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RE: Public Comments on draft Environmental Assessment for the Resumption of Transient Testing of Nuclear Fuels and Materials, DOE/EA-1954

Summary

The Draft Environmental Assessment for the Resumption of Transient Testing of Nuclear Fuels and Materials[1] starts off entirely on the wrong track from the start because DOE regulations require reactor facilities, including research or test reactors, to have an Environmental Impact Statement rather than an abbreviated Environmental Assessment (See 10 CFR 1021). The truncated document and comment opportunity are not in the public's interest and do not adequately evaluate the impact of an accident. The EA is also less than forthcoming about the inadequate and irresponsible approach being taken to shortcut safety for essential safety issues including natural phenomena hazards (NPH) hazard mitigation, fire hazards and criticality safety.[2]

Accident Consequence Analysis Limited to Radiation Dose from Plume Passage is Inadequate

The Department of Energy sticks to arguments narrowly focused on radiation doses during plume passage following an accident. It is apparent from this EA that DOE has not learned from the Nuclear Regulatory Commission's recent experience with its generic Waste Confidence Environmental Impact Statement.[3] The NRC has included in its EIS estimates not only the public radiation doses (in rem) but also the economic impact of the accident including estimates of evacuation costs, relocation costs for displaced persons, property decontamination costs, loss of use of contaminated property through interdiction, crop, and

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[1] http://www.id.energy.gov/insideNEID/PDF/Draft%20RTT%20EA%2011-12-2013%20(Draft%20V1).pdf

[2] "Safety Design Strategy for the Resumption of Transient Testing," INL/EXT-12-26455, Rev. 2, September 2013.

[3] U.S.NRC, "Waste Confidence Generic Environmental Impact Statement," draft for comment, NUREG-2157, September 2013. p. F-7.

milk losses. Estimates for NRC onsite property damage costs also include onsite cleanup and decontamination and repair of facilities. The DOE has chosen to pretend that plume passage radiation doses convey adequately the consequences of potential accidents. The amount of soil contamination matters to Idahoans. The public, even in Idaho, deserves complete disclosure of the economic and important long term contamination considerations even if the TREAT reactor consequences are less than a full sized nuclear reactor. DOE's longstanding approach to rely on dilution of airborne released fission products and actinides while ignoring the long-term effects of radioactive contamination from accidents must not be allowed to continue.

The Resumption of Transient Testing Will Offer Little Benefit

The reasons for resumption of transient testing of reactor fuels are described in the EA as needed to "improve nuclear reactor sustainability and performance, to reduce the potential for proliferation of nuclear materials, and to advance the nuclear fuel cycle."[4]

The reality is that various "improvements" in current nuclear power reactor fuels have increased fuel burnup[5] and allowed the use of Mixed Oxide fuels.[6] These "improvements" have saved utilities some money while significantly decreasing safety in reactors and spent fuel pools. These "improvements" have increased the level of difficulty of long term storage of nuclear spent fuel and the necessary studies for storing these modified fuels, which taxpayers will have to pay for, have not yet been performed.[7]

The second reason given "to reduce the potential for proliferation of nuclear material" is destined to be as ineffective as various existing schemes supposedly to make plutonium unattractive by various contaminants.[8] If DOE cared about reducing the proliferation threat it would not be sharing the Idaho National Laboratory (INL) Materials and Fuel Complex pyroprocessing technology (also known by other names such as electrorefining) with other countries, including the South Korea.[9] Some experts fear that pyroprocessing will allow the separation of plutonium virtually undetected.[10] Pyroprocessing treats spent fuel by removing the extremely radioactive but relatively short-lived constituents, such as strontium and cesium,

[4] Additional goals from the Department of Energy on the resumption of transient testing can be found at http://energy.gov/ne/articles/resumption-transient-testing.

[5] National Academy of Engineering, Managing Nuclear Waste, Summer 2012, pp 21, 31. http://www.nae.edu/File.aspx?id=60739

[6] International Atomic Energy Agency, Impact of High-Burnup Uranium Oxide and Mixed Uranium – Plutonium Oxide Water Reactor Fuel on Spent Fuel Management, IAEA Nuclear Energy Series, No.. NF-T-3.8, June 2011. P. 39. http://www-pub.iaea.org/MTCD/Publications/PDF/Pub1490_web.pdf

[7] R. Alvarez, "The Storage and Disposal Challenges of High Burnup Spent Power Reactor Fuel," Institute for Policy Studies, January 3, 2014, http://www.ips-dc.org/reports/storage_and_disposal_challenges_of_high_burnup_spent_power_reactor_fuel

[8] R. Bari et al., "Proliferation Risk Reduction Study of Alternative Spent Fuel Processing," Brookhaven National Laboratory, BNL-90264-2009-CP, July 2009.

