PMComanchePekNPEm Resource

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Sent: Friday, March 05, 2010 5:14 PM
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Subject: Response to ER RAI SOC-33 and ALT-03; Supp for RAI TE-04
Attachments: TXNB-10021 letter only.pdf

Luminant has submitted to the NRC the attached responses to ER RAI #3 Questions SOC-33 and ALT-03. The letter also submitted additional information for the previous response to Question TE-04. SOC-33 had four attachments totaling ~165 Mb. Michael Willingham (NRC), the NRC Document Control Desk, and Luminant records management each received a CD containing the four documents (6 files total). If there are any questions regarding these responses and additional information, please contact me or contact Don Woodlan (254-897-6887, Donald.Woodlan@lumiannt.com).

Thanks,

John Conly

Luminant
COLA Project Manager
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Ref. # 10 CFR 52

March 5, 2010

U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555
ATTN: David B. Matthews, Director
Division of New Reactor Licensing

SUBJECT: COMANCHE PEAK NUCLEAR POWER PLANT, UNITS 3 AND 4
DOCKET NUMBERS 52-034 AND 52-035
RESPONSE TO ENVIRONMENTAL REVIEW QUESTIONS ALT-03 AND SOC-33, AND SUPPLEMENTAL INFORMATION FOR QUESTION TE-04

Dear Sir:

Luminant Generation Company LLC (Luminant) submits herein responses to the Request for Additional Information regarding the Environmental review of the Combined License Application for Comanche Peak Nuclear Power Plant, Units 3 and 4. Attachment 1 submits responses to Questions ALT-03 and SOC-33 provided by the NRC on January 15, 2010 (ML093280707). Attachment 2 submits supplemental information for the response to Question TE-04 submitted on September 16, 2009 (ML092640643).

Should you have any questions regarding these responses and supplemental information, please contact Don Woodlan (254-897-6887, Donald.Woodlan@luminant.com) or me.

There are no commitments in this letter.

I state under penalty of perjury that the foregoing is true and correct.

Executed on March 5, 2010.

Sincerely,

Luminant Generation Company LLC

Donald R. Woodlan for

Rafael Flores

Attachment 1: Response to Request for Additional Information Regarding the Environmental Review
Attachment 2: Supplemental Response to Request for Additional Information Regarding the Environmental Review
Enclosure: CD Containing Attachments for SOC-33

cc: Michael Willingham w/attachments and enclosure

Electronic distribution w/o enclosure

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Attachment 1

Response to Request for Additional Information Regarding the Environmental Review

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

Comanche Peak, Units 3 and 4

Luminant Generation Company LLC

Docket Nos. 52-034 and 52-035

RAI REGARDING THE ENVIRONMENTAL REVIEW

DATE OF RAI ISSUE: 1/25/2010

QUESTION NO.: ALT-03 (2.4.2, 3.7, 4.1.2, 4.3.2)

1. Provide what future project and flexibility requirements were considered when comparing the proposed BDTF system and alternative BDTF system designs and scenarios.
2. Provide more details regarding the redundant features of the closed-cycle system and compare the redundant features to those that may be necessary for the proposed BDTF system.
3. Provide details of the impacts associated with the redundant features for the proposed BDTF and the closed cycle system alternative. Include the impacts to ecology, land use, etc. Compare the impact of the proposed BDTF system waste disposal with the impacts associated with the closed-cycle system alternative option 1 and option 7.
4. Provide an estimate of the volume of solid waste that would need to be disposed of in alternative option 5.
5. Provide the size and expected volume of the proposed BDTF system treatment pond for comparison with alternative option 5c treatment pond.
6. Provide a discussion on how the deep well injection option would compare to the proposed BDTF system under the proposed 2.4 cycles of concentration.

ANSWER:

1. Flexibility requirements considered were spare membranes to allow for 1) periodic cleaning on a rotating basis, without reducing treatment capacity; 2) increased throughput should Lake Granbury water quality deteriorate, requiring higher than design treatment capacity; and 3) decreased flow rate (flux) across the membranes to maintain discharge quality and an 80 percent recovery rate.

2. The closed-loop system would need to be available for operation 100 percent of the time. Based on availability requirements, the closed-loop system would have four 100-percent capacity UF/RO treatment trains (two for each unit).

