PUBLIC NOTICE

Isotek Systems, LLC, dba U. S. Department of Energy, Oak Ridge National Laboratory, Buildings 3019 & 2026 has applied to the Tennessee Department of Environment and Conservation, Division of Air Pollution Control (TDAPC) for renewal of a major source (Title V) operating permit subject to the provisions of paragraph 1200-03-09-.02(11) of the Tennessee Air Pollution Control Regulations (also frequently referred to as Title V regulations). A major source operating permit is required by both the Federal Clean Air Act and the Tennessee Air Pollution Control Regulations.

The applicant is Isotek Systems, LLC, dba U. S. Department of Energy, Oak Ridge National Laboratory, Buildings 3019 & 2026 with a site address of 1 Bethel Valley Road, Oak Ridge, TN 37831. They seek to obtain a renewal major source operating permit with Division identification number 73-0182/576448 for their radiochemical development facility. However, it should be noted that this facility has a current major source operating permit.

EPA has agreed to treat this draft Part 70 permit as a proposed Part 70 permit and to perform its 45-day review provided by the law concurrently with the public notice period. If any substantive comments are received, EPA's 45-day review period will cease to be performed concurrently with the public notice period. EPA's 45-day review period will start once the public notice period has been completed and EPA receives notification from the Tennessee Air Pollution Control Division that comments have been received and resolved. Whether EPA's 45-day review period is performed concurrently with the public comment period or after the public comment period has ended, the deadline for citizen's petitions to the EPA Administrator will be determined as if EPA's 45-day review period is performed after the public comment period has ended (i.e., sequentially). The status regarding EPA's 45-day review of this project and the deadline for submitting a citizen petition can be found at the following website address:

http://www2.epa.gov/caa-permitting/caa-permitting-epas-southeastern-region

A copy of the application materials used by the TAPCD and a copy of the draft permit are available for public inspection during normal business hours at the following location:

TDEC Knoxville Environmental Field Office
3711 Middlebrook Pike
Knoxville, TN 37921

At this time, visitors are seen at the Environmental Field Office by appointment only. You should contact the TDEC Knoxville Environmental Field Office for an appointment to review the document by calling (865) 594-6035

Electronic copies of the application and the draft permit are available by accessing the TDEC internet site located at:

http://www.tn.gov/environment/topic/ppo-air

Interested parties are invited to review these materials and comment. In addition, a public hearing may be requested at which written or oral presentations may be made. To be considered, written comments or requests for a public hearing must be made within thirty (30) days of the date of this notice and should be addressed to **Michelle Walker Owenby, Director, Division of Air Pollution Control, William R. Snodgrass Tennessee Tower, 312 Rosa L. Parks Avenue, 15th Floor, Nashville, Tennessee 37243.** Questions concerning the source(s) may be addressed to Mr. Hernan Flores at the same address or by calling (615)-532-0593 or via email to Hernan.Flores@tn.gov. A final determination will be made after weighing all relevant comments.

Individuals with disabilities who wish to participate should contact the Tennessee Department of Environment and Conservation to discuss any auxiliary aids or services needed to facilitate such participation. Such contact may be in person, by writing, telephone, or other means, and should be made no less than ten days prior to the end of the public comment period to allow time to provide such aid or services. Contact the Tennessee Department of Environment and Conservation ADA Coordinator, William R. Snodgrass Tennessee Tower, 312 Rosa L. Parks Ave. 2nd Floor, Nashville, TN 37243, 1-866-253-5827. Hearing impaired callers may use the Tennessee Relay Service, 1-(800)-848-0298.

(Do not publish text below the dotted line)

For the “Oakridger” -- published once on or before DATE TBD

Air Pollution Control DATE: April 2, 2020

Assigned to –Hernan Flores

No alterations to the above are allowed:
Isotek Systems, LLC, dba U. S. Department of Energy, Oak Ridge National Laboratory, Buildings 3019 & 2026 must pay to place this advertisement in the newspaper.
Air Pollution Control must be furnished with an affidavit from the newspaper stating that the ad was run and the date of the ad or one complete sheet from the newspaper showing this advertisement, the name of the newspaper and the date of publication. Mail to Hernan Flores, Division of Air Pollution Control, William R. Snodgrass Tennessee Tower, 15th Floor, 312 Rosa L. Parks Avenue, Nashville, Tennessee 37243 or send a pdf copy of this information electronically to air.pollution.control@tn.gov.

TITLE V PERMIT STATEMENT

Facility Name:	**Isotek Systems, LLC** **U.S. Dept. of Energy** **Oak Ridge National Laboratory**
City:	**Oak Ridge**
County:	**Roane**

Date Application Received:	**February 21, 2019**
Date Application Deemed Complete:	**February 21, 2019**

Emission Source Reference No.:	**73-0182**
Permit No.:	**576448**

INTRODUCTION

This narrative is being provided to assist the reader in understanding the content of the attached Title V operating permit. This Title V Permit Statement is written pursuant to Tennessee Air Pollution Control Rule 1200-3-9-.02(11)(f)1.(v). The primary purpose of the Title V operating permit is to consolidate and identify existing state and federal air requirements applicable to **Isotek Systems, LLC / U.S. Dept. of Energy Oak Ridge National Laboratory**, and to provide practical methods for determining compliance with these requirements. The following narrative is designed to accompany the Title V Operating Permit. It initially describes the facility receiving the permit, then the applicable requirements and their significance, and finally the compliance status with those applicable requirements. This narrative is intended only as an adjunct for the reviewer and has no legal standing. Any revisions made to the permit in response to comments received during the public participation process will be described in an addendum to this narrative.

Acronyms

PSD	Prevention of Significant Deterioration
NESHAP	National Emission Standards for Hazardous Air Pollutants
NSPS	New Source Performance Standards
MACT	Maximum Achievable Control Technology
NSR	New Source Review
CAM	Compliance Assurance Monitoring
GHGs	Greenhouse Gases

I. Identification Information

A. Source Description

Source 01: Building 3019, Radiochemical Development Facility (73-0182-01)

Source 03: Building 3019, Three Diesel-Fired Emergency Generators (73-0182-03)
130 hp Diesel Fired Emergency Generator, Facility ID: 80-3131
398 hp Diesel Fired Emergency Generator, Facility ID: 80-3123
398 hp Diesel Fired Emergency Generator, Facility ID: 80-3146

Source 04: Building 2026, Radioactive Materials Analytical Laboratory

B. Facility Classification

1. Attainment or Non-Attainment Area Location: Area is designated as an attainment area for all criteria pollutants.

2. This facility is located in a Class II area

C. Regulatory Status

1. PSD/NSR: This facility is not a major source under the PSD rules.

2. Title V Major Source Status by Pollutant

Pollutant	Is the pollutant emitted?	Title V Major Source Status?
PM	Y	No
PM_{10}	Y	No
SO_2	Y	No
VOC	Y	No
NO_X	Y	No
CO	Y	No
Individual HAP	Y	No
Total HAPs	Y	No

3. MACT Standards: Applicable. This facility *is not* a major source for HAPs. This facility *is* subject to a final MACT Standard The emergency engines are subject to (NESHAP) 40 CFR Part 63 Subpart ZZZZ, but meet the requirements of 40 CFR Part 63 Subpart ZZZZ by meeting the requirements of 40 CFR Part 60, Subpart IIII. The entire facility is subject to 40 CFR 61, Subpart H (area source) National Emission Standards for Emissions of Radionuclides Other Than Radon from Department of Energy Facilities

4. Program Applicability: Are the following programs applicable to the facility?

PSD:	*(no, the facility has never undergone PSD review)*
NESHAP:	*(yes, entire facility subject to 40 CFR Part 63 Subpart ZZZZ, and 40 CFR 61, Subpart H (area source)*
NSPS:	*(yes, emergency engines subject to 40 CFR 60, subpart IIII)*

II. Compliance Information

A. Compliance Status

1. Is the facility currently in compliance with all applicable requirements? Yes

2. Are there any applicable requirements that will become effective during the permit term? No

III. Other Requirements

A. Emissions Trading

The facility *is not* involved in an emission trading program.

B. Acid Rain Requirements

This facility *is not* subject to any requirements in Title IV of the Clean Air Act.

C. Prevention of Accidental Releases

Not Applicable

D. Greenhouse Gas: This facility *is not* a major source of GHG with emissions being less than 100,000 tons/year of CO_2 e.

IV. Public Participation Procedures

A. Notification of this draft permit was mailed to the following environmental agencies:

1. EPA, Region 4

2. Kentucky Dept. for Environmental Protection

3. Knoxville County Dept. of Air Quality Management

4. North Carolina Dept. of Environment & Natural Resources

V. Significant Changes Since Last Permit Issuance and Public Notice

A. Minor Modification #1 to Title V Permit No. 568276, issued on January 6, 2016

Minor Modification #1 to Title V Permit No. 568276 was issued for the replacement of two emergency generators with two new emergency generators, the new generators are subject to NSPS IIII and NESHAP ZZZZ.

B. Minor Modification #2 to Title V Permit No. 568276 issued on July 19, 2017

Minor Modification #2 to Title V Permit No. 568276 was issued for the addition of Source 73-0182-04 (Building 2026, Radioactive Materials Analytical Laboratory) to the permit. This source is being transferred from Title V permit No. 562765 due to a change in ownership and a change in the source's operator. Source 73-0182-04 is subject to the same requirements as Source 73-0182-01, included in Title V permit 568276 when first issued.

STATE OF TENNESSEE
AIR POLLUTION CONTROL BOARD
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
NASHVILLE, TENNESSEE 37243

OPERATING PERMIT (TITLE V) Issued Pursuant to Tennessee Air Quality Act

This permit fulfills the requirements of Title V of the Federal Clean Air Act (42 U.S.C. 7661a-7661e) and the federal regulations promulgated thereunder at 40 CFR Part 70. (FR Vol. 57, No. 140, Tuesday, July 21, 1992 p.32295-32312). This permit is issued in accordance with the provisions of paragraph 1200-03-09-.02(11) of the Tennessee Air Pollution Control Regulations (TAPCR). The permittee has been granted permission to operate an air contaminant source in accordance with emissions limitations and monitoring requirements set forth herein.

Date Issued: DATE_TBD

Date Expires: DATE_TBD

Permit Number:

576448

Issued To:

Isotek Systems, LLC
U.S. Department of Energy
Oak Ridge National Laboratory

Installation Address:

Bethel Valley Road
Oak Ridge

Installation Description:

01 – Building 3019, Radiochemical Development Facility
03 – Building 3019, Emergency Generators
04 – Building 2026, Radioactive Materials Analytical Laboratory

Facility ID: 73-0182

Renewal Application Due Date:

Between DATE_TBD and DATE_TBD

Primary SIC: 87

Information Relied Upon:

Renewal Application dated February 21, 2019

(continued on the next page)

TECHNICAL SECRETARY

No Authority is Granted by this Permit to Operate, Construct, or Maintain any Installation in Violation of any Law, Statute, Code, Ordinance, Rule, or Regulation of the State of Tennessee or any of its Political Subdivisions.

POST AT INSTALLATION ADDRESS

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SECTION A
GENERAL PERMIT CONDITIONS

A permit issued under the provisions of paragraph 1200-03-09-.02(11) is a permit issued pursuant to the requirements of Title V of the Federal Act and its implementing Federal regulations promulgated at 40 CFR, Part 70.

A1. **Definitions.** Terms not otherwise defined in the permit shall have the meaning assigned to such terms in the referenced regulation.

TAPCR 1200-03

A2. **Compliance requirement.** All terms and conditions in a permit issued pursuant to paragraph 1200-03-09-.02(11) including any provisions designed to limit a source's potential to emit, are enforceable by the Administrator and citizens under the Federal Act.

The permittee shall comply with all conditions of its permit. Except for requirements specifically designated herein as not being federally enforceable (State Only), non-compliance with the permit requirements is a violation of the Federal Act and the Tennessee Air Quality Act and is grounds for enforcement action; for a permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. Non-compliance with permit conditions specifically designated herein as not being federally enforceable (State Only) is a violation of the Tennessee Air Quality Act and may be grounds for these actions.

TAPCR 1200-03-09-.02(11)(e)2(i) and 1200-03-09-.02(11)(e)1(vi)(I)

A3. **Need to halt or reduce activity.** The need to halt or reduce activity is not a defense for noncompliance. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit. However, nothing in this item shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in assessing penalties for noncompliance if the health, safety or environmental impacts of halting or reducing operations would be more serious than the impacts of continuing operations.

TAPCR 1200-03-09-.02(11)(e)1(vi)(II)

A4. **The permit.** The permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.

TAPCR 1200-03-09-.02(11)(e)1(vi)(III)

A5. **Property rights.** The permit does not convey any property rights of any sort, or any exclusive privilege.

TAPCR 1200-03-09-.02(11)(e)1(vi)(IV)

A6. **Submittal of requested information.** The permittee shall furnish to the Technical Secretary, within a reasonable time, any information that the Technical Secretary may request in writing to determine whether cause exists for modifying, revoking and reissuing, or termination of the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Technical Secretary copies of records required to be kept by the permit. If the permittee claims that such information is confidential, the Technical Secretary may review that claim and hold the information in protected status until such time that the Board can hear any contested proceedings regarding confidentiality disputes. If the information is desired by EPA, the permittee may mail the information directly to EPA. Any claims of confidentiality for federal purposes will be determined by EPA.

TAPCR 1200-03-09-.02(11)(e)1(vi)(V)

A7. **Severability clause.** The requirements of this permit are severable. A dispute regarding one or more requirements of this permit does not invalidate or otherwise excuse the permittee from their duty to comply with the remaining portion of the permit.

TAPCR 1200-03-09.02(11)(e)1(v)

A8. **Fee payment.**

(a) The permittee shall pay an annual Title V emission fee based upon the responsible official's choice of actual emissions, allowable emissions, or a combination of actual and allowable emissions; and on the responsible official's choice of annual accounting period. An emission cap of 4,000 tons per year per regulated pollutant per major source SIC Code shall apply to actual or allowable based emission fees. A Title V annual emission fee will not be charged for emissions in excess of the cap. Title V annual emission fees will not be charged for carbon monoxide or for greenhouse gas pollutants solely because they are greenhouse gases.

(b) Title V sources shall pay allowable based emission fees until the beginning of the next annual accounting period following receipt of their initial Title V operating permit. At that time, the permittee shall begin paying their Title V fee based upon their choice of actual or allowable based fees, or mixed actual and allowable based fees. Once permitted, the Responsible Official may revise their existing fee choice by submitting a written request to the Division no later than December 31 of the annual accounting period for which the fee is due.

(c) **W**hen paying annual Title V emission fees, the permittee shall comply with all provisions of 1200-03-26-.02 and 1200-03-09-.02(11) applicable to such fees.

(d) Where more than one (1) allowable emission limit is applicable to a regulated pollutant, the allowable emissions for the regulated pollutants shall not be double counted. Major sources subject to the provisions of paragraph 1200-03-26-.02(9) shall apportion their emissions as follows to ensure that their fees are not double counted.

1. Sources that are subject to federally promulgated hazardous air pollutant under 40 CFR 60, 61, or 63 will place such regulated emissions in the regulated hazardous air pollutant (HAP) category.

2. A category of miscellaneous HAPs shall be used for hazardous air pollutants listed at part 1200-03-26-.02(2)(i)12 that are not subject to federally promulgated hazardous air pollutant standards under 40 CFR 60, 61, or 63.

3. HAPs that are also in the family of volatile organic compounds, particulate matter, or PM_{10} shall not be placed in either the regulated HAP category or miscellaneous HAP category.

4. Sources that are subject to a provision of chapter 1200-03-16 New Source Performance Standards (NSPS) or chapter 0400-30-39 Standards of Performance for New Stationary Sources for pollutants that are neither particulate matter, PM_{10}, sulfur dioxide (SO_2), volatile organic compounds (VOC), nitrogen oxides (NO_x), or hazardous air pollutants (HAPs) will place such regulated emissions in an NSPS pollutant category.

5. The regulated HAP category, the miscellaneous HAP category, and the NSPS pollutant category are each subject to the 4,000 ton cap provisions of subparagraph 1200-03-26-.02(2)(i).

6. Major sources that wish to pay annual emission fees for PM_{10} on an allowable emission basis may do so if they have a specific PM_{10} allowable emission standard. If a major source has a total particulate emission standard, but wishes to pay annual emission fees on an actual PM_{10} emission basis, it may do so if the PM_{10} actual emission levels are proven to the satisfaction of the Technical Secretary. The method to demonstrate the actual PM_{10} emission levels must be made as part of the source's major source operating permit in advance in order to exercise this option. The PM_{10} emissions reported under these options shall not be subject to fees under the family of particulate emissions. The 4,000 ton cap provisions of subparagraph 1200-03-26-.02(2)(i) shall also apply to PM_{10} emissions.

TAPCR 1200-03-26-.02 and 1200-03-09-.02(11)(e)1(vii)

A9. **Permit revision not required.** A permit revision will not be required under any approved economic incentives, marketable permits, emissions trading and other similar programs or process for changes that are provided for in the permit.

TAPCR 1200-03-09-.02(11)(e)1(viii)

A10. **Inspection and entry.** Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Technical Secretary or an authorized representative to perform the following for the purposes of determining compliance with the permit applicable requirements:

(a) Enter upon, at reasonable times, the permittee's premises where a source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;

(b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;

(c) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and

(d) As authorized by the Clean Air Act and Chapter 1200-03-10 of TAPCR, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit or applicable requirements.

(e) "Reasonable times" shall be considered to be customary business hours unless reasonable cause exists to suspect noncompliance with the Act, Division 1200-03 or any permit issued pursuant thereto and the Technical Secretary specifically authorizes an inspector to inspect a facility at any other time.

TAPCR 1200-03-09-.02(11)(e)3.(ii)

A11. Permit shield.

(a) Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements as of the date of permit issuance, provided that:

1. Such applicable requirements are included and are specifically identified in the permit; or

2. The Technical Secretary, in acting on the permit application or revision, determines in writing that other requirements specifically identified are not applicable to the source, and the permit includes the determination or a concise summary thereof.

(b) Nothing in this permit shall alter or affect the following:

1. The provisions of section 303 of the Federal Act (emergency orders), including the authority of the Administrator under that section. Similarly, the provisions of T.C.A. §68-201-109 (emergency orders) including the authority of the Governor under the section;

2. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;

3. The applicable requirements of the acid rain program, consistent with section 408(a) of the Federal Act; or

4. The ability of EPA to obtain information from a source pursuant to section 114 of the Federal Act.

(c) Permit shield is granted to the permittee.

TAPCR 1200-03-09-.02(11)(e)6

A12. Permit renewal and expiration.

(a) An application for permit renewal must be submitted at least 180 days, but no more than 270 days prior to the expiration of this permit. Permit expiration terminates the source's right to operate unless a timely and complete renewal application has been submitted.

(b) If the permittee submits a timely and complete application for permit renewal the source will not be considered to be operating without a permit until the Technical Secretary takes final action on the permit application, except as otherwise noted in paragraph 1200-03-09-.02(11).

(c) This permit, its shield provided in Condition A11, and its conditions will be extended and effective after its expiration date provided that the source has submitted a timely, complete renewal application to the Technical Secretary.

TAPCR 1200-03-09-.02(11)(f)2 and 3, 1200-03-09-.02(11)(d)1(i)(III), and 1200-03-09-.02(11)(a)2

A13. Reopening for cause.

(a) A permit shall be reopened and revised prior to the expiration of the permit under any of the circumstances listed below:

1. Additional applicable requirements under the Federal Act become applicable to the sources contained in this permit provided the permit has a remaining term of 3 or more years. Such a reopening shall be completed not later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the permit expiration date of this permit, unless the original has been extended pursuant to 1200-03-09-.02(11)(a)2.

2. Additional requirements become applicable to an affected source under the acid rain program.

3. The Technical Secretary or EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.

4. The Technical Secretary or EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements.

(b) Proceedings to reopen and issue a permit shall follow the same proceedings as apply to initial permit issuance and shall affect only those parts of the permit for which cause to reopen exists, and not the entire permit. Such reopening shall be made as expeditiously as practicable.

(c) Reopenings for cause shall not be initiated before a notice of such intent is provided to the permittee by the Technical Secretary at least 30 days in advance of the date that the permit is to be reopened except that the Technical Secretary may provide a shorter time period in the case of an emergency. An emergency shall be established by the criteria of T.C.A. 68-201-109 or other compelling reasons that public welfare is being adversely affected by the operation of a source that is in compliance with its permit requirements.

(d) If the Administrator finds that cause exists to terminate, modify, or revoke and reissue a permit as identified in A13, he is required under federal rules to notify the Technical Secretary and the permittee of such findings in writing. Upon receipt of such notification, the Technical Secretary shall investigate the matter in order to determine if he agrees or disagrees with the Administrator's findings. If he agrees with the Administrator's findings, the Technical Secretary shall conduct the reopening in the following manner:

1. The Technical Secretary shall, within 90 days after receipt of such notification, forward to EPA a proposed determination of termination, modification, or revocation and reissuance, as appropriate. If the Administrator grants additional time to secure permit applications or additional information from the permittee, the Technical Secretary shall have the additional time period added to the standard 90 day time period.

2. EPA will evaluate the Technical Secretary's proposed revisions and respond as to their evaluation.

3. If EPA agrees with the proposed revisions, the Technical Secretary shall proceed with the reopening in the same manner prescribed under Condition A13 (b) and Condition A13 (c).

