

**Environmental Impact Statement  
Scoping Process**

**Summary Report**

**Comanche Peak Nuclear Power Plant  
Units 3 and 4  
Combined License Application  
Hood and Somervell Counties, Texas**

**June 2009**



**U.S. Nuclear Regulatory Commission  
Rockville, Maryland**

# 1. Introduction

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On September 19, 2008, Luminant Generation Company LLC (Luminant), acting for itself and as agent for Nuclear Project Company LLC, submitted to the U.S. Nuclear Regulatory Commission (NRC) an application for two combined licenses (COLs) for Comanche Peak Nuclear Power Plant (CPNPP) Units 3 and 4, to be located adjacent to the existing CPNPP Units 1 and 2 [See Accession No. ML 082680250 in NRC's Agency Document Access and Management System (ADAMS). ADAMS is accessible in the NRC Public Electronic Reading Room: <http://www.nrc.gov/reading-rm/adams/web-based.html> (case-sensitive)]. The CPNPP site is located in Hood and Somervell counties, Texas, approximately 5 mi north of Glen Rose, Texas.

As part of the application, Luminant submitted an environmental report (ER) prepared in accordance with the requirements of Title 10 of the Code of Federal Regulations (CFR) Part 51 and 10 CFR Part 52. The ER focuses on potential environmental effects from the construction and operation of two new nuclear units at the CPNPP site. It also includes evaluation of the environmental consequences of alternatives to the proposed action and evaluation of any mitigating actions that may be taken. NRC regulations implementing the National Environmental Policy Act (NEPA) are contained in 10 CFR Part 51, Subpart A. In addition, the NRC follows the Council on Environmental Quality regulations to the extent set forth in 10 CFR 51.10 and 10 CFR 51.14(b). NRC regulations related to the environmental review of COL applications are contained in 10 CFR Part 51 and 10 CFR Part 52, Subpart C.

In accordance with NUREG-1555, *Standard Review Plans for Environmental Reviews for Nuclear Power Plants*, the NRC staff is preparing an environmental impact statement (EIS) for the Luminant application. The proposed action is the NRC Commission's decision on the Luminant application to build and operate two new base-load nuclear power generation facilities (new units), CPNPP Units 3 and 4, to be located within the existing CPNPP site. The EIS will include an evaluation of the environmental impacts of the proposed action and the environmental impacts of alternatives to the proposed action, including the no-action alternative, alternative energy sources, alternatives related to the facility cooling and circulating water systems, and alternatives available for reducing or avoiding adverse environmental effects. Finally, the EIS will include an evaluation of alternative sites to determine whether there is an obviously superior alternative to the proposed site.

In addition, the staff is conducting a safety review of the Luminant COL application in accordance with NUREG-0800, *Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants*. The safety review is a separate process from the environmental review, although the two reviews are conducted concurrently.

On December 12, 2008, in accordance with 10 CFR 51.26, the NRC initiated the scoping process by publishing a notice of intent to prepare an environmental impact statement and conduct scoping process in the *Federal Register* (73 FR 77076-8) (ML083360512). The notice of intent notified the public of the staff's intent to prepare an EIS and to conduct scoping for the COL application. Through the notice, the NRC also invited the applicant; Federal, Tribal, State, and local government agencies; local organizations; and individuals to participate in the scoping process by providing oral comments at the public meetings and/or submitting written suggestions and comments no later than February 17, 2009.

The scoping process provides an opportunity for public participation to identify issues to be addressed in the EIS and to highlight public concerns and issues. The notice of intent identified the following objectives of the scoping process:

- Define the proposed action that is to be the subject of the EIS.
- Determine the scope of the EIS and identify significant issues to be analyzed in depth.
- Identify and eliminate from detailed study those issues that are peripheral or that are not significant.
- Identify any environmental assessments and other EISs that are being prepared or will be prepared that are related to, but not part of, the scope of the EIS being considered.
- Identify other environmental review and consultation requirements related to the proposed action.
- Identify parties consulting with the NRC under the National Historic Preservation Act (NHPA), as set forth in 36 CFR 800.8(c)(1)(i).
- Indicate the relationship between the timing of the preparation of the environmental analyses and the NRC's tentative planning and decision-making schedule.
- Identify any cooperating agencies and, as appropriate, allocate assignments for preparation and schedules for completing the EIS to the NRC and any cooperating agencies. By letter dated April 21, 2009, The U.S. Army Corps of Engineers (USACE) accepted the NRC's invitation to participate as a cooperating agency on the CPNPP Units 3 and 4 COL application environmental review.
- Describe how the EIS will be prepared, and identify any contractor assistance to be used.

Two public scoping meetings were held at the Glen Rose Expo Center, in Glen Rose, Texas, on January 6, 2009. The NRC announced the meetings in local and regional newspapers (*Glen Rose Newspaper, Hood County News, and Fort Worth Star-Telegram*) and issued press releases locally. Approximately 110 people attended the afternoon scoping meeting and approximately 50 attended the evening session. The scoping meetings began with NRC staff members providing a brief overview of NRC's review process for COL applications and the NEPA process. After the NRC's prepared statements, the meetings were opened for public comments.

Twenty-five (25) afternoon scoping meeting attendees and 26 evening scoping meeting attendees provided oral comments that were recorded and transcribed by a certified court reporter. Twelve (12) written statements were received during the meeting. In addition to the oral and written statements provided at the public scoping meeting, 2 letters and 30 e-mail messages were received during the scoping period.

Transcripts for both afternoon and evening scoping meetings can be found in ADAMS under accession numbers ML090290409 and ML090291005, respectively. A scoping meeting summary memorandum (ML090300226) was issued February 2, 2009.

At the conclusion of the scoping period, the NRC staff and its contractors, Oak Ridge National Laboratory and Information System Laboratories, reviewed the scoping meeting transcripts as well as all written material received and identified individual comments. These comments were organized according to topic within the proposed EIS or according to the general topic if outside the scope of the EIS. After comments were grouped according to subject area, the staff prepared responses to the comments, identifying which were within the scope of the EIS.

The NRC staff and its contractors will use the information gathered during the scoping period to write the draft EIS. The draft EIS will be issued for public comment. The NRC staff will consider the public comments, and as appropriate, will revise the EIS and issue a final EIS. The final EIS, along with the NRC safety evaluation report, will be the subject of a hearing before the NRC's Atomic Safety and Licensing Board. Following a decision by the Atomic Safety and Licensing Board, the commission will decide whether or not to issue the license.

Table 1 identifies in alphabetical order the individuals providing comments, their affiliation (if given), and the ADAMS accession number that can be used to locate the correspondence. The comment categories are listed in Table 2 in the order that they are presented in this document. Table 3 lists the comment categories in alphabetical order and commenter names and numbers for comments that were binned into each category. The balance of this document presents the comments with NRC staff responses organized by topic category.

**Table 1 Individuals Providing Comments During the Comment Period**

<b>Commenter</b>	<b>Affiliation (if stated)</b>	<b>Comment Source and ADAMS Accession #</b>	<b>Correspondence ID Number</b>
Atkinson, Bill	Glen Rose Chamber of Commerce	Meeting Transcript (ML090290409)	0016
Bahlburg, Kelly	Self	Email (ML090230174)	0013
Bernhart, David	NOAA, National Marine Fisheries Service	Email (ML090230148)	0003
Bernier, Jim	Self	Email (ML090300670)	0020
Berry, Steve	Hood County	Meeting Transcript (ML090290409)	0016
Bisbee, Kay	Self	Meeting Transcript (ML090291005)	0017
Boydston, Kathy	Texas Parks and Wildlife Department	Email (ML090490221)	0029
Burnam, Lon	Texas Legislature	Meeting Transcript (ML090290409)	0016
Burnam, Lon	Texas Legislature	Meeting Transcript (ML090291005)	0017
Cathey, Jack	Self	Meeting Transcript (ML090260390)	0018
Cathey, Jack	Self	Meeting Transcript (ML090290409)	0016
Chorost, Amy	Self	Email (ML090230169)	0012
Cohn, Ann	Self	Meeting Transcript (ML090291005)	0017
Downing, Kevin	Self	Meeting Transcript (ML090291005)	0017
Drechel, Gary	Self	Email (ML090230155)	0007
Duck, Kathy	Self	Email (ML090230157)	0009
Duncan, Jim	North Texas Renewable Energy	Meeting Transcript (ML090291005)	0017
Duvall-Gabriel, Najah	Advisory Council on Historic Preservation	Email (ML090500077)	0036
Edwards, Chet	U.S. House of Representatives	Meeting Transcript (ML090260371)	0019
English, Maurice	Self	Meeting Transcript (ML090290409)	0016
Gentling, Suzanne	Self	Email (ML090490226)	0031
Hadden, Karen	Sustainable Energy & Economic Development (SEED) Coalition	Email (ML090230176)	0014

**Table 1 (continued)**

<b>Commenter</b>	<b>Affiliation (if stated)</b>	<b>Comment Source and ADAMS Accession #</b>	<b>Correspondence ID Number</b>
Hadden, Karen	Sustainable Energy & Economic Development (SEED) Coalition	Email (ML090480025)	0022
Hadden, Karen	Sustainable Energy & Economic Development (SEED) Coalition	Email (ML090490224)	0030
Hadden, Karen	Sustainable Energy & Economic Development (SEED) Coalition	Meeting Transcript (ML090260371)	0019
Hadden, Karen	Sustainable Energy & Economic Development (SEED) Coalition	Meeting Transcript (ML090290409)	0016
Hadden, Karen	Sustainable Energy & Economic Development (SEED) Coalition	Meeting Transcript (ML090291005)	0017
Hale, Rod	Self	Meeting Transcript (ML090290409)	0016
Harper, Debbie	Self	Meeting Transcript (ML090291005)	0017
Harper, Paul	Glen Rose Network Corp.	Meeting Transcript (ML090291005)	0017
Hind, Rebecca	Nuclear Energy for Texans (NET)	Meeting Transcript (ML090260390)	0018
Illegible, Illegible	Tokawa Tribe of Oklahoma	Letter (ML090500590)	0037
Independent School District, Glen Rose	Self	Meeting Transcript (ML090260371)	0019
Inge, Charles and Dominique	Self	Email (ML090490218)	0028
Johnson, Lisa	City of Granbury	Meeting Transcript (ML090290409)	0016
Kinzie, W.T.	Self	Meeting Transcript (ML090290409)	0016
Leising, Joe	Self	Meeting Transcript (ML090291005)	0017
Lowe, Ed	Friends of the Brazos River	Email (ML090480028)	0025
Luton, John Henry	First National Bank of Granbury	Email (ML090230149)	0004
Marks, Gary	Glen Rose Medical Center	Meeting Transcript (ML090290409)	0016
Maynard, Walter	Somervell County Commissioners Court	Meeting Transcript (ML090290409)	0016

**Table 1 (continued)**

<b>Commenter</b>	<b>Affiliation (if stated)</b>	<b>Comment Source and ADAMS Accession #</b>	<b>Correspondence ID Number</b>
Maynard, Walter	Somervell County Commissioners Court	Meeting Transcript (ML090291005)	0017
Mayo, Ann B.	Self	Email (ML090480029)	0026
Meyers, Kevin	Self	Meeting Transcript (ML090290409)	0016
Miller, Pam	Glen Rose	Meeting Transcript (ML090291005)	0017
Miller, Russ	Chalk Mountain Wildlife Management Association; Light Pollution Committee	Email (ML090480030)	0024
Norton, Barbara & Tom	Self	Letter (ML090500381)	0038
Orcutt, David	Lake Granbury Medical Center	Meeting Transcript (ML090260390)	0018
Orcutt, David	Lake Granbury Medical Center	Meeting Transcript (ML090290409)	0016
Osowski Morgan, Sharon L.	U.S. Environmental Protection Agency	Email (ML090480031)	0027
Otte, Melinda	Comanche Peak WIN chapter	Email (ML090230168)	0011
Overstreet, Lee	Granbury Rotary Club	Meeting Transcript (ML090290409)	0016
Phillips, Marilyn	Somervell School District	Meeting Transcript (ML090290409)	0016
Phillips, Marilyn	Somervell School District	Meeting Transcript (ML090291005)	0017
Ramsey, Terry	Self	Email (ML090230152)	0006
Rash, Andy	Hood County Commissioners Court	Meeting Transcript (ML090290409)	0016
Rash, Andy	Hood County Commissioners Court	Meeting Transcript (ML090291005)	0017
Reed, Cyrus	Lone Star Chapter of the Sierra Club	Email (ML09040228)	0032
Reed, Cyrus	Lone Star Chapter of the Sierra Club	Email (ML090490228 )	0035
Reed, Cyrus	Lone Star Chapter of the Sierra Club	Meeting Transcript (ML090290409)	0016
Richardson, Karen	Self	Email (ML090430065)	0021
Rittenhouse, Ryan	Public Citizen	Meeting Transcript (ML090291005)	0017
Roan, Richard	self	Meeting Transcript (ML090260390)	0018

**Table 1 Individuals Providing Comments During the Comment Period**

<b>Commenter</b>	<b>Affiliation (if stated)</b>	<b>Comment Source and ADAMS Accession #</b>	<b>Correspondence ID Number</b>
Roan, Richard	self	Meeting Transcript (ML090290409)	0016
Rooke, Molly	Self	Meeting Transcript (ML090291005)	0017
Rosenfeld, Joshua	Brazos River Conservation Commission	Meeting Transcript (ML090290409)	0016
Sanders, Jan	Self	Meeting Transcript (ML090291005)	0017
Scott, Mike	Granbury Chamber of Commerce	Meeting Transcript (ML090260371)	0019
Scott, Mike	Granbury Chamber of Commerce	Meeting Transcript (ML090290409)	0016
Shaar, Julie	Self	Meeting Transcript (ML090290409)	0016
Sheaks, Jerry	Self	Meeting Transcript (ML090291005)	0017
Shroyer, Danielle	Self	Email (ML090230167)	0010
Smith, Hugh	Self	Meeting Transcript (ML090290409)	0016
Smith, Tom	Texas Office of Public Citizen	Email (ML090210450)	0002
Spears, Linda	Self	Email (ML090230177)	0015
Stamler, Richard	Self	Email (ML090230156)	0008
Stuard, Gary	Interfaith Environmental Alliance	Meeting Transcript (ML090291005)	0017
Sumners, Allen	Self	Meeting Transcript (ML090291005)	0017
Sykes, Victoria	Congressman Chet Edward's Office	Meeting Transcript (ML090290409)	0016
Taylor, Kevin	Somervell County Water District	Meeting Transcript (ML090290409)	0016
Ubico, Jean	Self	Email (ML090480027)	0023
Ward, Mary	Granbury-Hood County Economic Development Corporation	Meeting Transcript (ML090290409)	0016
Wildwood, Kathleen	Self	Meeting Transcript (ML090290409)	0016
Wohler, Will	Self	Meeting Transcript (ML090260390)	0018
Wohler, Will	Self	Meeting Transcript (ML090291005)	0017
Wolz, Conrad	Trophy Club Texas	Email (ML090230150)	0005
Wyatt, Dr. Bill	Self	Meeting Transcript (ML090291005)	0017

**Table 2 Comment Categories in Order as Presented in This Report**

2.1	Comments Concerning Process - NEPA
2.2	Comments Concerning Site Layout and Design
2.3	Comments Concerning Land Use - Site and Vicinity
2.4	Comments Concerning Land Use - Transmission Lines
2.5	Comments Concerning Meteorology and Air Quality
2.6	Comments Concerning Geology
2.7	Comments Concerning Hydrology - Surface Water
2.8	Comments Concerning Hydrology - Groundwater
2.9	Comments Concerning Ecology - Terrestrial
2.10	Comments Concerning Ecology - Aquatic
2.11	Comments Concerning Socioeconomics
2.12	Comments Concerning Historic and Cultural Resources
2.13	Comments Concerning Environmental Justice
2.14	Comments Concerning Health - Radiological
2.15	Comments Concerning Accidents - Design Basis
2.16	Comments Concerning Accidents - Severe
2.17	Comments Concerning the Uranium Fuel Cycle
2.18	Comments Concerning Transportation
2.19	Comments Concerning Decommissioning
2.20	Comments Concerning Cumulative Impacts
2.21	Comments Concerning the Need for Power
2.22	Comments Concerning Alternatives - No-Action
2.23	Comments Concerning Alternatives - Energy
2.24	Comments Concerning Alternatives - System Design
2.25	Comments Concerning Benefit - Cost Balance
2.26	General Comments in Support of the Licensing Action
2.27	General Comments in Support of the Licensing Process
2.28	General Comments of Support of Nuclear Power
2.29	General Comments in Support of the Existing Plant
2.30	General Comments in Opposition of the Licensing Action
2.31	General Comments in Opposition of the Licensing Process
2.32	General Comments in Opposition of Nuclear Power
2.33	Comments Concerning Issues Outside Scope - Emergency Preparedness
2.34	Comments Concerning Issues Outside Scope - Miscellaneous
2.35	Comments Concerning Issues Outside Scope - NRC Oversight
2.36	Comments Concerning Issues Outside Scope - Safety
2.37	Comments Concerning Issues Outside Scope - Security and Terrorism

**Table 3. Comment Categories Alphabetically with Associated Commenters and Comments**

<b>Comment Category</b>	<b>Commenter (Comment ID)</b>
Accidents-Design Basis (Section 2.15)	<ul style="list-style-type: none"> <li>• Gentling, Suzanne (0031-6)</li> <li>• Hadden, Karen (0017-26) (0022-47) (0022-54)</li> <li>• Osowski Morgan, Sharon L. (0027-4)</li> <li>• Reed, Cyrus (0032-10)</li> </ul>
Accidents-Severe (Section 2.16)	<ul style="list-style-type: none"> <li>• Burnam, Lon (0016-41)</li> <li>• Hadden, Karen (0019-11) (0022-28) (0022-45)</li> <li>• Harper, Debbie (0017-51)</li> <li>• Reed, Cyrus (0032-11)</li> </ul>
Alternatives-Energy (Section 2.23)	<ul style="list-style-type: none"> <li>• Bisbee, Kay (0017-47)</li> <li>• Burnam, Lon (0017-16)</li> <li>• Cohn, Ann (0017-34) (0017-37)</li> <li>• Duncan, Jim (0017-53)</li> <li>• Hadden, Karen (0016-12) (0016-13) (0016-14) (0016-15) (0016-17) (0016-19) (0016-20) (0019-7) (0022-5) (0022-48) (0022-49) (0022-50) (0022-51) (0030-2) (0030-7)</li> <li>• Osowski Morgan, Sharon L. (0027-3)</li> <li>• Reed, Cyrus (0016-51) (0032-14) (0032-15) (0032-17)</li> <li>• Rittenhouse, Ryan (0017-61)</li> <li>• Sanders, Jan (0017-73)</li> <li>• Shaar, Julie (0016-76)</li> <li>• Shroyer, Danielle (0010-2)</li> <li>• Stuard, Gary (0017-79)</li> <li>• Wildwood, Kathleen (0016-61)</li> <li>• Wohler, Will (0017-59) (0018-3)</li> </ul>
Alternatives-No-Action (Section 2.22)	<ul style="list-style-type: none"> <li>• Wohler, Will (0017-58)</li> </ul>
Alternatives-System Design (Section 2.24)	<ul style="list-style-type: none"> <li>• Hadden, Karen (0022-19) (0022-41)</li> <li>• Lowe, Ed (0025-2)</li> <li>• Miller, Russ (0024-1)</li> <li>• Osowski Morgan, Sharon L. (0027-6) (0027-8) (0027-11)</li> <li>• Reed, Cyrus (0032-12)</li> </ul>
Benefit-Cost Balance (Section 2.25)	<ul style="list-style-type: none"> <li>• Gentling, Suzanne (0031-8)</li> <li>• Hadden, Karen (0019-8) (0030-1)</li> <li>• Harper, Debbie (0017-50)</li> <li>• Osowski Morgan, Sharon L. (0027-24) (0027-26)</li> <li>• Richardson, Karen (0021-3)</li> <li>• Sanders, Jan (0017-81)</li> <li>• Stuard, Gary (0017-77)</li> <li>• Ubico, Jean (0023-7)</li> </ul>

**Table 3 (continued)**

<b>Comment Category</b>	<b>Commenter (Comment ID)</b>
Cumulative Impacts (Section 2.20)	<ul style="list-style-type: none"> <li>• Burnam, Lon (0016-37)</li> <li>• Cathey, Jack (0016-65)</li> <li>• Hadden, Karen (0022-24) (0022-27)</li> <li>• Osowski Morgan, Sharon L. (0027-25)</li> <li>• Reed, Cyrus (0032-9)</li> <li>• Rittenhouse, Ryan (0017-64) (0017-65)</li> <li>• Stuard, Gary (0017-78)</li> </ul>
Decommissioning (Section 2.19)	<ul style="list-style-type: none"> <li>• Burnam, Lon (0016-38)</li> <li>• Hadden, Karen (0022-16) (0022-17) (0022-39)</li> <li>• Inge, Charles and Dominique (0028-3)</li> <li>• Reed, Cyrus (0032-18)</li> </ul>
Ecology-Aquatic (Section 2.10)	<ul style="list-style-type: none"> <li>• Bernier, Jim (0020-2)</li> <li>• Boydston, Kathy (0029-1) (0029-3) (0029-5) (0029-16) (0029-17) (0029-18) (0029-19)</li> <li>• Burnam, Lon (0016-43) (0017-18)</li> <li>• Cathey, Jack (0016-64) (0018-5) (0018-7)</li> <li>• Gentling, Suzanne (0031-3)</li> <li>• Hadden, Karen (0019-12) (0022-8) (0022-11) (0022-13) (0022-18) (0022-21)</li> <li>• Kinzie, W.T. (0016-69)</li> <li>• Lowe, Ed (0025-1)</li> <li>• Osowski Morgan, Sharon L. (0027-10) (0027-21)</li> <li>• Reed, Cyrus (0032-7)</li> </ul>
Ecology-Terrestrial (Section 2.9)	<ul style="list-style-type: none"> <li>• Boydston, Kathy (0029-2) (0029-6) (0029-7) (0029-8) (0029-9) (0029-10) (0029-11) (0029-12) (0029-13) (0029-14) (0029-15) (0029-21) (0029-22) (0029-23) (0029-24) (0029-25)</li> <li>• Hadden, Karen (0022-14)</li> <li>• Miller, Russ (0024-2)</li> <li>• Osowski Morgan, Sharon L. (0027-7) (0027-22) (0027-23)</li> </ul>
Environmental Justice (Section 2.13)	<ul style="list-style-type: none"> <li>• Hadden, Karen (0019-25)</li> <li>• Osowski Morgan, Sharon L. (0027-20)</li> </ul>
Geology (Section 2.6)	<ul style="list-style-type: none"> <li>• Hadden, Karen (0019-22) (0022-9)</li> </ul>

**Table 3 (continued)**

<b>Comment Category</b>	<b>Commenter (Comment ID)</b>
Health-Radiological (Section 2.14)	<ul style="list-style-type: none"> <li>• Burnam, Lon (0016-39) (0017-10) (0017-14) (0017-17)</li> <li>• Gentling, Suzanne (0031-4)</li> <li>• Hadden, Karen (0016-21) (0016-22) (0016-25) (0019-9) (0019-10) (0019-15) (0019-27) (0022-7) (0022-12) (0022-15) (0022-26) (0022-29) (0022-30) (0022-35) (0022-36) (0022-37) (0022-38) (0022-40)</li> <li>• Osowski Morgan, Sharon L. (0027-5)</li> <li>• Reed, Cyrus (0016-53) (0016-54) (0032-8)</li> <li>• Rittenhouse, Ryan (0017-62)</li> <li>• Rooke, Molly (0017-38) (0017-39)</li> <li>• Sanders, Jan (0017-69) (0017-71)</li> </ul>
Historic and Cultural Resources (Section 2.12)	<ul style="list-style-type: none"> <li>• Duvall-Gabriel, Najah (0036-1)</li> <li>• Illegible, Illegible (0037-1)</li> <li>• Osowski Morgan, Sharon L. (0027-19)</li> </ul>
Hydrology-Groundwater (Section 2.8)	<ul style="list-style-type: none"> <li>• Cohn, Ann (0017-35)</li> <li>• Hadden, Karen (0019-13) (0019-14) (0019-28)</li> <li>• Kinzie, W.T. (0016-66)</li> <li>• Osowski Morgan, Sharon L. (0027-15) (0027-16)</li> <li>• Richardson, Karen (0021-2)</li> <li>• Rooke, Molly (0017-40) (0017-43)</li> </ul>
Hydrology-Surface Water (Section 2.7)	<ul style="list-style-type: none"> <li>• Bernier, Jim (0020-1)</li> <li>• Berry, Steve (0016-28)</li> <li>• Burnam, Lon (0016-42)</li> <li>• Cathey, Jack (0016-63) (0018-4) (0018-6)</li> <li>• Gentling, Suzanne (0031-2)</li> <li>• Hadden, Karen (0016-23) (0019-16) (0019-17) (0019-31) (0019-32) (0022-6) (0022-10) (0022-20) (0022-22) (0022-55) (0030-5)</li> <li>• Inge, Charles and Dominique (0028-1) (0028-2)</li> <li>• Kinzie, W.T. (0016-62) (0016-68)</li> <li>• Osowski Morgan, Sharon L. (0027-9) (0027-12) (0027-13) (0027-14)</li> <li>• Reed, Cyrus (0016-52) (0032-5) (0032-6)</li> <li>• Richardson, Karen (0021-1)</li> <li>• Rooke, Molly (0017-41) (0017-42)</li> <li>• Rosenfeld, Joshua (0016-79)</li> <li>• Sanders, Jan (0017-66) (0017-72)</li> <li>• Stamler, Richard (0008-1)</li> <li>• Stuard, Gary (0017-76)</li> </ul>
Land Use-Site and Vicinity (Section 2.3)	<ul style="list-style-type: none"> <li>• Luton, John Henry (0004-3)</li> </ul>
Land Use-Transmission Lines (Section 2.4)	<ul style="list-style-type: none"> <li>• Hadden, Karen (0019-24)</li> </ul>

**Table 3 (continued)**

<b>Comment Category</b>	<b>Commenter (Comment ID)</b>
Meteorology and Air Quality (Section 2.5)	<ul style="list-style-type: none"> <li>• Osowski Morgan, Sharon L. (0027-18)</li> </ul>
Need for Power (Section 2.21)	<ul style="list-style-type: none"> <li>• Burnam, Lon (0017-11) (0017-15)</li> <li>• Hadden, Karen (0019-21) (0030-8)</li> <li>• Reed, Cyrus (0016-50) (0032-16)</li> </ul>
Opposition-Licensing Action (Section 2.30)	<ul style="list-style-type: none"> <li>• Bisbee, Kay (0017-46)</li> <li>• Cohn, Ann (0017-33)</li> <li>• Gentling, Suzanne (0031-1)</li> <li>• Harper, Debbie (0017-52)</li> <li>• Mayo, Ann B. (0026-3)</li> <li>• Stuard, Gary (0017-74)</li> </ul>
Opposition-Licensing Process (Section 2.31)	<ul style="list-style-type: none"> <li>• Burnam, Lon (0016-45)</li> <li>• Hadden, Karen (0016-10) (0017-19) (0017-20) (0017-21) (0017-22) (0017-23) (0017-24) (0017-25) (0019-29) (0022-1) (0022-2)</li> <li>• Harper, Debbie (0017-49)</li> <li>• Mayo, Ann B. (0026-2)</li> <li>• Reed, Cyrus (0016-48) (0016-56) (0032-1) (0032-2)</li> </ul>
Opposition-Nuclear Power (Section 2.32)	<ul style="list-style-type: none"> <li>• Duncan, Jim (0017-54)</li> <li>• Hadden, Karen (0016-11) (0019-6)</li> <li>• Mayo, Ann B. (0026-1)</li> <li>• Reed, Cyrus (0016-49)</li> <li>• Rittenhouse, Ryan (0017-60)</li> <li>• Shroyer, Danielle (0010-1)</li> <li>• Wolz, Conrad (0005-1)</li> </ul>
Outside Scope-Emergency Preparedness (Section 2.33)	<ul style="list-style-type: none"> <li>• Berry, Steve (0016-27)</li> <li>• Burnam, Lon (0017-13)</li> <li>• Downing, Kevin (0017-31)</li> <li>• Hadden, Karen (0019-18) (0019-19) (0019-20) (0022-46)</li> <li>• Inge, Charles and Dominique (0028-4)</li> <li>• Maynard, Walter (0017-6)</li> <li>• Norton, Barbara &amp; Tom (0038-2)</li> </ul>
Outside Scope- Miscellaneous (Section 2.34)	<ul style="list-style-type: none"> <li>• Hadden, Karen (0022-52)</li> <li>• Inge, Charles and Dominique (0028-5)</li> <li>• Smith, Tom (0002-1)</li> </ul>
Outside Scope-NRC Oversight (Section 2.35)	<ul style="list-style-type: none"> <li>• Hadden, Karen (0017-27) (0022-42)</li> <li>• Shroyer, Danielle (0010-4)</li> </ul>
Outside Scope-Safety (Section 2.36)	<ul style="list-style-type: none"> <li>• Hadden, Karen (0030-3)</li> </ul>
Outside Scope-Security and Terrorism (Section 2.37)	<ul style="list-style-type: none"> <li>• Burnam, Lon (0016-36)</li> <li>• Hadden, Karen (0017-28) (0019-33) (0022-33) (0022-53) (0030-4)</li> <li>• Inge, Charles and Dominique (0028-6)</li> <li>• Kinzie, W.T. (0016-67)</li> <li>• Reed, Cyrus (0032-13)</li> <li>• Shroyer, Danielle (0010-3)</li> </ul>

**Table 3 (continued)**

<b>Comment Category</b>	<b>Commenter (Comment ID)</b>
Process-NEPA (Section 2.1)	<ul style="list-style-type: none"> <li>• Chorost, Amy (0012-1)</li> <li>• Downing, Kevin (0017-30)</li> <li>• Osowski Morgan, Sharon L. (0027-1) (0027-2) (0027-27)</li> </ul>
Site Layout and Design (Section 2.2)	<ul style="list-style-type: none"> <li>• Boydston, Kathy (0029-4)</li> <li>• Osowski Morgan, Sharon L. (0027-17)</li> <li>• Rooke, Molly (0017-44)</li> <li>• Ubico, Jean (0023-2) (0023-3) (0023-4) (0023-5) (0023-6)</li> </ul>
Socioeconomics (Section 2.11)	<ul style="list-style-type: none"> <li>• Boydston, Kathy (0029-20)</li> <li>• Burnam, Lon (0017-12)</li> <li>• Drechel, Gary (0007-1)</li> <li>• Hadden, Karen (0019-23) (0022-23)</li> <li>• Johnson, Lisa (0016-3)</li> <li>• Kinzie, W.T. (0016-70)</li> <li>• Luton, John Henry (0004-4)</li> <li>• Miller, Pam (0017-1)</li> <li>• Miller, Russ (0024-3)</li> <li>• Rosenfeld, Joshua (0016-78)</li> <li>• Sheaks, Jerry (0017-56)</li> <li>• Ubico, Jean (0023-1)</li> <li>• Ward, Mary (0016-32)</li> </ul>
Support-Licensing Action (Section 2.26)	<ul style="list-style-type: none"> <li>• Atkinson, Bill (0016-47)</li> <li>• Bahlburg, Kelly (0013-1)</li> <li>• Berry, Steve (0016-26) (0016-29)</li> <li>• Downing, Kevin (0017-32)</li> <li>• Duck, Kathy (0009-1)</li> <li>• English, Maurice (0016-74)</li> <li>• Hind, Rebecca (0018-8)</li> <li>• Independent School District, Glen Rose (0019-2)</li> <li>• Johnson, Lisa (0016-2)</li> <li>• Leising, Joe (0017-55)</li> <li>• Luton, John Henry (0004-2)</li> <li>• Marks, Gary (0016-59)</li> <li>• Maynard, Walter (0016-5) (0017-5)</li> <li>• Meyers, Kevin (0016-46)</li> <li>• Miller, Pam (0017-2)</li> <li>• Norton, Barbara &amp; Tom (0038-1)</li> <li>• Orcutt, David (0016-72) (0018-2)</li> <li>• Overstreet, Lee (0016-62)</li> <li>• Phillips, Marilyn (0016-31) (0017-9)</li> <li>• Ramsey, Terry (0006-1)</li> <li>• Rash, Andy (0016-7) (0016-9) (0017-7)</li> <li>• Roan, Richard (0016-6) (0018-1)</li> <li>• Scott, Mike (0016-34) (0019-3)</li> <li>• Sheaks, Jerry (0017-57)</li> <li>• Smith, Hugh (0016-77)</li> </ul>

**Table 3 (continued)**

<b>Comment Category</b>	<b>Commenter (Comment ID)</b>
Support-Licensing Action (Section 2.26 continued)	<ul style="list-style-type: none"> <li>• Sumners, Allen (0017-80)</li> <li>• Sykes, Victoria (0016-57)</li> <li>• Taylor, Kevin (0016-35)</li> <li>• Ward, Mary (0016-33)</li> <li>• Wyatt, Dr. Bill (0017-29)</li> </ul>
Support-Licensing Process (Section 2.27)	<ul style="list-style-type: none"> <li>• Edwards, Chet (0019-1)</li> </ul>
Support-Nuclear Power (Section 2.28)	<ul style="list-style-type: none"> <li>• Spears, Linda (0015-1)</li> </ul>
Support-Plant (Section 2.29)	<ul style="list-style-type: none"> <li>• English, Maurice (0016-73)</li> <li>• Hale, Rod (0016-71)</li> <li>• Johnson, Lisa (0016-1)</li> <li>• Luton, John Henry (0004-1)</li> <li>• Marks, Gary (0016-58)</li> <li>• Maynard, Walter (0016-4) (0017-4)</li> <li>• Miller, Pam (0017-3)</li> <li>• Phillips, Marilyn (0016-30) (0017-8)</li> <li>• Rash, Andy (0016-8)</li> </ul>
Transportation (Section 2.18)	<ul style="list-style-type: none"> <li>• Gentling, Suzanne (0031-7)</li> </ul>
Uranium Fuel Cycle (Section 2.17)	<ul style="list-style-type: none"> <li>• Burnam, Lon (0016-40) (0016-44)</li> <li>• Cohn, Ann (0017-36)</li> <li>• Gentling, Suzanne (0031-5)</li> <li>• Hadden, Karen (0016-16) (0016-18) (0016-24) (0019-26) (0019-30) (0022-3) (0022-4) (0022-25) (0022-31) (0022-32) (0022-34) (0022-43) (0022-44) (0030-6)</li> <li>• Harper, Paul (0017-48)</li> <li>• Reed, Cyrus (0016-55) (0032-3) (0032-4)</li> <li>• Rittenhouse, Ryan (0017-63)</li> <li>• Rooke, Molly (0017-45)</li> <li>• Sanders, Jan (0017-67) (0017-68) (0017-70)</li> <li>• Shaar, Julie (0016-75)</li> <li>• Stuard, Gary (0017-75)</li> <li>• Wildwood, Kathleen (0016-60)</li> </ul>

## 2. Comanche Peak Combined Construction and Operating License Public Scoping Meeting Comments and Responses

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The comments and suggestions received as part of the scoping process are summarized and discussed below. Parenthetical numbers after each comment refer to the comment identification (ID) number (document number-comment number) and the commenter name. Comments are grouped by category.

