

U.S. Department of Energy- Idaho Operations Office
National Environmental Policy Act
Categorical Exclusion Determination

Project Title: Aalo Site Limited Construction Activities RI

Project Description and Purpose:

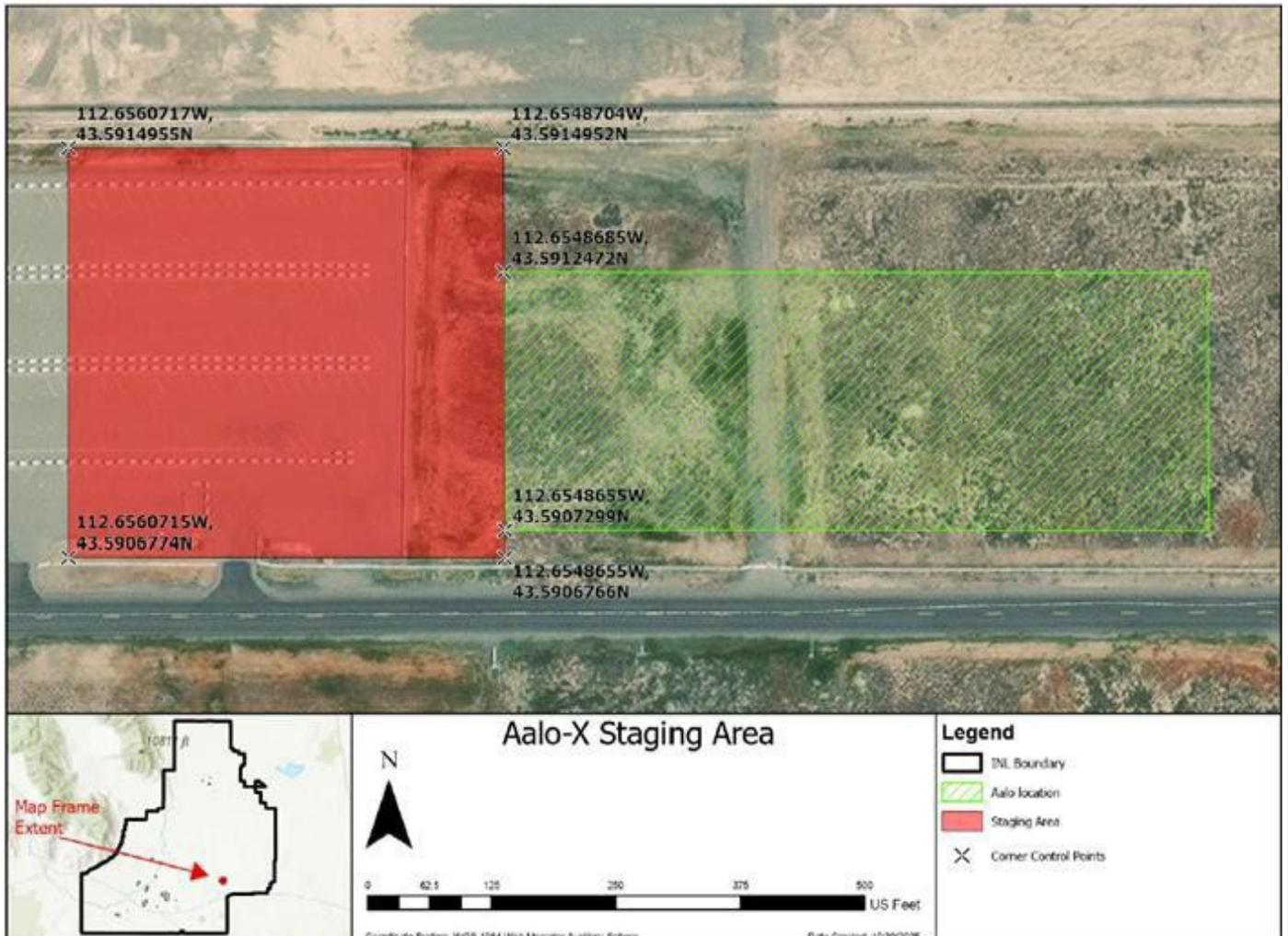
Revision 1:

This revision is based on Aalo further defining areas needed to perform limited construction activities. The limited construction activities will remain the same as those listed in the original ECP. The areas that have been further defined for review are included in the image below and will be reviewed based on the original defined limited construction activities. One area is the parking lot to include a small portion extending to the east into undeveloped land (red shaded square), which may only be used for staging equipment, equipment laydown, and access in support of the limited construction activities. The second area is adjacent to the first area to the east (green hashed rectangle).

