

COMMENTS TO LOS ALAMOS COUNTY COUNCIL UAMPS SMALL MODULAR REACTOR PROJECT

Below please find comments on the proposed Power Sales Contract between the Incorporated County of Los Alamos, New Mexico, and the Utah Associated Municipal Power Systems (UAMPS) related to a proposed NuScale Inc. Small Modular Reactor (SMR) Project to be constructed at the Idaho National Lab, Idaho. These comments are submitted by Sarah Fields, Program Director, Uranium Watch, Moab, Utah. Uranium Watch and Ms. Fields have been following the proposed SMR project and the NuScale design certification process for the past few years.

1. UAMPS and the Los Alamos County (LAC) Council refer to the proposed UAMPS SMR Project as Carbon Free Power Project (CFPP), yet there is no information in support of that very misleading description. Power, most likely derived from fossil fuel, is used for uranium mining and milling, uranium conversion and enrichment, fuel fabrication, fabrication and construction of the SMR, operation of the SMR, used fuel storage, irradiated fuel disposition, transport (road, rail, and ocean shipping), and myriad other aspects of the nuclear fuel chain necessary to license, fabricate, construct, and operate a reactor and the irradiated fuel storage site it will become. Nothing about a nuclear reactor is “Carbon Free.” “Carbon Free Power Project” is an egregious Public Relations misnomer leading to false assumptions and poor decisions.
2. The Tennessee Valley Authority (TVA) Clinch River Nuclear Site Early Site Permit (ESP) Application for an SMR project addresses the Environmental impacts associated with different SMR designs, including NuScale design. That ESP Application, Part 3, Environmental Report Revision 1, Chapter 5.7 (Uranium Fuel Cycle and Transportation Impacts) discusses Chemical Effluents. (<https://www.nrc.gov/docs/ML1800/ML18003A456.pdf>). Section 5.7.1.4 states:

Because of the gaseous effluents from the [Uranium Fuel Cycle] UFC needed to support the SMRs at the CRN Site are equivalent to the effluents from a small 44 MWe coal-fired power plant or, for an equivalent amount of energy produced with coal, the chemical effluents would be about 2.3 times greater. Therefore, it is concluded that the effects to the degradation of air quality from the power generation needed to support the UFC is SMALL.

Equating the gaseous effluents from the uranium fuel cycle needed produce the uranium fuel for the proposed NuScale SMR with a 44 MWe coal-fired power plant does not equal “Carbon Free.” Nor is the proposed reactor radiological and chemical effluent free (liquid, gas, and solid).

3. UAMPS did not provide detailed information on the full costs, financial commitments, and risks associated with Los Alamos County’s participation in the

subsequent phases of the project. The presentations and subsequent question and answer session at the January 25 Board of Public Utilities and LAC Council meeting did not provide a clear picture of the expected commitments, possible reimbursements, and other aspects of the financial commitments and risks at each stage of the project. Questions were asked that have not been yet answered, so that the answers are available to the public during the comment period. UAMPS should have provided a written document to the LAC Council with full financial details of the project. A slide presentation, talking points, and the Executive Summary did not provide the Council, the public, and the ratepayers with the information required for an informed decision to approve the Power Sales Contract (PSC).

4. The Council Staff Report did not include an independent analysis of the full costs, financial commitments, and risks at every stage of the UAMPS SMR Project. The Council should not rely solely on those who are committed to the SMR Project or have an interest in the Project, financial or otherwise.
5. The Agenda Packet documents for the January 25 meeting are no longer available to the public on the LAC website. Therefore, members of the public wanting to comment might not have this information before them. All relevant information should be readily available on the LAC website, not just bits and pieces.
6. At the January 25 meeting there was discussion of a NuScale “guarantee” of \$65 per MegaWatt hour (MW/h) of Levelized Cost of Energy (LCOE) over a period of 40 years. There is no information about the nature of that “guarantee;” that is, the terms of a written guarantee that would be developed and signed by the respective parties.
7. In 2015 NuScale stated, in a presentation (“NuScale Technology & Economic Overview Simple, Safe, Economic;” by Jay Surina, Chief Financial Officer), that their estimate of the LCOE for a 12-unit SMR would be \$98 to \$108 per MW/hr, modeled as a 40-year project. This estimate excludes many of the owner’s costs, include management infrastructure, permits, inspections, regulatory and legal fees, engineering services, switchyard, owner’s project development costs, and other owner costs. NuScale estimates that owner’s costs would add an additional \$5.00 per MW/h.

There was no mention of these owner costs at the January 25 LAC meeting and if they were included in the estimated \$45 to \$65 LCOE.

Further, these are costs averaged over 40 years that will be paid by ratepayers. There is no information regarding how the rates may be affected year by year over the life of the project.

