas, and/or cormorants), all activity occurring within 300 meters of a rookery should be restricted to the non-nesting period (i.e., September 1 through February 15, depending on species present).</i> <i>- For colonies containing nesting gulls, terns, and/or black skimmers, all activity occurring within 400 meters of a rookery should be restricted to the non-nesting period (i.e., September 16 through April 1, depending on species present).</i> 	<p>of the ESA.</p>
<p>Comment D0081-6 and 7 (NPS, Gulf Islands National Seashore) <i>Specific GUIIS resources that are put at risk by the proposed pipeline and brine disposal include: [...]</i></p> <p><i>Federally threatened/ endangered sea turtle species could be adversely affected if seagrass beds, a primary feeding habitat, are directly disturbed or indirectly subjected to sedimentation and turbidity. Both the green sea turtle (<i>Chelonia mydas</i>) and the loggerhead turtle (<i>Caretta caretta</i>) are known to feed in and around grassbeds.</i></p> <p><i>Adverse impacts to nesting birds on the islands, which include endangered species, could be substantial if pipeline construction and subsequent inspections took place during periods of nest site selection, incubation, or chick rearing. Any visual or noise intrusion which causes</i></p>	<p>Response 3.7.4.2-10</p> <p>DOE evaluated the effects of the proposed action on the loggerhead turtle in section G.4.2.7.7 of appendix G of the EIS. In the final EIS, DOE added an evaluation of impacts to the green sea turtle to appendix G, as well as the leatherback and Atlantic hawksbill turtle, which is also known to occur in the Gulf and was erroneously left out of the draft EIS. DOE acknowledges that portions of the loggerhead sea turtle's feeding habitat would be temporarily disturbed during brine discharge pipeline construction if one of the Richton alternatives is selected in the ROD. The EIS concludes that the proposed Richton brine discharge pipeline would not likely result in an adverse effect to the loggerhead sea turtle. Habitat disturbance would be limited to the width of the ROW. In addition, DOE would attempt to avoid and minimize impacts to SAV and any effects to SAV would be mitigated. DOE determined that the same pipeline is not likely to adversely affect the green sea</p>

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<p><i>parent birds to flush provide the possibility of nest abandonment, egg nest overheating, or nest predation. Construction and inspection activities should be limited to non-nesting times of the year.</i></p> <p><i>Gulf sturgeon (Acipenser oxyrinchus desotoi), a federally threatened species, have been documented as utilizing the shallow passes between the Mississippi islands for large portions of the year. Pipeline construction and inspection activities would need to be limited to times of the year that sturgeon are upriver and not utilizing the island passes.</i></p>	<p>turtle, leatherback, and Atlantic hawksbill sea turtle. If one of the Richton alternatives is selected in the ROD, DOE would consult further with USFWS to determine whether formal Section 7 Consultation is required, as stated in section 3.7.1 of the EIS.</p> <p>In the EIS, DOE proposes to place the brine disposal pipeline for the Richton site between Horn Island and Petit Bois Island (see figure 2.4.3-3). The proposed alignment is 1,600 feet (490 meters) away from Horn Island, the closest island. DOE does not expect construction activities at this distance would cause an adverse effect on the nesting birds. If one of the Richton alternatives is selected, DOE would continue coordination with USFWS and NPS to avoid or minimize impacts to resources on or managed within GUI. DOE has revised the discussion of the Richton site in the final EIS to address the effects of offshore pipeline construction and brine diffusion to GUI in sections 3.7.5.1.6 and 3.7.5.2.6 and appendices E and G. DOE would schedule construction activities for the pipeline during the period when many Gulf sturgeon have migrated into freshwater rivers.</p> <p>DOE determined that development of the proposed Richton site may have an adverse effect on the Gulf sturgeon from withdrawal of water from the Leaf River (see section 3.7.5.1.3). To reduce DOE's dependence on the Leaf River, which can have variable flow and is critical habitat for the Gulf sturgeon, DOE modified the Richton alternatives from those presented in the draft EIS to include an additional surface water source from the Gulf of Mexico as a supplemental source during low-flow conditions in the Leaf River. Operation of the Pascagoula RWI may affect the Gulf sturgeon, which is a federally threatened species, because of impingement and entrainment of sturgeon and its prey (see section 3.7.5.2.3). DOE has</p>

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[See comment D0081-6 and 7 text above]	revised the final EIS to indicate that offshore pipeline construction activities would be scheduled during times of the year that sturgeon are upriver to avoid an adverse effect to this species.
<p>Comment D0081-2 (NPS, Gulf Islands National Seashore) <i>Since a portion of the proposed disposal pipeline route passes through waters managed by GUIs, if a right-of-way could be issued for the pipeline, NPS permitting and consent would be necessary. This consent would include evaluation of the location, construction, and operation of the pipeline. The regulatory and permitting authorities of the NPS should be included in the DEIS and that the potential issuance of a right-of-way permit for the pipeline must consider the full environmental effects.</i></p>	<p>Response 3.7.4.2-11 Permit requirements for obtaining ROW through the GUIs have been added in appendix L, table L-1.</p> <p>In section 3.7.5.2.6, DOE has expanded the information about the potential environmental impacts and approvals required for the proposed brine discharge pipeline crossing through the GUIs for the Richton site.</p>
<p>Comment D0106-4 (USFWS) <i>Bayou Pierre is the only stream supporting the federally threatened Bayou darter, and also supports the state-endangered crystal darter.</i></p>	<p>Response 3.7.4.2-12 The draft EIS acknowledged the presence of the Bayou darter and crystal darter in Bayou Pierre in section 3.7.3.1.1, appendix I, and appendix G.</p> <p>As discussed at an interagency meeting on June 22, 2006, there are concerns that development of the Bruinsburg site may increase erosion in Bayou Pierre and further degrade habitat quality. DOE would consider measures to help prevent this erosion (see response 3.6.2.2-3). If one of the Bruinsburg alternatives is selected in the ROD, DOE would work with the permitting and resource agencies to avoid adverse effects.</p> <p>Pipelines in the Clovelly-Bruinsburg alternative would have crossed</p>

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[See comment D0106-4 text above]	Bayou Pierre. As explained in response 2.2-1 and in EIS section 2.6, this alternative is infeasible and therefore not reasonable, and it is not considered in the final EIS.
<p>Comment D0106-5 (USFWS) <i>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.</i></p>	<p>Response 3.7.4.2-13 As noted in the EIS, the Richton RWI in the Leaf River may adversely affect the yellow-blotched map turtle, Gulf sturgeon, and the pearl darter through impairment of water quality (section 3.7.5.2.3). The effects from construction and operation of the RWI in the Leaf River are also discussed in this section for the yellow-blotched map turtle, Gulf sturgeon, and the pearl darter.</p> <p>See response 3.7.4.1-2.</p>
<p>Comment D0106-22 (USFWS) <i>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.</i></p>	<p>Response 3.7.4.2-14 DOE did not intend for the statement in section 3.7.5.1.2 of the draft EIS to imply that pearl darters are located in only one section of the Leaf River—even though spawning has been documented only near Hattiesburg. In other sections of the EIS, DOE notes that the pearl darter has been documented throughout the Leaf River to the lower Pascagoula drainage (section 3.7.5.2.3).</p> <p>To clarify this potential misunderstanding, DOE has added the following sentence in section 3.7.5.1.2 to the final EIS: “The pearl darter has been documented throughout the Leaf River to the lower Pascagoula drainage.”</p>

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<p>Comment D0106-24 (USFWS) <i>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.</i></p>	<p>Response 3.7.4.2-15 In sections 2.8.6, section 3.7, and appendix G of the draft EIS, DOE indicated that construction and operation activities may affect the yellow-blotched map turtle. DOE has amended these sections of the final EIS to indicate that withdrawal of water from the Leaf River may have an adverse effect on that species. In addition, DOE has added a statement to acknowledge that impingement of the yellow-blotched map turtle may cause bodily harm leading to death. If one of the Richton alternatives is selected, DOE would enter formal Section 7 Consultation with USFWS, prepare a biological assessment, and follow the recommendations of the biological opinion.</p>
<p>Comment D0106-25 (USFWS) <i>Page 3-255, last paragraph, lines 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.</i></p>	<p>Response 3.7.4.2-16 DOE acknowledges this error in section 3.7.5.2.3. Appendix G of the draft EIS stated, “Due to their small size, 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.” DOE concurs that entrainment of pearl darters would cause 100 percent mortality. High mortality arising from entrainment was discussed in section 3.7.2.2.2 in the draft EIS. DOE agrees that impingement or entrainment of the pearl darter by the RWI on the Leaf River would result in high mortality and concluded that operation of the RWI on the Leaf River may have an adverse affect on the species. DOE has amended this statement in the final EIS to read “Due to its small size, impingement on the screens or entrainment through the screens would occur and would cause bodily harm that would lead to death of individual fish.”</p> <p>In the final EIS, DOE modified the conceptual design from that presented in the draft EIS for the RWI on Mississippi River for the Bruinsburg site and the RWI on the Leaf River for the Richton site, the only two RWIs on naturally flowing rivers. The modified RWIs are</p>

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3.7.4.2 Site or Alternative Specific Impact	
[See comment D0106-25 text above]	designed to reduce potential effects on aquatic resources by proposing a series of cylindrical screens located in the stream channel that would be oriented parallel to the river flow (see sections 2.4.1 and 2.4.3 and figure 2.4.3-3). This conceptual plan is typically recommended for river intakes because it uses the river flow to create a sweeping velocity across the screen surface to minimize the likelihood of impingement of organisms (Gowan et al. 1999). The screens would be fitted with air back flow systems to reduce clogging and reduce the likelihood of impingement of organisms. In addition, the intake system would be constructed within a cofferdam to minimize the potential for water quality impacts during construction.
<p>Comment D0106-26 (USFWS) <i>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.</i></p>	<p>Response 3.7.4.2-17 As described in response 3.7.4.2-15, DOE indicates in section 2.8.6 and appendix G that construction and operation activities at the RWI for the Richton site may affect the yellow-blotched map turtle. DOE has made a correction to this statement acknowledging that Section 7 Consultation will be initiated if one of the Richton alternatives is selected in the ROD.</p>
<p>Comment D0106-27 (USFWS) <i>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</i></p>	<p>Response 3.7.4.2-18 DOE acknowledges that withdrawal of water from the Leaf River may result in adverse impacts on water resources (see 3.6.5.1.2) and aquatic resources, such as endangered species (see 3.7.5.1.2). DOE acknowledges that withdrawal of water from the Leaf River may result in adverse impacts on water resources (see 3.6.5.1.2) and aquatic resources, such as endangered species (see 3.7.5.1.2). To reduce DOE's dependence on the Leaf River, DOE has added to the Richton alternatives a RWI structure on Singing River Island in Pascagoula, which would allow DOE to withdraw water from the Gulf of Mexico to reduce withdrawal from the Leaf River during low-flow conditions.</p>

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<p><i>EIS.</i></p>	<p>If DOE selects one of the Richton alternatives, DOE would develop a Water Conservation Plan for water withdrawal during cavern creation, drawdown, and maintenance. During cavern creation, drawdown, or maintenance, withdrawal from the Leaf River would be used during normal and high-flow conditions. Under low-flow conditions in the Leaf River, the withdrawal would be supplemented by a secondary source, the Pascagoula RWI, which would withdraw water from the Gulf of Mexico.</p> <p>The Pascagoula RWI would be designed to handle about 0.5 MMBD of the total required volume, which is about 1.2 MMBD. During construction or maintenance, when flows in the Leaf River reach the Minimum Instream Flow that is designated by the regulatory agencies to protect special status species, withdrawal from the Leaf River would be reduced or terminated until the Minimum Instream Flow in the Leaf River is reached. During this period, DOE would withdraw water from the Gulf of Mexico.</p> <p>If necessary, DOE would consider possible supplemental sources during Section 7 Consultation with the regulatory agencies, including possible groundwater sources, withdrawals from other surface water bodies, and a possible onsite off-stream reservoir. 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 water withdrawal rate of 1.2 MMBD, from the Leaf River.</p> <p>Section 3.7.5.2.3 of the EIS discusses the effects of withdrawal at a level higher than the 7Q10. This section discusses the Minimum Instream Flow to protect aquatic resources, and it follows the</p>

