IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF ALASKA

UNITED STATES OF AMERICA, and STATE OF ALASKA, Plaintiffs, v. WESTWARD SEAFOODS, INC. Defendant.	No. 3:17-cv-00087-TMB CONSENT DECREE

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Plaintiffs United States of America, on behalf of the United States Environmental Protection Agency ("EPA"), and the State of Alaska ("State") have filed a complaint in this action under Section 113(b) of the Clean Air Act ("CAA"), 42 U.S.C. § 7413(b), concurrently with this Consent Decree, alleging that Defendant, Westward Seafoods, Inc. ("WSI"), violated Section 110 of the Clean Air Act, 42 U.S.C. § 7410, and applicable regulations; and violated the Title V operating permit provisions of the CAA, including Section 502 of the CAA, 42 U.S.C. § 7661a.

The Complaint against Defendant alleges that it violated the CAA at its seafood processing facility in Dutch Harbor, Alaska, known as the Captain's Bay Facility (as defined in Section III below) from August 2009 to September 2011. The Alaska Department of Environmental Conservation ("ADEC"), acting on behalf of the State, issued a construction permit to WSI under the Alaska State Implementation Plan ("SIP") and Title V operating permits to WSI under the Title V operating permit provisions of the CAA. Defendant allegedly violated provisions of the WSI construction and Title V Permits by failing to do the following: limit nitrogen oxide ("NO_X") emissions from its three Wartsila generators; operate each of the generators with water injection; perform maintenance on the generators and keep records of maintenance performed; operate the generators with a dedicated fuel and water flow meter and keep records of the usage; report resulting permit deviations to ADEC within thirty days; submit semi-annual

operating reports to ADEC; and certify to ADEC and EPA permit compliance annually.

The United States asserts that some of the alleged violations resolved in this Consent Decree also constitute violations of a consent decree entered on June 2, 2010 in the United States District Court for the District of Alaska, Case No. 3:10-cv-00073-JWS, between the United States on behalf of EPA and Defendant (the "Existing Decree"). The Existing Decree resolved alleged violations of the CAA and the Emergency Planning and Community Right-to-Know Act at the WSI Facility alleged in the complaint filed in that case and included injunctive relief provisions that required Defendant to develop and implement a preventative maintenance and operations plan and conduct employee training. Prior to the lodging of this Consent Decree, the United States and Defendant reached an agreement that established the United States' demand for, and Defendant's agreement to pay, $730,000 in stipulated penalties for Defendant's alleged violations of the Existing Decree relating to Defendant's failure to operate consistent with its preventative maintenance and operations plan. Hence, together with the $228,000 Defendant has agreed to pay to the State and the $342,000 Defendant has agreed to pay to the United States under this Consent Decree, Defendant's total penalty for the actions that give rise to the violations alleged in the Complaint and under this Consent Decree is $1,300,000.

Alyeska Seafoods, Inc. ("Alyeska"), which has common ownership with WSI and

has its facility located near the Captain's Bay Facility, has agreed to perform certain actions under this Consent Decree to reduce NO_X emissions at its facility ("Alyeska Facility") in order to mitigate excess NO_X emissions resulting from WSI's alleged CAA violations.

The Parties recognize, and the Court by entering this Consent Decree finds, that this Consent Decree has been negotiated by the Parties in good faith, will allow the Parties to avoid the risks and costs of litigation, and that this Consent Decree is fair, reasonable, and in the public interest.

NOW, THEREFORE, before the taking of any testimony, without the adjudication or admission of any issue of fact or law except as provided in Section I, and with the consent of the Parties, IT IS HEREBY ADJUDGED, ORDERED, AND DECREED as follows:

I. JURISDICTION AND VENUE

1. This Court has jurisdiction over the subject matter of this action, pursuant to 28 U.S.C. §§ 1331, 1345, and 1355, and Section 113(b) of the CAA, 42 U.S.C. § 7413(b), and over the Parties.

2. Venue lies in this District pursuant to 28 U.S.C. §§ 1391(b) and (c) and 1395(a) and 42 U.S.C. § 7413(b), because WSI and Alyeska reside, are located in, and/or conduct business in this judicial district. For purposes of this Consent Decree, or any

action to enforce this Consent Decree, Defendant and Alyeska consent to the Court's jurisdiction over this Consent Decree, any such action to enforce this Consent Decree, and over Defendant and Alyeska, respectively, and consent to venue in this judicial district.

3. For purposes of this Consent Decree, Defendant agrees that the Complaint states claims upon which relief may be granted pursuant to Sections 113(a), 113(b), and 502(a) of the CAA, 42 U.S.C. §§ 7413(a), 7413(b), and 7661a(a).

II. APPLICABILITY

4. The obligations of this Consent Decree apply to and are binding upon the United States and the State, and upon Defendant and, as provided in Section VII (Environmental Mitigation), Alyeska, and any successors, assigns, or other entities or persons otherwise bound by law.

5. No transfer of ownership or operation of the Captain's Bay Facility or the Alyeska Facility, whether in compliance with the procedures of this Paragraph or otherwise, shall relieve Defendant or Alyeska of their respective obligations to ensure that the terms of the Decree are implemented. At least 30 Days prior to such transfer, Defendant (or Alyeska, as applicable) shall provide a copy of this Consent Decree to the proposed transferee and shall simultaneously provide written notice of the prospective transfer, together with a copy of a proposed written agreement to be executed by the Defendant (or Alyeska, as applicable) and transferee confirming the latter's intention to

comply with the Consent Decree, to EPA Region 10, the United States Attorney for the District of Alaska, ADEC, and the United States Department of Justice, in accordance with Section XVII (Notices). Any attempt to transfer ownership or operation of the Captain's Bay Facility or the Alyeska Facility without complying with this Paragraph constitutes a violation of this Decree.

6. Defendant and Alyeska shall provide a copy of this Consent Decree to all officers, employees, and agents whose duties might reasonably include compliance with any provision of this Decree, as well as to any contractor retained to perform work required under this Consent Decree. Defendant and Alyeska shall condition any such contract upon performance of the work in conformity with the terms of this Consent Decree.

7. In any action to enforce this Consent Decree, neither Defendant nor Alyeska shall raise as a defense the failure by any of its officers, directors, employees, agents, or contractors to take any actions necessary to comply with the provisions of this Consent Decree.

III. DEFINITIONS

8. Terms used in this Consent Decree that are defined in the CAA or in regulations promulgated pursuant to the CAA shall have the meanings assigned to them in the CAA or such regulations, unless otherwise provided in this Consent Decree.

Whenever the terms set forth below are used in this Consent Decree, the following definitions shall apply:

a. "ADEC" shall mean the Alaska Department of Environmental Conservation and any of its successor departments or agencies;

b. "Alyeska" shall mean Alyeska Seafoods, Inc., an Alaska corporation that is wholly owned by MCII (in part directly by MCII and in part through a wholly owned subsidiary of MCII);

c. "Alyeska Facility" shall mean the seafood processing facility owned by Alyeska and located in Unalaska, Alaska, approximately two miles from the Captain's Bay Facility;

d. "Captain's Bay Facility" shall mean Defendant's seafood processing facility located in Dutch Harbor, Alaska;"

e. "Complaint" shall mean the complaint filed by the United States and the State in this action;

f. "Consent Decree" or "Decree" shall mean this Decree and all appendices attached hereto (listed in Section XXVI);

g. "Date of Lodging" shall mean the Day that this Consent Decree is first lodged with the Court for the public comment period required by Section XXII of this Consent Decree;

h. "Day" shall mean a calendar day unless expressly stated to be a business day. In computing any period of time under this Consent

Decree, where the last day would fall on a Saturday, Sunday, or federal holiday, the period shall run until the close of business of the next business day;

i. "Defendant" shall mean Westward Seafoods, Inc.;

j. "Effective Date" shall have the definition provided in Section XVIII.

k. "EPA" shall mean the United States Environmental Protection Agency and any of its successor departments or agencies;

l. "MCII" shall mean Maruha Capital Investment, Inc., a Washington corporation that is the 100% owner of WSI and, in part through a wholly owned subsidiary of MCII, of Alyeska;

m. "Paragraph" shall mean a portion of this Decree identified by an Arabic numeral;

n. "Parties" shall mean the United States, the State, Defendant, and Alyeska;

o. "Section" shall mean a portion of this Decree identified by a roman numeral;

p. "State" shall mean the State of Alaska, including ADEC;

q. "United States" shall mean the United States of America, acting on behalf of EPA;

r. "Wartsila Generators" shall mean the three Wartsila generators located in the Power House of the Captain's Bay Facility and

identified in the WSI CAA Permits as EUs 1-3.

s. "WSI" shall mean Westward Seafoods, Inc., the Defendant named in the Complaint, an Alaska corporation, and a wholly-owned subsidiary of MCII.

t. "WSI CAA Permits" shall mean: 1) the facility-specific requirements established in Construction Permit No. 433CP01, issued by ADEC to WSI on October 10, 2003, and its administrative revision, issued on February 13, 2004 (Permit No. AQ0433CPT01P); 2) Title V Air Quality Operating Permit No. AQ0433TVP02, issued by ADEC on September 20, 2010, which became effective on October 20, 2010; 3) Title V Air Quality Operating Permit No. AQ0433TVP03, issued by ADEC on August 8, 2016, which became effective on September 7, 2016; and 4) any amendments or modifications thereto or renewals thereof, regardless of whether such amendment, modification, or renewal has a different permit number.

IV. CIVIL PENALTY

9. Within 30 Days after the Effective Date, Defendant shall pay the sum of $570,000 as a civil penalty, together with interest accruing from the Date of Lodging, at the rate specified in 28 U.S.C. § 1961 as of the Date of Lodging. The portion of the penalty paid to the United States is to be paid according to Paragraph 10, and the portion of the penalty paid to the State is to be paid according to Paragraph 11.

10. To the United States, Defendant shall pay $ 342,000 via FedWire Electronic Funds Transfer ("EFT") to the U.S. Department of Justice account, in accordance with instructions provided to Defendant by the Financial Litigation Unit ("FLU") of the United States Attorney's Office for the District of Alaska after the Effective Date. The payment instructions provided by the FLU will include a Consolidated Debt Collection System ("CDCS") number, which Defendant shall use to identify all payments required to be made in accordance with this Consent Decree. The FLU will provide the payment instructions to:

Mark JoHahnson
Westward Seafoods, Inc.
2010 4th Avenue, Suite 1700
Seattle, WA 98121
johahnson@wsi.com
(206) 682-5949

Defendant may change the individual to receive payment instructions on its behalf by providing written notice of such change to the United States and EPA in accordance with Section XVII (Notices).