   Although the open-loop system is designed for continuous operation, it need only operate when Lake Granbury TDS is >1000 mg/l and/or the chlorides are >400 mg/l in order to comply with projected discharge parameters of TDS < 2500 mg/l and chlorides <1000 mg/l. This is conservatively estimated as 85 percent of the time. The open-loop system would have three 100-percent capacity UF/RO trains (one per unit and a common spare).

3. For the closed-loop system, the BDTF building size would increase approximately 25 percent to accommodate the additional UF/RO treatment train and the electrical switchgear and motor control centers associated with the extra equipment.

   The impacts of the BDTF alternatives were thoroughly evaluated and provided in Luminant letter TXNB-09087 (ML093620032) on December 18, 2009. In terms of land use, the entire 400 acres was assumed to be completely altered and variations of building or pond configurations within the 400 acres would not change those impacts. If a closed-loop system were used, the impacts on the ecology would be reduced in that there would be no discharge to Lake Granbury. The total waste values for both the open- and closed-loop systems were recalculated using more precise methods in order to better assess the ecological impact.

   The current BDTF (based on Option 1) design basis Lake Granbury water quality for cooling tower makeup water is 3,525 mg/l total dissolved solids (TDS) (1,800 mg/l chlorides) and 67 mg/l total suspended solids (TSS). Based on the cooling towers operating at 2.4 cycles of concentration (COC) and the TSS and TDS removed by the BDTF, the total amount of dry solids conveyed to the evaporation ponds is approximately 516 tons per day per unit. For design purposes, the BDTF is assumed to operate 100 percent of the time. The salt for disposal will contain an estimated 0 percent to 20 percent moisture, which results in a range of 183,340 to 229,175 tons/year per unit.

   The closed-loop system (option 7), operating continuously, using the same design basis makeup water as the open-loop system, and assuming the same moisture content of salt would produce between 146,365 and 182,956 tons/year per unit for disposal.

4. Option 5c is based upon the cooling tower blowdown being discharged directly to an evaporation pond without treatment. Since the waste production is calculated based on TDS and TSS, the amount of solids to be disposed of would be higher than with the open-loop or closed-loop systems because there is no by-pass of the BDTF returning to Lake Granbury or the cooling tower. Using the same design basis makeup water quality, option 5c would produce approximately 178,120 tons/yr of dry solids.

5. Option 5 would generate the same amount of solids as the open-loop system. Only option 5c has a pond, which would be twice the size of the open-loop pond since it has twice the water flow.

6. Upon further review it has been determined that deep well injection would not be a viable treatment option for the CPNPP Unit 3 and 4 cooling tower blowdown, even at 2.4 COC. This is due to the volume of waste being generated and the fact that pre-treatment of the blowdown would most likely be required to make it suitable for deep well injection. Suspended solids would need to be removed because these can clog the well screen. Softening may also be required as any wastewater with high hardness or high TDS has the potential for scale formation on the well screen blocking the discharge.

   Additionally, several test borings, each several thousand feet deep would be required to determine the feasibility of deep well injection at the site. The environmental impacts of deep well injection are being revisited for other applications.

Impact on R-COLA

None.

Impact on S-COLA

None.

Impact on DCD

None.

QUESTION NO.: SOC-33 (2.5.4, 4.4.3, 5.8.3)

Provide the following information on water quantity and quality as it relates to environmental justice:

- The impacts of construction of CPNPP Units 3 and 4 on water quantity and quality in the Brazos River downstream of the CPNPP site. How many miles downstream would the impacts extend?
- The impacts of operating CPNPP Units 3 and 4 on water quantity and quality in the Brazos River downstream of the CPNPP site. How many miles downstream would the impacts extend?
- Identify any minority or low-income populations along the Brazos River within 50 miles downstream of the CPNPP site that could be affected by impacts to water quantity and quality during construction or operations. This should include populations that depend on the Brazos River for subsistence activities, as well as populations with special health concerns.
- To the extent that impacts to water quantity and quality in the Brazos River would extend beyond 50 miles downstream of the CPNPP site, any minority or low income populations that could be affected during construction or operations. This should include populations that depend on the Brazos River for subsistence activities, as well as populations with special health concerns.