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<p>[See comment D0106-27 text above]</p>	<p>Mississippi Natural Heritage Program recommendation to use 30 percent of the mean daily discharge as a Minimum Instream Flow. This flow of about 1,131 cubic feet per second (32 cubic meters per second) may be established as the Minimum Instream Flow (allowed by permit) because this section of the river is designated as critical habitat for the Gulf sturgeon. DOE determined that operation of the RWI in the Leaf River may have an adverse effect on aquatic resources in the Leaf River, including several endangered, threatened, or candidate species. Operation of the Pascagoula RWI may affect the Gulf sturgeon, which is a federally threatened species, because of impingement and entrainment of sturgeon and its prey (see section 3.7.5.2.3).</p> <p>To further mitigate the impacts of the RWI on the Leaf River, DOE has modified the conceptual design for the RWI on the Leaf River to reduce the potential for impingement and entrainment of aquatic organisms. The revised conceptual plan would use cylindrical screens located in the water column and oriented parallel to the river flow (see section 2.4.3 and figure 2.4.3-3). To minimize the likelihood of entrainment and impingement, this design takes advantage of the sweeping velocity of the river, whereby the velocity of the water flows parallel and adjacent to the RWI screen surface (Gowan et al. 1999). DOE would use a relatively low intake velocity of 0.5 feet per second and relatively small screen size of 0.5 inches to further reduce impingement and entrainment. DOE would refine the conceptual plan for the RWI and water withdrawal during the Section 7 Consultation with the USFWS, NOAA Fisheries, and the Mississippi Natural Heritage Program and coordination with the USACE and MDEQ for the Section 404/401 permit and the water withdrawal permit.</p>

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3.7 Biological Impacts	
3.7.4 Threatened or Endangered Species	
3.7.4.2 Site or Alternative Specific Impact	
[See comment D0106-27 text above]	<p>If one of the Richton alternatives is selected, DOE would initiate formal consultation with the USFWS and NOAA Fisheries under Section 7 of the ESA and initiate permit coordination with the MDEQ and USACE for the Section 404/401 permit and Permit to Withdraw for Beneficial Uses from the Public Waters of Mississippi. These regulatory programs would establish the Minimum Instream Flow and any limitations or conditions on withdrawals during low-flow periods.</p> <p>See responses 3.6.2.2-1 and 3.6.4.2-1.</p>
<p>Comment D0106-17 (USFWS) <i>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.</i></p>	<p>Response 3.7.4.2-19 DOE appreciates this suggestion for stream mitigation. If one of the Bruinsburg alternatives is selected in the ROD, DOE would work with the USFWS and other state and Federal agencies to develop a compensation plan for effects on streams and wetlands. If deemed appropriate compensation by the permitting agencies, DOE would consider measures to help prevent erosion in Bayou Pierre.</p>
<p>Comment D0106-21 (USFWS) <i>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</i></p>	<p>Response 3.7.4.2-20 As described in section 3.7.1.2, after DOE issues a ROD to select an alternative, DOE will consider the impact of the proposed action on candidate species. If one of the Richton alternatives is selected, DOE would treat the pearl darter as a listed species and initiate formal Section 7 Consultation.</p>

COMMENT	RESPONSE
3.7 Biological Impacts	
3.7.4 Threatened or Endangered Species	
3.7.4.2 Site or Alternative Specific Impact	
<i>pearl darter as a listed species.</i>	[See response 3.7.4.2-20 above]

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3.7 Biological Impacts	
3.7.5 Special Status Areas	
3.7.5.1 General Impacts	
<p>Comment D0078-12 (DOI) <i>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.</i></p>	<p>Response 3.7.5.1-1 See response 3.7.4.2-9 for discussion of these issues.]</p>

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3.7 Biological Impacts	
3.7.5 Special Status Areas	
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<p>Comment D0013-8 (Gulf Restoration Network) <i>The Brazoria NWR was established to provide habitat for migratory waterfowl and other birds (DEIS at pp. 3-262-263). ROW crossings of the NWR would reduce the areas value as habitat and thus undermine the purposes of the NWR.</i></p>	<p>Response 3.7.5.2-1 DOE addresses the effects of pipeline ROWs and the impacts of ROWs on the Brazoria National Wildlife Refuge in the EIS. See section 3.7.2.1.2, section 3.7.2.2.3, and section 3.7.6.2.3. In the EIS, DOE recognizes the important habitat that Brazoria National Wildlife Refuge provides for migratory birds, waterfowl, and other wildlife. DOE would avoid or minimize pipeline construction during spring and fall migration. DOE would bury the power lines to the RWI to further minimize long-term effects on vegetation and wildlife. DOE would use the existing Bryan Mound ROW as much as possible for pipeline and staging areas to minimize the footprint of the crude oil pipeline through the refuge. DOE would coordinate with USFWS for the easement through the wildlife refuge and reseed ROWs with native herbaceous, shrub, and tree species to promote regeneration of habitat in the temporary construction easement as stated in section 3.7.6.2.2. DOE would restore the permanent easement to preconstruction contours. Disturbed areas would be restored with herbaceous species. If one of the Stratton Ridge alternatives is selected in the ROD, DOE would coordinate with the USFWS to avoid and minimize effects on migratory birds and other birds, and secure the appropriate approval for crossing the National Wildlife Refuge.</p>
<p>Comment D0078-5 (DOI) <i>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</i></p>	<p>Response 3.7.5.2-2 DOE used point location data from the USFWS Texas Colonial Waterbird database to examine the proximity of rookeries to the proposed Stratton Ridge storage site and associated infrastructure as well as the Big Hill expansion site and associated pipelines. The closest known rookeries to any proposed project infrastructure, as described in section 3.7.6.1.4, are more than 1,000 feet (30 meters) away.</p> <p>See response 3.7.4.2-9.</p>

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3.7 Biological Impacts	
3.7.5 Special Status Areas	
3.7.5.2 Site or Alternative Specific Impact	
<p><i>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.</i></p>	<p>[See response 3.7.5.2-2 above]</p>
<p>Comment D0078-7 (DOI)</p> <p><i>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(j 1).</i></p> <p><i>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. Additionally, compatibility with the refuges within the National Wildlife Refuge Systems must be identified and addressed.</i></p>	<p>Response 3.7.5.2-3</p> <p>If one of the proposed Stratton Ridge alternatives is selected in the ROD, DOE would work with Brazoria National Wildlife Refuge to address ROW concerns. DOE would secure all required approvals and assist with compatibility determinations for crossing the National Wildlife Refuge.</p> <p>See response 3.7.5.2-1.</p> <p>See also response 3.3-7.</p>

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3.7 Biological Impacts	
3.7.5 Special Status Areas	
3.7.5.2 Site or Alternative Specific Impact	
<p><i>Comment D0115-4 (Audubon Society, Houston)</i> <i>Additionally, compatibility with the refuges within the National Wildlife Refuge system must be identified and addressed.</i></p>	<p>[See response 3.7.5.2-3 above]</p>
<p>Comment D0081-9 (NPS, Gulf Islands National Seashore) <i>Localized impacts from the brine disposal could be significant with a disproportionate impact on benthic communities. According to the DEIS, studies have shown significant reductions in benthic biomass almost 7,000 feet from the brine diffusers. Depending on currents and tidal movement, the brine plume could easily be transported into GUIIS waters and to GLTIS seagrass resources with resultant adverse impacts. A significant loss of benthic organisms represents a significant loss of prey food for the Gulf fisheries.</i></p>	<p>Response 3.7.5.2-4 The effects of brine disposal on benthic organisms are addressed in appendix E, section E.5.3 of the EIS. As stated in appendix E, if DOE selects one of the Richton alternatives in the ROD, DOE would attempt to avoid areas of seagrass during the detailed design and permitting stages.</p> <p>The final EIS has been updated to describe direct and indirect effects on seagrass in section 3.7.5.2.6 and appendix E, section E.5.2. In addition, if construction of the brine disposal pipeline through seagrass is unavoidable, DOE would undertake mitigation measures. The seagrass beds would be regulated as EFH and special aquatic sites and wetlands under Section 404/401 of the Clean Water Act; therefore, unavoidable impacts would be compensated through DOE’s plan to create, restore, preserve, or pay in-lieu-of fees as described in appendices B and O.</p> <p>DOE would continue to consult with NOAA Fisheries, USACE, USFWS, NPS at GUIIS, and relevant state resource agencies to avoid and minimize effects on fisheries, aquatic resources, and EFH, including those resources in GUIIS managed waters.</p> <p>See response 3.3-8 and 3.7.2.1-1.</p>
<p>Comment D0003-1 (Mary Ellen Witworth, individual) <i>I am opposed to destroying 258 acres of relatively rare and ecologically important bottomland hardwood forest at the Stratton Ridge site. The Brazoria National Wildlife Refuge is meant to be an</i></p>	<p>Response 3.7.5.2-5 See response 3.7.5.2-1.</p>

COMMENT	RESPONSE
3.7 Biological Impacts	
3.7.5 Special Status Areas	
3.7.5.2 Site or Alternative Specific Impact	
<p><i>area that is protected for generations to come. The DOE needs to look at other sites for their pipeline that does not destroy what cannot be restored. The lowest cost is not sufficient reason to use public land over other alternatives.</i></p>	<p>[See response 3.7.5.2-5 above]</p>

COMMENT	RESPONSE
3.7 Biological Impacts	
3.7.6 Essential Fish Habitat	
3.7.6.1 General Impacts	
<p>Comment D0084-9 (Frank Leach, Jackson County Board of Supervisors)</p> <p><i>And with the shrimp and the aquaculture production that we are working so hard to improve so that we don't have to rely upon foreign seafood and the import of additional products, it would seem as though to me we would want to be much more protective of our Gulf than what we are presently talking about doing and that's merely dumping some additional brine or whatever is going to come out of that salt dome down this pipeline into the Gulf of Mexico.</i></p>	<p>Response 3.7.6.1-1</p> <p>DOE assessed potential impacts on managed and non-managed fisheries based on information provided by and in consultation with USFWS, NOAA Fisheries, and various state agencies. In section 3.7.2.1.5 of the EIS, DOE examined the effect of brine on managed fisheries and concluded that there would not be a significant adverse effect on managed fisheries. Past analyses examining effects of the brine contaminants on fish showed that salinity levels may be slightly elevated around the diffusers, but fish populations do not suffer adverse effects because the salt concentrations are low and fish are mobile and can avoid such areas (Hann et al. 1984; see appendix E). In addition, the brine discharge is a short-term effect that persists during solution mining (4 or 5 years or less), cavern drawdown (6 months or less), and maintenance (a few weeks or less).</p> <p>For the Richton alternatives, cavern creation and the associated brine discharge could last up to approximately 9 years if the flow in the Leaf River persists below the Minimum Instream Flow for 9 consecutive years and DOE draws water exclusively from the Gulf of Mexico to</p>

