December 28, 2000

Mr. Donald J. Campbell, Director
NASA Glenn Research Center at Lewis Field
21000 Brookpark Road M.S. 3-2
Cleveland, OH 44135

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION (TAC NO. MA8190)

Dear Mr. Campbell:

We are continuing our review of your request for a Decommissioning Plan for Facility Operating License Nos. TR-3 and R-93 for the National Aeronautics and Space Administration Test and Research Reactors. During our review of your request, questions have arisen for which we require additional information and clarification. Please provide responses to the enclosed Request for Additional Information within 90 days of the date of this letter. Following receipt of the additional information, we will continue our evaluation of your request.

In accordance with 10 CFR 50.30(b), your response must be executed in a signed original under oath or affirmation. If you have any questions regarding this review, please contact me at 301-415-1128.

Sincerely,

/RA/

Marvin M. Mendonca, Senior Project Manager
Events Assessment, Generic Communications and
Non-Power Reactors Branch
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

Docket Nos. 50-30 and 50-185

Enclosure: Request for Additional Information

cc w/enclosure:
Please see next page

National Aeronautics and Space Administration

Docket Nos. 50-30/185

cc:

Ohio Department of Health
ATTN: Radiological Health
Program Director
P.O. Box 118
Columbus, OH 43216

Ohio Environmental Protection Agency
Division of Planning
Environmental Assessment Section
P.O. Box 1049
Columbus, OH 43216

Ms. Celeste Lipp
Bureau of Radiation Protection
Ohio Department of Health
P.O. Box 118
Columbus, OH 43216

Mr. Hank Pfanner
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Plumbrook Station
6100 Columbus Avenue
Sandusky, OH 44870

Ruth Vandegrift, Supervisor Decommissioning
Ohio Department of Health,
Bureau of Radiation Protection
35 East Chestnut Street, 7th Floor
Columbus, OH 43266

Mr. Timothy Polich
NASA
Plumbrook Station
6100 Columbus Avenue
Sandusky, OH 44870

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

DOCKET NOs. 50-30 and 50-185

REQUEST FOR ADDITIONAL INFORMATION

1. Provide the Teledyne Characterization Report referenced in the Decommissioning Plan (DP).

2. Except in the second paragraph on page 1-11 of the DP, there is no apparent discussion of the secondary coolant loop. Provide information on the remaining secondary cooling system components in relationship to the decommissioning.

3. Only radiological accidents with off-site consequences are discussed in the DP.

   a. Provide analysis of on-site consequences for these events.

   b. Provide an analysis of potential accidents with only on-site consequences (e.g., a worker contamination and exposures due to potential accidents).

4. Quality Assurance (QA) is not apparently mentioned in some areas, e.g., records and reports. Provide additional information on the QA program in all applicable areas. Include:

   a. On Page 1-2, while the description of the QA program makes it clear that the program includes the dismantlement of the facility, the bulk of the description applies mainly to other activities. Provide assurance that the QA program, including the requirement for procedures applies to the actual dismantlement of systems and components.

   b. Regarding Page 1-24, provide the basis of the NASA QA program. Who is responsible for its preparation? Will it conform to ANS/ANSI 15.8 or another standard? Etc.

   c. On Page 2-60, the organizational structure diagram does not include QA. Provide an organizational chart and description that show the relationship of QA to the overall organization and a discussion of the QA plan, development, and maintenance.

   d. For Page 2-68, provide the QA program as it relates to the training program.

5. Provide additional information in the appropriate sections of the DP on the decommissioning of the 100-kilowatt reactor.

6. The DP states several times that there were no leaking fuel elements in the operating history of the reactors. Explain the presence of Cs-137 in samples. Include consideration of Page 2-9 where the last paragraph discusses a hot spot and of Table 2-3 where other hot spots are discussed. Explain the origin of these hot spots and the presence of Cs-137, a fission product, in some of them.

7. On Page 2-10, the last paragraph states that thermal luminescent devices were used to obtain dose rate measurements in the Hot Dry Storage Area. Provide this data, or explain why this data is not included in the DP.

8. For Page 2-12, explain the interpretation of Table 2-3. Specifically, how the data in the table concerning the 1998 study confirms the 1985 characterization survey.

9. On Page 2-15, the first paragraph states that small amounts of contamination have been found in the Pentolite Ditch near the confluence with Plum Brook. Explain this contamination in relationship with possible contamination of Plum Brook.

10. Regarding Page 2-18, provide input summaries and output summaries for the site specific DCGLs. Specify the version of the RESRAD, RESRAD-Build or other approved software that is used to calculate the site specific DCGLs if that information is different from what has been provided in the Decommissioning Plan. Discuss reasons for related changes to the Decommissioning Plan.

11. Regarding Page 2-52, verify that the final survey will be performed and accepted by the U. S. Nuclear Regulatory Commission prior to backfilling below grade portions of structures and excavations. If the backfilling is to be performed prior to license termination, discuss the type and description of material that will be used for that purpose.

12. On Page 2-67, discuss the disposition of the Reactor Safety Committee. If the Reactor Safety Committee is to be disbanded or incorporated as the Safety Decommissioning Committee discuss how that change will be made. Please provide the proposed Technical Specification changes required and the revision to chapter 5 of the Decommissioning Plan. Include the minimum qualifications for the chairman of the proposed committee.

13. Page 3-1shows that the radiation protection program during decommissioning will be provided by NASA and carried out by the contractor. Confirm and explain this relationship, particularly regarding licensee oversight of contractor programs and activities.

14. Page 3-7 mentions Pipe Creek for the first time in the DP in the second paragraph. Explain why this monitoring is being done as part of the decommissioning of the PBRF.

15. For Page 3-14, explain the meaning of "An industry-proven commercially available etc." Alternatively, provide specific description of the data base system to be used.

16. Regarding Page 3-17, provide a description for the generation and disposal of liquid radioactive waste.

17. Regarding Page 3-18, provide the circumstances under which Safe Work Permits will be used.

18. For Page 3-25, confirm that the radiological accident in scenario one bounds all other cutting accidents (e.g., a long continuous cut of the most radioactive portion of the tank).

19. On Page 4-6, provide a description of the ISOCS Ge solid state instrument. If it is desirable to specify a generic rather than a specific instrument describe the functional requirements of an acceptable instrument.

20. For Page 7-1, explain how emergency procedures will be done without an emergency plan, or provide an appropriate plan that carries out emergency procedures.

21. For Page 8-14, provide clarification of the paragraph “The impacts of waste disposal actions should be within the limits of impacts analyzed when the facilities were granted their licenses.”

22. Regarding Page 9-1, the criteria for changing facilities 10 CFR 50.59 does use EPA PAGs. Provide an alternative that is consistent with 10 CFR 50.59 for changing DP described in the second paragraph.

23. For Page A-10, confirm that contamination was not found below 30 cm in the Emergency Retention Basin and any additional clarification needed to address this contamination.