4. If the Technical Secretary disagrees with either the findings or the Administrator that a permit should be reopened or an objection of the Administrator to a proposed revision to a permit submitted pursuant to Condition A13(d), he shall bring the matter to the Board at its next regularly scheduled meeting for instructions as to how he should proceed. The permittee shall be required to file a written brief expressing their position relative to the Administrator's objection and have a responsible official present at the meeting to answer questions for the Board. If the Board agrees that EPA is wrong in their demand for a permit revision, they shall instruct the Technical Secretary to conform to EPA's demand, but to issue the permit under protest preserving all rights available for litigation against EPA.

TAPCR. 1200-03-09-.02(11)(f)6 and 7.

A14. **Permit transference.** An administrative permit amendment allows for a change of ownership or operational control of a source where the Technical Secretary determines that no other change in the permit is necessary, provided that the following requirements are met:

(a) Transfer of ownership permit application is filed consistent with the provisions of 1200-03-09-.03(6), and

(b) written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittee has been submitted to the Technical Secretary.

TAPCR 1200-03-09-.02(11)(f)4(i)(IV) and 1200-03-09-.03(6)

A15. **Air pollution alert.** When the Technical Secretary has declared that an air pollution alert, an air pollution warning, or an air pollution emergency exists, the permittee must follow the requirements for that episode level as outlined in TAPCR 1200-03-09-.03(1) and TAPCR 1200-03-15-.03.

A16. **Construction permit required.** Except as exempted in TAPCR 1200-03-09-.04, or excluded in subparagraph TAPCR 1200-03-02-.01(1)(aa) or subparagraph TAPCR 1200-03-02-.01(1)(cc), this facility shall not begin the construction of a new air contaminant source or the modification of an air contaminant source which may result in the discharge of air contaminants without first having applied for and received from the Technical Secretary a construction permit for the construction or modification of such air contaminant source.

TAPCR 1200-03-09-.01(1)(a)

A17. **Notification of changes.** The permittee shall notify the Technical Secretary 30 days prior to commencement of any of the following changes to an air contaminant source which would not be a modification requiring a construction permit.

(a) change in air pollution control equipment

(b) change in stack height or diameter

(c) change in exit velocity of more than 25 percent or exit temperature of more than 15 percent based on absolute temperature.

TAPCR 1200-03-09-.02(7)

A18. **Schedule of compliance.** The permittee will comply with any applicable requirement that becomes effective during the permit term on a timely basis. If the permittee is not in compliance the permittee must submit a schedule for coming into compliance which must include a schedule of remedial measure(s), including an enforceable set of deadlines for specific actions.

TAPCR 1200-03-09-.02(11)(d)3 and 40 CFR Part 70.5(c)

A19. **Title VI.**

(a) The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR, Part 82, Subpart F, except as provided for motor vehicle air conditioners (MVACs) in Subpart B:

Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to Section 82.156.

Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to Section 82.158.

Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to Section 82.161.

(b) If the permittee performs a service on motor (fleet) vehicles when this service involves ozone depleting substance refrigerant in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR, Part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners.

(c) The permittee shall be allowed to switch from any ozone-depleting substance to any alternative that is listed in the Significant New Alternatives Program(SNAP) promulgated pursuant to 40 CFR, Part 82, Subpart G, Significant New Alternatives Policy Program.

A20. **112 (r).** Sources which are subject to the provisions of Section 112(r) of the federal Clean Air Act or any federal regulations promulgated thereunder, shall annually certify in writing to the Technical Secretary that they are properly following their accidental release plan. The annual certification is due in the office of the Technical Secretary no later than January 31 of each year. Said certification will be for the preceding calendar year.

TAPCR 1200-03-32-.03(3)

SECTION B

GENERAL CONDITIONS for MONITORING, REPORTING, and ENFORCEMENT

B1. **Recordkeeping.** Monitoring and related record keeping shall be performed in accordance with the requirements specified in the permit conditions for each individual permit unit. In no case shall reports of any required monitoring and record keeping be submitted less frequently than every six months.

(a) Where applicable, records of required monitoring information include the following:

1. The date, place as defined in the permit, and time of sampling or measurements;
2. The date(s) analyses were performed;
3. The company or entity that performed the analysis;
4. The analytical techniques or methods used;
5. The results of such analyses; and
6. The operating conditions as existing at the time of sampling or measurement.

(b) Digital data accumulation which utilizes valid data compression techniques shall be acceptable for compliance determination as long as such compression does not violate an applicable requirement and its use has been approved in advance by the Technical Secretary.

TAPCR 1200-03-09-.02(11)(e)1(iii)

B2. **Retention of monitoring data.** The permittee shall retain records of all required monitoring data and support information for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.

TAPCR 1200-03-09-.02(11)(e)1(iii)(II)II

B3. **Reporting.** Reports of any required monitoring and record keeping shall be submitted to the Technical Secretary in accordance with the frequencies specified in the permit conditions for each individual permit unit. Reports shall be submitted within 60 days of the close of the reporting period unless otherwise noted. All instances of deviations from permit requirements must be clearly identified in such reports. All required reports must be certified by a responsible official. Reports required under "State only requirements" are not required to be certified by a responsible official.

TAPCR 1200-03-09-.02(11)(e)1(iii)

B4. **Certification.** Except for reports required under “State Only” requirements, any application form, report or compliance certification submitted pursuant to the requirements of this permit shall contain certification by a responsible official of truth, accuracy and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

TAPCR 1200-03-09-.02(11)(d)4

B5. **Annual compliance certification.** The permittee shall submit annually compliance certifications with terms and conditions contained in Sections A, B, D and E of this permit, including emission limitations, standards, or work practices. This compliance certification shall include all of the following (provided that the identification of applicable information may cross-reference the permit or previous reports, as applicable):

(a) The identification of each term or condition of the permit that is the basis of the certification;

(b) The identification of the method(s) or other means used by the owner or operator for determining the compliance status with each term and condition during the certification period; such methods and other means shall include, at a minimum, the methods and means required by this permit. If necessary, the owner or operator also shall identify any other material information that must be included in the certification to comply with section 113(c)(2) of the Federal Act, which prohibits knowingly making a false certification or omitting material information;

(c) The status of compliance with the terms and conditions of the permit for the period covered by the certification, including whether compliance during the period was continuous or intermittent. The certification shall be based on the method or means designated in B5(b) above. The certification shall identify each deviation and take it into account in the compliance

certification. The certification shall also identify as possible exceptions to compliance any periods during which compliance is required and in which an excursion* or exceedance** as defined below occurred; and

(d) Such other facts as the Technical Secretary may require to determine the compliance status of the source.

* "Excursion" shall mean a departure from an indicator range established for monitoring under this paragraph, consistent with any averaging period specified for averaging the results of the monitoring.

** "Exceedance" shall mean a condition that is detected by monitoring that provides data in terms of an emission limitation or standard and that indicates that emissions (or opacity) are greater than the applicable emission limitation or standard (or less than the applicable standard in the case of a percent reduction requirement) consistent with any averaging period specified for averaging the results of the monitoring.

40 CFR Part 70.6(c)(5)(iii) as amended in the Federal Register Vol. 79, No.144, July 28, 2014, pages 43661 through 43667

B6. **Submission of compliance certification.** The compliance certification shall be submitted to:

The Tennessee Department of Environment and Conservation Environmental Field Office specified in Section E of this permit	and	Air Enforcement Branch US EPA Region IV 61 Forsyth Street, SW Atlanta, Georgia 30303

TAPCR 1200-03-09-.02(11)(e)3(v)(IV)

B7. **Emergency provisions.** An emergency constitutes an affirmative defense to an enforcement action brought against this source for noncompliance with a technology based emission limitation due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

(a) The affirmative defense of the emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

1. An emergency occurred and that the permittee can identify the probable cause(s) of the emergency. "Probable" must be supported by a credible investigation into the incident that seeks to identify the causes and results in an explanation supported by generally accepted engineering or scientific principles.

2. The permitted source was at the time being properly operated. In determining whether or not a source was being properly operated, the Technical Secretary shall examine the source's written standard operating procedures which were in effect at the time of the noncompliance and any other code as detailed below that would be relevant to preventing the noncompliance. Adherence to the source's standard operating procedures will be the test of adequate preventative maintenance, careless operation, improper operation or operator error to the extent that such adherence would prevent noncompliance. The source's failure to follow recognized standards of practice to the extent that adherence to such a standard would have prevented noncompliance will disqualify the source from any claim of an emergency and an affirmative defense.

3. During the period of the emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit.

4. The permittee submitted notice of the emergency to the Technical Secretary according to the notification criteria for malfunctions in rule 1200-03-20-.03. For the purposes of this condition, "emergency" shall be substituted for "malfunction(s)" in rule 1200-03-20-.03 to determine the relevant notification threshold. The notice shall include a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

(b) In any enforcement proceeding the permittee seeking to establish the occurrence of an emergency has the burden of proof.

(c) The provisions of this condition are in addition to any emergency, malfunction or upset requirement contained in Division 1200-03 or other applicable requirement.

TAPCR 1200-03-09-.02(11)(e)7

B8. **Excess emissions reporting.**

(a) The permittee shall promptly notify the Technical Secretary when any emission source, air pollution control equipment, or related facility breaks down in such a manner to cause the emission of air contaminants in excess of the applicable emission standards contained in Division 1200-03 or any permit issued thereto, or of sufficient duration to cause damage to property or public health. The permittee must provide the Technical Secretary with a statement giving all pertinent facts, including the estimated duration of the breakdown. Violations of the visible emission standard which occur for less than 20 minutes in one day (midnight to midnight) need not be reported. Prompt notification will be within 24 hours of the malfunction and shall be provided by telephone to the Division's Nashville office. The Technical Secretary shall be notified when the

condition causing the failure or breakdown has been corrected. In attainment and unclassified areas if emissions other than from sources designated as significantly impacting on a nonattainment area in excess of the standards will not and do not occur over more than a 24-hour period (or will not recur over more than a 24-hour period) and no damage to property and or public health is anticipated, notification is not required.

(b) Any malfunction that creates an imminent hazard to health must be reported by telephone immediately to the Division's Nashville office at (615) 532-0554 and to the State Civil Defense.

(c) A log of all malfunctions, startups, and shutdowns resulting in emissions in excess of the standards in Division 1200-03 or any permit issued thereto must be kept at the plant. All information shall be entered in the log no later than twenty-four (24) hours after the startup or shutdown is complete, or the malfunction has ceased or has been corrected. Any later discovered corrections can be added in the log as footnotes with the reason given for the change. This log must record at least the following:

1. Stack or emission point involved
2. Time malfunction, startup, or shutdown began and/or when first noticed
3. Type of malfunction and/or reason for shutdown
4. Time startup or shutdown was complete or time the air contaminant source returned to normal operation
5. The company employee making entry on the log must sign, date, and indicate the time of each log entry

The information under items 1. and 2. must be entered into the log by the end of the shift during which the malfunction or startup began. For any source utilizing continuous emission(s) monitoring, continuous emission(s) monitoring collection satisfies the above log keeping requirement.

TAPCR 1200-03-20-.03 and .04

B9. **Malfunctions, startups and shutdowns - reasonable measures required.** The permittee must take all reasonable measures to keep emissions to a minimum during startups, shutdowns, and malfunctions. These measures may include installation and use of alternate control systems, changes in operating methods or procedures, cessation of operation until the process equipment and/or air pollution control equipment is repaired, maintaining sufficient spare parts, use of overtime labor, use of outside consultants and contractors, and other appropriate means. Failures that are caused by poor maintenance, careless operation or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions. This provision does not apply to standards found in 40 CFR, Parts 60(Standards of performance for new stationary sources), 61(National emission standards for hazardous air pollutants) and 63(National emission standards for hazardous air pollutants for source categories).

TAPCR 1200-03-20-.02

B10. Reserved.

B11. **Report required upon the issuance of a notice of violation for excess emissions.** The permittee must submit within twenty (20) days after receipt of the notice of violation, the data required below. If this data has previously been available to the Technical Secretary prior to the issuance of the notice of violation no further action is required of the violating source. However, if the source desires to submit additional information, then this must be submitted within the same twenty (20) day time period. The minimum data requirements are:

(a) The identity of the stack and/or other emission point where the excess emission(s) occurred;
(b) The magnitude of the excess emissions expressed in pounds per hour and the units of the applicable emission limitation and the operating data and calculations used in determining the magnitude of the excess emissions;
(c) The time and duration of the emissions;
(d) The nature and cause of such emissions;
(e) For malfunctions, the steps taken to correct the situation and the action taken or planned to prevent the recurrence of such malfunctions;
(f) The steps taken to limit the excess emissions during the occurrence reported, and
(g) If applicable, documentation that the air pollution control equipment, process equipment, or processes were at all times maintained and operated in a manner consistent with good operating practices for minimizing emissions.

Failure to submit the required report within the twenty (20) day period specified shall preclude the admissibility of the data for determination of potential enforcement action.

TAPCR 1200-03-20-.06(2), (3) and (4)

SECTION C
PERMIT CHANGES

C1. **Operational flexibility changes.** The source may make operational flexibility changes that are not addressed or prohibited by the permit without a permit revision subject to the following requirements:

(a) The change cannot be subject to a requirement of Title IV of the Federal Act or Chapter 1200-03-30.

(b) The change cannot be a modification under any provision of Title I of the federal Act or Division 1200-03.

(c) Each change shall meet all applicable requirements and shall not violate any existing permit term or condition.

(d) The source must provide contemporaneous written notice to the Technical Secretary and EPA of each such change, except for changes that are below the threshold of levels that are specified in Rule 1200-03-09-.04.

(e) Each change shall be described in the notice including the date, any change in emissions, pollutants emitted, and any applicable requirements that would apply as a result of the change.

(f) The change shall not qualify for a permit shield under the provisions of part 1200-03-09-.02(11)(e)6.

(g) The permittee shall keep a record describing the changes made at the source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under the permit, and the emissions resulting from those changes. The records shall be retained until the changes are incorporated into subsequently issued permits.

TAPCR 1200-03-09-.02(11)(a)4 (ii)

C2. **Section 502(b)(10) changes.**

(a) The permittee can make certain changes without requiring a permit revision, if the changes are not modifications under Title I of the Federal Act or Division 1200-03 and the changes do not exceed the emissions allowable under the permit. The permittee must, however, provide the Administrator and Technical Secretary with written notification within a minimum of 7 days in advance of the proposed changes. The Technical Secretary may waive the 7 day advance notice in instances where the source demonstrates in writing that an emergency necessitates the change. Emergency shall be demonstrated by the criteria of TAPCR 1200-03-09-.02(11)(e)7 and in no way shall it include changes solely to take advantages of an unforeseen business opportunity. The Technical Secretary and EPA shall attach each such notice to their copy of the relevant permit.

(b) The written notification must be signed by a facility Title V responsible official and include the following:

1. a brief description of the change within the permitted facility;

2. the date on which the change will occur;

3. a declaration and quantification of any change in emissions;

4. a declaration of any permit term or condition that is no longer applicable as a result of the change; and

5. a declaration that the requested change is not a Title I modification and will not exceed allowable emissions under the permit.

(c) The permit shield provisions of TAPCR 1200-03-09-.02(11)(e)6 shall not apply to Section 502(b)(10) changes.

TAPCR 1200-03-09-.02(11)(a)4 (i)

C3. **Administrative amendment.**

(a) Administrative permit amendments to this permit shall be in accordance with 1200-03-09-.02(11)(f)4. The source may implement the changes addressed in the request for an administrative amendment immediately upon submittal of the request.

(b) The permit shield shall be extended as part of an administrative permit amendment revision consistent with the provisions of TAPCR 1200-03-09-.02(11)(e)6 for such revisions made pursuant to item (c) of this condition which meet the relevant requirements of TAPCR 1200-03-09-.02(11)(e), TAPCR 1200-03-09-.02(11)(f) and TAPCR 1200-03-09-.02(11)(g) for significant permit modifications.

(c) Proceedings to review and grant administrative permit amendments shall be limited to only those parts of the permit for which cause to amend exists, and not the entire permit.

TAPCR 1200-03-09-.02(11)(f)4

C4. **Minor permit modifications.**

(a) The permittee may submit an application for a minor permit modification in accordance with TAPCR 1200-03-09-.02(11)(f)5(ii).

(b) The permittee may make the change proposed in its minor permit modification immediately after an application is filed with the Technical Secretary.

(c) Proceedings to review and modify permits shall be limited to only those parts of the permit for which cause to modify exists, and not the entire permit.

(d) Minor permit modifications do not qualify for a permit shield.

TAPCR 1200-03-09-.02(11)(f)5(ii)

C5. **Significant permit modifications.**

(a) The permittee may submit an application for a significant modification in accordance with TAPCR 1200-03-09-.02(11)(f)5(iv).

(b) Proceedings to review and modify permits shall be limited to only those parts of the permit for which cause to modify exists, and not the entire permit.

TAPCR 1200-03-09-.02(11)(f)5(iv)

C6. **New construction or modifications.**

Future construction at this facility that is subject to the provisions of TAPCR 1200-03-09-.01 shall be governed by the following:

(a) The permittee shall designate in their construction permit application the route that they desire to follow for the purposes of incorporating the newly constructed or modified sources into their existing operating permit. The Technical Secretary shall use that information to prepare the operating permit application submittal deadlines in their construction permit.

(b) Sources desiring the permit shield shall choose the administrative amendment route of TAPCR 1200-03-09-.02(11)(f)4 or the significant modification route of TAPCR 1200-03-09-.02(11)(f)5(iv).

(c) Sources desiring expediency instead of the permit shield shall choose the minor permit modification procedure route of TAPCR 1200-03-09-.02(11)(f)5(ii) or group processing of minor modifications under the provisions of TAPCR 1200-03-09-.02(11)(f)5(iii) as applicable to the magnitude of their construction.

TAPCR 1200-03-09-.02(11)(d) 1(i)(V)

SECTION D
GENERAL APPLICABLE REQUIREMENTS

D1. **Visible emissions.** With the exception of air emission sources exempt from the requirements of TAPCR Chapter 1200-03-05 and air emission sources for which a different opacity standard is specifically provided elsewhere in this permit, the permittee shall not cause, suffer, allow or permit discharge of a visible emission from any air contaminant source with an opacity in excess of twenty (20) percent for an aggregate of more than five (5) minutes in any one (1)hour or more than twenty (20) minutes in any twenty-four (24) hour period; provided, however, that for fuel burning installations with fuel burning equipment of input capacity greater than 600 million btu per hour, the permittee shall not cause, suffer, allow, or permit discharge of a visible emission from any fuel burning installation with an opacity in excess of twenty (20) percent (6-minute average) except for one six minute period per one (1) hour of not more than forty (40) percent opacity. Sources constructed or modified after July 7, 1992 shall utilize 6-minute averaging.

Consistent with the requirements of TAPCR Chapter 1200-03-20, due allowance may be made for visible emissions in excess of that permitted under TAPCR 1200-03-05 which are necessary or unavoidable due to routine startup and shutdown conditions. The facility shall maintain a continuous, current log of all excess visible emissions showing the time at which such conditions began and ended and that such record shall be available to the Technical Secretary or an authorized representative upon request.

TAPCR 1200-03-05-.01(1), TAPCR 1200-03-05-.03(6) and TAPCR 1200-03-05-.02(1)

D2. **General provisions and applicability for non-process gaseous emissions.** Any person constructing or otherwise establishing a non-portable air contaminant source emitting gaseous air contaminants after April 3, 1972, or relocating an air contaminant source more than 1.0 km from the previous position after November 6, 1988, shall install and utilize the best equipment and technology currently available for controlling such gaseous emissions.

TAPCR 1200-03-06-.03(2)

D3. **Non-process emission standards.** The permittee shall not cause, suffer, allow, or permit particulate emissions from non-process sources in excess of the standards in TAPCR 1200-03-06.

D4. **General provisions and applicability for process gaseous emissions.** Any person constructing or otherwise establishing an air contaminant source emitting gaseous air contaminants after April 3, 1972, or relocating an air contaminant source more than 1.0 km from the previous position after November 6, 1988, shall install and utilize equipment and technology which is deemed reasonable and proper by the Technical Secretary.

TAPCR 1200-03-07-.07(2)

D5. **Particulate emissions from process emission sources.** The permittee shall not cause, suffer, allow, or permit particulate emissions from process sources in excess of the standards in TAPCR 1200-03-07.

D6. **Sulfur dioxide emission standards.** The permittee shall not cause, suffer, allow, or permit Sulfur dioxide emissions from process and non-process sources in excess of the standards in TAPCR 1200-03-14. Regardless of the specific emission standard, new process sources shall utilize the best available control technology as deemed appropriate by the Technical Secretary of the Tennessee Air Pollution Control Board.

D7. **Fugitive Dust.**

(a) The permittee shall not cause, suffer, allow, or permit any materials to be handled, transported, or stored; or a building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. Such reasonable precautions shall include, but not be limited to, the following:

1. Use, where possible, of water or chemicals for control of dust in demolition of existing buildings or structures, construction operations, grading of roads, or the clearing of land;

2. Application of asphalt, water, or suitable chemicals on dirt roads, material stock piles, and other surfaces which can create airborne dusts;

3. Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials. Adequate containment methods shall be employed during sandblasting or other similar operations.

(b) The permittee shall not cause, suffer, allow, or permit fugitive dust to be emitted in such manner to exceed five (5) minutes per hour or twenty (20) minutes per day as to produce a visible emission beyond the property line of the property on which the emission originates, excluding malfunction of equipment as provided in Chapter 1200-03-20.

TAPCR 1200-03-08

D8. **Open burning.** The permittee shall comply with the TAPCR 1200-03-04 for all open burning activities at the facility.

TAPCR 1200-03-04

D9. **Asbestos.** Where applicable, the permittee shall comply with the requirements of TAPCR 1200-03-11-.02(2)(d) when conducting any renovation or demolition activities at the facility.

