



APAD for College Credit

December 2022

Changing the World's Energy Future

Kailey L Jorgensen



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December 2022

**Idaho National Laboratory
Idaho Falls, Idaho 83415**

<http://www.inl.gov>

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U.S. Department of Energy
Under DOE Idaho Operations Office
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AIR PERMITTING APPLICABILITY DETERMINATION

To be provided by ES&S Records Management Coordinator:	APAD Issue Date:	
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Note: This completed form serves as official transmittal and documentation of the INL Environmental Support & Services (ES&S) Air Permitting Applicability Determination (APAD). This APAD is approved based on the information and project description supplied by the Project Manager and/or Operations Manager or Designee. This form documents APAD review and defines project-specific permitting actions required and/or operating conditions for the emission of air pollutants. Once approved, this APAD is valid until revised or until its status is changed to "activity ended" or "cancelled." The calculations used herein are performed in accordance with approved environmental protocols, and therefore may not suffice for use in health, safety, or radiological control evaluations. The procedure for the APAD process is provided in MCP-8104, "Preparing and Maintaining Air Permitting Applicability Determinations."

APAD Acronyms

APAD	Air Permitting Applicability Determination	HAP	Hazardous Air Pollutant
ATC	Approval to Construct	IDAPA	Idaho Administrative Procedures Act
BRC	below regulatory concern	NEPA	National Environmental Policy Act
DEQ	State of Idaho Department of Environmental Quality	NESHAP	National Emissions Standard for Hazardous Air Pollutants
ECP	Environmental Compliance Permit	PC	Permit Condition
EPA	United States Environmental Protection Agency	PTC	Permit to Construct
EDMS	Electronic Document Management System	TAP	Toxic Air Pollutant

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Section A. Contact Information

Project Title: Gaseous Hydrogen Supply and Exhaust System for Experiments in TREAT

Facility: TREAT

NEPA Document or Project Number: INL-17-072 R4

Contact	Name	Telephone No.	E-mail Address
Facility Manager:			
Program/Project Manager or Principal Researcher:			
Operations Manager:			
Project/Technical Contact or Principal Investigator:			
Alternative Project/Technical Contact:			
Environmental Field Support Contact:			
Program Environmental Lead:			
Other Contacts:			
	Kailey Jorgensen		

AIR PERMITTING APPLICABILITY DETERMINATION

Section B. Brief Description of Air Pollutant Emitting Aspects of Proposed Activity

Instructions: Include a brief description that summarizes the scope of the project, the facility affected, whether the facility currently has emissions, and a summary of expected emission and impacts caused by the proposed project. Information such as a paraphrased summary of the project description in an Environmental Compliance Permit (ECP), location, vents, and horsepower ratings for engines, should be included. Documents (including relevant letters, relevant e-mails, written records of personal communications, etc.) upon which this description is based must be included with this APAD (in Appendix A) or in the APAD information file. Include specifics about the source of the information and data used in this APAD (e.g. document number, document title, personnel name and position).. A cross-reference to the document may be used if the document is maintained in the Electronic Document Management System (EDMS).

Project scope:

This project concerns the design, construction, installation and operation of a gaseous hydrogen supply and exhaust system for experiments in Transient Reactor Test (TREAT) facility as part of a NASA program. NASA's Space Nuclear Power (SNP) program is in the process of a multi-year effort to investigate nuclear thermal propulsion (NTP) systems with a proposed demonstration flight in 2026 in the short term, and a mission to Mars in the long term. The Sirius 2 irradiations in TREAT are part of the overall program, and the Sirius 3, 4 and 5 irradiations are in the planning stage. Each experiment is a stepping stone to the final design of a reactor for Nuclear Test Plan (NTP). Fundamentally, the SIRIUS tests will determine whether startup and operating conditions under irradiation will lead to detrimental conditions such as cladding ballooning, fuel fragmentation and cracking for a given fuel geometry and material system. An essential part of the Sirius 4 experiment is to provide a flowing, gaseous, hydrogen environment to investigate interactions of irradiated candidate materials and hydrogen, such as hydride formation. Sirius 5 will build upon these results and is intended to contain a representative unit cell of a reactor for NTP. There is currently no reactor with a flowing hydrogen capability to perform these tests, and there are many open questions about material behavior during irradiation while exposed to flowing hydrogen. INL and NASA's Marshall Space Flight Center (MSFC) are working together to design and build such a system. INL has expertise relating to nuclear power and irradiation experiments, while NASA has expertise in hydrogen systems. The gaseous hydrogen supply and exhaust system is often referred to as the "Loop".

