



M# 7.603

**OFFICE OF RIVER PROTECTION**

P.O. Box 450, MSIN H6-60  
Richland, Washington 99352

**RECEIVED**

**APR 08 2013**

**APR -9 2013**

13-ECD-0017

Wa Dept of Health - Office  
of Radiation Protection

Mr. John Martell, Manager  
Radioactive Air Emissions Section  
Washington State Department of Health  
309 Bradley Blvd., Suite 201  
Richland, Washington 99352  
(Hanford Mailstop: B1-42)

Mr. Martell:

U.S. DEPARTMENT OF ENERGY (DOE), OFFICE OF RIVER PROTECTION (ORP)  
REVIEW AND APPROVAL OF MODIFICATION OF RADIOACTIVE AIR EMISSIONS  
NOTICE OF CONSTRUCTION (NOC) FOR EMISSION UNIT ID 93 FOR AY/AZ TANK  
FARM VENTILATION UPGRADES

Reference: WDOH letter from P. J. Martell to D. A. Brockman, ORP, "License to Operate  
Ventilation of the 241 AY/AZ Tank Farm (NOC 782; EU 93, 455, 476, & 486),"  
AIR 10-1101, dated November 4, 2010.

DOE ORP is requesting the Washington State Department of Health (WDOH) review and  
approve the attached Radioactive Air Emission NOC Modification Forms. These modification  
forms support the AY/AZ Tank Farm Ventilation Upgrades Project. Ventilation upgrades are  
needed in AY/AZ Tank Farm to implement safety significant requirements and to support future  
waste feed delivery activities.

The attached NOC modification forms serve multiple specific purposes which are:

- Propose facility upgrades to the existing ventilation system to allow replacement of the existing stack, addition of a new redundant Continuous Air Monitor and record sampling system, new redundant flow metering, tank pressure transmitters and seal pot level indicator, and replacement of the variable speed drives for ventilation fans;
- Propose installation of plugs in a diverter box to improve the control of individual tank ventilation flow rates;
- Propose the addition of a separate and independent portable skid mounted cooling unit that will primarily support future mixer pump operations due to heat generation to support waste feed delivery;
- Propose As Low As Reasonably Achievable Control Technologies that will be used to complete the ventilation upgrade construction work; and
- Close the approvals WDOH issued to DOE for construction and operation of a new ventilation system in AY/AZ tank farms. Since the existing system will be upgraded instead, these approvals are no longer applicable.

NOC 782, 819, 832

Eu 93, 486, 1380, 1331


Mr. John Martell  
13-ECD-0017

-2-

APR 08 2013

The NOC modification forms are prepared in accordance with Washington Administrative Code 246-247, Radiation Protection – Air Emissions to support the AY/AZ Tank Farm Ventilation Upgrades Project. The proposed changes, when approved by WDOH, will result in a modification to the Emission Unit ID 93 NOC (Reference) for construction upgrades and operation of the AY/AZ ventilation system (Attachment 1) and closure of the NOC ID 819 (Emission Units 1330 and 1331) and NOC ID 832 permits (Attachments 2 and 3).

If you have any questions, please contact Dennis W. Bowser, Environmental Compliance Division, (509) 373-2566.

  
Kevin W. Smith  
Manager

ECD:DWB

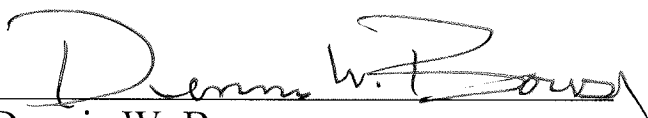
Attachments: (3)

cc w/attachs:

L. Bostic, BNI  
B. G. Erlandson, BNI  
J. A. Bates, CHPRC  
J. Cox, CTUIR  
S. Harris, CTUIR  
K. A. Conaway, Ecology  
P. M. Gent, Ecology  
D. Bartus, EPA (Region 10, Seattle)  
D. Zhen, EPA (Region 10, Seattle)  
R. H. Anderson, MSA  
T. G. Beam, MSA  
G. Bohnee, NPT  
K. Niles, Oregon Energy  
D. E. Jackson, RL  
J. W. Schmidt, WDOH  
R. M. Allen, WRPS  
L. L. Penn, WRPS  
B. P. Rumburg, WRPS  
R. Jim, YN  
Administrative Record  
BNI Correspondence  
Environmental Portal, LMSI  
WRPS Correspondence