TAPCR 1200-03-11-.02(2)(d) and 40 CFR, Part 61

D10. **Annual certification of compliance.** The generally applicable requirements set forth in Section D of this permit are intended to apply to activities and sources that are not subject to source-specific applicable requirements contained in State of Tennessee and U.S. EPA regulations. By annual certification of compliance, the permittee shall be considered to meet the monitoring and related record keeping and reporting requirements of TAPCR 1200-03-09-.02(11)(e)1.(iii) and 1200-03-10-.04(2)(b)1 and compliance requirements of TAPCR 1200-03-09-.02(11)(e)3.(i). The permittee shall submit compliance certification for these conditions annually.

D11. **Emission Standards for Hazardous Air Pollutants.** When applicable, the permittee shall comply with the TAPCR 0400-30-38 for all emission sources subject to a requirement contained therein.

TAPCR 0400-30-38

D12. **Standards of Performance for New Stationary Sources.** When applicable, the permittee shall comply with the TAPCR 0400-30-39 for all emission sources subject to a requirement contained therein.

TAPCR 0400-30-39

D13. **Gasoline Dispensing Facilities.** When applicable, the permittee shall comply with the TAPCR 1200-03-18-.24 for all emission sources subject to a requirement contained therein.

D14. **Internal Combustion Engines.**

(a) All stationary reciprocating internal combustion engines, including engines deemed insignificant activities and insignificant emission units, shall comply with the applicable provisions of TAPCR 0400-30-38-.01.

(b) All stationary compression ignition internal combustion engines, including engines deemed insignificant activities and insignificant emission units, shall comply with the applicable provisions of TAPCR 0400-30-39-.01.

(c) All stationary spark ignition internal combustion engines, including engines deemed insignificant activities and insignificant emission units, shall comply with the applicable provisions of TAPCR 0400-30-39-.02.

TAPCR 0400-30-38 and 39

SECTION E

SOURCE SPECIFIC EMISSION STANDARDS, OPERATING LIMITATIONS, and MONITORING, RECORDKEEPING and REPORTING REQUIREMENTS

73-0182 **Facility Description:**

Conditions E1 and E2 apply to all sources in Section E of this permit unless otherwise noted.

E1. Fee payment

FEE EMISSIONS SUMMARY TABLE FOR MAJOR SOURCE 73-0182

REGULATED POLLUTANTS	ALLOWABLE EMISSIONS (tons per AAP)	ACTUAL EMISSIONS (tons per AAP)	COMMENTS
PARTICULATE MATTER (PM)	45.07	AEAR	Includes all fee emissions.
PM_{10}	N/A	AEAR	N/A
SO_2	0.47	AEAR	Includes all fee emissions.
VOC		AEAR	Includes all fee emissions.
NO_X	1.55	AEAR	(NMHC + NOx) Includes all fee emissions.
CATEGORY OF MISCELLANEOUS HAZARDOUS AIR POLLUTANTS (HAPs WITHOUT A STANDARD)*			
VOC FAMILY GROUP	N/A	N/A	Fee emissions are included in VOC above.
NON-VOC GASEOUS GROUP	N/A	N/A	
PM FAMILY GROUP	N/A	N/A	
CATEGORY OF SPECIFIC HAZARDOUS AIR POLLUTANTS (HAPs WITH A STANDARD)**			
VOC FAMILY GROUP	N/A	N/A	
NON-VOC GASEOUS GROUP	N/A	N/A	
PM FAMILY GROUP	N/A	N/A	
CATEGORY OF NSPS POLLUTANTS NOT LISTED ABOVE***			
EACH NSPS POLLUTANT NOT LISTED ABOVE	N/A	N/A	

NOTES

AAP The **Annual Accounting Period** (**AAP**) is a 12 consecutive month period that **either (a) begins each July 1st and ends June 30th of the following year when fees are paid on a fiscal year basis, or (b) begins January 1st and ends December 31st of the same year when paying on a calendar year basis.** The **Annual Accounting Period** at the time of permit renewal issuance **began July 1, 2020 and ends June 30, 2021.** The next Annual Accounting Period begins July 1, 2021 and ends June 30, 2022 unless a request to change the annual accounting period is submitted by the responsible official as required by subparagraph 1200-03-26-.02(9)(b) of the TAPCR and approved by the Technical Secretary**.** If the permittee wishes to revise their annual accounting period or their annual emission fee basis as allowed by subparagraph 1200-03-26-.02(9)(b) of the TAPCR, the responsible official must submit the request to the Division in writing on or before December 31 of the annual accounting period for which the fee is due. If a change in fee basis from allowable emissions to actual emissions for any pollutant is requested, the request from the responsible official must include the methods that will be used to determine actual emissions. Changes in fee bases must be made using the Title V Fee Selection form, form number APC 36 (CN-1583), included as an attachment to this permit and available on the Division of Air Pollution Control's website.

N/A **N/A** indicates that no emissions are specified for fee computation.

AEAR If the permittee is paying annual emission fees on an actual emissions basis, **AEAR** indicates that an **A**ctual **E**missions **A**nalysis is **R**equired to determine the actual emissions of:

(1) **each regulated pollutant** (Particulate matter, SO_2, VOC, NO_X and so forth. See TAPCR 1200-03-26-.02(2)(i) for the definition of a regulated pollutant.),

(2) **each pollutant group** (VOC Family, Non-VOC Gaseous, and Particulate Family),

(3) the **Miscellaneous HAP Category,**
(4) the **Specific HAP Category**, and
(5) the **NSPS Category**

under consideration during the **Annual Accounting Period**.

***** **Category Of Miscellaneous HAP (HAP Without A Standard):** This category is made-up of hazardous air pollutants that do not have a federal or state standard. Each HAP is classified into one of three groups, the **VOC Family** group**, the Non-VOC Gaseous** group**,** or the **Particulate (PM) Family** group**. For fee computation**, the **Miscellaneous HAP Category** is subject to the 4,000 ton cap provisions of subparagraph 1200-03-26-.02(2)(i) of the TAPCR.

****** **Category Of Specific HAP (HAP With A Standard):** This category is made-up of hazardous air pollutants (HAP) that are subject to Federally promulgated Hazardous Air Pollutant Standards that can be imposed under Chapter 1200-03-11 or Chapter 1200-03-31. Each individual hazardous air pollutant is classified into one of three groups, the **VOC Family** group**, the Non-VOC Gaseous** group**,** or the **Particulate (PM) Family** group**. For fee computation**, each individual hazardous air pollutant of the **Specific HAP Category** is subject to the 4,000 ton cap provisions of subparagraph 1200-03-26-.02(2)(i) of the TAPCR.

******* **Category Of NSPS Pollutants Not Listed Above:** This category is made-up of each **N**ew **S**ource **P**erformance **S**tandard (**NSPS**) pollutant whose emissions are not included in the **PM**, **SO_2, VOC** or **NO_x** emissions from each source in this permit. **For fee computation**, each **NSPS pollutant not listed above** is subject to the 4,000 ton cap provisions of subparagraph 1200-03-26-.02(2)(i) of the TAPCR.

END NOTES

The permittee shall:

(1) Pay Title V **annual emission fees**, on the emissions and year bases requested by the responsible official and approved by the Technical Secretary, for each annual accounting period (AAP) by the payment deadline(s) established in TAPCR 1200-03-26-.02(9)(g). Fees may be paid on an **actual**, **allowable**, or **mixed** emissions basis; and on either a **state fiscal year** or a **calendar year**, provided the requirements of TAPCR 1200-03-26-.02(9)(b) are met. If any part of any fee imposed under TAPCR 1200-03-26-.02 is not paid within 15 days of the due date, penalties shall at once accrue as specified in TAPCR 1200-03-26-.02(8).

(2) Sources paying annual emissions fees on an allowable emissions basis: pay annual allowable based emission fees for each annual accounting period no later than April 1 of each year pursuant to TAPCR 1200-03-26-.02(9)(d).

(3) Sources paying annual emissions fees on an actual emissions basis: prepare an **actual emissions analysis** for each AAP and pay **actual based emission fees** pursuant to TAPCR 1200-03-26-.02(9)(d). The **actual emissions analysis** shall include:
(a) the completed **Fee Emissions Summary Table**,
(b) each **actual emissions analysis** required**,** and
(c) the actual emission records for each pollutant and each source as required for actual emission fee determination, or a summary of the actual emission records required for fee determination, as specified by the Technical Secretary or the Technical Secretary's representative. The summary must include sufficient information for the Technical Secretary to determine the accuracy of the calculations. These calculations must be based on the annual fee basis approved by the Technical Secretary (a state fiscal year [July 1 through June 30] or a calendar year [January 1 through December 31]). These records shall be used to complete the **actual emissions analyses** required by the above **Fee Emissions Summary Table**.

(4) Sources paying annual emissions fees on a mixed emissions basis: for all pollutants and all sources for which the permittee has chosen an actual emissions basis, prepare an **actual emissions analysis** for each AAP and pay **actual based emission fees** pursuant to TAPCR 1200-03-26-.02(9)(d). The **actual emissions analysis** shall include:
(a) the completed **Fee Emissions Summary Table**,
(b) each **actual emissions analysis** required**,** and
(c) the actual emission records for each pollutant and each source as required for actual emission fee determination, or a summary of the actual emission records required for

fee determination, as specified by the Technical Secretary or the Technical Secretary's representative. The summary must include sufficient information for the Technical Secretary to determine the accuracy of the calculations. These calculations must be based on the fee bases approved by the Technical Secretary (payment on an actual or mixed emissions basis) and payment on a state fiscal year (July 1 through June 30) or a calendar year (January 1 through December 31). These records shall be used to complete the **actual emissions analysis**.

For all pollutants and all sources for which the permittee has chosen an allowable emissions basis, pay allowable based emission fees pursuant to TAPCR 1200-03-26-.02(9)(d).

(5) When paying on an actual or mixed emissions basis, submit the **actual emissions analyses** at the time the fees are paid in full.

The annual emission fee due dates are specified in TAPCR 1200-03-26-.02(9)(g) and are dependent on the Responsible Official's choice of fee bases as described above. If any part of any fee imposed under TAPCR 1200-03-26-.02 is not paid within 15 days of the due date, penalties shall at once accrue as specified in TAPCR 1200-03-26-.02(8). Emissions for regulated pollutants shall not be double counted as specified in Condition A8(d) of this permit.

Payment of the fee due and the actual emissions analysis (if required) shall be submitted to The Technical Secretary at the following address:

Payment of Fee to:
The Tennessee Department of Environment and Conservation
Division of Fiscal Services
Consolidated Fee Section – APC
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 10th Floor
Nashville, Tennessee 37243

and

Actual Emissions Analyses to:
The Tennessee Department of Environment and Conservation
Division of Air Pollution Control
Emission Inventory Program
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 15th Floor
Nashville, Tennessee 37243
or
An electronic copy (PDF) of actual emissions analysis can also be submitted to: apc.inventory@tn.gov

E2. **Reporting requirements**.

(a) **Semiannual reports.** Semiannual reports shall cover the six-month periods from **July 1** to **December 31** and **January 1** to **June 30** and shall be submitted within 60 days after the end of each six-month period. Subsequent reports shall be submitted within 60 days after the end of each 6-month period following the first report. The first semiannual report following issuance of this permit shall cover the following permits and reporting periods:

Permit Number	Reporting Period Begins	Reporting Period Ends
568276	July 1, 2020	day before issuance of permit 576448 DATE TBD
576448	Issuance Date of permit 576448 DATE TBD	December 31, 2020

These semiannual reports shall include:

(1) Any monitoring and recordkeeping required by **Conditions E3-13, E4-2, E5-9, and E6-2** of this permit. However, a summary report of this data is acceptable provided there is sufficient information to enable the Technical Secretary to evaluate compliance.

(2) The visible emission evaluation readings from **Condition E3-14** of this permit if required. However, a summary report of this data is acceptable provided there is sufficient information to enable the Technical Secretary to evaluate compliance.

(3) Identification of all instances of deviations from **ALL PERMIT REQUIREMENTS**.

These reports must be certified by a responsible official consistent with condition B4 of this permit and shall be submitted to The Technical Secretary at the address in Condition E2(b) of this permit.

TAPCR 1200-03-09-.02(11)(e)1.(iii)

(b) **Annual compliance certification.** The permittee shall submit annually compliance certifications with each term or condition contained in Sections A, B, D and E of this permit, including emission limitations, standards, or work practices. This compliance certification shall include all of the following (provided that the identification of applicable information may cross-reference the permit or previous reports, as applicable):

(1) The identification of each term or condition of the permit that is the basis of the certification;

(2) The identification of the method(s) or other means used by the owner or operator for determining the compliance status with each term and condition during the certification period; Such methods and other means shall include, at a minimum, the methods and means required by this permit. If necessary, the owner or operator also shall identify any other material information that must be included in the certification to comply with section 113(c)(2) of the Federal Act, which prohibits knowingly making a false certification or omitting material information;

(3) The status of compliance with each term or condition of the permit for the period covered by the certification, including whether compliance during the period was continuous or intermittent. The certification shall be based on the method or means designated in E2(b)2 above. The certification shall identify each deviation and take it into account in the compliance certification. The certification shall also identify as possible exceptions to compliance any periods during which compliance is required and in which an excursion* or exceedance** as defined below occurred; and

(4) Such other facts as the Technical Secretary may require to determine the compliance status of the source.

* "Excursion" shall mean a departure from an indicator range established for monitoring under this paragraph, consistent with any averaging period specified for averaging the results of the monitoring.

** "Exceedance" shall mean a condition that is detected by monitoring that provides data in terms of an emission limitation or standard and that indicates that emissions (or opacity) are greater than the applicable emission limitation or standard (or less than the applicable standard in the case of a percent reduction requirement) consistent with any averaging period specified for averaging the results of the monitoring.

Annual compliance certifications shall cover the 12-month period from **July 1** of each calendar year to **June 30** of the following calendar year and shall be submitted within 60 days after the end of each 12-month period. The first annual compliance certification following issuance of this permit shall cover the following permits and reporting periods:

Permit Number	Reporting Period Begins	Reporting Period Ends
568276	January 1, 2020	day before issuance of permit 576448 DATE TBD
576448	Issuance Date of permit 576448 DATE TBD	December 31, 2020

These certifications shall be submitted to: TN APCD and EPA

The Technical Secretary
Division of Air Pollution Control
Knoxville Environmental Field Office
3711 Middlebrook Pike
Knoxville, Tennessee 37921
or
electronic pdf copy to: APC.KnoxEFO@TN.gov

and

Air Enforcement Branch
US EPA Region IV
61 Forsyth Street, SW
Atlanta, Georgia 30303

40 CFR Part 70.6(c)(5)(iii) as amended in the Federal Register Vol. 79, No. 144, July 28, 2014, pages 43661 through 43667
TAPCR 1200-03-09-.02(11)(e)3.(v)

(c) **40 CFR Part 61, Subpart H Annual Reports:** The Oak Ridge Reservation Annual Radionuclide NESHAP (40 CFR Part 61, Subpart H) report required by **Conditions E4-2 and E6-2** shall continue to be submitted annually, for each calendar year period, and submitted by June 30 following the calendar year covered by the report.

(d) **Retention of Records** All records required by any condition in Section E of this permit must be retained for a period of not less than five years. Additionally, these records shall be kept available for inspection by the Technical Secretary or a Division representative.

TAPCR 1200-03-09-.02(11)(e)1.(iii)(II)II

E3. GENERAL PERMIT REQUIREMENTS

Conditions E3-1 through E3-13 apply to all sources in this permit, unless otherwise indicated.

E3-1. Identification of Responsible Official, Technical Contact, and Billing Contact

(a) The application that was utilized in the preparation of this permit is dated February 21, 2019, and is signed by James J. Bolon, President/Project Manager of the permitted facility. Puckett, Vice President, Operations, US Southern Region, is now the Responsible Official. If this person terminates employment or is assigned different duties and is no longer a Responsible Official for this facility as defined in part 1200-03-09-.02(11)(b)21 of the Tennessee Air Pollution Control Regulations, the owner or operator of this air contaminant source shall notify the Technical Secretary of the change. Said notification must be in writing and must be submitted within 30 days of the change. The notification shall include the name and title of the new Responsible Official and certification of truth and accuracy. All representations, agreement to terms and conditions, and covenants made by the former Responsible Official that were used in the establishment of the permit terms and conditions will continue to be binding on the facility until such time that a revision to this permit is obtained that would change said representations, agreements, and/or covenants.

(b) The application that was utilized in the preparation of this permit is dated February 21, 2019, and identifies Gary Chadwick as the Principal Technical Contact for the permitted facility. If this person terminates employment or is assigned different duties and is no longer the Principal Technical Contact for this facility, the owner or operator of this air contaminant source shall notify the Technical Secretary of the change. Said notification must be in writing and must be submitted within 30 days of the change. The notification shall include the name and title of the new Principal Technical Contact and certification of truth and accuracy.

(c) The application that was utilized in the preparation of this permit is dated February 21, 2019, and identifies Scott Barnes as the Billing Contact for the permitted facility. If this person terminates employment or is assigned different duties and is no longer the Billing Contact for this facility, the owner or operator of this air contaminant source shall notify the Technical Secretary of the change. Said notification must be in writing and must be submitted within 30 days of the change. The notification shall include the name and title of the new Billing Contact and certification of truth and accuracy.

E3-2. **Routine maintenance.** Routine maintenance, as required to maintain specified emission limits in this permit, shall be performed on the air pollution control device(s). Maintenance records shall be recorded in a suitable permanent form and kept available for inspection by the Division. These records must be retained for a period of not less than five years.

TAPCR 1200-03-09-.03(8)

E3-3. Upon the malfunction/failure of any emission control device(s) serving this source, the operation of the process(es) served by the device(s) shall be regulated by Chapter 1200-03-20 of the Tennessee Air Pollution Control Regulations.

TAPCR 1200-03-20

E3-4. **Accidental release plan.** The permittee is not required to file an accidental release plan pursuant to Section 112(r) of the Clean Air Act and 1200-03-32 of TAPCR.

TAPCR 1200-03-32

E3-5. **Compliance Assurance Monitoring (CAM) Plan.** This facility is currently not subject to regulations under 40 CFR part 64 (Compliance Assurance Monitoring).

E3-6. **General Recordkeeping Requirements.** The following recordkeeping requirements shall apply to this facility:

(a) All recordkeeping requirements for all data required to be recorded shall follow the following schedules:

(1) For daily recordkeeping, all data, including the results of all calculations, must be entered into the log no later than seven days from the end of the day for which the data is required.

(2) For weekly recordkeeping, all data, including the results of all calculations, must be entered into the log no later than seven days from the end of the week for which the data is required.

(3) For monthly recordkeeping, all data, including the results of all calculations, must be entered into the log no later than 30 days from the end of the month for which the data is required.

(4) All maintenance activities required by **Condition E3-2** (including any ongoing maintenance that has not been completed) shall be entered in the maintenance log no later than 30 days following the start of the maintenance.

(b) Logs and records specified in this permit shall be made available upon request by the Technical Secretary or an authorized representative and shall be retained for a period of not less than five years unless otherwise noted. Logs and records are based on the recommended format specified in this permit. Any logs that have an alternative format may be utilized provided they contain the same information that is required. Computer-generated logs are also acceptable. Logs and records are not required to be submitted semiannually unless specified in **Condition E2.**

TAPCR 1200-03-10-.02(2)(a)

E3-7. **Greenhouse Gases (GHG).** This facility is not a major source of GHG emissions with as it does not emit 100,000 tons/year or more of carbon dioxide equivalent (CO_2e) tonnage.

E3-8. The permittee shall comply with all applicable federal and state regulations concerning the operations at this facility. This includes but is not limited to, federal regulations published under 40 CFR part 63 for sources of hazardous air pollutants and federal regulations published under 40 CFR part 60, New Source Performance Standards. This facility shall operate in accordance with the terms of this permit and the information submitted in the approved permit application.

TAPCR 1200-03-09-.03(8)

E3-9. Operation of each air contaminant source shall be in accordance with the provisions and stipulations set forth in the operating permit, all provisions of the Tennessee Air Pollution Control Regulations, and all provisions of the Tennessee Air Quality Act.

TAPCR 1200-03-09-.02(6)

E3-10. The facility must take all reasonable measures to keep emissions to a minimum during source startups, shutdowns, and malfunctions. These measures may include installation and use of alternative control systems, changes in operating methods or procedures, cessation of operation until the process equipment and/or air pollution control equipment is repaired, maintaining sufficient spare parts, use of overtime labor, use of outside consultants and contractors, and other appropriate means. Failures that are caused by poor, maintenance, careless operation or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions.

TAPCR 1200-03-20-.02(1)

E3-11. Due allowance for failure to monitor shall be made during any period of monitoring system malfunction, provided that the source owner or operator shows, to the satisfaction of the Technical Secretary, that the malfunction was unavoidable and is being repaired as expeditiously as practicable and that a log of all such malfunctions is being kept by the owner or operator, including time malfunction began, when it was detected, what was wrong, what was done to correct the malfunction, and when the malfunction was corrected.

TAPCR 1200-03-10-.02(1)(e)

E3-12. All excursions from indicated parameter limits or ranges shall be recorded in a permanent suitable format and retained at the source location for a period of not less than five years.

The record of excursions shall include at a minimum, the time the excursion was discovered, the corrective action taken, and the time that the process was back within the normal operating range.

"Excursion" shall mean a departure from an indicator range established for monitoring, consistent with any averaging period specified for averaging the results of the monitoring.

TAPCR 1200-03-10-.02(1)(a)

E3-13. This facility shall comply with the requirements of 40 CFR 61, subpart H - National Emission Standards for Emissions of Radionuclides Other Than Radon From Department of Energy Facilities. Emissions of radionuclides to the ambient air from Department of Energy Facilities shall not exceed those amounts that would cause any member of the public to receive in any year an effective dose equivalent of 10 mrem/yr.

