Reading File

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

June 22, 2007

Jeffrey A. Weeks
Bureau of Land Management
Ely Field Office
HC 33 Box 33500
Ely, Nevada 89301

Subject: Draft Environmental Impact Statement for the White Pine Energy Station Project, Nevada [CEQ# 20070151]

Dear Mr. Weeks:

The U.S. Environmental Protection Agency (EPA) has reviewed the Bureau of Land Management's (BLM) Draft Environmental Impact Statement (DEIS) for the White Pine Energy Station Project. Our review and comments are provided pursuant to the National Environmental Policy Act (NEPA), the Council on Environmental Quality (CEQ) Regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act (CAA).

The proposed project includes the construction of the White Pine Energy Station, development of a well field in the Steptoe Valley Hydrographic Basin to meet the water needs of the plant, construction of a rail spur to supply coal, electric transmission facilities, electric distribution line, access roads, and additional construction sites. The White Pine Energy Station would consist of an approximately 1,590-megawatt (MW) coal-fired electric power generating plant using hybrid cooling systems, and containing up to three units. The proposed power plant site would encompass approximately 1,281 acres, including an onsite solid waste disposal facility for the disposal of coal combustion by-products and material collected by the pollution control equipment. Under separate cover, EPA has sent comments on the draft air permit (March 8, 2007) to the Nevada Bureau of Air Pollution Control for this project.

EPA recognizes the complexity of the proposed project and advocates an energy development approach which assures a long-term, sustainable balance between available energy supplies, energy demand, and protection of ecosystems and human health. EPA believes that the goals of providing additional energy supplies, aggressive energy conservation, and diversification of energy supply sources should be carefully balanced.

We have several concerns about the environmental impacts of the proposed project, as well as a lack of critical information in the DEIS. As such, we have rated this DEIS as EO-2, Environmental Objections – Insufficient Information (See attached "Summary of EPA Rating System"). An "EO" signifies that EPA's review of the DEIS has identified potential significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may involve substantial changes to the project. A "2" rating signifies that the DEIS does not contain sufficient information for EPA to fully assess

environmental impacts that should be avoided in order to fully protect the environment. In particular, we are concerned about the potential impact to approximately 440 acres of waters, including wetlands. We understand that this acreage has not been jurisdictionally delineated by the U.S. Army Corps of Engineers (Corps). However, impacts of this magnitude, especially within an arid ecosystem, are of significant environmental concern. We are also concerned about the impacts resulting from ground water withdrawal, air quality impacts from the operation of the proposed plant, including potential mercury emissions, and the general lack of mitigation described in the DEIS.

We recommend that EPA, the Corps, BLM, and the project proponent meet at the earliest possible convenience to: 1) discuss the extent of jurisdictional waters on the project site and the direct, indirect/secondary impacts which would occur as a result of the proposed project; 2) identify opportunities to avoid and minimize impacts to waters of the U.S.; 3) review the process for identifying the Least Environmentally Damaging Practicable Alternative (LEDPA); and 4) outline the requirements of a compensatory mitigation plan. The Final Environmental Impact Statement (FEIS) should provide additional information on wetland impacts, including a demonstration of the LEDPA and mitigation of those impacts. The FEIS should also include a discussion of potential impacts from mercury emissions and proposed mitigation. Overall, the FEIS should include a robust discussion of all mitigation measures proposed for the project, and these should be summarized in the Executive Summary.

We are glad to have had the opportunity to discuss this project with you in brief today and look forward to working with you to resolve our concerns. Please send one hard copy of the FEIS and one CD ROM copy to this office at the same time it is officially filed with our Washington D.C. Office. If you have any questions, please contact me at (415) 972-3846 or Ann McPherson, the lead reviewer for this project, at (415) 972-3545 or at mcpherson.ann@epa.gov.

Sincerely,

Nova Blazej, Manager
Environmental Review Office

Enclosures: Summary of EPA Rating Definitions
Detailed Comments

Cc: Col. Alex C. Dornstauder, U.S. Army Corps of Engineers
Kevin Roukey, U.S. Army Corps of Engineers
Michael Elges, Nevada Division of Environmental Protection
Matthew DeBurle, Nevada Bureau of Air Pollution Control
John Bunyak, National Park Service
Cindy Nielson, National Park Service
Curt Dimmick, National Park Service
Tracy Taylor, State of Nevada Water Resources State Engineer

US EPA DETAILED COMMENTS ON THE SCOPING NOTICE FOR THE DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS) FOR THE WHITE PINE ENERGY STATION PROJECT, WHITE PINE COUNTY, NEVADA, JUNE 22, 2007

Project Description

White Pine Energy Associates, LLC, (WPEA) has proposed to construct, own, operate, and maintain an approximately 1,590–megawatt (MW) coal-fired electric power generating plant in White Pine County in eastern Nevada. The power plant would be located on lands managed by the Ely Field Office of the U.S. Department of the Interior Bureau of Land Management (BLM). The site for the Proposed Action is the Steptoe Valley, approximately 34 miles north of Ely. An alternative power plant site (Alternative 1) also in Steptoe Valley is approximately 12 miles south of the Proposed Action power plant site. Features associated with both alternatives include: electric transmission facilities, water supply system, electric distribution line, rail spur, access roads, and additional construction sites.

Purpose and Need:

According to the Draft Environmental Impact Statement (DEIS), the purpose of the White Pine Energy Station is to supply reliable, low-cost electricity in an environmentally responsible manner to meet baseload energy needs in Nevada and the western United States, and to bring economic benefits to White Pine County, Nevada (pg. 1-2). To achieve this purpose, the DEIS states that the White Pine Energy Station must: 1) utilize commercially proven and reliable technology; 2) be cost-effective; 3) be located in proximity to infrastructure and water supplies in White Pine County; 4) put water rights held by White Pine county for energy production in Steptoe Valley to a beneficial use in producing energy; and 5) provide traffic for the Nevada Northern Railway (NNR).

