

# OHIO DEPARTMENT OF HEALTH

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Secretary of the Commission  
U.S. Nuclear Regulatory Commission  
ATTN: Docketing and Services Section  
Washington, D.C. 20555-0001

November 25, 1996

Re: Comments on renewal applications for License No. TR-3 (Docket No. 50-30) and  
License No. R-93 (Docket No. 50-185).

The Ohio Department of Health has received copies of the license renewal applications for the licenses issued to NASA's Plum Brook Reactor Facility, referenced above. These applications have been reviewed by the Bureau of Radiation Protection Licensing staff. The State has several comments and concerns which are submitted for your consideration. The principal concern is continued licensing of a closed research reactor with no decommissioning actions. We will be pleased to discuss any issues or concerns with the NRC licensing staff.

Sincerely,

Roger L. Suppes  
Chief, Bureau of Radiation Protection  
Ohio Department of Health

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The following are concerns and comments on the applications for renewal of the NRC licenses NASA's Plum Brook Reactor Facility. Two applications are involved, one for the Plum Brook Reactor and one for the Mock Up Reactor at the Plum Brook facility (located inside the reactor facility). The concerns and comments apply to both applications.

1. The applications request renewal of the NRC licenses for a period of 20 years. Since the reactors were closed in 1973, this would result in a custodial period of approximately 43 years. The NRC regulations in 10 CFR 50.82(b)(ii) state that a decommissioning alternative is acceptable if it provides for completion of decommissioning without significant delay. A custodial period of 43 years with no decommissioning activity is a significant delay, and NASA should provide an alternative to no action at all. The applications state that NASA has no foreseeable plans to dismantle the facility.

The NRC requirements in 10 CFR 50.82(b)(iii) provide alternatives to immediate decommissioning to protect public health and safety and for lack of radioactive waste disposal capacity. NASA has provided both reasons in its applications. Further decay of radionuclide inventory with resulting lower personnel exposure is stated as a health and safety reason, however, after 23 years most of the radioactive decay available in a reasonable time period should have occurred.

The lack of available radioactive waste capacity is also cited. However, this has not been true for the past 23 years. Disposal capacity is certainly limited, but it does exist. There is no evidence that NASA has attempted to obtain approval for any disposal volume for any level of decommissioning or elevated level of cleanup activities.

2. The section on Inspections, tests, surveys includes only general categories and lists environmental considerations only in the general title environmental radiological surveys. The application states that tritium is located in the reactor vessel in a beryllium matrix and may be mobile in the right circumstances, and that the reactor vessel is continuously purged with nitrogen gas. This provides a potential release pathway, but no effluent monitoring system is described.
3. Figure 2 of the application provides a Generic Organization Chart, but does not provide a chart of the actual organization. A directorate is described, but no specific directorate is mentioned. This may have an influence on the amount of attention and resources allocated to the Plum Brook Reactor Facility.

On the generic organization chart the Radiation Safety Officer and the Plum Brook Reactor Manager are in the same directorate, but not in the same organizational line. The application states that the Radiation Safety Officer is responsible for organization, administration and direction of the radiological control and monitoring program. However, health physics and maintenance functions appear under the Plum Brook Management Office in the organization chart. Some additional detail in program operation should be included describing the physical location and operation of the Radiation Safety Officer and the radiation safety office.

4. The applications state that all byproduct waste materials have been disposed. This may mean all byproduct wastes packaged as wastes rather than all waste materials in the facility. Removal of all materials which are not reactor components would be a significant ALARA consideration.