ANSWER:

Squaw Creek Reservoir

Water withdrawn from Squaw Creek Reservoir during construction of Units 3 and 4 is anticipated to be used for dust suppression and general clean-up. Estimated daily consumption of water from Squaw Creek Reservoir during construction is 62,000 gpd (approximately 70 ac-ft/yr). This estimate is based on applying the maximum daily use (93,000 gpd) to a 16-hour work day. This withdrawal is negligible compared to the total volume of Squaw Creek Reservoir (151,418 ac-ft) and is not expected to result in reduced dam releases to downstream tributaries or the Brazos River. In addition, it should be noted that all wastewater treatment is performed on-site and up to 100,000 gpd of treated sanitary wastewater will be discharged to Squaw Creek Reservoir through permitted outfalls; therefore, a net gain in Squaw Creek Reservoir may occur.

CPNPP Units 3 and 4 will not use water from Squaw Creek Reservoir during operation; therefore, no impacts to downstream water quantity are anticipated.

Non-radiological discharges to Squaw Creek Reservoir and local streams during Units 3 and 4 construction include stormwater discharges from construction areas, sanitary waste discharges, low-volume wastewater discharges from floor drains and sumps and non-chemical system flush discharges.

Runoff during construction will be managed through implementation of best management practices (BMPs) that may include vegetative buffers, silt fencing, and sedimentation basins that serve to minimize increased sedimentation to Squaw Creek Reservoir and local streams during construction. Any impact as a result of runoff during construction is expected to be localized and would not significantly impact downstream water quality.

Sanitary wastes during construction would be treated through a sewage treatment system and discharged to Squaw Creek Reservoir. Because sanitary wastewater would be treated prior to discharge into Squaw Creek Reservoir as needed to comply with Texas Pollutant Discharge Elimination System (TPDES) wastewater discharge requirements, the impacts of residual chemicals on water quality are expected to be SMALL and would not significantly impact downstream water quality.

Low-volume wastewater discharges and non-chemical system flush discharges would be treated prior to discharge into Squaw Creek Reservoir as needed to comply with TPDES wastewater discharge requirements. As a result, the impacts of residual chemicals on water quality are expected to be SMALL and would not significantly impact downstream water quality.

Discharges to Squaw Creek Reservoir and local streams during Units 3 and 4 operations include non-radiological stormwater discharges, sanitary waste discharges and low-volume waste discharges from floor drains and sumps, and low-level radioactive wastewater discharges. BMPs similar to existing practices for Units 1 and 2 will be implemented during the operation of CPNPP Units 3 and 4, minimizing pollutants entering Squaw Creek Reservoir and local tributaries.

Stormwater discharged to Squaw Creek Reservoir during Units 3 and 4 operation would be managed under the site stormwater pollution prevention plan (SWP3) and a TPDES permit. As a result, the impacts of stormwater discharges on water quality are expected to be SMALL and would not significantly impact downstream water quality.

Sanitary wastewater and low-volume wastewater discharges during Units 3 and 4 operation would be treated prior to discharge into Squaw Creek Reservoir as needed to comply with TPDES wastewater discharge requirements. The impacts of residual chemicals on water quality are expected to be SMALL and would not significantly impact downstream water quality.

Low-level radioactive wastewater meeting applicable discharge limits is expected to be discharged to Squaw Creek Reservoir during Units 3 and 4 operation, with a possible diversion to a new evaporation pond. During normal operations, the release of liquid radioactive effluents to the environment would be such that the doses to individuals off-site are maintained within the limits of 10 CFR Part 20 and 10 CFR Part 50, Appendix I for pertinent thresholds. Impacts from radioactive discharges are considered SMALL and would not significantly impact downstream water quality.

Lake Granbury

Water use from Lake Granbury during construction ranges from 470 gpm (676,800 gpd) to 1,100 gpm (1,584,000 gpd). The construction water demands from Lake Granbury are dependent upon specific construction needs and will vary during construction. Maximum demand is anticipated during the initial fills and flushes of pipelines and on-site raw water tanks, and is not expected to result in reducing dam releases to the Brazos River downstream of Lake Granbury.