[9] R. Einhorn, "US –ROK Civil Nuclear Cooperation Agreement: overcoming the Impasse, October 11, 2013. http://www.brookings.edu/research/speeches/2013/10/us-south-korea-civil-nuclear-cooperation-agreement-einhorn

[10] http://belfercenter.ksg.harvard.edu/publication/22979/safeguards_for_pyroprocessing_plants.html

and storing these separately from the spent fuel. The remaining material, including the comparatively long-lived transuranic elements plutonium and other actinides, can then be burned in fast-neutron reactors or used in nuclear weapons. However, high level and spent fuel waste problems are not solved by operating fast reactors as determined by the Blue Ribbon Commission report.[11] [12]

Transient reactor testing has the goal of advancing the nuclear fuel cycle which means research for fast neutron reactors. The problem is that fast reactors may never be safe, economic, or ready in time to address global warming. TREAT reactor research was used for Japan's Monju fast reactor fuel. Monju started operation in 1994 but following a serious liquid sodium leak in 1995 the reactor has basically been unable to return to operation due to a series of problems ever since.[13] Monju's restart was unsuccessfully attempted in 2010 and its future is in doubt.[14] Monju is the poster child for the TREAT reactor goal of advancing the nuclear fuel cycle.

Spending money, over $900 million[15] on new fuels research at TREAT is typical of the mindset of an industry that prefers new research over the analysis of and cleanup of its existing waste problems. Difficult and unattractive problems are left for the next management team and for future generations.

The refinements in predictions of fuel performance under extreme conditions that will be studied in the TREAT reactor [or the Annular Core Research Reactor (ACRR) in New Mexico] may simply be used to reduce safe operating margins. And there will remain the risk of nuclear accidents that occur because designers underestimated natural phenomena hazards and refused to address new analysis that their existing design needed modification as happened at Japan's Fukushima Daiichi plant. There will remain the risk of nuclear accidents that happen because overconfident plant operators inactivate plant safety systems as happened at Three Mile Island and at Chernobyl.

Resumption of Transient Testing Takes Money Away from Cleanup

New missions at INL's MFC will, however, obscure the magnitude of the radiological mess that already exists there and will further "kick the can down the road" and delay the needed cleanup at MFC including MFC's Radioactive Scrap and Waste Facility that contains spent fuel and high level waste in inadequately monitored buried metal containers.

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11 Blue Ribbon Commission of America's Nuclear Future. 2012. (2010 estimates quoted) www.brc.gov

12 A. Makhijani and L Ledwidge, "Reprocessing: Mythology versus Reality," Science for Democratic Action, February 2012. http://ieer.org/wp/wp-content/uploads/2012/02/16-2.pdf

13 T. B. Cochran et al., Fast Breeder Reactor Programs: History and Status, Research Report 8 International Panel on Fissile Materials, February 2010. www.fissilematerials.org

14 http://www.japantimes.co.jp/news/2013/05/15/reference/monju-generating-only-misfortune/#.UsTNK7TaIm4

15 "Alternatives Analysis for the Resumption of Transient Testing Program," INL/EXT-13-28597 Rev 2, November 2013.

Disposition plans for 4 metric tons (4.4 tons) of surplus plutonium in the form of Zero Power Physics Reactor (ZPPR) fuel at its Idaho National Laboratory remain to be developed. DOE no longer has a programmatic use for this material.[16]

Transient Testing Accident Consequences Inadequately Assessed

The Transient Reactor Test Facility (TREAT) reactor at MFC was constructed in 1958 and operated for 35 years before entering standby status in 1994 due to lack of mission. TREAT is an air-cooled, graphite-moderated thermal category "B" reactor designed to produce short, controlled bursts of nuclear energy for destructive testing of reactor fuel specimens. TREAT can operate at steady state 100 kW but is designed for providing brief power pulses up to 19,000 MW for a maximum core energy of 2900 MJ.[17] TREAT fuel is highly enriched UO2 in graphite and carbon, and is zicaloy clad.