The draft EIS will take into account the relevant issues raised during the scoping process, and the draft EIS will be made available for public comment.

The comment period for the draft EIS will offer the next opportunity for the applicant; interested Federal, Tribal, State, and local government agencies; local organizations; and members of the public to provide input to the NRC's environmental review process. The comments received on the draft EIS will be considered in the preparation of the final EIS. The final EIS, along with the staff's safety evaluation report (SER), will be considered in the NRC's decision on Luminant's COL application for the Comanche Peak site.

### 2.1 Comments Concerning Process - NEPA

**Comment:** Please seriously consider environmental impact when deciding on the two new reactors proposed for the Comanche Peak site. (0012-1 [Chorost, Amy])

**Response:** *The NRC Staff is considering the potential environmental impacts of the proposed licensing action. An explanation of the NRC's approach to evaluating and documenting environmental impacts is available in Title 10 of the Code of Federal Regulations, Part 51.*

**Comment:** I think that with the due diligence that is represented by the people in this room, by the due diligence of the people that I know at the plant. You have heard of Bruce Turner's name tonight several times. I have a lot of faith and confidence in that gentleman, and in other people like him that work for Luminant. Environmental impact studies need to happen. (0017-30 [Downing, Kevin])

**Response:** *This comment provides no information related to the scope of this EIS and will therefore not be considered further in the staff's environmental review.*

**Comment:** The need for the project should be clearly stated, as well as potential benefits and adverse effects of the proposed project. Project impacts and impact mitigation are evaluated in the context of project need. (0027-1 [Osowski Morgan, Sharon L.])

**Response:** *The purpose and need for the proposed power plant will be explained in Section 1.3 of the EIS. The impacts and alternatives will be evaluated in the context for the project need.*

**Comment:** The analysis of alternatives is the core of the NEPA process. The forthcoming Environmental Impact Statement (EIS) should include a minimum of two feasible action alternatives to be fully considered, as well as the No-Action Alternative.

A rationale for rejecting certain alternatives from further consideration should be provided. The rationale should include environmental reasons, along with other considerations. The selected alternative should avoid/minimize adverse impacts, so that the need for mitigation of impacts will be lessened or eliminated. A critical factor of the alternatives analysis is the avoidance/minimization of adverse impacts. (0027-2 [Osowski Morgan, Sharon L.]

**Response:** *Analysis of alternatives is at the heart of the NEPA process. Chapter 9 of the EIS will evaluate appropriate alternatives to the proposed action and explain why other alternatives were not examined in detail. Mitigation measures will be examined and addressed as appropriate in Chapters 4 and 5 of the EIS.*

**Comment:** There is no mention of CPNPP participation in EPA's Performance Track Program or whether CPNPP has an Environmental Management System (EMS) in place. The Council on Environmental Quality (CEQ) published Aligning NEPA processes with Environmental management Systems-A Guide for NEPA and EMS Practitioners to improve NEPA implementation and environmental sustainability goals in NEPA and Executive Order 13423. The NEPA document should discuss EMS as appropriate. (0027-27 [Osowski Morgan, Sharon L.]

**Response:** *Although the NRC does not require nuclear power plants to employ an environmental management system (EMS), the NRC will evaluate whether or not Luminant has developed an EMS and its use in the development of the environmental report in Section 3.3 of the EIS.*

## 2.2 Comments Concerning Site Layout and Design

**Comment:** do you know what would happen when the ambient temperature becomes too high, and the water temperature becomes too high for the plant to operate safely? And when that happens, do you have plans in place? Do you know what would happen at that point? (0017-44 [Rooke, Molly])

**Response:** *Section 3.3.2.2 of the EIS will explain what changes to plant operations would be initiated in response to unusually high ambient temperatures. At minimum, plant power would be reduced to ensure continued safe plant operation within the constraint of the available cooling capacity. Analyses for the EIS and/or environmental regulator requirements may also lead to additional constraints on plant power to protect environmental resources.*

**Comment:** How long are spent rods from nuclear waste stored in temporary pools from the existing Comanche Peak reactor? (0023-2 [Ubico, Jean])

**Comment:** How many pounds of nuclear waste presently exist in the temporary storage bins at Comanche Peak? (0023-3 [Ubico, Jean])

**Comment:** How much additional nuclear waste will be generated as the nuclear reactor ages? (0023-5 [Ubico, Jean])

**Comment:** What is the long-term plan for disposal of nuclear waste at Comanche Peak? (0023-6 [Ubico, Jean])

**Response:** Section 3.3.3 of the EIS will describe radioactive waste management activities associated with operation of the proposed units. The environmental impacts of waste management activities will be discussed in Chapter 6 of the EIS.

**Comment:** How much additional waste will be generated per day by the proposed construction of the two additional reactors? (0023-4 [Ubico, Jean])

**Comment:** Chapter 3 -Plant Description

The ER does not provide details of the site plan for the blowdown treatment facility (BDTF) other than large blocks showing the proposed location. The February 2, 2009 site visit indicated that several ponds of unknown size, shape or location would be constructed within this area. Power transmission lines were observed in the area. . . . The size, shape, and location of the BDTF ponds relative to the transmission lines need to be revealed in a site plan drawing. (0029-4 [Boydston, Kathy])

**Response:** Plant construction will be described in Section 3.3 of the EIS. The plant description will include details requested in the comments.

**Comment:** The ER does not provide much information on meeting the requirements of the Resource Conservation and Recovery Act (RCRA). Clarification on RCRA permitting of Units 3 and 4, hazardous waste satellite accumulation areas, and storage times (i.e., greater than 90 days) is requested. The contaminant monitoring list seems too narrow. We recommend reviewing site operations, wastes, chemical storage and use, etc. to determine appropriateness of including other contaminants on list. The constituents of concern (COC's) should reflect the actual constituents and their daughter or degradation products that are being utilized by CPNPP. The information on solid waste management should be expanded. Discussion should include summary of how groundwater monitoring will include all RCRA wastes and any potential solid waste management units. (0027-17 [Osowski Morgan, Sharon L.]

**Response:** Section 3.3.4 of the EIS will describe nonradioactive waste management systems, including systems for management of hazardous materials.

## 2.3 Comments Concerning Land Use - Site and Vicinity

**Comment:** The expansion of the current plant allows the wise use of the existing infrastructure, cooling lake, transmission lines, and the like with little or no impact on surrounding landowners or the environment. (0004-3 [Luton, John Henry])

**Response:** The impacts on land use resulting from construction and operation of the proposed facility will be discussed in Chapters 4 and 5 of the EIS.

## 2.4 Comments Concerning Land Use - Transmission Lines

### **Comment:**

- What land will need to be condemned or purchased in order to build or upgrade new transmission lines?
- What environmental and economic impacts will result from new transmission lines, including the 345 kV line planned to go between the plant site and the Whitney Switch, going through much of Somervell and Bosque Counties? (0019-24 [Hadden, Karen])

**Response:** *Environmental impacts associated with any planned new transmission rights-of-way will be addressed in Chapters 4 and 5 of the EIS, as will potential impacts associated with any upgrades to existing lines or corridors. The applicant is required to follow all Federal, State, and local guidelines concerning siting, construction, and maintenance of proposed transmission corridors and lines, although the NRC does not have regulatory authority over these activities.*

## 2.5 Comments Concerning Meteorology and Air Quality

**Comment:** All emissions resulting from the project must be in compliance with all applicable air quality regulations, particularly relative to the National Ambient Air Quality Standards (NAAQS) for criteria air pollutants (e.g., ozone, carbon monoxide, nitrogen oxides, sulfur dioxide, lead and particulates). All construction equipment should be tuned to manufacturer's specifications to reduce air emissions. We recommend water for fugitive dust control during construction, instead of oils and other chemicals. (0027-18 [Osowski Morgan, Sharon L.]

**Response:** *The NRC staff will evaluate air quality impacts from construction and operation of the station in Chapters 4 and 5, respectively, of the EIS. This evaluation will include assessment of potential equipment operation and dust control measures that may be used to reduce emissions.*

## 2.6 Comments Concerning Geology

**Comment:** Subsidence is a shifting downward of the earth's surface. Causes of subsidence include depleted groundwater, mining, natural gas and oil extraction. What impacts are there from existing industries that put the area at risk? What landfills are still in existence that could contaminate cooling water? Will local oil and gas operations impact the plant site or vice versa? (0019-22 [Hadden, Karen])

**Response:** *Geologic impacts on the proposed facility from off-site actions are within the scope of the safety analysis and will be addressed in the (final safety analysis report) (FSAR) issued and maintained by the applicant and in the SER issued by the NRC. The topic of subsidence and the potential impact on the proposed facility will be addressed in Section 2.5 of the FSAR. This portion of the comment is out of scope with regard to the EIS. The impacts of non-plant discharges to water bodies used for Unit 3 and 4 makeup water will be addressed in the EIS, as will cumulative impacts of Unit 3 and 4 water use and discharges on local and regional water resources.*

**Comment:** Additional analysis should be undertaken to determine the long-term viability of the Squaw Creek Reservoir retention structure under various scenarios including seismic events, protracted drought and abandonment by the licensee. (0022-9 [Hadden, Karen])

**Response:** *The availability of water for Unit 3 and 4 operations and its potential impact on water availability for Unit 1 and 2 operations will be addressed in the EIS. Seismic hazards are outside of the scope of the environmental review. As part of the NRC's site safety review, the staff considers whether, taking into consideration the site criteria in 10 CFR Part 100 and information provided by the applicant, a proposed reactor or reactors can be constructed and operated without undue risk to the health and safety of the public. Abandonment of Squaw Creek Dam by the licensee is outside the scope of the EIS, but would be regulated by the Texas Commission on Environmental Quality (TCEQ) under Title 30 of the Texas Administrative Code, Chapter 299, and would be addressed by State and Federal regulations governing decommissioning and operating license termination for the nuclear plant.*

## 2.7 Comments Concerning Hydrology - Surface Water

**Comment:** my question relates to the water requirement. I know from experience that when the Comanche peak reservoir gets low, they drain Lake Granbury to make up the difference. I've seen our lake drop over a foot and a half in less than a week during severe drought conditions. This combined with Brazos River Authorities recent decision to sell millions of gallons of water to the natural gas industry looks like it can form a perfect storm to drain our lake during these times of drought. (0008-1 [Stamler, Richard])

**Comment:** We need to look closely at water that would be used. I've looked into the license application and found that each reactor, and there's two, would use over 30,000 gallons of water every single minute. And that's huge. And the acre-feet per year are also extensive. There are some diagrams and some facts and figures that we'll be glad to get to you. (0016-23 [Hadden, Karen])

**Comment:** And, you know, even our lake --we'll talk about our lake. Granbury is built on a lake community. The whole community, we're lucky, because our water is used to cool those reactors. Because of that, we're not a constant-level lake with BRA, but because of that reason, our lake always will have access to water. (0016-28 [Berry, Steve])

**Comment:** I think we've barely begun to look at the water quantity and quality issues here, but I do find it interesting the reminder that the lake is a guaranteed constant-level lake. Well, what do you think that does to everybody else down river? (0016-42 [Burnam, Lon])

**Comment:** It's been mentioned about the water flow down the Brazos River. In the --every Thursday in the Fort Worth paper, it tells how much low the lakes are and the water flow. The last --on the first of this year, the PK, where this water comes from and where it would have to be released from if it came here, was 2-1/2 foot low, and the floatation was below minimum. So if this --if y'all's lake here and your river needs more water, you're going to have to find someplace else to get it. Granbury was also 2-1/4 foot low.. It was below minimum floatation, and the water flow was 30 cubic feet per second. And Whitney is 20 [cubic] feet per second. Sounds like the river is drying up. Their floatation is also below minimum. Whitney was 9-3/4 foot low. (0016-62 [Kinzie, W.T.]

**Comment:** The water is the biggest issue of all, I would think, because there's so much a demand for it. And if this plant takes more water than it's already taking, then, of course, they have to release more water from the Brazos River Authority. However, when they release this water, the plant takes the water, and that leaves nothing coming down the river, the Brazos River. (0016-63 [Cathey, Jack])

**Comment:** So the people here may have to make a choice between, what it said in the paper, \$22 billion in the economic impact and how good that's going to do you when you have no drinking water. And that problem is hitting the Dallas-Fort Worth area also. Lon, you probably know the more specifics on the Dallas-Fort Worth area trying to have another lake or two built, reservoirs for drinking water? And the people in the local areas didn't want their land flooded to make a lake, so it's not going to happen. So Fort Worth and Dallas are trying to get other places for their drinking water. And it's getting to them to where they're not so much worried about their electricity and where it comes from, nuclear power or gas. They're worried about water. (0016-68 [Kinzie, W.T.]

**Comment:** our water which we use for drinking water and for recreation, will also be under pressure. So, we have to be very careful, as many have already stated, about the water. (0016-79 [Rosenfeld, Joshua])

**Comment:** how will the use of the water affect the run of the river water needed for environmental flows? (0017-41 [Rooke, Molly])

**Comment:** if global warming, climate change is occurring, and as severe as we anticipate, will there be enough water for cooling decline, with a 35 percent decrease, when it occurs, in river flows? (0017-42 [Rooke, Molly])

**Comment:** Waste of water. (0017-66 [Sanders, Jan])

**Comment:** Water; we need to be conserving water. Not developing an energy form that is going to soak it up. We need it for our plants, for our agriculture. We need it to keep on cooling the two reactors that we already have, not building two more. (0017-72 [Sanders, Jan])

**Comment:** it is now being predicted that the Southwestern part of the United States will be suffering from a permanent drought for many years. We already see that water is a shortage of water is a critical issue in this state, and will continue to be. (0017-76 [Stuard, Gary])

**Comment:** Water flow from Granbury Lake needs to be looked at. (0018-4 [Cathey, Jack])

**Comment:** If global warming is occurring and as severe as scientists predict will there be enough cool water to operate the reactors safely? The EIS needs to include analysis based on input from global warming scientists. (0019-16 [Hadden, Karen])

**Comment:** In drought conditions, will there be enough water for cities, businesses, farms and ranches if two nuclear reactors are built? (0019-17 [Hadden, Karen])

**Comment:** Every minute 31,341 gallons of makeup water from Lake Granbury would be needed for each reactor. (from Environmental report 3.3-5) "Makeup water" replaces the water lost to evaporation and the water called "blowdown" would be returned to Lake Granbury. (0019-31 [Hadden, Karen])

**Comment:** This year was one of the worst for water availability that I have seen in the past 31 years. The lake has been sustained at 2.5 feet down from normal levels for most of 2008 and now going into 2009. My family hasn't been able to use the lake for skiing for most of this time. Not being able to use the lake as intended is probably due to a general lack of rain. The increase in water consumption from the lake, authorized by the BRA, hasn't helped the situation. We may be looking at decreased lake levels for years to come due to global warming.

There was an article in the Hood County News that was entitled "NUCLEAR: Lake Granbury water will cool the units". This is in reference to our water being taken to cool two new reactors. There are two points where questions should be asked. Since the conservation pool level is at 693 ft. above mean sea level and the minimum operating elevation is at 675 ft., (a difference of 18 ft.) and Luminant is still in negotiation with the BRA on releasing 75,000 acre feet of water that will help keep Granbury at a usable level and construction is proposed to start late in 2009, then where is the assurance to the people of Granbury that our lake will be usable in the future. Negotiations are not complete, and prevailing rain is not looking good. Is the BRA going to cripple Possum Kingdom Lake to save Lake Granbury? (0020-1 [Bernier, Jim])

**Comment:** Global warming and its impacts on rainfall are better understood now and must be considered in the context of determining whether adequate water resources will be available for nuclear plant operations. It is clear that nuclear plants require enormous amounts of water for operations. In fact, the environmental report states that 30,000 gallons of water are needed for each reactor every minute, and shows in Figure 2.3-30 that approximately two-thirds of this water would evaporate. It is also clear, based on the Comanche Peak environmental report, that the proponents of the plant assume that there will be adequate water resources for purposes of plant operations associated with Comanche Peak Units 3 and 4. However, impacts from global warming will include protracted drought that may seriously compromise water resources required for plant operations. (0022-55 [Hadden, Karen])

**Comment:** Expanded use of nuclear power in North Texas assumes that there will be an adequate supply of fresh water for purposes of plant operations. This assumption is faulty because of the failure of the Comanche Peak environmental report to analyze impacts of global warming on rainfall and the hydrological cycle. (0022-6 [Hadden, Karen])

**Comment:** Future demands on water use should be evaluated. How will CPNPP interact with the surrounding area? For example, investigate interactions with activities related to the Barnett Shale as well as municipal and agricultural water use. A citation from the Texas Water Development Board (TWDB) indicates uncertainty as to whether all supplies indicated in the ER can be obtained. (0027-12 [Osowski Morgan, Sharon L.])

**Comment:** The Environmental Report is confusing regarding water uses from sources other than the SCR. For example, p. 2.4-21 indicates that CPNPP is authorized to use 48,300 acre-feet from Lake Granbury each year, but 45,826 was transported in 2006. This seems to indicate that CPNPP exceeded their authorized use. Also, it is not clear why Lake Granbury is used instead of SCR. Please clarify the water uses; perhaps a matrix indicating water intake and discharge, with amounts, etc. would be helpful. (0027-13 [Osowski Morgan, Sharon L.])

**Comment:** According to the ER, the estimated water withdrawal for the operation of CPNPP Units 3 and 4 from Lake Granbury is 63,550 gpm (91,512,000 gpd) during maximum operations. The water discharge rate to Lake Granbury during maximum operations, including loss estimates is estimated at 24,876 gpm (35,821,440 gpd). Consumptive water use for Units 3 and

4 is estimated at 55,690,560 gallons per day. Where are the 55 million gallons of water going each day? (0027-14 [Osowski Morgan, Sharon L.]

**Comment:** 100,000 acre feet per year gross water allocation for two new reactors is excessive considering Lake Granbury's 130,000 gross acre foot pool, and the current (and increasing) contractual obligations for water usage relative to this pool. (0028-1 [Inge, Charles and Dominique])

**Comment:** Vast quantities of increasingly precious water would be consumed (0030-5 [Hadden, Karen])

**Comment:** The projected amount of water required for the cooling system is unacceptable and risky, to say the least. We are currently facing a water crisis not only in this area but all of Texas. Long range projections indicate a likely increase in drought conditions due to climate change. The continuing, rampant development of this area, along with the Barnett Shale industry, has already pushed the use of our existing water resources to dangerous limits. (0031-2 [Gentling, Suzanne])

**Comment:** The application assumes that plenty of water will be available at Squaw Reservoir utilizing a complex pipeline scheme. The EIS must address short and long-term climate change and the resulting hydrological balance. Significant scholarly work now concludes that central north Texas will likely be drier, with less rainfall, putting the plant's expected water use in jeopardy. (0032-5 [Reed, Cyrus])

**Comment:** The EIS should also analyze the loss of water to the Brazos River System, including the Paluxy River, Whitney Lake, Lake Granbury and Possum Kingdom, as well as the bays downstream, and their likely hydrological and ecological impacts. (0032-6 [Reed, Cyrus])

**Response:** *The construction and operation of a nuclear plant involves the consumption of water. The staff will independently assess the impact of these consumptive water losses on the sustainability of both the local and regional water resources. This assessment will consider both current and future conditions, including changes in water demands to serve the needs of the future population and changes in water supply resulting from climate variability and climate change. While NRC does not regulate or manage water resources, it does have the responsibility under NEPA to assess and disclose the impacts of the proposed action on water resources. The staff's assessment of the impacts on the sustainability of water resources will be presented in Chapters 4 and 5 of the EIS for construction and operation, respectively.*

**Comment:** Need study of impact "down" river. (0018-6 [Cathey, Jack])

**Comment:** Biocide, algaecide, pH adjuster, corrosion inhibitor and silt dispersant would be injected into water drawn from Lake Granbury, and only a fraction of the "blowdown" water would be treated before being returned to the lake or sent to an evaporation pond. Why wouldn't all of the water be treated before being returned to the lake? (0019-32 [Hadden, Karen])

**Comment:** My primary environmental impact concerns deal with water. Specifically:

- The amount of surface water required for cooling. (33 billion gallon/year)
- The amount of evaporation rate, taking 18 billions gallons per year out of the current fresh water system
- The impact on the immediate environment having 18 billion gallons of water vapor released yearly

- The impact on the water flow in the Brazos River downstream of Lake Granbury
- The quality of the water in Lake Granbury

(0021-1 [Richardson, Karen])

**Comment:** Global warming and its impacts on rainfall are better understood now and must be considered in the context of determining whether adequate water resources will be available for nuclear plant operations. It is clear that nuclear plants require enormous amounts of water for operations. In fact, the environmental report states that 30,000 gallons of water are needed for each reactor every minute, and shows in Figure 2.3-30 that approximately two-thirds of this water would evaporate. It is also clear, based on the Comanche Peak environmental report, that the proponents of the plant assume that there will be adequate water resources for purposes of plant operations associated with Comanche Peak Units 3 and 4. However, impacts from global warming will include protracted drought that may seriously compromise water resources required for plant operations. The compromised water resources should be considered both from a quantitative perspective and a temperature sensitive analysis since plant operations are dependent on a narrow band of water temperatures. (0022-10 [Hadden, Karen])

**Comment:** The study should also include an analysis of pollution impacts downstream from water contaminated by chemical treatment such as biocides, algacides, pH adjustors, corrosion inhibitor and silt dispersant chemicals injected at the reactor site as well as chlorine, salts and non-radioactive effluent. The differential impact of treatment of 100 percent of the water versus the lesser amount of treatment proposed by the applicant should be considered. (0022-20 [Hadden, Karen])

**Comment:** The EIS should also consider whether regional waterways will be impacted in terms of water quantity and quality by the use of vast quantities of water for Units 3 and 4, including Lake Granbury, the Brazos River, the Paluxy River, Whitney Lake, a popular fishing lake, and popular recreational areas such as Possum Kingdom. According to the Texas Parks and Wildlife Department web site, the drinking water at Possum Kingdom State Park is currently non-potable due to a high salt content, and visitors must bring their own water for consumption. The potential to increase salt content of waterways in the region by further drawdown of water levels, including impacts to the local aquifer and drinking wells should be examined thoroughly in the EIS. (0022-22 [Hadden, Karen])

**Comment:** Questions of the water quality and quantity of “blowdown” water returned to the lake need more thorough evaluation (volume; flow; temperature; salinity; pollutants). (0028-2 [Inge, Charles and Dominique])

**Response:**

*The construction and operation of a nuclear plant involves the consumption of water and some discharges to nearby water bodies. The Clean Water Act designated the EPA as the Federal agency with responsibility for effluent discharges to the nation’s waters. While the NRC does not regulate effluents other than radiological effluents, it does have the responsibility under NEPA to assess and disclose the expected impacts of the proposed action on water quality throughout the plant’s life. That assessment will include consideration of salts concentrated in the blowdown system and chemicals injected into raw water systems. Neither does NRC regulate or manage water resources, but it does have the responsibility under NEPA to assess and disclose the impacts of the proposed action on water resources. The staff’s assessment will independently determine if the designated uses of the local and regional water supplies are jeopardized by the construction or operation of a nuclear plant at the proposed site, and*

*will independently assess the impact of any consumptive water losses on the sustainability of both the local and regional water resources. This assessment will consider both current and future conditions, including changes in water demands to serve the needs of the future population and changes in water supply resulting from climate variability and climate change. The staff's assessments of the nonradiological impacts to water quality and impacts to water supply sustainability will be presented in Chapters 4 and 5 of the EIS for construction and operation, respectively.*

**Comment:** I do have significant questions about water quantity and 'water quality and the impacts of taking that much water from Lake Granbury downstream. And I would urge you, as part of your assessment, to also look at climate models and weather, given what we think we know about climate change, how that will change the water balances in Lake Granbury. (0016-52 [Reed, Cyrus])

**Response:** *The construction and operation of a nuclear plant involves the consumption of water and some discharges to nearby water bodies. The Clean Water Act designated the EPA as the Federal agency with responsibility for effluent discharges to the nation's waters. While the NRC does not regulate effluents other than radiological effluents, it does have the responsibility under NEPA to assess and disclose the expected impacts of the proposed action on water quality throughout the plant's life. Neither does NRC regulate or manage water resources, but it does have the responsibility under NEPA to assess and disclose the impacts of the proposed action on water resources. The staff's assessment will independently determine if the designated uses of the local and regional water supplies are jeopardized by the construction or operation of a nuclear plant at the proposed site, and will independently assess the impact of any consumptive water losses on the sustainability of both the local and regional water resources. This assessment will consider both current and future conditions, including changes in water demands to serve the needs of the future population and changes in water supply resulting from climate variability and climate change. The staff's assessments of the nonradiological impacts to water quality and impacts to water supply sustainability will be presented in Sections 4 and 5 of the EIS for construction and operation, respectively.*

**Comment:** Section 6.2.5: This section indicates that within the CPNPP environs, there have been detections of tritium above lower limits of detection in Squaw Creek Reservoir (SCR), and those detections have been well below the reporting limit (30,000 pCi/l). Please clarify whether this means that there have been no detections of tritium in water in Squaw Creek below the dam. Figure 6.2-1 indicates the presence of a surface water collection site on Squaw Creek, although Table 6.2-3 does not list it. It is important to characterize tritium levels in downstream waters as well as the SCR. It would be helpful if the EIS clarified what radiologicals are being collected in Squaw Creek below the dam and provide any data available. (0027-9 [Osowski Morgan, Sharon L.]

**Response:** *Staff will clarify the availability of tritium monitoring in and downstream of SCR and will include an assessment of available information in the EIS.*

## **2.8 Comments Concerning Hydrology - Groundwater**

**Comment:** [if global warming, climate change is occurring, and as severe as we anticipate] And so then, will the ground water decline? (0017-43 [Rooke, Molly])

**Response:** *The construction and operation of a nuclear plant involves the consumption of water. The staff will independently assess the impact of these consumptive water losses on the sustainability of both the local and regional water resources. This assessment will consider both current and future conditions, including changes in water demands to serve the needs of the future population and changes in water supply resulting from climate variability and climate change. While NRC does not regulate or manage water resources, it does have the responsibility under NEPA to assess and disclose the impacts of the proposed action on water resources. The staff's assessment of the impacts on the sustainability of water resources will be presented in Sections 4 and 5 of the EIS for construction and operation, respectively.*

**Comment:** will it need any groundwater for make up water. (0017-40 [Rooke, Molly])

**Response:** *The design of Units 3 and 4 as presented in the license application does not require the use of groundwater for operation.*

**Comment:** The aquifer below Kames County has been contaminated by uranium mill tailings. The Department of Energy estimates clean up will cost \$348 million but, according to a Texas Department of Agriculture report, will not implement the clean up plan. (0019-28 [Hadden, Karen])

**Response:** *The issue raised in the comment is outside the scope of the environmental review. There is no evidence of hydrologic connection between Comanche Peak Nuclear Plant surface or subsurface hydrology and that of the aquifer below Karnes County, TX.*

**Comment:** So, you know, and then recently most of y'all have heard about the Barnett shale in the Tarrant County and Dallas County area, and y'all may have some of it here too. One of the things they do is drill wells, water wells, to get their water from to drill the gas wells, In Parker County, the local farmers, their water wells are drying up. (0016-66 [Kinzie, W.T.])

**Response:** *Local and regional uses of groundwater will be considered in Section 2.3.2 of the EIS.*

**Comment:** The EIS should examine the impacts of vast water consumption on the aquifer and the water table levels. Will wells be sucked dry? (0019-13 [Hadden, Karen])

**Comment:** [What are] The indirect impacts on the major aquifers in the region[? Specifically, the]---Paluxy and Trinity. (0021-2 [Richardson, Karen])

**Response:** *The applicant is proposing to use less groundwater in the future than what is currently used. The impacts of the proposed groundwater use will be addressed in the Section 5.2 of the EIS.*

**Comment:** you have mentioned ground water (0017-35 [Cohn, Ann])

**Comment:** How high is the risk of contamination of the aquifer and other waterways through radioactive leaks? Could the problem ever be remediated if radioactive or chemical leaks occurred? (0019-14 [Hadden, Karen])

**Comment:** The hydrogeological characterization appears adequate for a fundamental understanding of the site (future reactors 3 and 4). Information contained in the ER includes subsurface geology, groundwater occurrence, water levels, flow direction and velocity, and other related information. However, the characterization may not be adequate for detailed

analysis of complex groundwater flow conditions and mechanisms including complex fracture flow, groundwater flow along bedding planes, preferential pathways, and other flow complications. (0027-15 [Osowski Morgan, Sharon L.]

**Comment:** The ER discusses packer tests and concludes the Glen Rose Formation and sections of the Twin Mountain Formation are impermeable. The Twin Mountain Formation is a highly productive aquifer around the site including numerous public supply wells. It is recommended that additional information be provided to substantiate the claim that these are indeed impermeable.

The ER does not include an individual section indicating the risk of groundwater contamination nor was a methodology for evaluating groundwater risk identified. This information should be part of the conceptual site model. To evaluate site impacts from future groundwater production, it will be necessary to develop a sub-regional scale groundwater model to predict how increased/decreased uses could affect units 3 and 4.

Groundwater flow velocity has been estimated using input from site-specific hydrologic test results. However, if groundwater flow directions or gradients are found to be different than reported, or change over time, the effectiveness of the well network will need to be reevaluated. It is reasonable to expect that additional wells will need to be installed as more water level data become available and flow directions are refined over time.

Groundwater monitoring should include monitoring for contaminants and mixed waste from these sources: non-radioactive solid, liquid, and gaseous waste streams associated with the construction and operation of CPNPP Units 3 and 4, chlorinated fluorocarbons (CFCs), solvents, and used oil. Other sources may include liquid scintillation fluids, other types of organic materials, and metals such as lead and chromium, and aqueous corrosives. (0027-16 [Osowski Morgan, Sharon L.]