This project concerns the design, construction, installation and operation of the Loop. The Loop is a gaseous hydrogen supply and exhaust system for experiments in TREAT. Argon will also be supplied to purge the gas lines before and after the experiment is irradiated. The Loop is a flow through system. Exhaust gases will include H₂, Ar and any fission products from the experiment (during and after irradiation). Irradiated materials will include enriched uranium, molybdenum, tungsten, and other as yet unspecified materials, along with the standard Sirius and Buster capsule materials.

The conceptual design phase was completed in September of 2020, and an informal conceptual design review was held on Oct. 6, 2020. The preliminary design is schedule to be completed. The irradiation of Sirius 4 was scheduled prior to the shutdowns caused by COVID-19. The H₂ Loop must be installed and tested and ready for use prior to that irradiation. The current schedule is to build and test the gas control system at MFC, and ship the system to TREAT at Idaho National Laboratory (INL). Work at TREAT is likely to be scheduled closer to the irradiation date for Sirius 4. All dates are likely to be delayed due to the constraints at both INL and MSFC facilities caused by the COVID-19 pandemic. The irradiation of Sirius 5 will be approximately 1 year after the irradiation of Sirius 4.

The Loop is being designed to provide anywhere from 10 g/s to 200 g/s of H₂ flow during the TREAT transients, which is adequate for all experiment scenarios being considered by NASA. A 12 pack of T-bottles containing H₂ will be more than adequate for a set of transients. The supply volume for Ar will be larger, but the exact amount will vary based on the operating requirements for purge duration from TREAT. Therefore, the supply of AR may be provided by a 12 pack of T-bottles, 2 12 packs of T-bottles, or a tube trailer, depending on the volume needed.

A mobile skid containing a 12 pack of hydrogen storage bottles and a gas supply control panel will be located outside the south wall of the TREAT building. Another skid with a 12 pack of argon bottles, or possibly a tube trailer, will be located next to the H₂ skid. Construction work will be done to pour a concrete pad for the skids which will allow for safe operation and forklift access. A drainage ditch lined with rocks is currently in that location. A vent line will leave the supply skids, go over the top of the building, and join with the experiment exhaust line. The exhaust line from the Loop is currently not intended to join with the exhaust stack from TREAT, but it will use the exhaust stack as a support. A gas control panel will be mounted near the outside gas supply area and a second gas control panel will be mounted on the 2nd mezzanine inside the TREAT building. Wherever possible, tubing will be welded. Mechanical connections will be needed, as a minimum, at the gas control panels and at the top of the experiment above the TREAT reactor. Hydrogen detection and fire suppression is needed for those mechanical connections.

The proposed action has the potential to generate radiological and chemical emissions from irradiation in TREAT and the destructive and nondestructive Post Irradiation Experiment (PIE) at MFC. Air emissions from PIE activities are anticipated to be minor, and concentrations would not exceed the current monitored air emissions from these facilities. An Air Permit Applicability Determination (APAD) will be required for operations at TREAT.

Further project details are found in ECP INL-17-072 R4.

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Affected facility & existing emissions: TREAT Reactor Building (MFC-720)

Expected Emissions Exhaust gases will include H₂, Ar and any fission products from the experiment (during and after irradiation). The source term will be Tritium.
(including secondary emissions resulting from project impacts):

Additional information:

AIR PERMITTING APPLICABILITY DETERMINATION

Section C. Air Permitting Applicability Determination

Instructions: Indicate determination by checking the appropriate box. See **Justification for Air Permitting Applicability Determination** below for further details.

Is a NESHAP Subpart H approval to construct (ATC) required?