The accident consequences of restarting MFC's TREAT reactor following extensive replacement of control and other plant equipment and examination of existing TREAT fuel for adequacy, are significantly less than 1000 MWe nuclear plants or the INL's Advanced Test Reactor that can cause accidents of catastrophic proportions. However, despite the EA's limited focus on two bounding accidents, TREAT is vulnerable to many very high likelihood accidents according to DOE's own report.[18] These accidents include sodium fires are incorrectly described as "extremely unlikely" on page F-37 of INL/EXT-13-29397. The report states that a sodium fire has a likelihood of 1.1E-2/yr which makes the accident "anticipated" by the reports own table below.[19]

Table F-5. Likelihood categories assigned to the hazards identified in the preliminary hazards assessment. Likelihood category	Annual Exceedance Probability	Estimated Annual Frequency of Occurrence
Anticipated	1/10 to 1/100 years	10-2 to 10-1
Unlikely	1/100 to 1/10,000 years	10-4 to 10-2
Extremely Unlikely	1/10,000 to 1/1,000,000 years	10-6 to 10-4
Beyond Extremely Unlikely	<1/1,000,000 years	<10-6

[16] Draft Surplus Plutonium Supplemental Environmental Impact Statement, DOE/EIS-0283-S2, DOE/NNSA, July 2012. http://nnsa.energy.gov/sites/default/files/nnsa/07-12-inlinefiles/Summary.pdf

[17] Future Transient Testing of Advanced Fuels, Summary of the May 4-5, 2009 Transient Testing Workshop Held at Idaho National Laboratory, INL/EXT-09-16392, September 2009.

[18] Schafer, A. L., L. C. Brown, D. C. Carathers, B. D. Christensen, J. J. Dahl, M. L. Miller, C. Ottinger Farnum, S. Peterson, A. Jeffrey Sondrup, P. V. Subaiya, D. M. Wachs, R. F. Weiner, 2013, "Impacts Analyses Supporting the National Environmental Policy Act Environmental Assessment for the Resumption of Transient Testing Program." INL/EXT-13-29397, Idaho National Laboratory, Idaho Falls, ID, November 2013.

[19] ibid, page F-15.

The sodium fire yields a 25 rem worker dose and 0.027 rem dose to the public at the nearest site boundary, 6000 m away. The two bounding accidents yield 0.08 and 0.24 rem doses to the public, but their annual probability is much lower than the sodium fire accident. The EA hides the fact that TREAT is highly accident prone. The accident analysis presented in the EA is inscrutable and supporting documents appears to be arbitrary in the selection of dose reduction factors. The analysis may define the material-at-risk adequately, but accident progression is far from certain and the analysis proceeds to whittle down the dose indefensibly with various reductions. This raises the doubt that the presented 0.2 rem dose to the public should be more reasonably assessed as a 2 rem or a 20 rem dose.

Table F-3 of INL/EXT-1328597 presents various factors and formulas that do not combine to achieve the resulting "ADJnet" result for fire scenarios. Rather, ADJnet is a factor of 10 below what is indicated by the table data. Also in Table F-3, Uranium and fission products apparently would include cesium but the semi-volatile cesium airborne released fraction is not bounded by the airborne release fraction the analysts have selected (1.0E-4) and should more reasonably be closer to 1.75E-1 according the another DOE report.[20] And finally, the plume passage radiation dose, which has been subject to numerous reductions beyond a typical analysis, does not provide an adequate depiction of the short term and long term contamination effects, nor does it address special populations including children, the elderly, and the unborn developing child.

The historically poor seismic qualification of facilities at MFC began with inadequate design decades ago, and limited upgrades since. MFC is another example of the footdragging of DOE to address seismic issues comprehensively. Seismic deficiencies at MFC identified in 1994 (DOE/EH0415) have still not been fully addressed and are supposedly still being analyzed. TREAT is described as perhaps meeting PC-2 seismic design, while full sized reactors need to meet more stringent PC-4 criteria. If you cannot meet PC-2 seismic criteria, not only will the structures fail during an infrequent but large seismic event, the structures will also fail during more likely modest seismic events. Frankly, structures that cannot withstand PC-2 seismic criteria are seismically fragile. It is unacceptable for DOE to be excusing itself from performing adequate seismic performance assessment for TREAT needed to assure that at least PC-2 seismic criteria are met for all systems, structures and components.

The accident analyses limit accidents to portions of the facility, never including the entire facility such as in a truck fire in the building with failure to suppress the fire and does not address fire protection actions that may be needed to limit the accident consequences.