**Response:** *The risk of contamination of aquifers and other waterways will be addressed in the EIS. Although NRC regulations require licensees to make surveys, as necessary, to evaluate the potential hazard of radioactive material released in order to assess doses to members of the public and workers, recent discoveries of releases at other plants indicate that undetected leakage to groundwater from facility structures, systems, or components can occur, resulting in unmonitored and unassessed exposure pathways to members of the public. The NRC has identified several instances of unintended tritium releases, and all available information shows no threat to the public. Nonetheless, the NRC is inspecting each of these events to identify the cause, verify the impact on public health and safety, and review licensee plans to remediate the event. The NRC also established a lessons learned task force to address inadvertent, unmonitored liquid radioactive releases from U.S. commercial nuclear power plants. This task force reviewed previous incidents to identify lessons learned from these events and to determine what, if any, changes are needed to the regulatory program. Detailed information and updates on these liquid releases can be found on the NRC public website at <http://www.nrc.gov/reactors/operating/ops-experience/grndwtr-contam-tritium.htm>.*

## 2.9 Comments Concerning Ecology - Terrestrial

**Comment:** When the first two reactors were built the sky glow light pollution went from zero to off the scale in the direction of the reactors. The latest round of fixture modernization reduced the sky glow by about 40 percent. Our Concern is the two new units will increase the sky glow

beyond what it was after initial construction. We would like to see a comprehensive relighting program for all four reactors, using the latest technology zero cut-off fixtures, such as those approved by the International Dark-sky Association in order to achieve an overall reduced light pollution impact than what now exists. [www.darksky.org](http://www.darksky.org) (0024-2 [Miller, Russ])

**Response:** *Potential impacts on wildlife of light pollution from operation of the proposed two new nuclear reactor units will be addressed in Chapter 5 of the EIS.*

**Comment:** The environmental report indicates that Squaw Creek Reservoir will continue to be the receiving body of water for various discharges from Comanche Peak Units 3 and 4. The Environmental Report concedes that radioactive particulate matter released to Squaw Creek Reservoir in liquid effluents will be deposited into the sediment layer of the reservoir bottom and remain there indefinitely. Comanche Peak NPP Environmental Report, p.5.11-3. In the event of a protracted drought, and inadequate flow into Squaw Creek Reservoir. The sediment layer could become exposed and, if adequately deliquified, would become dust and subject to transport by wind with clear public health and environmental consequences. Therefore, it is crucial that the EIS include a complete radiological profile of the existing sediment in Squaw Creek Reservoir and an analysis of the cumulative radiological impacts expected from operations on it from Units 3 and 4. This analysis is required in order to fully gauge the environmental and public health impacts from the use of the earthen Squaw Creek Reservoir as a discharge point for radioactive effluent from Comanche Peak Units 3 and 4. Part of this analysis should be an assumption that the Squaw Creek Reservoir dam will at some point fail and release the sediment that is burdened by radioactive particulates. Downstream impacts on water quality, use, and impacts on mortality and morbidity must be a part of a proper EIS. The Squaw Creek Reservoir dam should also be analyzed for structural integrity. Protracted drought, seismic activity, or other natural events have the potential to weaken the dam and if a failure of the structure occurs radioactive sediment could be carried downstream with significant potential for environmental and public health impacts. (0022-14 [Hadden, Karen])

**Response:** *The staff will evaluate the radiological impacts of normal operation of the proposed new reactor units in Chapter 5 and the cumulative impacts of the new units in conjunction with existing Units 1 and 2 in Chapter 7 of the EIS. Potential effects on both human health and ecological receptors will be assessed based on appropriate exposure scenarios.*

**Comment:** The EIS should discuss the location, amount, type, and quality of wetland acreage in the study area, and how wetlands were delineated (i.e., COE, contractor, lead agency, etc.). A draft mitigation plan to compensate for predicted wetland losses should be developed during the NEPA process. Feasible alternatives that avoid wetland impacts should be consistent with the 404(b)(1) guidelines of the Clean Water Act. (0027-7 [Osowski Morgan, Sharon L.])

**Response:** *The NRC staff will describe wetlands potentially impacted by the project in Section 2.3.4 of the EIS. The potential impacts to these wetlands will be evaluated in Sections 4.3 and 5.3 of the EIS. Mitigation will be considered in Sections 4.3.3.5 and 5.3.3.5.*

**Comment:** Biodiversity is defined as the variety of plants and animals (biota) of a site or region, and is typically measured by the number of different species and number of individuals per species. In general, the more diverse an area is (number of habitat types and animal inhabitants) and the better represented these components are (population counts), the more rigorous (resistant, undisturbed, natural, healthy) the area is considered. Specifically, sustainable (or self managed) native biodiversity is preferred compared to an increase in the number of invasive, edge, or opportunistic species. Invasive, edge, or opportunistic species may

compete with native species and have the potential to dramatically change local ecosystems so that they are not sustainable. Implementing BMPs or other measures to reduce invasive species establishment should be discussed (Executive Order 13112). The NEPA document should discuss native biodiversity aspects of the proposal as appropriate. For example, will the project increase, restore, or decrease native biodiversity of the area or region? Coordination with the U.S. Fish and Wildlife Service (FWS), and Texas Parks and Wildlife Department is recommended regarding the design of any project mitigation areas to enhance or restore biodiversity. (0027-22 [Osowski Morgan, Sharon L.]

**Response:** *The NRC staff will consider and describe biodiversity in the project area in Section 2.4 of the EIS. Impacts to biodiversity, and mitigation measures as appropriate, will be discussed in Sections 4.3 and 5.3.*

**Comment:** The FWS is the responsible agency for endangered species compliance, so EPA defers to FWS regarding assessments of Federally-protected endangered species. However, the NEPA document should discuss survey results and adjust the proposed alignment as appropriate. Early coordination with FWS is recommended. (0027-23 [Osowski Morgan, Sharon L.]

**Response:** *The NRC staff has begun early consultation with the U.S. Fish and Wildlife Service (FWS) concerning potential project impacts on federally protected threatened and endangered species. NRC's consultations with FWS regarding threatened and endangered species will be discussed in Chapter 4 of the EIS.*

**Comment:** Chapter 2 -Existing Environment

Section 2.4 of the ER references a List of Somervell County Threatened and Endangered Species to address state-listed threatened or endangered species that may occur at the proposed CPNPP site. The ER failed to include the TPWD Annotated List of Rare Species for Hood County, though it appears that components of the project would occur within Hood County. Additionally, the ER only addressed state-listed threatened or endangered species, but did not address all species included on the Annotated County List of Rare Species. Those species on the list with a blank under federal or state status are tracked by TPWD and considered rare. Rare species are of conservation concern by TPWD within Texas, and efforts to minimize impact to such species are encouraged to help prevent future listing of the species. The most up-to-date TPWD Annotated County Lists of Rare Species are available at <http://gis.tpwd.state.tx.us/TpwEndangeredSpecies/DesktopDefault.aspx>. The lists provide information regarding rare species that have potential to occur within each county. Rare species could potentially be impacted if suitable habitat is present at or near the project site. . . . The EIS should address all species on the Hood and Somervell County Lists including rare, threatened, and endangered species. The project site should be assessed to determine if suitable habitat for any of these species occurs within or near the proposed area and to determine if construction and operation of the project would impact the species or habitats. (0029-2 [Boydston, Kathy])

**Response:** *The NRC staff will address potential impacts to terrestrial and aquatic biota, including State-listed threatened and endangered species, and suitable habitat potentially on the project site, in Sections 4.3 and 5.3 of the EIS.*

**Comment:** Wooded riparian corridors along streams generally provide nesting habitat for birds, soil stabilization for enhanced water quality, and food, cover, and travel corridors for wildlife. Riparian habitat is a high priority habitat type for conservation by TPWD across the state. . . . The project should be designed and constructed to avoid disturbance to stream and riparian areas. (0029-6 [Boydston, Kathy])

**Response:** *The NRC staff will address potential impacts to stream and riparian areas, and mitigation measures as appropriate, in Sections 4.3 and 5.3 of the EIS.*

**Comment:** The proposed project is situated in the Cross Timbers and Prairies Ecoregion of Texas which has generally supported native grassland valley communities with higher wooded divides. Native grassland communities have become increasingly rare in Texas due to historical conversion to row crop agriculture, overgrazing, invasion by woody species from a lack of fire on the landscape, conversion to non-native pastures and hayland, and other development associated with humans. Native grasslands are an important resource for wildlife adapted to grassland environments. Population declines of many grassland birds are attributed to this loss of habitat. . . . The location of facilities should be sited to avoid native grassland communities and placed in areas of previous disturbance or in areas previously converted to non-native pasture. (0029-7 [Boydston, Kathy])

**Response:** *The NRC staff will address potential impacts to native grassland communities, and mitigation measures as appropriate, in Sections 4.3 and 5.3 of the EIS.*

**Comment:** Because native vegetation is adapted to the soil and climate of the area, it usually requires less maintenance and watering than introduced species. Water conservation is warranted for the relatively dry climate of the project area. The disease tolerance of native vegetation provides longevity to the landscape without high cost. Mature trees and shrubs provide nesting, loafing, and forage habitat for birds and other wildlife. . . . The project site should be carefully planned and constructed to avoid and preserve existing native vegetation. To eliminate or reduce the need for permanent irrigation, native trees, shrubs, grasses, and forbs should be incorporated into the landscape plan. The following websites describe appropriate native vegetation for the project area, <http://www.tpwd.state.tx.us/huntwild/wild/wildscapes/> and <http://tpid.tpwd.state.tx.us/>. (0029-8 [Boydston, Kathy])

**Response:** *The NRC staff will discuss preservation of native vegetation and use of native species for revegetation in Sections 4.3 and 5.3 of the EIS.*

**Comment:** The revegetation and maintenance plan for temporary disturbed areas should focus on re-establishing native cover through natural regeneration and/or planting and should be developed in coordination with TPWD. Plans for natural regeneration and/or revegetation of disturbed areas should include measures to treat and control undesirable and/or invasive species and should include management practices to benefit wildlife. (0029-9 [Boydston, Kathy])

**Response:** *The NRC staff will discuss preservation of native vegetation, use of native species for revegetation, and consideration of control of invasive species in Sections 4.3 and 5.3 of the EIS.*

**Comment:** The ER did not address the potential for the project site to contain rare plant species or sensitive plant communities that are tracked by TPWD and/or included on our annotated county lists of rare species; therefore impacts to those species or communities were not addressed. . . . Sites should be surveyed to identify potential impacts to rare plant species and natural communities identified by TPWD. (0029-10 [Boydston, Kathy])

**Response:** *The NRC staff will describe rare and sensitive plant species that potentially occur on the project site in Section 2.4. The potential impacts to these species, based on the*

*likelihood of such species to be present, and potential mitigation measures, will be evaluated in Sections 4.3 and 5.3 of the EIS.*

**Comment:** Protecting vegetated buffers is discussed in Section 4.3.1.1, though no vegetated buffer areas are specifically identified in the ER. . . . The vegetated buffer areas that would receive protection need to be identified and mapped. (0029-11 [Boydston, Kathy])

**Response:** *The NRC staff will discuss locations and preservation of vegetative buffer areas in Sections 4.3 and 5.3 of the EIS.*

**Comment:** Figure 4.2-1 indicates that the area immediately adjacent to the wetland identified along SCR on the cooling tower peninsula is slated as a construction area. During the February 2,2009 site visit, Luminant noted that a buffer area would be placed around the wetland. It is unclear the amount of wooded area on the slopes of the draw that would be excluded from construction activities to serve as the buffer area to the wetland. . . . A buffer area developed in coordination with TPWD should be established along the slopes to protect water quality, provide wildlife habitat, and shelter the wetland located down slope at this location. (0029-12 [Boydston, Kathy])

**Response:** *The NRC staff will address wetland mitigation, including provision of buffer areas, in Chapters 4 and 5 of the EIS.*

**Comment:** Section 4.3.1 of the ER indicates that the disturbed area is equivalent to 275 acres and 384 acres, for the CPNPP and the BDTF, respectively. The ER does not distinguish between permanent and temporary disturbance areas per the CPNPP site and the BDTF. The 275-acre CPNPP site is the only area showing impacts by cover type, but the amount of each cover type lost to permanent construction is not provided. No impact assessment per cover type is provided for the 384-acre BDTF, the pipelines, the power transmission lines, or the intake and return structure areas. . . . The permanent and temporary disturbances should be revealed per cover type (grassland, scrub brush, disturbed, juniper woodland, wetland, hardwood forest, etc.) per facility (CPNPP, BDTF, power transmission lines, pipelines, and intake and return structure areas). Total temporary and permanent impacts per cover type should be provided for the proposed project, inclusive of the CPNPP, the BDTF, the pipelines, the transmission lines, and the intake and discharge structure areas. This type data can easily be presented in table form. (0029-13 [Boydston, Kathy])

**Response:** *The NRC staff will distinguish between permanent and temporary disturbance areas on the project site, including the area of the proposed Blowdown Treatment Facility, as well as assessing habitat cover types in the entire project area. Ecological impacts within the entire project area will be evaluated in Sections 4.3 and 5.3.*

**Comment:** Construction crews should be informed of the rare species in the project counties and should avoid disturbance to sensitive species if encountered during construction. Only personnel with a TPWD scientific collection permit are allowed to handle and move state listed species. For further information on the required permit please contact Chris Maldonado at (512) 389-4647. (0029-14 [Boydston, Kathy])

**Response:** *The NRC staff will describe mitigation measures for rare species in Sections 4.3 and 5.3. Should mitigation include handling and movement of State-listed species, all legal and regulatory requirements would be met.*

**Comment:** The ER did not address the potential for the project site to contain rare species that are tracked by TPWD and included on our annotated county lists of rare species; therefore impacts to those species were not addressed. The ER does not include a detailed evaluation of impacts associated with the BDTF construction. . . . Site surveys of the CPNPP and BDTF sites for rare species with potential to occur within the area should be conducted prior to construction. Occurrences should be avoided or a mitigation plan developed in coordination with TPWD. (0029-15 [Boydston, Kathy])

**Response:** *The NRC staff will describe rare and sensitive plant species that potentially occur on the project site, including the Blowdown Treatment Facility, in Section 2.4. The potential impacts to these species, based on the likelihood for such species to be present, and potential mitigation measures, will be evaluated in Sections 4.3 and 5.3 of the EIS.*

**Comment:** It is not apparent that Chapter 5 of the ER addresses impacts to wildlife associated with operation of the BDTF. The proposed site for the BDTF would include a large area of ponds that may be placed near and/or under existing power transmission lines. The BDTF area is also in close proximity to a large reservoir. Therefore, there is increased potential for use of the area near the transmission lines by migratory and resident waterfowl and shorebirds once the BDTF ponds are installed. The attractiveness of the BDTF ponds to birds would increase the potential for bird collision with the transmission lines. . . . Potential collision impacts to migratory and resident birds as a result of constructing large ponds near and/or under transmission lines should be addressed. Measures to avoid or mitigate potential impacts should be developed in coordination with TPWD, such as transmission line marking, relocation of the proposed BDTF ponds, and pre-and postconstruction monitoring. (0029-21 [Boydston, Kathy])

**Response:** *The NRC staff will describe potential impacts to wildlife from operation of the proposed Blowdown Treatment Facility, and potential mitigation measures, in Sections 4.3 and 5.3 of the EIS.*

**Comment:** Any potential dangers to wildlife as a result of exposure to the BDTF ponds should also be made apparent. Significant impacts should be mitigated. (0029-22 [Boydston, Kathy])

**Response:** *The NRC staff will describe potential impacts to wildlife from operation of the proposed Blowdown Treatment Facility, including associated ponds, and potential mitigation measures, in Sections 4.3 and 5.3 of the EIS.*

**Comment:** TPWD is concerned that high salinity reject water (brine) from any desalination process be disposed of in a manner that does not impact fish and wildlife resources. TPWD may offer additional comment when Luminant provides greater detail of proposed operations of the BDTF. (0029-23 [Boydston, Kathy])

**Response:** *The NRC staff notes the comment.*

**Comment:** Because the CPNPP boundary encompasses approximately 7,950 acres inclusive of Squaw Creek Reservoir and large areas of undeveloped property, there is opportunity for Luminant to develop a working plan for conservation, protection, and management of fish and wildlife resources within the CPNPP boundary. . . . An adaptive wildlife management plan should be developed in coordination with TPWD. Suggestions for activities to address in the management plan include, but are not limited to:

-Opening Squaw Creek Reservoir or portions of the reservoir for public fishing

- Creating and maintaining native grassland communities within transmission line ROWs and areas of non-native grasslands
- Creating and protecting riparian corridor habitat
- Developing a grazing management plan for areas leased to livestock
- Developing livestock exclusion areas or rotation plans near ponds to help improve water quality and increase wildlife diversity
- Conducting deer management in areas that are overpopulated
- Monitoring and treatment of invasive or undesirable species (0029-24 [Boydston, Kathy])

**Response:** *Creation of an adaptive wildlife plan is outside the scope of this review.*

**Comment:** Rare Resource Occurrences

To support preparation of the EIS, the NRC has requested information regarding state-listed, proposed, and candidate species and protected habitat that may be in the vicinity of the proposed site, the alternative sites, and the transmission line ROWs. The ER indicates that three alternative sites and a preferred site were considered for the proposed nuclear power plants. The applicant has not revealed the alternative site locations because they hold the locations as proprietary information. The three alternative sites have been described as occurring A) near the border of Victoria and Calhoun counties, B) near the border of San Augustine and Sabine counties, and C) near the border of McLennan and Limestone counties. Therefore, TPWD must present the data regarding known occurrences of rare resources based on countywide sets of data for two counties per site. TPWD has included a 1-mile radius buffer beyond the two counties because including a buffer to a project site is typical practice for Texas Natural Diversity Database (TXNDD) searches. This buffer also encompasses area that may be in a different county, but still within 10 miles of the border of the two given counties. To eliminate bias in the evaluation of site alternatives by the NRC, TPWD is submitting data for the proposed site in the same manner encompassing Hood and Somervell counties and a 10-mile radius buffer area. If the actual locations of the alternative sites are provided to TPWD, then we will provide a less intensive list of TXNDD occurrences to the NRC by site location rather than countywide.

TPWD is also submitting a set of data specific to the proposed site location including occurrences within a 1-mile buffer area. This data should be considered when assessing the potential impacts to rare resources if the alternatives analysis of the EIS indicates that the proposed site is adequate as the preferred site. Thus, an appropriate evaluation of impacts to rare resources specific to the preferred site can be conducted. The ER identifies two new proposed 345-kV transmission line routes requiring new ROW, one extending 45 miles to a substation near Lake Whitney in Bosque County and one extending 17 miles to a switching station near Lake Granbury. There are also two new proposed circuits that will be added to vacant positions on two separate existing 345-kV double lattice steel tower structures, one extending 44.8 miles to a switching station in Tarrant County and one extending 41.6 miles to a switching station in Parker County. TPWD understands that the proposed transmission line ROW routes are preliminary and not final. Therefore, the information provided regarding resources within the vicinity of the two new proposed 345-kV transmission line ROWs will need to be updated and an assessment of potential impacts to rare resources will need to be reevaluated once specific routes are identified.

Determining the actual presence of a species in a given area depends on many variables including daily and seasonal activity cycles, environmental activity cues, preferred habitat, transiency and population density (both wildlife and human). The absence of a species can be

demonstrated only with great difficulty and then only with repeated negative observations, taking into account all the variable factors contributing to the lack of detectable presence.

The TXNDD is intended to assist users in avoiding harm to rare species or significant ecological features. Given the small proportion of public versus private land in Texas, the TXNDD does not include a representative inventory of rare resources in the state. Absence of information in the database does not imply that a species is absent from that area. Although it is based on the best data available to TPWD regarding rare species, the data from the TXNDD do not provide a definitive statement as to the presences, absence or condition of special s (0029-25 [Boydston, Kathy])

**Response:** *The NRC staff notes the comment. Since actual locations of the alternative sites have been provided to Texas Parks and Wildlife Department by NRC, staff notes that scope of the occurrence list will be reduced.*

## 2.10 Comments Concerning Ecology - Aquatic

**Comment:** I want an honest environmental impact statement on protein sources at the estuary of the Brazos River. We keep, over and over again, putting negative impacts on our ability to produce protein from our coastline. And this is just one more example of that. If the NRC does not do an honest assessment of that, it is not a legitimate planning process. I'd like to see that addressed. (0016-43 [Burnam, Lon])

**Comment:** It is about the production of protein at the end of this river stream. We are facing a probably extended drought, and you have got the protection here, because your lake is a guaranteed level. But I want to ask you about Possum Kingdom, which is low already. I want to ask you about maintaining the estuary and the protein production at the end of this assembly line, as it were. (0017-18 [Burnam, Lon])

**Response:** *The impact of water withdrawals from and discharges to the Brazos River for operation of the proposed new nuclear units will be evaluated and presented in Chapter 5 of the EIS.*

**Comment:** I used to go fishing in Squaw Creek. In the local paper, like I said, it always gives the lake levels and the temperature of the waters. Squaw Creek would go -the highest I ever saw it was 104 degrees. And, yes, there would be fish dead. Matter of fact, no matter where I was in the lake, I could always see at least one dead fish, unless I was on the --close to the bank. Then there was a lot of dead fish and a lot of buzzards. And that may sound kind of funny, but the ones that the dead fish and the maggots and that sort of stuff that the buzzards eat, it kind of went over the spillway. And that might be why these problems with Squaw Creek downstream. And also, when you came over the hill to go down to the boat ramp area, you could smell dead fish. And it's not as if I was going to eat something I caught out of that lake at that time, but I just went out there to kind of see what kind of deal this is. And I wish I had taken a movie or something to show you, because it would make an effect on your --just the way you think. (0016-69 [Kinzie, W.T.]

**Comment:** Discharging "hot" water from Squaw Creek needs to be studied. Loss of fish, turtles, frogs. (0018-5 [Cathey, Jack])

**Response:** *The NRC staff will assess potential impacts to aquatic life in Lake Granbury, the Brazos River, and Squaw Creek due to thermal discharge from the proposed new reactor units in Section 5 of the EIS.*

**Comment:** Need study of impact "down" river. (0018-7 [Cathey, Jack])

**Response:** *The NRC staff will assess potential ecological and hydrological impacts in Lake Granbury, the Brazos River, and Squaw Creek Reservoir due to operation of the intake and discharge from the proposed new reactor units in Chapter 5 of the EIS.*

**Comment:** The adverse effects of elevating water temperatures in our rivers is sacrificing the integrity of these precious ecosystems and harming biological development and survival. This is unacceptable and irresponsible. (0031-3 [Gentling, Suzanne])

**Response:** *The NRC staff will assess potential impacts to aquatic life in the Brazos River from thermal discharge of the proposed new reactor units in Chapter 5 of the EIS.*

**Comment:** The EIS must do a full analysis of how much of each of these contaminants [i.e., biocide, algicide, pH adjuster, corrosion inhibitor and silt dispersant] would end up in Lake Granbury, how much would migrate into the Brazos River and how much would escape through evaporation. The exact chemical names must be included, not just generic terms such as "biocide." The impacts of exposure of humans, animals and wildlife to these toxic compounds should be analyzed. (0019-12 [Hadden, Karen])

**Comment:** The study should also include an analysis of pollution impacts downstream from water contaminated by chemical treatment such as biocides, algicides, pH adjusters, corrosion inhibitor and silt dispersant chemicals injected at the reactor site as well as chlorine, salts and non-radioactive effluent. The differential impact of treatment of 100 percent of the water versus the lesser amount of treatment proposed by the applicant should be considered. (0022-18 [Hadden, Karen])

**Response:** *The staff's assessment of the nonradiological impacts to water quality will be presented in Chapter 5 of the EIS.*

**Comment:** Global warming and its impacts on rainfall are better understood now and must be considered in the context of determining whether adequate water resources will be available for nuclear plant operations. It is clear that nuclear plants require enormous amounts of water for operations. In fact, the environmental report states that 30,000 gallons of water are needed for each reactor every minute, and shows in Figure 2.3-30 that approximately two-thirds of this water would evaporate. It is also clear, based on the Comanche Peak environmental report, that the proponents of the plant assume that there will be adequate water resources for purposes of plant operations associated with Comanche Peak Units 3 and 4. However, impacts from global warming will include protracted drought that may seriously compromise water resources required for plant operations. The compromised water resources should be considered both from a quantitative perspective and a temperature sensitive analysis since plant operations are dependent on a narrow band of water temperatures. (0022-11 [Hadden, Karen])

**Comment:** The EIS should also consider whether regional waterways will be impacted in terms of water quantity and quality by the use of vast quantities of water for Units 3 and 4, including Lake Granbury, the Brazos River, the Paluxy River, Whitney Lake, a popular fishing lake, and popular recreational areas such as Possum Kingdom. According to the Texas Parks and Wildlife

Department web site, the drinking water at Possum Kingdom State Park is currently non-potable due to a high salt content, and visitors must bring their own water for consumption. The potential to increase salt content of waterways in the region by further drawdown of water levels, including impacts to the local aquifer and drinking wells should be examined thoroughly in the EIS. Coastal environmental impacts are known to result from alterations of freshwater flow into the Gulf of Mexico, affecting lagoons, estuaries and wetlands, altering salinity patterns, nutrients, dissolved oxygen levels and therefore impacting productivity of coastal plant and animal populations. The biological impacts must be considered in the EIS including the possibility of eutrophication, productivity and sediment impacts, and potential contamination. (0022-21 [Hadden, Karen])

**Comment:** Friends of the Brazos River (FBR) is a non-profit organization with 450 members in the Glen Rose, Granbury, Dallas and Ft. Worth area whose main concern is the ecological integrity of the Brazos between Lakes Granbury and Whitney. In our opinion, the Brazos is an imperiled ecosystem, largely due to the over-allocation of Brazos water by the Brazos River Authority. We are currently working cooperatively with BRA, TCEQ and other state agencies to insure that BRA's current water right application allows for adequate instream flows. It is our understanding that the cooling systems for the additional reactors at Comanche Peak will lose approximately 55,000 acre ft. of Brazos water annually to evaporation. Whereas, we do not oppose the additional reactors. We do oppose the loss of so much Brazos water. (0025-1 [Lowe, Ed])

**Response:** *The staff will assess the impact of consumptive water losses related to the proposed action on the sustainability of both local and regional water resources. This assessment will consider both current and future conditions, including changes in water demands to serve the needs of future populations, and changes in water supply resulting from climate variability and climate change. The staff's assessment of impacts on water resources and related ecological impacts will be presented for construction and operation in Chapters 4 and 5 of the EIS, respectively.*

**Comment:** The environmental report indicates that Squaw Creek Reservoir will continue to be the receiving body of water for various discharges from Comanche Peak Units 3 and 4. The Environmental Report concedes that radioactive particulate matter released to Squaw Creek Reservoir in liquid effluents will be deposited into the sediment layer of the reservoir bottom and remain there indefinitely. Comanche Peak NPP Environmental Report, p.5.11-3. In the event of a protracted drought, and inadequate flow into Squaw Creek Reservoir. The sediment layer could become exposed and, if adequately deliquified, would become dust and subject to transport by wind with clear public health and environmental consequences. Therefore, it is crucial that the EIS include a complete radiological profile of the existing sediment in Squaw Creek Reservoir and an analysis of the cumulative radiological impacts expected from operations on it from Units 3 and 4. This analysis is required in order to fully gauge the environmental and public health impacts from the use of the earthen Squaw Creek Reservoir as a discharge point for radioactive effluent from Comanche Peak Units 3 and 4. Part of this analysis should be an assumption that the Squaw Creek Reservoir dam will at some point fail and release the sediment that is burdened by radioactive particulates. Downstream impacts on water quality, use, and impacts on mortality and morbidity must be a part of a proper EIS. The Squaw Creek Reservoir dam should also be analyzed for structural integrity. Protracted drought, seismic activity, or other natural events have the potential to weaken the dam and if a failure of the structure occurs radioactive sediment could be carried downstream with significant potential for environmental and public health impacts. (0022-13 [Hadden, Karen])

**Comment:** Squaw Creek Reservoir should be analyzed for radiological hazards because of radioactive particulates currently discharged from Comanche Peak Units 1 and 2 that are accumulating in sediment and additional radionuclide loading if Units 3 and 4 are operational. (0022-8 [Hadden, Karen])

**Response:** *The staff will evaluate the radiological impacts of normal operation of the proposed new reactor units in Chapter 5, and the cumulative impacts of the new units in conjunction with existing Units 1 and 2 in Chapter 7 of the EIS. Potential effects on both human health and ecological receptors will be assessed based on appropriate exposure scenarios.*

**Comment:** Tritium and other radioactive particulates as well as water temperatures are major concerns for the receiving waters. These must be adequately addressed in light of the additional water discharges from Units 3 and 4 both in the receiving waters, but also downstream. (0032-7 [Reed, Cyrus])

**Response:** *The staff will evaluate the radiological impacts of normal operation of the proposed new reactor units in Chapter 5, and the cumulative impacts of the new units in conjunction with existing Units 1 and 2 in Chapter 7 of the EIS. Potential effects on both human health and ecological receptors will be assessed based on appropriate exposure scenarios. Potential impacts to aquatic life from the thermal discharge of the proposed new units also will be assessed for Lake Granbury and the Brazos River downstream in Section 5 of the EIS.*

**Comment:** The other thing I'd like to address is the biggest thing that we missed of all, is on the environmental studies, is what happens after they cool the plant. They release the water down Squaw Creek, which is just about a mile behind you. And that water is extremely hot. It's not warm water; it's hot water.

Now then, in the past ten to 12 years --and I'm just talking about Squaw Creek, which is not a very big area --there were many, many frogs and soft-shelled turtles, many of them, and nobody in this room has been on that river more than I have. There's no soft-shelled turtles down there. The frogs are gone. And I've always been informed in environmental, frogs are the first thing that tell you there's something wrong. And there's something wrong with the release of that water.

The water is too hot. It has bothered the spawning of the fish. When I say there's no --I don't mean there's not any. I mean, they're disappearing. The fish, they're still there, but they're disappearing. There's something wrong that needs to be looked into in your study very, very serious. Something that's not happening, not something that you need to do later on; it's something that needs to be done right now. It's happening as we're sitting here.

And it's something on all these studies --and I notice on that chart up there, it said aquatic studies. I've never seen one. I've never seen one of what happens after the fact. Studies are done about the fish in the lake, but nothing is happen --and it's just growing right down the river.

The --it's not the only problem. The problem is with low water, if you add hot water, you get hot water down the river in the summertime. And if you --all you have to do is go stick your hand in it. And it's hot. And it's something that I'd like for you to address, and really it's never been even looked at. And why we let it get by, I don't know, but I never thought about it until after the fact. And the only way that I really know about this is firsthand information, because I'm on that river every single day. (0016-64 [Cathey, Jack])

**Response:** *The NRC staff will assess potential impacts to aquatic life in Lake Granbury, the Brazos River, and Squaw Creek due to thermal discharge from the proposed new reactor units in Chapter 5 of the EIS.*

**Comment:** The above article said that water will be returned at 91 to 93 degrees. If we have limited rain and the BRA chooses to decrease the flow from PK then what will happen to the water temperature of the water at the dam site? This is the only deep water area of the lake. What becomes of our game fish? (0020-2 [Bernier, Jim])

**Response:** *The NRC staff will assess potential ecological and hydrological impacts in Lake Granbury, the Brazos River, and Squaw Creek Reservoir due to operation of the intake and discharge from the proposed new reactor units in Chapter 5 of the EIS.*

**Comment:** A Total Dissolved Solids (TDS) concentration of 1680 mg/l is on the borderline for lethal toxicity, and a TDS concentration of 2500 mg/l is above. Given that there will also be biocide usage in the cooling towers, whole effluent toxicity (WET) testing will be required, and there is reason to expect lethal and sublethal effects in WET testing. CPNPP should sample the water from Lake Granbury and perform 7-day chronic toxicity tests. CPNPP should also evaporate a portion of the sample to approximately 2500 mg/l and perform the same test. This would be predictive of the final effluent and would provide a sound basis for decision-making. (0027-10 [Osowski Morgan, Sharon L.]

**Response:** *Impacts on aquatic biota and habitat due to liquid chemical effluents resulting from facility operation will be discussed in Section 5.3.2.*

**Comment:** Biodiversity is defined as the variety of plants and animals (biota) of a site or region, and is typically measured by the number of different species and number of individuals per species. In general, the more diverse an area is (number of habitat types and animal inhabitants) and the better represented these components are (population counts), the more rigorous (resistant, undisturbed, natural, healthy) the area is considered. Specifically, sustainable (or self managed) native biodiversity is preferred compared to an increase in the number of invasive, edge, or opportunistic species. Invasive, edge, or opportunistic species may compete with native species and have the potential to dramatically change local ecosystems so that they are not sustainable. Implementing BMPs or other measures to reduce invasive species establishment should be discussed (Executive Order 13112).

The NEPA document should discuss native biodiversity aspects of the proposal as appropriate. For example, will the project increase, restore, or decrease native biodiversity of the area or region? Coordination with the U.S. Fish and Wildlife Service (FWS), and Texas Parks and Wildlife Department is recommended regarding the design of any project mitigation areas to enhance or restore biodiversity.

Studies as similar as possible to those performed prior to Units 1 and 2 becoming operational (1981) should be conducted for comparison purposes and to ascertain losses in species abundance and richness over time. For example, 26 species of fish were caught in 1987, but only 10 in 2007 (Table 2.4-13). Tables 2.4-3, 2.4-4, 2.4-7, 2.4-13, and 2.4-14 all show declines in species richness over time. If the method used led to misleading sample, then new sampling schemes should be developed or methods used in 1987 should be used (p. 2.4-24).