At the time of payment, Defendant shall send notice that payment has been made: (i) to EPA via email at cinwd_acctsreceivable@epa.gov or via regular mail at EPA Cincinnati Finance Office, 26 W. Martin Luther King Drive, Cincinnati, Ohio 45268; (ii) to the United States via email or regular mail in accordance with Section XVII; and (iii) to EPA in accordance with Section XVII. Such notice shall state that the payment is

for the civil penalty owed pursuant to the Consent Decree in *United States and Alaska v. Westward Seafoods, Inc.* and shall reference the civil action number, CDCS Number and DOJ case number 90-5-2-1-09168/1.

11. To the State of Alaska, Defendant shall pay $228,000 by delivering a cashier's check payable to "State of Alaska" to:

Accounting Staff
The ADEC Division of Air Quality
Administrative Support Section
555 Cordova Street
Anchorage, AK 99501

The payment shall be accompanied by a cover letter that includes the following information: State of Alaska Operating Permit and Enforcement Tracking Number: **CATS 2011-0971.**

12. Neither Defendant nor Alyeska shall deduct any penalties paid under this Decree pursuant to this Section or Section XI (Stipulated Penalties) in calculating its federal or State or local income tax.

V. COMPLIANCE REQUIREMENTS

13. Defendant shall comply with the WSI CAA Permits.

14. Preventative Maintenance and Operations ("PMO") Plan. Defendant shall operate the Wartsila Generators and all related control and monitoring equipment at the Captains Bay Facility consistent with the PMO Plan (attached as Appendix A) at all times,

including periods of startup, shutdown, and malfunction of the Wartsila Generators and all equipment mentioned in the PMO Plan.

a. Defendant shall review and, as appropriate, update the PMO Plan at least annually. EPA may require Defendant to revise its PMO Plan at any time if EPA determines that the PMO Plan does not address the elements identified in Paragraph 14.c below, achieve the goal identified in Paragraph 14.b below, or contain sufficient mechanisms to ensure the PMO Plan is being implemented. In such event, EPA shall provide Defendant with notice of the specific deficiencies, and Defendant shall respond within 30 Days with proposed changes and a schedule for implementing the changes. If EPA agrees with the proposed changes and schedule, Defendant shall implement the updated PMO Plan consistent with the approved changes and schedule.

b. The goal of the PMO Plan is ensuring that the equipment subject to the PMO Plan is operated, maintained, and inspected consistent with good air pollution control practices and procedures for maximizing air pollution control efficiency and minimizing emissions at all times, including periods of startup, shutdown, emergency, and malfunction, and establishing procedures for assuring continuous compliance with the emission limitations, work practice requirements, and other CAA requirements that apply to the equipment subject to the PMO Plan.

c. The PMO Plan shall include, but not be limited to:

(1) a list of all equipment subject to the PMO Plan;

(2) requirements for routine inspection of all such equipment;

(3) what to look for in connection with all such equipment during the inspections;

(4) a requirement to keep records of the time, date, and results of each such inspection, including any problems identified and corrective actions taken;

(5) specifications or elements of process or control equipment needing replacement after some set interval prior to breakdown or malfunction;

(6) identification of the types and number of spare parts that will be kept in stock at the Captain's Bay Facility;

(7) procedures for the timely identification and repair of equipment that has broken down or malfunctioned; and

(8) Standard Operating Procedures ("SOPs") that contain clear instructions, applicability, and roles covering the following:

(a) the normal startup, normal operation, normal shutdown, long-term shutdown, malfunction, and emergency shutdown operational phases of the Wartsila Generators;

(b) The operational limits on the Wartsila Generators;

(c) Operation of the Supervisory Control and Data Acquisition ("SCADA") system referred to in Paragraph 15 below;

(d) The recordkeeping requirements for the Wartsila Generators;

(e) The reporting requirements for the Wartsila Generators;

(f) Amending or revising the WSI CAA Permits prior to any changes to the Wartsila Generators that trigger the requirements to amend or revise the WSI CAA Permits; and

(g) Periodic supervisor review of compliance with the procedures established pursuant to Paragraph 14.c.8(a)-(g);

d. Defendant shall maintain the current and all previous versions of the PMO Plan and SOPs on the Electronic Portal described in Paragraph 52.

15. Wartsila Generator NO_X Monitoring. Defendant shall install (or will have installed), operate, and maintain a SCADA system to automatically collect data relevant to air pollution emissions from each of the Wartsila Generators at the Captain's Bay Facility power house.

16. The SCADA system shall operate, with respect to each Wartsila Generator, at all times that the subject Wartsila Generator is operating, except for periods of

monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities (including, as applicable, system calibration checks).

a. A monitoring system malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring system failures that are caused in part by poor maintenance or careless operation are not malfunctions.

b. Defendant shall complete monitoring system repairs in response to a monitoring system malfunction and return the monitoring system to operation as expeditiously as practicable.

17. At a minimum, when in operation, the SCADA system shall collect and record data on the following parameters no less frequently than once every five minutes:

a. Wartsila Generator fuel usage per unit;

b. Wartsila Generator hours of operation per unit;

c. Wartsila Generator electric generator kilowatt hours ("KWH") production per unit; and

d. Wartsila Generator total water usage of the Combustion Air Saturation System ("CASS") system per unit.

18. All meters used in the collection of data for the SCADA system shall be calibrated by a third party on a schedule recommended by the meter manufacturer(s).

19. Defendant shall install (or will have installed), operate, and maintain the SCADA system in accordance with the Site-Specific Monitoring Plan in Appendix B to the Consent Decree.

20. Defendant shall upload the current data collected by the SCADA system for the Wartsila Generators to the Electronic Portal described in Paragraph 52 by the end of the month following the month in which the data was collected and in accordance with Section X (Reporting Requirements) of this Consent Decree. Defendant shall maintain all data collected by the SCADA system for the Wartsila Generators on the Electronic Portal for the life of this Consent Decree and as required by Section XIV (Information Collection and Retention).

21. Defendant shall also manually monitor and record the following parameters from each Wartsila Generator at six hour intervals when such Wartsila Generator is in operation: fuel usage; hours of operation; KWH production; total water usage from CASS.

22. At least once per month for each Wartsila Generator and, in any month in which such Wartsila Generator is in operation, Defendant shall compare the results of the manual monitoring with the results of the SCADA system.

a. If the comparison shows a difference of more than 5% for any parameter, Defendant shall investigate the cause of the discrepancy; take corrective action to address the discrepancy as expeditiously as practicable; take a follow-up manual reading after completion of the

corrective action; and again perform a comparison. This process shall be completed until the discrepancy no longer exists.

b. Defendant shall keep records of the date and time of each such discrepancy and the corrective action taken.

23. Portable Gas Analyzer. Defendant shall monitor and record NO_X emissions (in parts per million) from the exhaust of each Wartsila Generator according to the schedule set forth in Paragraph 23.a below when such generator is operating and beginning within six hours of startup of the generator unless the startup monitoring and recording has already been completed for that generator within the past week. When adverse weather conditions would make the monitoring required weekly or within six hours of startup unsafe for Defendant's staff, the required monitoring may be postponed, provided that Defendant records the time, date, and a description of the adverse weather conditions in its monitoring records and conducts the required monitoring as soon as it becomes safe for its staff to do so. Emissions shall be monitored and recorded with a Testo 350 portable hand-held emission analyzer (or an equivalent portable hand-held emission analyzer) (the "Portable Gas Analyzer") to measure concentrations of NO_X, and to derive a NOx emission rate. Defendant shall calculate Wartsila Generator NO_X emission rates (pounds per hour or lb/hr) using the Best Fit Regression Line Equation for each engine as described in Appendix D (Engine Emissions Calculation Method) to the Consent Decree.

a. For the first six months after the Effective Date of this Consent Decree, monitoring shall be conducted at a minimum frequency of once per week for each operating Wartsila Generator. Provided that each monitoring result for the subject Wartsila Generator does not exceed 37 lb/hr NO_X during that six-month period, the monitoring frequency for the subject generator may be reduced to a minimum of once per month. However, if at any time after the monitoring frequency has been reduced as provided above a monitoring result exceeds 37 lb/hr NO_X, for the subject Wartsila Generator, then the monitoring frequency for the subject generator shall revert to a minimum of once per week until such time that consecutive monitoring results for a subsequent six-month period for the subject generator do not exceed 37 lb/hr NO_X. At such time, the monitoring frequency for the subject Wartsila Generator may be reduced in accordance with the preceding sentences in Paragraph 23.a.

b. Defendant shall follow the procedures described in "Conditional Test Method 34" ("CTM-034") when using the Portable Gas Analyzer. An electronic copy of CTM-034, the "Draft Method for the Determination of O_2, CO, & (NO and NO_2) for Periodic Monitoring" is available at the EPA Technology Transfer Network, Emission Measurement Center: http://www3.epa.gov/ttn/emc/ctm.html.

c. Defendant shall calibrate, operate, and maintain the Portable Gas Analyzer in accordance with the Site-Specific Monitoring Plan in Appendix B to the Consent Decree.

d. NO_X emissions monitoring for each Wartsila Generator shall be performed while the generator is operating.

e. Concurrently with the NO_X emissions monitoring, Defendant shall monitor and record the date and time of the monitoring and record the SCADA operating parameters for that Wartsila Generator.

f. For each Wartsila Generator monitoring event, Defendant shall use 40 C.F.R. Part 60, Appendix A-7, Method 19 methodology, fuel oil specific heat, and SCADA fuel consumption records to convert the measured NO_X emission concentration into an emission rate (lb/hr) expressed as NO_2.