The DEIS states that the Energy Information Administration (2006) forecasts the need for approximately 24,000 MW of new power generation in the western United States by 2015 and the new coal-fired generation facilities will supply 5,700 MW of this need (pg. 1-2; pg. 1-3). Five coal-burning plants have been proposed for Nevada alone, including: the White Pine Energy Station (1,590 MW), Toquop Energy Power Project (750 MW), Ely Energy Center (1,500 MW), Newmont Nevada Energy project (200 MW), and the Granite Fox project (1,450 MW). The combined power that would be generated from these five proposed power plants in Nevada exceeds 5,400 MW.

While the DEIS states that the purpose of the proposed project is to meet baseload energy needs in Nevada and the Western United States, there is no discussion of the broader context of energy demand in these markets. The purpose of the project is to meet inter- and intra-state demand for energy. This should be explicitly discussed in the Final Environmental Impact Statement (FEIS).

Recommendation:
The FEIS should discuss the proposed project in the context of the larger energy market that this project would serve. The FEIS should identify the potential purchases of power and provide a description of how the power would be bought, sold, and used so that the reader can better evaluate the tradeoffs between resource protection and power generation.

Recommendation:
If the potential purchasers of power include California utilities, the FEIS should address the issue of compliance with the new "greenhouse gas emissions performance standard" as adopted by the California Public Utilities Commission (CPUC) on January 25, 2007. California utilities are barred from buying electricity from most coal-fired power plants unless specific standards are met, effective February 1, 2007.

Recommendation:
EPA is concerned that the density of new coal-burning plants proposed in Nevada is in excess of the demonstrated need for energy throughout the Western States. The FEIS should more clearly describe how the overall need for the power in the Western States has been determined. The FEIS should also describe how the energy planning process for the Western States will ensure that individual states or regions do not carry an undue burden of power generation.

Alternatives Analysis:

CEQ Regulations for implementing NEPA (40 CFR, Parts 1500 - 1508) state that the alternatives section of an EIS should "rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly describe the reasons for their having been eliminated" (40 CFR, part 1502.14). Six key criteria were developed to evaluate the feasibility of alternative energy technologies: 1) capable of providing approximately 1,590 MW of reliable baseload power generation capacity; 2) environmentally permittable; 3) cost effectiveness relative to pulverized coal; 4) commercially proven and reliable; 5) place water held by White Pine County for power production in Steptoe Valley to beneficial use for power production; and 6) provide traffic for NNR.

The DEIS presents only two alternatives and a no-action scenario. The two alternatives are virtually identical except for location, and provide very little range of options for decision makers to evaluate the proposed project. The DEIS does identify several alternatives which were eliminated from further evaluation because they did not meet the purpose and need. While the DEIS included a discussion of some of the reasons for their elimination, there was not a clear set of quantitative criteria identified which were used to screen all alternatives in a similar manner. For example, no criteria outlining a cut-off point for financial feasibility/profit margin, minimal plant efficiency rates, level of air, water or habitat impacts were provided. Also, it is unclear how unquantified environmental impacts (such as a reduction of air pollutants, reduced ash disposal, or reduced water use) may have been considered in the economic analysis. Each

alternative was described and a qualitative reason for elimination was provided, based on the six key criteria identified previously.

Recommendation:
The FEIS should provide a clear discussion of the reasons for the elimination of alternatives which are not evaluated in detail and provide a clear set of quantitative criteria to screen all alternatives. The potential environmental impacts of each alternative should be quantified to the greatest extent possible (e.g., acres of wetlands impacted, tons per year of emissions produced, etc.). For example, the FEIS should include a matrix that rates each of the alternatives on each of the selection criteria. Quantitative values should be included wherever practicable.

Recommendation:
In reviewing the DEIS, some alternatives seem to have been eliminated solely because they do not *maximize* the economic benefits. Since maximizing economic benefit is not clearly identified as part of the purpose and need or evaluation criteria for this project, it appears some reasonable alternatives may have been prematurely eliminated. Clearly identify the economic criteria used for analyzing alternatives. As appropriate, fully consider alternatives previously rejected in the earlier analysis.

Coal gasification was considered in the comparison of alternative power generating technologies (pg. 2-66). The DEIS includes a preliminary evaluation of Integrated Gasification Combined Cycle (IGCC) coal combustion technology but concludes that: 1) IGCC would not provide adequate baseload power generation; 2) IGCC is not yet commercially proven, reliable, and available in a time frame to support the proposed project; and 3) IGCC would cost more than a conventional coal plant (pgs. 2-80 through 2-82). EPA understands that IGCC technology offers potential reductions in air pollutant emissions and greenhouses gas emissions; requires less water; and produces less ash requiring disposal. It is not clear if these benefits have been considered in the cost-benefits analysis of the various alternatives. The CEQ Regulations for implementing NEPA indicate that unquantified environmental impacts and values should be considered (40 CFR 1502.23).

Recommendation:
The FEIS should explain how such unquantified environmental impacts and values have been considered in the cost-benefit analysis, in particular for IGCC technology.

Recommendation:
The FEIS should clarify if the incentives in Title XVII of the Energy Policy Act of 2005 (42 U.S.C. 16511-16514) to facilitate deployment of innovative technology such as IGCC were considered in the cost-benefit analysis.