TAPCR 1200-03-11-.08, TAPCR 1200-03-09-.03(8) and 40 CFR §61.92

Compliance Method: Compliance shall be assured by utilizing continuous emissions monitoring as described in 40 CFR §61.93(b)(4) and by recordkeeping and reporting requirements as specified in 40 CFR §61.94 and 40 CFR §61.95 and further defined in the EPA approved document entitled *DOE/ORO/2196, Rev 1, Compliance Plan, National Emission Standards for Hazardous Air Pollutants for Airborne Radionuclides on the Oak Ridge Reservation, Oak Ridge, Tennessee, April 4, 2013* (enclosed as Attachment #4). Results shall be reported annually in the Oak Ridge Reservation Annual Radionuclide NESHAP report by June 30 of each year.

E3-14. Visible emissions from this facility (not addressed in the source specific sections) shall not exhibit greater than twenty percent (20%) opacity, except for one (1) six-minute period in any one (1) hour period, and for no more than four (4) six-minute periods in any twenty-four (24) hour period. Visible emissions from this source shall be determined by EPA Method 9, as published in the current 40 CFR 60, Appendix A (six-minute average).

TAPCR 1200-03-05-.03(6) and TAPCR 1200-03-05-.01(1)

Compliance Method: The permittee shall assure compliance with the opacity standard by utilizing the opacity matrix dated June 18, 1996, and amended September 11, 2013 **(Attachment #2 of this permit)**.

If the magnitude and frequency of excursions reported by the permittee in the periodic monitoring for emissions is unsatisfactory to the Technical Secretary, this permit may be reopened to impose additional opacity monitoring requirements.

E4. 73-0182-01	**Source Description:** Building 3019, Radiochemical Development Facility. Particulate mater emissions are controlled by multiple banks of HEPA filters and pre-filters.

Conditions E4-1 through E4-2 apply to source **73-0182-01**

E4-1. Particulate matter emitted from this source shall not exceed 0.02 grains per dry standard cubic foot (7.08 lbs/hr).

TAPCR 1200-03-07-.04(1)

Compliance Method: Compliance with this condition is assured by complying with **Condition E4-2**.

E4-2. Effluent flow rate measurements shall be made and radionuclides shall be directly monitored or extracted, collected and measured.

TAPCR 1200-03-11-.08, TAPCR 1200-03-09-.03(8) and 40 CFR §61.93

Compliance Method: Stack emissions monitoring and flow rate measurements shall be made in accordance with the procedures described in the EPA approved document *DOE/ORO/2196, Compliance Plan, National Emission Standards for Hazardous Air Pollutants for Radionuclides on the Oak Ridge Reservation, Oak Ridge, Tennessee, April 4, 2013*. Results of these measurements shall be reported annually in the Oak Ridge Reservation Radionuclide NESHAP Annual Emissions Report.

E5. 73-0182-03	**Source Description:** Building 3019, Emergency Generators **130 hp Diesel Fired Emergency Generator, Facility ID: 80-3131** **398 hp Diesel Fired Emergency Generator, Facility ID: 80-3123** **398 hp Diesel Fired Emergency Generator, Facility ID: 80-3146** **(NSPS) 40 CFR Part 60 Subpart IIII** **(NESHAP) 40 CFR Part 63 Subpart ZZZZ**

Conditions E5-1 through E5-12 apply to source **73-0182-03.**

E5-1. The design rated power for the compression ignition emergency engines in this source is the following:

Engine Manufacturer	Engine Model Number	Engine Model Year	Engine heat input (MMBtu/hr)	Engine onput (br-hp)	Facility ID
Caterpillar	C9 ATAAC	2015	2.68	398	80-3123
Perkins	1104D-E44TA	2008	0.90	130	80-3131
Caterpillar	C9 ATAAC	2015	2.68	398	80-3146

TAPCR 1200-03-09-.03(8)

Compliance Method: None. This condition is a statement of design capacity for this source. If the permittee wishes to increase the design capacity or modify this source, the permittee shall pursue the appropriate Title V procedure in accordance with 1200-03-09-.02(11) of TAPCR. If a construction permit is applied for, this shall be done in accordance with 1200-03-09-.01(1) of TAPCR.

E5-2. These emergency engines are subject to the National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (40 CFR Part 63, Subpart ZZZZ). Pursuant to 40 CFR §63.6590(c), this affected source (which is a new stationary RICE located at an area source of HAP emissions) shall meet the requirements of 40 CFR Part 63 by meeting the requirements of 40 CFR Part 60, Subpart IIII. No further requirements apply for these engines under 40 CFR Part 63. The applicable requirements of 40 CFR Parts 60, 63, 80, and 89 are incorporated into this permit pursuant to TAPCR 1200-03-09-.03(8).

Compliance Method: In order to comply with 40 CFR Part 60, Subpart IIII, the emergency engine must comply with **Conditions E5-3, E5-5, E5-6, E5-7, E5-8, E5-9, and E5-10** of this permit.

E5-3. Pursuant to 40 CFR §60.4207(b), the permittee shall use only diesel fuel as fuel for this source that meets the requirements of 40 CFR 80.510(b), as follows:

(1) Sulfur content shall not exceed 15 parts per million (ppm) maximum for nonroad diesel fuel.
(2) Cetane index or aromatic content, as follows:
  (i) A minimum cetane index of 40; or
  (ii) A maximum aromatic content of 35 volume percent.

Compliance Method: The permittee shall maintain purchase receipts, vendor certifications, material safety data sheets, or other records to demonstrate that all fuel purchased for this source meets the requirements of this condition (any fuel labeled as ultra-low sulfur non-highway diesel fuel or ultra-low sulfur highway diesel fuel meets these requirements). These records shall be made available to the Technical Secretary for inspection upon request.

E5-4. Sulfur Dioxide (SO_2) emitted from the engine with Facility Identification 80-3131 shall not exceed 0.27 pounds per hour. SO_2 emitted from the engines with Facility Identifications 80-3123 and 80-3146 shall not exceed 0.82 pounds per hour for each engine.

TAPCR 1200-03-14-.03(5)

Compliance Method: Compliance with this emission limit is based on compliance with **Conditions E5-1 and E5-3** of this permit and the Environmental Protection Agency's AP-42 Emission Factors for Uncontrolled Gasoline and Diesel Industrial Engines dated October 1996.

E5-5. Particulate matter (PM) emitted from the engine with Facility Identification 80-3131 shall not exceed 0.40 grams per kilowatt-hour (0.09 lb/hr). TSP emitted from the engines with Facility Identifications 80-3123 and 80-3146 shall not exceed 0.20 grams per kilowatt-hour (0.04 lb/hr for each engine).

40 CFR §60.4205(b) and §89.112, Table 1, Tier 3

Compliance Method: Pursuant to §60.4206, the permittee must operate and maintain these emergency engines that achieve this emission standard over the entire life of the engines. Compliance with the PM limit is based on compliance with **Conditions E5-1, E5-3, and E5-8** of this permit and the manufacturers' certifications of compliance with 40 CFR §89.112. The permittee shall maintain a record of these certifications at the source location.

E5-6. Carbon monoxide (CO) emitted from the engine with Facility Identification 80-3131 shall not exceed 5.0 grams per kilowatt-hour (1.07 lb/hr). CO emitted from the engines with Facility Identifications 80-3123 and 80-3146 shall not exceed 3.5 grams per kilowatt-hour (2.29 lb/hr for each engine).

40 CFR §60.4205(b) and §89.112, Table 1, Tier 3

Compliance Method: Pursuant to §60.4206, the permittee must operate and maintain these emergency engines that achieve this emission standard over the entire life of the engines. Compliance with the CO limit is based on compliance with **Conditions E5-1, E5-3, and E5-8** of this permit and the manufacturers' certifications of compliance with 40 CFR §89.112. The permittee shall maintain a record of these certifications at the source location.

E5-7. Combined emissions of nonmethane hydrocarbon and nitrogen oxides (NMHC + NO_X) from the engine with Facility Identification 80-3131 shall not exceed 4.7 grams per kilowatt-hour (1.00 lb/hr). NMHC + NO_X emitted from the engines with Facility Identifications 80-3123 and 80-3146 shall not exceed 4.0 grams per kilowatt-hour (2.62 lb/hr for each engine).

40 CFR §60.4205(b) and §89.112, Table 1, Tier 3

Compliance Method: Pursuant to §60.4206, the permittee must operate and maintain these emergency engines that achieve this emission standard over the entire life of the engines. Compliance with the combined NMHC + NO_X limit is based on compliance with **Conditions E5-1, E5-3, and E5-8** of this permit and the manufacturers' certifications of compliance with 40 CFR §89.112. The permittee shall maintain a record of these certifications at the source location.

E5-8. The permittee shall operate and maintain each stationary CI internal combustion engine according to the manufacturer's written instructions or procedures developed by the permittee that are approved by the engine manufacturer. In addition, the permittee may only change those settings that are permitted by the manufacturer.

40 CFR §60.4211(a)

Compliance Method: Included with the requirement.

E5-9. Pursuant to 40 CFR §60.4211(f), the permittee must operate each emergency stationary ICE according to the requirements in paragraphs (1) through (3) of this condition. In order for the engine to be considered an emergency stationary ICE under 40 CFR 60, subpart IIII, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (1) through (3) of this condition, is prohibited. If the permittee does not operate each engine according to the requirements in paragraphs (1) through (3) of this condition, each engine that is not operated according to the requirements in paragraphs (1) through (3) of this condition will not be considered an emergency engine under 40 CFR 60, subpart IIII and must meet all requirements for non-emergency engines.

(1) There is no time limit on the use of emergency stationary ICE in emergency situations.

(2) The permittee may operate your emergency stationary ICE for any combination of the purposes specified in paragraphs (2)(i) through (iii) of this condition for a maximum of 100 hours per calendar year. Any operation for non-emergency

situations as allowed by paragraph (3) of this condition counts as part of the 100 hours per calendar year allowed by this paragraph (2).

(i) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Technical Secretary for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.

(ii) Emergency stationary ICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see §60.17), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.

(iii) Emergency stationary ICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.

(3) (3) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (2) of this condition. Except as provided in paragraph (3)(i) of this condition, the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

(i) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:

(A) The engine is dispatched by the local balancing authority or local transmission and distribution system operator;

(B) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.

(C) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.

(D) The power is provided only to the facility itself or to support the local transmission and distribution system.

(E) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

Compliance Method: The permittee must keep monthly records of the hours of operation of each engine that is recorded through the non-resettable hour meter. The permittee must document how many hours are spent for the following categories each calendar month and each calendar year: (a) emergency operation, including what classified the operation as emergency; (b) maintenance checks and readiness testing, demand response; and (c) non-emergency operation. The permittee shall maintain the following log format or an alternative format which readily provides the same required information for each engine.

Logs for emergency stationary ICE for engine with Facility Identification:

Month	Emergency Operation (hr/mon)	Emergency Operation (hr/calendar year)	Maintenance Checks and Readiness Testing (hr/mon)	Maintenance Checks and Readiness Testing (hr/calendar year)	Non-Emergency Operation (hr/mon)	Non-Emergency Operation (hr/calendar year)
		Column A		Column B		Column C
January						
February						
Etc.						
December						
TOTALS						
				TOTAL Column B + Total Column C:		

E5-10. Pursuant to 40 CFR §60.4218, Table 8 (**Attachment #3 of this permit**) to this subpart shows which parts of the General Provisions in §§60.1 through 60.19 are applicable.

Compliance Method: Included with the requirement.

E5-11. An emergency engine may be removed and replaced with a repaired or refurbished equivalent capacity emergency engine in order to maintain facility operation.

TAPCR 1200-03-09-.03(8)

Compliance Method: Records shall be maintained on site of such changes and shall be entered into a log no later than a week after the unit is replaced in accordance with **Condition E3-5**. If the replacement engine is retained on a permanent basis the Permittee shall notify the Division in writing and submit an application to the Division if the unit is subject to any applicable federal requirements including MACT, NSPS etc.

E5-12. For the purpose of calculating emissions for fee purposes, the Permittee shall assume that each engine operated at its potential emission rate (each engine's rated horsepower and 500 hours per year (per EPA guidance). The potential emissions from the emergency engines are only identified in this condition for informational purposes.

Facility ID	PM (tons/yr)	SO2 (tons/yr)	NMHC + NOx (tons/yr)
80-3123	0.03	0.20	0.65
80-3131	0.02	0.07	0.25
80-3146	0.03	0.20	0.65
Totals	0.08	0.47	1.55

E6. 73-0182-04	**Source Description:** Building 2026, Radioactive Materials Analytical Laboratory. Particulate mater emissions are controlled by multiple banks of HEPA filters and pre-filters.

Conditions E6-1 through E6-2 apply to source **73-0182-04.**

E6-1. Particulate matter emitted from this source shall not exceed 0.02 grains per dry standard cubic foot (3.19 lbs./hr).

TAPCR 1200-03-07-.04(1)

Compliance Method: Compliance with this condition is assured by complying with **Condition E6-2**.

E6-2. Effluent flow rate measurements shall be made and radionuclides shall be directly monitored or extracted, collected and measured.

TAPCR 1200-03-11-.08 (40 CFR 61.93)

Compliance Method: Stack emissions monitoring and flow rate measurements shall be made in accordance with the procedures described in the EPA approved document *DOE/ORO/2196, Compliance Plan, National Emission Standards for Hazardous Air Pollutants for Radionuclides on the Oak Ridge Reservation, Oak Ridge, Tennessee, April 4, 2013*. Results of these measurements shall be reported annually in the Oak Ridge Reservation Radionuclide NESHAP Annual Emissions Report.

END OF TITLE V PERMIT NUMBER 576448

ATTACHMENT #1

TITLE V FEE SELECTION

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DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF AIR POLLUTION CONTROL
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 15th Floor, Nashville, TN 37243
Telephone: (615) 532-0554, Email: Air.Pollution.Control@TN.gov

TITLE V FEE SELECTION

Type or print and submit to the email address above.

FACILITY INFORMATION

1. Organization's legal name and SOS control number [as registered with the TN Secretary of State (SOS)]

2. Site name (if different from legal name)

3. Site address (St./Rd./Hwy.)	County name
City	Zip code

4. Emission source reference number	**5.** Title V permit number

FEE SELECTION

This fee selection is effective beginning January 1, _____. When approved, this selection will be effective until a new Fee Selection form is submitted. Fee Selection forms must be submitted on or before December 31 of the annual accounting period.

6. Payment Schedule (choose one):

Calendar Year Basis (January 1 – December 31) ☐ Fiscal Year Basis (July 1 – June 30) ☐

7. Payment Basis (choose one):

Actual Emissions Basis ☐ Allowable Emissions Basis ☐ Combination of Actual and Allowable Emissions Basis ☐

8. If Payment Basis is "Actual Emissions" or "Combination of Actual and Allowable Emissions", complete the following table for each permitted source and each pollutant for which fees are due for that source. See instructions for further details.

Source ID	Pollutant	Allowable or Actual Emissions	If allowable emissions: Specify condition number and limit. If actual emissions: Describe calculation method and provide example. Provide condition number that specifies method, if applicable.

8. (Continued)

Source ID	Pollutant	Allowable or Actual Emissions	If allowable emissions: Specify condition number and limit. If actual emissions: Describe calculation method and provide example. Provide condition number that specifies method, if applicable.

CONTACT INFORMATION (BILLING)

9. Billing contact			Phone number with area code
Mailing address (St./Rd./Hwy.)			Fax number with area code
City	State	Zip code	**Email address**

SIGNATURE BY RESPONSIBLE OFFICIAL

Based upon information and belief formed after reasonable inquiry, I, as the responsible person of the above mentioned facility, certify that the information contained in the submittal is accurate and true to the best of my knowledge. As specified in TCA Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

10. Signature		Date
Signer's name (type or print)	**Title**	Phone number with area code

ATTACHMENT #2

OPACITY MATRIX DECISION TREE for

VISIBLE EMISSION EVALUATION METHOD 9

Dated JUNE 18, 1996, Amended September 11, 2013

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Decision Tree PM for Opacity for Sources Utilizing EPA Method 9*

Notes:

PM = Periodic Monitoring required by 1200-03-09-.02(11)(e)(iii).

This Decision Tree outlines the criteria by which major sources can meet the periodic monitoring and testing requirements of Title V for demonstrating compliance with the visible emission standards set forth in the permit. It is not intended to determine compliance requirements for EPA's Compliance Assurance Monitoring (CAM) Rule (formerly referred to as Enhanced Monitoring – Proposed 40 CFR 64).

Examine each emission unit using this Decision Tree to determine the PM required.*

Use of continuous emission monitoring systems eliminates the need to do any additional periodic monitoring.

Visible Emission Evaluations (VEEs) are to be conducted utilizing EPA Method 9. The observer must be properly certified to conduct valid evaluations.

Typical Pollutants
Particulates, VOC, CO, SO_2, NO_x, HCl, HF, HBr, Ammonia, and Methane.

Initial observations are to be repeated within 90 days of startup of a modified source, if a new construction permit is issued for modification of the source.

A VEE conducted by TAPCD personnel after the Title V permit is issued will also constitute an initial reading.

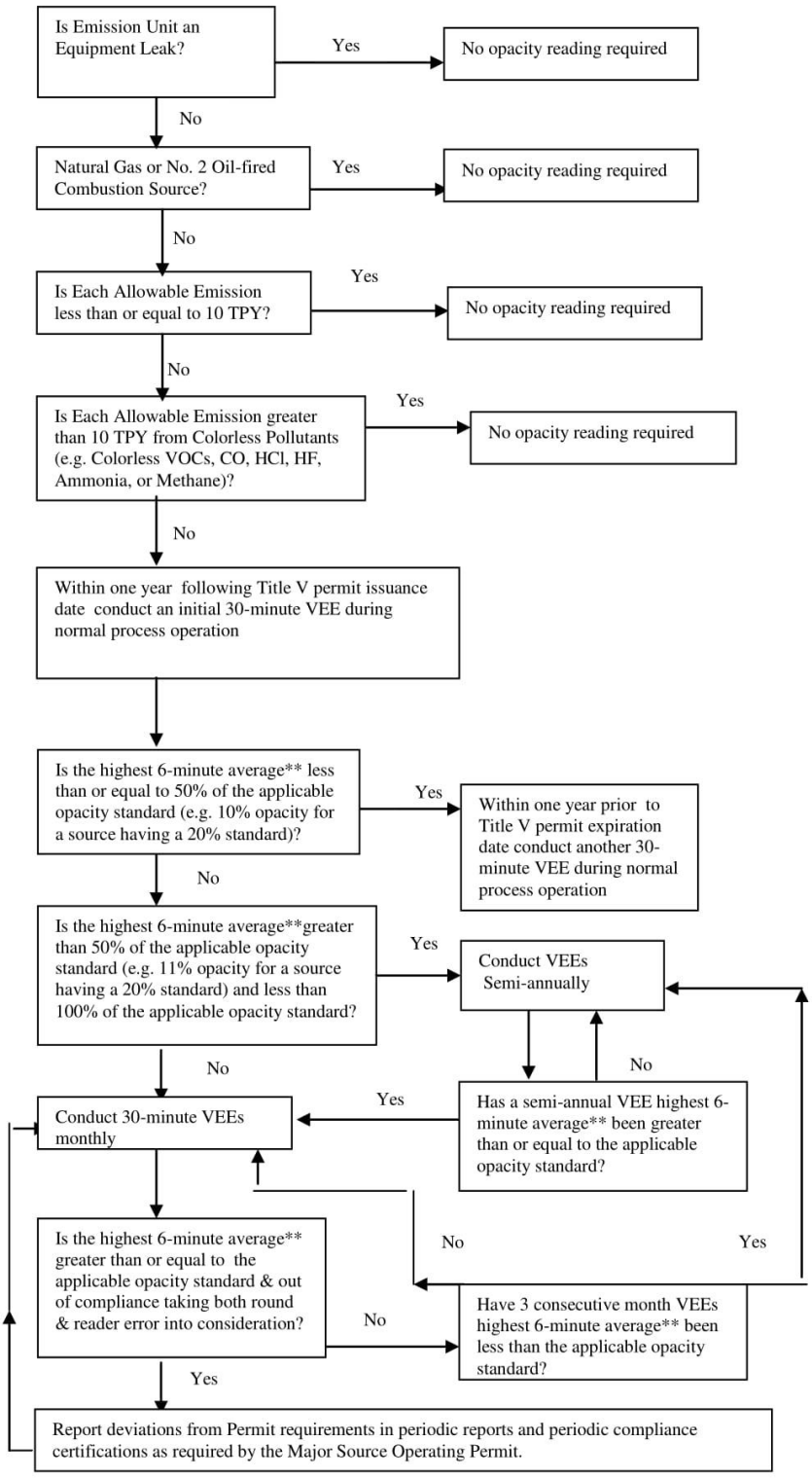
Reader Error
EPA Method 9, Non-NSPS or NESHAPS stipulated opacity standards:
The TAPCD guidance is to declares non-compliance when the highest six-minute average** exceeds the standard plus 6.8% opacity (e.g. 26.8% for a 20% standard).

EPA Method 9, NSPS or NESHAPS stipulate opacity standards:
EPA guidance is to allow only engineering round. No allowance for reader error is given.

*Not applicable to Asbestos manufacturing subject to 40 CFR 61.142

**Or second highest six-minute average, if the source has an exemption period stipulated in either the regulations or in the permit.