24. Employee Training. Within 90 Days of the Date of Lodging of this Consent Decree, WSI shall develop and begin implementation of an annual training program for all employees i) operating or having responsibility for operation of the Wartsila Generators and all related control equipment at the Captain's Bay Facility; ii) ordering, managing, or sampling for sulfur content of the fuel supplied to this equipment; iii) ordering, managing, or sampling the water treatment system and CASS system for the Wartsila Generators; and iv) ordering, managing, or sampling with the Portable Gas Analyzer.

a. The training shall include, but not be limited to: training in the procedures included in the PMO Plan (including the SOPs); quality assurance/quality control and other procedures to ensure that all fuel delivered and blended into storage at the Captain's Bay Facility is in compliance with sulfur limits established in the WSI CAA Permits or

otherwise applicable to the Captain's Bay Facility; that water is treated to meet tolerances of the CASS system; that the CASS system is maintained and repaired consistent with the vendor procedures; that WSI CAA Permits monitoring, recordkeeping, and reporting obligations are carried out; and that the portable hand-held analyzer unit is maintained, calibrated, and repaired consistent with the Site-Specific Monitoring Plan in Appendix B to the Consent Decree.

b. All subject employees shall complete such training within 180 Days of the Effective Date of this Consent Decree. In the event that off-site technical schooling is a requirement of such training, the act of scheduling the classes must be performed within 90 Days of the Effective Date of this Consent Decree and the classes must be completed in accordance with the school's schedule.

c. Comparable training shall also be provided to any persons who subsequently fall within the terms of this Paragraph 24, and it shall occur prior to their assumption of this duty. New employees will be overseen by qualified persons and shall not fully assume their duties until the required training is completed.

d. Defendant shall ascertain that each employee that has received the required training has understood the training.

e. Defendant shall keep a contemporaneous record containing the identity of the employee that has received training, the date of the training, and means used to verify that the employee understood the training.

f. Defendant shall review and, as appropriate, update its training at least annually.

g. Defendant shall maintain the current and all previous versions of its employee training program on the Electronic Portal described in Paragraph 52.

VI. THIRD PARTY VERIFICATION

25. In accordance with the procedure in Paragraph 26, Defendant shall hire a Third Party Verifier ("TPV") to perform the duties in Paragraph 27. Defendant's contract with the TPV shall require the TPV to perform all of the duties in Paragraph 27, to provide TPV reports as described in Paragraph 30 ("TPV Reports"), and to be fully available to consult with EPA and the State upon reasonable notice. Defendant shall bear all costs associated with the TPV, cooperate fully with the TPV, and provide the TPV with access upon reasonable notice to all records, employees, contractors, and equipment that the TPV deems reasonably appropriate to effectively perform the duties described in Paragraphs 27 and 30.

26. Hiring Process. Within 30 Days of the Effective Date of this Consent Decree, Defendant shall submit to EPA and the State a list of three or more proposed consultants to serve as the TPV along with their qualifications.

a. Each proposed consultant must have the following qualifications:

(1) Shall not be a present employee or contractor of Defendant, or a

present employee of any contractor of Defendant;

(2) Must not have been involved in the development of the SOPs;

(3) Must not have previously performed work for Defendant or for any of Defendant's officers, although consultants who previously bid on projects but did not receive work from Defendant may participate;

(4) Its employees must not work as an employee or contractor for Defendant or any of Defendant's officers for two years after the Termination of the Consent Decree;

(5) Must not have any direct financial stake in the Defendant's operation, management, or recordkeeping practices;

(6) Must have significant (no less than three years) relevant experience. Relevant experience would include but not be limited to: familiarity with operation and maintenance of diesel-fired reciprocating internal combustion engines; maintenance of engine emission controls; understanding of federal and state air quality rules and permits; evaluating compliance with federal and state air quality rules and permits; preparing annual compliance certification reports required under the Title V air permit program; conducting environmental management system audits; and familiarity with air pollution control devices and practices used at the Captain's Bay Facility; and

(7) The designated project manager for the consultant must have at

least a bachelor's degree in environmental engineering or a related field.

b. Within 30 Days of receiving the list of proposed consultants, EPA shall approve or disapprove each listed consultant after consulting with the State. Within 30 Days after receipt of EPA's approval, Defendant shall select one contractor from those contractors approved by EPA and shall enter into the contract described in Paragraph 27.

27. Duties of the Third Party Verifier. Defendant's contract with the TPV shall provide that the TPV shall perform the following duties:

a. Once per calendar year, inspect the Captain's Bay Facility and the Alyeska Facility. Inspections at the Captains Bay Facility shall be for the purpose of observing Defendant's practices in order to assess whether Defendant's practices conform to the requirements of the WSI CAA Permits and the terms of this Consent Decree. Inspections at the Alyeska Facility shall be for the purpose of assessing whether Alyeska's practices conform to the requirements of Section VII (Environmental Mitigation) of this Consent Decree. The TPV shall provide EPA and the State with advance information about the scheduling of this inspection so that EPA and the State may also participate. As part of the facility inspection, the TPV may further audit Defendant's and Alyeska's records, including but not limited to the documents referred to in Paragraph 27.b below, to, in the case of Defendant, assess whether such records are complete, accurate, and

in conformity with the requirements of the WSI CAA Permits and the terms of this Consent Decree, and in the case of Alyeska, to assess whether such records are complete, accurate, and in conformity with the requirements of Section VII (Environmental Mitigation) of this Consent Decree.

b. Twice per calendar year, conduct an unannounced and unscheduled audit of the documents located on the Portal (as that term is defined in Paragraph 52) to assess whether Defendant's and Alyeska's records are complete, accurate, and in conformity with their respective requirements under this Consent Decree, and, in the case of Defendant, in conformity with its requirements under the WSI CAA Permits. The documents subject to review include, but are not limited to, the following documents and any modifications thereto:

(1) Defendant's documents, records, and other materials which demonstrate the degree to which the Captain's Bay Facility is following the PMO, including the SOPs;

(2) Documents, records, and other materials relating to the extent to which the Defendant is performing Wartsila Generator NO_X monitoring;

(3) Documents, records, and other materials relating to potential discrepancies between the SCADA and manual monitoring systems;

(4) Documents, records, and other materials relating to whether

Defendant is providing the employee training;

(5) Documents, records, and other materials relating to the extent to which the Defendant and Alyeska are performing the environmental mitigation required by Section VII; and

(6) All reports submitted by Defendant pursuant to Section X.

c. During the pendency of this Consent Decree, make available to the TPV any and all information necessary for the TPV to complete his or her duties under Paragraphs 27 and 30.

d. Submit TPV Reports to Defendant, EPA, and the State in accordance with Paragraph 30.

28. Communication with the Third Party Verifier. Once the TPV and Defendant schedule announced inspections, no communication shall occur between the TPV and Defendant or the TPV and Alyeska without EPA and the State being simultaneously copied on the communication (except such communications that occur on-site while the inspections are being conducted). Accordingly, all such communication must be by email or letter so that EPA and the State may be copied.

29. Replacement Procedure. If EPA determines that the TPV is unable or unwilling to satisfactorily perform or complete the duties described in Paragraph 27, or for other good cause, Defendant shall select a replacement TPV in accordance with the selection procedures in Paragraph 26 of this Consent Decree. If Defendant and EPA do

not agree on the need to select a replacement TPV, either Defendant or EPA may invoke the dispute resolution procedures in Section XIII of the Consent Decree.

30. Annual TPV Reports. The TPV shall provide regular TPV Reports to Defendant, EPA, and the State in accordance with the requirements of this Paragraph. An identical TPV Report shall be provided by the TPV to EPA, the State, and Defendant at the same time. The first TPV Report shall be due within one year of the Effective Date, with subsequent reports due each following year until Termination of the Consent Decree pursuant to Section XXI. Each TPV Report shall include, for the preceding year, the following information:

a. The TPV's identification, based on inspections, audits, and document reviews, of:

(1) Any deviations by Defendant at the Captain's Bay Facility from any provision of the WSI CAA Permits during the reporting period, along with a description of each deviation, the reasons for the deviation, and the start and end date of the deviation;

(2) Any deviations by Defendant at the Captain's Bay Facility or by Defendant or Alyeska at the Alyeska Facility from the requirements of this Decree that occurred or remained unresolved at any time during the reporting period, along with a description of each deviation, the reasons for the deviation, and the start and end date of the deviation;

(3) Any ways in which the PMO Plan, in its current version and any prior versions in force during the preceding calendar year, do not address the requirements of Paragraph 14.c.

(4) Any instances in which the provisions of the PMO Plan, including the SOPs, are not being followed by Defendant's employees or contractors;

(5) Any processes at the Captain's Bay Facility that implicate or may implicate compliance with the WSI CAA Permits, but for which there is no SOP in the PMO plan;

(6) Any ways in which the SOPs in the PMO plan are not sufficient to ensure compliance with the WSI CAA Permit requirements;

(7) Any ways in which Defendant's employee training, in its current version and any prior versions in force during the preceding calendar year, do not address the requirements of Paragraph 24; and

(8) Any ways in which Defendant has failed to implement corrective actions designed to address prior audit findings.

b. A summary of all actions taken by Defendant or Alyeska during the reporting period or planned by Defendant or Alyeska at the time of the TPV Report to correct deviations from the requirements of this Consent Decree or the WSI CAA Permits.

31. Each report submitted by the TPV pursuant to Paragraph 30 shall be submitted with the following signed written statement:

> I certify that this submission was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. I further certify that, based on my reasonable inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete.

32. Follow-Up Corrective Measures. Within 120 Days after receiving the TPV Report, Defendant shall submit a Response and Action Plan to EPA and the State for approval.

a. The Response and Action Plan shall include the following information regarding corrective actions to resolve each deviation or deficiency identified by the TPV:

(1) For deviations or deficiencies already resolved at the time of submission of the Response and Action Plan, the probable cause of the deviation or deficiency, a summary of the corrective actions or preventative measures taken, and the date such actions and measures were taken; and

(2) For all other deviations or deficiencies, the result of any root-cause analysis, specific corrective actions and preventative measures to be taken, responsibility assignments, and an implementation schedule for the identified actions and measures.

b. Defendant shall implement the Response and Action Plan upon submission.

33. None of the Parties shall be bound by the recommendations or conclusions of the TPV. However, if Defendant or Alyeska violates any requirement of this Consent Decree, such Party shall be liable for stipulated penalties to the United States and the State, pursuant to Section XI, regardless of the recommendations or conclusions of the TPV.

VII. ENVIRONMENTAL MITIGATION

34. Defendant and Alyeska have agreed to implement two environmental mitigation projects, a lighting replacement project at the Captain's Bay and Alyeska Facilities ("Lighting Replacement Project") and a tie-in to the City of Unalaska electrical grid at the Alyeska Facility ("Electrical Tie-In Project"), each as described in Appendix C of this Consent Decree. Defendant and Alyeska shall implement the environmental mitigation in accordance with the requirements and schedules set forth in Appendix C of this Consent Decree. In implementing the environmental mitigation, Defendant and Alyeska shall spend no less than $767,000 for the Lighting Replacement Project and

$370,680 for the Electrical Tie-In Project, which amounts do not include Defendant's and Alyeska's own personnel costs in overseeing the implementation of the environmental mitigation or, for the Electrical Tie-In Project, the cost of purchasing electricity from the City of Unalaska. These amounts may include expenditures made after March 28, 2016, but prior to lodging of this Consent Decree.