The Ely Energy Center is a proposed project that is described in greater detail in the Cumulative Impacts section of the DEIS (pg. 4-262 through 263). This proposed coal-fired power facility would be located in close proximity to the White Pine Energy Station (approximately 18 miles north of Ely or 50 miles north of Ely, depending on the selection of the

alternative) and constructed in two phases. Phase 1 would include constructing two, 750-MW units that use pulverized coal technologies. Phase 2 would include constructing two 500-MW integrated gasification combined-cycle (IGCC) generating units.

Recommendation:
EPA questions whether the project proponent for the White Pine Energy Station considered a two phase process, similar to the Ely Energy Center, where IGCC might be considered in a second phase of development. This should be discussed in the FEIS.

Recommendation:
EPA recommends that the project proponent consider developing a new alternative that incorporates phased development of IGCC, or modifying the existing alternatives, to provide the plant with enough physical space so that any future modifications associated with carbon dioxide capture equipment could be implemented within the existing area.

The DEIS states that conservation/energy efficiency cannot be proposed by WPEA, and it is not an action the BLM or federal government can take in lieu of reaching a decision regarding implementation of the proposed project. Therefore, conservation/energy efficiency cannot be considered as an alternative to the proposed project (pg. 2-84).

All reasonable alternatives that fulfill the purpose of the project's purpose and need should be evaluated in detail, including alternatives outside the legal jurisdiction of the BLM and beyond the scope of what Congress may have approved or funded (Council on Environmental Quality's (CEQ) Forty Questions[1], #2a and #2b). The more alternatives considered, the greater the possibility of avoiding significant impacts. "*In determining a reasonable range of alternatives, the focus is on what is "reasonable" rather than on whether the proponent or applicant likes or is itself capable of carrying out a particular alternative. Reasonable alternatives include those that are practical and feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant.*" (CEQ Forty Questions, #2a)

Additionally, "*Alternatives that are outside the scope of what Congress has approved or funded must still be evaluated in the EIS if they are reasonable, because the EIS may serve as the basis for modifying the Congressional approval or funding in light of NEPA's goals and policies.* Section 1500.1(a)." (CEQ Forty Questions, #2b)

Recommendation:
The FEIS should be revised to state: 1) that increased requirements for energy efficiency is an action that local, state, and the federal government can undertake to meet the purpose and need of supplying energy to the Western States, and 2) the FEIS needs to explain why this is, or is not, a "reasonable" alternative for this project.

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[1]Forty Most Asked Questions Concerning CEQ's NEPA Regulations, 40 CFR Parts 1500-1508, Federal Register, Vol. 46, No. 55, March 23, 1981.

Recommendation:
Increased energy efficiency offers an attractive, cost-effective alternative to building new power plants, and in some cases, even to generating electricity from existing power plants. The FEIS should discuss on-going and planned energy conservation programs undertaken by power distributors and how energy conservation may affect the need for this project.

The DEIS states that the Proposed Action would put to use beneficial ground use water rights granted to White Pine County by the Nevada State Engineer in Steptoe Valley for energy production purposes. If these rights are not put to beneficial use, White Pine County is at risk of having the rights withdrawn by the State Engineer (pg. 1-3). As stated earlier, one of the criteria identified in the DEIS that was used to evaluate the feasibility of the different alternatives is the ability of the project to use this allocation of water. Additionally, the DEIS states that one of the six key criteria used to evaluate alternative power generating technologies is to provide traffic for the NNR.

Recommendation:
The FEIS should clearly describe why these two screening criteria are appropriate in the context of this project and other competing resource needs. Water in the West is becoming an increasingly valuable commodity, especially in light of widespread drought conditions. The alternatives analysis should consider ways to maximize water conservation, as well as other economic benefits that could be derived from conserved water, such as sale of water rights to other uses. The FEIS should also clearly describe why providing traffic for the NNR is an appropriate screening criterion. EPA is concerned that this criterion may unnecessarily constrain the reasonable range of alternatives.

The DEIS states that geothermal power is not available in White Pine County in sufficient capacity to meet the project purpose and need and that geothermal power does not meet most of the six project purpose and need criteria, nor does it meet the overall purpose and need of the proposed Station (pg. 2-71). Geothermal resources are found extensively in the Western United States, particularly in California and Nevada. In 2006, the Geothermal Taskforce of the Western Governor's Association estimated that Nevada could install an additional 1,488 MW of geothermal power economically by 2015, and estimated potential by 2025 as high as 2,895 MW from identified resource areas. Geothermal resources should be an attractive alternative to utilities because they are baseload renewable energy sources.

Recommendation:
For the purpose of public disclosure, EPA recommends that the FEIS include additional discussion on the potential for development of geothermal resources in Nevada outside of White Pine County.

Water Resources

Clean Water Act Section 404

EPA is very concerned about the potential impact to approximately 440 acres of waters, including wetlands (pg. 3-59). We understand that this acreage has not been jurisdictionally delineated by the U.S. Army Corps of Engineers (Corps). However, impacts of this magnitude, especially within an arid ecosystem, are of significant environmental concern. We recommend that EPA, the Corps, BLM, and the project proponent meet at the earliest possible convenience to 1) discuss the extent of jurisdictional waters on the project site and the direct, indirect/secondary impacts which would occur as a result of the proposed project; 2) identify opportunities to avoid and minimize impacts to waters of the U.S.; 3) review the process for identifying the Least Environmentally Damaging Practicable Alternative (LEDPA); and 4) outline the requirements of a compensatory mitigation plan.

