

**From:** [Ashley Finan](#)  
**To:** [AdvancedRxDCComments Resource](#)  
**Subject:** [External\_Sender] Nuclear Innovation Alliance Comments on Advanced Non-Light Water Reactor Design Criteria  
**Date:** Wednesday, June 08, 2016 12:08:15 PM  
**Attachments:** [NIA\\_ARDCCommentsJune\\_8\\_2016.pdf](#)

---

Dear NRC,

Please find the Nuclear Innovation Alliance comments on the Advanced Non-Light Water Reactor Design Criteria attached.

Thank you for your work on this, and for your consideration of our comments.

Best regards,  
Ashley Finan

[Ashley E. Finan, Ph.D.](#)

Policy Director  
Nuclear Innovation Alliance  
[ashley@nuclearinnovationalliance.org](mailto:ashley@nuclearinnovationalliance.org)  
617.733.5458



To: AdvancedRxDCComments.Resource@nrc.gov.

From: Ashley@NuclearInnovationAlliance.org

June 8, 2016

RE: Nuclear Innovation Alliance Comments on Advanced Non-Light Water Reactor Design Criteria

To Whom It May Concern:

The Nuclear Innovation Alliance does not support a particular advanced design, and thus we are providing comments only on the ARDCs. Thank you for your work on this important effort. Our comments follow:

GDC 10: The mHTGR is not the only design that plans to use TRISO fuel, and in this case the mHTGR-DC seems to be more general and technology-inclusive than the ARDC. Consider using the mHTGR-DC as the ARDC.

GDC 12: The mHTGR is not the only design that plans to use TRISO fuel. Is it possible to make the ARDC technology-inclusive enough to apply to those plants, perhaps by referring to “core radionuclide release design limits” instead of “fuel design limits,” as in the mHTGR-DC? This would also make the ARDC more applicable to liquid fueled reactors.

GDC 13: To make the ARDC more technology-inclusive, you could refer to the primary coolant boundary (this is not just a standard term used in the LMR industry – it is widely used), and you could refer to “containment or functional containment,” since the mHTGR may not be the only advanced reactor to use a functional containment.

GDC 14: As in GDC-13, primary coolant boundary is not only applicable to the SFR. Many designs use an intermediate coolant, so making this change in the ARDC as well as the SFR-DC may be useful.

GDC 15: Same comment as on GDC-14.

GDC 16: The explanation in the ARDC that “for non-LWRs technologies other than SFRs and mHTGRs, designers should use the current GDC to develop applicable principle design criteria” is not very clear. It is clear, from the changes in the SFR-DC and mHTGR-DC, that the existing LWR GDC’s do not work well for advanced technologies and any advanced reactor will likely need a new GDC here. Are you suggesting that each will need a separate technology-specific GDC? Is it possible to

try to design an ARDC that is more general? It seems like the mHTGR-DC is actually the most inclusive and could envelope both innovative and traditional containment designs. We suggest considering where the current draft mHTGR-DC could be used for the ARDC.

GDC 17: same comment as on GDC 14.

GDC 20: the mHTGR is not the only design contemplating the use of TRISO fuel. "Core radionuclide release design limit," as used in the mHTGR-DC, is more technology inclusive than "fuel design limit," so it would be useful to adjust the ARDC to match the mHTGR-DC. The ARDC would then envelope more technologies, including liquid fuel.

GDC 25: same comment as for GDC 20.

GDC 26: same comment as for GDC 20.

GDC 28: same comment as for GDC 14.

GDC 30: same comment as for GDC 14.

GDC 31: same comment as for GDC 14.

GDC 32: same comment as for GDC 14.

GDC 33: same comment as for GDC 14.

GDC 34: same comment as for GDC 14.

GDC 40: The mHTGR may not be the only design to utilize a functional containment. As such, it would be better if the ARDC contemplated this situation as well.

GDC 41: same comment as for GDC 40.

GDC 42: same comment as for GDC 40.

GDC 43: same comment as for GDC 40.

GDC 50: same comment as for GDC 40.

GDC 51: same comment as for GDC 40.

GDC 52: same comment as for GDC 40.

GDC 53: same comment as for GDC 40.

GDC 55: same comment as for GDC 14.

GDC 56: same comment as for GDC 40.

GDC 57: same comments as for GDC 40 and GDC 14.

GDC 64: same comment as for GDC 40.

Thank you very much for your consideration of these comments.

Best regards,

Ashley Finan  
Policy Director  
Nuclear Innovation Alliance