Dated June 18, 1996
Amended September 11, 2013



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ATTACHMENT #3

Table 8 to

Subpart IIII of Part 60—

Applicability of General Provisions to Subpart IIII

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TABLE 8 TO SUBPART IIII OF PART 60—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART IIII

[As stated in §60.4218, the permittee must comply with the following applicable General Provisions:]

General Provisions citation	Subject of citation	Applies to subpart	Explanation
§60.1	General applicability of the General Provisions	Yes	
§60.2	Definitions	Yes	Additional terms defined in §60.4219.
§60.3	Units and abbreviations	Yes	
§60.4	Address	Yes	
§60.5	Determination of construction or modification	Yes	
§60.6	Review of plans	Yes	
§60.7	Notification and Recordkeeping	Yes	Except that §60.7 only applies as specified in §60.4214(a).
§60.8	Performance tests	Yes	Except that §60.8 only applies to stationary CI ICE with a displacement of ≥30 liters per cylinder and engines that are not certified.
§60.9	Availability of information	Yes	
§60.10	State Authority	Yes	
§60.11	Compliance with standards and maintenance requirements	No	Requirements are specified in subpart IIII.
§60.12	Circumvention	Yes	
§60.13	Monitoring requirements	Yes	Except that §60.13 only applies to stationary CI ICE with a displacement of ≥30 liters per cylinder.
§60.14	Modification	Yes	
§60.15	Reconstruction	Yes	
§60.16	Priority list	Yes	
§60.17	Incorporations by reference	Yes	
§60.18	General control device requirements	No	
§60.19	General notification and reporting requirements	Yes	

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ATTACHMENT #4

Compliance Plan DOE/ORO/2196, Rev 1, NESHAPs for Airborne Radionuclides on Oak Ridge Reservation

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DOE/ORO/2196, Rev. 1
Supersedes Rev. 0
March 30, 2005

COMPLIANCE PLAN NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR AIRBORNE RADIONUCLIDES ON THE OAK RIDGE RESERVATION, OAK RIDGE, TENNESSEE

April 4, 2013

Prepared by

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For the U. S. Department of Energy under Contract No. DE-SC-0004645

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(Approved: October 19, 2001)
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(Approved: October 19, 2001)
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(Approved: March 30, 2005)

ACRONYMS

ALARA	as low as reasonably achievable
ANSI	American National Standards Institute
CFR	*Code of Federal Regulations*
DAC	derived air concentration
DOE	U.S. Department of Energy
ED	effective dose
EDE	effective dose equivalent
EPA	Environmental Protection Agency
ETTP	East Tennessee Technology Park
FFCA	Federal Facilities Compliance Agreement
HEPA	high-efficiency particulate air
HPS	Health Physics Society
NESHAP	National Emission Standards for Hazardous Air Pollutants
NRC	Nuclear Regulatory Commission
NSC	National Security Complex
ORAU	Oak Ridge Associated Universities
ORISE	Oak Ridge Institute of Science and Education
ORNL	Oak Ridge National Laboratory
ORR	Oak Ridge Reservation
PED	Potential Effective Dose
QA	Quality Assurance
TAPCR	Tennessee Air Pollution Control Regulation
TSCA	Toxic Substances Control Act

1. INTRODUCTION

The original submittal of the Oak Ridge Reservation (ORR) Compliance Plan in December 1991 fulfilled a U.S. Department of Energy (DOE) commitment to the Environmental Protection Agency (EPA), Region 4, as part of a Federal Facilities Compliance Agreement (FFCA). The FFCA was developed to ensure compliance with the National Emission Standards for Hazardous Air Pollutants (NESHAP) for radionuclides that are found in Title 40 of the *Code of Federal Regulations* (CFR), part 61, subpart H. DOE's FFCA commitments were completed in December 1992, but the Compliance Plan is still needed as an ongoing guidance document. In subsequent years, the Tennessee Department of Environment and Conservation adopted Rule 1200-03-11-.08, *Emission Standards for Emissions of Radionuclides Other than Radon from Department of Energy Facilities*, which incorporated 40 CFR part 61, subpart H and related plans, agreements, etc., between EPA and DOE. Further, Title V Clean Air Major Source Operating Permits issued to DOE ORR facilities incorporate this ORR Compliance Plan.

This updated Compliance Plan incorporates numerous agreements that were finalized after the original December 1991 submittal and also deletes references to scheduled updates that were completed as requirements of the FFCA. The majority of the actions have been merged into an applicable section. However, because of the importance of the Quality Assurance (QA) Plans for each facility, a brief QA section has been added. A section for future agreements between the ORR facilities and the EPA has also been included and reserved as Appendix C. Future agreements will be added to Appendix C of the Compliance Plan as an addendum.

The ORR consists of four separate installations: the Y-12 National Security Complex (NSC), the Oak Ridge National Laboratory (ORNL), the East Tennessee Technology Park (ETTP), and the Oak Ridge Institute of Science and Education (ORISE). ORISE was identified in the original Compliance Plan as the Oak Ridge Associated Universities (ORAU). The ORR complies with the NESHAP regulation as a single facility as specified under "Discussion of Source Categories, VI.A.4.d, Definition of a Facility," in Volume 54, No. 240, p. 51665 of the *Federal Register*.

The general compliance approach is to continuously sample all point sources with the potential to emit radionuclides that could result in radiation doses equal to or greater than 0.1 millirem per year (mrem/year) effective dose (ED)[1] to the most affected member of the public. All references to dose in this document are in terms of ED[2] to the most affected member of the public. Emissions from release points with resulting potential doses less than 0.1 mrem/year are estimated using EPA-approved methods, as described in this plan or otherwise approved by EPA.

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[1] The effective dose is the summation of the products of the equivalent dose received by specified tissues or organs of the body (H_T) and the appropriate tissue weighting factor (w_T), that is, $ED = \sum_T w_T H_T$. The committed effective dose is the time integral of the effective dose. The total ED includes the effective dose from external exposures and the committed effective dose from internal intake. In this document ED may also be referred to as 'dose.'. The effective dose is expressed in units of rem or Sieverts (Sv).

[2] 40 CFR part 61, subpart H refers to effective dose equivalent (EDE); however, the EPA approved the use of CAP88PC version 3 model to be used to demonstrate compliance to NESHAP regulation (Vol 7, No. 34 FR8854-8856, February 21, 2006). CAP88PC version 3 incorporated updated radionuclide dose coefficients from Federal Guidance Report (FGR) 13 which are used to calculate committed effective doses.

Data from the stack sampling systems and estimates from low-emitting release points will be combined to calculate an airborne radionuclide source term for subsequent dispersion modeling and dose assessments. From these calculations, the estimated resulting dose to the most affected member of the public is compared to the dose standard of 10 mrem/year, as stated in 40 CFR 61.92.

2. SOURCE EVALUATION PLANS

To maintain compliance with the sampling and measurement provisions of 40 CFR 61.93, the location of potential sources must first be identified. Subsequently, an estimate of the actual and potential radionuclide emissions must be made. This section outlines the methods for identifying the potential sources, and later sections discuss the methods used to estimate actual and potential emissions.

2.1 MAJOR INSTALLATIONS

Significant efforts are undertaken at each installation to identify areas that may pose a potential radiological health hazard to employees. These efforts are needed to comply with worker protection requirements of federal and state safety and health laws and applicable DOE orders. Procedures are strictly enforced at each installation to properly identify and control such areas to assure that radiation exposure is kept below applicable standards and to minimize worker exposure to levels as low as reasonably achievable (ALARA).

Radiological Areas are established under specific criteria mandated by 10 CFR part 835, *Occupational Radiation Protection*, and implemented by various worker protection procedures and standards enforced by each installation. A Radiological Area is any area where:

- an individual can receive an equivalent dose to the whole body in excess of 5 mrem in 1 hour at 30 cm from a radiation source or from any surface that the radiation penetrates, or
- an individual can receive an equivalent dose to the whole body in excess of 100 mrem in 1 hour at 30 cm from a radiation source or from any surface that the radiation penetrates, or
- an individual can receive an absorbed dose in excess of 500 mrads[1] in 1 hour at 1 meter from a radiation source or from any surface that the radiation penetrates, or
- the concentration of airborne radioactivity, above natural background, exceeds or is likely to exceed the derived air concentration (DAC) values listed in Appendix A or Appendix C of 10 CFR part 835; or an individual present in the area without respiratory protection could receive an intake exceeding 12 DAC-hours in a week, or
- removable surface contamination levels exceed or are likely to exceed the removable surface contamination values specified in Appendix D of 10 CFR part 835, or
- removable surface contamination levels exceed or are likely to exceed 100 times the removable surface contamination values specified in Appendix D of 10 CFR part 835.

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[1] A unit of energy absorbed from ionizing radiation, equal to 100 ergs per gram or 0.01 joules per kilogram of irradiated material. It has been replaced as a standard scientific unit by the gray (1 rad = 0.01 gray).

Although the limits for airborne radioactivity are for the workplace, they can be used for comparison purposes for public exposures. The DACs are defined to be the airborne concentration of radionuclides in the workplace which would cause a maximum total effective dose equivalent of 5,000 mrem to workers breathing the air or immersed in the air during one normal work year. All areas with potential airborne radioactivity exceeding the DAC or where an individual could receive a maximum intake of 12 DAC-hours per week are designated and regulated as Radiological Areas. Exposure of 12 DAC-hours per week for a work year (50 weeks) corresponds to a potential internal exposure to workers of 1,500 mrem (30% of 5,000 mrem/year). However, it must be emphasized that, although the worker protection limit is 5,000 mrem/year, exposures are actually a small fraction of the limit.

Areas not identified as Radiological Areas are designated as Nonradiological Areas. Nonradiological Areas do not present the potential for internal exposures to workers exceeding 100 mrem/year. Using appropriate 40 CFR part 61, Appendix D emission factors, a worst-case scenario for public proximity, and estimated dispersion factors, a very conservative factor of approximately 10^{-6} was assumed for estimating public doses from occupational exposures. This analysis concluded that the air discharged from all Nonradiological Areas at each installation would not have the potential to cause a dose exceeding a maximum of 0.0001 mrem/year to the public. Even taking into account a factor of 4.4 for the difference in time of exposure between workers and residents, emissions for Nonradiological Areas could not contribute significantly to the total ORR dose estimate. For this reason, it is not necessary to evaluate Nonradiological Areas.

2.2 OAK RIDGE INSTITUTE OF SCIENCE AND EDUCATION

ORISE handles very small quantities of radionuclides in research and training activities conducted within laboratory hoods. Use of radionuclides is limited to three specific locations. ORISE maintains a rigid nuclear material accounting system for all radionuclide sources. In general, ORISE's total inventory of radionuclides has been less than the quantities specified in Table 1, Appendix E to 40 CFR part 61. Nevertheless, ORISE has demonstrated compliance with NESHAP for radionuclides by assuming that the entire annual inventory of radionuclides is exhausted through the laboratory hoods in gaseous form. With no adjustments for the emission factors for effluent controls, radiological decay, or control devices, the COMPLY code was used to model the estimated ORISE source term to ensure that potential emissions and resulting doses are below 0.1 mrem/year.

3. MAJOR SOURCE DESCRIPTION AND EMISSION MEASUREMENTS

For purposes of this Compliance Plan, a major source is a release point that has the potential to emit, during one year, radionuclides that can cause an individual member of the on-site or off-site public to receive an annual ED greater than or equal to 0.1 mrem. Potential to emit is calculated using either stack sampling data or other estimation methods (described in Section 5 of this plan). When calculating potential emissions, it is assumed that pollution abatement equipment does not exist but that the facility or process operations are otherwise normal. This definition is consistent with 40 CFR 61.93 (b)(4)(ii). Equipment that is integral to the proper operation of the process will not be considered abatement even though radionuclides may be removed by this equipment. In other words, if the process could not function as intended without the equipment, it is considered integral to the process and is not considered abatement equipment.

Title 40 CFR 61.93 (b)(4)(i) and 61.93(e) state that all emission points with potential doses greater than or equal to 0.1 mrem/year be sampled continuously, as outlined in 40 CFR 61.93 (b)(1) and (2), 40 CFR 61.93 (c)(1) and (2), or by an approved alternate method under 40 CFR 61.93 (d). All major sources on the ORR are currently sampled or monitored continuously. Radionuclides that contribute 10% or greater of the resulting dose from each release point are analyzed. Summaries of the existing sampling systems at each installation are discussed in the following sections. Additional details of the existing stack sampling systems for each installation are presented in Appendix A.

The number of major sources may vary from year to year, depending upon operating hours of the process or processes involved and minor changes in the meteorological and wind rose data. It is important to note, however, that sources that change from minor to major do not necessarily constitute a modification under 40 CFR 61.15. As indicated in 40 CFR 61.15 (d)(2) and (3), increases in production rate and hours of operation are not considered modifications provided that they are accomplished without capital expenditure. In addition, as indicated in 40 CFR 61.96, an application for construction or modification is required only when the actual emissions, not potential emissions, are estimated to result in an increase in dose of 0.1 mrem or greater.

3.1 Y-12 NATIONAL SECURITY COMPLEX

Each major source at the Y-12 NSC is equipped with similar constant-flow continuous samplers that use applicable methodologies specified by EPA and/or standards specified by American National Standards Institute (ANSI) N13.1-1969. Each sampling system consists of a multiple-point sample probe and filter. A thermal mass flow meter/controller downstream of the filter collector controls sample flow. The Y-12 NSC samplers are designed to provide a near-isokinetic sampling rate for each stack. In the future, major source process stacks added as a result of plant site activities will use sampling systems that have been upgraded to meet the ANSI standard adopted in the federal regulations at time of construction.

Stack flow rates are measured quarterly using EPA Method 2 found in Appendix A of 40 CFR Part 60. The quarterly flow rate measurements are then used to generate a rolling four-quarter average flow rate. Each of the four individual measurements is then compared to the rolling four-quarter average. A stack flow rate variability of less than $\pm$ 25 % of the most recent four-quarter

average is defined to be within an acceptable range. For stacks where the last four recorded quarterly flow rate measurements remain within the acceptable range, the average stack flow rate is used to calculate emissions. Stacks that exhibit greater than ± 25 % variability in quarterly flow rate measurements are penalized by using the maximum flow rate of the last four measurements to calculate the stack emissions.

Regardless of the stack flow variability, the average four-quarter stack velocity is used to calibrate the sampling systems to approximate isokinetic conditions. To maintain the near-isokinetic sampling rate, the sizes of the sampling probe nozzles are adjusted as needed after the quarterly EPA Method 2 velocity measurements. This technique was approved by EPA Region 4 in a letter from W. A. Smith to DOE's R. R. Nelson dated July 15, 1992.

3.2 EAST TENNESSEE TECHNOLOGY PARK

Any source on the ETTP site which would have the potential for emissions with a resulting dose above 0.1 mrem/year will be monitored with a system that meets ANSI/Health Physics Society (HPS) N13.1-1999 standard,[4] an alternative method as approved under this Compliance Plan, or other EPA pre-approved method. There are currently no sources at ETTP subject to ANSI N13.1-1969 or ANSI/HPS N13.1-1999. The last remaining major source, the Toxic Substances Control Act (TSCA) Incinerator, which had the potential for emissions with a resulting dose above 0.1 mrem/year, was permanently shut down in 2009.

The TSCA Incinerator sampling system design was based on ANSI N13.1-1969. The system was originally approved on August 26, 1987, and after January 1, 2003, was designated as a grandfathered sampling system. As a grandfathered system, it met all maintenance, calibration, and field check requirements listed in Table 5 of ANSI/HPS N13.1-1999.

3.3 OAK RIDGE NATIONAL LABORATORY

Major sources at ORNL are operated by UT-Battelle, LLC; Isotek Systems, LLC; and Wastren Advantage, Inc. Most are equipped with similar constant-flow continuous samplers that use applicable methodologies specified by EPA and/or ANSI N13.1-1969. The remaining major sources have been either upgraded or constructed to meet the ANSI/HPS N13.1-1999 standard.[4] The ANSI N13.1-1969 sampling systems consist of a multiple-point sample probe and filter to capture radionuclide particulates. The ANSI/HPS N13.1-1999 sampling systems use a shrouded probe instead of the multiple-point sample probe. In addition to the radionuclide particulates, adsorbable gases (including radioiodine) are collected on activated charcoal; tritium is collected as tritiated water on indicating silica gel; and noble gases are measured using an online detector. A thermal mass flow meter/controller downstream of the filter collectors controls sample flow. The ORNL samplers are designed to provide a near-isokinetic sampling rate for those stacks using multiple-point sample probes. Isokinetic sampling is not necessary to ensure a representative sample is extracted for sampling systems using shrouded probes. Finally, ORNL

[4] "Sampling and Monitoring Releases of Airborne Radioactive Substances from the Stacks and Ducts of Nuclear Facilities," American National Standards Institutes (ANSI)/Health Physics Society (HPS) N13.1-1999. (Revised Title Number ANSI/HPS N13.1-2011).

has an accelerator-based science facility that is also a major source requiring continuous emission sampling or monitoring. This requirement is met with an ANSI/HPS N13.1-1999 compliant in-stack radiation detector that monitors radioactive gases flowing through the exhaust stack and provides a continuous readout of detected activity using a scintillator probe. The detector is calibrated to correlate with isotopic emissions.

A probe cleaning program has been established for all sampling systems except for the sampling system at the accelerator facility. Each probe cleaning program incorporates differences in probe-cleaning requirements specific to an individual stack's effluent flow variation, probe inspection results, probe rinsate analysis history, and effluent characterization. The default frequency for performing cleaning and collecting a probe rinse sample is at the end of each calendar year. A probe-cleaning program has not been determined necessary for the accelerator facility because the sample probe is a scintillator probe used to detect radiation and not to extract a sample of stack exhaust emissions. It is not anticipated that contaminant deposits would collect on the scintillator probe.

Stack flow rates are measured quarterly using EPA Method 2. The quarterly flow rate measurements are then used to generate a rolling four-quarter average flow rate. Each of the four individual measurements is then compared to the rolling four-quarter average. A stack flow rate variability of less than $\pm$ 25 % of the most recent four-quarter average is defined to be within an acceptable range. For stacks where the last four recorded quarterly flow rate measurements remain within the acceptable range, the average stack flow rate is used to calculate emissions. Stacks that exhibit greater than $\pm$ 25 % variability in quarterly flow rate measurements are penalized by using the maximum flow rate of the last four measurements to calculate the stack emissions.

Regardless of stack flow variability, the average four-quarter stack velocity is used to calibrate the sampling systems to approximate isokinetic conditions. To maintain the near-isokinetic sampling rate, the sizes of the sampling probe nozzles are adjusted as needed after the quarterly EPA Method 2 velocity measurements. This technique was approved by EPA Region 4 in a letter from W. A. Smith to DOE's R. R. Nelson dated July 15, 1992. In the future, major source stacks constructed as a result of site activities will use sampling or monitoring systems that meet the ANSI standard adopted in the federal regulations at the time of construction, an alternative method as approved under this Compliance Plan, or other EPA pre-approved method.

3.4 OAK RIDGE INSTITUTE OF SCIENCE AND EDUCATION

ORISE has no sources with potential emissions that could result in a dose of 0.1 mrem/year or greater to any member of the public.

4. MINOR SOURCE DESCRIPTION AND EMISSION MEASUREMENTS

For purposes of this Compliance Plan, a minor source is a release point or group of release points that has the potential to emit radionuclides that produce a dose of less than 0.1 mrem/year. Forty CFR 61.93 (b)(4)(i) states "For other release points which have a potential to release radionuclides into the air, periodic confirmatory measurements shall be made to verify low emissions." Thus, periodic emissions evaluation is required for all sources with potential radionuclide emissions with resulting doses less than 0.1 mrem/year. This section defines how compliance with the periodic confirmatory measurement requirement will be achieved.

The ORR has a large number of minor sources that could potentially release radionuclides. For example, the ORR has numerous laboratory hoods, many of which have the potential to release radionuclides. In addition, numerous other small potential sources, such as, but not limited to, tank vents, general building ventilation systems, and small machine shops, are located at each installation. Performing stack sampling on most of these small sources would be impractical and inaccurate. For example, many of these minor sources do not have ventilation systems that would permit obtaining a representative sample. Further, emissions rates from these small sources are extremely low; therefore, limitations on the analytical detection level would result in an overestimate of emission. For those minor sources, engineering estimates and other technically justified methods are used to periodically confirm that emissions are low.

As previously discussed in Section 2, areas to be evaluated for potential radionuclide emission sources are selected on the basis of existing worker protection programs. Those protection programs identify areas that require special controls to protect employees working in the area. These areas will be evaluated for potential radionuclide emissions to the environment. Areas not identified by these programs will not require evaluation because of their extremely low or nonexistent emission potential.

Because of the large number and diversity of minor sources at ORR, it is impractical to list each individual minor source on the annual report since these sources contribute insignificantly to off-site dose. Minor sources are grouped to reduce the administrative burden on estimating releases. For the purpose of estimating releases and submitting the annual report as required by 40 CFR 61.94, minor sources are grouped according to similar characteristics (e.g., general location, type of activity, or type of control). The minor sources are grouped so that the estimated actual doses resulting from any one group does not exceed 0.1 mrem/year. The listing of each group will include a description and an estimate of the number of release points or sources in the group, the type of controls, and the distance to the critical receptor.

Many minor radionuclide sources do not have dedicated ventilation systems. Emissions enter the air inside the building before being exhausted through the general building ventilation system. For these sources the release point is the building ventilation system, not the individual sources or processes within the building.

Actual emissions from radionuclide sources are estimated using any one or a combination of the methods described in the following sections. The method chosen is dependent upon the type of minor source or group of sources and the availability of required data. Generally speaking, the

methods of estimating releases will overestimate emissions of radionuclides. Documentation of all estimates is maintained by the respective installation.

4.1 CONTINUOUS STACK SAMPLING

Continuous stack sampling systems are currently located on all known major sources. In some cases, stack sampling systems are also installed on minor sources either permanently or during a representative sampling period. Although sampling systems for minor sources are not required for regulatory purposes, the data will be used for estimating emissions. Continuous sampling systems on minor sources use the same methodologies as the major sources, which are specified by EPA, ANSI N13.1-1969 and/or ANSI/HPS N13.1-1999.