Table 2.4-4 has observed and expected data; therefore, simple statistics (like Chi squared, etc) could be performed to provide confidence bounds on the data and to determine whether the observations show a true pattern or are random statistical events.

The ER indicated that CPNPP would draw water for cooling from Lake Granbury. Additional studies of the impacts to aquatic ecology should be performed. Even though aquatic organisms may retreat to other areas in SCR or Lake Granbury, there are limits to what the organisms can tolerate, both in pollutant load, sediment load, high water temperature, and the amount of time they are exposed to such conditions (p. 4.3-10). (0027-21 [Osowski Morgan, Sharon L.]

**Response:** *Impacts on aquatic ecology from cooling water withdrawals and discharges, including the potential for impacts on the biodiversity of aquatic communities, will be analyzed based on available data for Lake Granbury, the Brazos River, and Squaw Creek Reservoir in Chapters 4 and 5 of the EIS.*

**Comment:** Chapter 2 -Existing Environment: Section 2.4 of the ER references a List of Somervell County Threatened and Endangered Species to address state-listed threatened or endangered species that may occur at the proposed CPNPP site. The ER failed to include the TPWD Annotated List of Rare Species for Hood County, though it appears that components of the project would occur within Hood County. Additionally, the ER only addressed state-listed threatened or endangered species, but did not address all species included on the Annotated County List of Rare Species. Those species on the list with a blank under federal or state status are tracked by TPWD and considered rare. Rare species are of conservation concern by TPWD within Texas, and efforts to minimize impact to such species are encouraged to help prevent future listing of the species.

The most up-to-date TPWD Annotated County Lists of Rare Species are available at <http://gis.tpwd.state.tx.us/TpwEndangeredSpecies/DesktopDefault.aspx>. The lists provide information regarding rare species that have potential to occur within each county. Rare species could potentially be impacted if suitable habitat is present at or near the project site. . . . The EIS should address all species on the Hood and Somervell County Lists including rare, threatened, and endangered species. The project site should be assessed to determine if suitable habitat for any of these species occurs within or near the proposed area and to determine if construction and operation of the project would impact the species or habitats. (0029-1 [Boydston, Kathy])

**Response:** *For both Somervell and Hood Counties, species with a Federal or State listing status of endangered or threatened and species considered by the State as rare will be identified in Chapters 2 of the EIS, and potential impacts to these species from construction and operation of the proposed new reactor units will be evaluated in Chapters 4 and 5, respectively.*

**Comment:** Section 2.4.2.2 of the ER provides basic details about the fish studies conducted for Squaw Creek Reservoir and Lake Granbury. Fish avoidance of gill nets is a known problem in reservoirs with high water clarity, such as Squaw Creek Reservoir and near the dam on Lake Granbury. . . . Further information is needed about the monofilament nets used to sample the fish population, the depth at which gill nets were placed, and the gill net mesh size used. Mesh sizes too large to capture smaller fish would produce inaccurate results. Electrofishing, even with high total dissolved solids, would likely provide important additional information on fish populations in both reservoirs. Seining in littoral areas could provide information about smaller species that are unlikely to be captured by gill nets. (0029-3 [Boydston, Kathy])

**Response:** *Additional information about fish sampling methods and apparatus will be provided in Section 2.4.2 of the EIS.*

**Comment:** During the February 2, 2009 site visit, and in Section 4.3.2.4 of the ER, it was mentioned that fish populations are struggling in Lake Granbury. The consultant's sampling at four sites near the dam claims to support this opinion. The TPWD Inland Fisheries staff conducts full fishery studies on the lake every four years as well as ongoing fish sampling. These studies show that only a few fish species have declined post-golden algae kills, many have remained at the same population levels, and some have increased in numbers (Baird and Tibbs 2006). The opinion that the fishery is dead by the dam due to golden algae is not supported by the information provided. . . . Request: TPWD requests a copy of the fish studies conducted by Luminant's consultant, specifically the studies referenced in Chapter 2.4 of the ER, Bio-West 2008a and 2008b. TPWD staff may have additional comments following review of the consultant's report. (0029-5 [Boydston, Kathy])

**Response:** *The information provided by the TPWD fisheries study in Lake Granbury will be considered in conjunction with the studies cited in the applicant's ER when the NRC staff assesses in the EIS the current condition of fish populations in the lake and potential future impacts.*

**Comment:** Section 5.2 discusses water-related impacts associated with water withdrawal from Lake Granbury, water loss, and return discharge to Lake Granbury. The ER claims that there is currently minimal use of water in the Brazos River from Possum Kingdom Lake to Lake Whitney; and due to the minimal water use and other users returning water to the Brazos River Basin, the project impacts are not expected to affect the available water for other water users nor for the aquatic ecological communities of the Brazos River. The ER considers the impacts from the CPNPP water withdrawal and discharge rates as small. The ER presents the reported mean monthly discharges at DeCordova Bend Dam at 1,031 cubic feet per second (cfs) and indicates that anticipated normal discharge would be 55.43 cfs during operation of CPNPP Units 3 and 4.

The operational impacts associated with water use do not specifically address potential impacts to aquatic resources such as potential impacts to the state threatened Brazos Water Snake (*Nerodia harteri*), various rare species of mollusks listed on the county lists, and other aquatic resources occurring or potentially occurring downstream of Lake Granbury. . . . Potential impacts associated with CPNPP water losses need to be specifically addressed for aquatic resources within the Brazos River Basin. (0029-16 [Boydston, Kathy])

**Response:** *The NRC staff will assess potential impacts on aquatic life in the Brazos River basin due to hydrological effects from operation of the proposed new reactor units in Chapter 5 of the EIS.*

**Comment:** Chapter 2 Section -2.3.3.1.9 and Chapter 5 Sections -5.2.1. 7 and 5.2.3.4 Golden algae, specifically *Prymnesium parvum*, are microscopic plants present in Possum Kingdom Reservoir, Lake Granbury, and Lake Whitney, as well as other areas in the state. The alga prefers saltier water for growth as it is a marine species. Lower water levels in Possum Kingdom Reservoir would likely make the lake more susceptible to golden alga. Like most other reservoirs, when the water level in Possum Kingdom Reservoir is low, conditions become more saline and nutrients become more concentrated. Historically, both conditions have been associated with increased occurrence and severity of golden algal blooms in Possum Kingdom Reservoir and other Texas reservoirs. An increase in salinity (conductivity) within Lake

Granbury would likely also cause enhanced golden algal blooms. With the return water entering by the dam, the potential for increased conductivity by the dam and immediately downstream is a concern as well. . . . If golden alga occurrences increase in severity after periods of water loss, then Luminant may be required through TPWD's civil restitution process to mitigate for fish mortalities from these golden alga kills and may be asked to contribute to annual restocking efforts or golden alga treatment and research. (0029-17 [Boydston, Kathy])

**Response:** *Water quality impacts from operation of the proposed new reactor units and their potential effects on aquatic life will be assessed in Chapter 5 of the EIS.*

**Comment:** TPWD has concerns about increased selenium levels in Lake Granbury and downstream portions of the Brazos River resulting from the discharge. As stated in Section 5.2.3.4, When half the detection limit was used to estimate concentrations that would result from CPNPP Units 3 and 4 2.4-cycle cooling tower operation, selenium was estimated to exceed the Texas Commission on Environmental Quality (TCEQ) Criteria for Specific Metals in Water for Protection of Aquatic Life and also for both the mean and maximum concentrations when mixed with Lake Granbury at low flow. However, selenium is expected to be reduced to concentrations less than the TCEQ standards for Specific Metals in Water for Protection of Aquatic Life at the edge of the mixing zone in Lake Granbury during the annual mean flow for both mean and maximum concentrations. The acute freshwater criteria for selenium is 0.020 mg/L and freshwater chronic criteria is 0.005 mg/L (TCEQ 2008). Exceeding the set criteria can be harmful to aquatic life within and downstream of the reservoir. (0029-18 [Boydston, Kathy])

**Comment:** Section 5.2.2.3.1: The consumptive demands from the project are a concern for the Brazos River Basin. Chapter 3 Section 4 indicates that Luminant will use up to 103,000 acrefeet per year (ac-ft/yr) of water from Lake Granbury for the cooling process with an estimated evaporative loss of 61,000 ac-ft/yr. The loss of 61,000 ac-ft/yr from Possum Kingdom Reservoir, Lake Granbury and the Brazos River will lead to declines in lake levels, a reduction of streamflow downstream of Lake Granbury, and a resultant wide range of impacts on fish and wildlife resources and recreation.

Fisheries may be impacted; reduced flows in the Brazos River below Waco may impact several imperiled fish species, as well as a vulnerable alligator gar fishery. Water levels are also anticipated to drop in Possum Kingdom Reservoir since the water for Units 3 and 4 will be taken from Lake Granbury but supplied by releases from Possum Kingdom Reservoir. Currently, Possum Kingdom Reservoir struggles with having enough water to inundate littoral vegetation during spawning times for a variety of sport fish. The proposed water loss would exacerbate an already less than desirable condition. In addition, lowering the water level in Possum Kingdom Reservoir will expose fish habitat used for sheltering and feeding, as well as for breeding. This loss of habitat, especially during spawning season, is likely to impact fish populations. (0029-19 [Boydston, Kathy])

**Response:** *The NRC staff will assess potential hydrological, water quality, and resulting ecological impacts in the Brazos River basin associated with the intake and discharge from operation of the proposed new reactor units in Chapter 5 of the EIS.*

## 2.11 Comments Concerning Socioeconomics

**Comment:** And as far as y'all wanting to bring in extra jobs and more people, you would think it would be a joke about Weatherford having traffic problems. But try to be on Main Street or Santa Fe some day between four and five o'clock. Weatherford has traffic jams, and it's crazy, but at least they've got those big trucks and all the equipment that are related to the Barnett shale drilling. And the trucks are tearing up our roads. (0016-70 [Kinzie, W.T.]

**Response:** *Potential effects on local roads and traffic conditions will be addressed in Section 4 of the EIS for the construction period and in Chapter 5 of the EIS for the operations period.*

**Comment:** The City knows that this could have some burdens on the City, because we don't get any tax dollars for it, and we know that it could prevent a lot of people from moving into the city. It might have an effect on the water and the sewer and the roads. (0017-1 [Miller, Pam])

**Response:** *Potential effects on local roads and traffic conditions, public services, and tax revenues will be addressed in Chapter 4 of the EIS for the construction period and in Chapter 5 of the EIS for the operations period.*

**Comment:** The EIS should also consider whether regional waterways will be impacted in terms of water quantity and quality by the use of vast quantities of water for Units 3 and 4, including Lake Granbury, the Brazos River, the Paluxy River, Whitney Lake, a popular fishing lake, and popular recreational areas such as Possum Kingdom. According to the Texas Parks and Wildlife Department web site, the drinking water at Possum Kingdom State Park is currently non-potable due to a high salt content, and visitors must bring their own water for consumption. The potential to increase salt content of waterways in the region by further drawdown of water levels, including impacts to the local aquifer and drinking wells should be examined thoroughly in the EIS. (0022-23 [Hadden, Karen])

**Response:** *Potential impacts of plant operations on water quantity and quality in regional waterways will be addressed in Chapter 5 of the EIS.*

**Comment:** Since the specialized job skills required to manufacture nuclear reactors are virtually non-existent in the US, what is the plan to create jobs for Americans if the Comanche Peak project is approved? (0023-1 [Ubico, Jean])

**Response:** *Potential effects on employment will be addressed in Chapter 4 of the EIS for the construction period and in Chapter 5 of the EIS for the operations period.*

**Comment:** When the first two reactors were built the sky glow light pollution went from zero to off the scale in the direction of the reactors. The latest round of fixture modernization reduced the sky glow by about 40 percent. Our Concern is the two new units will increase the sky glow beyond what it was after initial construction. We would like to see a comprehensive relighting program for all four reactors, using the latest technology zero cut-off fixtures, such as those approved by the International Dark-sky Association in order to achieve an overall reduced light pollution impact than what now exists. [www.darksky.org](http://www.darksky.org) (0024-3 [Miller, Russ])

**Response:** *The effects of light pollution from the proposed new reactors will be addressed in Chapter 5 of the EIS.*

**Comment:** I would like to see the lake at the Comanche Peak Nuclear Power Plant reopened for fishing. The possibility of a special license seems like a logical way to go to me. Restricted to Texas residences with concealed handgun licenses may be an option, since they have already passed a background check. Also, advance reservations, limited number of boats on the lake at a time, no more than 3 people per boat, etc. Fingerprints, photo on file, etc. Fishing only. No skiing or jet skis. Daylight hours only. I would like to allow tube floats and oar propelled watercraft. You could even set it up with a limited season only open during certain months. It just seems a shame to me that this lake is closed to the taxpayers of Texas and the honest law abiding fishermen (and women). (0007-1 [Drechel, Gary])

**Response:** *The potential effects of plant construction and operations on recreation will be addressed in Chapters 4 and 5 of the EIS.*

**Comment:** The new plant will need to use existing roads and to build new ones. Lots of cars, trucks, and machinery will pass over them.

- How will Luminant ensure that roads are not congested? How will Luminant transport uranium and on which highways? Which communities will it pass through, and will their police and firefighting forces be trained to deal with a radioactive accident?
- How would Luminant transport low-level and high-level radioactive waste if offsite storage ever gets approved?

(0019-23 [Hadden, Karen])

**Response:** *Existing local road and traffic conditions will be described in Section 2 of the EIS. The effects of plant construction and operations on local roads and traffic will be addressed under Socioeconomics in Chapters 4 and 5. In addition, the impacts of transporting unirradiated and spent fuel will be addressed directly in Chapter 6 of the EIS.*

**Comment:** Comanche Peak is very vital to the local economy (0004-4 [Luton, John Henry])

**Response:** *The potential effects of plant construction and operations on local employment, expenditures, and tax revenues will be addressed in Chapters 4 and 5 of the EIS.*

**Comment:** The City of Granbury has joined Hood County in soliciting funds, or looking for funds, to build the new access route to come near the Comanche Peak location, to provide better access to and from the location. We do hope you all will endorse that project as well. (0016-3 [Johnson, Lisa])

**Response:** *A description of local roads and traffic conditions in the vicinity of the site will be provided in Chapter 2 of the EIS. The effects on local roads and traffic conditions during the construction and operation periods will be addressed in Chapters 4 and 5 of the EIS. Endorsement of mitigation activities are outside the scope of the NRC's authority and will not be addressed further.*

**Comment:** And as an economic development, I know that the NRC is not in economic development, but it's very nice for our community to have the jobs that come along with expansion, the jobs and the need for new housing, the need for restaurants and services in our community, which currently is vastly needed. (0016-32 [Ward, Mary])

**Response:** *The effects of plant construction and operations on local employment, expenditures, and housing will be addressed in Chapters 4 and 5 of the EIS.*

**Comment:** I'm also the incoming president of the Brazos River Conservation Coalition. . . . We're an organization of about 700 members from Parker, Palo Pinto, and Hood and Somervell County. Right now we have an initiative to declare the --and it's in the legislature, or it's going in this session --the Brazos River and Lake Granbury --Brazos River in Hood and Somervell County as part of the John Graves Scenic Riverway. I don't know how many people from outside the area know just what a beautiful resource it is. We heard some of the people talking about it. It's a resource that's under a lot of pressure. (0016-78 [Rosenfeld, Joshua])

**Response:** *A description of local aesthetic and recreational resources in the vicinity of the site will be provided in Chapter 2 of the EIS. Effects on local aesthetic and recreational resources during the construction and operation periods will be addressed in Chapters 4 and 5 of the EIS.*

**Comment:** We don't need to contribute to the economy of Somervell County and Hood County for the benefit of their gaining on a rate. (0017-12 [Burnam, Lon])

**Response:** *The impacts of plant construction and operations on local employment, expenditures, and tax revenues will be addressed in Chapter 4 and 5 of the EIS.*

**Comment:** I am a business owner here in Glen Rose. I have been, and I have had land here for over ten years. And one of the things that attracted me to this area was the fact that there was a nuclear power plant here. Recently, I just invested over \$6 million in this community in a hotel. Based on the future growth that these kind of communities bring. (0017-56 [Sheaks, Jerry])

**Response:** *The effects of plant construction and operations on the local economy and the demand for housing will be addressed in Chapters 4 and 5 of the EIS.*

**Comment:** Section 5.2.2.3.1: The consumptive demands from the project are a concern for the Brazos River Basin. Chapter 3 Section 4 indicates that Luminant will use up to 103,000 acre feet per year (ac-ft/yr) of water from Lake Granbury for the cooling process with an estimated evaporative loss of 61,000 ac-ft/yr. The loss of 61,000 ac-ft/yr from Possum Kingdom Reservoir, Lake Granbury and the Brazos River will lead to declines in lake levels, a reduction of stream flow downstream of Lake Granbury, and a resultant wide range of impacts on fish and wildlife resources and recreation. . . . Potential recreational effects span from Possum Kingdom Reservoir, to below the Lake Granbury dam, to the Brazos River below the city of Waco. Possum Kingdom Reservoir receives heavy recreational use, Lake Granbury supports recreational use, water skiers frequently use the Brazos River between Lake Granbury and Lake Whitney, and Lake Whitney has been rated the top destination by the citizens in the Dallas/Fort Worth area. Downstream of Lake Whitney, the Brazos River has been recognized as a canoeing and kayaking destination and Lake Brazos within the city of Waco is currently being developed into a major greenbelt. (0029-20 [Boydston, Kathy])

**Response:** *Potential impacts of plant operation on water-based recreation in the region will be addressed in Chapters 5 of the EIS.*

## 2.12 Comments Concerning Historic and Cultural Resources

**Comment:** On December 30, 2008, the Advisory Council on Historic Preservation (ACHP) received from the Nuclear Regulatory Commission (NRC) a notification pursuant to Section 800.8(c) of the ACHP's regulations, Protection of Historic Properties (36 CFR 800), regarding the referenced project. We appreciate receiving your notification, which establishes that NRC will use the process and documentation required for the preparation of an EA/FONSI or an EIS/ROD to comply with Section 106 of the National Historic Preservation Act in lieu of the procedures set forth in 36 CFR 800.3 through 800.6.

In addition to notification to the ACHP, NRC must also notify the Texas State Historic Preservation Officer and meet the standards in Section 800.8(c)(1)(i) through (v) for the following:

- identifying consulting parties;
- involving the public;
- identifying historic properties and assessing the undertaking's effects on historic properties; and
- consulting regarding the effects of the undertaking on historic properties with the SHPO/THPO, Indian tribes and Native Hawaiian organizations that might attach religious and cultural significance to affected historic properties, other consulting parties, and the ACHP, where appropriate, during NEPA scoping, environmental analysis, and the preparation of NEPA documents.

To meet the requirement to consult with the ACHP as appropriate, the NRC should notify the ACHP in the event NRC determines, in consultation with the SHPO/THPO and other consulting parties, that the proposed undertaking(s) may adversely affect properties listed, or eligible for listing, on the National Register of Historic Places (historic properties). In addition, Section 800.8(c)(2)(i) requires that you submit to the ACHP any DEIS or EIS you prepare. Inclusion of your adverse effect determination in both the DEIS/EIS and in your cover letter transmitting the DEIS/EIS to the ACHP will help ensure a timely response from the ACHP regarding its decision to participate in consultation. Please indicate in your cover letter the schedule for Section 106 consultation and a date by which you require a response by the ACHP.

The regulations do not specifically require that an agency submit an EA to the ACHP. However, keep in mind that, in the case of an objection from the ACHP or another consulting party, Sections 800.8(c)(2)(ii) and (c)(3) provide for ACHP review of an EA (in addition to a DEIS or EIS) to determine whether preparation of the EA, DEIS or EIS has met the standards set forth in Section 800.8(c)(1) and/or to evaluate whether the substantive resolution of the effects on historic properties proposed in an EA, DEIS or EIS is adequate.

If NRC's determination of adverse effect will be documented in an EA, we request that you notify us of the adverse effect and provide adequate documentation for its review. The ACHP's decision to review an EA, DEIS or EIS will be based on the applicability of the criteria in Appendix A of the ACHP's regulations. (0036-1 [Duvall-Gabriel, Najah])

**Response:** *If the staff determines that the proposed undertaking will adversely affect properties listed, or eligible for listing, on the National Register of Historic Places (historic properties), the NRC will notify the ACHP in accordance with the consulting requirements. Additionally, in*

*accordance with Section 800.8(c)(2)(i) of 36 CFR Chapter 800, the NRC staff will submit copies of the DEIS and EIS to the ACHP upon completion of the documents. As part of its environmental review of historic and cultural resources, the NRC staff consulted with the Texas Historical Commission (THC) and other appropriate information sources. The results of the analysis will be presented in Chapter 4 of the EIS, and the staff will take any appropriate action called for as a result of this review.*

**Comment:** The Tonkawa Tribe has no specifically designated historical or cultural sites identified in any of the above listed project areas. However if any human remains, funerary objects, or other evidence of historical or cultural significance is inadvertently discovered then the Tonkawa Tribe would certainly be interested in proper disposition thereof. We appreciate notification by your office of the many projects on-going, and as always the Tonkawa Tribe is willing to work with your representatives in any manner to uphold the provisions of NAGPRA to the extent of our capability. (0037-1 [Illegible, Illegible])

**Response:** *As part of its environmental review of historic and cultural resources, the staff met with the Texas Historical Commission (THC) and other appropriate information sources. The results of the analysis will be presented in Chapter 4 of the EIS, and the staff will take any appropriate action called for as a result of this review.*

**Comment:** A cultural resource survey should be coordinated with the State Historic Preservation Officer (SHPO). Besides the consideration of listed historical sites, the NEPA document should discuss procedures for events such as unearthing archaeological sites during prospective construction. Such procedures should include work cessation in the area until SHPO approval of continued construction. (0027-19 [Osowski Morgan, Sharon L.]

**Response:** *A previously conducted cultural resource survey provided coverage of the area that might be impacted by the proposed project. On February 21, 2007, the Texas State Historic Preservation Officer (SHPO) sent a concurrence letter to the applicant noting that no historic properties would be affected by the proposed action. This letter was referenced in the applicant's Environmental Report and will be included in an appendix of the EIS. Additionally, the NRC staff will discuss the applicant's procedures for dealing with unanticipated archaeological finds in Chapter 4 of the EIS.*

## 2.13 Comments Concerning Environmental Justice

**Comment:** The proposed new plants would affect low income and minority residents.

- How much will rent go up when the influx of construction workers and their families come to Somervell County?
- Will pollution from construction and operation reach low-income housing areas?

(0019-25 [Hadden, Karen])

**Response:** *Effects on housing availability will be addressed in Chapter 4 of the EIS for the construction period and in Section 5 of the EIS for the operations period. Effects on minority and low-income populations specifically will also be addressed in Chapters 4 and 5 of the EIS.*

**Comment:** Consistent with Executive Order 12898, potential EJ [environmental justice] impacts should be considered in the NEPA document. An EJ survey is to ensure equitable environmental protection regardless of race, ethnicity, economic status or community, so that no segment of the population bears a disproportionate share of the consequences of environmental pollution attributable to a proposed project.

Since uranium mining that occurs in the US may impact tribal lands or environmental justice areas in the western states primarily (including portions of New Mexico and Texas), the potential impacts of increased uranium mining (e.g., in situ leach) and increased exposure of residents should be evaluated. Links between the proposed project and NUREG-1910 should be included in the NEPA document.

Secondary impacts to low income, minority, and tribal communities concerning the use of the Yucca Mountain repository and transportation routes from the uranium processing facility should also be incorporated.

EPA recommends that the EIS provide clarification regarding resource dependencies or practices, such as subsistence agriculture, hunting, or fishing, through which certain populations could be disproportionately affected. Low-income populations are likely to conduct such subsistence practices. EPA recommends the EIS include a more comprehensive discussion of potential benefits and impacts associated with the project, as it relates to minority and low-income populations and the population at large. (0027-20 [Osowski Morgan, Sharon L.]

**Response:** *Impacts on low-income and minority populations residing in the impact region, including impacts associated with subsistence activities in the vicinity of the plant, will be addressed in Chapters 4 and 5 of the EIS. Possible impacts occurring outside the impact region (such as those associated with mining and spent fuel storage) are beyond the scope of this environmental review and will not be addressed in the EIS. Mining, milling, and waste storage operations are all subject to separate regulatory processes.*

## 2.14 Comments Concerning Health - Radiological

**Comment:** There are routine releases from nuclear plants. Most people don't know this. This is not being adequately addressed, and needs to be, through the environmental impact statement and other avenues. There is no federal standard called a MACT, maximum achievable control technology standard, for radio nuclides. That has been done for other industries, for example, for their mercury in the coal plants. That needs to happen. (0016-21 [Hadden, Karen])

**Comment:** Right now there are high levels of tritium from this plant, and this needs to be looked into in the environmental impact statement. And they are high compared to other nuclear reactors in the country. (0016-25 [Hadden, Karen])

**Comment:** But let's talk about the cancer and the background rate. It is a simple fact of life that there is background radiation. And then there is also a simple fact of life, since the first above-ground explosions of nuclear weapons, we've increased that background radiation. There's also a simple fact of life that background radiation is higher at every nuclear power facility in the country. And if you double that, it's a simple fact of life that you're going to double background radiation in this community. I want the environmental impact statement to do an honest analysis and assessment of what that means to the cancer rate in this region. I represent 150,000 people

within 50 miles of this facility, and I think it's reasonable to expect that that kind of analysis is done. (0016-39 [Burnam, Lon])

**Comment:** I also hope that you'll be looking at issues like release of tritium to the water, the potential --I'm not --I don't know that much about this particular process, because frankly the design hasn't been certified yet, but in terms of --there have been problems in the past with releases of tritium into water at nuclear plants. I don't know if that would be the case in this particular plant. So I would urge you to look at that. (0016-53 [Reed, Cyrus])

**Comment:** I would urge you to look at, you know, there's not a lot of scientific study on what are the impacts of noble gases, which are often released at nuclear plants. But I hope that will be part of your review as well. (0016-54 [Reed, Cyrus])

**Comment:** But the problem is, that not only do we have a massive increase of cancer, because of the entire fuel line from the uranium mining, to the fact that we haven't been able to resolve the deposition of the polluted radiation, we have got a gene pool issue. (0017-10 [Burnam, Lon])

**Comment:** Why is the tritium level higher here? You have got the problem now with the two facilities. Will two additional facilities make that tritium level even that much higher? (0017-14 [Burnam, Lon])

**Comment:** One of my biggest concerns is the risk from the radiation. And the fact that the more radiation that there is, that the greater risk will be to the community. And the Environmental Impact Statement should thoroughly examination all of the radiation health risks. And no national standard has been set for the radio nucleate emissions, despite the fact that nuclear reactors routinely emit cancer causing radioactivity. And really, no new reactors should be licensed until this standard has been set.

Research has shown an increase in cancer rates around nuclear plants. And Dr. Joseph Mangano of the Radiation and Public Health Project studied the cancer death rate in the three counties closest to the South Texas Nuclear Project. An area that originally had a cancer rate below the statewide rate, in 16 years after the reactors began running, the cancer death rate in the area had risen over 16 percent. (0017-38 [Rooke, Molly])

**Comment:** the EIS should research the extent to which the new reactors would add to the cancer risks. And four reactors at one site would produce significantly more radioactive risks than the two existing reactors.

And what would be the total amount of low level radiation emitted? And how much would surrounding populations be exposed to this? And how much radioactivity would be emitted, just in the routine operations. And so the EIS should use background radiation levels in their studies and to compare them to construction of the two existing nuclear reactors. And I am concerned about what would happen with the radioactive gasses that would be vented. And not just during the normal operations, but during purges. And I am also concerned about what tritium would be released into the water at the new proposed plant. (0017-39 [Rooke, Molly])

**Comment:** Because as you have heard other people say, radiation affects you on a genetic level. It affects your DNA. So what damages your DNA will remain in all of the generations of your family to come. (0017-62 [Rittenhouse, Ryan])

**Comment:** from the very beginning to the very end, there is risk of radioactive release. (0017-69 [Sanders, Jan])

**Comment:** It hits the genetic mechanism of the human body and messes it up. And it is a slow deformity. But it has been tested out. It has been proven. And so why take the risk? (0017-71 [Sanders, Jan])

**Comment:**

- The EIS should research the extent to which new reactors would add to cancer risks. Four reactors at one site would produce significantly more radioactive risk than the two existing reactors. What would be the total amount of low-level radiation emitted? How much would surrounding populations be exposed? How much radioactivity would be in routine operations?
- The EIS should use background radiation levels not only from before the construction of the two existing nuclear reactors also from before the testing of nuclear weapons in the United States, which resulted in radioactive fallout. (0019-10 [Hadden, Karen])

**Comment:** Radioactive tritium can leak from nuclear reactors and increase cancer risks. According to NRC reports tritium levels are already high at the Comanche Peak site compared to other reactor sites. What would adding more reactors do to the already high levels of contamination? (0019-15 [Hadden, Karen])

**Comment:** The Environmental Impact Statement (EIS) should thoroughly examine radiation health risks. (0019-9 [Hadden, Karen])

**Comment:** Comanche Peak Units 1 and 2 already utilize Squaw Creek Reservoir as a discharge water body that receives radionuclides including tritium and radioactive particulates. Dr. Arjun Makhijani, president of the Institute for Energy and Environmental Research has noted the relatively high levels of tritium at this site compared to other nuclear reactors, which should be examined and compared to other sites in the EIS, and additional cumulative impacts should be analyzed. (0022-12 [Hadden, Karen])

**Comment:** The cumulative impacts on the food chain from the bioaccumulation and bioconcentration of radionuclides discharged from Units 3 and 4 should be considered in terms of the public health implications and the mortality and morbidity calculations related thereto should be a part of the EIS. (0022-29 [Hadden, Karen])

**Comment:** The EIS for the proposed expansion of Comanche Peak should quantify and speciate the various radionuclides emitted and quantify the total air emissions anticipated as a result of operation of Units 3 and 4 and determine mortality and morbidity consequences thereof. Additionally, because radionuclides are considered a hazardous air pollutant the EIS should analyze radioactive air emissions on a comparative basis with the emissions permitted under the more relaxed standards applied to Units 1 and 2 and air emissions from Units 3 and 4 under a MACT standard. (0022-38 [Hadden, Karen])

**Comment:** Squaw Creek Reservoir should be analyzed for radiological hazards because of radioactive particulates currently discharged from Comanche Peak Units 1 and 2 that are accumulating in sediment and additional radionuclide loading if Units 3 and 4 are operational. (0022-7 [Hadden, Karen])

**Comment:** The inevitable increase in radioactive emissions into the environment will not be beneficial. (0031-4 [Gentling, Suzanne])

**Comment:** Tritium and other radioactive particulates . . . are major concerns for the receiving waters. These must be adequately addressed in light of the additional water discharges from Units 3 and 4 both in the receiving waters, but also downstream. (0032-8 [Reed, Cyrus])

**Response:** *The EIS will address the human health impacts of exposure to radiological effluents from the existing and proposed Comanche Peak units in Section 5.9 of the EIS.*

**Comment:** We need to look closely at worker exposure. (0016-22 [Hadden, Karen])

**Comment:** Risks to employees and area residents should be addressed. Statements about high doses and low doses of radiation, their potential health effects, and established risk or exposure standards should be included in the NEPA document. (0027-5 [Oowski Morgan, Sharon L.])

**Response:** *Occupational radiation exposure will be discussed in Chapter 5 of the EIS. Radiation exposure to construction workers will be addressed in Chapter 4 of the EIS.*

**Comment:** According to the Nuclear Information and Resource Service, the "Use of MOX fuel attacks commercial nuclear reactors where they are the weakest . . . . Because of its high neutron flux levels, the reactor pressure vessel can become embrittled and fail during accident conditions. A nuclear accident involving MOX fuel could cause a meltdown more serious than Three Mile Island or Chernobyl, because the levels of radiation inside a reactor using MOX are even higher than in a normal atomic reactor." These increased risks and the related increased worker and terrorism risks and potential resulting economic impacts from utilization of MOX fuel should be included in the EIS. (0022-26 [Hadden, Karen])

**Response:** *Luminant has stated that it does not plan to use mixed-oxide fuel. If at some future date, Luminant should decide to use mixed oxide fuel at the Comanche Peak plant, the NRC staff would conduct a safety and environmental review of the proposal.*

**Comment:** The Comanche Peak environmental report at p. 5.7-3 concedes the fact that there is presently no means by which to dispose of high-level waste. Management of high-level waste on-site is limited to spent fuel pools or dry cask storage units. Alternatively, the environmental report suggests that for plants with inadequate wet or dry on-site storage capacity, spent fuel could be transferred off-site to another plant that has adequate storage capacity available. The EIS therefore, must consider the long-term environmental and public health consequences of spent fuel remaining on site at Comanche Peak indefinitely. A federal repository for spent fuel has not been approved and the prospects for such are, at best, problematic. Long-term spent fuel management on-site represents risks that are not fully assessed in the environmental report. . . . Even if the dry cask storage units are not breached they still represent significant long-term sources of radiation. These radiation measurements should be calculated and added to the current projections for exposures to the extent that the environmental report understates such based on the assumption that spent fuel will eventually be moved off-site. The EIS should assume that the dry cask storage units will remain on Comanche Peak's site indefinitely and make radiation exposure projections accordingly. (0022-40 [Hadden, Karen])

**Response:** *Discussions of the estimated dose to construction workers and the public, including doses from dry cask storage, will be found in Chapters 4 and 5 of the EIS.*

**Comment:** I would love to see the issue addressed about Kleberg County, where the ground water currently contains unsafe levels of uranium and the EPA strongly advises against drinking it. It is not just about your counties. It is about Kleberg County. (0017-17 [Burnam, Lon])

**Comment:** The Environmental Protection Agency has warned residents of Kleberg County that their groundwater currently contains unsafe levels of uranium, and strongly advises against drinking it. (0019-27 [Hadden, Karen])

**Response:** *The NRC will consider this information as part of the evaluation of cumulative impacts of the existing and proposed Comanche Peak units in Chapter 7 of the EIS.*

**Comment:**

In 1980 the NRC conducted a study of what would happen under a worst-case scenario accident at each nuclear plant site. The Comanche Peak estimates were

- 1210 early deaths (25 mile radius around plant)
- 13,800 early injuries (35 mile radius)
- \$117 billion (1980 dollars) in financial consequences

The EIS should update these risk figures and include the analysis in the report, taking into account the current population since the area has grown significantly since 1980 and since there would be two additional reactors at the site.