Efforts to update the fire hazards analysis at MFC are no doubt influenced by a need to justify existing fire protection systems and to continue to minimize the appearance of any offsite release rather than to rigorously analyze and mitigate the hazards. The level of quality of DOE fire hazards assessments has traditionally been variable and generally inadequate to support the safety analysis. There is no evidence that this is not the case in the TREAT facility. The fire protection systems also require seismic qualification adequate to protect nuclear materials and there is no evidence of actions to assure this.

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[20] J. C. Courtney et al., Effects of Spent Fuel Types on Offsite Consequences of Hypothetical Accidents, WM'00 Conference, February 27 – March 2, 2000.

Worst case transportation accident results are not provided, particularly for offsite transportation of TREAT experiment fuel.

While some aspects of the accident analysis may be reasonable and bounding, various other aspects do not appear to be reasonable or bounding with the limited information provided. The full impact, including economic impact, of accidents at TREAT (and alternate action ACRR) must be disclosed to the public.

DOE Implementation of 10 CFR 830 Woefully Inadequate

The EA states that 10 CFR 830 establishes requirements that must be implemented in a manner that provides reasonable assurance of adequate protection of workers, the public, and the environment from adverse consequences, taking into account the work to be performed and the associated hazards. This is supposed to be reassuring.

But the DOE has a long and documented history of inadequate safety analysis documents, particularly at MFC. MFC's ZPPR plutonium contamination event that contaminated workers and a facility was supposedly in compliance with 10 CFR 830 despite the accident vulnerabilities having been identified but not remedied and not reported as required by 10 CFR 830.

To provide some perspective, the 1994 Plutonium Working Group Report reported that "the ZPPR has a vulnerability due to a lack of an up-to-date safety authorization basis . . . and lack of a formal documented plan for inspection and surveillance of the materials in the SPPR vault."[21] **<u>These problems identified in 1994 were not corrected in 2011.</u>** In 1994, DOE also reported that the "DOE Office of Nuclear Energy advised the site to deter the proposed implementation plan for upgrading Safety Analysis Reports (SARs) for facilities at ANL-W (Memorandum, E.C. Brolin to C.J. Langenfeld, March 9, 1994)." These inadequate safety analyses were then later signed off as "approved under the rule," despite recognized deficiencies and failure to meet 10CFR830 safety basis rule requirements that DOE was suppose to implement by 2003 for facilities to remain operational.

Between 2004 and 2005, MFC responsibility transferred from the Office of Science to the Office of Nuclear Energy and to a new contract with BEA. The Idaho Operations Office (DOE-ID) and Battelle Energy Alliance (BEA) conducted comprehensive transition planning and vulnerability analysis. After identifying deficiencies **in the existing DOE <u>approved</u> safety basis documents**, BEA established a multi-year plan to update the safety basis for all MFC facilities.

The problems in approved safety bases documents included the ZPPR, and although safety analysts and management were aware of significant worker safety problems and the identification of an accident of increased frequency requiring 10 CFR 830 reporting, the issues were not corrected or reported as required by 10 CFR 830.[22]

[21] Plutonium Working Group Report on Environmental, Safety and Health Vulnerabilities Associated with the Department's Plutonium Storage, Vol. II, Part 5, Argonne National Laboratory-West Working Group Assessment Team Report, November 1994.

[22] DOE Occurrence Report NE-ID--BEA-ZPPR-2011-0001 ZPPR Workroom Pu Contamination Event in MFC-775, https://orpspublic.hss.doe.gov/orps/reports/displayReport2.asp?crypt=%87%C3%95%9Ba%8Etjz%5D%91

Inadequate hazard controls at MFC are not limited to the ZPPR workroom. The following accidents at MFC resulting in fires, explosions and worker plutonium contamination which inexplicably did not result in an MFC stand-down until April 19, 2012:

- March 17, 2011: Based on six ORPS and 14 non-ORPS issues since April 2009, a Radiological Work Control Noncompliance Issues Occurrence Report was issued.[23]
- April 5, 2011: It was determined that surveillance for safety exhaust system filters at the Fuel Conditioning Facility did not meet applicable standards. [24]
- November 8, 2011: MFC ZPPR accident that exposed 16 workers to plutonium contamination.[25]
- November 11, 2011: MFC-766 facility is evacuated after sodium excursion/explosion caused fracture of secondary piping while personnel were treating passivated [sic] sodium.[26]
- April 17, 2012: A fire resulting from welding activities was detected on the roof of the Analytical Laboratory at the Materials and Fuels Complex, a hazard category 3 nuclear facility.[27]
- April 18, 2012: While performing hoisting and rigging operations at the Hot Fuels Examination Facility, a load shifted, causing a 3000-pound sliding door to disengage from the shutter shield housing. This load drop was a repeat event.[28]

While prevention of the ZPPR accident would have been simple, the number and complexity of other worker safety hazards at MFC pose challenges. The lack of adequate safety basis analyses also puts the public at risk. Rather than mitigate accidents, the approach has been to finagle the analyses to use unjustifiable assumptions for release fractions and the material at risk.[29] [30] This tradition of unjustifiable assumptions appears to be perpetuated with the TREAT EA.

