



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
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RULES AND DIRECTIVES  
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Office of Administration  
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U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

12/10/08

73 FR 75141

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SUBJ.: Early Coordination  
Comanche Peak Nuclear Power Plant

Dear Chief:

EPA reviewed this project in accordance with the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act. We have reviewed the draft Environmental Report (ER) and we offer the following preliminary comments. These comments pertain to issues to be discussed in NEPA documents. Adverse impacts should be avoided or minimized, while unavoidable impacts should be fully mitigated.

Project Need

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.

Alternatives

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.

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.)

SUNSI Review Complete

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P. Smith (ChS2)

### Radiation

The EIS should discuss monitoring of radiation, prevention of releases, and emergency planning procedures in case of an unintended release. 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.

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.

### Wetlands

Relative to protection of the area under the Clean Water Act and EPA's regulatory authority, it is likely that any work conducted in the proposed blowdown treatment facility or work in any of their wetlands would require a Clean Water Act Section 404 permit. The Clean Water Act Section 404(b)(1) Guidelines regulate dredge and fill activities in waters of the United States. The Corps of Engineers (COE) is the permitting agency and would have the lead on authorizing dredge and fill activities in jurisdictional waters. EPA assists the COE in administering the Section 404 Program and has a role in assisting the COE in its permit evaluation. Additionally, EPA has the lead for enforcing non-permitted violations of Section 404 of the Clean Water Act.

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.

### Water

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 reseeding, 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.

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.

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.

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.

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.

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.

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?

#### Hydrogeology/Groundwater

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.

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.

#### Hazardous and Non-hazardous Waste

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.

#### Air Quality

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.

#### Cultural Resources

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.

#### Environmental Justice (EJ)

Consistent with Executive Order 12898, potential EJ 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.

### Biodiversity

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).

### Endangered Species

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.

### Ecosystem Services and Sustainability

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.

### Cumulative Impacts

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.

### Indirect/Secondary Impacts

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.

### Environmental Management System

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.

We appreciate the opportunity to provide these preliminary comments. We look forward to review of the EIS that you will develop for the proposed project. If you have any questions, please contact Dr. Sharon L. Osowski of my staff at (214) 665-7506.

Sincerely,

A handwritten signature in cursive script that reads "Cathy Gilmore".

Cathy Gilmore, Chief  
Office of Planning and  
Coordination

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