The National Academy of Sciences has concluded that radiation is dangerous even at low levels (BEIR VII study). While low-level radiation exposure is not as damaging as high-level radiation on a short-term basis, prolonged exposure to low-level radioactivity can be just as damaging to humans. The EIS should research the extent to which new reactors would add to cancer risks, birth defects and genetic impacts.

The EIS should include analysis of how much radioactivity would be released in routine operations and the frequency of releases that would occur. Original background radiation levels should be included in the report. Data or radiation estimates from before the two existing nuclear reactors were constructed should be included, as well as calculations of the true original background level that was present before the testing of nuclear weapons in the United States, and the radioactive fallout that resulted. (0022-30 [Hadden, Karen])

**Response:** *The NRC will evaluate the human health impacts of exposure to radiological effluents from the existing and proposed Comanche Peak units in Section 5.9 of the EIS. The NRC will evaluate the human health risks of severe accidents in Section 5.10 of the EIS.*

**Comment:** The Comanche Peak environmental report relies on data from Table S-3. P. 5.7-17. However, Table S-3, fails to consider health effects from radioactive effluents and further does not estimate releases of either Radon-222 or Technetium-99. The Comanche Peak environmental report does discuss the dose commitment estimates of both RN-222 and TC-99. However, there is no analysis of mortality or morbidity consequences related to conditions of either radionuclide. The EIS should consider the mortality and morbidity consequences related to the emissions of all the radionuclides anticipated from the routine operations of Comanche Peak Units 3 and 4. Mortality and morbidity analyses should also occur for accident scenarios involving releases of radionuclides from Comanche Peak Units 3 and 4. (0022-36 [Hadden, Karen])

**Comment:** The EIS for the proposed expansion of Comanche Peak must account for increased quantities of radiological waste streams and the environmental impacts and public health consequences thereof. The environmental report fails to fully quantify the environmental impacts and public health consequences and omits altogether mortality and morbidity analyses associated therewith. A proper EIS must account for environmental and public health consequences associated with increased quantities of radioactive waste originating at Units 3 and 4. This analysis should include disposition of large plant components such as steam generators that may require replacement before expiration of the reactors' useful lives. Replacement and disposition of steam generators is not a far-fetched or speculative possibility. The Trojan nuclear plant in Oregon replaced its steam generators. Trojan's original steam generators were shipped on the Columbia River by barge to a disposition site in Washington state. The EIS related to Comanche Peak should include an analysis of the environmental impacts and public health consequences of replacing steam generators at Comanche Peak Units 3 and 4 including radiological impacts both on-site and off-site. (0022-37 [Hadden, Karen])

**Response:** *The impacts of the uranium fuel cycle, including disposal of low-level radioactive waste and spent fuel, will be addressed in Chapter 6 of the EIS.*

**Comment:** The environmental report indicates that Squaw Creek Reservoir will continue to be the receiving body of water for various discharges from Comanche Peak Units 3 and 4. The Environmental Report concedes that radioactive particulate matter released to Squaw Creek Reservoir in liquid effluents will be deposited into the sediment layer of the reservoir bottom and remain there indefinitely. Comanche Peak NPP Environmental Report, p.5.11-3. In the event of a protracted drought, and inadequate flow into Squaw Creek Reservoir, the sediment layer could become exposed and, if adequately deliquified, would become dust and subject to transport by wind with clear public health and environmental consequences. Therefore, it is crucial that the EIS include a complete radiological profile of the existing sediment in Squaw Creek Reservoir and an analysis of the cumulative radiological impacts expected from operations on it from Units 3 and 4. This analysis is required in order to fully gauge the environmental and public health impacts from the use of the earthen Squaw Creek Reservoir as a discharge point for radioactive effluent from Comanche Peak Units 3 and 4. Part of this analysis should be an assumption that the Squaw Creek Reservoir dam will at some point fail and release the sediment that is burdened by radioactive particulates. Downstream impacts on water quality, use, and impacts on mortality and morbidity must be a part of a proper EIS. The Squaw Creek Reservoir dam should also be analyzed for structural integrity. Protracted drought, seismic activity, or other natural events have the potential to weaken the dam and if a failure of the structure occurs radioactive sediment could be carried downstream with significant potential for environmental and public health impacts. (0022-15 [Hadden, Karen])

**Comment:** Because the Comanche Peak nuclear plants discharge radioactive effluent into the Squaw Creek Reservoir that drains into the Brazos River and Paluxy River, the EIS should quantify the mortality and morbidity impacts, potential cancer and birth defect increases and genetic damage from exposure to radioactive water by municipal and other users. This analysis should include consideration of the public health and environmental consequences of a failure of the Squaw Creek dam and the transport downstream of radioactive particulates in the reservoir's sediment. (0022-35 [Hadden, Karen])

**Response:** *The NRC will evaluate the human health impacts of exposure to radiological effluents from the existing and proposed Comanche Peak units in Section 5.9 of the EIS. This evaluation will include exposure to radionuclides expected to be deposited in the sediments of*

Squaw Creek Reservoir during routine operation. The other dose pathway scenarios postulated by the commenters are very unlikely and will not be addressed in the EIS.

## 2.15 Comments Concerning Accidents - Design Basis

**Comment:** I would like to request an explanation of how it is safe to build and operate new nuclear reactors prior to the implementation of the same post 9-11 security hardening requirements that existing nuclear reactors have that has not been done. Without this in place, there are risks to the environment that are increased. This should be analyzed in the Environmental Impact Statement. If they can do this at existing reactors, why not new ones? (0017-26 [Hadden, Karen])

**Response:** *Comments related to security and terrorism are safety issues that are not within the scope of the staff's environmental review. The NRC is devoting substantial time and attention to terrorism-related matters, including coordination with the Department of Homeland Security. As part of its mission to protect public health and safety and the common defense and security pursuant to the Atomic Energy Act, the NRC staff is conducting vulnerability assessments for the domestic utilization of radioactive material. Since the events of September 2001, the NRC has identified the need for license holders to implement compensatory measures and has issued several orders to license holders imposing enhanced security requirements. Finally, the NRC has taken actions to ensure that applicants and license holders maintain vigilance and a high degree of security awareness. Consequently, the NRC will continue to consider measures to prevent and mitigate the consequences of acts of terrorism in fulfilling its safety mission. Additional information about the NRC staff's actions regarding physical security since September 11, 2001, can be found on the NRC's public web site <http://www.nrc.gov>.*

**Comment:** Luminant is adding two reactors on top of two existing reactors and the cumulative impacts of all four units must be addressed . . . . In addition, the impacts of any minor or major accident at one unit on other units must be addressed. (0032-10 [Reed, Cyrus])

**Response:** *The frequency and consequences of accident scenarios that lead to radiological consequences are determined through the use of probabilistic risk assessment techniques. In accordance with MHI, LTD., "U.S-APWR Probabilistic Risk Assessment (Level 3)," MUAP-8004-P (R1), the estimated CDF for Comanche Peak 3 and 4 is 1.2E-06 per year per unit, and the sum of all containment release frequencies is 1E-07 per year per unit. Therefore, the frequency where a severe accident could potentially impact the operating units is approximately 2E-07 per year. Because this frequency is below the screening criteria (1E-06 per year) for initiating events contained in ASME/ANS RA-S-2008, "Standard for Level 1/Large Early Release Frequency Probabilistic Risk Assessment for Nuclear Power Plant Applications," Supporting Requirement IE-C4, its impact on the operating units would not be considered to be material. The impact of accident scenarios associated with the current units, Comanche Peak 1 and 2, on the proposed units, Comanche Peak 3 and 4, is not considered to be in-scope of the current EIS. Cumulative impacts will be addressed in Section 7 of the EIS.*

**Comment:** The evaluation methodology utilized in the Comanche Peak environmental report for design basis accidents is flawed. P. 7.1-1. The postulated loss of cooling accident assumes that there will be a lower magnitude of radioactivity releases than a worst-case scenario assumes. The EIS should approach a loss of cooling accident from the perspective that a complete loss of radioactive inventory will occur. A complete loss of radioactive inventory should be the base

assumption for determining anticipated doses that may be received by the public. Accordingly, the EIS should not adopt the Comanche Peak environmental report evaluation methodology for design basis accidents and should assume a worst-case scenario that includes a complete release of all radiation from both Units 3 and 4. (0022-47 [Hadden, Karen])

**Response:** *The staff's position is that the assessment of design basis accidents is based on conservative assumptions and calculations used in NRC safety evaluations as stated in Section 15 of NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants." This conservative assessment is used to establish performance requirements of the plant's engineered safety features. Among the conservative assumptions used pursuant to the Section 15 analysis is the use of adverse meteorological dispersion conditions (i.e., 95th percentile X/Q). As actual consequences will likely be far less severe than those given for the same events, design basis accidents are evaluated using more realistic meteorological conditions (50th percentile site-specific X/Q values). The evaluation methodology used in the Comanche Peak environmental report is consistent with this approach. In addition, existing requirements provide assurance that the probability of simultaneous accidents at multiple units would be substantially less (e.g., over an order of magnitude) than the probability of accidents involving a single unit. For example, 10 CFR Part 50, General Design Criterion 5, "Sharing of structures, systems, and components," requires that structures, systems, and components important to safety not be shared unless it can be shown that such sharing will not significantly impair their ability to perform their safety functions, including, in the event of an accident in one unit, an orderly shutdown and cooldown of the remaining units. Also, a plant- and site-specific probabilistic risk assessment (PRA) will be required prior to operation of any future plant pursuant to 10 CFR 50.34(f)(1)(i). This PRA will determine whether the risk from the as-built units will be low and will account for any inter-unit dependencies. In contrast, the consequences associated with an accident involving multiple units (e.g., a multi-unit core-melt accident) could reasonably be expected to be only marginally greater than for a single unit event. For example, given the same accident release characteristics for both units, the total releases from two reactor cores (and the associated accident consequences) would, as a first-order-of-magnitude approximation, be about twice that for a single unit. The substantially lower frequency of a multiple unit accident would more than offset the potentially greater consequences of the multiple unit accident. Thus, the risk associated with multiple, simultaneous accidents would be a negligible contributor to the overall risk from all units on the site. Accordingly, the staff does not plan to address multi-unit accidents as part of the EIS review.*

**Comment:** Each nuclear reactor design has unique flaws and weaknesses, and experience shows equipment and design failures, as well as areas and situations where human error is likely. The history of similar Pressurized Reactor Water (PWR) reactors in Japan should be considered in the EIS analysis, not just the Design Control Document.

The proposed USAPWR reactor design has never been approved and the design has never been built anywhere in the world, but has been developed from the design used in existing PWR reactors in Japan. Problems with existing PWR reactors there could provide clues to potential problems with Comanche Peak Units 3 and 4, allowing estimation of the likelihood that they could result in any number of environmental and health impacts. Design history should be considered in the EIS. (0022-54 [Hadden, Karen])

**Comment:** The proposed Mitsubishi reactors are of a design as yet untested in the field. This is not reassuring. (0031-6 [Gentling, Suzanne])

**Response:** *The EIS will address the potential environmental impacts of postulated design-basis and severe accidents associated with the US-APWR design (the designation used for the design of the proposed Mitsubishi reactors). In a separate action, the staff is evaluating the potential consequences of design-basis accidents and the probability and consequences of severe accidents for the US-APWR as part of its review of the application for certification of the reactor design. A detailed description of the design certification review is beyond the scope of the EIS. However, the staff uses well-established methods to analyze a new design to determine the potential consequences of accidents. The results of the certification review process will be compared to the results of the evaluation of the environmental impacts of potential radiological releases to ensure consistency.*

**Comment:** The EIS should discuss monitoring of radiation, prevention of releases, and emergency planning procedures in case of an unintended release. (0027-4 [Osowski Morgan, Sharon L.])

**Response:** *Radiation monitoring for the existing and proposed Comanche Peak units will be addressed in Section 5.9 of the EIS. Those radiation releases associated with normal operation will be addressed in Section 5.9, and those releases associated with postulated accidents will be addressed in Section 5.10. Section 5.10 also addresses the identification and evaluation of severe accident design and procedural or training mitigation alternatives that can be justified to further reduce the likelihood or consequences of severe accidents. However, emergency planning is outside the scope of the EIS and will not be considered further in the staff's environmental review. An evaluation of emergency planning issues will be part of the safety evaluation report (see 10 CFR 52.18).*

## 2.16 Comments Concerning Accidents - Severe

**Comment:** There is a whole issue of accident and security. Back in 1980, the NRC conducted a study, and they concluded at that time that early deaths --and that's a nice catchword for people that die immediately as opposed to long-term, protracted, strung-out deaths -- they estimated early deaths of 1,210 within the first 25-mile radius. They estimated early injuries within a 35-mile radius of 13,800. They estimated financial consequences --you know, we always talk in the legislative process about the unplanned consequences or the unintended consequences --well, the financial consequences could be in excess of \$117 billion.

Well, you know, it doesn't take a brilliant person to figure out that almost 30 years later --it'll be 35 or 40 years later --once this thing, if it's built, is operational, that those early deaths will be far more than that. In part because of the rapid population growth in Hood and Somervell Counties, those early injuries will be far more than that. And those financial consequences to the entire North Texas region will be far more than what you projected back in 1980. So I look for and anticipate an honest and accurate analysis of those problems. (0016-41 [Burnam, Lon])

**Response:** *The EIS will include an evaluation of the risks associated with potential severe accidents, including accidents that involve reactor core melts. The EIS will address the potential consequences of postulated design-basis and severe accidents and will take into account the current and anticipated population growth of the surrounding counties during the projected operational period of these plants. However, comments related to security and terrorism are safety issues that are not within the scope of the NRC staff's environmental review and are regulated by 10 CFR Part 73, "Physical Protection of Nuclear Power and Materials."*

**Comment:** The risk of a nuclear accident and the magnitude of devastation would increase with more reactors on the site. . . . In 1980 the NRC conducted a study of what would happen under a worst-case scenario accident at each nuclear plant site. The Comanche Peak estimates were:

- 1210 early deaths (25 mile radius around plant)
- 13,800 early injuries (35 mile radius)
- \$117 billion (1980 dollars) in financial consequences

The Environmental Impact Statement should include a similar study to update these risk figures, since the population of the region has grown and since there would be more reactors. (0019-11 [Hadden, Karen])

**Response:** *The EIS will include an evaluation of the risks associated with potential severe accidents, including accidents that involve reactor core melts. The EIS will address the potential consequences of postulated design-basis and severe accidents, and will take into account the current and anticipated population growth of the surrounding counties during the projected operational period of these plants.*

**Comment:** Additionally, cumulative impacts from accident scenarios should also be considered. For example, the EIS should consider whether a radiological accident, at one plant could interfere/interrupt operations at the remaining plants at the Comanche Peak site. Further, there should be a careful consideration of whether an accident or event at one plant could actually preclude operations at the remaining plants. This is relevant because of the close proximity of the planned Units 3 and 4 to the existing Units 1 and 2. (0022-28 [Hadden, Karen])

**Comment:** Luminant is adding two reactors on top of two existing reactors and the cumulative impacts of all four units must be addressed . . . . In addition, the impacts of any minor or major accident at one unit on other units must be addressed. (0032-11 [Reed, Cyrus])

**Response:** *The frequency and consequences of accident scenarios that lead to radiological consequences are determined through the use of probabilistic risk assessment techniques. In accordance with MHI, LTD., "U.S-APWR Probabilistic Risk Assessment (Level 3)," MUAP-8004-P (R1), the estimated CDF for Comanche Peak 3 and 4 is 1.2E-06 per year per unit and the sum of all containment release frequencies is 1E-07 per year per unit. Therefore, the frequency where a severe accident could potentially impact the operating units is approximately 2E-07 per year. Because this frequency is below the screening criteria (1E-06 per year) for initiating events contained in ASME/ANS RA-S-2008, "Standard for Level 1/Large Early Release Frequency Probabilistic Risk Assessment for Nuclear Power Plant Applications," Supporting Requirement IE-C4, its impact on the operating units would not be considered to be material. The impact of accident scenarios associated with the current units, Comanche Peak 1 and 2, on the proposed units, Comanche Peak 3 and 4, is not considered to be in-scope of the current EIS. Cumulative impacts will be addressed in Chapter 7 of the EIS.*

**Comment:** The Comanche Peak emergency evacuation plan assumes that 100% of the affected population from a radiological emergency would be evacuated. p. 7.2-3. The model is further compromised because it does not adequately account for evacuees that are transported 25 miles from the Comanche Peak site as they "disappear" from the emergency evacuation analysis. Id. Accordingly, the results of the dose and dollar risk assessments for severe accident analysis are understated in the Comanche Peak environmental report Table 7.2-5. The EIS should not assume that 100% of the affected population will be evacuated. Rejecting this

assumption requires that the data in Table 7.2-5 be adjusted to account for increased dose risk, dollar risk, early fatalities, latent fatalities, and water ingestion dose risk. Moreover, there should be an accounting for evacuees and the doses to which they have been exposed even if those evacuees are moved 25 miles beyond the Comanche Peak site. (0022-45 [Hadden, Karen])

**Response:** *This comment addresses two evacuation model issues that appear to be within the scope of the environmental review: (1) the percentage of population assumed to be evacuated and (2) the treatment of the evacuated population once they are transported over 25 miles. The removal of the evacuated population once they exceed a fixed distance is a standard analysis approach. The distance that is selected (i.e., 25 miles) is a user input. Shorter distances have been used in other analyses. Although a sensitivity analysis has not been performed, it is believed that the any additional dose that would be received by this evacuated population would not be material.*

**Comment:** And that, because of this, the other factor is that part of that energy bill said that if there is some kind of a dangerous, let's say, explosion or something happens that ruins the area around here, who is going to pay for it? We are. Because they put some things into the energy bill that does not require the company to be 100 percent responsible for the cleanup for it. It will be the taxpayers. And the people in Congress have been lowering the standards for that. So it all falls back on us. (0017-51 [Harper, Debbie])

**Response:** *The NRC is not involved in establishing energy policy; rather, it regulates nuclear energy to protect public health and safety within existing policy. These comments provide no new information and were not considered further. This comment provides no information related to the scope of this EIS and will therefore not be considered further in the staff's environmental review.*

## 2.17 Comments Concerning the Uranium Fuel Cycle

**Comment:** There are so many ways to build the local economy more effectively and not put anyone at risk from radioactive fuel, from handling it, from trying to store it. Right now it's being stored on site, and it appears that that would be the continuing manner in which the radioactive waste is handled, because we don't have a national repository. That's of huge concern. (0016-16 [Hadden, Karen])

**Comment:** I want this assessment to include an evaluation of what we do with the radioactive waste. It's still on site. You all know when this facility started operating in the early '90s, it's still on site. It doesn't seem like we're any closer than we were in that time frame to get a permanent waste repository. What are we going to do with this radioactive waste and material? (0016-40 [Burnam, Lon])

**Comment:** I'd also like to make it clear that while people in Somervell and Granbury may feel like it's been relatively clean and unharmed to them, they don't live where the uranium is mined. And I guarantee you, if you talk to the tribal leaders in New Mexico, you'll find out that it is not a clean process. And the cancer rates on the tribal lands where this uranium is taken from have gone up exponentially as a result of the mining. So from the beginning of the process to the end of the process, we've yet to have an honest analysis of the environmental impact on health and safety. (0016-44 [Burnam, Lon])

**Comment:** And finally, I hope you're going to look at the whole cycle. While we're talking about a license for a particular plant to basically boil water, it involves a whole cycle of uranium. And I would hope that your assessment will look at that whole cycle, where the uranium will come from and where the results of using the uranium will go, as part of your assessment. And so I would urge you to do that. (0016-55 [Reed, Cyrus])

**Comment:** For many years I've been concerned about nuclear power and the problem that we seem to ignore, what to do with the waste. I think we really need to look at that very, very carefully. (0016-60 [Wildwood, Kathleen])

**Comment:** But there is no mention of the waste, the radioactive waste, which is a problem. I don't think anyone can deny that. (0017-36 [Cohn, Ann])

**Comment:** So radioactive low level and high level waste is spewed out as it is being mined. It is at risk when it is being transported, if there is a wreck. There is risk in the actual production of the energy. And then there is a risk as it is put into the waste areas. The full chain is risky. (0017-70 [Sanders, Jan])

**Comment:** One is the waste. We know the fact that we are drowning worldwide under nuclear waste. We do not have a safe means of having them stored. Of course, everyone will mention Yucca Mountain. Yucca Mountain is still a no-go. There have been reports of more problems with Yucca Mountain of leakage. It is not a safe place. We don't have something else to take its place. And this stuff is toxic for thousands of years. (0017-75 [Stuard, Gary])

**Comment:** In the last ten years, the Texas Department of Health Services has cited several instances of radioactive waste spills by uranium mining companies, including Cogema Inc.'s 1998 spill of over 20,000 gallons of radioactive solution in Bruni, Texas. (0019-26 [Hadden, Karen])

**Comment:** The uranium fuel cycle has substantial greenhouse gas impacts that should be considered at each phase of the fuel cycle. The uranium fuel cycle is a contributor to greenhouse gases. The EIS should carefully consider and include in its analysis the greenhouse gas impacts that are unavoidable as a result of mining, processing, fabrication, transportation fuel burn up, waste streams management, decommissioning and long-term site maintenance that are an integral part of the uranium fuel cycle. While the proponents of an expanded Comanche Peak nuclear plant posit that there will be fewer greenhouse gases produced as a result of the operations of Comanche Peak Units 3 and 4 compared to fossil fueled plants, there are inevitable greenhouse gas emissions associated with each phase of the fuel cycle. These conditions need to be carefully considered to determine the full impact of an expanded Comanche Peak nuclear plant.

The decision in Massachusetts V. EPA, 549 U.S.497 (2007) requires that carbon dioxide be considered a pollutant. Carbon dioxide emissions are inevitable in the production of fuel for nuclear plants. Likewise, carbon dioxide emissions can be anticipated during routine operations of a nuclear plant and are foreseeable as a plant is decommissioned. Any benefits derived by operation of a nuclear plant in terms of avoidance of greenhouse gases needs to be considered in light of greenhouse gas production as it occurs in various stages in the fuel cycle. An adequate EIS should require such an analysis. (0022-3 [Hadden, Karen])

**Comment:** Each part of the uranium fuel cycle has substantial radiological, environmental and public health impacts that are cumulative in nature and should be considered in the context of

an EIS. Each phase of the uranium fuel cycle has radiological, environmental and public health impacts that must be analyzed and quantified in the context of an EIS. For example, mining uranium is known to cause an increase in radiation related illnesses among miners. Mortality and morbidity analyses should be done for uranium mining and associated activities related to supplying fuel to Comanche Peak Units 3 and 4. (0022-4 [Hadden, Karen])

**Comment:** radioactive waste would be stored onsite since there is still no national nuclear waste repository. (0030-6 [Hadden, Karen])

**Response:** *Impacts related to the uranium fuel cycle and its transportation steps, including disposal of low-level radioactive waste and spent fuel, will be addressed in Chapter 6 of the EIS. The generic impacts of the fuel cycle are codified in 10 CFR 51.51(b), Table S-3, "Table of Uranium Fuel Cycle Environmental Data." Per the guidance in 10 CFR 51.51 and Section 5.7 of NUREG-1555, the staff will rely on Table S-3 as a basis for uranium fuel cycle impacts. The safety and environmental effects of long-term storage of spent fuel on site have been evaluated by the NRC and set forth in the Waste Confidence Rule at 10 CFR 51.23 (<http://www.nrc.gov/reading-rm/doc-collections/cfr/part051/part051-0023.html>).*

**Comment:** Based on the assumption that Comanche Peak Units 3 and 4 will utilize MOX fuel, careful analyses of the radiological and public health impacts associated with MOX fuel fabrication should be a part of the EIS. MOX fuel fabrication has remote handling requirements not associated with uranium fabrication facilities. MOX fuel includes plutonium, a strong alpha emitter, that has a higher specific radioactivity than uranium. The plutonium, if inhaled, presents a well-recognized health hazard. A MOX fuel fabrication facility, while subject to more stringent requirements than a uranium fuel fabrication facility, still involves handling increased amounts of plutonium. The environmental and public health impacts associated with increased use and handling of plutonium should be a part of a proper EIS. CP Environmental Report, page 5.7-4. The EIS should include environmental impacts associated with routine operations of a MOX fuel fabrication facility as well as accident scenarios that could involve such a facility. (0022-25 [Hadden, Karen])

**Comment:** Our understanding is that in addition to uranium, the Comanche Peak facility will utilize MOX fuel fabrication, which in itself will lead to other environmental and public health challenges which must be addressed by an EIS. (0032-4 [Reed, Cyrus])

**Response:** *The COL submitted by Luminant for CPNP Units 3 & 4 is for reactors fueled with uranium oxide only. Any future use of MOX fuel would be covered in separate license amendment process. For this reason the environmental effects of MOX fuel will not be covered in the EIS.*

**Comment:** The Comanche Peak environmental report recognizes that there has been an overall reduction of the demand for uranium fuel and the elimination of legal restrictions on importation of foreign uranium which has caused the closing and decommissioning of most domestic uranium mines and mills. The economic conditions pertaining to the uranium market favor utilization of foreign uranium rather than uranium mined in the United States. The Comanche Peak environmental report suggests that these changes have made uranium mining and milling and enrichment more "environmentally friendly". p. 5.7-4. However, there is no analysis in the environmental report of environmental or public health impacts of mining and milling uranium in foreign countries. The EIS should include a full analysis of the impacts of mining and milling uranium in foreign countries. (0022-31 [Hadden, Karen])

**Response:** *The NRC environmental review process only covers environmental effects in the United States. The comment above requests the review of mining operations outside the US. Since such review is outside the legal scope of this NRC licensing process, such effects will not be covered in the EIS.*

**Comment:** Nuclear waste is not our solution to energy independence. It has health impacts. (0016-24 [Hadden, Karen])

**Comment:** One other concern I will just touch on is, that the contamination from the uranium, what would happen in building more nuclear reactors, is there would have to be more uranium brought in, of course. And it might be something that the local community isn't thinking as much about. But there are other local communities even in Texas that are very concerned about that. (0017-45 [Rooke, Molly])

**Comment:** And that is the radioactive waste that is stored here in Somervell County. We take our garbage to the local dump. Or if you live in the city, you have it picked up, because the city provides that service. And then it is transported off to somewhere else. Yet we keep our radioactive waste here. Yucca Mountain is not open. And we want to expand the amount of radioactive waste we are actually going to store here in this county, by opening these new plants. I don't think it is such a wise move to keep increasing the size of the radioactive waste, without figuring out what to do with it first. (0017-48 [Harper, Paul])

**Comment:** No high or low-level waste sites are available.

- Nuclear reactors produce tons of high and low-level radioactive waste that remains dangerous to living beings for tens of thousands of years. Radioactive and toxic waste is produced at every stage of the fuel cycle, including routine plant operations.
- Federal law prohibits the licensing of any new nuclear plant until there is an adequate waste disposal plan. Nuclear plants have been operating for 50 years, but the waste disposal problem has not been solved. Radioactive waste remains stored onsite at reactors across the county.
- There is no national storage facility for high-level radioactive waste and the Yucca Mountain repository is unlikely to open in the near future. The Associated Press wrote: "The Energy Department is cutting operations and the chief contractor is laying off its staff at the desert site where the government plans to build a national nuclear waste repository. . . ." Jan 8, 2008.
- The Andrews County low-level waste dump application has been deemed incomplete by the Texas Commission on Environmental Quality.
- The impacts and risks of storing additional high -level radioactive waste on site needs to be studied thoroughly in the EIS. The long-term cumulative health impacts of additional low-level radiation need to be studied thoroughly and included in the environmental impact study as well. Impacts on humans, wildlife and plant life need to be considered, with special attention given to threatened and endangered species.
- The EIS should study the additional safety and security risks of more radioactive waste.
- The license for two new reactors at Comanche Peak, or any other reactor, should not be issued since there is no effective resolution of the storage issue.

(0019-30 [Hadden, Karen])

**Comment:** There is a resurgence of uranium mining in South Texas at this time, with nineteen exploration permits being pursued. Impacts on communities in Texas including drinking water

contamination which should be researched and examined thoroughly in the EIS. New mining operations are being pursued even though aquifers contaminated by earlier mining operations have not been restored and some residents in Texas still cannot drink their water due to contamination. Adding two more reactors at Comanche Peak would likely impact the amount of mining in South Texas and environmental and health impacts in those communities should be analyzed and considered thoroughly in the EIS. (0022-34 [Hadden, Karen])

**Comment:** The Comanche Peak environmental report assumes that so-called low-level radioactive waste will be disposed of at land burial facilities. Based on this assumption, the environmental report assumes that there will be no significant radioactive releases to the environment. p. 5.7-8. This assumption is dubious at best considering that low-level radioactive waste streams contain very long-lived radionuclides that would not be adequately sequestered in land burial facilities for the duration of their hazardous lives. Moreover, the availability of land burial sites is problematic. Attempts to establish new land burial sites for the so-called low-level radioactive waste stream have largely been unsuccessful. The sites that were planned for Nebraska, California and Texas have been rejected in the past and the TCEQ decision to issue a state permit for a site in West Texas is likely to be appealed, so it should be assumed in the EIS that there will be no off-site capacity to dispose of the so-called low-level radioactive waste stream. The EIS should consider the long-term environmental and public health consequences of managing the so-called low-level radioactive waste stream on the Comanche Peak site. The analysis of this issue should include an analysis of radiation exposures to employees and the public based on the assumption that the low-level radioactive waste stream will not be disposed of off-site. (0022-43 [Hadden, Karen])

**Comment:** The Comanche Peak environmental report assumes that there will be no significant radioactive releases to the environment related to off-site disposal of the radioactive waste streams that originate at Units 3 and 4. p. 5.7-8. The EIS should not adopt this assumption. The EIS should fully consider the public health and environment consequences of major releases to the environment of radioactive materials as a result of off-site disposal activities. The off-site releases could originate from on-site processing, transportation accidents, off-site processing, and long-term releases from the disposal site because of either improper or inadequate waste site characterization, natural events such as earthquakes, and intentional or unintentional releases. Irrespective of the cause of the releases such should be considered for the impacts to the environment and public health consequences. (0022-44 [Hadden, Karen])

**Comment:** The only existing solution to the toxic waste issue is to bury it somewhere. I've read that West Texas is currently being identified as a depository. Storage and transportation of these wastes is simply a disaster waiting to happen and is an irresponsible choice for our environment and for future generations. (0031-5 [Gentling, Suzanne])

**Comment:** The EIS must address the complete uranium cycle from cradle to grave and the impacts of that cycle. Where will the plant obtain its raw uranium for the life of the plant? Where will it be processed? Enriched? Deconverted? What are the impacts of the mining, processing and enrichment processes in their place of origin? What happens to the waste streams along the way during that process, including at the end of the uranium cycle. Each part of the uranium fuel cycle has environmental, radiological and public health impacts that must be addressed. (0032-3 [Reed, Cyrus])

**Response:** *The impact of the uranium fuel cycle and its transportation steps, including disposal of low-level radioactive waste and spent fuel, will be addressed in Chapter 6 of the EIS. The generic impacts of the fuel cycle are codified in 10 CFR 51.51(b), Table S-3, "Table of Uranium*

*Fuel Cycle Environmental Data." Per the regulation in 10 CFR 51.51 and guidance in Section 5.7 of NUREG-1555, the staff will rely on Table S-3 as a basis for uranium fuel cycle impacts. The safety and environmental effects of long-term storage of spent fuel on site has been evaluated by the NRC and, as set forth in the Waste Confidence Rule at 10 CFR 51.23 (available at <http://www.nrc.gov/reading-rm/doc-collections/cfr/part051/part051-0023.html>), the NRC generically determined that "if necessary, spent fuel generated in any reactor can be stored safely and without significant environmental impacts for at least 30 years beyond the licensed life for operation (which may include the term of a revised or renewed license) of that reactor at its spent fuel storage basin or at either onsite or offsite independent spent fuel installations. Note that the waste confidence decision is being updated through rulemaking and references to the timing of repository availability is being omitted in the updated version. It is outside the scope of this EIS to address specific low-level waste burial locations, existing or proposed. Site specific data for these locations is developed as part of the NRC licensing process under 10 CFR 61.*

**Comment:** Are we willing to bank on the fact that governments will still be in place thousands of years from now? How many have lasted thousands of years? Are we willing to put our children's children's children at risk because we couldn't figure out a smarter way to use our energy and to generate it? And those smarter ways exist right now, and they create jobs, and they're better for our economy. (0016-18 [Hadden, Karen])

**Response:** Chapter 6 of the EIS will address the impacts of the fuel cycle, including radioactive wastes.

**Comment:** I'm also interested in sustainability, and uranium is not a sustainable product. (0016-75 [Shaar, Julie])

**Comment:** Dependence on foreign sources for uranium should also be considered in the EIS as a potentially harmful environmental and public health consequence. Recent experience with dependence on foreign sources for oil has heightened awareness that supplies may be interrupted or artificially inflated in costs. The economic impacts from such dependence can be far ranging and adverse. Accordingly, such impacts should be considered in a proper EIS. (0022-32 [Hadden, Karen])

**Response:** The sufficiency of the supply of uranium for nuclear power plant fuel will be addressed in Chapter 6 of the EIS.

