September 7, 2010

MEMORANDUM TO: Doug Weaver, Deputy Director
Licensing and Inspection Directorate
Division of Spent Fuel Storage and Transportation, NMSS

FROM: Pierre Saverot, Project Manager **/RA/**
Licensing Branch
Division of Spent Fuel Storage and Transportation, NMSS

SUBJECT: SUMMARY OF AUGUST 31, 2010, MEETING WITH AOS

PURPOSE

On September 14, 2009, Alpha-Omega Services, Inc. (AOS) submitted an application for approval of the Model Nos. AOS-025, AOS-050, and AOS-100 packages, after responding to a Request for Supplemental Information (RSI) dated July 31, 2009. On October 28, 2009, Management approved a staggered Request for Additional Information (RAI) process for this high priority application. AOS requested several schedule extensions to provide responses to the RAI letter dated December 24, 2009. This meeting was set up to provide AOS the opportunity to show a good faith effort in providing a high quality application including complete and satisfactory responses to staff's RAIs.

MEETING SUMMARY

AOS said that it had expanded the team responsible for the preparation of Revision D of the application, while increasing management oversight and simplifying the scope of the application. AOS indicated that all analyses have been completed, all chapters of the application have been rewritten and that the final technical review was in progress for submittal to NRC planned for September 20, 2010.

In a presentation to staff (see Enclosure 2), AOS addressed their proposed responses to a number of RAIs, e.g., contents to be shipped, thermal and structural issues, containment and shielding evaluation. In particular, AOS said that it will limit the contents to be shipped to encapsulated solid material or solid material that meets Normal or Special Form Criteria. Staff said that presenting "proposed typical contents" in an application may be good for information purposes but cannot be used by staff to make any evaluation. Staff stated that the package Certificate of Compliance (CoC) will be limited to contents that staff has evaluated, i.e., specific isotopes with a maximum activity limit and physical form (i.e., metal, ceramic, powder, etc.).

Regarding the thermal evaluation, AOS said that it has explained the rationale for modifying foam properties, detailed the dimensional changes due to the drop tests, explained the linearly scaling of the drop effect for each model, and has conservatively treated the air gaps in the thermal analysis per staff's observation made during the December 22, 2009, meeting, i.e., "replacing the foam with air during the post-fire cooldown provides a slower cool-down process, thus a more conservative and easier approach." AOS said that it is using the foam

properties from the latest revision of the General Plastics Design Guide. Staff stated that one of the objectives of a review is to verify consistency between information from different sources, e.g., data provided in a reference document has to match what is provided in an application, and that the change in the properties for the same foam between two versions of the handbook will have to be explained to increase staff confidence in reviewing the correct information. Staff also said that the argument on how the applicant scales the test results, in reference to the justification of the impact limiter deformation values when the density of the foam material for the AOS-050 and AOS-100 packages is one half of the density of the foam for the AOS-165 model that was tested, should be clearly stated and justified in the application.

AOS said that it had clarified the package containment boundary lines, and addressed staff's concerns that the gamma source term is non-conservative for certain nuclides by re-performing all of the calculations using the energy spectrum from ORIGEN-ARP. AOS did not use the spectrum from ORIGEN-ARP for Ir-192. AOS found that this was not in agreement with the Chart of the Nuclides and contacted ORNL who confirmed the error. Therefore, AOS verified that all of the spectrums from ORIGEN-ARP are in agreement with the Chart of the Nuclides and documented this process in the revised application. AOS also stated that they removed the bounding energy approach by performing a more rigorous treatment of decay energies to ensure that a conservative gamma source term is used. AOS also said that it has justified the use of the point source approximation in the shielding evaluation, and has now explicitly calculated all source strength limits. AOS also added additional justification for the Zr/Nb-95 equilibrium assumptions.

AOS made it known that long-lead procurement materials have already been ordered for two AOS-100 packages and that they would anticipate a CoC issuance in the April 2011 timeframe.

The staff did not make any regulatory commitments at the meeting.

Docket No. 71-9316
TAC No. L24353

Enclosures: 1. List of Meeting Attendees
2. AOS presentation

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Distribution: SFST r/f NMSS r/f NRC Attendees
G:/SFST/Saverot/71-9316 AOS/AOS Meeting August 31, 2010.doc.

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OFC	SFST	E	SFST	C	SFST			
NAME	PSaverot		MDeBose		EJBenner			
DATE	08/31/2010		09/02/10		9/7/2010			

C=Without attachment/enclosure E=With attachment/enclosure N=No copy **OFFICIAL RECORD COPY**

Meeting Between Alpha-Omega Services, Inc.
And The
Nuclear Regulatory Commission
August 31, 2010
Meeting Attendees

NRC/NMSS/SFST

Chris Bajwa	301-492-3333
Eric Benner	301-492-3294
Bob Einziger	301-492-3281
Michele Sampson	301-492-3292
Pierre Saverot	301-492-3408
Bob Tripathi	301-492-3282
Veronica Wilson	301-492-3278

RJP & Associates

Raul Pomares	925-980-9892

AOS

Troy Hedger	562-804-0604

GEH

Chris Monetta	910-819-6280
Earl Saito	910-819-5165
Charles Vaughan	910-540-7618

International Isotopes, Inc.

John Miller	208-524-5300