- ☐ N/A This activity or project does not emit radionuclides.
☐ YES An ATC will be obtained in accordance with 40 CFR Part 61, Subpart H.
☒ NO This activity or project meets the exemption requirements specified in 40 CFR 61.96.

Is a permit to construct (PTC) or PTC modification required?

- ☐ N/A The activity or project is not a modification (IDAPA 58.01.01.06.68), or it does not emit CAPs or HAPs.
☐ YES A PTC will be obtained in accordance with IDAPA 200 - 228 or a PTC/FEC modification/revision in accordance with IDAPA 58.01.01.180.
☒ NO What exempts the activity from a PTC (select all that apply below):

☐ Not Applicable - This activity or project complies with the terms and conditions of the PTC/FEC (PC 2.1)

PTC Category Exemption

- ☒ 221 Category I
☐ 222 Category II

223 TAPS Exemption

- ☐ BRC
☐ Level I
☐ Level II
☒ Not Applicable – This activity does not emit State TAPs.

Does the PTC Exemption require Operating Restrictions and On-Going Compliance Demonstration (per Sections D & E)?

- ☒ YES ☐ NO

Justification for Air Permitting Applicability Determination

Instructions: Cite the regulation upon which the APAD determination is based and document how the project meets each condition of the regulation or a justification why an exemption is not applicable to the project. Reference documentation, including emission calculations and modeling, which substantiates the determination, must be included in Appendix A. If the reference documentation is not included in Appendix A, then the documentation must be included with this APAD in an APAD information file and cross-referenced in Appendix A. A reference to the document may be used in lieu of including the document in Appendix A or the APAD information file if the document is maintained in EDMS.

ATC: If the project emits radionuclides, provide a justification that the project is not a modification or demonstrate that the project does not cause an effective dose equivalent (EDE) in excess of 1% of the standard using the calculation method prescribed in appendix D to Subpart H, or an EPA approved alternative (e.g. CCN 241478). Otherwise, an ATC must be obtained.

40 CFR 61.93(a) - EMISSION MONITORING AND TEST PROCEDURES. To determine compliance with the standard, radionuclide emissions shall be determined and effective dose equivalent values to members of the public calculated using EPA approved sampling procedures, computer models CAP-BB or AIRDOS-PC, or other procedures for which EPA has granted prior approval. DOE facilities for which the maximally exposed individual lives within 3 kilometers of all sources of emissions in the facility, may use EPA's COMPLY model and associated procedures for determining dose for purposes of compliance.

JUSTIFICATION: In Table 1, emissions were calculated using the CAP-88 modeling program.

40 CFR 61.93(e) – EMISSION MONITORING AND TEST PROCEDURES. Radionuclide emission measurements in conformance with the requirements of paragraph (b) or (c) of this section shall be made at all release points that have a potential to discharge radionuclides into the air in quantities that could cause an EDE in excess of 1% of the standard. All radionuclides which could contribute greater than 10% of the potential EDE for a release point shall be measured. With prior EPA approval, DOE may determine these emissions through alternative procedures. For other release points which have a potential to release radionuclides into the air, periodic confirmatory measurements shall be made to verify the low emissions.

JUSTIFICATION: The unabated potential to emit for the building shall be maintained <0.1 mrem/year. The requirement for continuous monitoring is not applicable to the operation of this source.

40 CFR 61.96(b) – APPLICATIONS TO CONSTRUCT OR MODIFY. An application for approval to construct is required for activities involving new construction of or modification within an existing facility when the effective dose equivalent (EDE), caused by all emissions from the new construction or modification equals or exceeds 1% of the standard prescribed in 40 CFR 61.92 (i.e., 0.1 mrem/year). The EDE is calculated using Appendix D to 40 CFR 61, which outlines release and pollution control adjustment factors.

JUSTIFICATION: This project will not require an application to construct or modify as the calculated EDE values do not exceed 1% of the standard prescribed in 40 CFR 61.92 (i.e., 0.1 mrem/year).

