

## NRR-PMDAPEm Resource

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**From:** Carolyn Haass <carolyn.haass@nwmedicalisotopes.com>  
**Sent:** Tuesday, May 17, 2016 2:23 AM  
**To:** Martinez, Nancy  
**Cc:** Balazik, Michael; Danna, James; Carolyn Haass; Steve Reese  
**Subject:** [External\_Sender] Re: Clarification information requested on April 14, 2016 call

Nancy,

Here is the corrected clarification response to your request of April 14, 2016.

None of these “clarification responses” are considered business sensitive.

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### **RAI Response to ALT-2A and ALT2-3A**

NRC Clarification Request: The RAI response to ALT-2A provided an Alternative Site Evaluation. Page 9 of the evaluation states that a direct connection to the existing reactor may require below ground construction. However, RAI response to ALT2-3A states that there will be a need for construction of below-grade connection to MURR. Clarify if construction of a below grade connection to MURR will be needed at the MURR alternative site.

*NWMI Clarification Response:* NWMI stated that both a below grade and above ground connection was analyzed for the MURR alternative site. NWMI stated that if the RPF was constructed at the MURR site, a below grade corridor between the RPF and MURR would be constructed for transport of irradiated LEU targets.

### **RAI Response to ALT-2B**

NRC Clarification Request: The RAI response states that the MURR alternative site has the minimum amount of space required to construct and operate the proposed NWMI facility. The ER states, “the site is located directly to the south of the existing reactor building on a partially paved parking lot...the MURR site situated on a 3.0 ha (7.4- acre) lot in the central portion of the University Research Park...” Clarify if the 3.0 ha (7.4-acre) lot refers to the entire MURR facility complex or if this is the available space to construct the proposed facility. If the 3.0 ha (7.4-acre) lot refers to the entire MURR facility complex, what is the space that is available to construct the proposed facility?

*NWMI Clarification Response:* The 3.0 ha (7.5 acre) lot refers to the entire MURR facility complex which the RPF would be built within the complex. The RPF was going to be constructed in the area south of the reactor on the partially paved parking lot which is less than 1 ha (2.5 acre). An error was found in Section 19.5.2.3.1 for the size of the MURR Alternative site; the size of the site is 7.5 acre not 7.4 acre which is still approximately 3.0 ha.

### **RAI Response to ALT-2A**

NRC Clarification Request: The RAI response to ALT-2A provided an Alternative Site Evaluation. Page 10 of the evaluation provides a preliminary RPF layout at the MURR alternative site. The layout does not identify facility support buildings (diesel generator building, administration building, external waste management building) that were identified to be constructed at the Discovery Ridge site. Clarify if the facility support buildings would be constructed on the MURR alternative site.

*NWMI Clarification Response:* NWMI stated that for the MURR alternative site, the facility support buildings would be integrated within the existing infrastructure at the MURR facility. The diesel generator building and external waste management building would be located on on the MURR alternative site but were not delineated on the preliminary RPF layout. In addition, the administration building for NWMI at the MURR alternative site would be located in an existing building across the street from MURR, MU Life Science Incubator Building. The Incubator Facility is a a total of 33,000 square feet of conference room space, private offices, wet laboratory facilities, shared laboratory facilities, and open office and conference rooms.

## RAI Response to AIR2-2C

NRC Clarification Request: Design File EDF-3124-0014 provided with the RAI responses supports the information provided in Table 19-59 of the ER. Page 12 of 23 of design file EDF-3124-0014 contains model inputs for process boilers, however, the design file EDF-3124-0014 is for construction activities not operation activities. Why does the design file contain these process boiler inputs?

**NWMI Clarification Response:** NWMI stated that the NRC is correct that EDF-3124-0014 contains information for the process boilers during operations. However, the process boiler information in EDF-3124-0014 was not used in AIR2-2C response. However, the process boiler information was part of EDF-3124-0014 due to the modeler felt it was a good location to capture the process boiler AERSCREEN modeling runs (e.g., providing all AERSCREEN results together).

## Section 4.4.2.7.1 Rewrite (Non-Proprietary) of the PSAR

### *NWMI Non-Proprietary Write-up of Section 4.4.2.7.1 – Recovery of Off-Specification Uranium*

Off-specification uranium can be generated in the target fabrication system. The general approach to deal with off specification uranium is for it to be recycled and processed into fresh LEU target material. The off-specification uranium is anticipated to be generated intermittently. Since target fabrication will be completed in discrete batches, if any off-specification uranium is encountered in a batch, the entire batch will require recycle and processing into fresh LEU target material. The exception is if the uranium is not suitable for LEU target material production (e.g., the enrichment is too low). Any LEU material with low enrichment, it will be stabilized, packaged for secured storage and then returned to DOE per the Uranium Lease Take Back contract. For the preliminary design, the off-specification uranium operations are sized to accommodate 25 percent of the total throughput. An allowance has been made in the mass balance for the generation of off-specification uranium.