Even when 10 CFR 830 is rigorously implemented, it allows public rem dose to drive safety requirements rather than the amount of contamination released from the facility with economic, environmental, and health impacts that extend far beyond what is indicated by plume passage during an accident. Release fractions and assumed placement of the public receptor for analysis is also subject to inconsistencies from facility to facility. The DOE evaluates the ATR public receptor over 30 miles from ATR toward Idaho Falls while public populations closer to the facility such as Arco are ignored. The devastating economic impacts

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[23] DOE Occurrence Report NE-ID—BEAINLPROGRM-2011-0001
[24] DOE Occurrence Report NE-ID-BEA-FCF-2011-0002
[25] DOE Office of Health, Safety and Security, Accident Investigation Report, Plutonium Contamination in Zero Power Physics Reactor Facility at the Idaho National Laboratory, November 8, 2011
[26] DOE Occurrence Report NE-ID-BEA-FCF-2011-0009
[27] DOE Occurrence Report NE-ID—BEA-AL-2012-0002
[28] DOE Occurrence Report NE-ID—BEA-HFEF-2012-0003
[29] http://www.hss.doe.gov/IndepOversight/docs/reports/eshevals/2011/2011_INL_FCF_ Upgraded_Safety_Basis_Independent_Followup_(March21-April62011)_final.pdf
[30] DOE Occurrence Report NE-ID--BEA-FMF-2005-000

of an accident are often not understood by plant managers, operators and engineers who make essential safety decisions every day.

The INL safety strategy for the resumption of transient testing at the TREAT reactor is inadequate[31] because it explicitly accepts the avoidance of clear and coherent NPH performance assessment, fire hazard assessment and criticality safety required by DOE Order 420, "Facility Safety" which is essential for meaningful compliance with 10 CFR 830. So unimportant is worker and public safety that "no betterment functionally-equivalent replacement" has been created to argue that the ignorance of seismic safety that existed in 1958 when the facility was first built should dictate that no upgrades or corrections are needed now in 2014. This is despite the project being determined to be a major modification of broad and ambiguous scope.

For the TREAT facility, vague assertions of NPH assessment from INL/EXT-12-26455 include:

"A qualitative evaluation of various portions and components of the TREAT reactor building **indicates** that the reactor structure, control rod drive support structure, and 60-ton overhead crane **are considered to meet** Performance Category 2 (PC-2) seismic design criteria . . ." [Emphasis added. Translation: we are not confident that anything actually meets PC-2 seismic criteria.]

"The following features or components of the TREAT reactor building were evaluated as not meeting PC-2 requirements, warranting further analysis: (1) the reactor building, including the original building, first addition, third addition, and forth addition; and (2) the 15-ton overhead crane (seismic evaluation is underway)." [Translation: we are analyzing some of the deficiencies and there is no promise that we are going to analyze or fix all of the deficiencies.]

The DOE Order 420, "Facility Safety" requirement that NPH performance assessment be performed following significant changes in NPH assessment site-specific information or at least every 10 years. New NPH site-specific information was issued nearly 10 years ago[32] that INL has yet to completely address. NPH assessment has never been adequately performed at any INL facility to date. The piecemeal studies that have been performed from time to time during that last 20 years do not assure an adequate level of safety. The DOE fails to enforce its own DOE regulations. Documentation to verify INL NPH performance assessment were requested in a Freedom of Information Act request in 2013 and no evidence of end-to-end NPH performance assessment and correction of deficiencies was provided by the DOE.[33] The muddiness of DOE's approach is a deliberate strategy to sound good while still avoiding complete and coherent treatment of NPH and other safety design issues. This undercutting of nuclear safety at the TREAT facility from the beginning of this restart effort is not made clear in the EA.

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[31] "Safety Design Strategy for the Resumption of Transient Testing," INL/EXT-12-26455, Rev. 2, September 2013.

[32] "Data and Calculations for Development of Soil Design Basis Earthquake Parameters at RTC" (Reactor Technology Center), September 2005, S. J. Payne, INEEL/EXT-03-00943 and other updated NPH characterization studies.