Decreased flows in the Brazos River downstream of Lake Granbury are expected as a result of CPNPP Units 3 and 4 operational water use. This change is primarily the result of less frequent spills from Lake Granbury during periods of high flow. Modeling performed simulating the effect of Units 3 and 4 water use on downstream flows at the Brazos River Glen Rose stream gage indicates the greatest decreases in flow would be in May and June, months that typically have the greatest flow (Figure 1). From the perspective of irrigators or other small users of the river, there should be a sufficient quantity of water during periods of high flows, and a reduced frequency of flood flows may actually be beneficial. Water quantity during periods of low flow should be similar because Lake Granbury would be impounding inflows as reservoir levels drop. Increased periods of low-flow could impact irrigators or other small users and are an important factor when considering environmental justice. According to the modeling, average monthly flows less than 100 cfs would occur about 80 percent of the time before the new units come on-line (Figure 2). When the new units come on-line the frequency of these flows would increase to about 82 percent of the time. Average monthly flows of less than 10 cfs would change from occurring about 39 percent of the time to about 44 percent of the time. These changes show only a SMALL impact from an environmental justice perspective.

Figure 1: Monthly Median Simulated Flow at Brazos River near Glen Rose Gage Scenarios A and C – 2020 Conditions

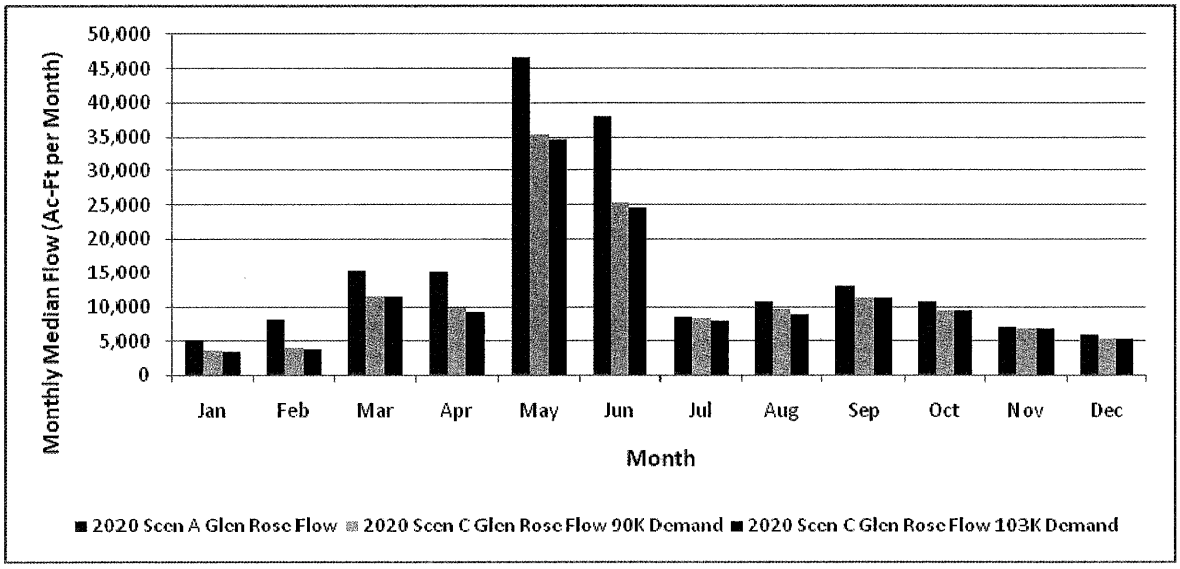
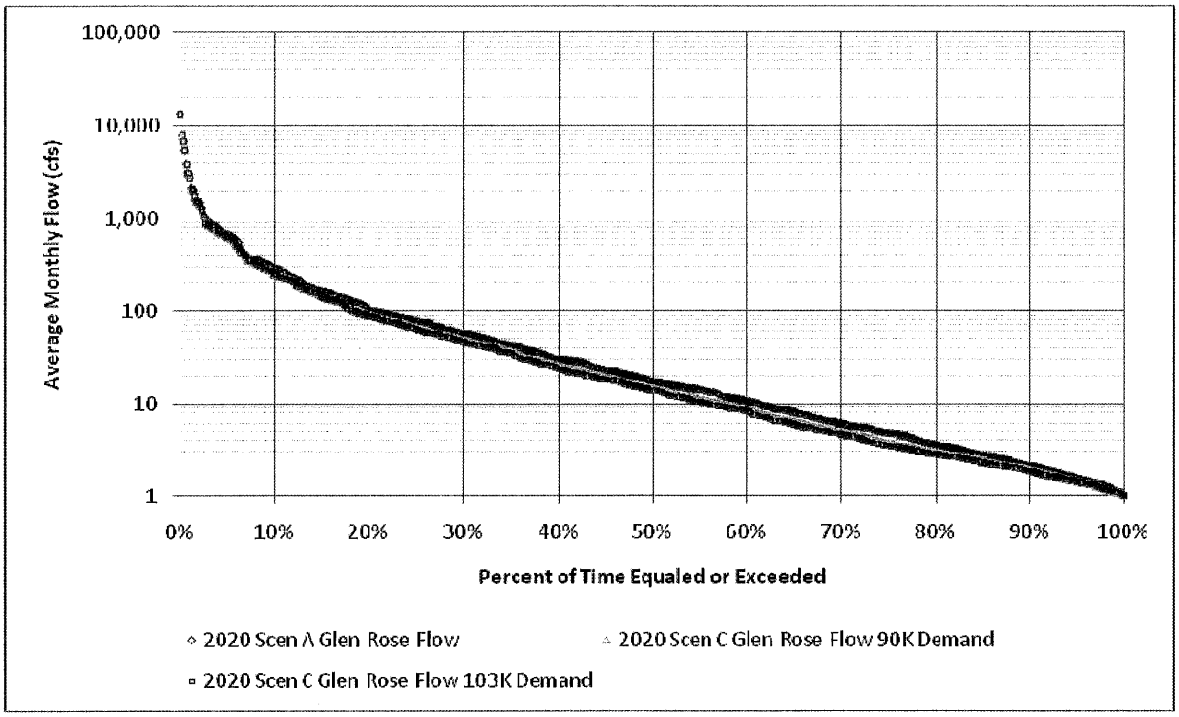