35. Alyeska hereby agrees to be subject to and bound by all obligations under this Section VII of the Consent Decree and Appendix C for the environmental mitigation projects that relate to the Alyeska Facility (collectively, the "Alyeska Mitigation"), and all other provisions of the Consent Decree relating to the Alyeska Mitigation as if Alyeska were the Defendant. This includes, without limitation: 1) payment of stipulated penalties for violation of Consent Decree requirements relating to the Alyeska Mitigation (Section XI); 2) Third Party Verification relating to the Alyeska Mitigation (Section VI); 3) Dispute Resolution relating to the Alyeska Mitigation (Section XIII); and 4) Information Collection and Retention relating to the Alyeska Mitigation (Section XIV). Any specific reference to Alyeska or the Alyeska Facility in any particular Paragraph of this Consent Decree shall not be construed to mean that another Paragraph of the Consent Decree without such reference was or is not intended to apply to Alyeska or the Alyeska Facility if necessary to carry out the intent of this Paragraph.

36. Defendant and Alyeska are jointly and severally liable for all obligations under this Consent Decree relating to the Alyeska Mitigation. Alyeska is not liable for any other obligations under this Consent Decree that do not relate to the Alyeska Mitigation.

37. Paragraph 35 above shall not relieve WSI of its obligations under this Consent Decree to ensure that the Alyeska Mitigation is fully implemented. Without limiting the foregoing statement, WSI shall be subject to stipulated penalties under Section XI of this Consent Decree for any violations of this Consent Decree relating to the Alyeska Mitigation.

38. Defendant and Alyeska shall maintain, and present to EPA and the State upon request, all documents that substantiate the money expended and work completed to implement the environmental mitigation set forth in Appendix C of this Consent Decree, and shall provide these documents to EPA and the State within 30 Days of a request for the documents.

39. Defendant and Alyeska each hereby certify to the truth and accuracy of each of the following:

a. Neither Defendant nor Alyeska are required to perform this environmental mitigation by any federal, state, or local law or regulation or by any agreement, grant, or as injunctive relief awarded in any other action in any forum;

b. Neither Defendant nor Alyeska would have implemented either mitigation project other than to address the violations that EPA identified in its March 30, 2015 Notice of Violation; and

c. Neither Defendant nor Alyeska have received or will receive credit (including for any emission reduction obligations) for this environmental mitigation in any other enforcement action or to satisfy any obligations that it may have under other applicable requirements of law.

40. Within 60 Days following the completion of each environmental mitigation project set forth in Appendix C of this Consent Decree, Defendant shall submit to Plaintiffs a report meeting the requirements of Appendix C of the Consent Decree.

41. In connection with any communication to the public or to shareholders regarding Defendant's or Alyeska's actions or expenditures relating in any way to the environmental mitigation in this Consent Decree, Defendant and Alyeska, as appropriate, shall include prominently in the communication the information that the actions and expenditures were required as part of a negotiated consent decree to resolve the United States' and the State's claims that WSI violated the Clean Air Act.

VIII. APPROVAL OF DELIVERABLES

42. After review of any plan, report, or other item that is required to be submitted pursuant to this Consent Decree, EPA, after consultation with the State, shall in writing: (a) approve the submission; (b) approve the submission upon specified

conditions; (c) approve part of the submission and disapprove the remainder; or (d) disapprove the submission.

43. If the submission is approved pursuant to Paragraph 42, Defendant and, to the extent related to the Alyeska Mitigation, Alyeska shall take all actions required by the plan, report, or other document, in accordance with the schedules and requirements of the plan, report, or other document, as approved. If the submission is conditionally approved or approved only in part pursuant to Paragraph 42.b or 42.c, Defendant and, to the extent related to the Alyeska Mitigation, Alyeska shall, upon written direction from EPA after consultation with the State, take all actions required by the approved plan, report, or other item that EPA, after consultation with the State, determines are technically severable from any disapproved portions, subject to Defendant's and, if applicable, Alyeska's right to dispute only the specified conditions or the disapproved portions under Section XIII (Dispute Resolution).

44. If the submission is disapproved in whole or in part pursuant to Paragraph 42.cc or 42.d, Defendant and, to the extent related to the Alyeska Mitigation, Alyeska shall, within 45 Days or such other time as the Parties agree to in writing, correct all deficiencies and resubmit the plan, report, or other item, or disapproved portion thereof, for approval, in accordance with the preceding Paragraphs. If the resubmission is

approved in whole or in part, Defendant and, to the extent related to the Alyeska Mitigation, Alyeska shall proceed in accordance with the preceding Paragraph.

45. Any stipulated penalties applicable to the original submission, as provided in Section XI, shall accrue during the 45-day period or other specified period, but shall not be payable unless the resubmission is untimely or is disapproved in whole or in part; provided that, if the original submission was so deficient as to constitute a material breach of Defendant's and, if applicable, Alyeska's obligations under this Decree, the stipulated penalties applicable to the original submission shall be due and payable notwithstanding any subsequent resubmission.

46. EPA and the State do not, by review of the PMO Plan or any other document submitted under the Consent Decree and/or by failure to comment on the PMO Plan or any other document submitted under the Consent Decree, warrant or allege in any manner that any of the actions that Defendant or Alyeska may take pursuant to such documents will result in compliance with the provisions of the CAA or any other applicable federal, state, or local law or regulation. Notwithstanding review by EPA and the State of the PMO Plan and any such documents, Defendant and Alyeska shall remain solely responsible for compliance with the CAA and such other laws and regulations.

IX. PERMITS

47. Within 30 Days of the Effective Date of this Consent Decree, Defendant shall file with ADEC administratively complete permit applications to incorporate into its Title V operating permit the provisions of Appendix B (Site-Specific Monitoring Plan) and Appendix D (Engine Emissions Calculation Method) of this Consent Decree, that assure compliance with applicable requirements of its Title V operating permit.

48. Following submission of the complete permit applications described in Paragraph 47, Defendant shall cooperate with ADEC and EPA by promptly submitting to the applicable agency all available information that ADEC or EPA seek following its receipt of these permit applications.

49. The incorporation of the identified requirements of this Consent Decree into Defendant's Title V permit shall be in accordance with state Title V rules, including applicable administrative amendment provisions of such rules.

50. Using the procedures set forth in Section XVII (Notices), Defendant shall provide EPA with a copy of each application for a federally enforceable permit required to implement the requirements of this Consent Decree that is filed after the Effective Date, as well as a copy of any permit proposed as a result of such application, to allow for timely participation in any public comment opportunity.

51. Where any compliance obligation under this Section requires Defendant to obtain a federal, state, or local permit or approval, Defendant shall submit timely and complete applications and take all other actions necessary to obtain all such permits or approvals. Defendant may seek relief under the provisions of Section XII (Force Majeure) for any delay in the performance of any such obligation resulting from a failure to obtain, or a delay in obtaining, any permit or approval required to fulfill such obligation, if Defendant has submitted timely and complete applications and has taken all other actions necessary to obtain all such permits or approvals.

X. REPORTING REQUIREMENTS

52. Electronic Portal. Within 60 Days of the Effective Date, WSI shall provide the United States and the State access to an electronic portal ("Portal") to assist in monitoring compliance with this Decree. All documents, certifications, plans, reports, updates, notices, procedures, monitoring data, or other information ("Materials") that are required pursuant to this Decree shall be made available to the United States and the State via a secure, web-based Portal. The Portal shall: be easily navigable, include links to all Materials in electronic format, allow users to save and print Materials, be clearly organized and indexed according to the Sections and Paragraphs of this Decree, and be accessible 24 hours per day. All Materials shall remain available through the Portal until termination of this Decree in accordance with Section XXI (Termination). Defendant may

assert that information made available via the Portal is protected as Confidential Business Information ("CBI") as set out in Paragraph 90 below.

53. Defendant shall submit the following reports:

a. By December 31, 2016, March 31, 2017, June 30, 2017, September 30, 2017, and December 31, 2017, and semiannually on June 30 and December 31 in all years thereafter until termination of this Decree pursuant to Section XXI, Defendant shall submit a report for the preceding quarter or semiannual period that shall include:

(1) The NO_X emissions monitoring results for each Wartsila Generator each day during the reporting period that the monitoring was performed, along with the operating load of the engine at the time;

(2) An estimate of the NO_X emissions in lb/hr from each Wartsila Generator for the period corresponding to each period in Paragraph 53.a.1, using the operating load of the engine and CASS water injection rates from the SCADA system in Appendix B (Site-Specific Monitoring Plan) and the Best Fit Regression Line Equation for each engine in Appendix D (Engine Emissions Calculation Method) to the Consent Decree to calculate NO_X emissions once daily;

(3) Identification of each day during the reporting period that the estimated or actual NO_X emissions of a Wartsila Generator exceeded 38 lb/hr, along with the estimated and, if available,

the actual NO_X emissions during such period;

(4) For each Wartsila Generator, the highest, lowest, and average NO_X emission rate in lb/hr during the reporting period using the calculation method in Appendix D (Engine Emissions Calculation Method);

(5) The dates and times of any discrepancies identified pursuant to Paragraph 53.b, and the corrective actions taken to address such deficiencies;

(6) The status of any CAA permit applications;

(7) If WSI made any amendments or updates in the preceding quarter, a current copy of the PMO Plan;

(8) A description of any changes to the PMO Plan and employee training; and

(9) A discussion of Defendant's progress in satisfying its obligations under this Consent Decree including, at a minimum, a narrative description of activities undertaken to meet the milestones stated in Appendix C (Environmental Mitigation), the status of the completion of any milestones, and a summary of costs incurred since the previous report.

b. Each report shall also include a description of any non-compliance with the requirements of this Consent Decree or the WSI CAA Permits and an explanation of the likely cause of the violation and of the remedial steps taken, or to be taken, to prevent or minimize such

violation. If the cause of a violation cannot be fully explained at the time the report is due, Defendant shall so state in the report. Defendant shall investigate the cause of the violation and shall then submit an amendment to the report, including a full explanation of the cause of the violation, within 30 Days of the Day Defendant becomes aware of the cause of the violation. Nothing in this Paragraph or the following Paragraph relieves Defendant of its obligation to provide the notice required by Section XII (Force Majeure).

54. Whenever any violation of this Consent Decree or of the WSI CAA Permits or any other event affecting Defendant's performance under this Decree, or the performance of the Captain's Bay Facility may pose an immediate threat to the public health or welfare or the environment, Defendant shall notify EPA and the State orally or by electronic or facsimile transmission as soon as possible, but no later than 24 hours after Defendant first knew of the violation or event. This procedure is in addition to the requirements set forth in the preceding Paragraph.

55. Defendant shall submit all reports to the persons designated in Section XVII (Notices) and promptly post them on the Portal.