Pursuant to Section 404 of the Clean Water Act (40 CFF 230), only the LEDPA can be permitted. Identification of the LEDPA is achieved by performing an alternatives analysis that estimates the direct, secondary, and cumulative impacts to jurisdictional waters resulting from each alternative considered. Project alternatives that are not practicable and do not meet the project purpose are eliminated. The LEDPA is the remaining alternative with the fewest impacts to aquatic resources, so long as it does not have other significant adverse environmental consequences. When an analysis is correctly structured, the applicant or the permitting authority can be assured that no discharge other than the practicable alternative with the least adverse impact on the aquatic ecosystem has been selected (40 CFR 230.10(a)). In addition, the applicant must clearly demonstrate that alternatives that do not result in the discharge of dredged or fill material in aquatic sites are either not practicable, or have other significant adverse environmental consequences.

Based on information provided in the DEIS, a total of 441.3 acres were determined to be potentially jurisdictional waters (pg. 3-59). This includes 240.3 acres of wetlands and six drainages totaling 19.3 acres of waters. Approximately 126.5 acres of wetlands were associated with the Proposed Action Right-of-Way (ROWs) and buffers while 113.8 acres of wetlands were associated with the Alternative 1 ROWs and buffers. The wetlands consist of wet meadow, alkali meadow, and rabbitbrush meadow. In total, 122 drainages were identified in the field. These drainages included 61 ephemeral, 54 swales, 6 intermittent, and one perennial.

According to the DEIS, implementation of either the Proposed Action or Alternative 1 would have the same or similar environmental consequences with respect to surface water resources (pg. 4-9). Both station construction and operation could affect surface water. Permanent, temporary and secondary/indirect impacts to waters would occur from construction of the power plant, substations, access roads, transmission and distribution lines and footings, water supply wellfield, and rail spur. However, it is difficult to discern the extent of impacts to waters based on information provided in the DEIS.

Appendix B discloses the extent of unverified waters in the study area, but potential impacts are not adequately and concisely disclosed in the DEIS. Although Table 4.5-1 estimates impacts on vegetation communities, it does not disclose the extent of impact to other waters or assess the secondary/indirect impacts to wetlands or springs as a result of groundwater drawdown (pg. 4-33). The DEIS discusses adversely affecting 42 drainages that drain into Steptoe Valley from Schell Creek Range, but the extent of the impact is unclear in the document.

Pursuant to the Guidelines, the applicant bears the burden of clearly demonstrating that the preferred alternative is the LEDPA that achieves the overall project purpose, while not causing or contributing to significant degradation of the aquatic ecosystem. At this time, the alternatives analysis in the DEIS does not demonstrate compliance with the 404 (b)(1) Guidelines. EPA offers the following recommendations to help facilitate compliance of the project with the Section 404 Guidelines:

Recommendation:
EPA, the Corps, BLM, and the project proponent should meet at the earliest possible convenience to: 1) discuss the extent of jurisdictional waters on the project site and the direct, indirect/secondary impacts which would occur as a result of the proposed project; 2) identify opportunities to avoid and minimize impacts to waters of the U.S.; 3) review the process for identifying the Least Environmentally Damaging Practicable Alternative (LEDPA); and 4) outline the requirements of a compensatory mitigation plan.

Recommendation:
Based on direction provided through the interagency meeting, the FEIS should include an evaluation of the project alternatives in order to demonstrate the project's compliance with the 404(b) (1) Guidelines and authorization of LEDPA. The alternatives analysis should include a reasonable range of alternatives that meet the project purpose while avoiding and minimizing damage to waters of the United States, including wetlands (waters). If, under the proposed project, dredged or fill material would be discharged into waters of the U.S., the FEIS should discuss alternatives to avoid those discharges.

Recommendation:
The FEIS should describe the status of consultations with the Corps regarding a CWA Section 404 permit, and how the Proposed Action meets 404 (b)(1) Guidelines which require that projects first avoid, then minimize, and finally mitigate any impacts to waters of the U.S., including wetlands and other special aquatic sites.

Recommendation:
The applicant should provide a table and clear narrative on the direct, indirect/secondary and temporary impacts to waters, including wetlands, in the FEIS. This includes an estimate of the extent of adverse impact (acreage) on the springs as a result of groundwater pumping.

Recommendation:
The FEIS should include more information regarding functions of ephemeral washes and the locations of the ephemeral washes. Natural washes perform a diversity of hydrologic and biogeochemical functions that directly affect the integrity and functional condition of higher-order waters downstream. Healthy ephemeral waters with characteristic plant communities control rates of sediment deposition and dissipate the energy associated with flood flows. Ephemeral washes also provide habitat for breeding, shelter, foraging, and movement of wildlife. Many plant populations are dependent on these aquatic ecosystems and are adapted to the unique conditions of these systems.

Pursuant to the 404 Guidelines, the applicant must mitigate for unavoidable impacts to waters. Based on a review of the DEIS, it appears the applicant does not propose to mitigate for impacts to waters, including wetlands.

Recommendation:
Based on this information provided in the DEIS, the applicant should prepare a compensatory mitigation plan for impacts to waters, including wetlands. This plan will identify how the mitigation will be managed and funded in perpetuity. This mitigation plan should also include a more comprehensive plant to mitigate for adverse effects of groundwater pumping on springs, including wetlands.

Clean Water Act Section 303(d)

The CWA requires States to develop a list of impaired waters that do not meet water quality standards, establish priority rankings, and develop action plans, called Total Maximum Daily Loads (TMDLs), to improve water quality.

Recommendation:
The FEIS should provide information on CWA Section 303(d) impaired waters in the project area, if any, and efforts to develop and revise TMDLs. The FEIS should describe existing restoration and enhancement efforts for those waters, how the proposed project will coordinate with on-going protection efforts, and any mitigation measures that will be implemented to avoid further degradation of impaired waters.