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3.7 Biological Impacts	
3.7.6 Essential Fish Habitat	
3.7.6.1 General Impacts	
<p>[See comment D0084-9 text above]</p>	<p>create the Richton caverns. It is highly unlikely, however, that flows would remain below the Minimum Instream Flow in the Leaf River for 9 consecutive years. More likely, only a portion of the water for cavern creation would come from the Gulf of Mexico. The length of cavern creation and the associated brine discharges could be longer for two reasons: (1) the rate of withdrawal from the available water sources may be smaller than the planned rate of withdrawal from the Leaf River, and (2) each barrel of saltwater from the Gulf of Mexico has less capacity than each barrel of freshwater from the Leaf River to dissolve salt and therefore a larger volume of saltwater would be needed to create the 160 MMB of storage capacity at Richton. If the total rate of water withdrawal for solution mining is reduced, the rate of brine discharged into the Gulf of Mexico would be lower and the size of the brine plume would also be slightly smaller. During brine refill events, after emergency drawdown or maintenance, brine discharge may be slightly longer if water is withdrawn from the Gulf of Mexico, as compared to water from the Leaf River.</p> <p>Appendix E examines the direct and indirect effects from the construction of brine disposal pipelines, the periodic maintenance of pipeline ROWs, and brine discharge and diffusion on EFHs for the fish species and their major food sources.</p> <p>The brine discharges would comply with the effluent limits of the NPDES permit, which were established to protect water quality standards for aquatic resources as well as human health.</p> <p>See response 3.7.2.1-1.</p>

COMMENT	RESPONSE
3.7 Biological Impacts	
3.7.6 Essential Fish Habitat	
3.7.6.2 Site or Alternative Specific Impact	
<p>Comment D0014-3 (Tony Bland, individual) <i>My second main concern is the effect of dumping large quantities of brine directly into the Mississippi Sound and the impact it would have on fish and other seafood.</i></p>	<p>Response 3.7.6.2-1 See response 3.7.6.1-1.</p>
<p>Comment D0073-2 (NOAA Fisheries) 3.7.2 Impacts Common to Multiple Sites 3.7.2.1 Construction Impacts 3.7.2.1.5 Essential Fish Habitat</p> <p><i>The NMFS has concerns with siting the Richton brine discharge pipe in the Gulf of Mexico approximately one mile south of Pascagoula Ship Channel. The DOE predicts that the increase in salinity will be as high as 4.7 parts per thousand and will extend into Horn Island Pass/Pascagoula Ship Channel which connect to Mississippi Sound. Salinities within the pass, ship channel, and sound vary greatly, with the highest salinities generally occurring in June. The DEIS states that demersal species such as white and brown shrimp are tolerant of a wide range of salinities; however, we are unaware of any information regarding how a higher than ambient salinity gradient in a restricted pass/channel may affect larval and postlarval recruitment from the Gulf of Mexico into an estuary. Since this action could result in a switch in dominance from white shrimp to brown shrimp (page E-28) and is to last for up to five years, more detailed evaluations should be provided, and alternative sites located further south of Horn Island Pass and the Pascagoula Ship Channel should be addressed.</i></p>	<p>Response 3.7.6.2-2</p> <p>DOE has concluded that the brine discharge from the Richton site would have a minor effect on larval and postlarval recruitment and changes in shrimp dominance. The salinities levels are expected to be within natural salinity variability of the Gulf, except during occasional periods of low circulation and high ambient salinity. Moreover, as shown in appendixes C and E, the highest increase in salinity of 4.3 parts per thousand would occur over a relatively small area of the Gulf and Pascagoula ship channel, about 15 miles (24 kilometers) from the coast and 7 miles (11 kilometers) from the Mississippi Sound, and where the designated EFH is located. Brine discharge would be temporary; it would occur during cavern solution mining, which would last approximately 4 or 5 years, drawdown, and periodic maintenance, which lasts a few months or weeks for each drawdown or maintenance activity. The discharge would be relatively localized and within NPDES permit limits and the effects on managed species such as brown and white shrimp would not be significant. See response 3.7.6.2-1 for a discussion of why brine disposal may persist slightly longer and the brine plume may be slightly smaller for the Richton alternatives.</p> <p>If one of the Richton alternatives is selected in the ROD, DOE would coordinate with NOAA Fisheries to avoid and minimize effects on managed species. During the permitting process for the discharge location, DOE will consider shifting the location of the discharge, if practical and feasible. See response 3.7.2.1-1.</p>

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3.7 Biological Impacts	
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<p>Comment D0073-3 (NOAA Fisheries) 3.7.4 <i>Chacahoula Storage Site</i> 3.7.4.1 <i>Affected Environment</i> 3.7.4.1.2 <i>Chacahoula Rights-of-Way</i></p> <p><i>Page 3-219, paragraph 1. Essential Fish Habitat. The DEIS incorrectly indicates the project would not be located in an area designated as EFH. The raw water intake (RWI) pipeline between the Gulf Intracoastal Waterway (GIWW) and upland developed areas south of Louisiana Highway 90 would be located in tidally influenced areas that have been designated as EFH for postlarval, juvenile and sub-adult life stages of white shrimp, brown shrimp, and red drum. The brine disposal pipeline would share the ROW with the RWI pipeline between the GIWW and Louisiana Highway 90. From the GIWW, the brine disposal pipeline would extend 33.4 miles through wetlands and shallow water bottoms prior to reaching the beach and extending offshore. Intermediate, brackish, and saline marsh habitats would be impacted by brine disposal pipeline installation activities. Primary categories of EFH potentially impacted by the RWI and onshore components of the brine disposal pipeline include estuarine wetlands, estuarine water bottoms, submerged aquatic vegetation, and estuarine water column. The document should be revised to correctly identify the federally managed species and life stages having EFH designated in the Chacahoula ROWs and listing the general categories of EFH potentially impacted by construction activities.</i></p> <p>Comment D0073-4 3.7.4.1.2 <i>Raw Water Intake and Access Road</i> <i>Page 3-219, paragraph 6. Essential Fish Habitat. The DEIS indicates</i></p>	<p>Response 3.7.6.2-3 DOE acknowledges its error in not identifying the onshore component of EFH in the draft EIS. DOE has identified and described the impacts to onshore EFH from each site in the final EIS (chapter 2, chapter 3, section 3.7, and appendix E). The onshore EFH generally comprises tidally influenced streams, estuaries, and wetlands, which are considered EFH for brown shrimp, white shrimp, and red drum.</p>

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3.7 Biological Impacts	
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3.7.6.2 Site or Alternative Specific Impact	
<p><i>the project would not be located in EFH. As indicated above, that information is incorrect. The document should be revised as recommended in the preceding paragraph.</i></p> <p>Comment D0073-5 3.7.4.2 Impacts 3.7.4.2.2 Chacahoula Pipeline Rights-of-Way Page 3-224, paragraph 1. Essential Fish Habitat. This section states that “No EFH is located in or near the boundaries of the proposed Chacahoula ROWs.” As noted above, this is incorrect. NMFS recommends the document be revised to quantify the acres of various categories of EFH that would be impacted by the construction of the RWI ROW and discuss mitigation necessary to compensate for adverse impacts to EFH.</p> <p>3.7.4.2.3 Raw Water Intake Page 3-225, paragraph 4. Essential Fish Habitat. See previous comment.</p>	<p>[See response 3.7.6.2-3 above]</p>
<p>Comment D0073-6 (NOAA Fisheries) 3.7.5 Clovelly Storage Site 3.7.5.1.1 Clovelly Storage Site Page 3-227, paragraph 6. Essential Fish Habitat.</p> <p><i>The DEIS states, "No EFH is located in or near the proposed Clovelly storage site." The DEIS characterizes wetlands at the Clovelly storage site as being a tidally-influenced estuarine community and lists plant species which are typical of brackish marsh habitats. Wetlands identified at the project site are categorized as EFH for postlarval, juvenile, and sub-adult life stages of white shrimp, brown shrimp, and</i></p>	<p>Response 3.7.6.2-4 Based on after additional studies completed by DOE, the Clovelly and Clovelly- Bruinsburg alternatives that involve cavern development at Clovelly are no longer considered reasonable. They are discussed in Section 2.6, Alternatives Eliminated from Detailed Study, in the final EIS and response 2.2-1.</p>

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<p><i>red drum. Primary categories of EFH in the Clovelly storage site are estuarine emergent wetlands, estuarine mud bottoms, and estuarine water column. The DEIS should be revised to correctly identify EFH at the Clovelly storage site.</i></p> <p><i>3.7.5.1.2 Raw Water Intake Page 3-228, paragraph 3.</i></p> <p><i>The DEIS states, "No EFH is located in or near the proposed Clovelly storage site." The DEIS states the RWI would be located a few hundred meters southwest of the storage caverns in an area categorized as emergent wetland habitat. Wetlands at the project site are EFH for postlarval, juvenile, and sub-adult life stages of white shrimp, brown shrimp, and red drum. The DEIS should be revised to correctly identify EFH at the Clovelly RWI site.</i></p> <p><i>3.7.5.2 Impacts</i></p> <p><i>3.7.5.2.1 Clovelly Storage Site Page 3-230, paragraph 2. See previous comment.</i></p> <p><i>The document should be revised to quantify impacts to various categories of EFH that would occur from the use of the site and to discuss mitigative actions that could be implemented to minimize and compensate for adverse impacts to EFH.</i></p> <p><i>3.7.5.2.2 Raw Water Intake Page 3-231, paragraph 3. Essential Fish Habitat. See previous comment.</i></p>	<p>[See response 3.7.6.2-4 above]</p>

COMMENT	RESPONSE
3.7 Biological Impacts	
3.7.6 Essential Fish Habitat	
3.7.6.2 Site or Alternative Specific Impact	
<p><i>The document should be revised to quantify impacts to various categories of EFH that would occur from the use of the site and to discuss mitigative actions that could be implemented to minimize and compensate for adverse impacts to EFH.</i></p>	<p>[See response 3.7.6.2-4 above]</p>
<p>Comment D0073-7 (NOAA Fisheries) Section 3.7.7.2.4 Terminal in Pascagoula Page 3-256.</p> <p><i>The DEIS lacks information to allow an adequate assessment of the impacts to the 35 acres of estuarine wetlands at the Pascagoula terminal on Singing River Island. DOE chose to just indicate that, if this alternative is selected, the DOE would refine the conceptual site plan and secure permits from the Corps of Engineers by providing compensation for the unavoidable wetland impacts. The estuarine wetlands on Singing River Island have been designated as EFH for various federal managed fishery species.</i></p>	<p>Response 3.7.6.2-5 DOE acknowledges the oversight and has added to the final EIS a description of the estuarine wetlands at the Pascagoula terminal as EFH. If one of the Richton alternatives is selected by DOE in the ROD, DOE would continue to coordinate with NOAA Fisheries to identify measures to avoid and minimize the potential fill of estuarine wetlands when constructing the Pascagoula terminal and RWI structure. DOE would work closely with USACE, USFWS, and NOAA Fisheries to develop an appropriate mitigation plan to compensate for the unavoidable loss of wetlands and EFH for the selected alternative.]</p>
<p>Comment D0073-10 (NOAA Fisheries) 3.7.11 West Hackberry Expansion Site Page 3-288, paragraph 2. Essential Fish Habitat.</p> <p><i>There are extensive wetlands and open water areas surrounding the West Hackberry site and the DEIS reports that expansion activities would affect five acres of "emergent wetlands and water." Tidally influenced wetlands at the expansion site are EFH for postlarval, juvenile, and subadult life stages of white shrimp, brown shrimp, and red drum. Estuarine emergent wetlands, estuarine mud bottoms, and estuarine water column are the primary categories of EFH potentially</i></p>	<p>Response 3.7.6.2-6 See response 3.7.6.2-3.</p>