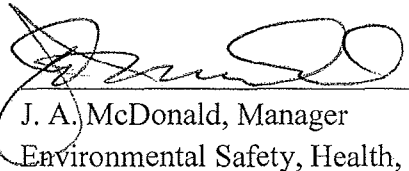
Attachment 1  
13-ECD-0017  
(4 Pages)

Request for Minor Modification Form,  
Hanford Site AOP Number 00-05-006, Renewal 1  
for AY/AZ Tank Farm Ventilation Upgrades

  
Dennis W. Bowser

CERTIFICATION FOR AY/AZ VENTILATION UPGRADES PROJECT FOR:  
REQUEST FOR WDOH MODIFICATION OF RADIOACTIVE AIR EMISSIONS NOTICE  
OF CONSTRUCTION FOR EMISSION UNIT ID 93

I certify under penalty of law that this document and all attachments that will be included in the *Notice of Construction Application: Changing an Existing Permit or Equipment*, for Emission Unit ID 93 were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

  
\_\_\_\_\_  
J. A. McDonald, Manager  
Environmental Safety, Health, and Quality  
Washington River Protection Solutions, LLC

3/26/13  
Date

## REQUEST FOR MINOR MODIFICATION

### Hanford Site AOP Number 00-05-006 Renewal 1

*(Attach the completed Notification of Permit Modification Request to the EPA/tribes/affected state Form)*

Minor modifications are allowed under WAC 173-401-725 for a change that meets the following criteria:

- Does not violate any applicable requirement;
- Does not involve significant changes to monitoring, reporting, or recordkeeping requirements in the permit; and
- Is not a Title I modification.

#### **Describe the proposed change:**

Since the submittal of 241-AY/AZ Tank Farm Ventilation System Upgrade Operational Permit for 241-SY/AP/AY/AZ Tank Farm Exhauster Upgrade Notice of Construction and approval (AIR 11-917) there has been a further analysis of the 241-AY/AZ ventilation system. The analysis determined an upgrade to the existing system can support future operations for the storage, retrieval, sampling, and transfers of waste to the Waste Treatment Plant. This change is being requested to modify the existing permit approval for Emission Unit ID 93 (AIR-10-1101). Closure forms will be submitted for NOC ID 819 and 832 (Emission Units 1330 and 1331) that were issued in November 2011 for a proposed new ventilation system. There are no changes being proposed for the AP and SY Tank Farm exhausters.

The upgrade of the current AY/AZ ventilation system involves the following proposed actions:

- Replacement of the existing, primary ventilation exhaust stack at AZ-702 with a new 55 foot stack with a 10 inch diameter that will house probes for a second (redundant) Continuous Air Monitor (CAM) and record sampler;
- Addition of a portable closed loop Independent Cooling Module (ICM) which includes a chilled condenser, water separator, and fan which will be used to provide additional cooling to the tanks during mixing or normal operations for use in waste feed delivery to WTP;
- Addition of a redundant flow metering system for primary tank ventilation in each of the four tank recirculation modules with supporting duct work modifications;
- Addition of a redundant seal pot level indicating system;
- Addition of new, redundant individual tank pressure transmitters;
- Replacement of the existing exhauster fan Variable Speed Drives and motors (no change in maximum flow rate);
- Installation of plugs in the Diverter Box AX-152 to improve the control of individual tank ventilation flow rates.

The existing stack will be replaced with a new stack of the same height and diameter, but with a redundant CAM and record sampler. The new stack will be assembled as much as possible before the old stack is taken down to minimize down time of the ventilation systems. Notification will be provided to WDOH prior to ventilation system down time for construction.

The ICM is a portable skid mounted unit that will be connected to two risers, one for inlet and one for return air. The system will be pressure tested before operation to ensure there is not pathway for tank headspace air to escape. The ICM connections and disconnections to the risers will be performed in accordance with As Low as Reasonably Achievable Control Technology (ALARACT) 1.1 "Tank Farm ALARACT Demonstration for Riser Preparation/Opening." The ICM will take warm tank headspace air and cool it and then return it to the tank along with condensate collected in the condenser. The ICM will be used primarily during mixer pump operations to remove heat generated from the mixer pumps, but the unit could be used at other times to lower the waste temperature by cooling the tank headspace air. The

ICM unit is not a part of the abatement system.

The redundant flow metering system and seal pot level indicator installation will be covered using ALARACT 16.1 "Tank Farm ALARACT Demonstration for Work on Potentially Contaminated Ventilation System Components."