[33] Freedom of Information Act request ID-2013-01514-F, OM-PA-13-054.

Inadequate Environmental Monitoring and Mitigation

Insight into INL's environmental monitoring can be gained from a report by the independent branch of DOE, health safety and security which reviewed INL's environmental monitoring programs in 2010. The HSS report[34] states that INL consider having a technical basis for its placement and use of monitoring equipment. The report gave the example that monitors for an evaporation pond at TRA, a very significant source of radiological emissions, should have been relocated when the pond was relocated. Excerpts from the HSS report:

> "**The current programmatic design does not provide a complete definition of the technical basis for all environmental monitoring and surveillance activities being conducted at the INL Site.** While a significant amount of environmental monitoring and surveillance is being performed to characterize the potential for impact from INL Site operations, there is no well-defined technical basis for each media sampled to support or defend the adequacy of protocols to meet current objectives (i.e., what is sampled, the frequency of sampling, the locations chosen, specific analytes being measured).

. . .Some information in published environmental reports was not fully accurate and clear. A summary of overall environmental monitoring and surveillance activities is published annually in the INL Site ASER. While the overall ASER is effective in conveying necessary annual environmental protection and performance information, there are several underlying weaknesses in the presentation and technical defensibility of some of the reported information.

. . ..However, the sampling design of many existing environmental monitoring activities dates back to their origins many years ago and there is no well-defined technical basis to support or defend the adequacy of protocols to meet current objectives. For example, the current ambient air monitoring locations have been the same for decades, although there have been many changes in facility operations and site missions that bring into question the current adequacy of the original placement of samplers.

For potentially affected environmental media (air, liquid, soil, vegetation, food chain), the INL Site does not have a sufficiently documented technical basis to justify the sampling strategy (i.e., what is sampled, the frequency of sampling, the locations chosen, and the specific analytes being measured).

. . ..Recommendation: Consider establishing formal criteria for preparation of technical basis documents for all aspects of environmental monitoring and surveillance activities. Ensure the technical basis for all monitoring activities (i.e., type, frequency, analytes) is clearly documented, justifiable to meet overall objectives for each media, and ensures minimum standards of consistency across different contractors. Include a mechanism for periodic review of monitoring and surveillance activities based on changes to INL Site mission and operations.

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[34] http://www.hss.doe.gov/IndepOversight/docs/reports/eshevals/2010/2010_INL_Environmental_Monitoring_final_May2010.pdf

. . ..**Recommendation:** Consider establishing a schedule and preparing one or more technical basis documents that define the technical details associated with all environmental monitoring actions. Use the results of this effort to identify any gaps in current protocols, and implement revisions as necessary."

Four years after the 2010 HSS report was issued, the DOE says that they are responding to the HSS report but that the public will have wait until DOE documents its response and will have to obtain information about their response by Freedom of Information Act (FOIA) request. The fact is that much of the reported INL emissions are estimates and not measurements of emissions and there is insufficient effort being made to reduce or minimize emissions. Environmental emissions from TREAT are predicted to produce only a small mrem dose to the public. Yet, historical data for soil sampling around TREAT includes various radionuclides that the EA says will not be emitted. No explanation of this is provided. And INL's traditional dose receptor for routine emissions at Frenchman's Cabin, miles from MFC is used by INL to satisfy environmental reporting requirements. This is an extremely poor way to express the emission doses to MFC's boundaries which as so near to public land.

Conclusion

The DOE needs to provide an Environmental Impact Statement for the resumption of transient testing, not a shortcut with an Environmental Assessment. The DOE needs to transparently provide accident analyses that stands up to scrutiny and that provides confidence that appropriate analysis assumptions, including release fractions and fraction of fuel melt, have been made. The DOE must inform the public of the full range of accident consequences, including economic costs of an accident, both onsite and offsite. The DOE needs to provide evidence that it intends to provide meaningful compliance with its safety basis rule, 10 CFR 830, in particular by providing assurance that adequate, complete, and end-to-end up-to-date seismic hazard, fire hazard assessments, adequate safety analysis, and compliant unreviewed safety question reporting will be performed. The current plans for the TREAT restart document that DOE plans to accept the 1950s design criteria whenever it is inconvenient to meet newer more accurate and stringent design criteria, including NPH criteria. The DOE also needs to transparently and responsibly address the INL shortcomings in its existing environmental monitoring which lacks consistent and adequate monitoring at numerous INL locations that should be monitored such as stacks and major emissions sources.

Respectfully Submitted,

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