56. Each report submitted by Defendant under this Consent Decree shall be signed by an official of the submitting party and include the following certification:

I certify under penalty of law that this document and all attachments 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 submitted is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than 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.

57. This certification requirement does not apply to emergency or similar notifications where compliance would be impractical.

58. The reporting requirements of this Consent Decree do not relieve Defendant of any reporting obligations required by the CAA or implementing regulations, or by any other federal, state, or local law, regulation, permit, or other requirement.

59. Any information provided pursuant to this Consent Decree may be used by the United States and the State in any proceeding to enforce the provisions of this Consent Decree and as otherwise permitted by law.

XI. STIPULATED PENALTIES

60. Defendant shall be liable for stipulated penalties to the United States and the State for violations of this Consent Decree as specified below, unless excused under

Section XII (Force Majeure). A violation includes failing to perform any obligation required by the terms of this Decree, including any work plan or schedule approved under this Decree, according to all applicable requirements of this Decree and within the specified time schedules established by or approved under this Decree.

61. In accordance with Paragraph 36 of the Consent Decree, Alyeska is jointly and severally liable for all Stipulated Penalties incurred relating to the Alyeska Mitigation.

62. Late Payment of Civil Penalty. If Defendant fails to pay the civil penalty required to be paid under Section IV (Civil Penalty) when due, Defendant shall pay a stipulated penalty of $1,500 per Day for each Day that the payment is late for the first ten Days, together with Interest. Thereafter, Defendant shall pay $3,000 per Day for each Day that the payment is late, with interest.

63. Compliance Milestones. The following stipulated penalties shall accrue per violation per Day for each violation of the requirements of Section V (Compliance Requirements), Section VI (Third Party Verification), Section VII (Environmental Mitigation), Section IX (Permits), and Paragraph 52 (Electronic Portal):

Penalty Per Violation Per day	Period of Noncompliance
$1000	1st through 14th day
$2000	15th through 30th day
$5000	31st day and beyond

64. Reporting Requirements. The following stipulated penalties shall accrue per violation per Day for each violation of the reporting requirements of Section X:

Penalty Per Violation Per day	Period of Noncompliance
$500	1st through 14th day
$2000	15th through 30th day
$3000	31st day and beyond

65. Stipulated penalties under this Section shall begin to accrue on the Day after performance is due or on the Day a violation occurs, whichever is applicable, and shall continue to accrue until performance is satisfactorily completed or until the violation ceases. Stipulated penalties shall accrue simultaneously for separate violations of this Consent Decree.

66. Defendant shall pay stipulated penalties to the United States and the State within 30 Days of a written demand by either Plaintiff. Defendant shall pay 60 percent of the total stipulated penalty amount due to the United States and 40 percent to the State. The Plaintiff making a demand for payment of a stipulated penalty shall simultaneously send a copy of the demand to the other Plaintiff.

67. Either Plaintiff may in the unreviewable exercise of its discretion, reduce or waive stipulated penalties otherwise due it under this Consent Decree.

68. Stipulated penalties shall continue to accrue as provided in Paragraph 65, during any Dispute Resolution, but need not be paid until the following:

a. If the dispute is resolved by agreement or by a decision of EPA or the State that is not appealed to the Court, Defendant shall pay accrued penalties determined to be owing, together with interest, to the United States or the State within 30 Days of the effective date of the agreement or the receipt of EPA's or the State's decision or order.

b. If the dispute is appealed to the Court and the United States or the State prevails in whole or in part, Defendant shall pay all accrued penalties determined by the Court to be owing, together with interest, within 60 Days of receiving the Court's decision or order, except as provided in subparagraph c, below.

c. If any Party appeals the District Court's decision, Defendant shall pay all accrued penalties determined to be owing, together with interest, within 15 Days of receiving the final appellate court decision.

69. Defendant shall pay stipulated penalties owing to the United States in the manner set forth and with the confirmation notices required by Paragraph 10, except that the transmittal letter shall state that the payment is for stipulated penalties and shall state for which violation(s) the penalties are being paid. Defendant shall pay stipulated

penalties owing to the State in the manner set forth and with confirmation notices required by Paragraph 11, except that the transmittal letter shall state that the payment is for stipulated penalties and shall reference the demand letter date and state for which violation(s) the penalties are being paid.

70. If Defendant fails to pay stipulated penalties according to the terms of this Consent Decree, Defendant shall be liable for interest on such penalties, as provided for in 28 U.S.C. § 1961, accruing as of the date payment became due. Nothing in this Paragraph shall be construed to limit the United States or the State from seeking any remedy otherwise provided by law for Defendant's failure to pay any stipulated penalties.

71. The payment of penalties and interest, if any, shall not alter in any way Defendant's obligation to complete the performance of the requirements of this Consent Decree.

72. Non-Exclusivity of Remedy. Stipulated penalties are not the United States' or the State's exclusive remedy for violations of this Consent Decree. Subject to the provisions of Section XV (Effect of Settlement/Reservation of Rights), the United States and the State expressly reserve the right to seek any other relief they deem appropriate for Defendant's violation of this Decree or applicable law, including but not limited to an action against Defendant for statutory penalties, additional injunctive relief, mitigation or offset measures, and/or contempt. However, the amount of any statutory penalty assessed

for a violation of this Consent Decree shall be reduced by an amount equal to the amount of any stipulated penalty assessed and paid pursuant to this Consent Decree.

XII. FORCE MAJEURE

73. "Force majeure," for purposes of this Consent Decree, is defined as any event arising from causes beyond the control of Defendant, of any entity controlled by Defendant, or of Defendant's contractors, that delays or prevents the performance of any obligation under this Consent Decree despite Defendant's best efforts to fulfill the obligation. The requirement that Defendant exercise "best efforts to fulfill the obligation" includes using best efforts to anticipate any potential force majeure event and best efforts to address the effects of any potential force majeure event (a) as it is occurring and (b) following the potential force majeure, such that the delay and any adverse effects of the delay are minimized. "Force Majeure" does not include Defendant's financial inability to perform any obligation under this Consent Decree.

74. If any event occurs or has occurred that may delay the performance of any obligation under this Consent Decree, whether or not caused by a force majeure event, Defendant shall provide notice orally or by electronic or facsimile transmission to EPA and the State, within 72 hours of when Defendant first knew that the event might cause a delay. Within seven days thereafter, Defendant shall provide in writing to EPA and the State an explanation and description of the reasons for the delay; the anticipated duration

of the delay; all actions taken or to be taken to prevent or minimize the delay; a schedule for implementation of any measures to be taken to prevent or mitigate the delay or the effect of the delay; Defendant's rationale for attributing such delay to a force majeure event if it intends to assert such a claim; and a statement as to whether, in the opinion of Defendant, such event may cause or contribute to an endangerment to public health, welfare, or the environment. Defendant shall include with any notice all available documentation supporting the claim that the delay was attributable to a force majeure. Failure to comply with the above requirements shall preclude Defendant from asserting any claim of force majeure for that event for the period of time of such failure to comply, and for any additional delay caused by such failure. Defendant shall be deemed to know of any circumstance of which Defendant, any entity controlled by Defendant, or Defendant's contractors knew or should have known.

75. If EPA, after a reasonable opportunity for review and comment by the State, agrees that the delay or anticipated delay is attributable to a force majeure event, the time for performance of the obligations under this Consent Decree that are affected by the force majeure event will be extended by EPA, after a reasonable opportunity for review and comment by the State, for such time as is necessary to complete those obligations. An extension of the time for performance of the obligations affected by the force majeure event shall not, of itself, extend the time for performance of any other obligation. EPA

will notify Defendant in writing of the length of the extension, if any, for performance of the obligations affected by the force majeure event.

76. If EPA, after a reasonable opportunity for review and comment by the State, does not agree that the delay or anticipated delay has been or will be caused by a force majeure event, EPA will notify Defendant in writing of its decision.

77. If Defendant elects to invoke the dispute resolution procedures set forth in Section XIII (Dispute Resolution), it shall do so no later than 15 days after receipt of EPA's notice. In any such proceeding, Defendant shall have the burden of demonstrating by a preponderance of the evidence that the delay or anticipated delay has been or will be caused by a force majeure event, that the duration of the delay or the extension sought was or will be warranted under the circumstances, that best efforts were exercised to avoid and mitigate the effects of the delay, and that Defendant complied with the requirements of Paragraphs 73 and 74. If Defendant carries this burden, the delay at issue shall be deemed not to be a violation by Defendant of the affected obligation of this Consent Decree identified to EPA and the Court.

XIII. DISPUTE RESOLUTION

78. Unless otherwise expressly provided for in this Consent Decree, the dispute resolution procedures of this Section shall be the exclusive mechanism to resolve disputes arising under or with respect to this Consent Decree. Defendant's failure to seek

resolution of a dispute under this Section shall preclude Defendant from raising any such issue as a defense to an action by the United States to enforce any obligation of Defendant arising under this Decree.

79. Informal Dispute Resolution. Any dispute subject to Dispute Resolution under this Consent Decree shall first be the subject of informal negotiations. The dispute shall be considered to have arisen when Defendant sends the United States a written Notice of Dispute. Such Notice of Dispute shall state clearly the matter in dispute. The period of informal negotiations shall not exceed 20 Days from the date the dispute arises, unless that period is modified by written agreement. If the Parties cannot resolve a dispute by informal negotiations, then the position advanced by the United States shall be considered binding unless, within 20 Days after the conclusion of the informal negotiation period, Defendant invokes formal dispute resolution procedures as set forth below.

80. Formal Dispute Resolution. Defendant shall invoke formal dispute resolution procedures, within the time period provided in the preceding Paragraph, by serving on the United States and the State a written Statement of Position regarding the matter in dispute. The Statement of Position shall include, but need not be limited to, any factual data, analysis, or opinion supporting Defendant's position and any supporting documentation relied upon by Defendant.

81. The United States shall serve its Statement of Position within 45 Days of receipt of Defendant's Statement of Position. The United States' Statement of Position shall include, but need not be limited to, any factual data, analysis, or opinion supporting that position and any supporting documentation relied upon by the United States. The United States' Statement of Position shall be binding on Defendant, unless Defendant files a motion for judicial review of the dispute in accordance with the following Paragraph.

82. Defendant may seek judicial review of the dispute by filing with the Court and serving on the United States, in accordance with Section XVII (Notices), a motion requesting judicial resolution of the dispute. The motion must be filed within ten Days of receipt of the United States' Statement of Position pursuant to the preceding Paragraph. The motion shall contain a written statement of Defendant's position on the matter in dispute, including any supporting factual data, analysis, opinion, or documentation, and shall set forth the relief requested and any schedule within which the dispute must be resolved for orderly implementation of the Consent Decree.