There is no information about the basis of these costs and what happens if, after 40 years (or even before), things don’t work out as expected.

<https://www.iaea.org/NuclearPower/Downloadable/Meetings/2015/2015-08-25-08-28-NPTDS/DAY2/1.NuScalePowerSMR-SimpleSafeEconomic.pdf>

8. NuScale has not received approval from the Nuclear Regulatory Commission (NRC) of its SMR Design Certification Application and does not yet have the the results of the final technical and regulatory decisions that will impact the costs to fabricate, construct, and operate the 12-unit proposed reactor. Therefore, it is hard to see how NuScale can provide a realistic estimate on the costs over the long term. The current schedule for the Design Certification Application (DCA) indicates that the final Safety Evaluation Report (SER) will be released in the Fall of 2020. After that the NRC will commence the DC Rulemaking. Therefore, it will not be until 2021 or 2022 before the NuScale SMR Design Certification Rulemaking is complete. The Combined Construction and Operation License Application (COLA) cannot be submitted until after that process is complete. That is about 4 years from now, not 2, as expected by UAMPS.
(<https://www.nrc.gov/reactors/new-reactors/design-cert/nuscale/review-schedule.html>)
9. UAMPS and Los Alamos County mention US Department of Energy (DOE) participation and financial support. Funding has already been provided by the DOE, and more is expected. It would be more honest for UAMPS and Los Alamos to replace the “DOE” with “US Taxpayer,” since the support and funding from the DOE is support and funding that comes from US Taxpayers. The DOE does not make its own money; it is a government entity, funded by US tax dollars. LAC Council should discuss and consider why it is OK for US Taxpayers to subsidize the electrical bills of the Los Alamos County ratepayers.
10. There are over 4,400 abandoned uranium mines associated with the federal atomic weapons program. Yet, the DOE has not provided any funding for their remediation and reclamation. Wouldn't federal tax payer dollars be better spent on reclamation of the Moab uranium mill, abandoned uranium mines, Hanford, and other DOE facilities, rather than subsidizing the electrical bills of UAMPS-member ratepayers?
11. The NuScale SMR is a new technology. The proposed 12-unit SMR operation in Idaho will be a first-of-kind reactor technology. That means there are a number of technical, operational, economic, regulatory, and other aspects of this project that are still being worked out. Every week the NRC meets with NuScale to discuss their Design Certification Application and NRC Requests for Additional Information (RAIs) and NuScale RAI responses. These meetings are open to the public. The NRC posts these meetings 10-days in advance on the NRC meeting schedule (<https://www.nrc.gov/pmns/mtg>); anyone can join via a phone bridge line. I have listened to several meetings and will continue to do so. I am not aware of any representative from UAMPS or UAMPS member utility or member government ever trying to educate themselves by listening to these meetings and asking questions of the NRC.
12. NuScale is proposing various technical and regulatory changes to the NRC that would reduce the cost of the construction and operation of the SMR. One way to reduce to costs is to reduce the number of reactor operator personnel; another is to reduce the size of the Emergency Planning Zone (EPZ). NuScale would like to see the 10-mile EPZ reduced to the reactor site itself, so there would be no need for emergency planning in Idaho Falls outside of the Idaho National Lab reactor site. NuScale gave the Los Alamos County Council the impression that the NRC has approved this proposal. However, the NRC has not approved this proposal, but is considering a Rulemaking

to change the EPZ regulations. The NRC issues a draft Regulatory Basis for the Rulemaking in April 2017 (82 Fed. Reg. 17768-17770; April 13, 2017: Rulemaking Docket ID NRC–2015–0225). Any modifications to the EPZ rules will likely end up in court.

