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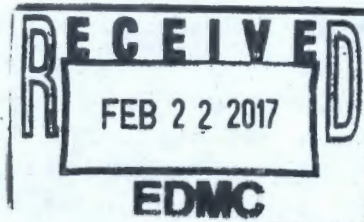
STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

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February 16, 2017

17-NWP-014

Mr. Kevin Smith, Manager  
Office of River Protection  
United States Department of Energy  
PO Box 450, MSIN: H6-60  
Richland, Washington 99354



Re: Inspection Close-out Letter for Air Operating Permit (AOP) Discharge Points Managed by Bechtel National Inc. (BNI): 1.4.43, 1.4.57, 1.4.58, 1.4.59, 1.4.60, 1.4.61, 1.4.62, and 1.4.63

Dear Mr. Smith:

As part of continuous compliance verification, the Department of Ecology (Ecology) conducts facility inspections of units subject to the Hanford Site AOP and Approval Orders. This letter is provided to communicate the results of an inspection that was performed on August 9, 2016 of BNI's discharge points 1.4.43, 1.4.57, 1.4.58, 1.4.59, 1.4.60, 1.4.61, 1.4.62, and 1.4.63 by Ecology. Compliance with applicable conditions of AOP 00-05-06 Renewal 2, Revision B, was the basis for the inspection. Records were reviewed for time period January 1, 2015 to August 9, 2016.

The results of the inspection and compliance status are provided below along with recommendations.

**1.4.43 WTP MHF South-40 Laydown Critical Equipment Storage**

- Ecology has determined that 1.4.43 WTP MHF South-40 Laydown Critical Equipment Storage was in intermittent compliance for 2015 and 2016. The engine was exempt from applicable requirements before August 6, 2015 as they were operated as "non-road" engines. See below for details of compliance determination.
  - The operations and maintenance (O&M) manual has daily requirements to check the engine fluid levels, check the air cleaner, check battery acid levels, check fan belt condition, check for leaks, check for loosening parts and to check fuel filter/water separator bowl. There are also requirements to: 1) clean the air filter and to clean the unit inside and out every 250 hours, 2) clean radiator every 500 hours, and 3) clean inside of fuel tank every 1,000 hours. The records provided indicate that these requirements were not being performed.
- Vendor certification for diesel fuel sulfur content was provided for all purchases.



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- It is recommended to develop a work maintenance schedule that meets the requirements provided in the O&M manual.

#### **1.4.57 WTP MHF South-40 Laydown Entry Gate**

- Ecology determined that the WTP MHF South-40 Laydown Entry Gate was in intermittent compliance for 2015 and 2016. See below for details of compliance determination.
  - The O&M manual has requirements to change the oil every 200 hours, change oil filter every 400 hours, and to inspect the air cleaner every year. However, the AOP has conflicting requirements to change the oil and oil filter and to inspect the air cleaner every 1,000 hours (or annually, whichever comes first). Since, the O&M manual has requirements that are more restrictive than those provided in the AOP, the O&M manual will be used as the basis for this inspection. The records indicate that the engine oil was not always changed out within the specified timeframes as is observed by the hour readings between respective oil changes.
- It is recommended to develop a work maintenance schedule that meets the requirements provided in the O&M manual.

#### **1.4.58 WTP MHF North-10 Laydown Area (1 of 2)**

- Ecology determined that the WTP MHF North-10 Laydown Area (1 of 2) was in continuous compliance for 2015 and 2016. See below for details of compliance determination.
  - Ecology is aware that the 1.4.58 engine was not in service during 2015 and 2016. During this timeframe BNI did not perform any routine maintenance. It is important to note, periods of non-operation do not exempt the engine from any applicable maintenance requirement (O&M manuals often have hour and time limitations for required maintenance) and could therefore be subject to violation accordingly. While Ecology understands that it is nonsensical to perform routine maintenance on an engine that will not be operated in the near future, Ecology must be notified and approve a deviation from any applicable maintenance requirement prior to any anticipated periods of non-operation. Ecology will consider any such deviation and may impose additional/alternative conditions.
- An Off-Permit change request was submitted to Ecology on August 8, 2015, requesting removal of WTP MHF North-10 Laydown Area (1 of 2) from the AOP. Ecology will remove the engine from the AOP upon next revision/renewal.

#### **1.4.59 WTP MHF North-10 Laydown Area (2 of 2)**

- Ecology determined that the WTP MHF North-10 Laydown Area (2 of 2) was in continuous compliance for 2015 and 2016. See below for details of compliance determination.
  - Ecology is aware that the 1.4.59 engine was not in service during 2015 and 2016. During this timeframe, BNI did not perform any maintenance. It is important to

note, periods of non-operation do not exempt the engine from any applicable maintenance requirement (O&M manuals often have hour and time limitations for required maintenance) and could therefore be subject to violation accordingly. While Ecology understands that it is nonsensical to perform routine maintenance on an engine that will not be operated in the near future, Ecology must be notified and approve a deviation from any applicable maintenance requirement prior to any anticipated periods of non-operation. Ecology will consider any such deviation and may impose additional/alternative conditions.

