



System Energy Resources, Inc.
1340 Echelon Parkway
Jackson, MS 39213

CNRO-2005-00006

February 3, 2005

U. S. Nuclear Regulatory Commission
Washington, DC 20555-0001
Attention: Document Control Desk

DOCKET: 52-009

SUBJECT: Response to Second Supplemental Request for Additional Information (RAI) Regarding the Environmental Portion of the Early Site Permit Application by System Energy Resources, Inc. (SERI) for the Grand Gulf ESP Site

REFERENCE: 1. System Energy Resources, Inc. (SERI) letter to USNRC – Early Site Permit Application (CNRO-2003-00054), dated October 16, 2003.
2. USNRC letter to SERI – Second Supplemental Request for Additional Information (RAI) Regarding the Environmental Portion of the Early Site Permit Application by System Energy Resources, Inc. (SERI) for the Grand Gulf ESP Site (TAC No. MC1379) (CNRI-2004-00019), dated October 28, 2004.

CONTACT:

Name	George A. Zinke
Mailing Address	1340 Echelon Parkway Jackson, MS 39213
E-Mail Address	gzinke@entergy.com
Phone Number	601-368-5381

In the referenced October 28, 2004, letter (Reference 2) the U.S. Nuclear Regulatory Commission requested additional information to support review of the SERI ESP Application. This letter transmits information as outlined in Attachment 1 to this letter.

Should you have any questions, please contact me.

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I declare under penalty of perjury that the foregoing is true and correct.
Executed on February 3, 2005.

Sincerely,

A handwritten signature in black ink, appearing to read "George A. Zinke". The signature is stylized with large, sweeping loops and a long horizontal stroke at the end.

George A. Zinke
Project Manager
System Energy Resources Inc.

Attachment: Attachment 1

cc: Mr. R. K. Anand, USNRC/NRR/DRIP/RNRP
Mr. C. Brandt, PNL
Ms. D. Curran, Harmon, Curran, Spielberg, & Eisenberg, L.L.P.
Mr. W. A. Eaton (ECH)
Mr. B. S. Mallett, Administrator, USNRC/RIV
Mr. J. H. Wilson, USNRC/NRR/DRIP/RLEP

Resident Inspectors' Office: GGNS

ATTACHMENT 1

SECTION 5.7. URANIUM FUEL CYCLE IMPACTS

Request:

E 5.7-1

As indicated in 10 CFR 51.51(a), the uranium fuel cycle environmental data for light-water reactors included in an applicant's environmental report shall be based on Table S-3. While the technical bases for Table S-3 are well established, the radiological effluents for two gases (i.e., radon-222 and technetium-99) are not resolved in Table S-3. The effects of these gases are to be included in each ER. Provide a detailed analysis of the environmental effects of radon-222 and technetium-99 to complete the set of uranium fuel cycle environmental data for the Grand Gulf ESP site.

Response:

The analysis of the environmental effects of the uranium fuel cycle for the SERI ESP application included a review of impact considerations due to Radon-222 (Ra-222) and Technetium-99 (Tc-99). This assessment took full advantage of previous analyses documented in NUREG-1437, "Generic Environmental Impact Statement for License Renewal of Nuclear Plants", Section 6.2, including Tables 6.1 through 6.4.

As described in NUREG-1437, Chapter 6, the NRC supplemented the data on environmental impacts of the uranium fuel cycle presented in Table S-3 (which didn't address the impacts of Ra-222 and Tc-99) to extend the coverage of assessed impacts to include these two radionuclides. NUREG-1437 states, "principal radon releases occur during mining and milling operations and as emissions from mill tailings, whereas principal Tc-99 releases occur from gaseous diffusion enrichment facilities." The NRC concluded that the radiological impacts from these two radionuclides are small.

Furthermore, in accordance with the guidance provided in NUREG-1555 (Section 5.7, Appendix A) and the NEPA evaluation process, SERI determined that there was no new significant information relevant to the impacts of Rn-222 and Tc-99 for the SERI/GGNS ESP site. Since the principal fuel cycle and waste management techniques and impact evaluations for new reactor technologies are bounded by the existing LWR impact assessment, SERI has concluded that the overall radiological impacts due to the contribution from Ra-222 and Tc-99 would remain small. Furthermore, the NRC noted that the EPA had found that current emissions from power plants were at levels that provided an ample margin of safety. Therefore, since uranium fuel cycle facilities must comply with federal and state regulatory limits, dose contribution to the public would also be considered small.