Figure 2: Range of Flows Brazos River near Glen Rose Gage Scenarios A and C – 2020 Conditions



Lake Whitney, located on the Brazos River 52 stream miles downstream of Lake Granbury, is a large reservoir with conservation storage of 554,203 acre feet. This reservoir is owned and operated by the U.S. Army Corps of Engineers (USACE) and is primarily used for hydropower generation. Lake Whitney re-regulates the Brazos River and flows downstream from the reservoir are significantly different than the inflows into the reservoir. Releases from Whitney Dam are governed by USACE flood operation policies, need for hydropower generation, and low-flow releases as required by the reservoir's FERC license. The frequency and magnitude of flood flow releases are expected to be somewhat less with the higher demand at Lake Granbury. However, as with the reach below Lake Granbury, these reductions should not impact irrigators or other small users of the river and may actually be beneficial. Low-flow periods are governed by hydropower operations and FERC low-flow releases, which should not change significantly as a result of increased demand at Lake Granbury. As a result, from the perspective of environmental justice, no water quantity impact downstream of Lake Whitney is expected as a result of CPNPP Units 3 and 4 water use.

Installation of a raw water intake structure for CPNPP Units 3 and 4 is planned adjacent to the existing intake structure on Lake Granbury that currently supplies water to Squaw Creek Reservoir, and multi-port blowdown diffusers are planned to be located approximately 800 ft upstream from DeCordova Bend Dam. Based on the current preliminary design of the makeup water intake structure, it is not expected to require the installation of cofferdams. Dredging is also not expected other than the collateral movement of loose surface material as a result of drilling. Drilling into the rock is required to install the caissons and sheet piling that make up the foundation and boundary of the intake structure. This minimal disturbance will occur around the immediate periphery of the intake structure, estimated to be 80 feet long and 40 feet wide, nominally. Divers will be required to perform inspections and install the screen assemblies warranted to comply with 316b of the Clean Water Act.

The discharge piping design has considered three different approaches to the installation. Each will disturb the same amount of lake bottom, nominally about three times the pipe diameter (the pipe itself and one diameter on each side for installation). Based on the preliminary design of the intake structure and return piping, it is expected that construction of the intake structure and discharge multi-port blowdown diffusers will range from 12 to 18 months.

A temporary increase in turbidity could occur in Lake Granbury near the intake and discharge structures during their construction. The additional turbidity from these construction activities is expected to be minimal because the activities would be localized and short in duration. BMPs will be employed to minimize sediment runoff from disturbed areas above the shoreline. Increased suspended solid loads may travel to the Brazos River downstream of Lake Granbury during construction; however, the increases in TSS would be temporary and would not be destabilizing to water quality.