AIR PERMITTING APPLICABILITY DETERMINATION

PTC: *If the project emits criteria air pollutants (CAP) or hazardous air pollutants (HAP) and is not consistent with the scope identified in the FEC- PTC (PER-152, permit condition 2.1), provide a justification for the exemption in IDAPA 58.01.01.220-223. Otherwise, a PTC must be obtained.*

220. GENERAL EXEMPTION CRITERIA FOR PERMIT TO CONSTRUCT EXEMPTIONS.

01. General Exemption Criteria. Sections 220 through 223 may be used by owners or operators to exempt certain sources from the requirement to obtain a permit to construct. Nothing in these sections shall preclude an owner or operator from choosing to obtain a permit to construct. For purposes of Sections 220 through 223, the term source means the equipment or activity being exempted. For purposes of Sections 220 through 223, fugitive emissions shall not be considered in determining whether a source meets the applicable exemption criteria unless required by federal law. No permit to construct is required for a source that satisfies all of the following criteria, in addition to the criteria set forth at Sections 221 and 223 or 222 and 223 (as required): (3-24-22)

a. The maximum capacity of a source to emit an air pollutant under its physical and operational design without consideration of limitations on emission such as air pollution control equipment, restrictions on hours of operation and restrictions on the type and amount of material combusted, stored or processed would not: (3-24-22)

i. Equal or exceed one hundred (100) tons per year of any regulated air pollutant. (3-24-22)

ii. Cause an increase in the emissions of a major facility that equals or exceeds the significant emissions rates set out in the definition of significant at Section 006. (3-24-22)

JUSTIFICATION: The emissions for this project do not exceed 100 tons in total or any of the items in Section 006 and does not exceed any significance levels defined in Section 006.

b. Combination. The source is not part of a proposed new major facility or part of a proposed major modification. (3-24-22)

JUSTIFICATION: This exemption is not part of a proposed new major facility or part of a proposed major modification.

02. Record Retention. Unless the source is subject to and the owner or operator complies with Section 385, the owner or operator of the source, except for those sources listed in Subsections 222.02.a. through 222.02.g., shall maintain documentation on site which shall identify the exemption determined to apply to the source and verify that the source qualifies for the identified exemption. The records and documentation shall be kept for a period of time not less than five (5) years from the date the exemption determination has been made or for the life of the source for which the exemption has been determined to apply, whichever is greater, or until such time as a permit to construct or an operating permit is issued which covers the operation of the source. The owner or operator shall submit the documentation to the Department upon request.

JUSTIFICATION: Records on this exemption will be maintained.

221. CATEGORY I EXEMPTION.

No permit to construct is required for a source that satisfies the criteria set forth in Section 220 and the following: (3-24-22)

01. Below Regulatory Concern. The maximum capacity of a source to emit an air pollutant under its physical and operational design considering limitations on emissions such as air pollution control equipment, restrictions on hours of operation and restrictions on the type and amount of material combusted, stored or processed shall be less than ten percent (10%) of the significant emission rates set out in the definition of significant at Section 006. (3-24-22)

JUSTIFICATION: No pollutant will be discharged equal to or exceeding 10% of the significant emission rates.

02. Radionuclides. The source is not required to obtain approval to construct in accordance with the applicable radionuclides standard in 40 CFR Part 61, Subpart H. (3-24-22)

JUSTIFICATION: JUSTIFICATION: As can be seen from Table 1 the potential release of radionuclides is less than 0.1 mrem/yr.

02. Toxic Air Pollutants. The source shall comply with Section 223. (3-24-22)

AIR PERMITTING APPLICABILITY DETERMINATION

JUSTIFICATION: No toxic air pollutants have been identified at this time.

04. Mercury. The source shall have potential emissions that are less than twenty-five (25) pounds per year of mercury. Fugitive emissions shall not be included in the calculation of potential mercury emissions.
(3-24-22)

JUSTIFICATION: There are no mercury releases identified for this process

Toxics: *If the project meets the conditions of the FEC-PTC (PER-152) but causes an increase in toxic air pollutant (TAP) emissions, demonstrate compliance with IDAPA 58.01.01.210 or provide a justification for the applicable exemption in IDAPA 58.01.01.223. Otherwise, a PTC must be obtained.*

Justification: No products will be toxic air pollutants.

