



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION IV  
611 RYAN PLAZA DRIVE, SUITE 400  
ARLINGTON, TEXAS 76011-4005**

December 12, 2005

MEMORANDUM TO: D. Blair Spitzberg, Chief  
Fuel Cycle and Decommissioning Branch

THRU: Anthony D. Gaines, Senior Health Physicist  
Nuclear Materials Licensing Branch

FROM: Jack E. Whitten, Chief */RA/*  
Nuclear Materials Licensing Branch

SUBJECT: REVIEW AND COMMENT ON PA'INA HAWAII, LLC'S,  
GEOTECHNICAL REPORT

Please find the geotechnical report for a new commercial pool type irradiator facility at ADAMS accession number ML053460276. The subject property leased by Pa'ina Hawaii, LLC (Pa'ina) is situated at 192 Palekona Street in the airport industrial district of Honolulu, Hawaii. The purpose of this site study, commissioned by the applicant, was to gather information on the nature, distribution, and characteristics of the subsurface earth materials and ground water conditions at the proposed construction site. Additionally, the geotechnical engineer was required to prepare specific recommendations which could be used in project design and construction. As part of the licensing process, the data in the geotechnical report must be reviewed. At this time, we in the Nuclear Materials Licensing Branch do not have the required expertise to review this geotechnical report and confirm that the data supports the conclusions arrived at in the report. We are requesting that a member of your staff review this report. This individual would need to possess expertise to review the technical aspects of the report and make a determination if the conclusions and recommendations arrived at in the report are supported by the technical data. We would also need a written response from this individual documenting their findings of the technical review and assessment. Please let me know if this is possible, and, if so, when this task could be accomplished. Time for this project should be charged to TAC# L73521.

The conclusions arrived at by the consultant Weidig Geoanalysts are as follows:

- The property at the proposed site is underlain by an eight-foot-thick zone of fill consisting of silty sand and gravel that was placed to create the airport and surrounding industrial tracts. The upper three feet of the fill is generally compact to dense, but the remainder is soft or very loose. The fill overlies typically very loose to semi-compact gravelly sand lagoonal sediments to a depth of about 24.5 feet, below which are storm surge deposits composed of a dense, silty, gravelly sand to the maximum depth explored, about 36.5 feet.
- Ground water at the proposed site was intercepted at an average depth of about eight feet, near the contact between the fill and the marine soils.
- The proposed building recommended by the consultant should be supported on conventional spread foundations based at a comparatively shallow depth in

recompacted, preexisting fill. The proposed irradiation chamber (double walled irradiator pool) could be supported upon a reinforced concrete mat founded on lagoonal deposits. The chamber excavation should be shored with sheet piles to facilitate construction of the irradiator pool.

- The new concrete slab-on-grade floor, loading dock and pavement system should be supported on recompacted surficial soils and new fill. Specific recommendations and conclusions made by the consultant are presented in the report.

If you, or your assigned reviewer, have any additional questions on the scope of the project, please contact Tony Gaines or me. Tony Gaines is the lead technical reviewer on this licensing project.

D. Blair Spitzberg

-3-

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Docket File

ADAMS: Yes 9 No Initials: ADG  
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