



21-January-2022

Project Number: 99902080

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

**SUBJECT: SUPPLEMENT 2 TO THE SUBMITTAL OF THE STANDARD REVIEW
PLAN CONFORMANCE FOR ATOMIC ALCHEMY'S NON-POWER
PRODUCTION AND UTILIZATION FACILITY**

REFERENCES: 1) Atomic Alchemy Inc. Letter AAL-2021-007 "Supplement 1 to the
Submittal of the Standard Review Plan Conformance for Atomic
Alchemy's Non-Power Production and Utilization Facility",
Agencywide Documents Access, and Management System (ADAMS)
Accession No. ML21196A515, dated June 25, 2021

2) NRC, "Topical Report Completion Determination" ADAMS
Accession No. ML21271A002, dated September 28, 2021

ENCLOSURES: 1) Affidavit Pursuant to 10 CFR 2.390

2) Atomic Alchemy's Response to NRC's Additional Information
Needed (AIN) Items 1 and 2.

3) AA0-VIPR-21-SRP-02(P), Atomic Alchemy Conformance to the
Standard Review Plan, Rev. 2 (Proprietary)

4) AA0-VIPR-21-SRP-02(NP), Atomic Alchemy Conformance to the
Standard Review Plan, Rev. 2 (Non-Proprietary)

In NRC ADAMS Accession No. ML21196A515 (Reference 1), Atomic Alchemy submitted Supplement 1 to the Submittal of the Standard Review Plan Conformance for its Non-power Production Utilization Facility (NPUF), dated July 15, 2021. In NRC ADAMS Accession No. ML21271A002 Topical Report Completion Determination (Reference 2), dated September 28, 2021, the Staff stated additional information was necessary in order to accept the topical report for the Staff's review.

The purpose of this letter is to submit a response (Enclosure 2) to the two NRC Additional Information Needed (AIN) items (in Reference 2) and to submit Atomic Alchemy's Standard Review Plan Conformance topical report Revision 2 for NRC review and approval.

This submittal contains information concerning the physical protection of the Atomic Alchemy facility and commercially sensitive, proprietary information, 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 information is appropriately marked and an affidavit documenting the basis for this request is provided in Enclosure 1. Accordingly, Enclosure 3 is the proprietary version of Atomic Alchemy's SRP Conformance topical report which contains the non-redacted sensitive information. Atomic Alchemy provides the public, redacted version of the topical report in Enclosure 4.

The AA0-VIPR-21-SRP-02(P) Revision 2 is submitted in support of the preparation of Atomic Alchemy's Non-power Production and Utilization Facility (NPUF) construction permit application and operating license application, under 10 CFR Part 50.

To help increase the efficiency of the licensing process, Atomic Alchemy discussed this supplement submittal with the NRC staff during conference call on October 28, 2021.

There are no commitments made in this submittal.

Atomic Alchemy is requesting NRC review and approval for elements of the proposed SRP. Atomic Alchemy's expectations of the scope of the NRC review and approval are defined as follows:

- I. A determination by the Staff of the Title 10, Parts 1 through 171 regulations identified for each respective NUREG-0800 SRP Acceptance Criterion applicability to the equivalent NUREG-1537 Part 2 SRP Acceptance Criterion.
 - a. A further concurrence (or variance) by the Staff of the applicability of the identified Title 10 regulations specific to the Atomic Alchemy NPUF (preliminary Regulatory GAP Analysis) as identified by Atomic Alchemy in this topical report, as well as concurrence (or variance) as to the level and scope of prescriptiveness as defined by Atomic Alchemy in this topical report for these identified Title 10 regulations.
- II. A determination by the Staff of the existing NRC endorsed design approaches, methodologies, and implementation guidance presently described for each respective NUREG-0800 SRP Acceptance Criteria's (and respective Title 10 regulation's) applicability and usage for equivalent NUREG-1537 Part 2 SRP Acceptance Criteria (and respective applicable Title 10 regulation).

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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