**Comment:** Nuclear, the mining associated with nuclear power, the uranium mining is incredibly destructive. And it is killing people, literally killing people. (0017-63 [Rittenhouse, Ryan])

**Comment:** And waste [of] waste. (0017-67 [Sanders, Jan])

**Comment:** It was pointed out that in Texas, we are kind of in the zero target in relation to nuclear, because there are a lot of uranium deposits in Texas. (0017-68 [Sanders, Jan])

**Response:** The impacts related to the uranium fuel cycle will be addressed in Chapter 6 of the EIS. The generic impacts of the fuel cycle are codified in 10 CFR 51.51(b), Table S-3, "Table of Uranium Fuel Cycle Environmental Data." Per the guidance in 10 CFR 51.51 and Section 5.7 of NUREG-1555, the staff will rely on Table S-3 as a basis for uranium fuel-cycle impacts.

## 2.18 Comments Concerning Transportation

**Comment:** The effect of the increased truck traffic, noise and pollution levels from a construction project of this size on an infrastructure that is already pushed to the limit would not be desirable to humans or wildlife. (0031-7 [Gentling, Suzanne])

**Response:** *Impacts of plant construction and operation on the use of existing local infrastructure including transportation networks, noise and pollution levels, and other community services or the need for such new infrastructure will be addressed in Chapters 4 and 5 of the EIS.*

## 2.19 Comments Concerning Decommissioning

**Comment:** The reality is the two now are halfway through their life cycle. They'll be closed down. They'll be moth-balled. And in the 50 years of the operation of nuclear power plants, we still have not resolved that issue. So any real, accurate environmental impact statement will have a very careful analysis of the implication of storing this material on site forever. (0016-38 [Burnam, Lon])

**Comment:** Additionally, given the very long-term nature of the radiological hazard represented by the accumulation of radioactive particulates discharged during plant operations, it should be assumed that the reservoir will require, at the minimum, management and perimeter security for a time that extends far beyond the term of operation license. Questions surrounding post-license ownership of and responsibility for Squaw Creek Reservoir should be addressed and resolved in the EIS. Accordingly, the EIS should fully consider the structural reliability of the Squaw Creek Reservoir dam and analyze adverse environmental and public health consequences that could occur as a result of its failure. (0022-16 [Hadden, Karen])

**Comment:** The Comanche Peak environmental report acknowledges that it does not provide anything more than an initial projection of expected future environmental impacts related to decommissioning. The details related to environmental impacts expected from decommissioning are put off to a future unspecified date. The Comanche Peak environmental report assumes impacts related to decommissioning are either negligible or require, at most, a site-specific assessment. However, the environmental report assumes that site-specific and off-site land use activities and aquatic ecology activities beyond the operational area, terrestrial ecology activities beyond the operational area, threatened and endangered species, environmental justice, and cultural historic resource impacts beyond the operational area are expected to be negligible. However, there is no analysis in the environmental report whatsoever of any of these impacts either from a public health or environmental consequence standpoint. p. 5.9-1. Accordingly, a proper EIS should carefully consider decommissioning impacts including the likelihood that a decommissioned plant will be disassembled and transported to a site that will be the recipient of highly irradiated materials. Additionally, the EIS should consider contingent possibilities that off-site removal of a decommissioned nuclear plant will not be a practicable alternative. In that scenario, the environmental consequences and public health impacts of the in situ, long-term radioactive decay of Comanche Peak Units 3 and 4 should be considered in the EIS.

Decommissioning has its own waste stream issues, as well. The EIS should consider the radiological and public health impacts from the various decommissioning waste streams and environmental justice and other implications of disposition of highly irradiated materials off-site. Additionally, the EIS should consider whether off-site disposition of decommissioning materials is even feasible. The decommissioning of nuclear plants is an evolving technology, and the land use, environmental and public health implications of decommissioning activities are not well understood. The EIS should fully analyze the probability that there will be significant resistance to transportation and disposition of highly irradiated decommissioned plant materials to a remote site.

Moreover, in promotional materials published by the reactor manufacturer Mitsubishi, it is acknowledged that technology for decommissioning is still in the process of being developed. Mitsubishi Nuclear Plants, p. 27. Hence, there is currently inadequate technology to carry out decommissioning. The assumption appears to be that adequate technologies will be developed in the future. However, a proper EIS should consider the scenario that adequate technologies for decommissioning are not developed in the future or proved to be inadequate for the task. The EIS should take into account contingencies that would require long-term secure storage of Comanche Peak Units 3 and 4 because either decommissioning technology is inadequate [or] where there is no remote site available for the disposition of wastes from decommissioning activities. This analysis would require a consideration of radiological impacts related to the long-term delay in decommissioning, as well as public health and environmental consequences related thereto. (0022-39 [Hadden, Karen])

**Comment:** These enormous, single-purpose facilities have a limited life and store on site their partially-spent fuel. What provisions will be made for de-commissioning, with removal of all structures and hazardous materials, together with restoration of the site? (0028-3 [Inge, Charles and Dominique])

**Comment:** The EIS should examine both the Texas and federal decommissioning procedures, as well as the funds set up to pay for decommissioning to assure that adequate monies exist to pay for any clean up and decommissioning and the public is not, as it has on multiple occasions, held responsible for these costs. How a merchant plant selling power on the wholesale market will be paid for is of serious concern. (0032-18 [Reed, Cyrus])

**Response:** *NRC regulations establish a framework to ensure that decommissioning of all nuclear reactor facilities will be accomplished in a safe and timely manner and that funding will be available for this purpose. Federal regulations (10 CFR 50.33(k) and 10 CFR 50.75(b)) require an applicant for a COL license to certify that sufficient funds will be available to ensure radiological decommissioning at the end of power operations. The financial decommissioning funding assurance mechanism analysis will be in the SER not the EIS. The environmental impact from decommissioning a permanently shutdown commercial nuclear power reactor is discussed in Supplement 1 to NUREG-0586, Generic Environmental Impact Statement on Decommissioning of Nuclear Facilities, which was published in 2002. If fuel is maintained onsite in an Independent Spent Fuel Storage Installation (ISFSI), a license for the ISFSI will be maintained and any required security and monitoring would be provided by the ISFSI licensee. Evaluation of such a facility is not within the scope of this EIS. The Squaw Creek Reservoir is an existing site feature constructed for Comanche Peak 1 and 2. The evaluation of the impacts and maintenance of the Squaw Creek Reservoir dam is not within the scope of this EIS.*

**Comment:** Additionally, given the very long-term nature of the radiological hazard represented by the accumulation of radioactive particulates discharged during plant operations, it should be

assumed that the reservoir will require, at the minimum, management and perimeter security for a time that extends far beyond the term of operation license. Questions surrounding post-license ownership of and responsibility for Squaw Creek Reservoir should be addressed and resolved in the EIS. (0022-17 [Hadden, Karen])

**Response:** *The NRC regulations require the decommissioning of all nuclear power facilities. The licensee remains responsible for the site until the entire site is surveyed and released for unrestricted use.*

## 2.20 Comments Concerning Cumulative Impacts

**Comment:** The simple fact that you'll have twice as many reactors, the large visible target of the cooling towers, twice as much transportation issues, both for bringing the radioactive material in and dealing with it, if you ever choose to deal with it, off site, taking it off site. All of those are kind of geometrically increased problems over the two. (0016-37 [Burnam, Lon])

**Comment:** But this is one thing that needs to be looked into. There's just something wrong. And if you add another power plant or two, to me, that would increase the flow of the --it would also increase the temperature of the water. The water, I understand, it has --can't reach a certain temperature. But when they release that water, it's too hot. You need to release the water some way where it's not as hot, or find some cooling system after you release that water. I think it would help the situation. (0016-65 [Cathey, Jack])

**Comment:** Adding two 1600 MW reactors to a site that has already been impacted by continued operation of Comanche Peak Units 1 and 2 will result in unprecedented concentrations of reactor operations. The cumulative impacts of operational releases of radiation from four operating reactors should be a part of a proper EIS. (0022-27 [Hadden, Karen])

**Comment:** The NEPA document should estimate cumulative impacts of resources of concern associated with the proposed project. Cumulative impacts include the additive effects of a given parameter for all contributing projects in the study area and watershed. The document should define what cumulative impacts would result from implementation of the proposed project. Existing or future projects (Federal and non-Federal projects) with attendant pollutants should also be considered. (0027-25 [Osowski Morgan, Sharon L.])

**Comment:** Luminant is adding two reactors on top of two existing reactors and the cumulative impacts of all four units must be addressed in terms of water discharges, air borne radioactivity, and radioactive waste. (0032-9 [Reed, Cyrus])

**Response:** *Cumulative impacts are the impacts that result from the combination of the proposed action and past, present and reasonably foreseeable actions, regardless who takes the actions. The cumulative impacts associated with the construction and operation of the proposed Units 3 and 4 will be evaluated for each affected resource. The results of cumulative impact analyses will be presented in the Chapter 7 of the EIS.*

**Comment:** One last thing that I will mention in relationship to this global warming stuff, is there is also global warming on the thermal level. You know, it is not just how much CO2 we are putting out into the atmosphere. It is actually the active heating of our planet by burning stuff. And that is something that isn't talked about very much. But that is what is referred to as the

thermal load of the facility. And a nuclear plant has about three times the thermal load of a coal plant. The heat it emits and the water that it heats up is three times the amount of the average coal plant. So that is also something to consider. (0017-65 [Rittenhouse, Ryan])

**Response:** *Contributions of both direct heat emissions and greenhouse gases to cumulative effects on global climate change will be addressed in Section 7.11 of the EIS.*

**Comment:** There is a carbon footprint of nuclear plants. Approximately, it is estimated that about a million tons of CO<sub>2</sub> every year is attributed to one nuclear plant. And that is because of the mining process and everything else. Yes, there is no CO<sub>2</sub> coming -out of the water coolant towers or anything like that, but there is fossil fuel burning that goes on in relationship to nuclear power generation. And it does have a carbon footprint. Also, you are probably well aware that nuclear plants take a lot of concrete to build. And it is estimated that in every ton of concrete, there is about a ton of CO<sub>2</sub> that is released in manufacturing that concrete. So this all adds up. And it estimated that it accounts, the amount of CO<sub>2</sub> is about the same as about a fifth to a third of a gas plant. So yes, it is less. But there are other forms --there isn't none. (0017-64 [Rittenhouse, Ryan])

**Comment:** nuclear energy is not carbon free. From the cycle, the whole nuclear cycle from uranium mining, . . . . But the whole process from mining and milling and enrichment, fuel fabrication, and disposal of radioactive waste do add significant greenhouse gas emissions to this planet. (0017-78 [Stuard, Gary])

**Comment:** The most prevalent global warming impacts come from increased heat and humidity in the atmosphere. At a nuclear power plant two-thirds of the heat energy gets emitted into the air and heated water vapor is released into the air. Thus nuclear reactors themselves are global warming agents in terms of heat, including water vapor from steam and heat radiating from cooling towers and ponds. The EIS should contain an analysis of the production of heat energy emitted into the atmosphere and water by Comanche Peak Units 3 and 4 in terms of contributions to global warming. (0022-24 [Hadden, Karen])

**Response:** *The cumulative effects of heat, water vapor, and greenhouse gas emissions by construction and operation (including the fuel cycle) of the proposed units on global warming will be addressed in Section 7.11 of the EIS.*

## 2.21 Comments Concerning the Need for Power

**Comment:** one thing that I hope you'll do in your assessment of their assessment is to look carefully at their section dealing with the need for energy and the need for this type of power. One thing I would say is, because of when their assessment was written, it was based upon numbers which we already think aren't legitimate. Those numbers are based on ERCOT projections of 2007. Already the ERCOT projections about power needs in Texas of May of 2008 have a much different view on the need for additional power in the coming years. And that's simply in part because of changes in the growth of our economy, but also in part because Texas has fairly aggressively begun to implement energy-efficiency programs. And so our --we don't believe this plant is needed to meet our energy needs, and we think there are documents out there that would support that view, including ERCOT's own projections.

And I would also point out that we have a new Speaker of the House, someone who is very much in favor of energy efficiency. He passed legislation last session. Part of that legislation was to commission a report to look at the potential for greater gains in energy efficiency so we can meet more of our needs through energy-efficiency programs. So I would urge you to both look at the Itron report --and I can --in my written comments, I can get you a reference to that, but also --I don't know what your time line is, but also look at the actions during this legislative session. We expect, with the new Speaker of the House and with substantial interest in both the House and the Senate on both energy efficiency and promoting other sources of energy, like solar, geothermal, biomass, there will be significant legislative action that will add to our power mix in Texas, not in terms of nuclear, but in terms of both energy efficiency and other renewables. . . . So I want you to look at that projection, look at some of the studies that have been done by Itron, by ACEEE and others for Texas, to see if their assessment is realistic in terms of what's needed in Texas and whether we can't meet this demand through other means, including means that, frankly, Luminant is looking at, like wind, and I know they're looking at the potential for utility-scale solar. So I'd urge you to look at that. (0016-50 [Reed, Cyrus])

**Comment:** Luminant has not proven there is a need for this new energy.

- The application ignores the effect energy efficiency and renewable energy will have in the future. Are recent state-mandated energy efficiency and renewable energy goals be factored into the energy needs assessment?
- Studies have shown that Dallas/Ft. Worth could meet 101% of projected growth in demand using efficiency and renewable energy.
- State energy use projections should be revisited in light of the economic downturn.

(0019-21 [Hadden, Karen])

**Response:** *The EIS Chapter 8 analysis of need for power will reflect ongoing efforts to promote energy efficiency, conservation mandates, and updated demand forecasts by ERCOT.*

**Comment:** Moreover, the report [ER] largely discounts the role energy efficiency can play. Nonetheless, Luminant will be operating and selling power within ERCOT, where considerable advances in energy efficiency programs have resulted. First, the Texas Legislature through SB 7 in 1999 required the large transmission companies to meet 10 percent of their growth in demand through energy efficiency programs, a requirement that was doubled in 2007 with the passage of HB 3693. The program at the nine investor-owned utilities has been successful. Full reports of the program are available at <http://www.texasefficiency.com/report.html>. The following table is from the 2007 report from Fronteir Associates and demonstrates the success of the program in reducing peak demand and saving energy for a fraction of the cost of the nuclear plant.

HB 3693 also required the Public Utility Commission to look at the potential for utilities meeting 50 percent of the growth in demand through energy efficiency programs, and the resulting study concluded that Texas statewide could reduce its peak energy demand by 23 percent by 2018, and that the 50 percent goal by 2015 was economically and technically achievable. The full report – by ITRON – is available through the Public Utility Commission website. <http://www.puc.state.tx.us/rules/rulemake/33487/33487.cfm>. This legislative session, bills have already been introduced that would accomplish that or similar goals (HB 280, SB 601). (0032-16 [Reed, Cyrus])

**Table 3: Utility Funds Expended with Associated Demand and Energy Savings 2007\*  
(From the Annual Energy Efficiency Reports, including SB7 and non-SB7 programs.)**

Utility	Funds Expended (\$)	Demand Savings (MW)	Energy Savings (MWh)
AEP-SWEPCO	\$1,234,200	1.61	5,496
AEP-TCC	\$5,203,100	9.50	25,491
AEP-TNC	\$993,800	1.37	4,894
CNP	\$19,563,098	52.28	135,364
EGSI	\$2,968,000	5.34	15,034
EPE	\$1,115,000	1.21	5,000
TNMP	\$819,757	2.30	3,394
Oncor	\$46,384,709	89.23	216,371
Xcel	\$2,008,000	4.14	16,818
<b>TOTAL</b>	<b>\$80,289,664</b>	<b>166.98</b>	<b>427,862</b>

\*All energy savings are calculated at meter.

**Response:** Chapter 8 of the EIS will reflect legislative mandates for energy conservation that apply to regulated portions of the electric power delivery system in Texas and updates to ERCOT forecasts that reflect the initial impacts of these mandates.

**Comment:** We don't need the energy. (0017-11 [Burnam, Lon])

**Comment:** We all know that we need to produce more energy. (0017-15 [Burnam, Lon])

**Comment:** Energy efficiency can reduce electric demand, and help address global warming today, while building the local economy. (0030-8 [Hadden, Karen])

**Response:** Chapter 8 of the EIS will describe the results of the NRC staff independent review the need for power and will present an analysis of economic conditions and other factors that influence the need for power.

## 2.22 Comments Concerning Alternatives - No-Action

**Comment:** There are lots of impacts, environmental and otherwise of all alternatives, too, including the oft-overlooked alternative of doing little or nothing about the situation which the project is being considered. (0017-58 [Wohler, Will])

**Response:** *The no-action alternative will be evaluated and addressed in Chapter 9 of the EIS in comparison with the proposed action.*

## 2.23 Comments Concerning Alternatives - Energy

**Comment:** I would suggest that we very seriously consider geothermal energy. (0016-61 [Wildwood, Kathleen])

**Comment:** There are so many sustainable products that need to be looked into, such as was mentioned, geothermal, solar, wind, even gas. But that has disadvantages too, but I would like to ask that you look at those questions. (0016-76 [Shaar, Julie])

**Comment:** I think there are cleaner, safer and more economical ways to generate electricity, which is what everybody wants. (0017-34 [Cohn, Ann])

**Comment:** TXU could produce electricity safer, cleaner, and cheaper, it is my opinion, if they went solar or wind. (0017-37 [Cohn, Ann])

**Comment:** There are alternatives; wind, solar. We can do better. Why can't we be visionary about energy? (0017-47 [Bisbee, Kay])

**Comment:** They surely knew, saw the handwriting on the wall for the future, existing and future potential for renewable energy. Yet they went ahead and bought at least Luminant, knowing that they had designs to build these new nuclear power plants. All these facts were available. (0017-53 [Duncan, Jim])

**Comment:** Alternative renewable energy sources have their own serious environmental impacts. (0017-59 [Wohler, Will])

**Comment:** The energy of the future lies in wind and solar, energy efficiency and other forms of renewable power. (0017-61 [Rittenhouse, Ryan])

**Comment:** Additionally, processing uranium into fuel requires substantial amounts of electrical energy and water. The impacts from the use of the substantial amounts of energy and water must be part of a proper EIS. Without this analysis of the use of energy and water in the production of uranium fuel there cannot be a meaningful comparison with practicable alternatives that do not utilize large amounts of water and electricity for fuel production. (0022-5 [Hadden, Karen])

**Comment:** The Comanche Peak environmental report also fails to carefully compare the greenhouse gas effects expected from each of the alternative technologies. This analysis is crucial because of the relationship between greenhouse gases and global warming and

because it is expected that the use of fossil fuels to support the uranium fuel cycle will become more expensive over time. This circumstance will be aggravated by the anticipated use of foreign produced uranium that will have a greater greenhouse gas impact because of, among other reasons, a longer supply line. In contrast, renewable fuel technologies are expanding manufacturing capacities domestically. Hence, the EIS should project anticipated greenhouse gas emissions related to the competing technologies. (0022-51 [Hadden, Karen])

**Comment:** Alternatives that assess local power generation should be evaluated. For example, several small, local power plants may equal the amount of electricity generated by the proposed Comanche Peak Nuclear Power Plant (CPNPP) project. Local power generation, in contrast to large regional power generation, may have benefits that have not been explored (e.g., local transmission and use of power instead of long distance transmission, ability to deliver electricity in the event of a catastrophic event, smaller potential impacts to water use, waste generation, etc.) (0027-3 [Osowski Morgan, Sharon L.]

**Comment:** Safer, cleaner, more affordable ways are now available to generate electricity, including wind, solar and geothermal energy. (0030-7 [Hadden, Karen])

**Response:** *Alternative energy sources, including fossil fuels and renewable energy sources such as wind, solar, and geothermal, will be evaluated and addressed in Chapter 9 of the EIS in comparison with the proposed action.*

**Comment:** If we get energy storage to combine the wind and the solar power, we can have a good base load impact. Our real needs are for peak energy to begin with, and we get that with West Texas Wind. (0016-15 [Hadden, Karen])

**Comment:** The Comanche Peak environmental report generally understates the efficacy of alternative sources of electric power generation. p. 9.2-1, et seq. The EIS should evaluate alternative sources of generating capacity based on the current data available regarding capacity factors, technological advances that overcome intermittency challenges regarding wind and solar power, and historical operational experience. It should be noted that Texas leads the nation in wind generation. In 2005, Texas set a goal of 5880 MW of wind by 2015, but the state has already exceeded this amount, and nearly \$5 billion for additional transmission lines have already been approved. The costs of various forms of energy generation should be considered as well, especially considering that the Federal Energy Regulatory Commission (FERC) published the following data in 2008, showing nuclear power to be the most expensive way to generate electricity.

The Comanche Peak environmental report assumes that renewable fuels such as wind and solar cannot provide adequate baseload generating capacity. However, recent advances in technology such as compressed air energy storage and improved battery storage capacity call into question some of the environmental report's assumptions concerning problems with intermittency. Additionally, current technology advances are proving the assumptions about renewable fuels made in the environmental report to be outdated and inaccurate. Expansions of renewable energy capacity are occurring daily. In contrast, nuclear capacity, as a percentage of total generating capacity, is shrinking. The EIS should evaluate the competing technologies in light of current energy policy which places a greater emphasis on renewable fuels than did previous energy policy that favored nuclear power and fossil fuels. (0022-48 [Hadden, Karen])

**Comment:** The Comanche Peak environmental report understates the ability of Texas to meet its energy demands through energy efficiency and renewable energy. While acknowledging that

these technologies will play an increasing role, the report submitted by Luminant assumes that Texas needs large base-load plants to meet future energy demand and that solar, wind, and geothermal technologies are incapable of meeting these needs. Nevertheless, recent reports and advances in technology show that Texas can meet its energy demand through a combination of these technologies. (0032-14 [Reed, Cyrus])

**Comment:** First of all, the Texas legislature only recently, in 1999, adopted a Renewable Portfolio Standard, requiring certain utilities to obtain part of their energy mix with renewable power. By 2005, the Legislature chose to raise the requirements to 5,880 MWs by 2015 and a target of 10,000 MWs by 2025. However, Texas has already surpassed the 2105 target and recently approved a \$5 billion transmission plan, awarded to some 10 companies, that will lead to approximately 18,000 MWs of largely wind development between existing and planned development. This should occur before 2015. (0032-15 [Reed, Cyrus])

**Comment:** Furthermore, recent developments prove that costs for solar power, energy storage and geothermal energy have declined and will continue to decline in the future, especially given federal action to stimulate these new sources of energy. Luminant itself is engaged in a joint investment with Shell to developed air compressed storage from a wind farm in West Texas that could lead to 1,000 MWs of stored energy, in addition to the wind power itself.

The recent Federal Stimulus package as well as action by the Texas legislature could make these energy sources even more attractive, and the planned expansion of the nuclear plant should be judged against these energy sources. We would suggest that the EIS incorporate any recent changes in state and federal law which would make the development of these alternatives more likely. We would suggest that the life-cycle costs, environmental and public health impacts of nuclear be compared to solar, wind, geothermal, coal, natural gas, and energy efficiency and conservation as part of the EIS. (0032-17 [Reed, Cyrus])

**Response:** *Alternative energy sources, including combinations of sources such as fossil fuels and renewable energy sources, will be evaluated and addressed in Chapter 9 of the EIS in comparison with the proposed action. Due to the extensive wind resources in the ERCOT service area and the actions already taken or planned to expand wind energy, Section 9 of the EIS will provide a detailed analysis of environmental impacts of wind energy as alternative to the proposed action.*

**Comment:** An expanding number of studies show that nuclear energy is neither clean nor cost-effective in relation to other energy alternatives such as wind and solar energy. The cost of the possible new reactor- up to \$22 billion- could retrofit over 7 million Texas homes to make them more energy efficient. (0010-2 [Shroyer, Danielle])

**Comment:** There are cleaner ways that make a stronger local economy. The PUC, the Public Utility Commission of Texas, Commissioner Barry Smitherman, recently testified that for every dollar put into energy efficiency, we get two dollars' worth of savings back. (0016-20 [Hadden, Karen])

**Comment:** The technique of analysis used in the Comanche Peak environmental report to determine the relative advantages of renewable fuels compared to nuclear power is inherently flawed. For example, the environmental report essentially eliminates conservation/energy efficiency as an alternative that should be considered. p. 9.2-3. The environmental report excuses the consideration of conservation/energy efficiency, because Comanche Peak Units 3 and 4 will be merchant power plants. And as such, conservation and demand side management

programs to encourage consumers to modify levels of electricity usage "are not within the capability or responsibility of the wholesale baseload merchant generator." *Id.* However, the Comanche Peak reactors would operate within the ERCOT system in Texas, so the market is not unlimited. They are bound to buy or sell electricity to within ERCOT, which is wholly within the state. The environmental report attempts to rationalize omission of conservation/energy efficiency measures by citing to NRC policy that has determined that conservation measures are not reasonable alternatives to merchant power plants that sell wholesale power. *Id.* However, the EIS should not be controlled by the same artificial constraint. The Comanche Peak nuclear power plant expansion proposal should be viewed in the larger context of other means by which to influence electricity usage. Adopting the environmental report's conclusions essentially allows merchant power plants to ignore the proven effectiveness of conservation and energy efficiency programs that have been tested numerous times by various utilities as a means to curtail demand.

Texas is in the process of taking further steps to pursue energy efficiency. A new report commissioned by the Texas Public Utilities Commission shows that the state could reduce electric usage by 23% if utilities invest more in efficiency measures, saving Texans as much \$11.9 billion on their electric bills. The findings bolster the call by a coalition of local elected officials, business leaders, community groups and faith leaders for the Legislature to increase the mandate on utilities for energy efficiency investments. The Texas legislature passed an energy efficiency bill last session (2007) and is expected to strengthen energy efficiency commitments in 2009, as well as enacting improved buildings codes which will significantly reduce energy demand. The federal stimulus bill includes initiatives and incentives which will further these efficiency efforts and reduce the growth in demand for electricity. (0022-49 [Hadden, Karen])

**Comment:** Two additional nuclear reactors are currently proposed by Luminant for the Comanche Peak site southwest of Dallas/Fort Worth near Glen Rose, Texas, where two reactors exist now. The proposed reactors could cost up to \$22 billion. This sum used differently could instead retrofit over seven million homes to make them more energy efficient, saving money for consumers, creating local jobs, reducing pollution and addressing global warming directly right now. (0030-2 [Hadden, Karen])

**Response:** *The NRC is not involved in establishing energy policy; rather, it regulates nuclear energy to protect public health and safety within existing policy. While energy efficiency measures could reduce energy demands in the Comanche Peak service area, in accordance with NUREG-1555, a merchant power plant is not required to perform a demand side management analysis or consider measure to increase energy efficiency as an alternative to the proposed action.*

**Comment:** Be sure to keep the broad picture in view. . . . Why would we consider the environmental impact of any proposed project separately from considering the impacts of whatever the alternative(s) to that project are?? For that matter, how could we consider only the environmental impacts of the project?? There are lots of impacts, environmental and otherwise, of all the alternatives, too -including the oft-ignored alternative of doing little or nothing about the situation for which the project is being considered!! Surely, if we don't take a broad view of the situation, we run the risk of skewed policy decisions, no? (& the narrower our focus, the greater the skewing risk!) Alternative / Renewable energy sources have their own serious environmental impacts! (not to mention their much lower energy 'density' & continuity of availability). For example, the infrastructure needed to harness these other power sources consumes tremendous resources (in materials, land & monetarily). And unless a great deal more

resources are used for the capacity storage that all these sporadically-available power sources require, we'll still have to use conventional, always-available power sources to 'fill in' for when the Alternative / Renewable sources aren't available. (Wind & Solar are highly variable in availability!)