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<p><i>affected by expansion activities. NMFS recommends the document be revised to identify and discuss EFH at the West Hackberry expansion site.</i></p> <p><i>3.7.11.2 Impacts</i> <i>Page 3-289, paragraph 6. Essential Fish Habitat.</i></p> <p><i>The DEIS states "There is no EFH within or near the proposed West Hackberry Expansion Site." This is incorrect, and the document should be revised to quantify impacts to various categories of EFH that would occur from the use of the site and to discuss mitigative actions that could be implemented to minimize and compensate for adverse impacts to EFH.</i></p>	<p>[See response 3.7.6.2-6 above]</p>
<p>Comment D0074-5 (U.S. Army Corp of Engineers) <i>In addition, EFH and ESA issues will likely require consultation.</i></p>	<p>Response 3.7.6.2-7 As noted in the EIS, DOE will consult with USFWS, NOAA Fisheries and other appropriate agencies regarding EFH and ESA issues (section 3.7.1.2).</p>
<p>Comment D0081-4 (DOI) <i>Submerged Aquatic Vegetation/Seagrass</i></p> <p><i>The potential impacts of pipeline construction on seagrass communities have not been fully addressed. In order to assess both short-and long-term impacts, additional analysis is necessary. Up-to-date information on seagrass distribution is necessary. Recent reports show that approximately two-thirds of the seagrass beds in Mississippi Sound have disappeared since the 1970s with the remaining majority existing within GUIs. Seagrass resources are known to exist both east and west of the proposed pipeline route.</i></p>	<p>Response 3.7.6.2-8 As described in appendix E, DOE will try to avoid any direct impacts to SAV if one of the Richton alternatives is selected in the ROD. DOE has revised this section of the final EIS to state that DOE will mitigate any direct impacts to SAV that are unavoidable.</p> <p>DOE obtained data from a 1997 survey that describes the local distribution of seagrass in GUIs. This was the most recent data set available. A GIS analysis was conducted to compare the proposed brine disposal ROW with known seagrass beds. The results are described in appendix E of the final EIS. If one of the Richton</p>

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<p><i>Historic trends, distribution, and composition of seagrass communities in the Mississippi Sound should be examined to determine the significance of impacts on these remaining seagrasses. The seagrass beds near the north shore of Petit Bois Island reportedly contain the last occurrence in the Mississippi Sound of turtle grass (<i>Thalassia testudinum</i>), formally the second most abundant seagrass, and Manatee grass (<i>Syringodium filiforme</i>), once the third most abundant.</i></p> <p><i>The seagrass meadows within park waters are vital nursery areas for the Gulf of Mexico. Seventy percent of recreational fisheries in the Gulf are estuarine-dependent; for commercial fisheries, this percentage is even greater. Seagrass communities are one of the most biologically diverse communities in the southeastern United States and are currently in severe decline. Certain seagrass communities have declined to approximately 20 percent of their historical coverage. Damage to the seagrass communities, therefore, could result in significant biological and economic impacts. Any impact to the seagrass communities is unacceptable.</i></p> <p><i>The proposed pipeline route should be sited to avoid all seagrass. Any seagrass located within the proposed route would be directly destroyed through pipeline burial. In addition, entire seagrass communities can be adversely affected when fragmented by pipeline burial. Scars through grassbeds can take up to 10 years to recover if at all. If erosional pathways are created by dredging or vessel use, the entire grassbed could be scoured away.</i></p>	<p>alternatives is selected in the ROD, DOE would delineate all seagrass beds within the ROW corridor. In addition, DOE would secure appropriate permits and approvals and design and secure approval for a compensation plan to mitigate the impacts to any SAV.</p> <p>In the final EIS, DOE has updated the discussion of direct and indirect effects from brine disposal on SAV in section 3.7.5 and appendix E.</p> <p>See response 3.7.2.1-1 and 3.7.6.2-8.</p>

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<p><i>The DEIS states that impacts from construction of the pipeline would include the loss of benthic communities, increased sedimentation in the surrounding area, and increased turbidity in the water column. Previous assessments have shown that suspended sediments can be transported distances greater than 1 mile and partially bury seagrasses. The current status of seagrass communities along the proposed route and within 1 mile of the route should be determined due to their potential to be affected by downstream turbidity and sedimentation.</i></p>	<p>[See response 3.7.6.2-8 above]</p>
<p>Comment D0081-5 (NPS, Gulf Islands National Seashore) <i>Surface and bottom water current data should be included to define seasonal velocities and direction as well as an analysis of seasonal variations in the potential extent of turbidity plumes and sedimentation. This will assist in assessing the potential impacts as a result of the turbidity plume created by pipeline burial. It will also help determine the potential of creating a new tidal pass which could serve as a source of excess suspended matter for a protracted time.</i></p> <p><i>To evaluate properly the extent of downstream turbidity and sedimentation, the effectiveness of proposed turbidity control devices needs to be determined. This information is critical in assessing the expected environmental impacts. In addition, a turbidity monitoring program should be conducted during and for a period of time following construction. The program design and time period should be determined by subject-matter experts.</i></p>	<p>Response 3.7.6.2-9 As presented in the EIS, DOE acknowledges in section 3.7.2.1.2 that pipeline construction would create temporary increases in turbidity and sedimentation as a result of offshore pipeline construction.</p> <p>DOE would use appropriate best management practices in accordance with the Section 404 USACE permit, the Section 401 Water Quality Certificate requirements, and the erosion and sediment control plan. DOE would install silt curtains for construction in sensitive areas such as EFH including seagrass beds (section E.5) and conduct monitoring during construction to identify and resolve turbidity and sedimentation problems.</p> <p>See response 3.7.3.1-1.</p>
<p>Comment D0081-10 (NPS, Gulf Islands National Seashore) <i>Although the DEIS states this impact will be negligible given the overall area of the Gulf, that may not be the case. The brine plume will most likely affect the shallow water areas of the Gulf and not be carried into deeper waters. It is the shallow water areas that are most productive</i></p>	<p>Response 3.7.6.2-10 DOE obtained data from a 1997 survey that describes the local distribution of seagrass in GUIIS. This was the most recent data set available. A GIS analysis was conducted to compare the proposed brine disposal ROW with known seagrass beds. The results are</p>

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<p><i>and serve as the vital nursery areas. Assessing the level of impact to these important and productive nursery areas by using the entire area of the Gulf, much of which is extremely under-productive, is misleading. Given the location of the brine disposal site, localized impacts to GUIS benthic and seagrass resources could be significant.</i></p>	<p>described in appendix E of the final EIS.</p> <p>DOE has also updated the discussion of direct and indirect impacts from brine disposal on SAV in section 3.7.5 and appendix E.</p> <p>See responses 3.7.6.2-8 and 3.7.5.2-4.</p>

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<p>Comment D0079-26 (Dow Chemical Company) <i>The EIS needs to fully evaluate the socioeconomic impact of locating the new SPR facility in currently hurricane devastated states (Louisiana and Mississippi).</i></p> <p>Comment D0079-27 (Dow Chemical Company) <i>The EIS needs to fully evaluate the potential benefit from locating the new SPR facility in the recently devastated hurricane states of Louisiana and Mississippi by locating it in a state that has many new low income populations.</i></p> <p>Comment D0079-34 (Dow Chemical Company) <i>Dow cites Testimony for a discussion of the well known devastation caused by the recent hurricanes to the states of Louisiana and Mississippi. Everything else being equal, there would be a greater societal value for the funding and jobs associated with the new SPR facility to be located in Louisiana or Mississippi than Texas. This aspect of the Socioeconomics needs to be carefully and fully evaluated</i></p>	<p>Response 3.8-1</p> <p>DOE acknowledges that the 2005 hurricanes dramatically affected the regions of influence for proposed SPR facilities assessed in this EIS, and that jobs in affected areas would be a substantial and positive economic benefit. The EIS considers the effects of the 2005 hurricanes on the regions of influence when analyzing the potential impacts of SPR expansion. SPR employment and income effects are recognized as positive economic benefits, and economic development is a goal of all regions of influence evaluated in this EIS.</p>

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<i>by the EIS.</i>	[See response 3.8-1 above]
<p>Comment D0021-7 (Brazoria County Commissioner) <i>I also understand that Bryan Mound was removed from consideration because it did not have adequate capacity for expansion and that the plans for Stratton Ridge would include facilities to off load foreign crude in Texas City and bring the oil in through pipeline. So it seems this would not even benefit Port Freeport.</i></p>	<p>Response 3.8-2 DOE acknowledges that the beneficial effects of the various potential facilities, pipelines, and other infrastructure would vary by community. The location of a terminal in any of the identified potential locations would not necessarily provide a major economic benefit to nearby communities. DOE also acknowledges that the terminal associated with the Stratton Ridge site would go into Texas City, and therefore, would not provide substantial economic benefit to Port Freeport.</p>
<p>Comment D0017-1 (Charlie Singletary, individual) <i>I oppose the DOE selecting the Stratton Ridge Site in Texas. I feel this will eliminate jobs in Brazoria County. I'm not opposed to having more oil for reserve, just not in Brazoria County.</i></p> <p>Comment D0021-5 (Brazoria County Commissioner) <i>At a time when the chemical industry is struggling with high energy and feedstock costs and high construction costs this waste of Stratton Ridge salt and concern of government taking of critical property could further affect the decisions of industry in this area to locate new plants here and perhaps even negatively affect business decisions for investments to support current operations.</i></p> <p>Comment D0021-6 (Brazoria County Commissioner) <i>The 40 or so jobs created for managing the SPR site could jeopardize literally thousands of direct chemical industry jobs and thousands of indirect jobs.</i></p> <p>Comment D0021-3 (Brazoria County Commissioner) <i>The SPR uses underground salt formations as the basis for their oil storage operations. For their purposes they remove the salt and</i></p>	<p>Response 3.8-3 DOE agrees that use of the Stratton Ridge site for SPR purposes may result in adverse socioeconomic effects if Dow Chemical Company cannot access and use the Stratton Ridge salt resource as it currently envisions, or if SPR operations precluded use of the site for natural gas storage. Text of the EIS has been clarified to further disclose potential socioeconomic issues and effects to existing segments of the economy from SPR development at Stratton Ridge. See also the land use discussion in section 3.6 of the EIS and response 3.3-1 for further context on this topic. For more information on the economic value of the salt lost through SPR cavern development, see response 5-1 and section 5.3.</p>

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<p><i>discharge it into the ocean. Placing the SPR at Stratton Ridge would waste salt that the chemical industry could use to make useful products in the future. The DoE time line to remove the salt from the salt dome and other operational considerations would not allow this salt to be used to maker products and thus would be wasted. As I understand it the other sites under consideration do not have co-located salt based production facilities, so the salt wasted into the ocean isn't salt that can be made into useful products, as can the salt at Stratton Ridge.</i></p> <p>Comment D0021-1 (Brazoria County Commissioner) <i>The Brazosport area and all of Brazoria County has a great stake in this decision, thousands of jobs are enabled because of the salt the chemical industry mines at Stratton Ridge. Industry uses this salt to produce products that used locally by other businesses as well as shipping these products all over Texas, the U.S. and the world.</i></p> <p>Comment D0050-1 (D.L. Vaughn, individual) <i>I am not opposed to more oil reserves. I am opposed to having them in Brazoria County, Texas as I feel that using the underground storage facility at Stratton Ridge will be detrimental to our local economy. I am afraid that it will cause local jobs to be lost over the long term.</i></p> <p>Comment D0054-1 (Jeanette Bumpers, individual) <i>As a concerned citizen of Brazoria County, I am asking you not to choose Stratton Ridge as the location of the petroleum reserve. This will completely ruin the lives of so many people and the future economy of this area. Please choose one of the locations that is more receptive to this project. This decision would be very devastating to the 6,000 employees of Dow Chemical and their families. This would effect every business in Brazoria County and leave this area extremely depressed.</i></p>	<p>[See response 3.8-3 above]</p>

