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San Francisco, CA 94105

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Rulemaking, Directives, and Editing Branch  
U.S. Nuclear Regulatory Commission  
Mail Stop T6-D59  
Washington, D.C. 20555-0001

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8/20/10  
75FR 51498

Subject: Plant-Specific Supplement 43 to the Generic Environmental Impact Statement for License Renewal of Nuclear Plants Regarding Palo Verde Nuclear-Generating Station Draft Report for Comment and Draft Supplemental Environmental Impact Statement (DSEIS), Maricopa County, Arizona [CEQ #20100325] NUREG-1437

Dear Sir or Madam:

The U.S. Environmental Protection Agency (EPA) has reviewed the above referenced document. Our review and comments are provided pursuant to the National Environmental Policy Act (NEPA), the Council on Environmental Quality's NEPA Implementation Regulations at 40 CFR 1500-1508, and our NEPA review authority under Section 309 of the Clean Air Act.

We have rated this DSEIS as EC-2 "Environmental Concerns- Insufficient Information" (see enclosed "Summary of Rating Definitions and Follow-Up Action"). Our rating on this document is based on our concerns regarding potential impacts to wildlife from contaminants in the water, sludge, and sediments of facilities at the Palo Verde Nuclear Generating Station (PVNGS). We recommend that additional information be provided in the Final Supplemental Environmental Impact Statement (FSEIS) on ecological risk associated with these facilities and on air emissions from PVNGS. Our detailed comments are enclosed.

We appreciate the opportunity to review this DSEIS and request a copy of the FSEIS when it is filed with our Washington D.C. office. If you have any questions, please call me at (415) 972-3521, or have your staff call Jeanne Geselbracht at (415) 972-3853.

Sincerely,

Kathleen M. Goforth, Manager  
Environmental Review Office

Enclosures: EPA's "Summary of Rating Definitions"  
EPA's detailed comments

Cc: David Drucker, NRC

SONSI Review Complete  
Template = ADM-013

ERIS = ADM-03  
Call = D. Drucker (DMD3)

# SUMMARY OF EPA RATING DEFINITIONS

This rating system was developed as a means to summarize EPA's level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the EIS.

## ENVIRONMENTAL IMPACT OF THE ACTION

### *"LO" (Lack of Objections)*

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

### *"EC" (Environmental Concerns)*

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

### *"EO" (Environmental Objections)*

The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

### *"EU" (Environmentally Unsatisfactory)*

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the CEQ.

## ADEQUACY OF THE IMPACT STATEMENT

### *Category 1" (Adequate)*

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

### *"Category 2" (Insufficient Information)*

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analysed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

### *"Category 3" (Inadequate)*

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analysed in the draft EIS, which should be analysed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

\*From EPA Manual 1640, "Policy and Procedures for the Review of Federal Actions Impacting the Environment."

**Palo Verde Nuclear Generating Station DSEIS**  
**EPA Comments – October, 2010**

Ecological Risk

The DSEIS (pp. 2-41, 2-42) refers to a 1996 study of aquatic life in ponds and reservoirs at Palo Verde Nuclear Generating Station (PVNGS), which found selenium in the ponds but did not find “metals and contaminants that are typically of concern for these processes.” It is unclear what parameters were investigated in that study, which also did not investigate bioaccumulation of contaminants or biomagnification up the food chain. Nuclear Regulatory Commission (NRC) staff conclude that the chemical and physical environment of the reservoirs and ponds should not have changed in the 14 years since the study. The reasons behind this conclusion are unclear. For example, does monitoring show that concentrations of all parameters are essentially the same as they were in 1996? How often are sludges dredged from the ponds and reservoirs? It is unclear from the DSEIS whether compliance with the Arizona Water Quality Standards ensures against ecological risk through exposure, bioaccumulation, and biomagnification of metals or other contaminants that concentrate in the water, sludge, and sediment in the water storage reservoirs, evaporation ponds, and sedimentation basins.

**Recommendation:** EPA recommends that the Final Supplemental Environmental Impact Statement (FSEIS) provide updated information regarding the parameters and concentrations found in the water, sludge, and sediment in the water storage reservoirs, evaporation ponds, and sedimentation basins. We recommend an ecological risk assessment be conducted to determine the potential effects of wildlife exposure to these facilities. The FSEIS should discuss the findings of this assessment and identify measures that could be implemented to mitigate any adverse impacts. If mitigation measures are needed, the FSEIS and decision record should include commitments to implement them.

Air Quality

Table 2.2.2.1 discloses PVNGS 2004-2008 emissions for criteria air pollutants and hazardous air pollutants (HAPs), but does not include emissions of some greenhouse gases such as carbon dioxide. In addition, the DSEIS (p. 2-32) only identifies benzene as one example of a HAP emitted by the PVNGS; but does not identify other HAPs or provide emission rates for specific HAPs.

**Recommendation:** EPA recommends that the FSEIS provide this information.

The DSEIS (p. 4-12) states that the Radiological Environmental Monitoring Program (REMP) reports from 2004 through 2008 were reviewed by NRC staff for unusual trends, and none were observed. It is unclear why a trend analysis was only conducted for the previous five-year period rather than for the entire period since the REMP was established in 1979. This would provide a more thorough cumulative analysis of radiological exposures and impacts.

**Recommendation:** EPA recommends that the FSEIS include an REMP trend analysis for the period from 1979 to present.

The DSEIS (p. 4-13) provides the REMP calculated annual doses to members of the public located outside the PVNGS site boundary from radioactive gaseous effluents released during 2008. The DSEIS indicates that the 2008 radiological effluent data are consistent, with reasonable variation attributable to operating conditions and outages, with the historical radiological effluent releases and resultant doses. However, it is unclear what the variation is for these doses over the years of operation.

**Recommendation:** EPA recommends that the FSEIS provide this information.