- The new pressure transmitters will be installed in the risers and the work will be performed in accordance with ALARACT 1.1 "Tank Farm ALARACT Demonstration for Riser Preparation/Opening."
- The replacement of the potentially contaminated fan motors or other ventilation system components will be done in accordance with ALARACT 15.1 "Tank Farm ALARACT Demonstration for Size Reduction of Waste Equipment for Disposal" and ALARACT 4.1 "Tank Farm ALARACT Demonstration for Packaging and Transportation of Waste." The waste will be transported and disposed of according to Hanford site procedures and requirements.
- The pit work to seal the funnels between the tanks in Diverter Box AX-152 will be done according to ALARACT 6.1 "Tank Farm ALARACT Demonstration for Pit Access."

This NOC modification is submitted to request approval for changes to emission unit 93 to incorporate these changes to the existing exhauster system.

**Describe the emissions resulting from the proposed change:**

- The upgrade of the ventilation system will not result in any changes to the emissions from the existing system.
- Potential emissions from demolition of the existing stack and installation of the flow and pressure measuring instruments in the ductwork and tank risers.

**Describe the new applicable requirements that will apply as a result of the proposed change:**

- The installation of the redundant CAM and record sampler will result in an ANSI N13.1 qualification for the new sampling systems. Operation of the redundant CAM and record sampler will be subject to the operation, calibration, and inspection requirements of Condition 6, *Monitoring During Operations*.
- The installation of the ICM will result in pressure testing of the system before installation.
- The qualification of the new monitoring systems will require a technical basis document.

**Provide suggested AOP revisions to reflect the proposed change:**

*for example:*

- *Monitoring/PCM that will be used to support compliance determination/certification*
- *Description of air pollution control equipment (abatement technology)*
- *Other controls such as limits on inventory; process limits such as throughput, hours of operation, or acceptance criteria; or other assumptions used in potential to emit calculations*
- *Other process descriptions that constitute a term or condition, such as reporting or recordkeeping requirements.*

The new effluent monitor system shall meet the requirements of ANSI N13.1-1999. A written technical basis document for sampling required by Section 4 of ANSI N13.1-1999 shall be provided to WDOH.

**CERTIFICATION**

*Provide certification pursuant to WAC 173-401-725(2)(b)(iii)*

I certify that based on information and belief formed after reasonable inquiry of the person or persons who perform activities, or those persons directly responsible for gathering the information, the statements and information provided in this modification request are true, accurate, and complete. I also certify that the proposed modification meets the criteria for use of minor permit modification procedures, as hereby requested.

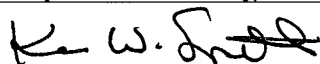
Responsible Official:

Kevin W. Smith

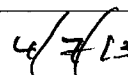
Title:

Manager, U.S. Department of Energy, Office of River Protection

Signature:

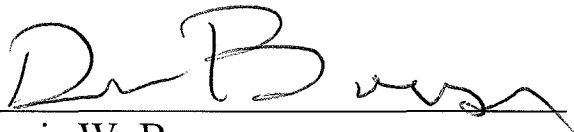


Date:



Attachment 2  
13-ECD-0017  
(2 Pages)

Report of Closure/Permit Revision Form  
For Report of Closure for Notice of Construction ID 819

A handwritten signature in black ink, appearing to read "D. W. Bowser", written over a horizontal line.

Dennis W. Bowser



## Report of Closure/Permit Revision

NOTE: Any increase to abated or unabated PTE requires a full NOC modification

### REASON FOR CHANGE

Submittal Date: Date provided by ORP

Submittal Type:  Other Submittal

**NOC Application Revision**

New NOC Rev Number: \_\_\_\_\_

**Condition Change/ Clarification**

WDOH Condition Number: \_\_\_\_\_

AOP Condition Number: \_\_\_\_\_

**ALARACT Revision**

New ALARACT Rev Number: \_\_\_\_\_

**REPORT OF CLOSURE \*\***

### PROJECT IDENTIFICATION

Project Title: Report of closure for Notice of Construction ID 819

Current NOC Application Number: AOP Permit 00-05-006/ License Number FF-01

AEI ID Number (AOP Emission Unit Number(s)): 1330 and 1331

Current WDOH Approval Letter Number(s): AOP Permit 00-05-006/ License Number FF-01

WDOH NOC ID Number: 819

### DESCRIPTION OF CHANGE

Number of Attachments None

**\*\* Report of Closure for Notice of Construction ID 819 (AIR 11-917)**

### Summary/Introduction

In accordance with *Washington Administrative Code* 246-247-080(6), this report of closure is being submitted to the State of Washington Department of Health (WDOH) to document cessation of radionuclide emitting activities.