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<p>Comment D0076-1 (Bill Logan, individual) <i>We in the Brazoria County, TX, area are concerned that the plan to take over Dow's Stratton Ridge facilities would do a great deal of harm to our economy. According to an editorial in The Facts, the people near the proposed Mississippi sites are generally in favor of having storage facilities there.</i></p> <p>Comment D0079-12 (Dow Chemical Company) <i>Simply put: Texas Operations competes with chemical and plastic producers from around the world. We already have a competitive disadvantage due to high energy and feedstock prices on the Gulf Coast. The Dow Texas Operations site could lose its global competitiveness completely if the SPR expansion site is located at Stratton Ridge.</i></p> <p><i>But not only potential new investment would be in jeopardy. These same factors would also negatively affect business decisions for investments to support current operations.</i></p> <p><i>The future of Dow Texas Operations is dependent upon the willingness of Dow 1) to continue to make investments in new products, 2) to continue to make the products we make today and 3) to improve the site's energy efficiency and sustainability. Without such investments, manufacturing facilities like ours may cease to be viable and ultimately be shutdown.</i></p> <p><i>We understand that 100 or so jobs might be created for managing the SPR site. However, placing our Freeport site in further economic jeopardy would literally put thousands of high-wage manufacturing jobs, as well as thousands of additional jobs in our community, at risk.</i></p>	<p>[See response 3.8-3 above]</p>

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<p>Comment D0079-13 (Dow Chemical Company) <i>The Board of The Economic Development Alliance for Brazoria County unanimously passed the attached resolution opposing expansion of the Strategic Petroleum Reserve at Stratton Ridge in our meeting of June 12, 2006 for the following reasons:</i></p> <ol style="list-style-type: none"> <i>1. The SPR uses underground salt formations as the basis for their oil storage operations. For their purposes they remove the salt and discharge it into the ocean. Placing the SPR at Stratton Ridge would waste salt that the chemical industry could use to make useful products in the future. The DoE time line to remove the salt from the salt dome and other operational considerations would not allow this salt to be used to make products and thus would be wasted. As I understand it, the other sites under consideration do not have co-located salt based production facilities, so the salt wasted into the ocean isn't salt that can be made into useful products, as can the salt at Stratton Ridge.</i> <i>2. There is also concern over the government taking of Stratton Ridge property and perhaps even closure of Stratton Ridge Road. We have experienced this sort of thing in the past, and it runs contrary to everything America stands for.</i> <i>3. At a time when the chemical industry is struggling with high energy and feedstock fuel costs and high construction costs, this waste of Stratton Ridge salt and concern over the government commandeering private property could dissuade industry from locating new jobs in the area and it may even negatively affect business decisions to make any further investments in support of current operations.</i> <i>4. The 40 or so jobs created for managing the SPR site could jeopardize literally thousands of direct chemical industry jobs and four to eight times that many of indirect jobs with contractors and suppliers.</i> <i>5. We also understand that Bryan Mound was removed from</i> 	<p>[See response 3.8-3 above]</p>

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<p><i>consideration because it did not have adequate capacity for expansion and that the plans for Stratton Ridge would include facilities to off-load foreign crude in Texas City and bring the oil in through pipeline. So it seems this would not even benefit Port Freeport.</i></p> <p>Comment D0079-19 (Dow Chemical Company) <i>Dow officials have said thousands of jobs could be lost if the Strategic Petroleum Reserve chooses the Stratton Ridge site. Even more than that, Dow Chemical is intrinsically connected with other industry in the area and with community service and charitable giving.</i></p> <p>Comment D0079-20 (Dow Chemical Company) <i>We urge the department also to consider non-environmental impact in the form of possible economic peril to the site chosen, and we urge area residents to make themselves heard on the matter before the comment period ends on July 10.</i></p> <p>Comment D0079-21 (Dow Chemical Company) <i>The EIS needs to fully evaluate the potential diversion of over one and a quarter billion barrels of brine, containing valuable chlorine, from the US economy and wasting this diverted brine into the Gulf of Mexico.</i></p> <p>Comment D0079-36 (Dow Chemical Company) <i>RESOLUTION NO. R-06-516</i></p> <p><i>RESOLUTION OF THE CITY OF LAKE JACKSON, TEXAS, INOPPOSITION TO A STRATEGIC PETROLEUM RESERVE ATSTRATTON RIDGE</i></p>	<p>[See response 3.8-3 above]</p>

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<p><i>WHEREAS, it is understood that the Energy Policy Act of 2005 directs the Secretary of Energy to fill the Strategic Petroleum Reserve to its one billion barrel capacity, and this will require the Department of Energy to expand the Strategic Petroleum Reserve, such plans to include adding one new storage site, and</i></p> <p><i>WHEREAS, Stratton Ridge, Texas is one of the new sites being considered from the group of sites previously assessed in the Draft Environmental Impact Statement, and Stratton Ridge is located within Brazoria County, Texas, and</i></p> <p><i>WHEREAS, the proposal to locate a Strategic Petroleum Reserve storage operation at Stratton Ridge, Texas would have an adverse affect on the area's chemical manufacturing industry which constitutes the very foundation of the economy of South Brazoria County with over five thousand direct jobs and as many as four to eight times that number of indirect jobs among contractors and suppliers; and</i></p> <p><i>WHEREAS, the City of Lake Jackson and other cities in Southern Brazoria County would be harmfully affected by expansion of the Strategic Petroleum Reserve at Stratton Ridge, Texas, since much of the annual revenue for the cities flows from the Chemical Manufacturing Industries; and</i></p> <p><i>WHEREAS, the expansion of the Strategic Petroleum Reserve at Stratton Ridge would create virtually no significant economic benefit that could conceivably compensate for the potential harm it would do the local economy; and</i></p> <p><i>WHEREAS, the Department of Energy has other options to meet its mandated expansion of the Strategic Petroleum Reserve capacity;</i></p>	<p>[See response 3.8-3 above]</p>

COMMENT	RESPONSE
3.8 Socioeconomics	
<p><i>NOW, THEREFORE, BE IT RESOLVED, that the Council of the City of Lake Jackson, Texas hereby opposes said location of a Strategic Petroleum Reserve at Stratton Ridge, Texas.</i></p> <p><i>APPROVED AND ADOPTED by the Council of the City of Lake Jackson, Texas, this 3rd day of July, 2006. City of Lake Jackson, Texas City Secretary.</i></p> <p>Comment D0092-2 (David Stedman, Economic Development Alliance)</p> <p><i>Whereas, the proposal to locate a Strategic Petroleum Reserve storage operation at Stratton Ridge, Texas, would have an adverse effect on the area's chemical manufacturing industry which constitutes the very foundation of the economy of South Brazoria County with over 5,000 direct jobs and as many as four to eight times that number of indirect jobs among contractors and suppliers; Whereas the expansion of the Strategic Petroleum Reserve at Stratton Ridge would create virtually no significant economic benefit that could conceivably compensate for the potential harm it would do to the local economy;</i></p> <p>Comment D0095-1 (Donald Payne, Brazoria County Commissioner)</p> <p><i>Whereas, Stratton Ridge, Texas, is in Brazoria County, Texas; and Whereas, the proposed location of a Strategic Petroleum Reserve storage operation is Stratton Ridge, Texas -- would have an adverse effect on the area's chemical manufacturing industry and related jobs and thus the area's new economic base would be adversely affected; Whereas, the Department of Energy has other options to meet its mandated expansion of the Strategic Petroleum Reserve capacity.</i></p>	<p>[See response 3.8-3 above]</p>

COMMENT	RESPONSE
3.8 Socioeconomics	
<p>Comment D0095-3 (David Payne, Brazoria County Commissioner) <i>And on a personal note, before I was elected in 2001, I worked for Dow for 22 years, and ten of those years were in a chlorine plant. And I know the need of the brine for the -- for the chlorine operations. And I'm actually surprised when Bob stood up here and said it would only affect 50 percent of the people out there. I figured it would be more than that because at all of the other plants -- or a lot of the other plants tie in to chlorine.</i></p> <p>Comment D0104-2 (Cindy Suggs, individual) <i>I'm not sure how strategic it is when the entire economic viability of the region would be at risk. I formerly worked for Dow, and realize that as Dow goes, so goes our communities. If Dow cannot get the raw materials it needs for its key processes, it will be forced to build overseas - much of which they are already doing.</i></p> <p><i>That in turn costs thousands of jobs, including Dow employees, vendors, contractors, medical professionals, local stores, etc. The Brazosport area would cease to exist.</i></p> <p><i>I understand there are other sites being looked at. It makes sense to me to look at those (such as Damon) that are not directly tied to the entire economic livelihood of tens of thousands of people.</i></p> <p>Comment D0109-1 (Bernice Bilich, individual) <i>Please ask Energy Secretary Bodman to choose a site other than Stratton Ridge to store 160 million barrels of oil. This procedure would have an extremely negative impact on Dow Chemical Company.</i></p>	<p>[See response 3.8-3 above]</p>

COMMENT	RESPONSE
3.8 Socioeconomics	
<p><i>Dow Chemical is important to Brazoria County. Besides the jobs it supplies, the company is very involved in the total community, as are its employees.</i></p> <p>Comment D0110-1 (Brazosport Area Chamber of Commerce) <i>The Brazosport area and all of Brazoria County has a great stake in this decision. Thousands of jobs are enabled because of the salt the chemical industry mines at Stratton Ridge. Industry uses this salt to produce products that are used locally by other businesses as well as shipping these products all over Texas, the U.S. and the world.</i></p> <p><i>On behalf of the Board of Directors of the Brazosport Area Chamber of Commerce, of Brazoria County, we do not support the use of Stratton Ridge for the expansion of the SPR for the following reasons:</i></p> <p><i>5) The SPR uses underground salt formations as the basis for their oil storage operations. For their purposes they remove the salt and discharge it into the ocean. Placing the SPR at Stratton Ridge would waste salt that the chemical industry could use to make useful products in the future. The DoE time line to remove the salt from the salt dome and other operational considerations would not allow this salt to be used to make products and thus would be wasted. As we understand it the other sites under consideration do not have co-located salt based production facilities, so the salt wasted into the ocean isn't salt that can be made into useful products, as can the salt at Stratton Ridge.</i></p> <p><i>6) There is also concern over government taking of Stratton Ridge property and perhaps even closure of Stratton Ridge Road. We have local experience on the use of eminent domain by the Government.</i></p> <p><i>7) At a time when 'the chemical industry is struggling with high energy and feedstock costs and high construction costs, this waste of Stratton Ridge salt and concern of government taking of critical property could</i></p>	<p>[See response 3.8-3 above]</p>

COMMENT	RESPONSE
3.8 Socioeconomics	
<p><i>further affect the decision of industry in this area to locate new plants here and perhaps even negatively affect business decisions for investments to support current operations.</i></p> <p><i>8) The 40 or so jobs created for managing the SPR site could jeopardize literally thousands of direct chemical industry jobs and thousands of indirect jobs.</i></p> <p><i>We also understand that Bryan Mound was removed from consideration because it did not have adequate capacity for expansion and that the plans for Stratton Ridge would include facilities to off load foreign crude in Texas City and bring the oil in through pipeline. So it seems this would not even benefit Port Freeport.</i></p>	<p>[See response 3.8-3 above]</p>
<p>Comment D0077-15 (EPA Region 6) <i>Pages 3-293 to 3-299, Section 3.8.2, Affected Environments: The FEIS should disclose if the construction and operational employment figures, if any, for the Anchorage, Liberty and Texas City tank farms are internalized with the data for the Bruinsburg, Richton and Stratton Ridge proposed sites, respectively.</i></p> <p>Comment D0077-16 (EPA Region 6) <i>Pages 3-299 to 3-303: Section 3.8.3, Impacts: Are the construction and operational employment figures, if any, for the Anchorage, Liberty and Texas City tank farms internalized with the data for the Bruinsburg, Richton and Stratton Ridge proposed sites, respectively?</i></p>	<p>Response 3.8-4</p> <p>Tables 3.8.3-1 and 3.8.3-2 present peak construction employment and immigration for each alternative. Those peaks are based on current site plans. By focusing on the peak employment, maximum potential effects can be identified. Beyond the site construction and pipeline construction activities that occur in the peak construction employment years, additional employment would be associated with offsite facilities before and following peak employment.</p> <p>The EIS text has been modified to discuss the projected offsite facility employment needs before and following peak construction years. Before the peak construction years, DOE would construct the RWI systems, which would require an estimated average of 50 construction employees. For the Bruinsburg, Richton, or Stratton Ridge alternatives, after the peak construction years, DOE would build terminal facilities which would require an average of about 50 construction employees per terminal.</p> <p>Thus, tables 3.8.3-1 and 3.8.3-2 and associated conclusions remain</p>

COMMENT	RESPONSE
3.8 Socioeconomics	
[See comment D0077-16 text above]	accurate.