83. The United States shall respond to Defendant's motion within the time period allowed by the Local Rules of this Court. Defendant may file a reply memorandum, to the extent permitted by the Local Rules.

84. Standard of Review

a. Disputes Concerning Matters Accorded Record Review. Except as otherwise provided in this Consent Decree, in any dispute brought under Paragraph 80 pertaining to the adequacy or appropriateness of plans; procedures to implement plans, schedules, or any other items requiring approval by EPA or the State under this Consent Decree; the adequacy of the performance of work undertaken pursuant to this Consent Decree; and all other disputes that are accorded review on the administrative record under applicable principles of administrative law, Defendant shall have the burden of demonstrating, based on the administrative record, that the position of the United States and/or the State is arbitrary and capricious or otherwise not in accordance with law.

b. Other Disputes. Except as otherwise provided in this Consent Decree, in any other dispute brought under Paragraph 80, Defendant shall bear the burden of demonstrating that its position complies with this Consent Decree and the CAA and better furthers the objectives of the Consent Decree and the CAA.

85. The invocation of dispute resolution procedures under this Section shall not, by itself, extend, postpone, or affect in any way any obligation of Defendant under this Consent Decree, unless and until final resolution of the dispute so provides. Stipulated penalties with respect to the disputed matter shall continue to accrue from the first Day of noncompliance, but payment shall be stayed pending resolution of the dispute as provided

in Paragraph 68. If Defendant does not prevail on the disputed issue, stipulated penalties shall be assessed and paid as provided in Section XI (Stipulated Penalties).

XIV. INFORMATION COLLECTION AND RETENTION

86. The United States, the State, and their representatives, including attorneys, contractors, and consultants, shall have the right of entry into the Captain's Bay Facility or the Alyeska Facility, at all reasonable times, upon presentation of credentials, to:

a. monitor the progress of activities required under this Consent Decree;

b. verify any data or information submitted to the United States or the State in accordance with the terms of this Consent Decree;

c. obtain samples and, upon request, splits of any samples taken by Defendant or its representatives, contractors, or consultants;

d. obtain documentary evidence, including photographs and similar data; and

e. assess compliance with this Consent Decree.

87. Upon request, Defendant shall provide EPA and the State or their authorized representatives splits of any samples taken by Defendant. Upon request, EPA and the State shall provide Defendant, as appropriate, splits of any samples taken by EPA or the State.

88. Until five years after the termination of this Consent Decree, Defendant and Alyeska shall retain, and shall instruct their respective contractors and agents to preserve,

all non-identical copies of all documents, records, or other information (including documents, records, or other information in electronic form) in their or their contractors' or agents' possession or control, or that come into its or its contractors' or agents' possession or control, and that relate in any manner to Defendant's or Alyeska's performance of their obligations under this Consent Decree. This information-retention requirement shall apply regardless of any contrary corporate or institutional policies or procedures. At any time during this information-retention period, upon request by the United States or the State, Defendant and Alyeska shall provide copies of any documents, records, or other information required to be maintained under this Paragraph.

89. At the conclusion of the information-retention period provided in the preceding Paragraph, Defendant and Alyeska shall notify the United States and the State at least 90 Days prior to the destruction of any documents, records, or other information subject to the requirements of the preceding Paragraph and, upon request by the United States or the State, Defendant and Alyeska shall deliver any such documents, records, or other information to EPA or the State. Defendant and Alyeska may assert that certain documents, records, or other information is privileged under the attorney-client privilege or any other privilege recognized by federal law. If Defendant or Alyeska asserts such a privilege, it shall provide the following: (a) the title of the document, record, or information; (b) the date of the document, record, or information; (c) the name and title of

each author of the document, record, or information; (d) the name and title of each addressee and recipient; (e) a description of the subject of the document, record, or information; and (f) the privilege asserted by Defendant or Alyeska. However, no documents, records, or other information created or generated pursuant to the requirements of this Consent Decree shall be withheld on grounds of privilege.

90. Defendant and Alyeska may also assert that information required to be provided under this Section is protected as CBI under 40 C.F.R. Part 2. As to any information that Defendant or Alyeska seeks to protect as CBI, Defendant and Alyeska shall follow the procedures set forth in 40 C.F.R. Part 2.

91. This Consent Decree in no way limits or affects any right of entry and inspection, or any right to obtain information, held by the United States or the State pursuant to applicable federal or state laws, regulations, or permits, nor does it limit or affect any duty or obligation of Defendant and Alyeska to maintain documents, records, or other information imposed by applicable federal or state laws, regulations, or permits.

XV. EFFECT OF SETTLEMENT/RESERVATION OF RIGHTS

92. This Consent Decree resolves the civil claims of the United States and the State for the violations alleged in the Complaint filed in this action through the Date of Lodging.

93. The United States and the State reserve all legal and equitable remedies available to enforce the provisions of this Consent Decree, except as expressly stated in Paragraph 92. This Consent Decree shall not be construed to limit the rights of the United States or the State to obtain penalties or injunctive relief under the CAA or implementing regulations, or under other federal or state laws, regulations, or permit conditions. The United States and the State further reserve all legal and equitable remedies to address any imminent and substantial endangerment to the public health or welfare or the environment arising at, or posed by, the Captain's Bay Facility or the Alyeska Facility, whether related to the violations addressed in this Consent Decree or otherwise.

94. In any subsequent administrative or judicial proceeding initiated by the United States or the State for injunctive relief, civil penalties, other appropriate relief relating to either Facility or Defendant's violations, neither Defendant nor Alyeska shall assert or maintain any defense or claim based upon the principles of waiver, res judicata, collateral estoppel, issue preclusion, claim preclusion, claim-splitting, or other defenses based upon any contention that the claims raised by the United States or the State in the subsequent proceeding were or should have been brought in the instant case, except with respect to claims that have been specifically resolved pursuant to Paragraph 92.

95. This Consent Decree is not a permit, or a modification of any permit, under any federal, State, or local laws or regulations. Defendant is responsible for achieving and

maintaining complete compliance with all applicable federal, State, and local laws, regulations, and permits; and Defendant's compliance with this Consent Decree shall be no defense to any action commenced pursuant to any such laws, regulations, or permits, except as set forth herein. The United States and the State do not, by their consent to the entry of this Consent Decree, warrant or aver in any manner that Defendant's compliance with any aspect of this Consent Decree will result in compliance with provisions of the CAA, or with any other provisions of federal, State, or local laws, regulations, or permits.

96. This Consent Decree does not limit or affect the rights of Defendant or of the United States or the State against any third parties, not party to this Consent Decree, nor does it limit the rights of third parties, not party to this Consent Decree, against Defendant, except as otherwise provided by law.

97. This Consent Decree shall not be construed to create rights in, or grant any cause of action to, any third party not party to this Consent Decree.

XVI. COSTS

98. The Parties shall bear their own costs of this action, including attorneys' fees, except that the United States and the State shall be entitled to collect the costs (including attorneys' fees) incurred in any action necessary to collect any portion of the civil penalty or any stipulated penalties due but not paid by Defendant or Alyeska.

99. Defendant shall pay ADEC under AS 46.03.760 for all of the administrative fees, legal fees, costs, and expenses incurred by the State of Alaska, including those of ADEC and the Alaska Department of Law ("ADOL"), in connection with the detection, investigation, attempted correction, and enforcement of the violations alleged above for the Captain's Bay facility, including the preparation and implementation of this Consent Decree, and any future review by ADEC or ADOL of any proposed amendments, reports, notices, or submissions made pursuant to the provisions of this Consent Decree. The provisions of Section XIII (Dispute Resolution) shall not apply to any administrative fees, costs, and expenses due under this Paragraph. Nothing in this Consent Decree diminishes Defendant's right to appeal or request fee review under 18 AAC 15.190.

XVII. NOTICES

100. Unless otherwise specified in this Decree, whenever notifications, submissions, or communications are required by this Consent Decree, they shall be made in writing and sent to the following persons by all means indicated below. Where a notification, submission, or communication is required to be given to the "United States" it shall be addressed to both the United States and EPA as set forth below. Where a notification, submission, or communication is required to be given to "EPA" it need only be addressed to "EPA" as set forth below.

As to the United States by email: eescdcopy.enrd@usdoj.gov
Re: DJ # 90-5-2-1-09168/1

As to the United States by mail: EES Case Management Unit
Environment and Natural Resources Division
U.S. Department of Justice
P.O. Box 7611
Washington, D.C. 20044-7611
Re: DJ # 90-5-2-1-09168/1

As to EPA: Director, Office of Compliance and Enforcement
EPA Region 10, MS-OCE-101
1200 Sixth Avenue, Suite 900
Seattle, WA 98101

As to the State: (Department) Alaska Department of Environmental Conservation

Air Permits Program
610 University Ave.
Fairbanks, AK 99709-3643
ATTN: Compliance Technician

As to Defendant:

Dan Le, Plant Manager
Westward Seafoods, Inc.
P.O. Box 920608
Dutch Harbor, AK 99692

--and—

Mark JoHahnson
Westward Seafoods, Inc.
2010 4th Avenue, Suite 1700
Seattle, WA 98121
johahnson@wsi.com
(206) 682-5949

As to Alyeska:

Don Goodfellow, Plant Manager
Alyeska Seafoods
P.O. Box 530
Unalaska, AK 99685

--and--

Mark JoHahnson
Westward Seafoods, Inc.
2010 4th Avenue, Suite 1700
Seattle, WA 98121

101. Any Party may, by written notice to the other Parties, change its designated notice recipient or notice address provided above.

102. Notices submitted pursuant to this Section shall be deemed submitted upon mailing, unless otherwise provided in this Consent Decree or by mutual agreement of the Parties in writing.

XVIII. EFFECTIVE DATE

103. The Effective Date of this Consent Decree shall be the date upon which this Consent Decree is entered by the Court or a motion to enter the Consent Decree is granted, whichever occurs first, as recorded on the Court's docket.

XIX. RETENTION OF JURISDICTION

104. The Court shall retain jurisdiction over this case until termination of this Consent Decree, for the purpose of resolving disputes arising under this Decree or

entering orders modifying this Decree, pursuant to Sections XIII and XX, or effectuating or enforcing compliance with the terms of this Decree.

XX. MODIFICATION

105. The terms of this Consent Decree, including any attached appendices, may be modified only by a subsequent written agreement signed by all the Parties. Where the modification constitutes a material change to this Decree, it shall be effective only upon approval by the Court. Written agreements by the Parties to changes in schedule of less than one year are not material changes.