## *Carolyn Haass*

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**From:** "Martinez, Nancy" <[Nancy.Martinez@nrc.gov](mailto:Nancy.Martinez@nrc.gov)>

**Date:** Monday, May 16, 2016 at 4:24 PM

**To:** Carolyn Haass <[carolyn.haass@nwmedicalisotopes.com](mailto:carolyn.haass@nwmedicalisotopes.com)>

**Cc:** "Balazik, Michael" <[Michael.Balazik@nrc.gov](mailto:Michael.Balazik@nrc.gov)>, "Danna, James" <[James.Danna@nrc.gov](mailto:James.Danna@nrc.gov)>

**Subject:** Clarification information requested on April 14, 2016 call

## RAI Response to ALT-2A and ALT2-3A

NRC Clarification Request: The RAI response to ALT-2A provided an Alternative Site Evaluation. Page 9 of the evaluation states that a direct connection to the existing reactor may require below ground construction. However, RAI response to ALT2-3A states that there will be a need for construction of below-grade connection to MURR. Clarify if construction of a below grade connection to MURR will be needed at the MURR alternative site.

Discussion: NWMI stated that both a below grade and above ground connection was analyzed for the MURR alternative site. ~~NWMI stated they would provide clarification on this item at a later time.~~ NWMI stated that if the RPF was constructed at the MURR site, there would be a below grade corridor between the RPF and MURR.

## RAI Response to ALT-2B

NRC Clarification Request: The RAI response states that the MURR alternative site has the minimum amount of space required to construct and operate the proposed NWMI facility. The ER states, "the site is located directly to the south of the existing reactor building on a partially paved parking lot...the MURR site situated on a 3.0 ha (7.4-acre) lot in the central portion of the University Research Park..." Clarify if the 3.0 ha (7.4-acre)

lot refers to the entire MURR facility complex or if this is the available space to construct the proposed facility. If the 3.0 ha (7.4-acre) lot refers to the entire MURR facility complex, what is the space that is available to construct the proposed facility?

Discussion: ~~NWMI stated they would provide clarification on this item at a later time.~~ The 3.0 ha (7.5 acre) lot refers to the entire MURR facility complex which the RPF would be built within the complex. The RPF was going to be constructed in the area south of the reactor on the partially paved parking lot which is less than 1 ha (2.5 acre). An error was found in Section 19.5.2.3.1 for the size of the MURR Alternative site; the size of the site is 7.5 acre not 7.4 acre which is still approximately 3.0 ha.

#### **RAI Response to ALT-2A**

NRC Clarification Request: The RAI response to ALT-2A provided an Alternative Site Evaluation. Page 10 of the evaluation provides a preliminary RPF layout at the MURR alternative site. The layout does not identify facility support buildings (diesel generator building, administration building, external waste management building) that were identified to be constructed at the Discovery Ridge site. Clarify if the facility support buildings would be constructed on the MURR alternative site.

Discussion: NWMI stated that for the MURR alternative site, the facility support building would be integrated within the existing infrastructure at the MURR facility. ~~NWMI stated they would provide additional clarification on this item at a later time.~~ NWMI stated that at the time the site evaluation was completed, the need for a diesel generator building and external waste management building was not known so it was not included in the evaluation nor sited on the MURR alternative site. In addition, the administration building for NWMI at the MURR alternative site would be located in an existing building across the street from MURR, MU Life Science Incubator Building. The Incubator Facility is a total of 33,000 square feet of conference room space, private offices, wet laboratory facilities, shared laboratory facilities, and open office and conference rooms.

#### **RAI Response to AIR2-2C**

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#### **Section 4.4.2.7.1 of the PSAR**

Discussion: During this conference call, NWMI stated they would provide a non-proprietary write-up of Section 4.4.2.7.1 of the PSAR that was submitted to the NRC and marked proprietary.

I will provide the non-proprietary write-up of Section 4.4.2.7.1 later this morning.

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**Received Date:** 5/17/2016 2:22:44 AM  
**From:** Carolyn Haass

**Created By:** carolyn.haass@nwmedicalisotopes.com

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