COMMENT	RESPONSE
3.9 Cultural Resources	
<p>Comment D0001-1 (NPS, Natchez Trace Parkway) <i>The Natchez Trace Parkway was authorized by Congress May 18, 1938. The Parkway is an elongated park of 51,150 acres covering a distance of 444 miles in Mississippi, Alabama, and Tennessee between Natchez, Mississippi, and Nashville, Tennessee. The purpose, as set forth by Congress, of the Parkway is to provide and maintain a scenic and recreational motor road commemorating the historic Old Natchez Trace and to provide access to significant natural and cultural resources. The Natchez Trace Parkway is characterized by numerous prehistoric Indian mounds and Chickasaw village sites, a military road associated with General Jackson's famous victory over the British at New Orleans, and its historic sites associated with the westward expansion of the British Colonies and the United States from 1763 - 1898.</i></p> <p><i>As one of the four nationally recognized rural parkways, the Natchez Trace Parkway, in its entirety, is eligible for the National Register of Historic Places as a designed cultural landscape and as a tribute to Landscape Architectural design and road way engineering partnerships at their best.</i></p> <p><i>The Parkway is presently not authorized to grant an easement or right-of-way (ROW) for either pipeline crossing through Parkway land in accordance with Director's Order 53. The proposed pipelines would require a Congressional authorization being as there is no current deed reservation for the use of US Government land for this purpose in either location.</i></p>	<p>Response 3.9-1 As indicated in section 3.9.1.1 of the EIS, pipeline routes were not addressed in detail in the initial record search for historic properties. As explained in that section, DOE is entering into programmatic agreements with the SHPO of each state where proposed new and expansion sites are under consideration. Appendix K contains copies of these agreements. Under the terms of those programmatic agreements, DOE would identify historic properties in areas, including pipeline routes and other associated facilities, potentially affected by development under the selected alternative, apply the criteria of effect, and resolve adverse effects. While DOE would attempt to locate power line and pipeline routes in existing utility ROWs to avoid new impacts, resolution of adverse effects could include pipeline or power line reroutes, if necessary.</p> <p>The information provided by the commenter will be useful to the archeologists and historians in the identification and evaluation effort, if one of the Bruinsburg alternatives is selected.</p>

COMMENT	RESPONSE
3.9 Cultural Resources	
<p><i>Assuming that authorization is granted, a right-of-way cannot be approved at this level and would require approval by the Southeast Regional Director. Right-of-ways are not given freely and are scrutinized very closely by the National Park Service (NPS). Moreover, the NPS has a Congressional mandate to manage NPS lands in a manner that will not result in derogation of the values and purposes for which the park was established. It would be difficult, and perhaps impossible, to explain the relationship between the proposed development and the purpose and values for which the Parkway was established.</i></p> <p>Comment D0001-2 (NPS, Natchez Trace Parkway)</p> <p><i>Based on your description of the proposed pipeline alignments, it would appear that the crossing near Milepost 73 is being routed directly through the historic Dillon Plantation, which is eligible for the National Register of Historic Places. The Dillon Plantation is rich in Civil War history associated with the Battle of Raymond, siege of Vicksburg, and the Battle of Jackson. The entire property has been determined to be eligible for listing in the National Register of Historic Places due to its association with those important Civil War battles which had a significant impact on the outcome of the Civil War. The 470-acre property is owned in fee by the National Park Service and is within the authorized boundary of the Natchez Trace Parkway.</i></p> <p><i>The Natchez Trace Parkway was created by Congress to commemorate the Historic Old Trace. Approximately 500 feet of Old Trace, listed on the National Register of Historic Places, is interpreted within the present boundary of the Parkway near Dean's Stand. Another 8,000 feet of Historic Old Natchez Trace/Port Gibson-Raymond Road is located on the Dillon Plantation. The Old Natchez Trace was used as a military corridor for transportation of troops and supplies during the</i></p>	<p>[See response 3.9-1 above]</p>

COMMENT	RESPONSE
3.9 Cultural Resources	
<p><i>Civil War and the Historic Old Natchez Trace/Port Gibson-Raymond Road is an integral link to interpreting the historical military strategies of the of the Battle of Raymond, the Battle of Jackson, and the eventual siege of Vicksburg by General US Grant. General U.S. Grant and General W.T. Sherman's headquarters during three area battles is located on the property.</i></p> <p><i>The crossing near Natchez appears that it could adversely impact Emerald Mound or Mount Locust and it would likely adversely impact segments of the historic Old Trace that runs throughout this section, all listed on the National Register of Historic Places.</i></p> <p><i>Emerald Mound, located near milepost 10.3 on the Natchez Trace Parkway, is a very impressive prehistoric Natchez Indian ceremonial mound. The mound covers nearly eight acres and is the third largest Indian mound of any type and the second largest ceremonial mound in the United States. The mound was constructed and used during the Mississippian period, approximately A.D. 1300-1600. Two secondary mounds are located on either end of the mound top. Archaeological evidence indicates that six tertiary mounds were built between the secondary mounds. All of the secondary and tertiary mounds probably supported wooden ceremonial structures. Emerald Mound is on the List of Classified Structures (LCS) and has been designated a National Historic Landmark.</i></p> <p><i>Mount Locust (1780-1820) is one of the oldest dwellings in the state of Mississippi, the only extant stand/inn along the Old Natchez Trace, and the only historic Park building open for visitation where interpretation of Old Trace and its significances are interpreted. Mount Locust functioned as both an inn and a plantation. It is also the only existing inn, among more than fifty, that operated along the Old Natchez Trace. Under Section 110 of the National Historic Preservation Act, the</i></p>	<p>[See response 3.9-1 above]</p>

COMMENT	RESPONSE
3.9 Cultural Resources	
<p><i>Natchez Trace Parkway is mandated to identify, evaluate and protect historic properties eligible for listing on the National Register of Historic Places.</i></p> <p>Comment D0114 – 3 (NPS, Natchez Trace Parkway) <i>Please be aware that the entire areas under consideration for your construction activities could be archeologically sensitive and could require extensive mitigation as well.</i></p> <p>Comment D0114 – 5 (NPS, Natchez Trace Parkway) <i>As one of the four nationally recognized rural parkways, the Natchez Trace Parkway, in its entirety, is eligible for the National Register of Historic Places as a designed cultural landscape and as a tribute to Landscape Architectural design and road way engineering partnerships at their best.</i></p> <p>Comment D0114 – 6 (NPS, Natchez Trace Parkway) <i>As we stated in our June 02, 2006 correspondence, based on your description of the proposed pipeline alignments, it would appear that the crossing near Milepost 73 is being routed directly through the historic Dillon Plantation, which is eligible for the National Register of Historic Places. Approximately 500 feet of Old Trace, listed on the National Register of Historic Places, is interpreted within the present boundary of the Parkway at Dean's Stand near Milepost 73.</i></p> <p><i>The crossing near Natchez, Mississippi appears that it could adversely impact Emerald Mound or Mount Locust and it would likely adversely impact segments of the historic Old Trace that runs throughout this section, all listed on the National Register of Historic Places.</i></p>	<p>[See response 3.9-1 above]</p>

COMMENT	RESPONSE
3.9 Cultural Resources	
<p>Comment D0077-17 (EPA Region 6) <i>Page 3-305, Section 3.9.1.1, Identification of Historic Properties: Was the Louisiana State Historic Preservation Office aware that the crude oil pipeline could run from Bruinsburg to the Anchorage tank farm? There are a number of national and state recognized historic sites in the general area of the proposed route of the pipeline (East Feliciana, West Feliciana and East Baton Rouge parishes).</i></p>	<p>Response 3.9-2 DOE is not familiar with the details regarding the record search conducted by the Louisiana SHPO. Nevertheless, if one of the Bruinsburg alternatives is selected, DOE would identify historic properties located along the crude oil pipeline route, apply the criteria of effect, and resolve adverse effects to properties in Louisiana in consultation with the Louisiana SHPO under the terms of a programmatic agreement as described in response 3.9-1.</p>

COMMENT	RESPONSE
3.10 Noise	
<p>Comment D0077-18 (EPA Region 6) <i>Page 3-324, Section 3.10.2.2, Operation and Maintenance Impacts: Were the noise impacts associated with the pumping station west of Columbia, MS, along the Richton to Liberty crude oil pipeline analyzed and included in the Richton data?</i></p>	<p>Response 3.10-1 DOE acknowledges that the draft EIS did not discuss the noise impacts associated with the operation and maintenance of the intermediate pumping station on the Richton-to-Liberty Station crude oil pipeline. DOE has analyzed this issue and found that any noise impact from operating the pumping station would be negligible. While the pumping station would be located about 300 feet (91 meters) from the closest apparent residence, the pump would be located in a pump house with noise shielding. No other residences appear to be located within 600 feet (180 meters) of where the pump would be located, and the pump would be operated only when oil is being transferred through the pipeline.</p>

COMMENT	RESPONSE
3.11 Environmental Justice	
<p>Comment D0079-7 (Dow Chemical Company) <i>The Draft EIS notes that there are "Native Hawaiian or Other Pacific Islander populations" in the Stratton Ridge, TX area. Dow is unaware</i></p>	<p>Response 3.11-1 Table 3.11-1 presents the potential environmental justice populations for each proposed new or expansion site based on U.S. Census Bureau data. These data are presented in more detail in appendix J. The EIS</p>

COMMENT	RESPONSE
3.11 Environmental Justice	
<i>of any such local populations.</i>	identifies the presence of a potential environmental justice population for the minority census category “Native Hawaiian or Other Pacific Islander” for only the Richton, MS, storage site, not the Stratton Ridge, TX, site.
<p>Comment D0079-35 (Dow Chemical Company) <i>Dow cites Testimony for a discussion of the well known devastation caused by the recently devastated hurricanes states of Louisiana and Mississippi. There are many newly low-income people created in Louisiana and Mississippi. While Environmental Justice has historically focused solely on the adverse effect of the proposed project, Dow suggests that DoE takes a larger view of Environmental Justice and weighs the good locating a project in a devastated area can cause relative to locating the project in another location. If the beneficial aspects of locating the new SPR facility in Mississippi or Louisiana outweigh the harm, Dow suggests that the Environmental Justice aspect of the EIS be weighed in favor of locating the new SPR facility in Mississippi or Louisiana. This project may well be one that has a positive overall impact from the location, from an Environmental Justice perspective.</i></p>	<p>Response 3.11-2 Implementation of the alternatives (other than the no action alternative) generally would provide a positive economic benefit to populations in any of the potential site locations, including Louisiana and Mississippi. DOE evaluated socioeconomic benefits in section 3.8 of the EIS. DOE expects the positive socioeconomic benefits to extend to the entire community, regardless of race, income, or national origin. Executive Order 12898, <i>Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations</i>, does not require analysis of positive impacts, only “disproportionately high and adverse human health or environmental effects”; therefore, the benefits to potential environmental justice populations are not analyzed in this context.</p>

