Notes from the DNCSH EAW#1 Information Call 4.22.24

Meeting Q&A

Q1: Will this be the only call?

A1: We anticipate another 2 calls, with an additional call to focus more solely on microreactors. They will follow a similar process to

call #1 with a public workshop, draft call development, informational meeting, and final issuance. See updates at the end of Section I.A.

Q2: When will the next call be issued?

A2: The workshop for the next call will be around the end of this FY. The next call is anticipated to be issued in the December 2024 time frame. See updates at the end of Section I.A.

Q3: What is the makeup of potential teams?

A3: All calls MUST be led by a national laboratory as funds will be issued via DOE-NE through the PICS-NE system. How a laboratory chooses to respond to a call, meaning any subcontracts, is between that laboratory and their subcontractor. As long as the use of the subcontractor can fall within the funding and time constraints that are inherent to the project and the data and reports -such that they may be independently reproducible- are publicly available, we see no issues.
See updates at the end of Section I.A.

Q4: Summarize the proposal process.

A4: Please refer to the call document which has a timeline at the very beginning. The proposal template is provided on the website www.ornl.gov/dncsh. The rating rubric to be used by reviewers is in Section IX. Those writing proposals are encouraged to consult this rubric for an idea of how their proposals would be reviewed.

Q5: Will only fresh fuel validations be included, or could burnup credit be covered for the backend?

A5: We are not focusing on the backend for this call, but we will in a future call. At this point, we anticipate that to be during call 3. It would be useful, however, if you submit any information in this area that would be helpful to understand industry needs.
See updates at the end of Section I.A.

Q6: If we are industry, how do we find the right lab partner to work with for the specific investigation? (e.g., new terrestrial fuel or a new space fuel study)

A6: On the www.ornl.gov/dncsh website, there is a link to the Workshop #1 Summary Report. This report includes information on attendees that had interest, including those from industry and national laboratories. This would be a good place to start looking. In addition, you may email dncsh@ornl.gov and we can try to assist in partnering you with the appropriate national laboratory to fit your needs.

Q7: How are proposals that have requirements not currently possible in existing facilities handled?

A7: On our website, www.ornl.gov/dncsh, there is a link to a summary report that includes a survey of current capabilities. It is recommended that a need be coordinated with specific laboratory(s).

Q8: If we are industry, how do we ensure the labs plan on producing useful validations or verify a lab is planning on tackling a validation needed by industry?

A8: This is being addressed via our proposal review process. See the rubric in section IX with information on how proposals will be ranked, which includes point deductions when there is no evidence of validations useful to industry.

Q9: Is the cost of fuel acquisition included in the total award amounts listed in the proposal?

A9: Including costs for fuel procurement is not necessary as the DNCSH project is responsible for buying, transporting, and installing new fuel in the facility where the new experiment will be performed. However, if you have access to appropriate fuel and fabrication services and would remain below the $2M ceiling even including those costs, you may submit a proposal where you provide your own HALEU.

Q10: Will there be rankings on fuel type?

A10: Again, this is where our review team comes into play.
See updates at the end of Section I.A. Benefit is a key component of the rating and fuel forms with clear pathways to production will receive higher ratings. Note that this is the strategy for this first call. Subsequent calls may introduce a different rating to prioritize other pathways. The goal for call #1 is to enable a first wave of faster turnaround/lower risk benchmarks.

Q11: Will we identify preferential fuels or fuels that already have a preferential setup?

A11: The rubric in section 9 provides insights into the ranking process. The right lab partners can help you decide the best way to propose your experiment. We can steer you in the right direction if needed.

Q12: Is the award intended to cover both the experimental costs and computational modeling costs to align with ICSBEP Benchmarks? As a follow-up, does the computational modeling cost need to cover modeling with multiple codes (e.g., KENO and MCNP)?

A12: The award is intended to cover the costs of the experimental and the modeling. The cost does not need to cover multiple codes, but we would like to see SDFs as practicable.

Q13: Is the proposal for cold experiments only or can hot experiments be proposed?

A13: All proposals should be relevant for validation for 10 CFR parts 70 and 71, which lends mainly to cold conditions. With that said, elevated temperatures may occur for certain processes, e.g. with fuel salts.

Q14: To my understanding, water moderation is a nonstarter at NCERC. Is this still true?

A14: Yes. However, the use of sensitivity evaluations to simulate accident conditions is encouraged.

Q15: Is there guidance on how long after fuel is discharged to when it may be transported?

A15: The back-end is not in scope for Call #1 but is anticipated for Call #3 in mid-FY25. This is very dependent on the fuel design and operation history. More consideration on the range of anticipated behavior will be included in the following call related to the back-end. From LWR experience, transport occurs when the fuel has cooled significantly, usually no less than one year.

Q16: In reference to Area 5 in the call, it was stated that, “Graphite in TRISO as a subset of graphite moderators could be possibly mentioned specifically. Graphite in TRISO is different than nuclear grade graphite used in reflectors.” In addition, a comment was “ I think TRISO should be included, there could be TRISO with non-graphite moderators.”

A16: A final paragraph was added to Section I.C.5.

Q17: Graphite moderated and reflected systems with Uranium Metal as a needed area not identified in the table. An example condition provided is where uranium ingot is melted in a graphite crucible.

A17: The project covers conditions as anticipated for 10CFR70 and 10CFR71 conditions. We believe the section I.C.2 for general 10-20% experiments or I.C.4 for fissile salts may be appropriate for this area. It is possible to have an experiment cover two areas. This description could lead to a proposal for an experiment that hits on the 10-20% gap (area 2) and graphite moderation (area 5).

List of Changes from Draft to Final Call

- Cover page: dates updated.
- Page 5: clarify front-end/back-end with callouts to fuel cycle stages.
- Page 5: discuss future calls in a little more detail.
- Page 12: mention that the rating system does penalize pure nuclear data proposals and it is especially important for them to show relevance.
- Page 13: New sentence mentioning we will be responsible for new HALEU fuel cost and does not need to be included in proposed EAW budget.
- Page 15: Remove file name.
- Page 16: Be explicit it is up to labs who their partners are. International is okay if it is doable through your lab.
- Page 17: Update dates at top.
- Page 17: Add a sentence that we will buy HALEU.
- Page 19: Update language regarding how non-selected proposals may still help influence future calls/work.
- Page 21: Update dates.
- Page 23: Remove specific dates but indicate that short turnaround times are intended and possible given the non-fiscal year-based funding for DNCSH.
- Page 25: More clarity regarding does new HALEU fuel need to be included or not.