Excessive Conservation also has adverse environmental impacts -from the more impoverished conditions resulting from too much reliance on Conservation. A more prosperous society is more able to afford the costs of higher levels of environmental preservation! Just as "No one is an Island" (unto themselves), we dare not consider, in isolation, the impacts of just one (kind of) proposal. Something else to keep in mind as deliberation proceeds on these proposed new nuclear power generating facilities: The validity of scientific (and other) theories & findings, is not in any way dependent on how many -or few -people express those theories & findings. Likewise, the wisdom of any particular public policy(ies) also has no necessary relationship to the number of people supporting them. None of those things bears any necessary relationship to majority (or minority) views. (0018-3 [Wohler, Will])

**Comment:** The right way to meet our energy needs right now is through energy efficiency, first and foremost, through better building codes. And that's starting to happen throughout the state. Many cities are passing building codes. If we just get smarter about our energy use, we won't need so much. I maintain that these reactors are not necessary. (0016-13 [Hadden, Karen])

**Comment:** Wind and solar energy are well developed now and more affordable than nuclear power. Energy efficiency helps curb demand. We do not need nuclear power or the risks that it entails. (0019-7 [Hadden, Karen])

**Response:** *The NRC is not involved in establishing energy policy; rather, it regulates nuclear energy to protect public health and safety within existing policy. While energy efficiency measures could reduce energy demands in the Comanche Peak service area, in accordance with NUREG-1555, a merchant power plant is not required to perform a demand side management analysis or to consider measures to increase energy efficiency as an alternative to the proposed action. Chapter 9 of the EIS will describe potential impacts from alternative energy sources. Due to the extensive wind resources in the ERCOT service area and the actions already taken or planned to expand wind energy, Chapter 9 of the EIS will provide a detailed analysis of environmental impacts of wind energy as alternative to the proposed action.*

**Comment:** With the wind turbine, there may be an accident now and then, but you don't have thousands of people at risk from a radioactive waste release with a wind turbine. (0016-19 [Hadden, Karen])

**Comment:** The Comanche Peak environmental report is also flawed to the extent that it fails to make a realistic comparison between the environmental impacts and public health consequences of nuclear power compared to energy efficiency and renewable fuels. For example, there should be a side-by-side comparison of mortality and morbidity consequences of nuclear power compared to energy efficiency and renewable fuels in order to accurately determine the consequences of each. Of course, the comparisons would indicate that energy efficiency and renewable fuels do not cause increased mortality and morbidity while nuclear fuel does. Moreover, there should be a side-by-side comparison of nuclear fuels and energy efficiency and renewable fuels, related to the effects of catastrophic accidents. Such a side-by-side comparison would indicate that a catastrophic loss of, for example, a wind generating accident or capacity loss would be negligible compared to a major loss of cooling accident at Comanche Peak Units 3 and 4. The EIS should engage such a comparative analysis in order to

fairly determine the environmental consequences and public health impacts of each. (0022-50 [Hadden, Karen])

**Response:** *The NRC is not involved in establishing energy policy; rather, it regulates nuclear energy to protect public health and safety within existing policy. The EIS will evaluate the risk and consequences of design basis and severe accidents in Chapter 5. The discussion of alternative energy sources, including wind and solar, will be addressed in Chapter 9 of the EIS, which will compare and describe potential environmental impacts from alternative energy sources. Alternative energy sources will be evaluated first to determine if the energy source can meet the purpose and need of the project. If they cannot meet the purpose and need then they are not evaluated further. As part of the COL process and in conjunction with the EIS, the NRC staff will conduct a safety review detailing site-specific safety analysis and design specific analysis, including NRC acceptance.*

**Comment:** It's [nuclear power is] not a useful solution to climate change. You can't build reactors fast enough to meet any significant portion of the energy needs to be produced. (0016-12 [Hadden, Karen])

**Response:** *The NRC is not involved in establishing energy policy; rather, it regulates nuclear energy to protect public health and safety within existing policy. Alternative energy sources, including fossil and renewable energy sources such as wind, solar, and geothermal, will be evaluated and addressed in Chapter 9 of the EIS in comparison with the proposed action.*

**Comment:** Do I have to waste the energy I'm wasting today? In the little things that we do, inefficient lighting, the extras that we do through every day, the things that we leave on that we could turn off, do we have to do that so badly that we're willing to leave a legacy of radioactive waste that literally will last millions of years, that someone someday is going to have to repackage and make sure it's contained safely so it doesn't escape into the environment. (0016-17 [Hadden, Karen])

**Response:** *The NRC is not involved in establishing energy policy; rather, it regulates nuclear energy to protect public health and safety within existing policy. While energy efficiency measures could reduce energy demands in the Comanche Peak service area, in accordance with NUREG-1555, a merchant power plant is not required to perform a demand side management analysis or consider measure to increase energy efficiency as an alternative to the proposed action. Section 9 of the EIS will describe potential impacts from alternative energy sources. The impact of the uranium fuel cycle, including disposal of low-level radioactive waste and spent fuel, will be addressed in Chapter 6 of the EIS.*

**Comment:** there will be significant legislative action that will add to our power mix in Texas, not in terms of nuclear, but in terms of both energy efficiency and other renewables. And I left in the back sort of some of the legislative goals that Lone Star Chapter of the Sierra Club has, many of --all of which, frankly, are also for economic benefit. It's about promoting other kinds of energy use and energy efficiency that are also good for the economy. And our view is that if you look at all the different energy sources, nuclear really should be the last option we look at. So I want you to look at that projection, look at some of the studies that have been done by Itron, by ACEEE and others for Texas, to see if their assessment is realistic in terms of what's needed in Texas and whether we can't meet this demand through other means, including means that, frankly, Luminant is looking at, like wind, and I know they're looking at the potential for utility-scale solar. So I'd urge you to look at that. (0016-51 [Reed, Cyrus])

**Response:** *The NRC is not involved in establishing energy policy; rather, it regulates nuclear energy to protect public health and safety within existing policy. The discussion of alternative energy sources, including wind and solar, will be addressed in Chapter 9 of the EIS, which will compare and describe potential environmental impacts from alternative energy sources. Due to the extensive wind resources in the ERCOT service area and the actions already taken or planned to expand wind energy, Chapter 9 of the EIS will provide a detailed analysis of environmental impacts of wind energy as alternative to the proposed action.*

**Comment:** The right way to meet our energy needs right now is through energy efficiency, first and foremost, through better building codes. And that's starting to happen throughout the state. Many cities are passing building codes. If we just get smarter about our energy use, we won't need so much. I maintain that these reactors are not necessary. (0016-14 [Hadden, Karen])

**Comment:** And we all know that we need to do conservation. (0017-16 [Burnam, Lon])

**Comment:** An easier way to increase, or to use energy more efficiently is a better way of conserving energy, and Texas leads in being energy wasteful. Energy conservation and energy efficiency are easy ways to go. (0017-79 [Stuard, Gary])

**Response:** *The NRC is not involved in establishing energy policy; rather, it regulates nuclear energy to protect public health and safety within existing policy. While energy efficiency measures could reduce energy demands in the Comanche Peak service area, in accordance with NUREG-1555, a merchant power plant is not required to perform a demand side management analysis or consider measure to increase energy efficiency as an alternative to the proposed action.*

**Comment:** say, cut this off right now, and go for alternative sources of energy, truly green jobs. If you want a jobs program, get one that is not going to hurt the next generation. (0017-73 [Sanders, Jan])

**Response:** *The NRC is not involved in establishing energy policy; rather, it regulates nuclear energy to protect public health and safety within existing policy. Chapter 9 of the EIS will describe potential impacts from alternative energy sources.*

## 2.24 Comments Concerning Alternatives - System Design

**Comment:** The study should also include an analysis of pollution impacts downstream from water contaminated by chemical treatment such as biocides, algaecides, pH adjustors, corrosion inhibitor and silt dispersant chemicals injected at the reactor site as well as chlorine, salts and non-radioactive effluent. The differential impact of treatment of 100 percent of the water versus the lesser amount of treatment proposed by the applicant should be considered. (0022-19 [Hadden, Karen])

**Comment:** The proposed project will withdraw water for cooling tower makeup from Lake Granbury and return the cooling tower blowdown back to Lake Granbury. Currently, Lake Granbury is listed as being impaired for chlorides. CPNPP should know that a total maximum daily load (TMDL) will be prepared for Lake Granbury to address the chloride impairment. The TMDL will give a wasteload allocation for chlorides to CPNPP for its cooling tower blowdown discharge. CPNPP should be aware that it may be required to meet the water quality standard

for chlorides or significantly reduce the level of chloride in its discharge. Texas Commission on Environmental Quality (TCEQ) is responsible for developing TMDLs and TMDL Implementation plans. EPA reviews and approves TMDLs developed by TCEQ. (0027-11 [Osowski Morgan, Sharon L.]

**Comment:** Best Management Practices (BMPs) should be used to reduce erosion during construction. Typical BMPs include the use of staked hay bales, silt fences, mulching and reseeded, and appropriate buffer zones along water bodies. The document should include an erosion control plan or reference the State erosion control regulations and a commitment to compliance. Compliance should include both BMP application and maintenance. (0027-8 [Osowski Morgan, Sharon L.]

**Response:** *The construction and operation of a nuclear plant involves some discharges to nearby water bodies. The Clean Water Act designated the U.S. Environmental Protection Agency as the Federal agency with responsibility over effluent discharges to the nation's waters. While it only regulates radiological effluents, the NRC does have the responsibility under NEPA to assess and disclose the expected impacts of the proposed action on water quality throughout the plant's life. The staff's assessment of the nonradiological impacts to water quality will be presented in Chapter 5 of the EIS. Luminant's proposed blowdown waste water treatment would return water to Lake Granbury in compliance with all regulatory water quality requirements. Consequently, additional levels of water treatment would not be necessary. Alternatives for additional water treatment, including those suggested in the comment, will not be addressed in the EIS.*

**Comment:** The Energy Policy Act of 2005 directed the United States Department of Energy to research and develop proliferation resistant fuel recycling and transmutation technologies that are intended to minimize damage to the environment and public health and to enhance safety of spent fuel management. The EIS should consider this alternative and determine whether it is technologically feasible and prudent to pursue. The reason for this alternative to be considered as a spent fuel management technique is because it assumes that a federal repository for spent fuel will not be available. Proliferation resistant fuel recycling and transmutation technologies may have the effect of managing spent fuel in a way that minimizes adverse impacts to the public's health and the environment. Therefore, the EIS should fully develop the state of these technologies and determine whether such would be available for purposes of managing spent fuel at Comanche Peak. (0022-41 [Hadden, Karen])

**Response:** *Chapter 6 of the EIS evaluates the fuel cycle impacts including both a no-recycle process and a recycle process. The safety and environmental effects of spent fuel storage onsite have been evaluated by the NRC and, as set forth in the Waste Confidence Rule (10 CF 51.23), the NRC generically determined that such storage could be accomplished without significant environmental impacts. In the Waste Confidence Rule, the Commission determined that spent fuel can be safely stored onsite for at least 30 years beyond the plant's life.*

**Comment:** When the first two reactors were built the sky glow light pollution went from zero to off the scale in the direction of the reactors. The latest round of fixture modernization reduced the sky glow by about 40 percent. Our Concern is the two new units will increase the sky glow beyond what it was after initial construction. We would like to see a comprehensive relighting program for all four reactors, using the latest technology zero cut-off fixtures, such as those approved by the International Dark-sky Association in order to achieve an overall reduced light pollution impact than what now exists. [www.darksky.org](http://www.darksky.org) (0024-1 [Miller, Russ])

**Response:** *The physical impacts of the facility operation at the proposed site, including the impacts of the proposed plant lighting, will be evaluated in Chapter 5 of the EIS.*

**Comment:** In my conversations with engineers, it is commonly believed that a better engineered cooling system could easily reduce or eliminate this water loss. [Loss of 55,000 acre feet per year to evaporative cooling.] FBR [Friends of the Brazos River] respectfully asks that you delay this permit until a less wasteful cooling system can be designed. (0025-2 [Lowe, Ed])

**Response:** *The construction and operation of a nuclear plant involves the consumption of water. The staff will independently assess the impact of these consumptive water losses on the sustainability of both the local and regional water resources. This assessment will consider both current and future conditions, including changes in water demands to serve the needs of the future population, and changes in water supply resulting from climate variability and climate change. While the NRC does not regulate or manage water resources, it does have the responsibility under NEPA to assess and disclose the impacts of the proposed action on water resources. The staff's assessment of the impacts on water resources from the plant's proposed cooling system will be presented in Chapters 4 and 5 of the EIS for construction and operation, respectively. The impacts of alternatives to the proposed cooling system will be evaluated in Chapter 9 of the EIS.*

**Comment:** The Comanche Peak report admits that there is no federal site for disposition of high-level nuclear waste and that present options for disposal of low-level radioactive waste are limited. Given the difficulty in siting both low-level and high-level radioactive waste, an EIS should consider all of the waste disposal options, including long-term storage at the site itself. (0032-12 [Reed, Cyrus])

**Response:** *The impact of the uranium fuel cycle, including disposal of low-level radioactive waste and spent fuel, will be addressed in Section 6 of the EIS. The generic impacts of the fuel cycle are codified in 10 CFR 51.51(b), Table S-3, "Table of Uranium Fuel Cycle Environmental Data." Per the guidance in 10 CFR 51.51 and Section 5.7 of NUREG-1555, the staff will rely on Table S-3 as a basis for uranium fuel-cycle impacts. The Waste Confidence Rule (10 CFR 51.23) has determined that spent fuel can be safely stored on site for at least 30 years beyond the life of the plant.*

**Comment:** Given the uncertainty involved with licensing the Yucca Mountain Nevada facility for the disposal of spent nuclear fuel, all utilities planning on constructing additional nuclear units on current sites should consider contingencies for long-term storage of waste on-site. (0027-6 [Osowski Morgan, Sharon L.]

**Response:** *The safety and environmental effects of spent fuel storage onsite have been evaluated by the NRC and, as set forth in the Waste Confidence Rule (10 CF 51.23), the NRC generically determined that such storage could be accomplished without significant environmental impacts. In the Waste Confidence Rule, the Commission determined that spent fuel can be safely stored onsite for at least 30 years beyond the plant's life.*

## **2.25 Comments Concerning Benefit - Cost Balance**

**Comment:** The two proposed Comanche Peak reactors could cost up to \$22 billion according to Luminant's own documents. This is before cost overruns. This amount could make 7.3 million

homes more energy efficient. Pursuing efficiency lowers bills, reduces electricity consumed, and creates local jobs. The existing Comanche Peak reactors ran ten times over budget and were years late coming online. What if this happened again? (0019-8 [Hadden, Karen])

**Response:** *These points will be noted and discussed in the EIS. NUREG-1555 call for the Benefit-Cost analysis to include consideration of internal and external costs. The scope of the analysis for internal costs are those costs for the design proposed by the applicant (NUREG-1555). Scenario analysis of vast departures from these costs is therefore outside the scope of this analysis.*

**Comment:** Further, I request to see an analysis of water use per kilowatt hour produced for the proposed new plant reactors and the cost of this power if Luminiant had to pay current wholesale water rates. (0021-3 [Richardson, Karen])

**Response:** *The EIS will reflect the cost of cooling systems in its analysis and the water quantities lost through evaporation and other losses in Chapter 10 of the EIS.*

**Comment:** 3. Reactor Lifespan - (a) What is the average effective life span of a nuclear reactor? (b) How much additional funding will be required to maintain an aging reactor? (0023-7 [Ubico, Jean])

**Response:** *The assumptions of reactor life span and costs used in this analysis will be provided in Section 10 of the EIS. Costs for all phases of reactor construction and maintenance will be discussed, but data are specific to the proposed plants and the alternatives chosen and cannot be applied to a "representative" reactor. The license period for a combined license is 40 years. A licensee can request renewal for an additional 20 years. The cost benefit analysis is done for the license period of 40 years. It would not be appropriate to assume additional cost or benefit for an additional 20 years of license renewal when that action has not been requested or approved.*

**Comment:** The second piece entitled 'Troubled History of Comanche Peak' is intended to bolster the case for including consideration of existing reactors' history in the EIS. The past is prelude to the future. The EIS must address the possibility that difficulties similar to those which occurred in the past might occur again. The problems that arose in the past were frequently related to using new technologies. As the USAPWR design proposed for Comanche Peak Units 3 and 4 has never been built anywhere in the world, the likelihood of problems and resulting health and environmental impacts is likely to increase. A full analysis of the difficulties of building the reactors successfully including an examination of the history of existing reactors should be undertaken in the EIS. (0030-1 [Hadden, Karen])

**Response:** *The EIS will contain a detailed analysis of the proposed reactors and comparisons of alternatives to the proposed reactors. A detailed analysis of the history of the nuclear power industry that goes beyond the proposed reactors and the alternatives is beyond the scope of this EIS.*

**Comment:** Nuclear technology is not cost effective, requiring massive subsidies from taxpayers. (0031-8 [Gentling, Suzanne])

**Response:** *The NRC is not involved in establishing energy policy; rather, it regulates nuclear energy to protect public health and safety within existing policy. An analysis of the proposed facilities and alternatives will be presented in Chapter 9 of the EIS.*

**Comment:** I have read, from a financial standpoint, how much taxpayers are paying for this nuclear power plant. I have read the bills that have to do with the energy bills for 2005 and so on, that show all the subsidies that are going into the nuclear power plants. So we are paying for it. (0017-50 [Harper, Debbie])

**Response:** *Chapters 9 and 10 of the EIS will review the costs of constructing the plant and compare the proposed site with alternatives. Non-monetary costs, such as environmental impacts and other costs, will also be analyzed and summarized in a benefit cost section. The NRC staff is aware that nuclear energy receives some subsidies and that all other energy forms are also subsidized in different ways. A complete analysis that compares all of these subsidies on a common basis is beyond the scope of the EIS.*

**Comment:** [The proposed Comanche Peak units 3 and 4 are a] Waste of money. (0017-81 [Sanders, Jan])

**Response:** *Chapter 10 of the EIS will contain an analysis of the need for the power for the proposed facility, the alternatives to the proposed facility, and a summary of benefits and costs. Ultimately, the plant will be evaluated relative to other ways to meet the forecasted demands for power.*

**Comment:** Ecosystem services are the benefits humans derive from nature. The concept of ecosystem services encompasses natural renewable resources and processes that are essential to human well being like clean water, clean air, and a host of other services that have not been traditionally incorporated into cost-benefit analyses, but can be considered. The concepts of ecosystem services and sustainability are interconnected. If use of ecosystem services exceeds the environment's capacity to perform those services, then the activity is not sustainable over time. The NEPA document should discuss aspects of ecosystem services and sustainability as appropriate. (0027-24 [Osowski Morgan, Sharon L.])

**Response:** *The comment correctly notes that the environment and other natural systems provide services that contribute to societal well-being, but that these services are not marketed and are difficult to measure. For this reason, the EIS process has traditionally sought to add the costs of mitigating external impacts to the costs summarized in Chapter 10 of the EIS. Where possible a quantitative value for mitigated costs will be used and where this is not possible a qualitative analysis will be used. Unmitigated costs are termed unavoidable and are valued and included in the analysis in the same way. The scope of this analysis is described in NUREG-1555 p. 2.4.2 and will be followed in Chapter 10 of the EIS.*

**Comment:** The cost to the taxpayers. I think all of us should feel quite sore already from the fact that we have been stuck with high bills, given corporate malfeasance and corruption, and that we have been left with paying the bill. The only reason why nuclear power could be on the plate or the playing field is the fact that it is going to be heavily subsidized, i.e.; you and I will pay for it. I don't know about you, but that doesn't leave a good taste in my mouth. Also a recent study that has just recently come out, called Business Risks and Costs of New Nuclear Power has put the generation cost of power or power from nuclear power plants at from 25 to 30 cents per kilowatt hour. That is triple the current U.S. electricity rate. (0017-77 [Stuard, Gary])

**Response:** *The EIS will review the environmental costs of constructing the plant and compare the proposed site with alternatives. Non-monetary costs, such as environmental impacts and other costs, will also be analyzed and summarized in a benefit cost section. The NRC staff is*

*aware that nuclear energy receives some subsidies and that all other energy forms are also subsidized in different ways. A complete analysis that compares all of these subsidies on a common basis is beyond the scope of the EIS. However, it is noteworthy that following the restructuring of the ERCOT electric power system, wholesale power producers must compete with other power suppliers and that their investors have their capital at risk if the facilities cannot successfully compete in the marketplace. Under this system, power generators are not subject to rate of return regulation and have no guaranteed profits.*

**Comment:** The indirect or secondary impacts should be assessed. In particular, the potential impacts associated with water use from sources other than SCR. The secondary impacts from fuel mining and processing should also be investigated. Currently, there does not seem to be enough information in Section 10.2.1.6 section to evaluate. The ER states impacts from mining on geological resources are expected to be small. This statement is not consistent with the large scale and wide-ranging impacts mining may potentially have on the environment. Additional information should be provided. (0027-26 [Osowski Morgan, Sharon L.]

**Response:** *Chapters 4 and 5 of the EIS will review secondary impacts from constructing and operating the plant including impacts from water usage and from the nuclear fuel cycle, including mining, processing, and fuel fabrication. Where staff finds the applicant's analysis unpersuasive or inadequate, staff will request additional information from the applicant. If necessary staff will carry out additional independent analyses. The public will have an opportunity to review the draft EIS and to comment on it.*

## **2.26 General Comments in Support of the Licensing Action**

**Comment:** I urge you to act favorably on their application. (0004-2 [Luton, John Henry])

**Comment:** We are 100% in favor of expanding the Comanche Peak nuclear power plant. (0006-1 [Ramsey, Terry])

**Comment:** I would like to see the expansion, due to jobs and economy uplift. (0009-1 [Duck, Kathy])

**Comment:** I am writing to voice my support for the proposed expansion at Comanche Peak Nuclear Plant in North Texas. (0013-1 [Bahlburg, Kelly])

**Comment:** we do endorse the project. (0016-2 [Johnson, Lisa])

**Comment:** I see no better way to stimulate the health and welfare of man than these two plants to go forward, these two reactors. (0016-26 [Berry, Steve])

**Comment:** I'd like to show our support for these new reactors. (0016-29 [Berry, Steve])

**Comment:** I sincerely hope they're allowed this permit to expand. (0016-31 [Phillips, Marilyn])

**Comment:** our economic development corporation strongly supports the continuation of the process that Comanche Peak is undergoing. (0016-33 [Ward, Mary])

**Comment:** Be it resolved that the Granbury Chamber of Commerce Board of Directors endorses the combined operating and licensing application for Luminant's proposed facilities, Comanche Peak Units 3 and 4. (0016-34 [Scott, Mike])

**Comment:** On behalf of the Somervell County Water District, I support the expansion of Comanche Peak. (0016-35 [Taylor, Kevin])

**Comment:** I certainly wholeheartedly endorse and look forward to the working relationship that we will have in Granbury ISD, Glen Rose ISD, with the nuclear power plant, with Luminant Energy. (0016-46 [Meyers, Kevin])

**Comment:** Glen Rose Chamber of Commerce endorses moving forward with this plan. Back in the summer we did put out a proposal --or a proclamation, or whatever you want to call it, you know, in favor of it. (0016-47 [Atkinson, Bill])

**Comment:** the Somervell County Commissioners Court some months ago passed a resolution supporting this expansion project. (0016-5 [Maynard, Walter])

**Comment:** The expansion of Comanche Peak Nuclear Power Plant can help play an important role in that effort, while creating many new, highly skilled jobs for Somervell County citizens. (0016-57 [Sykes, Victoria])

**Comment:** I encourage the NRC to move forward with this. (0016-59 [Marks, Gary])

**Comment:** I would speak strongly in favor of this project going forward. (0016-6 [Roan, Richard])

**Comment:** I personally support the expansion of Units --or addition of Units 3 and 4. (0016-62 [Overstreet, Lee])

**Comment:** A few months ago, the Hood County Commissioners Court also passed a resolution in support of the expansion of the Comanche Peak plant. (0016-7 [Rash, Andy])

**Comment:** Lake Granbury Medical Center fully supports the expansion of Comanche Peak. (0016-72 [Orcutt, David])

**Comment:** we enthusiastically support this endeavor (0016-74 [English, Maurice])

**Comment:** I'm in favor of the growth of this community. We need the new power plant. (0016-77 [Smith, Hugh])

**Comment:** personally, I'm fully in support of this expansion. (0016-9 [Rash, Andy])

**Comment:** we are all very in favor and really support the Peak expanding. As a matter of fact, we passed a resolution earlier in the year to show our support. (0017-2 [Miller, Pam])

**Comment:** I just want to register my approval of it. (0017-29 [Wyatt, Dr. Bill])

**Comment:** I vote for it [expansion of the plant]. (0017-32 [Downing, Kevin])

**Comment:** some months ago, earlier in the year, at the Somervell County Commissioners Court, I passed a resolution supporting the expansion of this plant. And I believe I have the authority as a group to say that we do support it. I personally support it. (0017-5 [Maynard, Walter])

**Comment:** I am in support of the application. (0017-55 [Leising, Joe])

**Comment:** But again, it is something that I strongly support, and will continue to make investments in this community, because I believe that this is the nucleus to provide potential growth or future growth, and for our children and grandchildren. (0017-57 [Sheaks, Jerry])

**Comment:** Hood County Commissioners Court did pass a resolution in support of the expansion of the Comanche Peak plant. (0017-7 [Rash, Andy])

**Comment:** I support the move that we have, the proposals that we have for a nuclear reactor in this county. (0017-80 [Sumners, Allen])

**Comment:** the school district is certainly in support of this expansion. (0017-9 [Phillips, Marilyn])

**Comment:** Here to speak in favor of Plant Expansion.(0018-1 [Roan, Richard])

**Comment:** Statement of support. (0018-2 [Orcutt, David])

**Comment:** Nuclear Energy for Texans (NET) today applauded Dallas-based Luminant's application to the U.S. Nuclear Regulatory Commission (NRC) to expand its Comanche Peak Nuclear Power Plant near Glen Rose, Texas. (0018-8 [Hind, Rebecca])

**Comment:** Glen Rose Independent School District Resolution - May 19, 2008

Whereas, Luminant have announced its intention to develop a combined operating and licensing application for 2 new nuclear power units at Comanche Peak in the Glen Rose Independent School District, and

Whereas, Comanche Peak and Luminant have been a good business neighbor, providing jobs, taxes and helping the community meet its needs, and

Whereas, Texas officials have clearly stated the need for continued investment into electric generation to meet the growing population of our state, and

Whereas, if constructed, the new facilities will provide many jobs during construction and hundreds of permanent jobs after the units are running, and

Whereas, if constructed the units will add millions of dollars in estimated spending to the Somervell County economy, and

Whereas, if constructed the new facilities would add significant value to the property tax value of Somervell County and the Glen Rose Independent School District, and

Whereas, Luminant is consistently available to provide information and answer questions about the existing units and the proposed license application to the Glen Rose Independent School District Board of Trustees

Now, therefore be it resolved, that the Board of Trustees of the Glen Rose Independent School District endorses the combined operating and licensing application for Luminant's proposed facilities, Comanche Peak Units 3 & 4, in Somervell County,

Be it further resolved, that Board of Trustees of the Glen Rose Independent School District encourages Federal and State officials to move forward to grant appropriate licensing and permitting and approve Luminant Power's combined operating and licensing request application for Comanche Peak units 3 & 4,

Approved this 19th day of May 2008

Signatures (0019-2 [Independent School District, Glen Rose])

**Comment:** GRANBURY Chamber

Resolution 01-2008

Whereas, Luminant has announced its intention to develop a combined operating and licensing application for 2 new nuclear power units at Comanche Peak in neighboring Somervell County, and

Whereas, Comanche Peak and Luminant have been a good business neighbor, providing jobs, taxes and helping Hood County and the Granbury community meet its needs, and

Whereas, Comanche Peak provides safe, dependable and clean electricity with no greenhouse gas or smog-forming air emissions, and

Whereas, Texas officials have clearly stated the need for continued investment in electric generation to meet the growing population of our state, and

Whereas, the advanced-design nuclear power plant that Luminant plans to submit in its license application will offer safe, emission-free and dependable power, and

Whereas, if constructed, the new facilities will provide many jobs during construction and hundreds of permanent jobs after the units are running, and

Whereas, if constructed, the units will add millions of dollars in estimated spending to the local economy, and

Whereas, Luminant is consistently available to provide information and answer questions about the existing units and the proposed license application to the Granbury Chamber of Commerce

Be it resolved, that the Granbury Chamber of Commerce Board of Directors endorses the combined operating and licensing application for Luminant's proposed facilities, Comanche Peak Units 3 & 4,

Be it further resolved, that the Granbury Chamber of Commerce Board of Directors encourages Federal and State officials to move forward to grant appropriate licensing and permitting and approve Luminant Power's combined operating and licensing request application for Comanche Peak units 3 & 4.

Adopted by the Board, May 29, 2008 (0019-3 [Scott, Mike])

**Comment:** My husband and I are in favor of the expansion of the Comanche Peak Nuclear Power Plant in Glen Rose, Texas. Each are of the country needs to do its part to develop clean energy. (0038-1 [Norton, Barbara & Tom])

**Response:** *These comments provide general information in support of the applicant's COL and will not be evaluated further.*

## 2.27 General Comments in Support of the Licensing Process

**Comment:** I would like to take this opportunity to welcome you to Glen Rose, Texas and express my appreciation for your efforts to ensure our nation has access to a safe, clean energy supply. The expansion of Comanche Peak Nuclear Power Plant can help play an important role in that effort while creating many new highly-skilled jobs for Somervell County citizens.

As a senior member of the House Appropriations Subcommittee on Energy and Water Development, I have serious concerns about this country's dependence on foreign sources of energy, and I believe nuclear power can be a safe, viable option to help address our energy situation.

Public participation is a key part of ensuring safety in the licensing process, and it is important that the Glen Rose community have the opportunity to participate in that process.

Thank you for your time and attention to this matter and please let me know if I can be of further assistance. (0019-1 [Edwards, Chet])

**Response:** *These comments provide general information in support of the NRC COL process and will not be evaluated further. The NRC will carefully review the application against its regulations that are intended to protect public health and safety and the environment.*

## 2.28 General Comments of Support of Nuclear Power

**Comment:** I fully support Nuclear power. (0015-1 [Spears, Linda])

**Response:** *These comments provide general information in support of nuclear power. They do not provide any specific information relating to the environmental effects of the proposed action and will not be evaluated in the EIS.*

## 2.29 General Comments in Support of the Existing Plant

**Comment:** Comanche Peak has been a good neighbor to the surrounding area. They run their operation in a very environmentally conscious manner. (0004-1 [Luton, John Henry])

**Comment:** TXU formerly, and then Luminant now, has proven to be a very good corporate citizen to the City of Granbury, as well as a very good employer and safe employer for many of our citizens. They've also helped our economy to perform better than many places across the country (0016-1 [Johnson, Lisa])

**Comment:** I personally appreciate the impact that it's had in the improvement of our local facilities, our jobs, our infrastructure, and our tax base. (0016-30 [Phillips, Marilyn])

**Comment:** They've --one of the main things to address today is they've always been very good stewards of the water and the air and the land. (0016-4 [Maynard, Walter])

**Comment:** Also been an executive director of Glen Rose Medical Center 35 years, served on the school board some 12 years. Also served in the capacity as board of director of Chamber of Commerce multiple years.

All this time I've been active, as you can see, in the community, and in all of these avenues have had to work with the nuclear plant staff in various areas of needs and concerns. And I've found them to be extremely responsive, extremely conscientious and extremely concerned about the welfare of the people in this community.

I'd also like to state, because this is an environmental hearing, that because this is an environmental meeting, I think what we're really talking about is a resource adequacy, something I know a little about being running a hospital for 35 years.

I've watched Comanche Peak over the past years. I've seen them pay attention to our natural resources as part of the larger community here. They know we have finite resources. That's obvious. And they respect that in their operations.

With these potential new units, Texas has the opportunity to expand clean-air energy, something we all want, and they're trying to do that. I think it's a perfect time to do so. I think the sooner the better. (0016-58 [Marks, Gary])

**Comment:** We are very happy campers we're next-door neighbors to them. I've heard it said many times today how the Comanche Peak, the nuclear power plant or Luminant or TXU, was a good neighbor. They genuinely have been a good neighbor to us, and I hope that we are to them. (0016-71 [Hale, Rod])

**Comment:** without education we would have no nuclear reactors, we would have no communities to support, we would have nothing that we could hope to pass on to the future generations. So for that reason, I know that Luminant is a great partner. I have witnessed the fact that they educate in safety and also, in their field of study, their employees. I also know that the Hood County schools and the Somervell County schools have greatly benefitted, as well as other Texas schools, because of Luminant Comanche Peak. (0016-73 [English, Maurice])

**Comment:** I have been working with Luminant for the last six years in through the emergency management, and I will say that the --this is a better area and the emergency preparedness is better in our area than it would have been without working with Luminant and TXU. (0016-8 [Rash, Andy])

**Comment:** We know that the plant has provided a lot of good jobs. It has helped the economy. We also feel like they have been a very good steward of their natural resources. (0017-3 [Miller, Pam])

**Comment:** They [TXU] have always been good stewards of the land and the water and the air, and they have worked with different groups here to facilitate that. (0017-4 [Maynard, Walter])

**Comment:** I can truthfully say without any hesitation that, and I have to go back to TXU, Luminant Power, Comanche Peak has certainly been a friend as well as an advocate for Glen Rose-Somervell County. (0017-8 [Phillips, Marilyn])

**Response:** *These comments express support of the existing units at the site. They do not provide any specific information relating to the environmental effects of the proposed action and will not be evaluated in the EIS.*

## 2.30 General Comments in Opposition of the Licensing Action

**Comment:** I am here to let you all know that I am very opposed to the continued expansion of this plant. (0017-33 [Cohn, Ann])

**Comment:** I am opposed to this project. (0017-46 [Bisbee, Kay])

**Comment:** I really am against seeing two more nuclear reactors with all of the problems that could come up for it. (0017-52 [Harper, Debbie])

**Comment:** We oppose the construction of more nuclear units at Comanche Peak (0017-74 [Stuard, Gary])

**Comment:** I am opposed to the risks this expansion will force on the citizens of Glen Rose. (0026-3 [Mayo, Ann B.])

**Comment:** I adamantly object to the proposed addition of reactors 3 and 4 at Comanche Peak Power Station (0031-1 [Gentling, Suzanne])

**Response:** *These comments express opposition to Luminant's combined license application for two new units at the Comanche Peak Site and will not be evaluated further. The NRC will carefully review the application against its regulations that are intended to protect public health and safety and the environment.*

## 2.31 General Comments in Opposition of the Licensing Process

**Comment:** I do want to say that the short notice has been a problem. Christmas Eve I was at a hospital in El Paso, trying to bring my mother home, and I find that that's a rather unusual time to learn that there is a hearing coming up, a public meeting coming up January 6. There have been 12 days between that time. (0016-10 [Hadden, Karen])

**Comment:** I am perturbed once again about the process. It is pretty ridiculously when this notice came out and the fact that the general public was not aware until Christmas Eve about this hearing, and then the second workday for many people after the first of the year, we're having this hearing. (0016-45 [Burnam, Lon])

**Comment:** it would have been helpful to have more time from the notice to the actual meeting to --both to educate ourselves more by looking at the application, but also, you know, getting the word out to more folks. So that's simply it's not a --it's not to blame anyone. It's to say it might be in the interests of this community and others to have subsequent scoping meetings to get the word out. (0016-48 [Reed, Cyrus])

**Comment:** I would hereby request and ask for a written response to the following items. First of all, a request for an extension of at least one month in the time to comment past the original deadline that has been set of February 17. And why would the posting of this meeting has been inadequate, with only twelve days notice, including Christmas Day and New Years Day. So through the holidays is a bad time to even announce it. It appears that the NRC has attempted to limit public input, awareness and comment. Just this week at another site, a three week notice, it was actually 22 days was given citizens in the community at another proposed nuclear plant site. (0017-20 [Hadden, Karen])

**Comment:** I would further like to request another scoping meeting like this one, to be held in Glen Rose, after the local community and regional citizens have had more time to even hear about the existence of such a meeting; and to learn about the issues, and to come here prepared to speak. It is a different thing to submit written comments, and they deserve a fair opportunity with proper notice to come here and be in a public meeting. This one is a great start, but not adequate. (0017-21 [Hadden, Karen])

**Comment:** I would like to request that no hearing or intervention proceedings be allowed to occur until a second scoping meeting is held. (0017-22 [Hadden, Karen])

**Comment:** Procedural deficiencies related to the EIS scoping process

The petitioners have been given an inadequate opportunity to fully review and specify their comments related to the EIS scoping process. The Federal Register notice related to the EIS scoping process was published on December 18, 2008, Fed. Reg. Vol. 73, No. 244 pg. 77076-77078. The so-called public hearing for the EIS scoping process was conducted on January 6, 2009. Written comments concerning the EIS scoping process are to be filed by February 17, 2009. This attenuated time schedule is inadequate to fully consider the scope of issues that should be covered in the subject environmental impact statement. The environmental report related to the Comanche Peak nuclear power plant Units 3 and 4 is a voluminous and complex document that covers multiple disciplines. Because of the breadth and depth of issues covered in the environmental report, additional time should be permitted to the public to fully present

their comments concerning the scope of issues that should be covered in an EIS.