COMMENT	RESPONSE
4. Cumulative Impacts	
4.1 Methodology	
<p>Comment D0077-19 (EPA Region 6) <i>Page 4-2, Section 4.2, Methodology: There are other Gulf Coast area natural gas pipeline and storage projects regulated by FERC that are not-directly associated with LNG terminals that should be considered in Table 4.2-1 and the potential cumulative impacts analysis.</i></p>	<p>Response 4.1-1 Table 4.2-1 in the draft EIS incorrectly indicated that DOE had only reviewed LNG terminal projects regulated by FERC. DOE’s review of FERC projects actually included LNG terminals (development projects), pipelines, and facility alterations. In the EIS, table 4.2-1 has been corrected to indicate the full range of FERC projects reviewed by DOE.</p>

COMMENT	RESPONSE
4. Cumulative Impacts	
4.2 General Cumulative Impacts	
<p>Comment D0073-11 (NOAA Fisheries)</p> <p><i>4.0 Cumulative Impacts</i></p> <p><i>Pages 4-1 through 22. No information is provided in this section related to the cumulative impacts to NMFS trust resources that would be caused by implementation of each of the three alternatives considered to expand SPR storage capacity by 273 MMB. While Section 3.0 of the DEIS quantifies impacts to various categories of habitat that would result at each expansion site, the three alternatives being considered include expansion activities at various combinations of sites. To allow for a side-by-side comparison of the cumulative impacts to various categories of wetlands and EFH that would result from each alternative, this section should be revised to include a summary quantification of impacts to EFH and dependent fishery resources.</i></p>	<p>Response 4.2-1</p> <p>Chapter 4 Cumulative Impacts provides information on the cumulative impacts on NOAA Fisheries trust resources (EFH) by proposed new or expansion sites. To clarify the cumulative impacts by alternative, DOE has updated section 4.2, table 4.2.7-1, which provides a side-by-side comparison of the alternatives.</p>
<p>Comment D0113-2 (Sierra Club, Houston Regional Group)</p> <p><i>The HSC is concerned that cumulative impacts have not been adequately covered in the SPRE DEIS. There is insufficient documentation in the DEIS of cumulative impacts, including direct, indirect, secondary, and connected impacts of past, present, and foreseeable future actions. Yet the NEPA and the CEQ require that analysis, assessment, and evaluation of cumulative impacts be conducted. Please see Chapters 1502.76, 1508.7, and 1508.8 of the CEQ regulations which are binding on all federal agencies to implement. The DOE does not include in its cumulative impacts analysis all past actions.</i></p> <p><i>At minimum, an adequate cumulative effects analysis must:</i></p> <p><i>1) Identify the past, present, and reasonably foreseeable actions of</i></p>	<p>Response 4.2-2</p> <p>DOE completed the cumulative impact analysis in accordance with CEQ implementing regulations (40 CFR Parts 1500 to 1508) and guidance (CEQ 2005). The draft EIS describes past actions, and DOE identifies the present and reasonably foreseeable future actions as described in section 4.2.</p> <p>Based on the current information about the past, present, and reasonably foreseeable future projects, DOE provided quantitative information on the cumulative impacts or stated that such information was not available.</p> <p>In the cumulative impact analysis, DOE stated which site expansion or new site development would result in cumulative impacts and defined the specific resources that would be affected. DOE described the</p>

COMMENT	RESPONSE
4. Cumulative Impacts	
4.2 General Cumulative Impacts	
<p><i>DOE and other parties affecting each particular aspect of the affected environment</i></p> <p><i>2) Must provide quantitative information regarding past changes in habitat quality and quantity, water quality, resource values, and other aspects of the affected environment that are likely to be altered by DOE actions</i></p> <p><i>3) Must estimate incremental changes in these conditions that will result from DOE actions in combination with actions of other parties, including synergistic Effects</i></p> <p><i>4) Must identify any critical thresholds of environmental concern that may be exceeded by DOE actions in combination with actions of other parties</i></p> <p><i>5) Must identify specific mitigation measures that will be implemented to reduce or eliminate such effects</i></p> <p><i>Please also see the CEQ's January 1997 document, "Considering Cumulative Effects Under the National Environmental Policy Act." It is clear that the DOE has an affirmative duty, a statutory duty, and a regulatory duty to carry out cumulative impacts assessment.</i></p>	<p>conceptual mitigation plan that would be used to mitigate for adverse impacts to wetlands and threatened and endangered species. DOE also provided mitigation measures that would be used to mitigate for impacts to water resources, fish and wildlife resources, migratory birds, special status areas, invasive species, and EFH. In addition, DOE stated that after the selection of an alternative, additional mitigation measures for cumulative impacts would be developed through the regulatory permit or consultation process.</p> <p>The cumulative impacts analysis includes the potential synergistic effects of DOE actions in combination with past, present, and reasonably foreseeable projects.</p> <p>Regarding specific mitigation measures, see response 3.7.2.1-3.</p>
<p>Comment D0113-3 (Sierra Club, Houston Regional Group)</p> <p><i>Examples of where the DOE is deficient in determining cumulative impacts include but are not limited to:</i></p> <p><i>1) The DOE does not examine the cumulative impacts due to the U.S. Army Corps of Engineers not implementing Section 404 as required by the Clean Water Act.</i></p> <p><i>2) The DOE does not examine the cumulative impacts due to the Intercoastal Waterway (for instance the continued loss of wetlands due</i></p>	<p>Response 4.2-3</p> <p>It would be unreasonable to assume in the EIS that another agency would fail to meet its obligations under the law without any evidence of that behavior.</p> <p>The action proposed by DOE would not increase the width of the ICW or result in a long-term increase in boat traffic; therefore, DOE did not analyze such cumulative impacts on the ICW.</p>

COMMENT	RESPONSE
4. Cumulative Impacts	
4.2 General Cumulative Impacts	
<p><i>to the widening of the Intercoastal Waterway via boat wakes).</i></p> <p><i>3) The DOE does not examine the cumulative impacts due to implementation or lack of implementation of Federal Emergency Management Administration's floodplain and storm surge regulations and development in the 100 year floodplain and the hurricane storm surge areas.</i></p> <p><i>4) The DOE does not list all Federal Highway Administration, Texas Department of Transportation, Brazoria County, and Brazoria County cities actions (projects) and discuss in detail the cumulative impacts they have on Columbia Bottomlands forested wetlands and other sensitive environmental receptors.</i></p>	<p>As stated in section 4.2, DOE reviewed actions and permit activities undertaken by or under the jurisdiction of USACE, FERC, State Transportation Improvement Programs, city and county governments, and projects carried out with Coastal Wetlands Planning, Protection and Restoration Act funding. State Transportation Improvement Programs and city and county governments include the relevant transportation projects that could have a potential cumulative impact with DOE's proposed action.</p>
<p>Comment D0077-2 (EPA Region 6)</p> <p><i>Page 1-3, Section 1.4.2.1, Summary of Scoping: The response to the scoping comment regarding cumulative impacts that the Stratton Ridge LNG project is not going forward is incorrect. Freeport LNG is actively pursuing the development of a 7.5 bcf underground gas storage facility in the salt dome. Please correct this in the FEIS.</i></p> <p>Comment D0079-1 (Dow Chemical Company)</p> <p><i>In Section 3.2, the DoE says that the concern related to the cumulative and secondary impacts of the SPR expansion presented for increased risk for terrorism or accidents due to the Stratton Ridge facility being close to a proposed bulk liquid natural gas facility are eliminated as there is no longer such a proposal. Dow, as a resident in the local area, having contracted to receive a significant part of the LNG from that facility and an investor in the Freeport LNG facility is already under construction. Ground was broken along time ago and significant construction is on-going. Dow urges DoE to correct this significant mistake in the Draft EIS, relative to the Stratton Ridge potential site and after making this correction, not to under-estimate the impact of</i></p>	<p>Response 4.2-4</p> <p>DOE has corrected the EIS to describe the current status of Freeport LNG's proposed natural gas storage project and analyze the potential impacts related to the project in sections 3.3.6.2.1 and 4.6.1.</p> <p>Response 4.2-5 presents additional details on the Freeport LNG project.</p>

COMMENT	RESPONSE
4. Cumulative Impacts	
4.2 General Cumulative Impacts	
<i>this initially significant concern when recalculating the relative merits of each potential expansion site.</i>	[See response 4.2-4 above]
<p>Comment D0093-1 (Bill Henry, Freeport LNG) <i>One of the comments I wanted to make is that in your environmental impact statement study it was unclear to me, as I went through it, that you were really considering the fact that there was an LNG plant being built here. Let me assure you that it is. We were -- we had filed for and received our federal regulatory permits back in June of 2004. In August of 2005 we started construction. In January, 2005, we are 18 months into construction. First deliveries through the first phase of our plant will begin at the end of '07 and continue from thereon.</i></p> <p><i>We have also filed for an expansion of this facility. It's specified in those dockets there. That expansion is to go from 1.5 Bcf of daily capacity to 4 Bcf of daily capacity at the terminal. That was filed in May of 2005. The environmental assessment on that has just been published, and it is on the FERC agenda for July. So, we anticipate getting all the permits for that by the end of this year and -- and then possibly starting construction at the first part of 2007.</i></p> <p><i>We also have as part of this project a send-out pipeline -- a 42-inch send-out pipeline which goes from Quintana Island to Stratton Ridge. It actually crosses the 40-inch DOE line going to Texas City. That's a high-pressure pipeline. 1250 pounds, MAOP of 1440. So, I want to make sure that if you're going to build another pipeline you be real careful where you put it.</i></p> <p>Comment D0093-2 (Bill Henry, Freeport LNG) <i>The second thing that's in our expansion is salt cavern storage wells. We have in our plans to build up to two natural gas salt cavern storage</i></p>	<p>Response 4.2-5 Section 4.6.1 states that Freeport LNG has a natural gas storage facility currently under construction in close proximity to SPR's proposed Stratton Ridge storage facility. Section 4.6.2 of the cumulative impacts chapter has been revised to refer to Freeport LNG's under construction storage project.</p> <p>In addition, all proposed pipeline routes would be surveyed and all existing utilities would be located before initiating construction. Appropriate construction methods would be used for pipeline construction around and near existing infrastructure.</p>