- An Off-Permit change request was submitted to Ecology on August 8, 2015, requesting removal of WTP MHF North-10 Laydown Area (1 of 2) from the AOP. Ecology will remove the engine from the AOP upon next revision/renewal.

#### **1.4.60 WTP MHF South-40 Laydown Yard East X-Ray Tent**

- Ecology determined that the WTP MHF South-40 Laydown Yard East X-Ray Tent was in continuous compliance for 2015 and 2016. See below for details of compliance determination.
  - The AOP has requirements to change the oil, change oil filter and to inspect the air cleaner every 1,000 hours of operation or annually and to inspect all hoses and belts every 500 hours of operation or annually. The AOP also has a requirement to operate and maintain the engine in accordance with manufacturer's recommendations or instructions. Since, the O&M manual has requirements that are more restrictive than those provided in the AOP, the O&M manual will be used as the basis for this inspection. The records indicate that the proper maintenance was performed according to the manufacturer's O&M requirements in 2015 and 2016.
- Ecology is aware that the 1.4.60 engine was used intermittently and also exchanged out with other engines during 2015 and 2016. It is important to note, periods of non-operation do not exempt the engine from any applicable maintenance requirement (O&M manuals often have hour and time limitations for required maintenance) and could therefore be subject to violation accordingly. While Ecology understands that it is nonsensical to perform routine maintenance on an engine that will not be operated in the near future. However, Ecology must be notified and approve a deviation from any applicable maintenance requirement prior to any anticipated periods of non-operation. Ecology will consider any such deviation and may impose additional/alternative conditions.

#### **1.4.61 WTP Construction Site Pretreatment Tower Crane**

- Ecology determined that the WTP Construction Site Pretreatment Tower Crane was in intermittent compliance for 2015 and 2016. See below for details of compliance determination.
  - Ecology was notified in letter 16-ECD-0044, dated September 22, 2016, that the permit required maintenance for the WTP Construction Site Tower Crane was not

completed in 2015. BNI concluded that the discrepancy was caused by a tracking database omission of Permit-required maintenance.

- The AOP has requirements to change the oil, change oil filter and to inspect the air cleaner every 1,000 hours of operation or annually and to inspect all hoses and belts every 500 hours of operation or annually. The AOP also has a requirement to operate and maintain the engine in accordance with manufacturer's recommendations or instructions. Since, the O&M manual has requirements that are more restrictive than those provided in the AOP, the O&M manual will be used as the basis for this inspection.
- The O&M manual has requirements to check the amount of coolant, check the amount of lubricating oil in the pump, and to check the lubricating oil pressure at the gauge every day or every eight hours (whichever comes first). The records indicate that these daily requirements were not being performed accordingly.
- The O&M manual has requirements to perform the following every six months or 200 hours of operation: clean the air cleaner or empty the dust bowl of the air filter, clean the compressor air filter, check the tension and the condition of the drive belt, and to check the water in the pre-filter. The records indicate that the above maintenance requirements were either not performed or were not performed within the specified timeframe.
- The O&M manual has requirements to perform the following every 400 hours or every year: clean or renew air filter element, check the concentration of the coolant, clean the sediment chamber and strainer of the fuel pump, renew the elements of the fuel filters, check the fuel injection pump for governor operation, renew the engine lubricating oil, and to renew the canister of the lubricating oil filter. The records indicate that the concentration of the coolant was not checked and the sediment chamber and strainer of the fuel lift pump were not cleaned accordingly. Included in the records are oil sample analysis results which BNI intends to utilize in order to extend the specified oil change requirements as listed in the AOP (which conflict with the requirements specified in the O&M manual). It appears the Total Base Number is not provided in the oil analysis as is required in CFR 63.6625 to compare the condemning limits of the Total Base Number.
- It is recommended to develop a maintenance schedule that that meets the requirements provided in the O&M manual and to include in the database tracking system.
- It is recommended to provide the minimum parameters required in CFR 63.6625 when performing oil analysis.
- An internal number system is used in the maintenance records which makes it difficult for Ecology to determine which discharge point pertains to respective records. It is recommended to label the maintenance records with the applicable discharge point or use the same nomenclature as is found in the AOP.