This revision also includes the addition of approximately 1 acre to the east of the original 1 acre site (Aalo-X site will occupy approximately 2.2 acres total) for the construction of the Critical Assembly Facility (CAF), which shall provide a code-compliant building shell and site infrastructure for future installation of the Aalo-X critical assembly and associated systems. The building will be a single-story pre-engineered metal building nominally 60ft x 60ft x 60ft. It will include the building envelope, foundations, utilities, life-safety systems, 1200sqft, mobile office trailer adjacent to the CAF, and the critical assembly structure which houses the critical assembly and provides personnel access to the top of the assembly. Attachment 2 below shows the location of CAF site in relation to Materials and Fuels Complex. Attachment 3 shows a closer view of the CAF and areas outlined into Attachment 1.

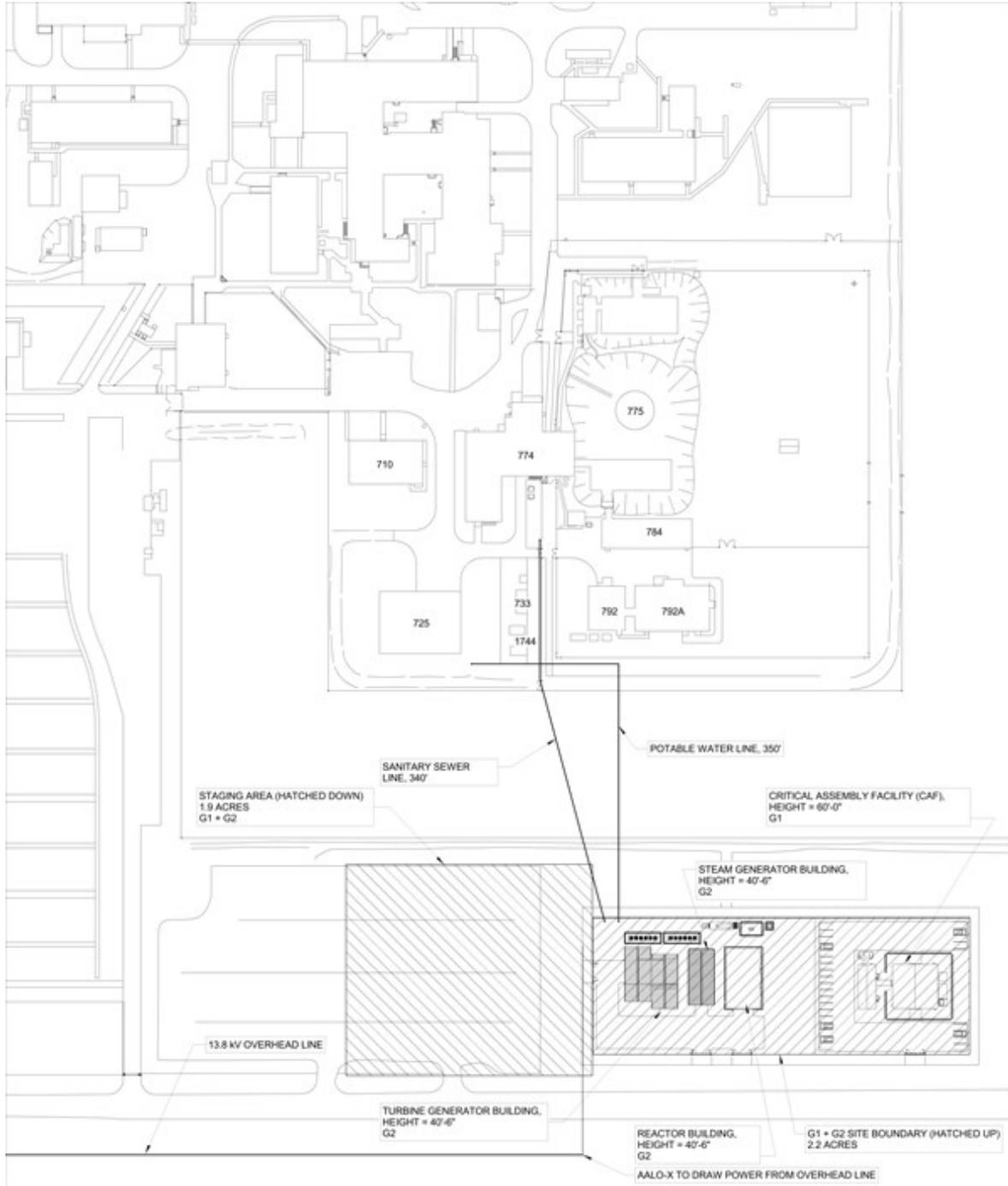
Note: Attachments 2 and 3 show a potable water line and sanitary sewer line. These were not evaluated as part of this scope.