4.2 PERIODIC GRAB SAMPLING

In some instances, periodic grab samples from minor sources may be collected to estimate emissions. The grab sampling for minor sources will generally comply with EPA Methods 1 through 5 in Appendix A of 40 CFR part 60. However, since these methods were developed primarily for sampling effluent streams with large particulate loadings (e.g., steam plants), several modifications to Method 5 are necessary.

- Nitric acid is used instead of acetone to wash the sample probe for uranium analyses. Nitric acid is much more effective than acetone in dissolving uranium. For example, Step 5.2.2 of EPA Method 12 also specifies the use of nitric acid for probe cleaning during lead sampling. The probe liner will be a seamless tubing constructed of quartz glass, borosilicate, or metal.

- The first two impingers will contain nitric acid instead of water to adsorb any uranium that may inadvertently pass through the filter. For sources where technetium may be present, two additional impingers containing sodium hydroxide and hydrogen peroxide are also used. The impingers and associated glassware will be washed with the impinger contents to ensure that any contaminants trapped in the glassware are recovered for analysis.

- Method 5 makes several references to heating the probe and filter to prevent condensation in the sample train. Since sources sampled are typically at ambient temperature and humidity, condensation is not a problem in these applications. However, the probe and filter are heated at or above the stack temperature to prevent condensation. In no case does the temperature reach above 134 °C. This approach is consistent with Step 4.1.3 of EPA Method 104 for beryllium sampling found in Appendix B of CFR part 61.

- Although it is not a modification to Method 5 per se, the samples are analyzed using one of the referenced methods in EPA Method 114 rather than gravimetric determinations that are typically used for total particulate matter. Details of the analytical technique and

any deviations from standard methodology are discussed in each installation's QA Plan as required by 40 CFR part 61, Appendix B, Method 114.

4.3 MODIFIED STACK SAMPLING

For minor modifications to established methodologies other than those specified previously, EPA approval is obtained from documented telephone conversations. More significant deviations may require written EPA approval.

If sampling is conducted upstream of the pollution abatement equipment, the actual emissions may be estimated by applying the estimated efficiency of the abatement equipment. However, in this situation, EPA approval will be obtained on a case-by-case basis (e.g., via documented telephone conversations).

4.4 RADIOLOGICAL CONTROL DATA

Ongoing worker protection programs to comply with safety and health regulations and DOE Orders dictate that personnel and/or work area air samples be taken on a periodic basis in selected areas. Where available, these data, along with estimated room air exchange rates, is used to estimate releases of radionuclides. For example, this approach may be used for general room ventilation systems serving uranium process areas, development and laboratory operations, and waste management operations. Emissions are typically overestimated using this method because samplers are located close to the operation with the potential to generate airborne contamination. Measured airborne concentrations are therefore higher than the levels expected in the general room air because the effects of dilution are omitted. When "less than" levels are reported because of analytical detection limits, the detection limit is used to calculate emissions. This practice also overestimates emissions.

4.5 RADIONUCLIDE INVENTORY DATA

In most cases, research and development laboratories maintain records of various isotopes purchased, used, and stored. These amounts are generally very small. Further, most of the radioactive material is consumed and/or absorbed in the experiment or discarded as liquid or solid waste; therefore, emissions are extremely small. From these data, a mass balance approach can be used to make an estimate of annual emissions.

4.6 ENGINEERING ESTIMATES AND JUDGMENT

Listed below are specific methods employing engineering estimates and judgment that EPA has approved.

Tank Evaporation Method

In some cases, wastewater tanks may contain low levels of radioactive material. Emissions may be estimated by calculating the expected evaporation rate of water and assuming that the radionuclides are emitted in the evaporated water at the same concentration they are found in the water. In actuality, this approach overestimates emissions since the dissolved and suspended radioactivity will likely concentrate in the liquid phase rather than be emitted in the gaseous phase.

Modification to Appendix D

Appendix D of 40 CFR part 61 is used to estimate emissions of radioactive material during processing. It assumes that any radioactive material heated above 100°C is completely vaporized and emitted to the atmosphere (i.e., emission factor = 1.0). This is an overly conservative assumption for elemental uranium since the melting and boiling points are 1132°C and 3818°C, respectively. To compensate for the extremely high melting and boiling points, an emission factor of 1 is used for uranium heated above 3000°C. An emission factor of 10^{-3} is used for uranium heated above 1100°C but less than 3000°C. An emission factor of 10^{-6} is used when the uranium is at ambient temperature or is heated below 1100°C. The modified emission factors are used for elemental uranium provided that no reaction takes place to alter its chemical form. This modification to Appendix D was approved by EPA Region 4 in a letter from W. A. Smith to DOE's R. R. Nelson dated December 21, 1992.

Performance Testing of New Processes

When new processes begin, performance testing may be conducted to ensure that the process is functioning properly. A portion of the performance test may include stack sampling using EPA Methods 1 through 5 or approved alternatives. The emission data obtained during the performance test may be correlated to other process parameters such as process feed rate. When these correlation data are available, emission estimates can be made using data on the process parameters. For example, an emission factor in terms of mass of emissions per mass of feed may be developed. The correlation data will be available for EPA review.

Surrogate Emissions

In some cases, emission estimates obtained for one source are used as surrogate emission estimates for other similar sources in lieu of conducting a separate emissions estimate. In this case, care is taken to ensure that the surrogate emission estimate is representative or results in overestimation of emissions from the source being evaluated. This approach was approved by EPA Region 4 in the June 9, 1993, letter from W.A. Smith to R. R. Nelson for the 1992 annual report for certain emission points located at ORNL. This method is used only after approval by EPA on a case-by-case basis.

4.7 APPENDIX D OF PART 61

Appendix D of 40 CFR part 61 defines a very conservative method of estimating emissions from processes. Although this procedure is intended to estimate emissions of new sources for purposes of determining reporting requirements under 40 CFR 61.96, it may also be used for existing sources when other, more accurate methods are not feasible or available.

4.8 HIGH EFFICIENCY PARTICULATE AIR FILTER SAMPLING

High efficiency particulate air (HEPA) filters are routinely used at each of the ORR facilities as abatement equipment for radionuclide emissions. Many HEPA filters are replaced at least once per year. The filter media from these used filters can then be analyzed to determine the quantity of radionuclides collected. HEPA filter sampling is a very effective technique on minor sources since the 99.97 % particulate collection efficiency and long sampling time concentrates the sample for laboratory analysis.

The sampling method includes taking two representative samples from the cross-section of the HEPA filter. Each sample is analyzed for isotopes of interest. The activity on the HEPA filter is then calculated by using the activity from the samples as shown below:

$$Total\ HEPA\ Activity = \frac{(Activity\ of\ the\ sample)}{(Area\ sampled)} x (Total\ HEPA\ Area) \ .$$

Because the efficiency of the HEPA is 99.97 %, the remaining activity on each filter is 99.97 % of the potential activity for the source. Therefore, the source's potential emissions (without abatement equipment while otherwise operating normally) would be equivalent to the activity on the filter divided by 0.9997. The total emissions from the source with HEPA abatement method would be 0.03 % of the source's potential emissions (without abatement). This sampling method was approved by EPA Region 4 in a letter from J. A. Harper to DOE's R. R. Nelson dated September 17, 1992. As specified in that letter, EPA approval will be obtained on a case-by-case basis (i.e., via documented telephone conversations) whenever this sampling method is used.

4.9 FREQUENCY OF MEASUREMENTS

New emission estimates are generated each year for all minor sources except for sources where grab sampling, HEPA filter sampling, or surrogate emissions are used. Confirmation of low emissions from these sources is performed at least every 5 years depending upon the variability of the source and the potential emissions. However, the operational activities of these source areas are reviewed annually to ensure there are no significant changes that could increase emissions.

5. METHODS OF ESTIMATING POTENTIAL DOSE

An estimate of potential emissions and resulting dose is needed to determine (1) which sources require continuous sampling as required by 40 CFR 61.93 and (2) which sources require reporting as a major source in the annual report. The methods for estimating potential releases are essentially equivalent to the methods above for estimating actual releases. However, for purposes of estimating potential releases, no consideration is given to pollution abatement equipment. The equation below shows the relationship between actual emissions and potential emissions as a function of pollution abatement removal efficiency, where the efficiency is expressed as a decimal.

$$Potential\ Emissions = \frac{Actual\ Emissions}{(1 - Removal\ Efficiency)},$$

Removal efficiencies are estimated using Table 1 of Appendix D of Part 61 or other documented methods, including, but not limited to, pollution abatement manufacturer's data and stack sampling data.

5.1 APPENDIX E OF PART 61

Appendix E of 40 CFR part 61 can be used, in some cases, to verify that groups of small emitting sources do not have emissions with resulting doses greater than 0.1 mrem/year. The annual quantities in Table 1 of Appendix E were based on extremely conservative assumptions enabling the use of this method to demonstrate that small sources are not subject to continuous sampling requirements of 40 CFR 61.93(b).

In addition to the annual use quantities in Table 1, the COMPLY computer code referenced in Appendix E may also be used to demonstrate that sources have potential doses below 0.1 mrem/year. However, the COMPLY code is not being used to determine compliance with the off-site dose standard found in 40 CFR 61.92.

5.2 DOSE-TO-SOURCE TERM RATIO METHOD

In some cases, doses may be estimated by using the dose-to-source term ratio method. For individual or grouped sources at each installation, factors are calculated to estimate potential doses in the current year. This factor is calculated by taking the highest value of the quotient of annual dose divided by annual emissions of the last 3 years. The potential source term for the current year is calculated without any consideration of abatement equipment. The following formula is used:

$$Potential\ Dose(mrem/year) = \frac{Dose(mrem)}{Source\ Term(Ci)} \times [Potential\ Source\ Term(Ci)].$$

where dose (mrem)/source term (Ci) is the source maximum value for the past 3 years. If the estimated potential dose calculated with the above formula is greater than 0.05 mrem/year, the EPA-approved CAP-88 model will be used to verify the potential dose.

5.3 BACK-CALCULATION OF POTENTIAL SOURCE TERM

Potential doses are typically calculated by estimating a potential source term (curies) and then modeling the source term to estimate on-site or off-site concentrations and resulting dose (millirems per year). However, using the same modeling approach, it is possible to back-calculate the required potential source term that would be necessary to deliver an on-site or off-site dose to members of the public of 0.1 mrem/year. After the potential source term is calculated, one of the methods previously discussed can be used to demonstrate that the source's potential emissions are below the source term required for a dose of 0.1 mrem/year.

5.4 ADMINISTRATIVE PROCEDURES

Where administrative procedures are in place, they may be used to demonstrate that potential emissions from certain operations are extremely low. For example, an internal administrative procedure at ORNL allows only certain radionuclides within specific limits to be used in specific categories of laboratory hoods. Using the radionuclide with the highest dose coefficients and the maximum allowed quantity, a worst-case dose can be calculated. These results can be used to demonstrate that no single laboratory hood will produce emissions that will result in an off-site dose greater than 0.1 mrem/year. Other similar procedures and calculations may be used where available.

6. COMPUTER DISPERSION MODELING AND DOSE ASSESSMENT

All radiation dose calculations, for comparison against the dose standard in 40 CFR 61.92, are performed using the EPA-recommended CAP-88 computer codes. The CAP-88 Model is a set of computer programs, databases and associated utility programs for estimation of dose and risk from radionuclide emissions to air. CAP-88 is composed of modified versions of AIRDOS-EPA and DARTAB which implements a steady-state, Gaussian plume, atmospheric dispersion model and food chain models. CAP-88 PC uses a database of dose and risk factors provided by Federal Guidance Report 13.[5] As indicated in Section 5, other models and methods may be used to estimate potential emissions for compliance with administrative provisions of the regulations.

The ED to the maximally exposed individual for ORR is determined by (1) identifying receptors (residences, businesses, or schools) around the ORR that could be subject to the highest radionuclide concentrations, (2) calculating the dose to a person located at each of the identified receptors, and (3) selecting the person with the highest calculated dose resulting from the combined emissions from all ORR facilities.

Site-specific parameter values are used, if possible, in all calculations. If site-specific data are unavailable, default values suggested in the CAP-88 codes, NRC Regulatory Guide 1.109, or the NESHAP background information documents are used. The following parameters are expected to have measured, site-specific values: release point parameters (e.g., stack height and diameter, gas exit velocity and temperature, nuclide-specific annual releases, and, if known, nuclide-specific parameters such as particle size, chemical form, or solubility); distances from sources to receptors; and current-year meteorological and climatological data. Multiple release points are collocated, if such collocation does not alter significantly the distance from source to receptor. Some release points are combined using the combination rules in "Guidelines for Air Quality Maintenance Planning and Analysis, Volume 10: Procedures for Evaluating Air Quality Impact of New Stationary Sources" (EPA/450/4-77-001). An exception is at the Y-12 NSC, where all sources are combined into a single source and assumed to be 20 m high with no exit velocity. This combination of sources was recommended by EPA Region 4 in a letter from Charles Phillips to DOE's B. J. Davis dated January 25, 1985. An evaluation has been made of source modeling options for the Y-12 NSC. Results indicate that doses to the public, calculated using the single source representation, are an average of 30% higher than doses using the actual emission points.

Foodstuff production and consumption is treated according to specific guidelines. State-specific foodstuff production rates provided with CAP-88 are used. With regard to food consumption by the maximally exposed individual, the rural consumption pattern given in the background information document is used unless local conditions dictate a different pattern.

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[5] Federal Guidance Report 13, "Cancer Risk Coefficients for Environmental Exposure to Radionuclides," EPA-402-C-99-001, USEPA Office of Radiation and Indoor Air, Washington DC, September 1999.

7. ANNUAL REPORTING

As required by 40 CFR 61.94, annual reports are submitted to EPA by June 30 of each year. Appendix B includes a blank copy of the forms that are submitted to EPA for compliance with this requirement.

Individual release points are listed on the report for major sources (i.e., those with potential emissions resulting in doses greater than or equal to 0.1 mrem/year). Minor sources are grouped, as outlined in Section 4, and listed accordingly. For each grouped source, the estimated number of release points included in the group is listed. For major and grouped sources, the type of control device, its efficiency, and the distance to the most affected receptor is provided.

As required by 40 CFR 61.94 (a)(8), a list of all construction and modifications completed during the reporting year for which approval to construct or modify was waived under 40 CFR 61.96 is provided in the annual report.

8. QUALITY ASSURANCE PLANS

As a commitment item of the FFCA and as required in 40 CFR part 61, subpart H, each ORR facility submitted a QA Plan to EPA Region 4. EPA subsequently acknowledged that the submittals satisfied the requirements in 40 CFR part 61, Appendix B, Method 114, for QA Plans. Method 114 specifies that a QA Plan must ensure that the emission measurements are representative, are of known precision and accuracy, and include administrative controls to ensure prompt response when emission measurements indicate an increase over normal radionuclide emissions rates.

Each site's QA Plan references site procedures that are specific to the radionuclide emission measurements for NESHAP compliance. Over time, the site procedures may be revised, but the QA Plans will not be reissued to reflect minor changes in the procedures. However, the updated QA Plans and site procedures will be maintained by the environmental management organizations at each facility and are available for inspection.

APPENDIX A-1

DETAILED STACK SAMPLING DESCRIPTIONS FOR THE Y-12 NATIONAL SECURITY COMPLEX

Table A-1a. Stack Sampling System Description
(Y-12 National Security Complex)

ANSI N13.1-1969 STACKS: ALL Y-12 NSC STACKS

Item Description/Requirement	Response
1. **How is stack gas velocity measured?** 40 CFR 61.93 (b)(1)(i) & (ii) - Reference Method 2 of appendix A to part 60 shall be used to determine velocity and volumetric flow rates for stacks and large vents, and Method 2A shall be used for small ducts and vents.	The Y-12 NSC uses the reference methods.
2. **Location of sample flow device.** ANSI N13.1, 5.2.2.1.7(3) - The flow rate must be measured, and the flow measuring instrument should be located downstream of the filter collector.	A thermal mass flow meter/controller is used downstream of the filter collector.
3. **Frequency of stack flow measurements.** 40 CFR 61.93 (b)(1)(iii) - The frequency of the flow rate measurement shall depend upon the variability of the effluent flow rate. For variable flow rates, continuous or frequent flow rate measurements shall be made. For relatively constant flow rates, only periodic measurements are necessary.	The flows are measured on a quarterly basis.
4. **Calibration frequency.**	The equipment is calibrated quarterly and after maintenance activity.
5. **Are the samples collected isokinetically?** ANSI N13.1, 4.2.2.3 - When particles larger than 5 μm are anticipated, it is recommended that the sampler arrangement be designed to permit near-isokinetic flow in the sampler entry probe.	The Y-12 samplers are designed to provide a near-isokinetic rate for each stack.
6. **If the material of concern is in the form of gas(es) or vapor(s), do the sample transport lines have no significant leakage or loss of material?** For consistency with EPA Method 5, significant leakage is any leakage rate in excess of either 4% of the average sampling rate or 0.02 ft^3/min, whichever is less.	Leak tests are performed on a quarterly basis on all regulated Y-12 NSC stack sampling systems.
7. **Is the sample transport line as short as possible?** ANSIS N13.1, Appendix A - Long sample delivery lines should be avoided.	The continuous breakthrough monitors have sample delivery lines of about 2 ft, while the continuous samplers have the filters immediately in back on of the probe.
8. **Do all bends in the sample transport lines have a radii of curvature greater than five tube diameters?** ANSI N13.1, Appendix B B5 - Elbows in sampling lines should be avoided if possible, but, when required, the bend radius of the elbow should be as long as possible.	Yes.

References: (1) 40 CFR 60, Appendix A, (2) American National Standards Institute (ANSI) N13.1-1969 (R1982)

Table A-1a (Continued)

Item Description/Requirement	Response
9. **Is the sample transport line insulated or heat traced, where applicable?** ANSI N13.1, 4.2.4 - When heavy moisture loadings are anticipated, heated sampling lines will be required to prevent condensation in the lines and to raise the collector temperature well above the dew point.	Yes.
10. **Does the sampler fractionate by particle size?** ANSI N13.1, 4.2.2.1 - The sampler must not fractionate by particle size or in other ways distort the physical and chemical properties of the airborne radioactive constituents.	This point is addressed in the overall design of the Y-12 continuous monitoring system as illustrated by the following: location and number of sampling points, design of probe nozzles, near-isokinetic sampling rate, short sample lines, periodic washing of sample lines and probes, and the use of heat tracing. These design factors assure representative samples.
11. **Is the particulate retention in the sample transport line evaluated?** ANSI N13.1, Appendix B B1 - Where sampling delivery lines are required, an evaluation should be made of deposition in these lines.	Y-12 washes the sample probes and analyzes the washings to determine sample retention. The result of the washings analysis are evaluated on a quarterly basis, and the data are added to the annual emission calculation.
12. **Is the sample probe removable?** ANSI N13.1, Appendix A A3.4 - Sampling Probe Configuration in Fig. A2 and A5. A common feature of the probes is the provision for removing them readily for replacement, cleaning, or evaluating the deposition losses.	Yes.
13. **Does the sample location comply with EPA Method 1 and ANSI N13.1, 4.2.1.2?** EPA Method 1, 2.1 - Sampling or velocity measurement is performed at a site located at least eight stack or duct diameters downstream and two duct diameters upstream from any flow disturbances. If necessary, an alternative location may be selected at a position at least two stack or duct diameters downstream and a half diameter upstream. ANSI N13.1, 4.2.1.2 - The sampling point should be a minimum of five duct diameters downstream from abrupt changes in flow direction or prominent transitions.	The Y-12 samplers meet the criteria of Method 1 but in a few cases may not meet the more stringent ANSI N13.1 criteria.
14. **Does the probe have the correct number of nozzles with each nozzle properly located?** ANSI N13.1, Appendix A A3(1) - Enough points in the cross section are sampled. (2) The velocity and flow distribution in the duct at the cross section should be known. (3) Each withdrawal point in circular ducts should be centered in an equal annular area of size equal to the cross-sectional area divided by the number of probe nozzles. Square and rectangular ducts should be sampled from points in the cross section presenting approximately equal area.	Yes, the monitors use probes that have two to six sampling nozzles depending on stack diameter. Each nozzle is centered in an equal annular area of size equal to the cross-sectional area divided by the number of probe nozzles.
15. **Are the nozzle(s) seamless SS (316) tubing with sharp tapered edges with the angle of taper 30° and the taper on the outside edge?**	Yes.

References: (1) 40 CFR 60, Appendix A, (2) American National Standards Institute (ANSI) N13.1-1969 (R1982)

Table A-1a (Continued)

Item Description Requirement	Response
16. Does the air-moving system for the sampler meet the requirements? ANSI N13.1, 5.2.2.1.7 (2) - The prime requirement is that the air mover deliver the necessary air flow against the resistance of the sampling system.	Yes.
17. How is the sample flow measured? ANSI N13.1, 5.2.2.1.7 (3) - The flow rate must be measured, and the flow measuring instrument should be located downstream of the filter collector. ANSI N13.1, 5.2.2.1.7 (4) - Provisions must be made for adjusting the sampling rate to the required value.	The monitors use a thermal mass flow meter/controller downstream of the filter collector. The arrangement maintains a constant flow rate that will not deviate with the grain loading. This assures a continuous near-isokinetic sampling rate.
18. What is the sampling period?	One day minimum, seven days maximum, depending on stack size and grain loading.
19. What is the collection media used?	Whatman 41 cellulose filter with a collection efficiency of 95% for a 0.3-μm dioctyl phthalate smoke particle at the face velocity used. According to EPA-600/2-80-203, the Whatman 41 filter has a collection efficiency of about 50% for a 0.03-μm sodium chloride particle.
20. List analytical methods used for the sample analysis. 40 CFR 61.93 (b)(2)(iii) - Radionuclides shall be collected and measured using procedures based on the principles of measurement in appendix B, Method 114.	The Y-12 NSC uses Method A-5 in Method 114 of 40 CFR 61.10.