Groundwater Resources

The perennial yield of the Steptoe Valley Hydrographic Basin has been established by the Nevada Department of Conservation and Natural Resources to be 70,000 acre-feet per year (pg. 3-48). The amount of committed resources is 78,531 acre-feet per year, which exceeds the perennial yield by 8,531 acre-feet per year (pg. 3-48). The rights to the 5,000 acre-feet per year of ground water that would be pumped for the proposed station were granted in 1983 when the total amount of water appropriated in Steptoe Valley was less than 48,000 acre-feet per year. The water rights that would be used for the proposed Station were appropriated before the basin became overcommitted.

The DEIS states that the total amount of groundwater pumped from the Steptoe Valley Hydrographic Area in 2000 was estimated to be 6,360 acre-feet per year. Of this, approximately 3,560 acre-feet per year went to irrigation and stock watering uses, and 2,800 acre-feet per year went for municipal use. Estimates of historical use exceed 20,000 acre-feet per year (pg. 3-47).

Recommendation:
The FEIS should clearly depict reasonably foreseeable direct, indirect, and cumulative impacts to groundwater resources. The FEIS should address what would happen should the groundwater resources in the basin become overextended due to additional growth, continued drought, and the utilization of existing water rights in the basin.

The DEIS states that a ground water monitoring and reporting program will be implemented to determine if there are unanticipated effects from Station pumping on ground water levels or in flow rates and water levels of nearby springs (pg. 4-20). A brief description of the ground water monitoring program is included in Appendix I. Under the proposed Action, ground water from basin-fill aquifers in Steptoe Valley could result in localized ground water level declines between 2 and 6 feet deep. According to the DEIS, WPEA will modify their pumping strategy to mitigate the potential for impacts; however it is unknown whether all potential impacts could be avoided (pg. 4-264).

Given the potential for adverse impacts from pumping groundwater, it is important that all monitoring and mitigation information be provided to the public and decision makers. The Proposed Action would permanently eliminate a total of 1,516 acres of wildlife habitat and temporarily disturb an additional 395 acres of habitat. In the arid Great Basin, wetland habitat and the springs are critically important for several special status species that rely on water sources and wetland vegetation communities. According to the DEIS, no mitigation measures for vegetation, wildlife and aquatic resources, noxious weeds, or threatened, endangered, and sensitive species are anticipated to be necessary beyond the five measures listed on page 4-60. One of the measures includes the contribution of $150,000 dollars to a mitigation fund that will allow the BLM/Nevada Department of Wildlife to fund wildlife habitat restoration work for project–related habitat disturbances.

Recommendation:
EPA recommends that the ground water monitoring program be clearly defined and include a mitigation section for water resources. The ground water monitoring plan should describe the location of the monitoring wells and discuss contingency actions in the event of detection of contamination. The monitoring program should also assess the impacts to vegetation, wildlife, and aquatic resources. Funds to implement the monitoring program should be established and monitoring should be conducted on a regular basis. The FEIS should include a commitment to the monitoring program and funding for the program.

Recommendation:
The FEIS should include additional mitigation for impacts related to ground water withdrawal. Modifying the pumping strategy may help to minimize effects associated

with ground water withdrawal; however, it is unknown at this time whether all potential impacts can be avoided. The monitoring program should include actions that will be taken if data indicate impacts to springs or other resources. If specific impacts or mitigation measures cannot be identified at this point, the groundwater monitoring plan should include a commitment that if monitoring indicates there are impacts associated with the White Pine Energy Station, then WPEA will take actions necessary to fully correct and/or mitigate those impacts.

The DEIS states that an onsite solid waste disposal facility would be constructed and operated for the disposal of coal combustion byproducts including fly ash, bottom ash, economizer ash, scrubber byproducts and coal rejects, and other inert, non-hazardous industrial wastes. An evaporation pond with a surface area of up to 75 acres would also be constructed.

Recommendation:
EPA recommends additional mitigation measures for protection of the aquifer underlying the proposed ash disposal and evaporation pond sites, including installing monitoring wells near or beneath the sites and sampling these wells on a regular basis.

Air Quality

Operating Permit to Construct (Prevention of Significant Deterioration Major Source Permit)

New major stationary sources of air pollution and major modifications to sources are required by the Clean Air Act (CAA) to obtain an air pollution permit before commencing construction. This process is called new source review (NSR) and is required whether the major source or modification is planned for an area where the NAAQS are exceeded (nonattainment areas) or an area where air quality is acceptable (attainment and unclassifiable areas). Permits for sources in attainment areas are referred to as *Prevention of Significant Air Quality Deterioration* (PSD) permits. Since the White Pine Energy Station is located in an attainment area, a PSD permit is required for construction of the project. EPA granted full delegation of the PSD program to the Nevada Division of Environmental Protection (NDEP) on October 19, 2004.

The DEIS states that the NDEP and EPA have the responsibility for assessment of Station impacts and specification of any mitigating actions deemed necessary to protect air quality as part of the PSD permitting process (pg. 4-119).

Recommendation:
EPA delegated PSD to NDEP in October 2004. While EPA has an oversight role, NDEP is the permitting authority and bears the sole responsibility of evaluating impacts. This statement should be revised in the FEIS.

The DEIS provides scant detail on emissions, air pollution control devices, and Best Available Control Technology (BACT) emission limits. For a new major source, the PSD regulations (40 CFR 52.21) require application of BACT. The extent of the discussion is included on pgs. 4-88 through 4-90. The proposed control technologies for the pulverized coal

boilers are summarized in table 4.6-3; maximum estimated emission of criteria air pollutants from the Station are shown in table 4.6-4.