106. Any disputes concerning modification of this Decree shall be resolved pursuant to Section XIII (Dispute Resolution), provided, however, that, instead of the burden of proof provided by Paragraph 84, the Party seeking the modification bears the burden of demonstrating that it is entitled to the requested modification in accordance with Federal Rule of Civil Procedure 60(b).

XXI. TERMINATION

107. After Defendant and Alyeska have completed the requirements of Section V (Compliance Requirements); has thereafter maintained continuous satisfactory compliance with this Consent Decree and the WSI CAA Permits for a period of three years , has complied with all other requirements of this Consent Decree, including those relating to Third Party Verification (Section VI) and Environmental Mitigation (Section VII); and

has paid the civil penalty and any accrued stipulated penalties as required by this Consent Decree, Defendant may serve upon the United States and the State a Request for Termination, stating that Defendant and Alyeska have satisfied those requirements, together with all necessary supporting documentation. In seeking such consent, Defendant shall demonstrate that:

a. Defendant and Alyeska have paid all monies, civil penalties, interest, and stipulated penalties due under this Decree;

b. Defendant and Alyeska have complied with all requirements of Sections V (Compliance Requirements) (including the requirement to comply with the WSI CAA Permits), VI (Third Party Verification), VII (Environmental Mitigation) X (Reporting Requirements), and XIV (Information Collection and Retention);

c. As of the date Defendant provides any notice or request to terminate this Decree, EPA has not provided Defendant or Alyeska with any Notice of Dispute invoking the Dispute Resolution provisions of this Decree, and there are no unresolved matters subject to dispute resolution pursuant to Section XIII (Dispute Resolution); and

d. No enforcement action under this Decree is pending.

108. Following receipt by the United States and the State of Defendant's Request for Termination, the Parties shall confer informally concerning the Request and any disagreement that the Parties may have as to whether Defendant and Alyeska have

satisfactorily complied with the requirements for termination of this Consent Decree. If the United States after consultation with the State agrees that the Decree may be terminated, the Parties shall submit, for the Court's approval, a joint stipulation or joint motion for terminating the Decree.

109. If the United States after consultation with the State does not agree that the Decree may be terminated, Defendant may invoke Dispute Resolution under Section XIII. However, Defendant shall not seek Dispute Resolution of any dispute regarding termination until 90 days after service of its Request for Termination.

110. The Parties agree that within 15 days after entry of this Consent Decree Westward shall pay $730,000 in stipulated penalties for Defendant's alleged violations of the Existing Decree. Following that payment, the Parties will submit a joint stipulation pursuant to Section XVIII of the Existing Decree terminating the Existing Decree. The Parties acknowledge that it is their intent that the Consent Decree will supersede and replace the Existing Decree, and acknowledge that, except to the extent that Westward is hereby obligated to pay the $730,000 in stipulated penalties, it is not their intent that Defendant be held simultaneously subject to the terms of the Consent Decree and the Existing Decree.

XXII. PUBLIC PARTICIPATION

111. This Consent Decree shall be lodged with the Court for a period of not less than 30 Days for public notice and comment in accordance with 28 C.F.R. § 50.7. The United States reserves the right to withdraw or withhold its consent if the comments regarding the Consent Decree disclose facts or considerations indicating that the Consent Decree is inappropriate, improper, or inadequate. Defendant and Alyeska consent to entry of this Consent Decree without further notice and agree not to withdraw from or oppose entry of this Consent Decree by the Court or to challenge any provision of the Decree, unless the United States has notified Defendant and Alyeska in writing that it no longer supports entry of the Decree.

XXIII. SIGNATORIES/SERVICE

112. Each undersigned representative of Defendant, Alyeska, the State, and the Assistant Attorney General for the Environment and Natural Resources Division of the Department of Justice certifies that he or she is fully authorized to enter into the terms and conditions of this Consent Decree and to execute and legally bind the Party he or she represents to this document.

113. This Consent Decree may be signed in counterparts, and its validity shall not be challenged on that basis. Defendant and Alyeska agree to accept service of process by mail with respect to all matters arising under or relating to this Consent Decree and to

waive the formal service requirements set forth in Rules 4 and 5 of the Federal Rules of Civil Procedure and any applicable Local Rules of this Court including, but not limited to, service of a summons.

XXIV. INTEGRATION

114. This Consent Decree constitutes the final, complete, and exclusive agreement and understanding among the Parties with respect to the settlement embodied in the Decree and supersedes all prior agreements and understandings, whether oral or written, concerning the settlement embodied herein. The Parties acknowledge that there are no representations, agreements, or understandings relating to the settlement other than those expressly contained in this Consent Decree.

XXV. FINAL JUDGMENT

115. Upon approval and entry of this Consent Decree by the Court, this Consent Decree shall constitute a final judgment of the Court as to the United States, the State, Defendant, and Alyeska. The Court finds that there is no just reason for delay and therefore enters this judgment as a final judgment under Federal Rules of Civil Procedure 54 and 58.

XXVI. APPENDICES

116. The following Appendices are attached to and part of this Consent Decree:

"Appendix A" is the Preventative Maintenance and Operations ("PMO") Plan;

"Appendix B" is the Site-Specific Monitoring Plan;

"Appendix C" is the Environmental Mitigation; and

"Appendix D" is the Engine Emissions Calculation Method.

Dated and entered this _____ day of _____, 2017.

_____
UNITED STATES DISTRICT JUDGE

Signature Page for *United States of America et al. v. Westward Seafoods, Inc.*

FOR THE UNITED STATES OF AMERICA:

Date: 03-15-2017

THOMAS A. MARIANI, JR.
Section Chief
Environment Enforcement Section

Date: 03/17/2017

DAVID DAIN
Senior Counsel
Environmental Enforcement Section
Environment and Natural Resources Division
U.S. Department of Justice
999 18th Street, South Terrace, Suite 370 Denver, CO 80202
(303) 844-7371

Signature Page for *United States of America et al. v. Westward Seafoods, Inc.*

FOR THE UNITED STATES OF AMERICA:

Date: 22 December 2016

KAREN L. LOEFFLER
United States Attorney
District of Alaska

By:

RICHARD L. POMEROY
Assistant U. S. Attorney
222 West 7th Ave., #9, Rm. 253
Anchorage, AK 99513-7567
Phone: (907) 271-50

Signature Page for *United States of America et al. v. Westward Seafoods, Inc.*

FOR THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, REGION 10:

Date: 1.17.17

ALLYN STERN
Regional Counsel
USEPA Region 10, ORC-113
1200 Sixth Avenue, Suite 900
Seattle, WA 98101

Date: 12-22-2016

JULIE VERGERONT
Assistant Regional Counsel
USEPA Region 10, ORC-113
1200 Sixth Avenue, Suite 900
Seattle, WA 98101
(206) 553-1497

Signature Page for *United States of America et al. v. Westward Seafoods, Inc.*

FOR THE STATE OF ALASKA:

JAHNA LINDEMUTH
Attorney General
State of Alaska

Date: 1/18/17

JENNIFER A. CURRIE
(Alaska Bar No. 0609056)
Senior Assistant Attorney General
Department of Law
1031 West Fourth Avenue, Suite 200
Anchorage, AK 99501
Phone: (907) 269-5274

DENISE KOCH
Director
Alaska Department of Environmental Conservation

Date: 1/17/17

DENISE KOCH
Director
Division of Air Quality
Alaska Department of Environmental Conservation
P. O. Box 11800 Juneau, AK 99811
907-465-5109

Signature Page for *United States of America et al. v. Westward Seafoods, Inc.*

FOR WESTWARD SEAFOODS, INC.

Date: 1/11/2017

MARK JOHAHNSON
President
Westward Seafoods, Inc.
2010 4th Avenue, Suite 1700
Seattle, WA 98121

FOR ALYESKA SEAFOODS, INC.

Date: 1/11/2017

MARK JOHAHNSON
President
Alyeska Seafoods, Inc.
2010 4th Avenue, Suite 1700
Seattle, WA 98121

Appendix A

Preventative Maintenance and Operations (PMO) Plan

Appendix A
Preventative Maintenance and
Operations (PMO) Plan

for

Westward Seafoods, Inc.

Prepared by:

December 2016

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1.0 Introduction

This Preventative Maintenance and Operations (PMO) Plan has been prepared to satisfy the obligations of the Consent Decree in United States of America v. Westward Seafoods, Inc., entered in 2016 ("Consent Decree").

The PMO applies to the three Wärtsilä generators at the Dutch Harbor Facility, all related control equipment, including the low nitrogen oxides ("NOx") retrofit packages with water injection on each generator (Table 1). The PMO Plan was developed to ensure that this equipment is operated and maintained consistent with good air pollution control practices and procedures for maximizing control efficiency and minimizing emissions at all times, including periods of startup, shutdown, emergency, and malfunction.

This PMO Plan also establishes procedures for continuous compliance with the emission limitations, work practice requirements, and other Clean Air Act requirements that apply to this equipment. Also, this document describes the roles and responsibilities of personnel dealing with operations addressed in this plan as well as the annual training program provided to these employees, and incorporates certain environmental compliance matters, as directly pertain to the operations described herein.

Table 1 Equipment and Associated Components Addressed in this PMO Plan

Equipment	Associated Components
Wärtsilä Generators	Engine Control Panel Governor Control System
Combustion Air Saturation System (CASS)	CASS Control Panel High Pressure Pump Nozzle Block Heater Primary Tank Secondary Tank Transfer Pump Filter System Return Water System
Water Feed Tank System	Control Panel Feed Pump Feed Tank
Reverse Osmosis Unit (RO)	Control Panel Pump

Equipment	Associated Components
	Membrane Filters

2.0 Personnel

This section lists the personnel and responsibilities of those who will complete the tasks listed in the Consent Decree. All of the following personnel may conduct inspections, record problems and complete inspection logs.

Corporate Director of Environmental Compliance: Oversees environmental compliance activities and serves as one of the Responsible Officials for the purpose of signing and certifying air and water quality reports.

Environmental Compliance Manager: Manages the general environmental compliance, including air quality compliance, activities in and around the plant, ensuring that all aspects of applicable state, federal, and local environmental obligations are met in a timely and complete manner.

Plant Manager: This role oversees general operation of the plant, controls the allocation of resources, including staff appointments and direction of funds to ensure the safe, efficient, and fully compliant operation of the facility. Serves as one of the Responsible Officials for the purpose of signing and certifying air and water quality reports.

Plant Engineer and Project Engineer: These individuals oversee project development, routine and non-routine repairs, and serve as supervisors of equipment maintenance operations throughout the plant, including the powerhouse.