References: (1) 40 CFR 60, Appendix A, (2) American National Standards Institute (ANSI) N13.1-1969 (R1982)

Table A-1b. Stack Sampling System Description
(Y-12 National Security Complex)

ANSI/HPS N13.1-1999 STACKS: No Current Stacks

Item Description. Requirement	Response
1. **Is information used as a basis for design and location of sampling systems fully and carefully documented?** ANSI/HPS N13.1-1999, 5.1, 5.2 – The sampling location should be in a region where the contaminant profile is well mixed and stable. Sample extraction should occur downstream of all inputs and control equipment. Sample extraction locations must be qualified according to the criteria in 5.2.2.	NA
2. **How is stack gas velocity measured?** 40 CFR 61.93 (b)(1)(i) & (ii) - Reference Method 1 of appendix A to part 60 shall be used to determine velocity and volumetric flow rates for stacks and large vents, and Method 2A shall be used for small ducts and vents.	NA
3. **Location of sample flow device?** ANSI/HPS N13.1-1999- The flow rate must be measured, and the flow measuring instrument should be located downstream of the filter collector.	NA
4. **Frequency of stack flow measurements?** 40 CFR 61.93 (b)(1)(iii) - The frequency of the flow rate measurement shall depend upon the variability of the effluent flow rate. For variable flow rates, continuous or frequent flow rate measurements shall be made. For relatively constant flow rates, only periodic measurements are necessary.	NA
5. **Is the sample transport line as short as possible?** ANSI/HPS N13.1-1999, 5.2.1 – If the contaminants are particulates, condensable vapors or reactive gases, long transport lines should be avoided.	NA
6. **Is the sample transport line insulated or heat traced, where applicable?** ANSI/HPS N13.1-1999, 5.2.1 - Heat tracing transport lines may be performed to minimize potential sample loss especially if contaminants are in the form of condensible vapors or reactive gases.	NA
7. **If the material of concern is in the form of gas(es) or vapor(s), do the sample transport lines have no significant leakage or loss of material?** For consistency with EPA Method 5, significant leakage is any leakage rate in excess of either 4% of the average sampling rate or 0.02 ft^3/min, whichever is less.	NA
8. **Is the cyclonic stack flow measurement less than 20%?** ANSI/HPS N13.1-1999, Table 4.	NA

References: American National Standards Institute (ANSI)/Health Physics Society (HPS) N13.1-1999 standard (ANSI/HPS N13.1-1999) "Sampling and Monitoring Releases of Airborne Radioactive Substances from the Stacks and Ducts of Nuclear Facilities" (Revised Title Number ANSI/HPS N13.1-2011)

Table A-1b (Continued)

Item Description/ Requirement	Response
9. **Is the Coefficient of Variation of the velocity, tracer gas concentration, and aerosol particle concentration profiles less than 20% over the center section of the stack that encompasses at least 2/3 of the stack area.** ANSI/HPS N13.1-1999, Table 4.	NA
10. **Is the maximum value of tracer gas concentration exceeding 30% of the mean value at any point on the Method 1 set of velocity traverse points?** ANSI/HPS N13.1-1999, Table 4.	NA
ANSI N13.1-1969 Grandfathered sources are included in the responses to Table 5 Requirements, Items 11-25[1]	
11. **Cleaning of thermal anemometer elements?** ANSI/HPS N13.1-1999, Table 5 - As required by application.	There are no thermal anemometer elements in use on any Y-12 NSC Rad NESHAP Sampling Systems.
12. **Inspect pitot tubes for contaminant deposits?** ANSI/HPS N13.1-1999, Table 5 – At least annually.	Pitot tubes are not used on any Y-12 NSC Rad NESHAP Sampling Systems. They are only used for velocity profile measurements. Proper inspections are done at that time.
13. **Inspect pitot tube systems for leaks?** ANSI/HPS N13.1-1999, Table 5 – At least annually.	See comment above.
14. **Inspect sharp edged nozzles for damage?** ANSI/HPS N13.1-1999, Table 5 – At least annually or after maintenance that could cause damage.	Nozzles are inspected quarterly.
15. **Check nozzles for alignment, presence of deposits, or other potentially degrading factors.** ANSI/HPS N13.1-1999, Table 5 – Annually.	Performed at quarterly probe wash.
16. **Check transport lines of HEPA filtered applications to determine if cleaning is required.** ANSI/HPS N13.1-1999, Table 5 – Annually.	Performed at quarterly probe wash.
17. **Clean transport lines.** ANSI/HPS N13.1-1999, Table 5 – Visible deposits for HEPA-filtered applications. Surface density of 1 g/cm^3 for other applications.	Performed at quarterly probe wash.
18. **Inspect or test the sample transport system for leaks.** ANSI/HPS N13.1-1999, Table 5 – At least annually.	The sampling system is leak checked quarterly. Additional leak checks may be performed to reestablish the integrity of the system if a violation to the system has occurred.

[1]**ANSI/HPS N13.1-1999 Table 5 maintenance, calibration and field checks are required for all sources, 40 CFR part 61, Appendix B, Method 114, 4.7.**

References: American National Standards Institute (ANSI)/Health Physics Society (HPS) N13.1-1999 standard (ANSI/HPS N13.1-1999) "Sampling and Monitoring Releases of Airborne Radioactive Substances from the Stacks and Ducts of Nuclear Facilities" (Revised Title Number ANSI/HPS N13.1-2011)

Table A-1b (Continued)

Item Description Requirement	Response
19. **Check mass flow meters of sampling systems with a secondary or transfer standard.** ANSI/HPS N13.1-1999, Table 5 – At least quarterly.	Performed quarterly during equipment calibration activities.
20. **Check sampling flow rate through critical flow venturis.** ANSI/HPS N13.1-1999, Table 5 – At the start of each sampling period.	There are no critical flow venturis. Sampling flow rates are checked at the beginning of each sampling period.
21. **Inspect rotameters of sampling systems for presence of foreign matter.** ANSI/HPS N13.1-1999, Table 5 – At the start of each sampling period.	There are no rotameters in use on any of the Y-12 NSC Rad NESHAP sampling systems.
22. **Check response of stack flow rate systems.** ANSI/HPS N13.1-1999, Table 5 – At least quarterly.	Velocity profiles are performed quarterly and flow rates are compared to a 4-quarter rolling average.
23. **Calibration of flow meters of sampling systems.** ANSI/HPS N13.1-1999, Table 5 – At least annually.	Calibration of flow meters is performed quarterly.
24. **Calibration of effluent flow measurement devices.** ANSI/HPS N13.1-1999, Table 5 – At least annually.	There are no effluent flow measurement devices on any Y-12 NSC Rad NESHAP sampling systems. Velocity profile measurements are used to determine the flow rate of the effluent.
25. **Calibration of timing devices.** ANSI/HPS N13.1-1999, Table 5 – At least annually.	There are no timing devices on any Y-12 NSC Rad NESHAP sampling systems.
26. **What is the sampling period?**	N/A
27. **What is the collection media used?**	N/A
28. **List analytical methods used for the sample analysis.** 40 CFR 61 93 (b)(2)(iii) - Radionuclides shall be collected and measured using procedures based on the principles of measurement in appendix B, Method 114	N/A

References: American National Standards Institute (ANSI)/Health Physics Society (HPS) N13.1-1999 standard (ANSI/HPS N13.1-1999) "Sampling and Monitoring Releases of Airborne Radioactive Substances from the Stacks and Ducts of Nuclear Facilities" (Revised Title Number ANSI/HPS N13.1-2011)

APPENDIX A-2

DETAILED STACK SAMPLING DESCRIPTIONS
FOR THE
EAST TENNESSEE TECHNOLOGY PARK

Table A-2a. Stack Sampling System Description
(EAST TENNESSEE TECHNOLOGY PARK)

ANSI N13.1-1969 STACKS: No Current Stacks

Table A-2b. Stack Sampling System Description
(EAST TENNESSEE TECHNOLOGY PARK)

ANSI/HPS N13.1-1999 STACKS: No Current Stacks

Table A-2b. Stack Sampling System Description
(EAST TENNESSEE TECHNOLOGY PARK)

ANSI/HPS N13.1-1999 STACKS: No Current Stacks

Table A-3a. Stack Sampling System Description
(Oak Ridge National Laboratory)

ANSI N13.1-1969 STACKS: Operated by UT-Battelle, LLC, Isotek Systems, LLC; and URS | CH2M Oak Ridge LLC (UCOR)

Item Description/Requirement	Response
1. **How is stack gas velocity measured?** 40 CFR 61.93 (b)(1)(i) & (ii) - Reference Method 2 of appendix A to part 60 shall be used to determine velocity and volumetric flow rates for stacks and large vents, and Method 2A shall be used for small ducts and vents.	Velocity profiles are conducted using EPA Method 2.
2. **Location of sample flow device.** ANSI N13.1, 5.2.2.1.7(3) - The flow rate must be measured, and the flow measuring instrument should be located downstream of the filter collector.	The sample flow measuring devices are located downstream of the collector.
3. **Frequency of stack flow measurements.** 40 CFR 61.93 (b)(1)(iii) - The frequency of the flow rate measurement shall depend upon the variability of the effluent flow rate. For variable flow rates, continuous or frequent flow rate measurements shall be made. For relatively constant flow rates, only periodic measurements are necessary.	Velocity profiles are completed each quarter.
4. **Calibration frequency.**	At a minimum, an annual calibration check is completed on the mass flow meters, totalizers, and detectors. Also, the calibration is rechecked after any maintenance that would affect the equipment.
5. **Are the samples collected isokinetically?** ANSI N13.1, 4.2.2.3 - When particles larger than 5 μm are anticipated, it is recommended that the sampler arrangement be designed to permit near-isokinetic flow in the sampler entry probe.	The sampling systems are set to collect samples near-isokinetically. The flow rates are adjusted as needed after flow measurements have been completed to ensure that the samplers are operating isokinetically.
6. **If the material of concern is in the form of gas(es) or vapor(s), do the sample transport lines have no significant leakage or loss of material?** For consistency with EPA Method 5, significant leakage is any leakage rate in excess of either 4% of the average sampling rate or 0.02 ft^3/min, whichever is less.	The sampling system is leak checked annually. Additional leak checks may be performed to reestablish the integrity of the system if a violation to the system has occurred.
7. **Is the sample transport line as short as possible?** ANSI N13.1, Appendix A - Long sample delivery lines should be avoided.	All sample transport lines are as short as possible with the exception of 2026. The 2026 sample line is 35 ft. long; however, the line is cleaned annually and the rinsate analysis is included in the emission calculations.
8. **Do all bends in the sample transport lines have a radii of curvature greater than five tube diameters?** ANSI N13.1, Appendix B B5 - Elbows in sampling lines should be avoided if possible, but, when required, the bend radius of the elbow should be as long as possible.	The bends in the sample transport line comply with the standard.

Table A-3a (Continued)

	Item Description/Requirement	Response
9.	**Is the sample transport line insulated or heat traced, where applicable?** ANSI N13.1, 4.2.4 - When heavy moisture loadings are anticipated, heated sampling lines will be required to prevent condensation in the lines and to raise the collector temperature well above the dew point.	The sample transport lines are heat traced where needed.
10.	**Does the sampler fractionate by particle size?** ANSI N13.1, 4.2.2.1 - The sampler must not fractionate by particle size or in other ways distort the physical and chemical properties of the airborne radioactive constituents.	The sampler does not fractionate particles.
11.	**Is the particulate retention in the sample transport line evaluated?** ANSI N13.1, Appendix B B1 - Where sampling delivery lines are required, an evaluation should be made of deposition in these lines.	Each sampling probe and connected tubing prior to the particulate filter is removed annually from the stack and cleaned. The probe wash is submitted to the laboratory for analysis, and the results are incorporated in the emission calculations.
12.	**Is the sample probe removable?** ANSI N13.1, Appendix A A3 4 - Sampling Probe Configuration in Fig. A2 and A5. A common feature of the probes is the provision for removing them readily for replacement, cleaning, or evaluating the deposition losses.	The sample probes are removable.
13.	**Does the sample location comply with EPA Method 1 and ANSI N13.1, 4.2.1.2?** EPA Method 1, 2.1 - Sampling or velocity measurement is performed at a site located at least eight stack or duct diameters downstream and two duct diameters upstream from any flow disturbances. If necessary, an alternative location may be selected at a position at least two stack or duct diameters downstream and a half diameter upstream. ANSI N13.1, 4.2.1.2 - The sampling point should be a minimum of five duct diameters downstream from abrupt changes in flow direction or prominent transitions.	The locations meet, at a minimum, the EPA Method 1 requirement.
14.	**Does the probe have the correct number of nozzles with each nozzle properly located?** ANSI N13.1, Appendix A A3(1) - Enough points in the cross section are sampled. (2) The velocity and flow distribution in the duct at the cross section should be known. (3) Each withdrawal point in circular ducts should be centered in an equal annular area of size equal to the cross-sectional area divided by the number of probe nozzles. Square and rectangular ducts should be sampled from points in the cross section presenting approximately equal area.	Yes, the monitors use probes that have two to eight sampling nozzles depending on stack diameter. Each nozzle is centered in an equal annular area of size equal to the cross-sectional area divided by the number of probe nozzles.
15.	**Are the nozzle(s) seamless SS (316) tubing with sharp tapered edges with the angle of taper 30° and the taper on the outside edge?**	The nozzles are constructed of stainless steel tubing which may or may not be 316.

References: (1) 40 CFR 60, Appendix A, (2) American National Standards Institute (ANSI) N13.1-1969

Table A-3a (Continued)

Item Description/Requirement	Response
16. Does the air-moving system for the sampler meet the requirements? ANSI N13.1, 5.2.2.1.7 (2) - The prime requirement is that the air mover deliver the necessary air flow against the resistance of the sampling system.	The air-moving system meets the requirements.
17. How is the sample flow measured? ANSI N13.1, 5.2.2.1.7 (3) - The flow rate must be measured, and the flow measuring instrument should be located downstream of the filter collector. ANSI N13.1, 5.2.2.1.7 (4) - Provisions must be made for adjusting the sampling rate to the required value.	The sample flow rate is continuously measured using a thermal mass flow meter with totalizer located downstream from the collector.
18. What is the sampling period?	Samples are routinely collected over a one to two-week period. The sampling period may vary slightly throughout the year, especially around the holidays. The particulate filters are composited on a quarterly basis for isotopic analysis to achieve better detection limits.
21. What is the collection media used?	The radionuclide particulates are collected on a borosilicate glass filter with a retention efficiency of 99.985%, adsorbable gases (including radioiodine) are collected on activated charcoal, tritium is collected as tritiated water on indicating silica gel, and noble gases are measured using an on-line detector.
22. List analytical methods used for the sample analysis. 40 CFR 61.93 (b)(2)(iii) - Radionuclides shall be collected and measured using procedures based on the principles of measurement in appendix B, Method 114.	The procedures used for sample analysis are A-1, A-4, A-5, B-3, B-4, B-5, And G-1 form EPA Method 114, Appendix B

References: (1) 40 CFR 60, Appendix A, (2) American National Standards Institute (ANSI) N13.1-1969

Table A-3b. Stack Sampling System Description
(Oak Ridge National Laboratory)

ANSI/HPS N13.1-1999 STACKS: Operated by UT-Battelle, LLC and Wastren Advantage, Inc.

Item Description/ Requirement	Response
1. **Is information used as a basis for design and location of sampling systems fully and carefully documented?** ANSI/HPS N13.1-1999, 5.1, 5.2 – The sampling location should be in a region where the contaminant profile is well mixed and stable. Sample extraction should occur downstream of all inputs and control equipment. Sample extraction locations must be qualified according to the criteria in 5.2.2.	ANSI/HPS N13.1-1999 sample location qualification testing has been completed for all stacks and documented. For 7880, the sampling system was installed prior to January 1, 2003 and as specified in Addendum C.3 of this Compliance Plan was classified as a grandfathered system at the commencement of operations. Therefore, sample location qualification testing was not required. For the 8915 stack, the effluent is continuously monitored using an in-line monitor. The effluent monitoring location was qualified to meet the ANSI/HPS N13.1-1999 requirement to measure the effluent to within ±30%, and the respective coefficient of variation over the center portion of the duct was determined to be less than 20%. Some acceptance criteria for sampling locations (Table 4) are not applicable to in-line continuous monitoring (e.g., transport lines and sample flow measuring devices are not used).
2. **How is stack gas velocity measured?** 40 CFR 61.93 (b)(1)(i) & (ii) - Reference Method 1 of appendix A to part 60 shall be used to determine velocity and volumetric flow rates for stacks and large vents, and Method 2A shall be used for small ducts and vents.	Velocity profiles are conducted using EPA Method 2. For 7880, the stack is fed by three ducts. Each duct is equipped with an electronic pressure differential device that continuously measures the flow. Each device is subjected to daily and quarterly checks plus annual calibration and is compared against Method 2 measurements in each duct. There is no direct stack flow rate monitoring system. The signal from each duct measurement device is fed into a central processor that provides the continuous relative stack flow rate. These systems are checked daily as part of an operations checklist.
3. **Location of sample flow device?** ANSI/HPS N13.1-1999 - The flow rate must be measured, and the flow measuring instrument should be located downstream of the filter collector.	The sample flow measuring devices are located downstream of the collector. For 8915, a sample flow measuring device is not applicable.
4. **Frequency of stack flow measurements?** 40 CFR 61.93 (b)(1)(iii) - The frequency of the flow rate measurement shall depend upon the variability of the effluent flow rate. For variable flow rates, continuous or frequent flow rate measurements shall be made. For relatively constant flow rates, only periodic measurements are necessary.	Velocity profiles are completed each quarter. For 7880, stack flow is continuously monitored via the central processor system. This system is evaluated against Method 2 testing in the vicinity of the effluent sampling system on the stack.

Table A-3b (Continued)

Item Description/ Requirement	Response
5. **Is the sample transport line as short as possible?** ANSI/HPS N13.1-1999, 5.2.1 – If the contaminants are particulates, condensable vapors or reactive gases, long transport lines should be avoided.	All sample transport lines are as short as possible with the exception of 2026.[1] The 2026 sample line is 35 ft. long; however, the line is cleaned annually and the rinsate analysis is included in the emission calculations. Sample transport lines are not used at 8915.
6. **Is the sample transport line insulated or heat traced, where applicable?** ANSI/HPS N13.1-1999, 5.2.1 - Heat tracing transport lines may be performed to minimize potential sample loss especially if contaminants are in the form of condensible vapors or reactive gases.	The sample transport lines are heat traced where needed.
7. **If the material of concern is in the form of gas(es) or vapor(s), do the sample transport lines have no significant leakage or loss of material?** For consistency with EPA Method 5, significant leakage is any leakage rate in excess of either 4% of the average sampling rate or 0.02 ft^3/min, whichever is less.	The sampling system is leak checked annually. Additional leak checks may be performed to reestablish the integrity of the system if a violation to the system has occurred. Sample transport lines are not used at 8915.
8. **Is the cyclonic stack flow measurement less than 20%?** ANSI/HPS N13.1-1999, Table 4.	EPA Method 2 stack velocity profile tests demonstrate cyclonic flow is less than 20%.
9. **Is the Coefficient of Variation of the velocity, tracer gas concentration, and aerosol particle concentration profiles less than 20% over the center section of the stack that encompasses at least 2/3 of the stack area.** ANSI/HPS N13.1-1999, Table 4.	Yes. Documented in ANSI/HPS N13.1-1999 qualification reports. For 7880, EPA Method 2 stack velocity profile tests demonstrate the Coefficient of Variation is less than 20%.
10. **Is the maximum value of tracer gas concentration exceeding 30% of the mean value at any point on the Method 1 set of velocity traverse points?** ANSI/HPS N13.1-1999, Table 4.	Yes. Documented in ANSI/HPS N13.1-1999 qualification reports. For 7880, the sampling system was installed prior to January 1, 2003, and as specified in Addendum C.3 of this Compliance Plan was classified as a grandfathered system at the commencement of operations. Probe siting in the stack complies with ANSI 1969 following criteria specified in EPA Method 1.
ANSI N13.1-1969 Grandfathered sources are included in the responses to Table 5 Requirements, Items 11-25[2]	
11. **Cleaning of thermal anemometer elements?** ANSI/HPSN13.1-1999, Table 5 - As required by application.	There are no thermal anemometer elements in use on any ORNL-site Rad NESHAP Sampling Systems.

[1]The 2026 stack is a grandfathered stack that has been qualified to meet the ANSI/HPS N13.1-1999 criteria. It is anticipated that future activities will warrant an upgrade to ANSI/HPS N13.1-1999 as outlined in Addendum C.3, at which time the current multiple-point sample probe will be replaced with a shrouded probe.

[2]ANSI/HPS N13.1-1999 Table 5 maintenance, calibration and field checks are required for all sources, 40 CFR Part 61, Appendix B, Method 114, 4.7.