13. If the UAMPS SMR were to be constructed at the Los Alamos National Lab, rather than the Idaho National Lab, and NuScale had its way, there would likely be no emergency planning beyond the boundaries of the reactor site. That would mean that the usual emergency responders, medical personnel, and government agencies in Los Alamos County would not be involved in emergency planning for the SMR site. How would that sit with the citizens of Los Alamos County and the surrounding area? This is something that LAC must consider.
14. The more time, resources, and money that Los Alamos County and the ratepayers invest in the UAMPS SMR, the harder it will be to step back and reconsider its investment. It would be harder to justify the funds already spent and committed.
15. One of the questions to UAMPS from the Council was about the source of uranium for the UAMPS SMR. I don't know if that was out of concern that the uranium would come from a foreign country, such as Russia, instead of the United States. Recently, there has been publicity about US uranium industry concerns about the fact that most of the uranium for reactor fuel in the U.S. comes from foreign countries that are not democracies. This concern has been expressed by Energy Fuels Resources (USA), the owner of the only operating uranium mill in the U.S. Energy Fuels is a Canadian company, as are most of the companies that own or have major interests in the U.S. uranium industry. It is likely that uranium from Russia will be used of this project. Recently, there was an fatal accident near Farmington, New Mexico, involving a truck carrying a cylinder of uranium hexafluoride that originated in Russia and was on its way to the AREVA's Richland, Washington, fuel fabrication facility. Apparently, AREVA will be supplying the fuel for the UAMPS SMR.
16. For anyone thinking that supporting the U.S. uranium industry is a good idea, you should also consider that Energy Fuels want to develop a large uranium mine on Mount Taylor, which is sacred to the Diné and to New Mexico Pueblos. The US Forest Service has already determined that the 65-acre mine would have an adverse impact on groundwater and cultural resources. The Roca Honda Mine would be very destructive and harmful, as have all of the uranium mining on the other side of the Jemez Mountains. The Roda Honda ore would be shipped to the White Mesa Mill, adjacent to the lands of the White Mesa Band of the Ute Mountain Ute Tribe. Another company has proposed a new uranium mill in New Mexico to process ore from the Mount Taylor Mine, which has been closed for decades. The federal government has spent millions of dollars to cleanup defunct uranium mines and mills in New Mexico. There are still unreclaimed uranium mines and continued contamination of groundwater in the Grants Mineral District from the legacy of uranium milling. Millions have been spent to compensate uranium mine and mill workers. LAC should take a hard look at the impacts of uranium mining in New Mexico from historic and proposed operations.
17. There is no discussion in the Executive Summary of the availability of relevant documents in a timely manner, open meetings, audio and video access to meetings, availability of the

minutes for the full meeting. LAC should assure that all relevant documents be made readily available in a timely manner.

18. The Executive Summary references several documents associated with the Project Management Committee (PMC). These include the Budget and Plan of Finance, **Development Agreement and other Project Agreements**, Economic Competitiveness Test, Bonds, Project development and feasibility, project oversight. There is not much information about how these documents will be developed and opportunities for input by the ratepayers, based on a transparent and open process.
19. There is no specific information about the Economic Competitiveness Tests. There is no information about what, exactly, those tests will consist of and how the PMC will assure that this is an independent and un-biased analysis of various aspects of the economic competitiveness of this project.
20. The Executive Summary states that the “Budget Plan of Finance” for the initial phase of the Licensing Period will be approved by the Participants’ governing bodies at the same time as the Power Sales Contracts are approved. Yet, that document has not been made available to the public, and maybe not to the Council. Where is a copy of the “Budget Plan of Finance” for the public and ratepayers to review and comment on?
21. The Executive Summary should have included more detailed information about the Participant Withdrawal and Reduction Rights during the Licensing Period, possible reimbursements associated with Participant Withdrawal or Reduction, estimates of the increase in financial commitments if other participants withdraw or reduce their participation, and relevant dates. The precise terms of any withdrawal are missing from this discussion. Each participant, their governing bodies, and ratepayers should have complete information regarding the participants rights, dollar amounts, dates, risks related to each development step, and other relevant information.
22. The Executive Summary provides sketchy information regarding the Financing for Development Costs. There is no information about the amounts available under cost-sharing agreements, grants, etc. There is scant information about the bank and bond financing and repayment obligations over time.
23. There is no information on the qualifications of UAMPS to oversee a nuclear reactor project of this size and complexity, when UAMPS and its members have no experience with financing, licensing, constructing, operating or decommissioning a nuclear reactor, yet alone a first-of-kind reactor design.
24. The LAC Council should consider the impacts of an SMR on the citizens of Idaho and their environment. LAC Council should compare these impacts with the impacts of other kinds of energy generation, such as wind and solar. The TVA Clinch River Nuclear Site Early Site Permit (ESP) Application for an SMR project addresses the Environmental impacts associated with different SMR designs, including NuScale design. <https://www.nrc.gov/docs/ML1800/ML18003A471.html>

The Environmental Report, Part 3, Chapter 3 discusses Plant Water Use (Section 3.3) Radioactive Waste Management (Section 3.5), and the Non-radioactive Waste System (Section 3.6). <https://www.nrc.gov/docs/ML1800/ML18003A447.pdf>

Part 3, Chapter 5, Section 5.4, discusses Radiological Impacts of Normal Operation. <https://www.nrc.gov/docs/ML1800/ML18003A453.pdf>

The TVA Application contains other information about the impacts to the environment and health and safety of the community associated with the proposed SMR project. This information should be given full consideration by the LAC Council in its decision-making process.

Sarah Fields
Program Director
Uranium Watch
PO Box 344
Moab, Utah 84532
435-260-8384