Inadequate notice was provided to the public, as the scheduling occurred during the holiday season when most people are not at work or checking email. Some people who had already requested to be on the official contact list for the Comanche Peak project never written or even email notice of the so-called January 6th public hearings for the EIS scoping process. (0022-2 [Hadden, Karen])

**Comment:** we have previously stated our desire to expand the time provided to the public to submit comments as part of the EIS scoping process. The Federal Register announcing the only public scoping process occurred on December 18th for a meeting on January 6th and our organization only learned of the meeting on December 24th, giving us limited time to invite our membership to a meeting that was held in the first few days following the New Year. We would ask the NRC to extend the time for submitting comments by an additional 30 days and also consider holding a public scoping meeting in the Fort Worth area, perhaps in mid-March. (0032-2 [Reed, Cyrus])

**Response:** *The U.S. Nuclear Regulatory Commission staff believe that the 60 days provided were sufficient for the scoping comment period (December 18, 2008 through February 17, 2009), and the NRC staff considered additional comments after the scoping period ended, to the extent practicable. Also, the staff believes that the two meeting held on January 6, 2009, were satisfactory for allowing members of the public to provide oral comments. Additionally, comments on the CPNPP, Units 3 and 4 environmental report could have been submitted in writing to Chief, Rules and Directives Branch, Division of Administrative Services, Mail Stop TWB-05-B01M, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001 or by e-mail to Comanche.COLEIS@nrc.gov through February 17, 2009. There will also be a future opportunity to comment orally and in writing on the draft environmental impact statement.*

**Comment:** I would like to request a written explanation of how and why the Glen Rose Chamber of Commerce had information about tonight's hearing on December 18th and was able to post it on their website, but individuals on the official notification list were not notified until Christmas Eve. (0017-23 [Hadden, Karen])

**Response:** *Public involvement and comments are invited and encouraged throughout the environmental review for a particular site, and the NRC formally solicits both written and oral comments from members of the public at two different times during the review. The scoping process is conducted to define the proposed action, to determine the scope of the environmental impact statement, and to identify significant issues to be analyzed in depth. Public scoping meetings are held near the proposed site that is the subject of the combined license (COL) application. Members of the public are invited to provide comments orally or in writing during these meetings. The NRC staff publishes a Federal Register Notice that provides the times and locations. On December 18, 2008, the NRC published in the Federal Register a Notice of Intent to prepare an EIS and to conduct scoping for the Comanche Peak Nuclear Power Plant (CPNPP), Units 3 and 4 COL application (see 73 FR 77076-78). This notice was available in electronic format on that same day through the Federal Register's web site. The dates of public scoping meetings are contingent upon when the application was submitted to NRC and the environmental review schedule. The notice is also placed in newspapers in communities near the plant and is posted on the NRC's website for the specific plant undergoing review. It provides addresses for written comments to be submitted in person, by mail, or electronically.*

**Comment:** we are very concerned about this process, because we have a process where we're being asked to look at an environmental assessment before you guys have even certified the final design that's being proposed by the applicant. And that's very worrisome that it's --it will be very difficult both in this process and the technical review to be able to comment on something that has yet to be certified. (0016-56 [Reed, Cyrus])

**Comment:** I would like to request a written explanation of why the NRC believes that it is appropriate or safe to begin licensing for both construction and operating of two reactors when the reactor design has not yet been approved, and can still change. And for a design that has never been built anywhere in the world. Granted, citizens can send in comments later. But that is not the same thing as being able to review NRC comments on the front end about the reactor design. We are being forced to move forward without that knowledge. (0017-24 [Hadden, Karen])

**Comment:** I would like a written response with explanation of how building a reactor with an untested design is not putting Texans at risk as guinea pigs in a radioactive undertaking. I would like to request that the process be remedied immediately, that there be an indefinite suspension of the hearing and intervention process, until the reactor design is certified. (0017-25 [Hadden, Karen])

**Comment:** One of them is, that, I am concerned about the fact that those Mitsubishi reactors are not tested. I don't understand and it bothers me, frankly, the fact that this process is going along with the permit before these are actually tested to be sure that they are not going to cause problems here for this area. I consider it as being a guinea pig, not just for Somervell County, but for the entire Metroplex area. And I think that that is not responsible.

If I was to create something, let's say, in my garage, or someplace else, and I decided that I was going to tell it to people, I had better darn sure think that I am going to make it work before I possibly do something to blow up my entire neighborhood. Now I am not saying that the Mitsubishi reactors may not work. What, I am saying is that I don't think it is responsible. (0017-49 [Harper, Debbie])

**Comment:** The US-APWR reactors proposed by Luminant are a design that is not approved by the Nuclear Regulatory Commission and has never been built anywhere in the world. Why should Texans be the guinea pigs for a radioactive experiment? The reactor design isn't even scheduled to be approved until shortly before the license is to be granted. Citizens won't have the benefit of the NRC analysis of the design, while the licensing process speeds forward. (0019-29 [Hadden, Karen])

**Comment:** The environmental impact statement process should be held in abeyance until the completion of the reactor design certification process. The Nuclear Regulatory Commission should hold in abeyance all proceedings related to the environmental impact statement (EIS). The EIS must be adequate to provide the decision makers with sufficient information of the environmental consequences of their action so that they may make an informed and reasoned decision. Vermont Yankee Nuclear Power Corp. V. NRDC, 435 U.S. 519, 98 S.Ct. 1197, 50 5 L. Ed 2nd 460 (1978); Sierra Club V. Morton, 510 F. 2nd 813 (5th Cir. 1975). The EIS cannot be considered complete unless and until the completion of the design certification rulemaking proceeding for the proposed U.S. Advanced Pressurized Water Reactor (USAPWR). The scope of the EIS must include a hard look at the environmental consequences of the proposed reactor and, at this point, such considerations are not possible because the design has not been certified.

The advanced pressurized water reactor designed proposed for the expanded Comanche Peak plant has never been utilized in any other nuclear plant in the world. Accordingly, because the proposed reactor design has neither operational history nor a completed certification process proceeding with the EIS is premature.

The EIS required under the National Environmental Policy Act (NEPA), 42 U.S.C. 4331 et seq., must establish that the NRC has in good faith taken a sufficient look at the environmental consequences of a proposed action and at the alternatives of an action. *Save our Sycamore V. Metropolitan Atlanta Transit Authority*, 576 F. 2nd 573, 576 (5th Cir. 1978). The detail required in an EIS related to the Comanche Peak proposal to expand the plant to four reactors must include a means by which decision makers and the public can determine whether the USAPWR is more or less environmentally harmful than practicable alternatives for generating electricity.

The Commission should reject any attempt to circumvent the requirement that a reactor design be certified prior to preparation of the environmental impact statement and the record of decision. Pursuant to a policy statement published at 72 Fed. Reg. 20, 963 (April 17, 2008) the Commission has taken the position that it may defer certification of a reactor designed and allow the licensing proceeding (including presumably, the EIS process) to advance while referring the outstanding certification issues to a separate rulemaking that has been neither scheduled nor commenced. Petitioners contend that such a decision to advance the environmental impact statement process without a reactor certification having been completed violates NEPA. Without a completed reactor certification process decision makers will not be able to make a reasoned judgment about the environmental consequences of the USAPWR nor a reasonable comparative analysis of practicable alternatives.

The function of an EIS is to make certain that decision makers have adequate information to judge environment consequences of an expanded Comanche Peak nuclear plant. The absence of a completed reactor certification process contradicts the policy objectives of an NEPA and allows an essentially artificial framework to govern the content of the EIS related to Comanche Peak. *Druid Hills Civic Association, Inc., v. Federal Highway Administration*, 772 F. 2nd 700, 709 11th Cir. (1985). The artificial process that is at work in this matter relates to the absence of the completed reactor certification process. Without the completed reactor certification process decision makers will essentially be left in the place of a consumer who contemplates the purchase of an automobile without considering whether the engine is of sound design. Completion of the reactor design certification process is the "key procedural device" in the NRC's Part 52 regulatory mechanism for bringing about enhanced safety and early resolution of licensing issues." *Final Rule, Early Site Permits; Standard Design Certification; and Combined Licenses for Nuclear Power Reactors*, 54 Fed. Reg. 15,372, 15,374 (April 18, 1989). It follows therefore, that an EIS must have the benefit of the complete analysis of the proposed reactor design in order for decision makers to determine potential environmental consequences and make meaningful comparisons with practicable alternatives. (0022-1 [Hadden, Karen])

**Comment:** Furthermore, the US\_APWR reactors proposed by Luminant are of a design not approved by the Nuclear Regulatory Commission. The Commission and the Public are not being given sufficient time to evaluate this design in detail before the approval for such design and licensing is granted. This smacks of the Commission being run by Luminant . . . and I don't believe that is good democracy nor what the Commission is supposed to do. (0026-2 [Mayo, Ann B.])

**Comment:** We are in general concerned by the decision to proceed with public scoping meetings and an environmental impact statement before the design certification and design

certification rulemaking on the proposed U.S. Advanced Pressurized Water Reactor (USAPWR) has been completed. In essence, the public and the NRC is being asked to prepare an EIS when the basic design of the facility is still largely unknown. We believe that the decision to proceed with an EIS while sending the design certification process through a separate and delayed rulemaking violates the spirit of NEPA because you will be unable to consider all of the alternatives both to the chosen design but also to other forms of generating electricity. (0032-1 [Reed, Cyrus])

**Response:** *An applicant for a combined license (COL) may, at its own risk, reference in its application a design for which a design certification has been docketed but not granted. A COL application referencing a design certification that has not been granted must be updated to account for site-specific design information and any design changes or departures. This comment does not provide specific information relating to the environmental effects of the proposed action and will not be evaluated in the EIS.*

**Comment:** First of all, the process is being fast tracked in a manner that risks the health and safety of the local community and the surrounding region. The Environmental Impact Statement should consider the fact that this improper process could lead to the inadequate review of environmental, health and safety impacts that could have environmental results. (0017-19 [Hadden, Karen])

**Response:** *The NRC will carefully review the application against its regulations that are intended to protect public health and safety and the environment. The comment provides general information in opposition to the NRC's COL process and will not be evaluated further in the EIS.*

## 2.32 General Comments in Opposition of Nuclear Power

**Comment:** I don't think we ever need build more Nuclear Power plants until we come up with a way to render the fuel rods harmless. (0005-1 [Wolz, Conrad])

**Comment:** as a concerned citizen, I would like to state very strongly my staunch opposition to such a reactor. (0010-1 [Shroyer, Danielle])

**Comment:** We do not favor nuclear power here or at other sites (0016-11 [Hadden, Karen])

**Comment:** Sierra Club both nationally and statewide opposed the expansion of nuclear power. (0016-49 [Reed, Cyrus])

**Comment:** Other nations, and Europe especially are in the process of phasing out nuclear power. The United States of America needs to do the same. (0017-54 [Duncan, Jim])

**Comment:** I cannot support either coal plants or nuclear plants. (0017-60 [Rittenhouse, Ryan])

**Comment:** Nuclear power is a bad choice for generating electricity and would divert precious resources from readily available technologies to reduce global warming gases that are both cheaper and can be deployed faster.

Nuclear power:

- Is not a useful solution to climate change.
- Is vulnerable to severe climate conditions which prevent reliable operation.
- Is not the alternative to coal. Efficiency, energy storage and renewable energy can do the job.
- Is not clean.
- Is not safe.
- Poses serious terrorism risks.
- Is the most expensive way to generate electricity.
- Radioactive waste remains an unsolved problem.
- Fosters nuclear weapons proliferation.
- Is not the solution to energy independence.
- Has negative health impacts.
- Is not supported by the public at large.

(0019-6 [Hadden, Karen])

**Comment:** I am writing out of concern for the possible expansion of the two nuclear plants in Glen Rose, Texas. I am completely against such expansion because nuclear energy continues to be excessively expensive and polluting in terms of all the factors required for building the plants, their operation and waste management.

- They are unsafe and have negative health impacts.
- They are not a good alternative to coal for generating electricity.
- Nuclear power is now the most expensive way to create electricity.
- Solar and wind power offer much the best current alternatives to coal and nuclear power
- and along with healthy life style changes, energy efficiency including storage and renewable energy sources will be a much better way to address our energy needs.

Nuclear plants also pose a considerable risk in terms of terrorist attacks and nuclear weapons proliferation. (0026-1 [Mayo, Ann B.]

**Response:** *These comments provide general information in opposition to nuclear power. They do not provide any specific information relating to the environmental effects of the proposed action and will not be evaluated in the EIS.*

## 2.33 Comments Concerning Issues Outside Scope - Emergency Preparedness

**Comment:** I just saw last --three months ago, I was able to go through a terrorist attack. I feel completed certain to be able to go back to my constituents and anyone in Hood County and Somervell County and tell them that what I witnessed showed me that we're more than ready for anything that might happen at that power plant. (0016-27 [Berry, Steve])

**Comment:** One I want to have a closer investigation of, is the whole issue of potassium iodide tablets. We know that there is a risk of an incident. What we didn't hear this afternoon from those people from the medical facilities is what those medical facilities are prepared to do. I want to know those answers. I want those questions addressed, not only for the population here, but the population that I represent in Fort Worth. (0017-13 [Burnam, Lon])

**Comment:** You have heard our county judges speak, to the effect, to the fact of our emergency preparedness, to our EMT, to all of the things that locally, we are going to be required to have on site to handle the strain of two new power plants that are here. (0017-31 [Downing, Kevin])

**Comment:** I would go out on a limb and say we would put our two communities' emergency management programs on a line with anyone in the state, I think. They might not be quite as fancy, and quite as expensive, but we have got I think, some of the best emergency management plans that there are. (0017-6 [Maynard, Walter])

**Comment:** If there is an accident, will the community be able to evacuate? What hospitals would be used to care for those who might be exposed to radiation and how many people could they care for? How does the hospital facility availability compare to the number of potential injuries and radiation exposure victims? (0019-18 [Hadden, Karen])

**Comment:** [If there is an accident,] Are there adequate firefighting and police forces? Do they have any training or any equipment to shield themselves from radioactivity in case of a nuclear accident? What more is needed to protect themselves, as well as others? (0019-19 [Hadden, Karen])

**Comment:** Potassium iodide tablets would be needed if there were a nuclear accident. The tablets would reduce human uptake of radioactive iodine, a carcinogen which goes to the thyroid gland. According to NRC rules, residents near nuclear plants must receive potassium iodide tablets in case of emergency. Has anyone in the 50-mile radius around the existing two Comanche Peak reactors ever received potassium iodide tablets? Have they been told how to get them? (0019-20 [Hadden, Karen])

**Comment:** The availability of Potassium Iodide tablets and the method distribution in which it would be distributed should be analyzed as well, and take into consideration that distribution beforehand would be needed, since there is no time to deal with KI distribution after an emergency has occurred. (0022-46 [Hadden, Karen])

**Comment:** In case of emergency, our subdivision Pecan Plantation, will need another exit over the Brazos River. There are close to 5,000 people here and only two exits. (0038-2 [Norton, Barbara & Tom])

**Response:** *These comments relate to the adequacy of emergency plans, which is a safety issue that is outside the scope of the staff's environmental review. As part of its site safety review, the NRC staff will determine, after consultation with Department of Homeland Security and Federal Emergency Management Agency, whether there are any significant impediments to the development of emergency plans and whether the major features of emergency plans submitted by the applicant are acceptable.*

**Comment:** Living on the lake, at the edge of the present 10-mile mandatory evacuation radius, we are concerned that this proposal for doubling the size of the existing facility will extend the evacuation radius. (0028-4 [Inge, Charles and Dominique])

**Response:** *As stated in 10 CFR 50.54, Conditions of Licenses, paragraph (q), the emergency planning zone (EPZ) consists of an area about 10 miles (16 km) in radius. The exact size and configuration of the EPZ for a particular nuclear power reactor is determined in relation to local emergency response needs and capabilities as they are affected by such conditions as*

*demography, topography, land characteristics, access routes, and jurisdictional boundaries. EPZs for power reactors are also discussed in NUREG 0396; EPA 520/1-78-016, "Planning Basis for the Development of State and Local Government Radiological Emergency Response Plans in Support of Light Water Nuclear Power Plants," December 1978. The addition of Comanche Peak Units 3 and 4 should not result in an extension of the evacuation radius because the addition of the proposed reactors should not impact the above attributes.*

## **2.34 Comments Concerning Issues Outside Scope - Miscellaneous**

**Comment:** I am the director of the Texas office of Public Citizen and wish to register in advance to present comments at the 7pm environmental scoping for Comanche peak's new reactor application on January 6th. (0002-1 [Smith, Tom])

**Response:** *Thank you for requesting an opportunity to speak. All who wished to speak had the opportunity at the January 6, 2009 scoping meetings.*

**Comment:** Reactor outages can frequently occur during the early years of operation of nuclear reactors, and existing reactors have had outages for a year and longer. The EIS should include analysis of the increased greenhouse gas emissions that would result from having to replace the anticipated nuclear power with natural gas, LNG or coal generated power during reactor outages, and include the expenses that could occur from buying power on the spot market. Japan was unable to meet their greenhouse gas reduction goals when several nuclear reactors were damaged in an earthquake in 2007, and the Japanese utility TEPCO ran at a financial deficit for the first time in thirty years. (0022-52 [Hadden, Karen])

**Response:** *The commenter is correct that power plant outages of the type she posits would most likely result in use of electricity from nonnuclear plants that emit more greenhouse gases than nuclear power. The increase in greenhouse gas emissions due to such hypothetical outages can be calculated as the product of the number of megawatt-hours replaced and the difference between the emission rates of nuclear power and the alternative electricity source(s). While such calculations are straightforward, the staff has no basis for assuming an outage of any particular magnitude. Neither does the NRC have a role in determining what energy sources would be used to replace electricity production during an outage. Consequently, such an effort would be purely speculative and is outside the scope of this EIS.*

**Comment:** For the customers of Luminant we wonder about the unknown costs. The initial estimates for the existing plant increased ten-fold before the job was done. Ultimately these high costs pass through into higher rates. (0028-5 [Inge, Charles and Dominique])

**Response:** *In the case of utility owned power plants, unexpectedly high costs pass through to the customer as the commenter describes. Because the proposed units would be investor owned the power would not be sold to customers unless it is available at a competitive price. In this situation, the electricity customer is somewhat insulated from cost increases.*

## 2.35 Comments Concerning Issues Outside Scope - NRC Oversight

**Comment:** Based on the assumption that a federal repository will not be available for spent fuel management, the EIS should consider the environmental and public health consequences of either the State of Texas or the United States government becoming the de facto custodians of spent fuel at the Comanche Peak site after the operating license has lapsed and post-closure activities of the licensee have been completed. If, at the end of the post-closure responsibilities of the licensee, spent fuel remains on-site it will have to be managed and secured for the indefinite future. The only institutional capacity for long-term spent fuel management is a unit or units of government. To the extent that units of government are responsible for managing on-site spent fuel, calculations for employee exposures and public exposures should be included in the EIS. Additionally, other public health environmental consequences reasonably associated with indefinite governmental management of spent fuel on site should also be considered in the EIS.

The EIS should also consider specifically what entity would actually have legal ownership of the spent fuel after the operating license has lapsed and post-closure activities have ceased. Will the ownership of the spent fuel default to some unit of government? If so, what costs can be reasonably anticipated by the de facto custodian/owner of spent fuel? Do the anticipated costs have environmental and public health consequences? The EIS should resolve these questions. (0022-42 [Hadden, Karen])

**Response:** *Impacts related to the uranium fuel cycle and its transportation steps, including disposal of low-level radioactive waste and spent fuel, will be addressed in Chapter 6 of the EIS. The generic impacts of the fuel cycle are codified in 10 CFR 51.51(b), Table S-3, "Table of Uranium Fuel Cycle Environmental Data." Per the guidance in 10 CFR 51.51 and Section 5.7 of NUREG-1555, the staff will rely on Table S-3 as a basis for uranium fuel cycle impacts. The safety and environmental effects of long-term storage of spent fuel on site have been evaluated by the NRC and set forth in the Waste Confidence Rule at 10 CFR 51.23 (<http://www.nrc.gov/reading-rm/doc-collections/cfr/part051/part051-0023.html>).*

**Comment:** In September 2002, Comanche Peak experienced a nuclear leak into the public water supply that took two days to discover. Subsequent investigation by the NRC determined the leak should have been detected as early as April of that same year. (0010-4 [Shroyer, Danielle])

**Comment:** But in 1984, there were allegations that a supervisor had intimidated quality control inspectors. That was the Wall Street Journal. The Wall Street Journal wrote later that year, that there were unresolved allegations of poor workmanship at the uncompleted plant. The NRC said, 45 inspectors are investigating 404 complaints that center on safety conditions at the plant. They said the high number of complaints warranted investigation, which would take two and a half months and cost a million dollars. They said 181 of the complaints raised questions on the plants record keeping process, which includes quality control and safety records. These things have environmental impacts. (0017-27 [Hadden, Karen])

**Response:** *The comments do not provide specific information relating to the environmental effects of the proposed action and will not be evaluated in the EIS. They are listed to compile a complete record of comments received.*

## 2.36 Comments Concerning Issues Outside Scope - Safety

**Comment:** With many serious concerns in mind, the Sustainable Energy and Economic Development (SEED) Coalition compiled newspaper articles detailing some of the history of the Comanche Peak reactors 1 and 2. What we found was a reactor history plagued with intimidation and harassment of safety inspectors, fines for violating requirements in the plant's quality control program, charges by inspectors of manipulation of information and cover ups, errors, delays, construction difficulties, cost overruns, violations of Nuclear Regulatory Commission regulations and resulting fines. (0030-3 [Hadden, Karen])

**Response:** *The issues raised in the comments are outside the scope of the environmental review and will not be addressed in the EIS. The safety assessment for the proposed licensing action was provided as part of the application. The NRC is in the process of developing a safety evaluation report that analyzes all aspects of reactor and operational safety. The following are examples of how NRC addresses operational safety issues. NRC maintains resident inspectors at each reactor site. These inspectors monitor the day-to-day operations of the plant and perform inspections to ensure compliance with NRC requirements. In addition, the NRC has an operational experience program that ensures that the safety issues that are found at one plant are properly addressed at the others, as appropriate. Finally, the design of any new reactors or storage facility will have already benefitted from lessons learned at existing reactors and incorporate new safety features that would be impracticable to backfit onto existing plants. The NRC will only issue a license or permit if it can conclude that there is reasonable assurance: (1) that the activities authorized by the license or permit can be conducted without endangering the health and safety of the public, and (2) that such activities will be conducted in compliance with the rules and regulations of the Commission.*

## 2.37 Comments Concerning Issues Outside Scope - Security and Terrorism

**Comment:** nuclear energy poses disturbing domestic terror risks by centralizing unsafe energy in one, easy-to-target location. In a post-911 world, nuclear energy must be seen as the threat it is. (0010-3 [Shroyer, Danielle])

**Comment:** I also want to have a much more serious discussion than I've seen about the implications of terrorism. (0016-36 [Burnam, Lon])

**Comment:** And on security, there's two reactors here now, and they won't let somebody go out there and fish and flip-flop in an inner tube. And I suppose that's for security issues. And if that's a terrorist target now with two reactors, and there's not another place in the nation that has four reactors in one site that near to a metropolitan area like Dallas-Fort Worth. (0016-67 [Kinzie, W.T.])

**Comment:** And the EIS should include how the issues will be dealt with to have construction next to an existing operating nuclear site. That presents security risks of a new nature, a serious nature. Because it doesn't take much in this world of terrorism. I have been told by experts that lobbing mortar over the wall of a construction site could hit the spent fuel pool. You could have environmental impacts from that. This should be included in the Environmental Impact

Statement. Somebody could take heavy equipment and ram through and get to the existing site. So these safety and health considerations should be included. (0017-28 [Hadden, Karen])

**Comment:**

- The EIS should analyze and publicize the impacts of an airplane crashing into a nuclear reactor or the spent fuel pool and the impact that such a disaster would have for both humans and the environment.
- Terrorists have considered crashing airplanes into nuclear reactors. Terrorist risks must be more thoroughly analyzed, as it would be easy enough to lob mortar from a construction site toward the existing spent fuel pool, creating a major nuclear accident. Heavy construction equipment could breach barricades between a construction site and existing reactors. Workers would come from any number of foreign countries, creating language barriers and security challenges.
- The EIS should recommend that no new nuclear reactors be licensed until they can at least meet the same post-911 security hardening requirements as existing reactors.
- The EIS should also recommend that no design be approved that cannot safely withstand an airplane attack or other form of terrorist assault.

(0019-33 [Hadden, Karen])

**Comment:** The EIS should also consider the vulnerability of the uranium fuel cycle to disruption by terrorists or others with the radiological, environmental and public health consequences related thereto. This is particularly important in the context of reliance on foreign sources for uranium. Long supply lines make access to foreign sources of uranium especially vulnerable to attack by terrorists or others. Therefore, the EIS should consider the environmental and public health impacts of disruptions of uranium from foreign suppliers, both in terms of public health and environmental impacts as well as determining impacts from interrupted fuel supplies and the interruption of electric generating capacity as a result. (0022-33 [Hadden, Karen])

**Comment:** The Comanche Peak environmental report fails to fully develop the possibilities of a terrorist attack on Comanche Peak Units 3 and 4 and the resulting environmental and public health consequences. Such events are not highly speculative and should be considered in a proper EIS.

The reality of a terrorist attack on a nuclear power plant cannot be discounted. The policy decision of the NRC that terrorist attacks on a nuclear power plant are highly speculative and therefore not amenable to analysis under NEPA has been rejected by the 9th Circuit Court of Appeals in *San Luis Obispo Mothers for Peace v. NRC*, 449 F. 3rd 1016, 1030-31 (9th Cir. 2006), cert. den. 127 S.Ct. 1124 (2007). The Ninth Circuit opinion criticized the NRC's policy position and said that it was inconsistent with the government's own efforts to combat terrorist attacks on nuclear facilities. *Id.* Accordingly, the EIS for Comanche Peak Units 3 and 4 should include a detailed analysis of the potential threats represented by terrorist attacks.

The EIS should consider a variety of attack scenarios, including aircraft, breach of perimeter security and forced entry into the control room and other critical areas of the plants and the full range consequential impacts of radiological releases caused thereby. While the NRC has taken the apparent position that it will disregard the Ninth Circuit's decision that indicated compliance

with NEPA requires an analysis of terrorist attack possibilities, the EIS for Comanche Peak Units 3 and 4 should not be bound by such an artificial limitation. (0022-53 [Hadden, Karen])

**Comment:** Might increasing the size of the existing facility to such an extent potentially increase the likelihood of terrorist attack? (0028-6 [Inge, Charles and Dominique])

**Comment:** The Sustainable Energy and Economic Development (SEED) Coalition is concerned that if more nuclear reactors are built terrorism and safety risks would increase. (0030-4 [Hadden, Karen])

**Comment:** The expected dry cask storage units must be analyzed for their safety and vulnerability to terrorist attacks or accidents. (0032-13 [Reed, Cyrus])

**Response:** *Comments related to security and terrorism are safety issues that are not within the scope of the staff's environmental review. The NRC is devoting substantial time and attention to terrorism-related matters, including coordination with the Department of Homeland Security. As part of its mission to protect public health and safety and the common defense and security pursuant to the Atomic Energy Act, the NRC staff is conducting vulnerability assessments for the domestic utilization of radioactive material. In the time since September 2001, the NRC has identified the need for license holders to implement compensatory measures and has issued several orders to license holders imposing enhanced security requirements. Finally, the NRC has taken actions to ensure that applicants and license holders maintain vigilance and a high degree of security awareness. Consequently, the NRC will continue to consider measures to prevent and mitigate the consequences of acts of terrorism in fulfilling its safety mission. Additional information about the NRC staff's actions regarding physical security since September 11, 2001, can be found on the NRC's public web site ([www.nrc.gov](http://www.nrc.gov)).*

### 3. Summary

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On September 19, 2008, the NRC received a COL application from Luminant Generation Company LLC for two new nuclear power plants to be located adjacent to the existing Comanche Peak Nuclear Power Plant Units 1 and 2. The application was accepted for docketing on December 2, 2008. Through the Notice of Intent to Prepare an Environmental Impact Statement and Conduct Scoping Process (73 FR 77076) issued December 18, 2008, the NRC invited the applicant; Federal, Tribal, State, and local government agencies; local organizations; and individuals to participate in the scoping process by providing oral comments at the public meetings and/or submitting written suggestions and comments no later than February 17, 2009. Public scoping meetings were held January 6, 2009, at the Glen Rose Expo Center, 202 Bo Gibbs Blvd., Glen Rose, Texas 76043. Comments were organized according to topic. Those comments along with the responses prepared by NRC staff are presented in this Scoping Summary Report.

The draft EIS for Luminant's COL application will address the relevant environmental issues raised during the scoping process. The draft EIS will be made available for public comment. Interested Federal, Tribal, State, and local government agencies; local organizations; and members of the public will be given the opportunity to provide comments on the draft EIS that will be considered during the development of the final EIS.

## 4. Abbreviated Terms

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ACEEE	American Council for an Energy-Efficient Economy
ACHP	Advisory Council on Historic Preservation
ADAMS	NRC Agency Document Access and Management System
BDTF	blowdown treatment facility
BMP	Best Management Practice
BRA	Brazos River Authority
CDF	core damage frequency
CEQ	Council on Environmental Quality
CFR	U.S. Code of Federal Regulations
cfs	cubic feet per second
COC	contaminant of concern
COE	U.S. Army Corps of Engineers
COL	combined license
COLA	Combined Operating License Application
CPNPP	Comanche Peak Nuclear Power Plant
DEIS	draft environmental impact statement
EA	environmental assessment
EIS	environmental impact statement
EJ	Environmental Justice
EMS	Environmental Management System
EPA	U.S. Environmental Protection Agency
EPZ	emergency planning zone
ER	environmental report
ERCOT	Electric Reliability Council of Texas
FBR	Friends of the Brazos River
FERC	Federal Energy Regulatory Commission
FONSI	finding of no significant impact
FSAR	final safety analysis report
FWS	U.S. Fish and Wildlife Service
gpd	gallons per day
gpm	gallons per minute
ID	identification (number)
ISFSI	Independent Spent Fuel Storage Installation
LNG	liquefied natural gas
MACT	maximum achievable control technology
MOX	mixed-oxide fuel
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NEPA	National Environmental Policy Act
NET	Nuclear Energy for Texans
NHPA	National Historic Preservation Act
NPP	nuclear power plant
NRC	Nuclear Regulatory Commission
PK	Possum Kingdom
PRA	probabilistic risk assessment
PUC	Public Utility Commission of Texas
PWR	pressurized water reactor

RCRA	Resource Conservation and Recovery Act
ROD	record of decision
ROW	right of way
SCR	Squaw Creek Reservoir
SEED	Sustainable Energy and Economic Development Coalition
SER	safety evaluation report
SHPO	state historic preservation officer
SUNSI	Sensitive Unclassified Non-Safeguards Information
TCEQ	Texas Commission on Environmental Quality
TDS	total dissolved solids
TEPCO	Tokyo Electric Power Company
THC	Texas Historical Commission
THPO	Texas historic preservation officer
TMDL	total maximum daily load
TPWD	Texas Parks and Wildlife Department
TWDB	Texas Water Development Board
TXNDD	Texas Natural Diversity Database
TXU	Texas Utilities Company, a predecessor of Energy Future Holdings Corporation
USACE	U.S. Army Corps of Engineers
US-APWR	U.S. Advanced Pressurized Water Reactor
WET	whole effluent toxicity

## 5. References Used In Responses to Comments

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- ASME/ANS. 2008. Standard for Level 1/Large Early Release Frequency Probabilistic Risk Assessment for Nuclear Power Plant Applications. ASME/ANS RA-S-2008.
- Atomic Energy Act of 1954. 42 USC 2011, et seq.
- Clean Water Act. 33 USC 1251, et seq. (also called the Federal Water Pollution Control Act).
- Council on Environmental Quality. 2007. Aligning NEPA Processes with Environmental Management Systems—A Guide for NEPA and EMS Practitioners.
- Executive Order 12898. 1996. Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations.
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