Recommendation:
The FEIS should address the range of emission control technologies that were evaluated for use at the facility in order to achieve BACT, and discuss the factors and process that are being used to select the appropriate technology.

Recommendation:
The FEIS should discuss the PSD increments applicable to air quality in the project area. PSD increments exist for sulfur dioxide (SO_2), particulates (PM_{10}), and oxides of nitrogen (NOx). The FEIS should discuss impacts to air quality and PSD increments from estimated emissions, considering the effects from all aspects of the project.

A facility must apply for and obtain a permit prior to commencement of construction under the PSD program. EPA reviewed the proposed "Operating Permit to Construct" for the White Pine Energy Station and submitted detailed comments on March 8, 2007. EPA offered several recommendations to the Nevada Bureau of Air Pollution Control (BAPC) in that letter. These recommendations are summarized below (*a - f*). Please refer to the original letter for additional details.

a. Recommendation:
EPA recommends that the BAPC provide an on-record justification for selecting dry scrubbing as BACT controls for SO_2 rather than wet scrubbing. The BACT analysis should more completely compare specific emission limits and control technologies selected as BACT for pulverized coal boilers in other PSD permits recently issued or proposed nationwide, together with a detailed rationale for eliminating the top ranked control on the basis of energy, environmental, or economic considerations.

b. Recommendation:
EPA recommends that the BAPC consider lowering the NOx BACT emission limit to 0.06 pounds per million British Thermal Units, 24-hour average (lb/MMBTU), which is what EPA has proposed for the Desert Rock permit. The NOx BACT emission limit in the draft permit is 0.07 lb/MMBTU, 24-hour average. The BAPC should evaluate whether the lower BACT emission limits could be achieved; identify any differences that would support a higher limit; and consider including provisions that would allow for a shakedown period after the facility commences operation to determine whether a lower BACT limit is achievable.

c. Recommendation:
EPA recommends that the BAPC determine whether an additional Class II visibility impact analysis is needed to corroborate the CALPUFF modeling the applicant has provided.

d. Recommendation:

EPA recommends that the BAPC document the emission inventory the applicant used in its cumulative Class I increment analysis.

e. Recommendation:
EPA recommends a tiered approach to the BACT limits for NOx, carbon monoxide (CO), and SO_2, with both short term lb/hr (one or three hours) and long term lb/MMBTU (24-hr) averages. Such limits would reinforce the source's obligation to operate its control devices properly at all times and would assure compliance with the 3-hour (SO_2) and 1-hour and 8-hour CO National Ambient Air Quality Standards (NAAQS). Without short term limits, the source could be in compliance with its 24-hour limits, while a short term peak in CO or SO_2 emissions could cause an exceedance of the short term NAAQS.

f. Recommendation:
EPA recommends that the final permit include enforceable definitions for start-ups and shut-downs; consider limiting the duration of each startup to 16 hours; and consider limiting the frequency of occurrence of the startup periods.

In general, EPA recommends that these issues be discussed in greater detail within the context of the FEIS, as the EIS is the appropriate venue for disclosing this information.

Visibility and Acid Deposition

The National Park Service (NPS) submitted comments on the PSD Permit Application Regarding Class I Impacts which are summarized in the DEIS on pgs. 4-114 through 4-115. The NPS expressed the following concerns: 1) visibility at Great Basin National Park would be significantly affected by the emissions from the Station alone; 2) sulfur deposition exceeds the NPS Deposition Analysis Threshold at Zion National Park; 3) sulfur and nitrogen deposition exceeds the NPS Deposition Analysis Threshold (DAT) at Great Basin National Park, with potential impacts to aquatic and terrestrial ecosystems; and 4) the impacts upon visibility in Great Basin National Park are significant. The DEIS states that there are two areas of concern: 1) predicted impacts on visibility within Jarbidge Wilderness Area and Zion National Park during conditions that have historically occurred for a small fraction of the time; and 2) visibility and acid deposition impacts within the Great Basin National Park.

The DEIS only states that the NDEP issued a draft air permit in December 2006 and required no further mitigation of visibility impacts as part of that permit (pg. 4-119). Additional discussion on these impacts is not evident in the DEIS.

Recommendation:
EPA is concerned about the potential for acid deposition and visibility impairment at Great Basin National Park, Jarbidge Wilderness Area, and Zion National Park. EPA recommends that BLM work directly with the NPS in resolving these concerns. This issue should be addressed in greater detail in the FEIS and mitigation measures should be proposed, as appropriate.

Mercury Emissions

The DEIS contains little information on mercury emissions. Mercury is listed in table 4.6-3 and table 4.6-8 (pg. 4-90; pg. 4-97). Coal-fired power plants are the largest remaining source of mercury emissions in the country (http://www.epa.gov/air/mercuryrule/basic.htm). When coal is burned to generate electricity, mercury in the coal is released into the atmosphere. Airborne mercury emissions can be deposited locally or travel hundreds of miles, depending on the form in which it is emitted, the height at which it is released, and atmospheric conditions. Mercury generally falls out in rainfall, especially in urban areas where smog is a problem, and then enters streams, lakes, reservoirs, and oceans. Once mercury enters water, biological processes transform it to methyl mercury, a highly toxic form of mercury that bioaccumulates in fish and in other animals that eat fish. Human exposure to mercury occurs primarily through consumption of contaminated fish and shellfish.

Wyoming coal has a low chlorine content that causes mercury emissions to exist in an insoluble elemental form. Power plants burning Wyoming coal can obtain only 25% or less capture of mercury in their scrubbers, as compared to power plants burning eastern coal, which can get 80-90 % mercury capture in their scrubbers.