AIR PERMITTING APPLICABILITY DETERMINATION

Section D. Impacts and Summary of Applicable Regulations

Instructions: Based on review of applicable project information, regulations, agency guidance, and ECP regulatory clarification documents, check all boxes for which the project may incur regulatory impact or requirement.

IDAPA 58.01.01 & P-2020-0045 (PER-152)

- ☐ Emissions monitoring & reporting (PC 2.3-2.6)
- ☐ Excess emissions reporting (PC 3.6-3.10)
- ☐ Open Burning (PC 3.11)
- ☐ Fuel burning equipment particulate matter (PC 3.12)
- ☐ Fuel sulfur content limitations (PC 3.13-3.15)
- ☐ Fugitive dust control (PC 3.1-3.3)
- ☐ Visible emissions (PC 3.4-3.5)
- ☒ State permit to construct exemption (IDAPA ... 220-223)
- ☐ Toxic Air Pollutants (IDAPA ... 210 & 223)

40 CFR Parts 50-99 CAA

- ☐ Standards of Performance for New Stationary Sources (Part 60)
- ☒ NESHAP continuously or periodically monitored radionuclide (Part 61 Subpart H)
- ☐ National Emission Standards for HAPs for source categories (Part 63)
- ☐ Ozone Depleting Substances (Part 82)
- ☐ Other (specify):
- ☐ Other (specify):
- ☐ Other (specify):
- ☐ Other (specify):

Regulatory Requirements and Facility/Project Tasks to Demonstrate Compliance

Instructions: For each impact checked in Section D, cite the regulation, and summarize the applicable requirements. For each regulatory requirement presented, state what needs to be done to demonstrate, maintain, and document compliance, and specify the organization responsible for implementing each activity. State "No Compliance Tasks" for any requirement for which Facility/Project personnel have no responsibilities.

Note: Mark any best management practices or alternative ways for showing compliance with a statement indicating that the activity is not required for demonstrating regulatory compliance.

This justification is divided into two parts; one for the federal regulations and one for the State regulations.

Part I: Federal Regulations

40 CFR 61, Subpart H – National Emission Standards for Emission of Radionuclides Other Than Radon from Department of Energy Facilities

40 CFR 61.93(a) - EMISSION MONITORING AND TEST PROCEDURES. To determine compliance with the standard, radionuclide emissions shall be determined and effective dose equivalent values to members of the public calculated using EPA approved sampling procedures, computer models CAP-BB or AIRDOS-PC, or other procedures for which EPA has granted prior approval. DOE facilities for which the maximally exposed individual lives within 3 kilometers of all sources of emissions in the facility, may use EPA's COMPLY model and associated procedures for determining dose for purposes of compliance.

JUSTIFICATION: In Table 1, emissions were calculated using the CAP-88 modeling program.

40 CFR 61.93(e) – EMISSION MONITORING AND TEST PROCEDURES. Radionuclide emission measurements in conformance with the requirements of paragraph (b) or (c) of this section shall be made at all release points that have a potential to discharge radionuclides into the air in quantities that could cause an EDE in excess of 1% of the standard. All radionuclides which could contribute greater than 10% of the potential EDE for a release point shall be measured. With prior EPA approval, DOE may determine these emissions through alternative procedures. For other release points which have a potential to release radionuclides into the air, periodic confirmatory measurements shall be made to verify the low emissions.

JUSTIFICATION: The unabated potential to emit for the building shall be maintained <0.1 mrem/year. The requirement for continuous monitoring is not applicable to the operation of this source.

40 CFR 61.96(b) – APPLICATIONS TO CONSTRUCT OR MODIFY. An application for approval to construct is required for activities involving new construction of or modification within an existing facility when the effective dose equivalent (EDE), caused by all emissions from the new construction or modification equals or exceeds 1% of the standard prescribed in 40 CFR 61.92 (i.e., 0.1 mrem/year). The EDE is calculated using Appendix D to 40 CFR 61, which outlines release and pollution control adjustment factors.

JUSTIFICATION: This project will not require an application to construct or modify as the calculated EDE values do not exceed 1% of the standard prescribed in 40 CFR 61.92 (i.e., 0.1 mrem/year).