Water impacts to Lake Granbury and potentially the Brazos River downstream during CPNPP operation might have included increased blowdown TDS and chloride concentrations as a result of cooling tower use. Luminant has anticipated this impact and plans to treat blowdown prior to discharge at Lake Granbury when incoming water quality is poor from naturally occurring TDS and chlorides. The treatment system is designed to treat blowdown to expected permit limits, minimizing water quality impact to Lake Granbury. As a result, no significant water quality impact is expected in the Brazos River downstream of Lake Granbury as a result of CPNPP Units 3 and 4 operations.

Wheeler Branch Reservoir

Potable water from Wheeler Branch Reservoir will be used during construction and operation of Units 3 and 4. Wheeler Branch Reservoir has a capacity of 4118 ac-ft and has a surface area of 169 acres at the top of conservation storage. A demand of 350 gpm (504,000 gpd) is anticipated from Wheeler Branch Reservoir during construction and operation of CPNPP Units 3 and 4. This demand

(565 ac-ft/yr) represents approximately 28 percent of the 2000 ac-ft/yr of water available to the SCWD from Wheeler Branch Reservoir. The environmental impacts of the 2000 ac-ft/yr diversion from the Paluxy River to Wheeler Branch Reservoir for SCWD use have been studied and no significant impacts were identified. The SCWD has estimated an allocation of 28 percent of the available supply to the CPNPP site to support construction and operations. Because this allocation is only a portion of the total available yield of Wheeler Branch Reservoir, no water quantity or quality impacts are expected.

Downstream water quantity and quality impacts were evaluated in a report (Attachment 1) supporting the water rights application for SCWD. The report concluded that there will be no impact to downstream water rights holders, because the remaining flows in the Brazos River after the diversion will be more than sufficient to meet the existing water rights between the project and Lake Whitney.

Instream uses of the Paluxy River currently include recreation, fisheries, aesthetics, and aquatic and riparian habitat. Instream uses of Wheeler Branch include cattle and wildlife use when the creek is flowing. The report concluded that the proposed project will beneficially impact the recreational opportunities on the Paluxy River. The dam will create a pool within the City of Glen Rose, creating additional aquatic habitat and improving recreational uses, such as swimming, fishing, canoeing, etc. Also, the opportunity for additional economic development along the shoreline exists, with the potential for restaurants, hotels, and other "river walk" businesses.

The report concluded that the proposed diversion dam on the Paluxy River will not impact the existing fishery downstream of the site. Existing recreational fishing is not a major fishery, nor is the river used heavily for spawning due to low flow. Since the project is only 2.65 miles upstream of the confluence with the Brazos River and represents only 2.5 percent of the total contributing drainage area of the Brazos River at the confluence with the Paluxy, it is unlikely that the proposed reduced flow will impact the Brazos River fishery. The operation of Wheeler Branch Reservoir will provide for higher flows to be passed, allowing the "flushing" effect on the Paluxy and Brazos Rivers.

The report concluded that the Wheeler Branch Reservoir project is expected to produce good quality water for a municipal water supply, and no adverse impact to water quality are expected in the Paluxy River with the proposed channel dam operation.

No discharges or run-off from CPNPP Units 3 and 4 construction or operational activities are expected at Wheeler Branch Reservoir, eliminating water potential quality impacts to the reservoir and the Paluxy and Brazos Rivers downstream.

Socioeconomic Assessment

As discussed above (see discussions regarding Lake Whitney), no impacts are expected to occur beyond the 50-mile region; therefore, no environmental justice impacts are anticipated beyond the 50-mile region. Within the 50-mile region, no low-income populations were identified along the portion of the Brazos River being discussed (see ER Figure 2.5-19). According to US Census 2000 data, a minimal number of minority population census blocks were identified within the region, specifically within a mile of the Brazos River, downstream of Lake Granbury, and within a mile of the shoreline of Lake Whitney (ER Figure 2.5-18). These identified minority census blocks were classified as follows: one Asian, two Black, four American Indian, one Hawaiian, and nine Hispanic ethnicity blocks.