In March 2005, EPA promulgated the first national standards (Clean Air Mercury Rule - CAMR) for mercury emissions from coal-fired electric power plants. In July 2006, EPA finalized its new mercury rule and called for a nationwide reduction of mercury emissions in two stages. The first stage calls for a ~25% reduction by 2010 as a co-benefit of an existing rule calling for new scrubbers to reduce acid rain. Additional reductions are not required until 2018. Under a "cap and trade program" utilities can buy emission credits from other utilities in lieu of installing state-of-the-art mercury removal equipment. Nevada has developed the Nevada Clean Air Mercury Rule State Plan to comply with EPA's CAMR. Under the Clean Air Mercury Rule, Nevada was allocated a budget of 570 pounds of mercury per year from 2010 to 2017. From 2018 on, Nevada's budget is 224 pounds per year.

Recommendation:
The FEIS should disclose the pounds of mercury emitted annually from the proposed project; include a discussion of how emission controls will reduce impacts from mercury; include a discussion of appropriate mercury emission limit(s); and summarize conclusions about mercury emissions to the atmosphere and subsequent deposition. The FEIS should indicate the amount of mercury estimated in the coal.

Recommendation:
The FEIS should clearly express the impacts of airborne mercury to surface waters and associated biota. The FEIS should indicate that piscivorous (fish-eating) birds and mammals are particularly at risk form mercury emissions. This risk is likely to be greatest in areas that receive high levels of mercury deposition, although local and regional factors can substantially impact the amount of total mercury that is translocated from watersheds to waterbodies and undergoes chemical transformation to the methylated species.

Greenhouse Gas Emissions

The California Public Utilities Commission (CPUC) adopted an interim *Greenhouse Gas Emissions Performance Standard* on January 25, 2007 in an effort to help mitigate climate change. The standard mandates that that new plants produce gas emissions no higher than those from a combined cycle natural gas turbine and calls for an "emissions performance level" of 1,100 pounds of carbon dioxide per megawatt hour. The standard is aimed at coal-fired power stations operating outside California and exporting electricity to the state of California. California utilities are barred from buying electricity from most coal-fired power plants unless specific standards are met, effective February 1, 2007.

Recommendation:
As stated previously, EPA recommends that the FEIS identify the potential purchasers of power. If the potential purchasers of power include California utilities, then the FEIS should address the issue of compliance with the new "*Greenhouse Gas Emissions Performance Standard*" as adopted by CPUC.

Global warming is caused by emissions of carbon dioxide and other heat-trapping gases. The DEIS compares greenhouse gas emission rates from three emission sources: 1) the White Pine Energy Station (Proposed Action), 2) a subcritical pulverized coal fired boiler, and 3) a combined cycle gas fired power plant (table 4.6-31). The White Pine Energy Station is expected to emit approximately 20 million tons per year (tons/year) of carbon dioxide (pg. 4-119).

Recommendation:
The FEIS should discuss carbon capture and sequestration and other means of capture and storage of carbon dioxide as a component of the proposed alternatives.

Construction Emissions Mitigation

Appendix A describes Best Management Practices (BMP) that would be implemented to minimize or avoid the potential for impacting air quality. EPA recommends an evaluation of the following measures to reduce construction emissions of criteria air pollutants and hazardous air pollutants (air toxics). The FEIS should include a *Construction Emissions Mitigation Plan* to reduce construction emissions and commit to the use of these measures during construction, as appropriate.

- Reduce emissions of diesel particulate matter (DPM) and other air pollutants by using particle traps and other technological or operational methods. Control technologies such as traps control approximately 80 percent of DPM. Specialized catalytic converters (oxidation catalysts) control approximately 20 percent of DPM, 40 percent of carbon monoxide emissions, and 50 percent of hydrocarbon emissions.
- Ensure that diesel-powered construction equipment is properly tuned and maintained, and shut off when not in direct use.
- Prohibit engine tampering to increase horsepower.

- Locate diesel engines, motors, and equipment as far as possible from residential areas and sensitive receptors (schools, daycare centers, and hospitals).
- Require low sulfur diesel fuel (<15 parts per million), if available.
- Reduce construction-related trips of workers and equipment, including trucks.
- Lease or buy newer, cleaner equipment (1996 or newer model), using a minimum of 75 percent of the equipment's total horsepower.
- Use engine types such as electric, liquefied gas, hydrogen fuel cells, and/or alternative diesel formulations.
- Work with the local air pollution control district(s) to implement the strongest mitigation for reducing construction emissions.

Cumulative Impacts

Cumulative impacts are discussed in Section 4.19. Eleven projects were considered in the cumulative impact analysis (pgs. 4-259 through 4-263) including the Ely Energy Center, which would be located approximately 15 miles south or 15 miles north of the White Pine Energy Station. Depending on the location of the Ely Energy Center well-field relative to the White Pine Energy Station well-field, the potential exists for cumulative effects on ground water resources, including impacts to spring discharges (pg. 4-265). The DEIS acknowledges that reduced flows and water levels may affect plant species associated with spring environments (pg. 4-266). Further analysis is precluded because of the lack of additional information on the Ely Energy Center.

Recommendation:
The FEIS should contain a more detailed discussion on the potential impacts associated with ground water withdrawal in conjunction with the Ely Energy Station, including potential mitigation measures and identification of the entities that would be responsible for implementing those mitigation measures.

