

**From:** Martinez, Nancy  
**To:** ["Carolyn Haass"](#)  
**Cc:** [Balazik, Michael](#); [Steve Reese](#)  
**Subject:** RE: Re: NWMI Non-Proprietary Write-up of Section 4.4.2.7.1 – Recovery of Off-Specification Uranium  
**Date:** Tuesday, May 24, 2016 4:16:00 PM  
**Attachments:** [image001.png](#)  
[image002.png](#)

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Carolyn,

Thank you for this clarification. The information provided below regarding the diesel generator building and waste management building location clarifies the NRC's question pertaining to NWMI's response to RAI ALT-2A discussed during an April 14, 2016 teleconference (ADAMS No. ML16110A253). Additionally, thank you for providing a public version of PSAR Section 4.4.2.7.1 below; this non-proprietary write-up of Section 4.4.2.7.1 will be placed in ADAMS and will be made publically available.

Nancy

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**From:** Carolyn Haass [mailto:[carolyn.haass@nwmedicalisotopes.com](mailto:carolyn.haass@nwmedicalisotopes.com)]  
**Sent:** Tuesday, May 24, 2016 1:23 PM  
**To:** Martinez, Nancy <[Nancy.Martinez@nrc.gov](mailto:Nancy.Martinez@nrc.gov)>  
**Cc:** Balazik, Michael <[Michael.Balazik@nrc.gov](mailto:Michael.Balazik@nrc.gov)>; Steve Reese <[steve.reese@nwmedicalisotopes.com](mailto:steve.reese@nwmedicalisotopes.com)>; Carolyn Haass <[carolyn.haass@nwmedicalisotopes.com](mailto:carolyn.haass@nwmedicalisotopes.com)>  
**Subject:** [External\_Sender] Re: NWMI Non-Proprietary Write-up of Section 4.4.2.7.1 – Recovery of Off-Specification Uranium

Nancy,

Yes, the diesel generator building and waste management building are part of the 1 ha (2.5 acre) partially paved parking lot of the MURR alternative site

***Carolyn Haass***



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**From:** "Martinez, Nancy" <[Nancy.Martinez@nrc.gov](mailto:Nancy.Martinez@nrc.gov)>  
**Date:** Friday, May 20, 2016 at 6:26 AM  
**To:** Carolyn Haass <[carolyn.haass@nwmedicalisotopes.com](mailto:carolyn.haass@nwmedicalisotopes.com)>

**Cc:** "Balazik, Michael" <[Michael.Balazik@nrc.gov](mailto:Michael.Balazik@nrc.gov)>, Steve Reese  
<[steve.reese@nwmedicalisotopes.com](mailto:steve.reese@nwmedicalisotopes.com)>

**Subject:** RE: NWMI Non-Proprietary Write-up of Section 4.4.2.7.1 – Recovery of Off-Specification Uranium

Carolyn,

Thank you for the information below. Regarding the clarification response to RAI ALT-2A (location of support buildings). I want to confirm that the diesel generator building and waste management building at the MURR alternative site be located within the 1 ha (2.5 acre) partially paved parking lot?

Thanks,  
Nancy

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**From:** Carolyn Haass [<mailto:carolyn.haass@nwmedicalisotopes.com>]  
**Sent:** Thursday, May 19, 2016 12:24 AM  
**To:** Martinez, Nancy <[Nancy.Martinez@nrc.gov](mailto:Nancy.Martinez@nrc.gov)>  
**Cc:** Balazik, Michael <[Michael.Balazik@nrc.gov](mailto:Michael.Balazik@nrc.gov)>; Steve Reese  
<[steve.reese@nwmedicalisotopes.com](mailto:steve.reese@nwmedicalisotopes.com)>; Carolyn Haass <[carolyn.haass@nwmedicalisotopes.com](mailto:carolyn.haass@nwmedicalisotopes.com)>  
**Subject:** [External\_Sender] NWMI Non-Proprietary Write-up of Section 4.4.2.7.1 – Recovery of Off-Specification Uranium

Nancy,

Per your request during yesterday's weekly meeting, below is the revised public version of Section 4.4.2.7.1 – Recovery of Off-Specification Uranium.

Please let me know if you have any other clarifications.

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

Off-specification uranium can be generated during target fabrication in the target fabrication system. The off-specification uranium is anticipated to be generated intermittently. The general approach to deal with off specification uranium is for it to be recycled and processed 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 will be 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. There are three potential areas in the target fabrication system that off-specification uranium may be recovered including:

- Uranium that has been irradiated, recovered during irradiated target processing, and recycled into new LEU target material may eventually be unacceptable for continued <sup>99</sup>Mo

production due to the burnup of  $^{235}\text{U}$  and buildup of unwanted uranium isotopes. This material, which is recovered as uranyl nitrate, will be converted into a stable form for disposition and packaged for secured storage and returned to DOE.

- If uranium is identified as being off-specification due to the presence of chemical impurities, the material will be recycled to the Uranium Recycle System within the hot cells. The purified uranyl nitrate will then be recycled to the target fabrication process.
- If LEU target material is identified as being off-specification after being produced (e.g., doesn't meet process requirements), the material will be recycled to the uranium dissolution step in the Target Fabrication System.

## *Carolyn Haass*



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