There are five counties, Johnson, Hood, Hill, Bosque, and Somervell Counties, that are intersected by the portion of the Brazos River being discussed. To identify any additional minority or Hispanic communities along this portion of the river, telephone calls were made to the county sheriff departments. Other than Johnson County, who did not respond, the remaining counties' sheriff departments indicated that they were not aware of any specific minority or Hispanic community along

the river. Chief Girsh, of Hill County, did indicate that there was a population of minorities living in the Town of Whitney; however, it was confirmed that this population was captured in the previously identified minority US Census blocks shown on Figure 2.5-18. As such, no additional minority or Hispanic communities were documented beyond those identified using the census information.

The Center for Disease Control (Attachment 2) and the U.S. Office of Minority Health (Attachment 3) has national data which identifies examples of health disparities in vulnerable populations by minority or race. The most frequently cited specific illnesses noted in the health profiles for the various minority groups include cancer, diabetes, heart disease, and stroke. The Texas Department of State Health Services' 2005 statistics (Attachment 4) on selected health facts for the five counties associated with the Brazos River downstream of Lake Granbury and Lake Whitney indicate similar heath statistics, with heart disease, stroke, cancer, chronic lower respiratory diseases, and diabetes having the highest mortality rates in the general population.

As described above, any impacts to water quality or water quantity from construction and operation of Units 3 and 4 is expected to be localized and minimal, with no significant impact expected in the Brazos River downstream of Land Granbury or at Lake Whitney. As such, the temporary increases in TSS and turbidity are not anticipated to exacerbate any of the aforementioned health disparities.

Based on the analysis described in a revision to ER Subsection 2.5.4.4 by Luminant's response to NRC Information Needs GEN-05/SOC-16 in Luminant letter TXNB-09011 (ML091460334), no subsistence populations were identified within the region. As such, no impacts related to subsistence activities are expected.

Impact on R-COLA

See attached marked-up ER Revision 1 page 4.2-4.

Impact on S-COLA

None.

Impact on DCD

None.

Attachments (on CD)

1. Report Supporting an Application for a Texas Water Right by Somervell County Water District, Freese and Nichols, Inc., April 2001.
2. Center for Disease Control, Office of Minority Health & Health Disparities (OMHD), Highlights in Minority Health Reports. Website http://www.cdc.gov/omhd/sitemap.htm. Accessed February 25, 2010.
3. U.S. Department of Health and Human Services, Office of Minority Health. Minority Profiles. Website http://minorityhealth.hhs.gov/templates/browse.aspx?lvl=3&lvlid=23. Accessed February 25, 2010.
4. Texas Department of State Health Services, 2005 Health Facts for Texas and Counties. Website http://www.dshs.state.tx.us/chs/cfs/cshdpa05.shtm. Accessed February 25, 2010.

4.2.1.1.7 Retention Ponds for Sediment Control

Surface water runoff and associated contaminants are expected to be addressed in the SWP3 and controlled using BMPs, which may include dunnage, vegetative buffer zones, silt fencing, and diversionary channels and sedimentation basins. Stormwater retention ponds for CPNPP Units 3 and 4 should be designed and constructed to accommodate surface water runoff and allow sediment-laden water from dewatering activities, if required, to pass through the ponds prior to discharge. Excavations should extend below the shallow perched water table by approximately 5 – 15 ft. Impacts from excavation dewatering activities are considered to be SMALL, due to low shallow/perched groundwater availability in the excavation area. Dewatering, if required, is expected to occur within a limited area for a reasonably short time frame. Dewatering efforts would be handled by use of sump pumps, if required. Construction activities follow BMPs for soil and erosion control, as required by the TPDES General Permit. Therefore, impacts to the local hydrology and wetlands from construction activities are expected to be SMALL and would not warrant further mitigation.

4.2.1.1.8 Off-site Construction

Installation of a raw water intake structure for CPNPP Units 3 and 4 is planned adjacent to the existing intake structure on Lake Granbury that currently supplies water to SCR. The intake structure is to have two 42-in pipelines each supplying water directly to the cooling towers for Units 3 and 4. Two additional gravity-drain 42-in blowdown discharge pipelines (one from Unit 3 and one from Unit 4) with multi-port diffusers are planned to be located approximately ~~600~~800 ft upstream from DeCordova Bend Dam in the vicinity of the existing discharge pipe. The four pipelines associated with CPNPP Units 3 and 4 are expected to be placed in the existing pipeline right-of-way (ROW). Off-site hydraulic alterations from these installations and that of the additional intake and discharge structures are discussed in Subsection 4.2.1.2. RAI SOC-33

The existing road system is expected to adequately handle the construction traffic required for the CPNPP Units 3 and 4 facility, and no off-site road construction is expected. Therefore, no off-site hydrologic alterations from the construction of roads for CPNPP Units 3 and 4 are expected.