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Part II: State Regulations

IDAPA 58.01.01 – Rules for the Control of Air Pollution in Idaho

See PTC Justification in Section C.

AIR PERMITTING APPLICABILITY DETERMINATION

Section E. All Known Environmental Reports, Procedures, and/or Databases that will Require Revision

Instructions: Based on the presence of regulated air pollutants documented in this APAD and the applicability of regulatory requirements, check the appropriate boxes below to indicate all known environmental reports, procedures, and databases that are affected by this APAD and will require revision.

Performed by ES&S

- ☐ Emission unit inventory (PC 2.9)
- ☐ Green House Gas Reporting (§98)
- ☒ NESHAP annual report (§61.94)
- ☐ NESHAP continuous compliance monitoring (§61.93, GDE 726)
- ☒ NESHAP periodic confirmatory monitoring (§61.93, GDE 726)
- ☐ PER-152 INL Sitewide PTC-FEC (PC 2.3 -2.6)
- ☐ Toxic exemption pollutant report (IDAPA 58.01.01.223.04)
- ☐ None

Performed by Others

(specify in "details" below, including responsible organization)

- ☐ Databases
- ☐ Operational procedures
- ☐ Other
- ☐ None

Details: For each item checked above state what needs to be done to demonstrate, maintain, and document compliance, and specify the organization responsible for implementing each activity. State "No Compliance Tasks" for any requirement for which Facility/Project personnel have no responsibilities.

NESHAP radionuclide actual emissions 40 CFR 61.93. Actual emissions from this project (activation products from air based on reactor operation and power levels and data from the quarterly TREAT stack filter pulls with off-site analysis) will contribute to the overall annual emissions totals for the INL and will be included in the annual INL NESHAPS report. The combined INL emissions are then used to determine the effective dose equivalent (EDE) to the maximally exposed individual (MEI).

NESHAP unabated radionuclide emissions 40 CFR 61.93(a). Radionuclide emissions were determined using EPA approved computer models CAP-88 for determining compliance.

AIR PERMITTING APPLICABILITY DETERMINATION

Section F: Signatures

Instructions: The APAD Document Preparer shall sign the appropriate block and obtain the signatures of those listed below. Additional signatures may be obtained at the request of the Project Manager or other cognizant environmental, facility, or project personnel.

APAD Document Preparer:

I have prepared this document in accordance with applicable requirements and regulatory agency guidance, and I verify it is true, accurate, and complete to the best of my knowledge.

Kailey Jorgensen

Print/Type Name

Signature

Date

APAD Technical Reviewer (Must complete Appendix B, APAD Technical Reviewer Quality Checklist):

I have reviewed this document for technical accuracy and content in accordance with applicable requirements and regulatory agency guidance, including the validation of calculations where applicable, and I validate that it is true, accurate, and complete to the best of my knowledge.

Print/Type Name

Signature

Date

Environmental Support and Services Air Technical Point of Contact:

I have reviewed this document for technical accuracy and content in accordance with applicable requirements and regulatory agency guidance, including the validation of calculations where applicable, and I validate that it is true, accurate, and complete to the best of my knowledge.

Print/Type Name

Signature

Date

I agree that the description of the project and its scope in applicable sections of this form is true, accurate, and complete to the best of my knowledge and that this signature establishes an obligation to follow the environmental requirements herein, including the tasks that demonstrate regulatory compliance. This signature also establishes an obligation to inform ES&S personnel of changes to the project scope when the changes cause a modification to potential or actual emissions.

Project Manager:

Print/Type Name

Signature

Date

Facility Manager:

Print/Type Name

Signature

Date

I agree that this signature establishes an obligation to follow the environmental requirements herein, including the tasks that demonstrate regulatory compliance. This signature also establishes an obligation to inform ES&S personnel of changes to the project scope when the changes cause a modification to potential or actual emissions.