Hazardous Materials and Hazardous Waste

Coal Combustion Products (CCPs)

Coal combustion products (CCPs) are the byproducts generated from burning coal in coal-fired power plants. These byproducts include fly ash, bottom ash, boiler slag, and flue gas desulfurization (FGD) gypsum. EPA promotes the beneficial reuse of CCPs through its Coal Combustion Products Partnership (C2P2), a voluntary program to reuse CCPs in commercial applications to divert waste and save natural resources. Additional information about C2P2 can be found at http://www.epa.gov/epaoswer/osw/conserve/c2p2/index.htm. CCP reuse can mitigate potential negative effects of placing all CCPs in landfills and/or mines, while simultaneously encouraging economic benefits. Specifically, we recommend the following items for inclusion in the FEIS:

Recommendation:
EPA recommends that the FEIS discuss reuse options for coal fly ash and flue gas desulfurization (FGD) gypsum products. These CCPs are widely utilized in commercial applications and there are industry specifications regarding their reuse.

Recommendation:
EPA recommends that the FEIS discuss potential modifications to air pollution control devices/configurations in order to increase the marketability of coal fly ash and FGD gypsum. Modifications could include reducing the size of coal particles entering the boiler to decrease carbon content in the ash such that it will meet the American Society of Testing and Materials (ASTM) standards in Portland Cement Concrete, or installing a forced-air oxidation system in the FGD scrubber to produce gypsum.

Recommendation:
EPA recommends that the FEIS incorporate a sampling plan to test CCPs according to standard ASTM and EPA methods once generation has begun.

Recommendation:
EPA recommends that WPEA conduct a marketing and research plan designed to identify potential end-users of the CCPs, including an exploration of potential transportation options.

EPA encourages participation in C2P2 program. For more information on CCP reuse and partnership opportunities, please contact Elise Hunter (415-972-3290) in the EPA Region 9 Waste Management Division.

Electric and Magnetic Fields

Electric and magnetic fields (EMFs) are associated with transmission lines and substations and can be associated with potential health risks. This topic was not addresses in the DEIS.

Recommendation:
The FEIS should fully describe and evaluate the potential impacts of EMFs associated with transmission lines and substations, and analyze potential health impacts of the project due to increased EMFs. The FEIS should include a summary of existing scientific evidence that may be relevant to evaluating the reasonably foreseeable impacts associated with EMFs (40 CFR 1502.22) to disclose this information to the public under NEPA.

Implementation of Adaptive Management Techniques for Mitigation Measures

Adaptive management is an iterative process that requires selecting and implementing management actions, monitoring, comparing results with management and project objectives, and using feedback to make future management decisions. The process recognizes the importance of continually improving management techniques through flexibility and adaptation instead of adhering rigidly to a standard set of management actions. Although adaptive management is not a new concept, it may be relatively new in its application to specific projects. As stated in a recent CEQ report, *Modernizing NEPA*, the effectiveness of adaptive management monitoring depends on a variety of factors including:

a) The ability to establish clear monitoring objectives;
b) Agreement on the impact thresholds being monitored;
c) The existence of a baseline or the ability to develop a baseline for the resources being monitored.
d) The ability to see the effects within an appropriate time frame after the action is taken;
e) The technical capabilities of the procedures and equipment used to identify and measure changes in the affected resources and the ability to analyze the changes;
f) The resources needed to perform the monitoring and respond to the results.

Recommendation:
EPA recommends that BLM/WPEA consider adopting a formal adaptive management plan to ensure the success of mitigation measures and to provide management flexibility to incorporate new research and information. Action alternatives would incorporate the principles of adaptive management by using monitoring and evaluation to determine if management actions were achieving objectives and adjusting actions accordingly. EPA recommends that BLM review the specific discussion on Adaptive Management in the NEPA Task Force Report to the Council on Environmental Quality on *Modernizing NEPA*.

Environmental Management System (EMS)

EMS is a management framework that provides a routine annual process for assessing environmental impacts and implementing continuous improvement measures to its environmental policy. Commitment to implement an EMS serves as effective mitigation for impacts resulting from project development and a vehicle for documenting ongoing monitoring of resources.

Recommendation:
EPA recommends that BLM/WPEA develop and implement an EMS at the proposed White Pine Energy Station.

For more information on the EMS program and partnership opportunities, please contact Larry Woods (415 972-3857) in the EPA Region 9 Communities and Ecosystems Division, Environmental Stewardship Team.

Miscellaneous Comments

The DEIS provides minimal description of the major power island components and air pollution control equipment and includes only one diagram of the schematics associated with the production process (fig. 2-4). The DEIS states that an alternative power plant cooling technology was considered but eliminated from detailed analysis because of potential impacts to ground water (pg. ES-7). It is difficult to evaluate whether or not the latest control technology is being utilized in the White Pine Energy Station due to the lack of detail in the DEIS.

Recommendation:
EPA recommends that the FEIS include additional detail and diagrams of the air pollution control equipment, cooling towers, and other major components.

The DEIS states that natural draft cooling towers will be used (pg. 2-7). In the original Proposed Action, conventional mechanical draft wet cooling towers were proposed with a total water usage of up to 25,000 acre-feet. WPEA modified the alternatives to include three generating units and a hybrid cooling system with a maximum water usage of up to 5,000 acre-feet annually, resulting in water usage reduction of approximately 80 percent (pg. 2-92).

Recommendation:
The FEIS should describe the hybrid cooling system in greater detail; clarify whether it is a dry cooling or a hybrid system; and describe whether the cooling water will be re-circulated in the plant.

Ambient air quality data for sulfur dioxide and nitrogen dioxide have been collected (pg. 3-113). Concentrations of sulfur dioxide and nitrogen dioxide are given in units of micrograms per cubic meter (ug/m^3) and then compared to the NAAQS, which are given in units of parts per million (ppm).

Recommendation:
The FEIS should include conversions for these units, so that the reader can compare the actual values with the NAAQS.