4.2.1.2 Hydrologic Alterations Due to Construction

Dredging activities to support construction of the makeup water and blowdown system intake and discharge structures on Lake Granbury is anticipated. A temporary increase in turbidity could occur in Lake Granbury near the intake and discharge structures during construction and dredging activities. The additional turbidity from these construction activities is expected to be minimal, because the activities should be localized and short in duration. The need for installation of riprap, stemwalls, or other appropriate means to stabilize the banks of the lake during and following construction is not anticipated. BMPs are expected to be employed to minimize sediment runoff from disturbed areas above the shoreline.

Pipeline construction for both the intake and discharge structures is expected to be in the existing pipeline ROW. Temporary construction easement is expected to be provided adjacent to the existing ROW easement to support pipeline construction. This construction easement has been evaluated to identify potential impacts to wetland, ecological and cultural resources sensitive areas as well as potential impacts to existing water bodies, including Lake Granbury and SCR.

Attachment 2

Supplemental Response to Request for Additional Information Regarding the Environmental Review

SUPPLEMENTAL RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

Comanche Peak, Units 3 and 4

Luminant Generation Company LLC

Docket Nos. 52-034 and 52-035

RAI REGARDING THE ENVIRONMENTAL REVIEW

DATE OF RAI ISSUE: 6/26/2009

QUESTION NO.: TE-04 (2.4.1)

TE-04 pertains to the Golden-cheeked warbler (GCW) habitat. The NRC has requested data to determine if the area in which the BDTF will be located is suitable for the GCWs (tree canopy cover data) and if the salt from the BDTF will affect GCW habitat suitability.

SUPPLEMENTAL INFORMATION

U.S. Fish and Wildlife Service describes woodlands with mature Ashe juniper in a natural mix with oaks, elms, and other hardwoods, in relatively moist areas such as steep canyons and slopes, and adjacent uplands as habitat types that are highly likely to be used by GCWs. Mature Ashe junipers are trees that are at least 15 feet in height with a trunk diameter of about five inches at four feet above ground (dbh). These areas generally have a nearly continuous canopy cover of trees with 50-100 percent canopy closure and an overall woodland canopy height of 20 feet or more. Other areas that may support the GCWs during the breeding season include:

- Stands of mature Ashe juniper over 15 feet in height and dbh of about five inches, with scattered live oaks (at least 10 percent canopy cover) where the total canopy cover of all trees exceeds 35 percent and overall woodland canopy height is at least 20 feet.
- Bottomlands along creeks and drainages which support at least a 35 percent canopy cover of deciduous trees with mature Ashe juniper growing either in the bottom or on nearby slopes.
- Mixed stands of post oak and/or blackjack oak (10-30 percent canopy cover), with scattered mature Ashe juniper where the total canopy cover of trees exceeds 35 percent and overall woodland canopy height is 20 feet.
- Mixed stands of shin oak with scattered mature Ashe juniper, where the total canopy cover of trees exceeds 35 percent and overall woodland canopy height is 20 feet.

Dinosaur Valley State Park has confirmed GCWs on-site. Canopy cover density in the park ranges from 60-90 percent. Aerial photography and sight reconnaissance indicate the BDTF and surrounding habitat are not suitable for GCWs. Ideally, canopy cover would be in a range of 50-100 percent cover. A minimum canopy cover is 35 percent. Canopy cover in and adjacent to the BDTF is only about 20 percent. Because the BDTF and surrounding habitat are not suitable for GCWs, operating the facility will have no affect on GCW populations. Furthermore, precautions will be taken to contain the salt within the BDTF by using directional spray misting units and salt fences. For a more in-depth

discussion on salt, see the response to TE-21 provided by Luminant letter TXNB-10013 dated February 24, 2010 (ML100560480).

Impact on R-COLA

None.

Impact on S-COLA

None.

Impact on DCD

None.