COMMENT	RESPONSE
4. Cumulative Impacts	
4.2 General Cumulative Impacts	
<p><i>wells as part of our Freeport LNG facility. We have permitted those with the Texas Railroad Commission. They're considered nonjurisdictional by FERC. So, they were permitted by the Texas Railroad Commission. That docket is shown in the -- the material I have given you. So, that -- that's going to happen. It is on the other side about approximately where you pointed. I will send you by E-mail the X and Y coordinates of those particular -- those wells so that you'll be able to consider those in your consideration.</i></p>	<p>[See response 4.2-5 above]</p>
<p>Comment D0093-3 (Bill Henry, Freeport LNG)</p> <p><i>Our position is that -- is that we want to make sure that you've considered our operations in any development just like we would be concerned about Dow or anybody else's development therein concerning our operations. One other thing, which I don't know if it was recognized in your environmental impact statement, but because of our first phase and second phase, we would have up to 400 LNG ships a year coming into this port. So, we're going to add fairly considerably to the marine traffic coming in here. We have worked with the Coast Guard. We have received our waterway suitability studies for that number of ships. So, I suggest those are things that you may want to consider as you consider your project with additional ships and crude carriers that would come into the Freeport port.</i></p>	<p>Response 4.2-6</p> <p>The development and operation of the proposed Stratton Ridge site would not affect shipping in and out of Freeport. The development and operation of the proposed RWI structure would not affect shipments on the ICW and the construction and operation of the offshore brine diffusion system would not affect travel through any shipping lanes.</p>
<p>Comment D0083-9 (Becky Gillette, Sierra Club)</p> <p><i>The other -- this other last point that I will make is I don't think that you've adequately considered the cumulative impact. And I had an idea if TV was here tonight, I was going to walk from the back and just go like this (indicating) and say, I surrender. We have four major public hearings this week in this county of major environmental impacts. We have two LNG boards that you want to put right next to the island that you are talking about putting this marine Shell terminal. These two LNG ports are going to have to require a great amount of security around them. I don't know how you are going to get all of these tankers</i></p>	<p>Response 4.2-7</p> <p>Section 4.5 has been updated to include the DuPont Chemical plant and the proposed new marine Shell terminal. DOE has contacted Chevron, and the company has not announced its intention to expand the refinery. Section 4.5 has been revised to refer to these proposed facilities and evaluate the cumulative impact.</p>

COMMENT	RESPONSE
4. Cumulative Impacts	
4.2 General Cumulative Impacts	
<p><i>in and out. Two LNG ports, right next door, Chevron Pascagoula Refinery is planning on expanding, doubling the size of their refinery so they would go from being the seventh largest refinery in the country to the third largest refinery in the country.</i></p> <p><i>I just went to a hearing tonight at 6:00 about DuPont Chemical expanding their operations there and bringing in a dangerous chemical that I don't think we need. So I don't think that you've adequately addressed the cumulative impact.</i></p>	<p>[See response 4.2-7 above]</p>
<p>Comment D0079-29 (Dow Chemical Company)</p> <p><i>Second, the adverse impact the potentially increased subsidence, discussed in the Geological and Soil Resources section of these comments, will have on the existing commercial pipeline corridors and their included pipelines caused by locating the new SPR facility on the well developed Stratton Ridge salt dome needs to be evaluated in the Land Use section of the EIS. In making this comparison in the Land Use section of the EIS, DOE needs to have the base case the lesser subsidence caused by the continuation of the existing rate of development of the Stratton Ridge salt dome. If the leached salt continues to be consumed by the nearby chemical facility, the rate of development can be easily calculated.</i></p>	<p>Response 4.2-8</p> <p>Oil storage caverns are created in salt domes by leaching the salt using solution mining. The salt, which is potentially economically valuable, would be disposed of as brine either through discharge to the Gulf of Mexico or through underground injection. Because the salt would be solution mined and disposed of in a manner that destroys its original economic value, this salt resource would be irreversibly and irretrievably committed to the project and could not be recovered for economic uses.</p> <p>Economic reuse of the salt (e.g., as a raw material in a chemical production process) would be infeasible for several reasons. The brine generated by the solution mining for cavern creation may be too dilute for economic use in chemical processing. Also, a large amount of brine would be generated from cavern development in a relatively short period of time, and the brine would not be generated at a constant rate of flow. Dow Chemical indicated in its comments on the EIS (Comment D0079-11) that the amount of salt in the Stratton Ridge site would be enough to operate its chlorine production plant for 7 years; according to the proposed construction schedule for cavern development DOE would generate this amount of salt brine in less than 5 years at the Stratton Ridge site. Therefore, even if the brine was</p>

COMMENT	RESPONSE
4. Cumulative Impacts	
4.2 General Cumulative Impacts	
[See comment D0079-29 text above]	generated at an economically feasible concentration, it would be difficult for a chemical production process to accommodate the brine because of the high and variable flow rate at which the brine would be generated.

COMMENT	RESPONSE
4. Cumulative Impacts	
4.3 Cumulative Biological Impacts	
4.3.2 Chacahoula	
<p>Comment D0074-4 (USACE-NOLA)</p> <p><i>4. All indications suggest that the Chacahoula site is a strong contender for selection. Therefore, the social, economic and environmental impacts should be specifically documented. Every opportunity to minimize impacts incurred by each aspect of the project should be incorporated into the design. As discussed previously, the swamp is a high quality persistently flooded, forested wetland system comprised of muck and mineral muck soils. It provides critical biological support, flood control, water storage, tropical storm buffer, water quality enhancement, recreation. Based on the scope of the project and regional land use trends and demographic patterns in the Morgan City, Houma and Thibodaux area, the cumulative impacts will require thorough analysis. An adequate mitigation project that functionally integrates in to the natural system, is within the watershed (HUC 08090302 - West Central Coastal Louisiana), and that fully compensates all impacted physical, chemical and biological functions, should be in the formulation process.</i></p>	<p>Response 4.3-1</p> <p>The EIS assesses the social, economic, and environmental impacts associated with Chacahoula alternative. Chapter 2 identifies the mitigation measures that are incorporated into each alternative, while specific mitigation measures are described by resource in chapter 3. DOE has developed a conceptual plan for wetlands impacts for the Chacahoula alternative. A detailed wetlands mitigation plan will be developed after selection of an alternative in the ROD.</p> <p>The cumulative impacts associated with the Chacahoula alternative are presented in section 4.4 of the EIS.</p>

COMMENT	RESPONSE
4. Cumulative Impacts	
4.3 Cumulative Biological Impacts	
4.3.5 Richton	
<p>Comment D0106-6 (USFWS) <i>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.</i></p>	<p>Response 4.3-2 DOE has revised the EIS to state that “DOE does not expect the cumulative effects to threatened and endangered species to be significant for any alternative, except for the Richton alternative, which may have a cumulative adverse effect on the Gulf sturgeon, pearl darter, and yellow-blotched map turtle.” This is consistent with DOE’s conclusion from other sections of the EIS.</p>

COMMENT	RESPONSE
4. Cumulative Impacts	
4.3 Cumulative Biological Impacts	
4.3.6 Stratton Ridge	
<p>Comment D0077-20 (EPA Region 6) <i>Page 4- 16, Section 4.8.1 Stratton Ridge Storage Site: The description incorrectly characterizes the Freeport LNG proposal. Freeport LNG intends to create a salt dome cavern storage facility for natural gas post-regasification. It is not an underground storage facility for liquefied natural gas. The cumulative impacts analysis should reflect the Freeport LNG proposed natural gas storage facility as well as the natural gas pipeline from the regasification facility on Quintana Island.</i></p>	<p>Response 4.3-3 See responses 4.2-4 and 4.2-5. The Freeport LNG project has been added to the cumulative impact analysis.</p>

COMMENT	RESPONSE
4. Cumulative Impacts	
4.3 Cumulative Biological Impacts	
4.3.9 West Hackberry	
<p>Comment D0077-21 (EPA Region 6) <i>Page 4-21, Section 4.1 1.2, West Hackberry Associated Infrastructure: The paragraph incorrectly characterizes the state of LNG terminal and pipeline development in Calcasieu and Cameron parishes. Currently one LNG terminal is operating in Calcasieu Parish and three FERC approved LNG terminals in Cameron Parish are under various stages of development. The operating terminal (Trunkline LNG) has been approved for an expansion. Two of the Cameron Parish terminals have already sought expansion, one of which has been granted by FERC.</i></p>	<p>Response 4.3-4 LNG terminal and pipeline activities in Calcasieu and Cameron Parishes were incompletely referred to in the draft EIS. Section 4.9.2 has been revised to incorporate additional information concerning these facilities and activities.</p>

COMMENT	RESPONSE
4. Cumulative Impacts	
4.4 Cumulative Water Impacts	
4.4.5 Richton	
<p>Comment D0083-4 (Becky Gillette, Sierra Club) <i>You have as -- as addressed in the EIS, you have all kinds of difficulties, not just with your aquatic resources, but everybody who has a wastewater discharge downriver from that will have less water in which to put their wastewater which causes problems for the municipalities that are discharging that wastewater and also from industrial water users. You may actually have a conflict with Chevron Refinery. There have been times when Chevron Refinery has come very close to not being able to run their refinery because the drought conditions have made the Pascagoula River low. So I would say that that is definitely a conflict of interest there in taking more water out of the Leaf River.]</i></p>	<p>Response 4.4-1 Section 4.5.3.2 states “DOE determined that the impact of the Leaf River RWI would have a potential adverse effect on the aquatic resources in the Leaf River during drawdown activities. The impact could be mitigated by conditions in the Stream Diversion and Use of Public Waters permit from the Mississippi DEQ and CWA Section 404 permit, which would ensure protection of the Minimum Instream Flow.” These permit processes would consider use of Leaf River water by the upstream paper mill and power plant and downstream facilities (including the Chevron refinery), and also would consider unpermitted removal of water for uses such as irrigation and livestock watering, and thus consider cumulative effects of both upstream and downstream water usage. In addition, the EIS acknowledges that there would be a cumulative adverse impact on</p>

COMMENT	RESPONSE
4. Cumulative Impacts	
4.4 Cumulative Water Impacts	
4.4.5 Richton	
[See comment D0083-4 text above]	water resources during drawdown.

COMMENT	RESPONSE
5. Irreversible and Irretrievable Commitment of Resources	
<p>Comment D0079-3 (Dow Chemical Company) <i>In Chapter 3 (Section 3.3) and Chapter 5, the Draft EIS addresses "Irreversible and Irretrievable Commitment of Resources. While the same amount of salt will be "wasted" regardless of which site is chosen, there is a major and significant difference between Stratton Ridge and the other sites under consideration. As eloquently addressed by Bob Walker and others, Dow has Chlor-Alkali facilities that can constructively use the salt, if mined at a rate and with a quality appropriate to feed our Chlor-Alkali and down stream chemical manufacturing plants. This makes the salt that would be wasted if Stratton Ridge were selected different from the other potential sites. Dow urges DOE not to under estimate this critical difference.</i></p> <p>Comment D0079-21 (Dow Chemical Company) <i>The EIS needs to fully evaluate the potential diversion of over one and a quarter billion barrels of brine, containing valuable chlorine, from the US economy and wasting this diverted brine into the Gulf of Mexico.</i></p> <p>Comment D0021-3 (Brazoria County Commissioner) <i>The SPR uses underground salt formations as the basis for their oil storage operations. For their purposes they remove the salt and discharge it into the ocean. Placing the SPR at Stratton Ridge, would waste salt that the chemical industry could use to make useful products in the future. The DoE time line to remove the salt from the salt dome</i></p>	<p>Response 5-1 With respect to the potential economic value of the salt that would be lost through cavern development, the Stratton Ridge site differs from the other proposed new and proposed expansion sites. The Dow Chemical Company uses salt from the Stratton Ridge salt dome in chemical manufacturing. The economic value of the salt that would be removed from the dome through SPR development and brine disposal would not be available for use as a raw material in chemical manufacturing. Although the economic value of a given amount of salt is theoretically the same for any of the new and expansion sites, the other sites do not have existing infrastructure in place to use the salt, and such infrastructure would need to be constructed to realize the economic value of the salt; therefore, the potential to realize the economic value of the salt is lower for the other sites than for the Stratton Ridge site. DOE has added this information to the assessment of Irreversible and Irretrievable Commitment of Resources in chapter 5, section 5.3.</p> <p>See also response 3.3-1.</p>

COMMENT	RESPONSE
5. Irreversible and Irretrievable Commitment of Resources	
<i>and other operational considerations would not allow this salt to be used to make products and thus would be wasted. As I understand it the other sites under consideration do not have co-located salt based production facilities, so the salt wasted into the ocean isn't salt that can be made into useful products, as can the salt at Stratton Ridge</i>	[See response 5-1 above]

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