



22-December-2021

Project Number: 99902080

US Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555-0001

**SUBJECT: SUBMITTAL OF ATOMIC ALCHEMY'S NON-POWER MODULAR
REACTORS: MULTI-UNIT SITE PHASED CONSTRUCTION PLAN -
POSITION PAPER**

ENCLOSURES: 1) Affidavit Pursuant to 10 CFR 2.390
 2) AAO-VIPR-21-PMU-00(P), Atomic Alchemy's Position Paper on
 its Non-Power Modular Reactors: Multi-Unit Site Phased
 Construction Plan, Revision 0 (Proprietary)
 3) AAO-VIPR-21-PMU-00(NP), Atomic Alchemy's Position Paper
 on its Non-Power Modular Reactors: Multi-Unit Site Phased
 Construction Plan, Revision 0 (Non-Proprietary)

This letter submits the position paper which provides a preliminary overview of the construction strategies, advanced design approach, and administrative controls to be used by Atomic Alchemy Inc. that will facilitate the safe construction of its Non-power Production and Utilization Facility in several phases. This position paper also provides an alignment of the existing Title 10 regulatory framework regarding nuclear reactors located on a multi-unit site to its construction plan as well as also addressing Part 50 and Part 52 requirements.

The NRC licensing process urges early interactions to help identify and resolve regulatory, and technical issues related to a proposed facility's application. Effective communication with the NRC is a vital part of the Atomic Alchemy licensing strategy in preparation of its construction license application.

This position paper is provided for NRC review and informal feedback regarding the approach Atomic Alchemy has taken with regards to the Title 10 regulations as applied to a Non-Power Utilization Facility's multi-unit construction plan.

Atomic Alchemy also requests that the NRC provide its feedback and documentation of its review in a format that acknowledges the NRC staff's acceptability of Atomic Alchemy's method of conformance to the key potential regulatory issues identified in this paper.

This position paper contains information concerning the physical protection of the Atomic Alchemy facility and commercially sensitive, proprietary information and, as such, we are requesting that this information be withheld from public disclosure in accordance with 10 CFR 2.390, "Public Inspections, Exemptions, Request for Withholding." The proprietary and security-related information is appropriately marked and an affidavit documenting the basis for this request is provided in Enclosure 1. Accordingly, Enclosure 2 is the proprietary

version of Atomic Alchemy's Position Paper which contains the non-redacted sensitive information. Atomic Alchemy provides the public, redacted version in Enclosure 3.

To help increase the efficiency of the licensing process, Atomic Alchemy discussed this position paper with the NRC staff during a conference call on August 3, 2021.

There are no commitments made in this submittal.

If there are any questions or a need for additional information, please contact Mr. Michael Grochowski at regulatory@atomicalchemy.us.

Sincerely,

Thomas Eiden
CEO, Atomic Alchemy Inc.

TE/mjg

CC:

Nuclear Regulatory Commission:

Michael Balazik, Project Manager

Non-Power Production and Utilization Facilities Licensing Branch

Division of Advanced Reactors and Non-Power Production and Utilization Facilities (NPUFs)

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