Attachment 1



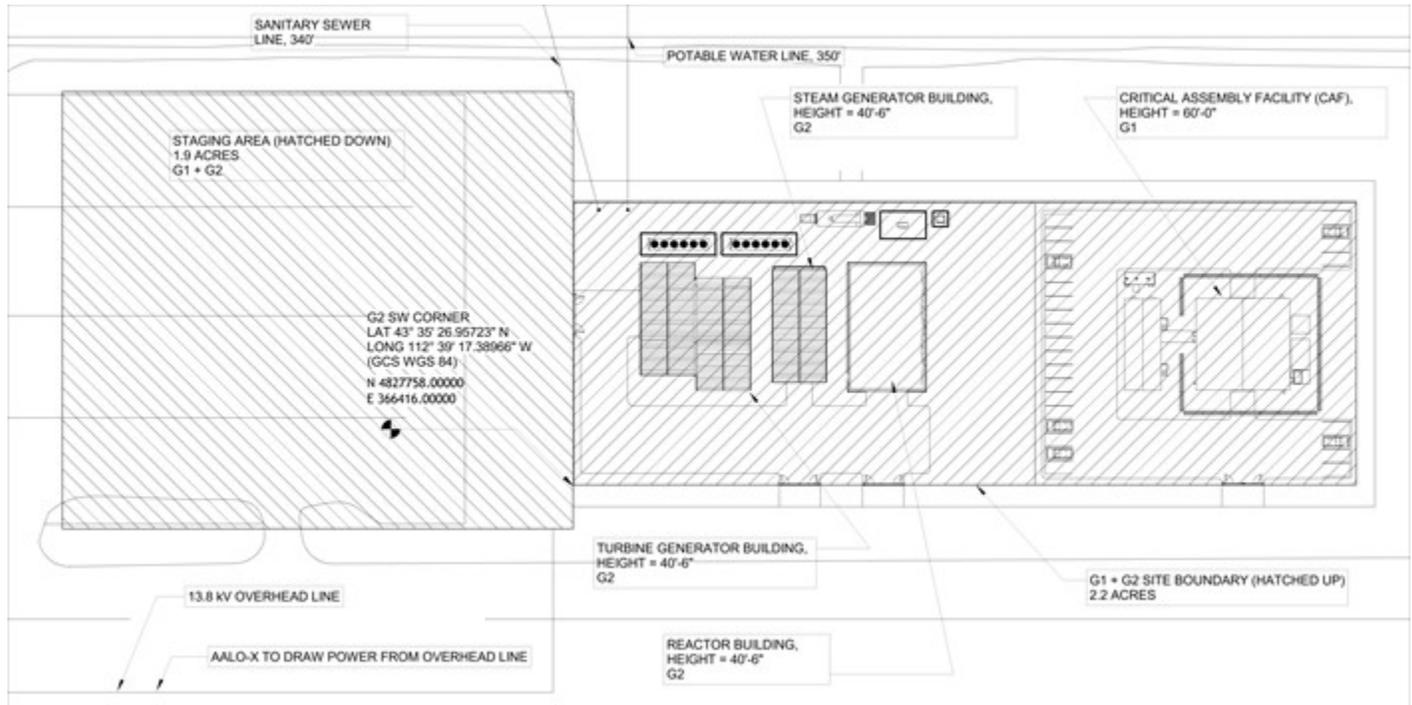
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Attachment 2



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Attachment 3



Original ECP:

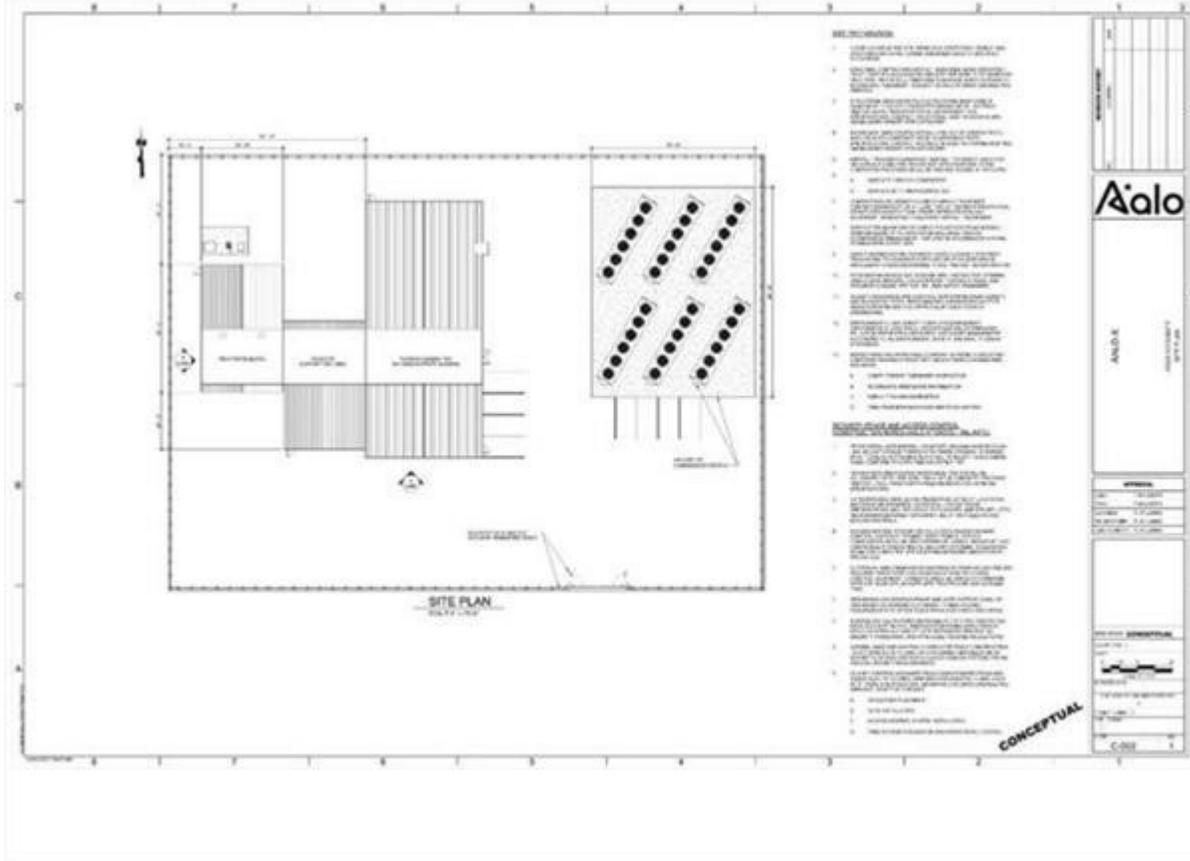
The U.S. Department of Energy, Idaho Operations Office is proposing to allow Aalo Atomics Inc. (Aalo) to site the Aalo-X facility and reactor experiment at the Idaho National Laboratory near the Materials and Fuels Complex (MFC) to perform experiments that would de-risk Aalo's development and commercialization of its next-generation advanced nuclear technologies.

The Aalo-X site will occupy approximately 1 acre next to the MFC site and may require up to 5 acres for construction activities.

The scope of this ECP is limited to the following Aalo-X experiment construction activities:

- Site Improvements (Fencing, grading, concrete pad installation, foundation pours for non-nuclear buildings)
 - Construction of Steam Generator Building and Turbine Building
 - Construction of Concrete Equipment Pads
 - Excavations and installation of underground utilities and drainage systems
 - Creating of laydown areas for future construction activities
 - Temporary building or trailer installation to support construction and logistics
 - Excavate and construct the reactor building basement and all related cast in place elements

Figure 2, Rev. 2: Aalo-X Conceptual Plot Plan



Environmental Aspects or Potential Sources of Impact:

Air Emissions

Project activities have the potential to generate fugitive dust.

Discharging to Surface-, Storm-, or Ground Water

No storm water concerns, this project is located outside of the boundary of the storm water corridor and therefore is not considered to have reasonable potential to discharge to “Waters of the U.S.”.

Disturbing Cultural or Biological Resources

There is the potential for this work to impact vegetation and for project personnel to interact with various wildlife species. A Biological Resource Review will be arranged within two weeks prior to the initiation of any activities that might disturb soil or vegetation and again following completion of project activities. A nesting bird survey is included with the Biological Resource Review for actions occurring between April 1 - October 1 per compliance with the Migratory Bird Treaty Act. Bat surveys are also included with the Biological Resource Review in accordance with the INL Bat Protection Plan.