Operations Manager:

Print/Type Name

Signature

Date

Additional cognizant staff:

Title: _____

Certification Statement:

Print/Type Name

Signature

Date

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Appendix A. Calculations & Supporting Documentation

Instructions: Include emission calculations and a summary of emissions results. (Modeling results must be attached for any modeling that has been conducted.) Reference all assumptions and documentation upon which the calculations are based, including relevant documents, letters, e-mails, written records of personnel communication, and all variables in calculations. Include the formula view (if available) or provide example equations for any electronic worksheets calculating emission values. If the reference documentation is not included in this appendix, then the documentation must be included as an attachment to the APAD in an APAD information file with a cross-reference to the document(s) included in this appendix. A reference to the document may be used in lieu of including the document in the APAD information file if the document is maintained in EDMS.

Table 1. Unabated Dose Rate estimation for H-3 at TREAT facility.

Isotope	Amount (Ci)	Airborne Release Rate (Ci/yr) ^a	Effective Dose Equivalent at MFC MEI (mrem) ^b
H-3	1.00E-09	1.26E+00	2.31E-05

- a. The source term will be emitted once in a calendar year for 6 transients which means about 6 minutes of run time total. TREAT runs one transient a day. Release rate modelling as if daily portion of experiment is being repeated daily for an entire year.
- b. The effective dose equivalent was measured at ground release at MEI at receptor 54 – 8678 m from source.

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Appendix B. APAD Technical Reviewer Quality Checklist

Instructions: This checklist is provided to assist in the Quality Review of the APAD form. For each question enter the review date in the applicable box. After completing the review and this appendix, complete Section I, Signatures.

Quality Review Questions	Yes	N/A	Date
1. Have Sections A through E been completed?			
2. Have all the applicable boxes for reports been checked in Section E based on the presence/absence of potential air pollutant emissions identified in Section B, Appendix A, the final EC, and/or the APAD information file?			
2a. Has the toxic exemption pollutant report been accurately marked if a Level I or Level II exemption is claimed for toxic air pollutants (IDAPA 58.01.01.223.04)?			
2b. Has the NESHAPs annual report been accurately marked if radiological emissions are present?			
2c. Has the emission unit inventory been accurately marked if this is a new source, an existing source, or an inactivation of an existing source?			
3. Does Section B provide an adequate description of the project, and is the description substantiated by the information in the final EC, Appendix A, and/or the APAD information file?			
4. Has the expected emissions of Section B identified applicable toxic air pollutants likely to be emitted based on the scope of work described by Section B?			
5. Is the justification in Section C accurate and consistent with ES&S Policy and substantiated by the information presented or referenced in Appendix A?			
6. Have the applicable boxes in Section D been marked appropriately based on the scope of the project presented in the final EC, Appendix A, and/or the APAD information file?			
7. Have applicable requirements been listed in Section D for impacts checked in Section D?			
8. Has a detailed task/responsibility been prescribed for Facility/Project personnel in Section D for each requirement listed?			
8a. Does each task provide sufficient detail to direct facility/project personnel in demonstrating, maintaining, and documenting compliance?			
8b. Does each task address only the actions necessary to comply with the associated regulatory requirement and does not impose additional requirements outside of that required by the regulation unless qualified with a statement indicating that the activity is not required for demonstrating regulatory compliance?			
8c. Are tasks not addressing actions necessary to comply with the associated regulatory requirement (such as best management practices or options for regulatory compliance) marked with a statement indicating that they are not required to show compliance?			
9. If the APAD indicates that the source is a pre-existing source where no increase in emissions is expected or no construction or modification impacting existing source parameters is expected, is the documentation for these conditions adequate?			
10. Has sufficient information been provided by the facility/project and included in Appendix A and/or the APAD information file to make an accurate permitting determination?			
10a. Are the emission calculations accurate, reasonable, and defensible?			
10b. Have all equations been clearly shown including all variables and sources of variables, and have adequate assumptions been provided?			
10c. Have appropriate modeling results been included or referenced?			
10d. If applicable, has a quality statement been signed and submitted by the modeler confirming that modeling was performed in accordance with the State of Idaho Guidelines for Performing Air Quality Analyses (http://www.deq.idaho.gov/media/1029/modeling-guideline.pdf)			

Reviewer Comments:

Instructions: Insert reviewer comments if necessary.