The following information is provided in this document:

- Date of closure
- Remaining material
- Assessment of potential continued emissions
- Future plans
- Emissions control and monitoring

#### 1. Date of closure

This project initially planned for construction and installation of new primary exhausters for the 241-AY/AZ Tank Farm, but due to further analysis of the current system a new primary system is not necessary and an upgrade of the current system will meet the current and future needs. Since construction of the new exhausters will not occur approval for construction is not necessary and this emission unit is being closed. The closure date is the submittal date of this closure report.

2. Remaining material

Since this was planned construction and operation that will not occur there is no radioactive material present.

3. Assessment of potential continued emissions

There is no potential for any emissions because this activity will not occur.

4. Future plans

The future plans are to upgrade the existing ventilation system; a permit modification is being submitted.

5. Emissions control and monitoring

Control and monitoring during construction is not required since the construction will not occur and there is no potential to emit.

Based on this report of closure it is requested that NOC ID 819 of emission unit 1330 and 1331 be removed from the Hanford Site Air Operating Permit (AOP Permit 00-05-006/ License Number FF-01).

**SIGNATURES**

Reviewed by Contractor	Reviewed by RL/ORP	Approved by WDOH
Date:	Date:	Date:

**FOR WDOH USE ONLY**

Data Entry Completed By: \_\_\_\_\_ Date: \_\_\_\_\_

Attachment 3  
13-ECD-0017  
(2 Pages)

Report of Closure/Permit Revision Form  
For Report of Closure for Notice of Construction ID 832

  
Dennis W. Bowser

## Report of Closure/Permit Revision

NOTE: Any increase to abated or unabated PTE requires a full NOC modification

### REASON FOR CHANGE

Submittal Date: Date provided by ORP

Submittal Type:  Other Submittal

**NOC Application Revision**

New NOC Rev Number: \_\_\_\_\_

**Condition Change/ Clarification**

WDOH Condition Number: \_\_\_\_\_

AOP Condition Number: \_\_\_\_\_

**ALARACT Revision**

New ALARACT Rev Number: \_\_\_\_\_

**REPORT OF CLOSURE \*\***

### PROJECT IDENTIFICATION

Project Title: Report of closure for Notice of Construction ID 832

Current NOC Application Number: AOP Permit 00-05-006/ License Number FF-01

AEI ID Number (AOP Emission Unit Number(s): 486

Current WDOH Approval Letter Number(s): AOP Permit 00-05-006/ License Number FF-01

WDOH NOC ID Number: 832

### DESCRIPTION OF CHANGE

Number of Attachments None

**\*\* Report of Closure for Notice of Construction ID 832 (AIR 11-919)**

#### Summary/Introduction

In accordance with *Washington Administrative Code* 246-247-080(6), this report of closure is being submitted to the State of Washington Department of Health (WDOH) to document cessation of radionuclide emitting activities.

The following information is provided in this document:

- Date of closure
- Remaining material
- Assessment of potential continued emissions
- Future plans
- Emissions control and monitoring

#### 1. Date of closure

This project initially planned for construction and installation of new primary exhausters for the 241-AY/AZ Tank Farm. Further analysis of the current system indicated a new primary system is not necessary and an upgrade of the current system will meet the current and future needs. Since construction of the new exhausters will not occur, approval for construction is not necessary and this emission unit is being closed. The closure date is the submittal date of this closure report.

2. Remaining material

Since this was planned construction and operation that will not occur there is no radioactive material present.

3. Assessment of potential continued emissions

There is no potential for any emissions because this activity will not occur.

4. Future plans

The future plans are to upgrade the existing ventilation system; a permit modification is being submitted.

5. Emissions control and monitoring

Control and monitoring during construction is not required since the construction will not occur and there is no potential to emit.

Based on this report of closure it is requested that NOC ID 832 be removed from the Hanford Site Air Operating Permit (AOP Permit 00-05-006/ License Number FF-01).

**SIGNATURES**

Reviewed by Contractor	Reviewed by RL/ORP	Approved by WDOH
Date:	Date:	Date:

**FOR WDOH USE ONLY**

Data Entry Completed By: \_\_\_\_\_ Date: \_\_\_\_\_