CULTURAL: Though the activities reviewed under the scope presented in INL-25-030 R1 would not affect any archaeological or built environment historic properties, as there are none present within the area of interest for cultural review, the undertaking as a whole has a large APE (see BEA-25-086 R1) within which archaeological and built environment historic properties are present. This scope of work is a new activity for the overarching project undertaking. As undertakings are limited to one finding of effect, No Adverse Effect has already been determined and concurred upon by the SHPO for the overarching project and remains unchanged.

CULTURAL -11/17/2025: The CRRs attached below review scope received by the CRMO through the ECP as well as through NRIC prior to the ECP being revised. All actions proposed in the additional acre for the facility and in the parking lot are included.

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Generating and Managing Waste

When wastes are generated, how they are disposed can adversely affect the environment. Managing wastes appropriately and responsibly and implementing recycling or reuse practices, where feasible, during project activities can reduce the potential impact on the environment.

Releasing Contaminants

When chemicals are used during the project there is the potential for spills that could impact the environment (air, water, soil).

Using, Reusing, and Conserving Natural Resources

Project description indicates materials will need to be purchased or used that require sourcing materials from the environment. Being conscientious about the types of materials used could reduce the impact to our natural resources.

Determination

For Categorical Exclusions (CXs), the proposed action must not: (1) threaten a violation of applicable statutory, regulatory, or permit requirements for environmental, safety, and health, or similar requirements of Department of Energy (DOE) or Executive Orders; (2) require siting and construction or major expansion of waste storage, disposal, recovery, or treatment or facilities; (3) disturb hazardous substances, pollutants, contaminants, or Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)-excluded petroleum and natural gas products that pre-exist in the environment such that there would be uncontrolled or unpermitted releases; (4) have the potential to cause significant impacts on environmentally sensitive resources (see 10 CFR 1021); (5) involve genetically engineered organisms, synthetic biology, governmentally designated noxious weeds, or invasive species, unless the proposed activity would be contained or confined in a manner designed and operated to prevent unauthorized release into the environment and conducted in accordance with applicable requirements, such as those listed in paragraph B(5) of 10 CFR Part 1021, Appendix B. The proposal has not been segmented to meet the definition of a categorical exclusion. Segmentation can occur when a proposal is broken down into small parts in order to avoid the appearance of significance of the total action. However, segmentation does not include proposals that are developed and potentially implemented over multiple phases where each phase results in a decision whether to proceed to the subsequent phase. There is no extraordinary circumstance related to the proposal that is likely to cause a reasonably foreseeable significant adverse effect or for which DOE does not know the environmental effect. Extraordinary circumstances are unique situations presented by specific proposals, including, but not limited to, scientific controversy about the environmental effects of the proposal; uncertain effects or effects involving unique or unknown risks; and unresolved conflicts concerning alternative uses of available resources.

References: B3.6 "Small-scale research and development, laboratory operations, and pilot projects"

Justification: For the DOE regulations regarding the application of categorical exclusions, including the full text of each categorical exclusion, see 10 CFR 1021.102 and Appendix B to 10 CFR Part 1021. Implementing guidance for categorical exclusions can be found in DOE's National Environmental Policy Act Implementing Procedures (June 30, 2025): (See full text in regulations and implementing procedures).

The proposal fits within a class of actions that is listed in Appendix B to 10 CFR Part 1021 or Appendix B and C of DOE's NEPA Implementing Procedures (June 30, 2025). To fit within the classes of actions listed in Appendix B to 10 CFR Part 1021, or Appendix B of DOE's NEPA Implementing Procedures, a proposal must satisfy the conditions that are integral elements of the classes of actions in Appendix B of both 10 CFR Part 1021 and DOE's NEPA Implementing Procedures.

There are no extraordinary circumstances related to the proposal that may affect the significance of the environmental effects of the proposal. DOE or an applicant may modify the proposal to avoid reasonably foreseeable adverse significant effects such that the categorical exclusion would apply. The proposal has not been segmented to meet the definition of a categorical exclusion.

[Note: For proposals that fit within the categorical exclusions listed in Appendix C of DOE's NEPA Implementing Procedures, see DOE's notice of adoption for the subject Appendix C categorical exclusion for additional considerations. DOE notices of adoption for other agency categorical exclusions may be found on DOE's Section 109 webpage.]

The proposal has not been segmented to meet the definition of a categorical exclusion.

Approved by Jason L Anderson, DOE-ID NEPA Compliance Officer on: 11/18/2025