References: American National Standards Institute (ANSI)/Health Physics Society (HPS) N13.1-1999 standard (ANSI/HPS N13.1-1999) "Sampling and Monitoring Releases of Airborne Radioactive Substances from the Stacks and Ducts of Nuclear Facilities" (Revised Title Number ANSI/HPS N13.1-2011)

Table A-3b (Continued)

Item Description/ Requirement	Response
12. **Inspect pitot tubes for contaminant deposits?** ANSI/HPS N13.1-1999, Table 5 – At least annually.	Pitot tubes are not used on any ORNL-site Rad NESHAP Sampling System. They are only used for velocity profile measurements. Proper inspections are done at that time.
13. **Inspect pitot tube systems for leaks?** ANSI/HPS N13.1-1999, Table 5 – At least annually.	See comment above
14. **Inspect sharp edged nozzles for damage?** ANSI/HPS N13.1-1999, Table 5 – At least annually or after maintenance that could cause damage.	Nozzles are inspected annually. Nozzles are not used at 8915.
15. **Check nozzles for alignment, presence of deposits, or other potentially degrading factors** ANSI/HPS N13.1-1999, Table 5 – Annually.	Performed at annual probe wash. Nozzles are not used at 8915.
16. **Check transport lines of HEPA filtered applications to determine if cleaning is required.** ANSI/HPSN13.1-1999, Table 5 – Annually.	Performed at annual probe wash. Transport lines are not used at 8915.
17. **Clean transport lines.** ANSI/HPS N13.1-1999, Table 5 – Visible deposits for HEPA-filtered applications. Surface density of 1 g/cm^3 for other applications.	Performed at annual probe wash. Transport lines are not used at 8915.
18. **Inspect or test the sample transport system for leaks.** ANSI/HPS N13.1-1999, Table 5 – At least annually.	The sampling system is leak checked annually. Additional leak checks may be performed to reestablish the integrity of the system if a violation to the system has occurred. For 7880, stack sampling system is checked for leaks with each sample change out. Transport system is not used at 8915.
19. **Check mass flow meters of sampling systems with a secondary or transfer standard.** ANSI/HPS N13.1-1999, Table 5 – At least quarterly.	Quarterly velocity profiles are conducted using EPA Method 2. For 7880, the sampling system mass flow meter is calibrated against a secondary standard annually.
20. **Check sampling flow rate through critical flow venturis.** ANSI/HPS N13.1-1999, Table 5 – At the start of each sampling period.	Velocity profiles performed quarterly for major stacks and at the start of the sampling period for minor stacks.
21. **Inspect rotameters of sampling systems for presence of foreign matter.** ANSI/HPS N13.1-1999, Table 5 – At the start of each sampling period.	The only rotameter in use on ORNL-site Rad NESHAP sampling systems is at 7880. The rotameter is inspected for foreign matter with each sample change out. If foreign material is present, the rotameter is replaced with a clean rotameter and the stack sampler is recalibrated.
22. **Check response of stack flow rate systems.** ANSI/HPS N13.1-1999, Table 5 – At least quarterly.	Velocity profiles are performed quarterly and flow rates are compared to a 4-quarter rolling average. For 7880, stack velocity monitoring systems are checked daily. The duct flow monitoring systems are tested quarterly.

References: American National Standards Institute (ANSI)/Health Physics Society (HPS) N13.1-1999 standard (ANSI/HPS N13.1-1999) "Sampling and Monitoring Releases of Airborne Radioactive Substances from the Stacks and Ducts of Nuclear Facilities" (Revised Title Number ANSI/HPS N13.1-2011)

Table A-3b (Continued)

Item Description/ Requirement	Response
23. **Calibration of flow meters of sampling systems.** ANSI/HPS N13.1-1999, Table 5 – At least annually.	Calibration of flow meters is performed quarterly except for stack 7830 which is done semi-annually because the sampling system is located in a Contamination Zone. For 7880, the sampling system flow measuring device is calibrated annually.
24. **Calibration of effluent flow measurement devices.** ANSI/HPS N13.1-1999, Table 5 – At least annually.	The only effluent flow measurement device on ORNL-site Rad NESHAP sampling systems is at 7880 which is calibrated annually. Velocity profile measurements are used to determine the flow rate of the effluent for all the other sampling systems.
25. **Calibration of timing devices.** ANSI/HPS N13.1-1999, Table 5 – At least annually.	There are no timing devices on any ORNL-site Rad NESHAP sampling systems.
26. **What is the sampling period?**	Samples are routinely collected over a one to two-week period. The sampling period may vary slightly throughout the year, especially around the holidays. The particulate filters are composited on a quarterly basis for isotopic analysis to achieve better detection limits. For 8915, the in-stack radiation detector that monitors radioactive gases flowing through the exhaust stack provides a continual readout of detected activity only during times when the high-energy proton beam is on.
27. **What is the collection media used?**	The radionuclide particulates are collected on a borosilicate glass filter with a retention efficiency of 99.985%; adsorbable gases (including radioiodine) are collected on activated charcoal; tritium is collected as tritiated water on indicating silica gel; and noble gases are measured using an on-line detector. For in-line monitoring, collection media are not applicable.
28. **List analytical methods used for the sample analysis.** 40 CFR 61.93 (b)(2)(iii) - Radionuclides shall be collected and measured using procedures based on the principles of measurement in appendix B, Method 114	The procedures used for sample analysis are A-1, A-4, A-5, B-3, B-4, B-5, and G-1 from EPA Method 114, Appendix B. For 8915, periodic measurements by means of the method prescribed in 40 CFR Part 61, Appendix B, Method 114 Method G-1 "High Resolution Gamma Spectrometry" are performed to demonstrate that the gross gamma measurements from Method G-4 provide reliable emission data. Periodic measurements to demonstrate the distribution of radionuclides and isotopic ratios are performed during major beam power increases, during significant alterations to the ventilation system; and at a minimum, annually during routine operations.

References: American National Standards Institute (ANSI)/Health Physics Society (HPS) N13.1-1999 standard (ANSI/HPS N13.1-1999) "Sampling and Monitoring Releases of Airborne Radioactive Substances from the Stacks and Ducts of Nuclear Facilities" (Revised Title Number ANSI/HPS N13.1-2011)

APPENDIX B

ANNUAL REPORTING FORMAT

U.S. Department of Energy
CY Air Emissions Annual Report
40 Code of Federal Regulations (CFR) part 61, subpart H

Facility Name: _____

Office Information

Office: _____

Address: _____

_____

Contact: _____ Phone: _____

Site Information

Site: _____

Operating Contractor: _____

Address: _____

_____

Contact: _____ Phone: _____

Site Information

Site: _____

Operating Contractor: _____

Address: _____

_____

Contact: _____ Phone: _____

Site Information

Site: _____

Operating Contractor: _____

Address: _____

_____

Contact: _____ Phone: _____

Section I. Facility Information

Site Description

Source Description

Section II Air Emissions Data

Point Source Type Control Efficiency
Distance to Receptor

Grouped Source Type Control Efficiency
Distance to Receptor

Radionuclide Annual Quantity (Ci)

Section III Dose Assessments

Description of Dose Model

Summary of Input Parameters

Compliance Assessment

Effective Dose:_____(mrem)

Certification

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment. (See 18 U.S.C. 1001).

Name:_____

Signature:_____ Date:_____

APPENDIX C

COMPLIANCE PLAN ADDENDA

ADDENDUM C.1 Monitoring for Fugitive and Diffuse Sources

Regulations pursuant to Title 40 Code of Federal Regulations (CFR) Part 61, Subpart H, require Department of Energy (DOE) facilities to identify and quantify emissions from radionuclide point sources. However, the regulations do not define requirements for reporting and estimating emissions from fugitive and diffuse sources. Further, documented and proven methods that can accurately and selectively estimate emissions from individual fugitive and diffuse sources are not available. A guidance letter from Winston A. Smith, Environmental Protection Agency (EPA) Region IV, to R. R. Nelson, DOE Oak Ridge Operations (ORO), on March 24, 1992[1], allowed the use of environmental measurements such as ambient air monitoring to confirm compliance for fugitive and diffuse sources as long as this methodology was "coordinated between DOE and EPA." In response to the March 24, 1992 letter and an EPA visit to the Oak Ridge Reservation (ORR) in April 1992, a plan was developed by DOE-ORO to confirm compliance for fugitive and diffuse sources by measuring atmospheric concentrations of radionuclides at critical receptor locations using a network of ambient air monitors around the ORR. This plan was submitted to EPA headquarters October 28, 1992[2] and was implemented January 1993. Effective Dose Equivalent (EDE) values calculated from the environmental measurements have been provided to EPA as supplementary information in the ORR Annual Radionuclide Air Emissions Report since 1992 consistent with the Memorandum of Understanding between DOE and EPA Headquarters[3, 4]. A description of the current ORR ambient air monitoring network and sampling and analysis procedures are given in the ORR Environmental Monitoring Plan (EMP)[5]. The ambient air monitoring network is reviewed on a regular basis and revisions are made as necessary to reflect physical or operational changes on the ORR. When appropriate, these reviews include air dispersion modeling to confirm that the locations of ambient air monitors as described in the ORR EMP adequately capture emissions from significant fugitive and diffuse sources currently in existence on the ORR. The ORR EMP is updated at a minimum once every three years or on an as needed basis and reflects program changes as they occur.

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[1]Letter, Winston A. Smith, Director Air, Pesticides and Toxics Management Division, EPA Region IV, to R. R. Nelson, DOE Oak Ridge Operations, "Fugitive Radionuclides Air Emissions From DOE Facilities," March 24, 1992.

[2]Letter, R.R. Nelson of DOE to Winston A. Smith of EPA, "Fugitive Radioactive Air Emissions from DOE Facilities," Attachment, "Environmental Monitoring Plan For Airborne Radioactivity from Fugitive and Diffuse Sources, Oak Ridge, Tennessee", Oct 28, 1992.

[3]Memorandum with Attachment, Peter J. Gross to DOE site Managers and Directors, June 20, 1995, Attachment: "Memorandum of Understanding (MOU) Between the U.S. Environmental Protection Agency and the U.S. Department of Energy Concerning the Clean Air Act Emission Standards for Radionuclides 40 CFR Part 61 Including Subparts H, I, Q & T", April 5, 1995.

[4]The April 5, 1995 MOU between EPA and DOE was in draft form in 1992, which included an agreement to include data on fugitive and diffuse emissions as supplementary information in the annual air emissions report.

[5]U.S. Department of Energy, Oak Ridge Operations Office, Office of Environmental Management, "Environmental Monitoring Plan for the Oak Ridge Reservation, DOE/OR-1066/R4", July 2001.

Ambient air monitoring results from the ORR show that radionuclide emissions from fugitive and diffuse sources, as an aggregate, do not produce off-site[4] atmospheric radionuclide concentrations that significantly contribute to reported radiation doses to the public. Historically, doses calculated using point source emissions and atmospheric dispersion models are often more than two times higher than those calculated using measured atmospheric radionuclide concentrations.

DOE-ORO uses ambient air monitoring to verify compliance with 40 CFR Part 61, Subpart H for fugitive and diffuse emission sources. EDE values calculated from environmental measurements are included in the ORR Annual Radionuclide Air Emissions Report, along with a site map of the locations of the ambient air monitors. Sampling and analytical procedures and quality assurance measures are consistent with the requirements of 40 CFR Part 61.93(b)(5) and are described in the ORR EMP.

[4]Federal Register Vol. 54, No. 240 (12/15/89) pg. 51665. "d. Definition of Facility. A problem in implementing the current standard is the ambiguity associated with the present definition of facility. To resolve this ambiguity, the new rule specifies that all the buildings, structures and operations within one contiguous site shall be considered a single facility. For example, the entire DOE facility at Oak Ridge, Tennessee must meet the current standard of 10 mrem/y EDE, instead of each individual building meeting the 10 mrem/y EDE standard."

ADDENDUM C.2 Monitoring for On-Site Receptors

The National Emission Standards for Emissions of Radionuclides Other Than Radon From Department of Energy (DOE) Facilities, 40 CFR Part 61, Subpart H, require that "emissions of radionuclides to the ambient air from Department of Energy facilities shall not exceed those amounts that would cause any member of the public to receive in any year an effective dose equivalent of 10 mrem/yr." A member of the public had been understood to be any *offsite* point [i.e., outside the Oak Ridge Reservation (ORR) boundary[1]] where there was a residence, school, business, or office. However, the management of DOE facilities has changed such that there are now non-DOE controlled activities within the ORR boundary or *on-site*. In a February 2001 Environmental Protection Agency (EPA) guidance letter[2,3], EPA further defined members of the public as any entity on DOE property, whose employees do not wear DOE access security badges, and where there are no DOE security controls such as a fence that is locked and an established checkpoint (badge reader or guard) through which the employees must enter. EPA stated that such employees or entities must be considered members of the public in the Subpart H dose assessment. Also, in this guidance letter, EPA allowed the use of environmental measurements from ambient air monitors in lieu of continuous stack monitoring as an alternative method to demonstrate compliance with 40 CFR Part 61, Subpart H, for those on-site members of the public or dose receptors.

Along these same lines, on May 2, 2001, EPA Region IV approved the use of ambient air monitors as an alternative method to demonstrate compliance with the Subpart H standard as opposed to continuous stack monitoring of minor sources that would become major sources as a result of the presence of temporary on-site receptors at ORNL[4, 5, 6].

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[1]Federal Register Vol. 54, No. 240 (12/15/89) pg. 51665: "d. Definition of Facility. A problem in implementing the current standard is the ambiguity associated with the present definition of facility. To resolve this ambiguity, the new rule specifies that all the buildings, structures and operations within one contiguous site shall be considered a single facility. For example, the entire DOE facility at Oak Ridge, Tennessee must meet the current standard of 10 mrem/y EDE, instead of each individual building meeting the 10 mrem/y EDE standard."

[2]Memorandum, Frank Marcinowski to Regional Radionuclide NESHAPs Coordinators, "Criteria to Determine Whether a Leased Facility at DOE is Subject to Subpart H," February 1, 2001.

[3]Letter, John Blevins (EPA IV) to Susan Cange (DOE-ORO), "Criteria to Determine Whether a Leased Facility at DOE is Subject to Subpart H", February 2, 2001.

[4]Letter, R. Douglas Neeley (EPA Region 4) to Joelle Key (TDEC), May 2, 2001.

[5]Letter, Joelle Key (TDEC) to Ed. Carreras, Chief (EPA Region 4), April 18, 2001.

[6]Letter, David L. Buhaly (DOE-ORO) to Joelle Key (TDEC), March 15, 2001, Attachment: "Request to Use an Alternative Method to Demonstrate Rad NESHAP Compliance in Support of Revitalization Activities at the U.S. Department of Energy Oak Ridge National Laboratory Facility".

DOE uses ambient air monitors at key on-site receptor locations based on the maximum modeled potential dose to demonstrate compliance with the Subpart H standard, as approved in the above referenced guidance documents. The ambient air monitors are used in lieu of continuous stack monitoring of minor sources that would become major sources as a result of the presence of on-site receptors. The on-site receptors are included in the ORR Subpart H dose assessment reported to EPA in the ORR Radionuclide Air Emissions Report.

For reporting the Effective Dose Equivalent (EDE) to the maximally exposed member of the public, air dispersion modeling from ORR radiological sources is performed for all receptors, *on-site* and *offsite*. The EDE for all business receptors, both *offsite* and *on-site*, is calculated using the same methodology as for the residential exposure scenario [i.e., assuming full occupancy (8,760 hours/year) and the Rural food source scenario in CAP-88], but then dividing the resulting dose in half. The resulting estimated business dose more accurately represents the time of exposure a single person would be exposed to airborne radionuclide emissions (4,380 hours/year), which is more than double the normal work year of 2,080 hours.

Measured ambient air monitoring concentrations are used to confirm that the dose to *on-site* members of the public is less than the 10 mrem/yr standard and demonstrates adequate protection to these members of the public from DOE radiological airborne emissions. If the measured dose from ambient air monitoring is higher than the calculated dose from air dispersion modeling of stack emissions, the measured dose will be reported as the dose to the maximally exposed member of the public. DOE will only perform continuous stack monitoring and apply for a Tennessee Air Pollution Control Regulation (TAPCR) permit to construct for minor sources that become major sources based on *offsite* receptors outside the ORR boundary.

EDE values calculated from the measured ambient air concentrations of radionuclides from each ambient air monitor located at key on-site receptors are reported in the appropriate calendar year ORR Annual Radionuclide Air Emissions Report along with a site map showing the locations of the ambient air monitors. Sampling and analytical procedures and quality assurance measures are consistent with the requirements of 40 CFR Part 61.93(b)(5) and are described in the ORR Environmental Monitoring Plan (EMP)[7].

[7]U.S. Department of Energy, Oak Ridge Operations Office, Office of Environmental Management, "Environmental Monitoring Plan for the Oak Ridge Reservation, DOE/OR-1066/R4", July 2001.

ADDENDUM C.3 ANSI/HPS N13.1-1999 Upgrade Policy

The final amendment to 40 Code of Federal Regulations (CFR) Part 61, Subpart H, promulgated September 9, 2002, requires the use of the American National Standards Institutes (ANSI)/Health Physics Society (HPS) N13.1-1999 standard[1] for "any newly constructed source and any source undergoing a modification that would result in an effective dose equivalent (EDE) to any member of the public greater than 1% of the standard." Emissions from existing point sources resulting in an EDE greater than 1% of the standard (i.e., an existing major source) can continue to be directly monitored following the guidance presented in ANSI N13.1-1969 "Guide to Sampling Airborne Radioactive Materials in Nuclear Facilities". In order to clarify when an existing source on the Oak Ridge Reservation undergoing a modification must be upgraded to meet the new design criteria of the ANSI/HPS N13.1-1999 standard, the following guidance will be followed:

1) Existing major sources that were modified under approval of the Tennessee Department of Environment and Conservation (TDEC) before the effective date of the Subpart H amendment (January 1, 2003) will still be "grandfathered" under the ANSI N13.1-1969 guidance, even though the radiological process or operations triggering the modifications begin after the effective date.

2) The determination as to whether or not to upgrade a radiological emission point source to the ANSI/HPS N13.1-1999 design criteria will be based on the EDE from **potential** emissions in accordance with 40 CFR 61.93(b)(4)(ii).

3) The changes to a facility must qualify as a modification under §61.15. Modifications or construction must occur on the source of emissions, not the sampling system.

4) Changes which meet the exemptions put forth in §61.15(d) will not ordinarily require a source sampling system to meet the ANSI/HPS N13.1-1999 design criteria. However, modifications to stacks, fans, emission control devices, and increases in production rate and hours of operation will be evaluated to determine if an increase in emissions results. If it is determined that an increase in emissions occurs, the increase will be further evaluated against the criteria in 5) and 6).

5) For existing major sources currently grandfathered under ANSI N13.1-1969,
   a) If the potential effective dose equivalent (PEDE) resulting from all emissions from a new or modified process exhausting through an existing major source is $\geq$ 0.1 mrem, then the existing major source sampling system must be upgraded to meet the new ANSI/HPS N13.1-1999 design criteria. Note that the emissions being evaluated are from the new or modified process, activity, or construction only.
   b) If the PEDE resulting from all emissions from a new or modified process exhausting through an existing major source is $<$ 0.1 mrem, then the existing major source sampling system is sufficient.

[1] "Sampling and Monitoring Releases of Airborne Radioactive Substances from the Stacks and Ducts of Nuclear Facilities," American National Standards Institutes (ANSI)/Health Physics Society (HPS) N13.1-1999.

6) For existing minor sources:
   a) If the total PEDE resulting from all emissions from a new or modified process and any existing radiological operations exhausting through an existing minor source is ≥ 0.1 mrem, then a new continuous emissions monitoring system must be installed in accordance with §61.93 (c-f) and must meet the new ANSI/HPS N13.1-1999 design criteria.
   b) If the total PEDE resulting from all emissions from a new or modified process and any existing radiological operations exhausting through an existing minor source is < 0.1 mrem, continuous monitoring of the source is not required.

7) Environmental Protection Agency (EPA)/TDEC Notification
   a) Determinations to notify TDEC for approval to construct or modify a source will be based on the EDE from **actual** emissions in accordance with 40 CFR 61.96.
   b) If the change is not considered a modification under §61.15, then no EPA/TDEC notification is required.
   c) If the change is a modification, but does not result in an increase in actual emissions causing an EDE of 0.1 mrem to an off-site receptor, then EPA and TDEC will be notified via the U.S. Department of Energy Air Emissions Annual Report for the Oak Ridge Reservation in June of the year following the applicable calendar year of operations.
      i) NOTE: Increase in emissions is a net 0.1 mrem increase for existing major sources grandfathered under ANSI N13.1-1969.
   d) If the change is a modification, and does result in an increase in actual emissions causing an EDE of 0.1 mrem or greater to an off-site receptor, then TDEC pre-construction notification & approval is required.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
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61 FORSYTH STREET
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APR 22 2013

Mr. Patrick N. Smith
Director Environmental and Quality Services Division
Department of Energy
Oak Ridge Office
P.O. Box 2001
Oak Ridge, Tennessee 37831

Dear Mr. Smith:

This is in response to your letter dated April 9, 2013, requesting that the U.S. Environmental Protection Agency approve your submitted Revision 1 of the Compliance Plan for the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Airborne Radionuclides on the Oak Ridge Reservation dated April 4, 2013. This revision supersedes Revision 0 of your compliance plan dated March 30, 2005. In your revision updates of operational contractual responsibilities, facility nomenclature changes and tables used to demonstrate compliance with the radionuclide NESHAP are included.

The EPA approves your revision to the Oak Ridge Reservation NESHAP Compliance Plan. Should you have any questions, please feel free to contact Lloyd Generette of my staff at (404) 562-9138 or Generette.Lloyd@epa.gov.

Sincerely,

Carol L. Kemker for

Beverly H. Banister
Director
Air, Pesticides and Toxics
Management Division

Enclosure

cc: Mr. Barry R. Stephens, TDEC, Div of Air Pollution

Ms. Debra G. Shultz, TDEC Div of Radiological Health

Mr. John A. Owsley, TDEC-DOE Oversight Division