#### **1.4.62 WTP Construction Site High-Level Waste Tower Crane**

- Ecology determined that the WTP Construction Site High-Level Waste Tower Crane was in intermittent compliance for 2015 and 2016. See below for details of compliance determination.
  - Ecology was notified in letter 16-ECD-0044, dated September 22, 2016, that the permit required maintenance for the WTP Construction Site High-Level Waste Tower Crane was not completed in 2015. BNI concluded that the discrepancy was caused by a tracking database omission of Permit-required maintenance.
  - The AOP has requirements to change the oil, change oil filter and to inspect the air cleaner every 1,000 hours of operation or annually and to inspect all hoses and belts every 500 hours of operation or annually. The AOP also has a requirement to operate and maintain the engine in accordance with manufacturer's recommendations or instructions. Since, the O&M manual has requirements that are more restrictive than those provided in the AOP, the O&M manual will be used as the basis for this inspection.
  - The O&M manual has requirements to check the amount of coolant, check the amount of lubricating oil in the pump, and to check the lubricating oil pressure at the gauge every day or every eight hours (whichever comes first). The records indicate that these daily requirements were not being performed accordingly.
  - The O&M manual has requirements to perform the following every six months or 200 hours of operation: clean the air cleaner or empty the dust bowl of the air filter, clean the compressor air filter, check the tension and the condition of the drive belt, and to check the water in the pre-filter. The records indicate that the following were not being performed accordingly: clean the air cleaner or empty the dust bowl of the air filter, clean the compressor air filter, and check the water in the pre-filter.
  - The O&M manual has requirements to perform the following every 400 hours or every year: clean or renew air filter element, check the concentration of the coolant, clean the sediment chamber and strainer of the fuel pump, renew the elements of the fuel filters, check the fuel injection pump for governor operation, renew the engine lubricating oil, and to renew the canister of the lubricating oil filter. The records indicate that the concentration of the coolant was not checked and the sediment chamber and strainer of the fuel lift pump were not cleaned accordingly. Included in the records are oil sample analysis results which BNI intends to utilize in order to extend the specified oil change requirements as listed in the AOP (which conflict with the requirements specified in the O&M manual). It appears the Total Base Number is not provided in the oil analysis as is required in CFR 63.6625 to compare the condemning limits of the Total Base Number.
- It is recommended to develop a maintenance schedule that that meets the requirements provided in the O&M manual and to include in the database tracking system.
- It is recommended to provide the minimum parameters required in CFR 63.6625 when performing oil analysis.

- An internal number system is used in the maintenance records which makes it difficult for Ecology to determine which discharge point pertains to respective records. It is recommended to label the maintenance records with the applicable discharge point or use the same nomenclature as is found in the AOP.

#### **1.4.63 WTP Construction Site Building T-14**

- Ecology determined that the WTP Construction Site Building T-14 was in intermittent compliance for 2015 and 2016. See below for details of compliance determination.
  - The AOP has requirements to change the oil, change oil filter and to inspect the air cleaner every 1,000 hours of operation or annually and to inspect all hoses and belts every 500 hours of operation or annually. The AOP also has a requirement to operate and maintain the engine in accordance with manufacturer's recommendations or instructions. Since, the O&M manual has requirements that are more restrictive than those provided in the AOP, the O&M manual will be used as the basis for this inspection.
  - The O&M manual has requirements to perform a general set inspection, check engine oil level, check coolant level, and to check coolant heaters daily or every eight hours of operation. The records indicate that these daily requirements are not being performed accordingly. It appears the oil and coolant levels are being checked on a weekly basis.
  - The O&M manual has requirements to check the air cleaner, check all hardware, check battery electrolyte level, check generator air outlet, and to change the engine oil and filter every month or 100 hours of operation. The records indicate that these monthly requirements are not being performed accordingly.
  - The O&M manual has the requirement to check the radiator hoses for wear and cracks, check the drive belt, check the antifreeze concentration, check the AC generator and controls every six months or every 250 hours. The records indicate that these requirements were only performed one time (on July 14, 2016) in 2015 and 2016; whereas they should have been performed twice.
  - The O&M manual has requirements to clean the cooling system, inspect or replace oxygen sensor, and to test the catalytic converter restriction every year or 500 hours. The records indicate that these requirements were not being performed accordingly.
- It is recommended to develop a maintenance schedule that meets the requirements provided in the O&M manual.

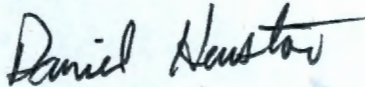
In some instances, the regulations allow for development of an alternative maintenance plan. If the permittee chooses to develop an alternative maintenance plan, Ecology will review applicability and determine if the plan is developed in a manner consistent with good air pollution control practices.

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Should you have any questions, please contact me at [daniel.heuston@ecy.wa.gov](mailto:daniel.heuston@ecy.wa.gov) or (509) 372-7895.

Sincerely,



Daniel Heuston, PE  
Environmental Engineer 3  
Nuclear Waste Program

dh/jvs

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**Administrative Record**  
NWP Central File