Powerhouse Supervisor/Operator/Assistant Operator: Supervises operations, monitoring, recording and reporting procedures. This individual participates in the development and implementation of training programs, employee development (on-the-job training), and ensures that standard procedures are followed such that equipment remains in the best possible operating condition and both automated and manual records are completed and retained in accordance with plant policy and regulatory requirements.

Oil Wipers: Non-supervisory staff members who conduct routine operations, inspections, maintenance and repairs in and around the powerhouse.

3.0 Routine Inspections

A rigorous equipment inspection program is paramount in order to assure reliable operation of all components and to preemptively avoid any breakdowns that could result in excess pollutant emissions and lost production. Routine inspections are performed in accordance with the recommendations of the equipment manufacturers and consistent

with good air pollution control requirements. All powerhouse staff are trained in the proper procedures for routine inspection and recordkeeping. Table 2 lists the current powerhouse positions that are trained and authorized to conduct visual inspections of all equipment listed in Table 1 every two hours.

Table 2: WSI Facility Inspectors

TITLE
Powerhouse Supervisor
Powerhouse Operator
Powerhouse Operator
Powerhouse Assistant Operator
Powerhouse Assistant Operator
Oil Wiper

The employees in the positions listed in Table 2 are required to record all conditions and readings on Equipment Logs (Figure 1-Figure 3). The Equipment Round Logs capture operating parameters, measurements, gauge readings, and ongoing production data. The inspection visually checks multiple elements of the equipment to identify early signs of malfunction or operating fluctuations that may impact the plant's performance. In the event that abnormal operations are observed, an immediate verbal report is given to the highest ranking powerhouse staff member on duty. Corrective measures are taken immediately. The Powerhouse Supervisor/Operator/Assistant Operator uses the Log Book to record the time, date, and results of each inspection including any abnormalities identified and corrective actions taken. Further action on reporting Deviations is described in Section 3.2.

The Log Book entries are to be signed/initialed daily by the Powerhouse Supervisor/Operator/Assistant Operator on duty. The Log Books, Equipment Logs and Deviation Logs are retained at the plant and are reviewed on a monthly basis by the powerhouse supervisor or alternate to ascertain patterns in equipment operation/malfunction and to enhance procedures and prevention programs used within the powerhouse.

Equipment Round Log Sheets, Log Books, and Deviation Logs must be retained in hard copy in the plant. Equipment Round Sheets are added to the End of Day (EOD) Report

and stored in the powerhouse control room. Once per year, these records are moved to permanent storage in a different location at the plant.

3.1 Identification and Repair of Equipment

The Westward powerhouse staff members listed in Table 2 are responsible for inspecting equipment while in operation. Since this inspection will be carried out every two hours during normal operation, it will provide the best assurance that no abnormal operating conditions go undetected. Only trained and authorized personnel may perform routine service and repair work on the powerhouse equipment. All maintenance personnel will[1] be trained to perform all procedures and repairs with full understanding of related components, associated hazards, and relevant system information.

Any non-routine maintenance or repair task will most likely be carried out by contract personnel and must be authorized by and performed under the direct supervision of the Powerhouse Supervisor, Plant Engineer, and/or Project Engineer. A signed work order will be issued to the maintenance personnel and all relevant Standard Operating Procedures (SOP) will be provided. Alternatively, the maintenance personnel may receive authorization to consult other sources such as system drawings, owner's manuals, cut sheets, schematics, etc., for information needed to safely complete the task. All completed work orders need to be signed off by the Powerhouse Supervisor/Operator/Assistant Operator.

3.2 Preparation and Submittal of Permit Deviation/Excess Emission Reports

The result of any routine inspection, non-routine repair, or emergency operation may be a deviation from applicable air quality permit terms or the terms of the Consent Decree. Any instance in which a deviation from enforceable air quality requirements is suspected, an investigation, record keeping, and (if required) reporting must occur.

Report any such instance to the Powerhouse Supervisor/Operator/Assistant Operator **immediately** and notify the Environmental Compliance Manager and Corporate Director of Environmental Compliance. Notes pertaining to the potential deviation will be recorded on the Deviation Log. In the event that the situation is determined to, in fact, be a deviation from an enforceable term of the air quality operating permit, an Excess Emissions/Permit Deviation Report must be submitted in accordance with the terms of the permit.

[1] Unless the context requires otherwise, "will" connotes a mandatory obligation and the same as "shall."

Any deviation from the terms of the Consent Decree must be logged in the Deviation Log, and similar notifications must be made to the appropriate WSI management. In the even that a deviation is, in fact, found to have occurred, submit a summary of the event in the quarterly report (Section 8.3).

Table 3: Routine Inspection Activities

Equipment	Inspection Points
Wärtsilä Generators	Look for alarms Assure all levels, pressure, and temperature are normal Inspect for fuel, oil, and water leaks Report time and date of inspection; specify any issues discovered and action taken in response
CASS Unit	Look for CASS alarms Assure all levels, pressure, and temperature are normal Inspect for water leaks Report time and date of inspection; specify any issues discovered and action taken in response
Water Feed Tank System	Assure all levels and pressure are normal Inspect for water leaks Report time and date of inspection; specify any issues discovered and action taken in response
RO Unit	Assure all pressure is normal. Inspect for water leaks Report time and date of inspection; specify any issues discovered and action taken in response

Figure 1 Equipment Log, Page 1

Engine Rounds

Engine no 2 3 4

Date:	0100	0300	0500	0700	0900	1100	1300	1500	1700	1900	2100	2300
Turbo RPM												
Hour Meter												
Lube Oil Pres.												
Fuel Oil Press												
Starting Air												
Charge Air Pressure												
HT water Pres.												
Seawater Pres												
LT water Pres.												
Fuel Rack												
Gov. L/O Level.												
Exh temp. cyl #1												
Exh temp. cyl #2												
Exh temp. cyl #3												
Exh temp. cyl #4												
Exh temp. cyl #5												
Exh temp. cyl #6												
Oil Turbo Comp.												
Oil Turbo Turbine												
Fuel Oil Temp												
HT water Before												
HT water After												
HT water after Cooler												
LT water Before												
LT water After												
Lubeoil Temp Before												
Lubeoil Temp After												
Receiver Air Temp												
Engn Sump Oil Level												
Fuel Meter												
CASS Water Level												
CASS System												

Figure 2 Equipment Log, Page 2

DATE: Voltage: Frequency:

TIME	D/G #2 POWER FACTOR	D/G #2 AMPS	D/G #2 KW	D/G #3 POWER FACTOR	D/G #3 AMPS	D/G #3 KW	D/G #4 POWER FACTOR	D/G #4 AMPS	D/G #4 KW	TTL METER	CITY WATER PRES
100											
300											
500											
700											
900											
1100											
1300											
1500											
1700											
1900											
2100											
2300											

	SITE UTILITIES KW HOURS	SITE UTILITIES KW	SITE UTILITIES AMPS	MEAL PLANT KW HOURS	MEAL PLANT KW	MEAL PLANT AMPS	POWER HOUSE KW HOURS	POWER HOUSE KW	POWER HOUSE AMPS	SURMI KW HOURS	SURMI KW	SURMI AMPS
100												
300												
500												
700												
900												
1100												
1300												
1500												
1700												
1900												
2100												
2300												

	FISH/COLD STORAGE KW HOURS	FISH/COLD STORAGE KW	FISH/COLD STORAGE AMPS	BATTERY CHARGER H2O LEVEL	BATTERY CHARGER BAT VOLTS	BATTERY CHARGER CHARGE AMPS	FUEL ENGINE SUPPLY	FUEL ENGINE RETURN	FUEL BOILER SUPPLY	FUEL BOILER RETURN
100										
300										
500										
700										
900										
1100										
1300										
1500										
1700										
1900										
2100										
2300										

Figure 3 Equipment Log, Page 3

DATE:

TIME:	FUEL ROOM			COMPRESSOR #1		COMPRESSOR #2		COMPRESSOR #3		Starting Air Oil Level	Receiver Air Pressure	Air Temperature
	Fuel Meter	Fish Oil Meter	Day Tank Level	Line Press	Temp	Line Press	Temp	Line Press	Temp			
100												
300												
500												
700												
900												
1100												
1300												
1500												
1700												
1900												
2100												
2300												

	CASS WATER FEED SYSTEM				HEAT SYSTEM			BOILER #1		BOILER #2		BOILER FEED
	RO Units		FEED TANK		Pressure		Glycol	Temperature		Temperature		
	RO #1	RO #2	Pump	Level	Supply	Return	Temperature	Flue	Feed H^2O	Flue	Feed H^2O	H^2O Meter
100												00
300												00
500												00
700												00
900												00
1100												00
1300												00
1500												00
1700												00
1900												00
2100												00
2300												00

	BOILER #1				BOILER #2				D F T			
	Steam Pressure	Fire Rate %	Fuel Meter		Steam Pressure	Fire Rate %	Fuel Meter		Condensate		Feed	Tank
			DIESEL	OIL (F/W)			DIESEL	OIL (F/W)	Temperature	Pressure	Pressure	Level
100												
300												
500												
700												
900												
1100												
1300												
1500												
1700												
1900												
2100												
2300												

4.0 Scheduled Maintenance

The following tables describe scheduled maintenance procedures, including replacement of parts, for the generators and CASS system which are performed at regular intervals. See Sections 2 and 3 regarding personnel that are authorized to perform inspection and maintenance of equipment.

Table 4 Maintenance Procedures: Daily

GENERATOR	None
CASS SYSTEM	None
WATER FEED TANK SYSTEM	None
RO UNIT	None

Table 5 Maintenance Procedures: Every 75 Hours

GENERATOR	Inspect turbo wash compressor side of turbo charger during an operating load of approx. 1700 KW
CASS SYSTEM	None
0WATER FEED TANK SYSTEM	None
RO UNIT	None

Table 6 Maintenance Procedures: Every 100 Hours

GENERATOR	Change (inspect) and clean centrifuge lube oil filter
CASS SYSTEM	None
WATER FEED TANK SYSTEM	None
RO UNIT	None

Table 7 Maintenance Procedures: Every 500 Hours

Everything from 100 Hour maintenance plus the following)	
GENERATOR	Change (inspect) and clean centrifuge lube oil filter
CASS SYSTEM	Check condition of, and replace if needed, all 5 water nozzles (if unsure, check with Operator or Facility Engineer to determine under what condition nozzles should be replaced); Change oil in CASS high pressure pump; Change water filter to secondary tank; Change water filter to primary tank; Change water filter on return system;
WATER FEED TANK SYSTEM	Change water filter to secondary tank; Change water filter to primary tank; Change water filter on return system;
RO UNIT	Change water filter

Table 8 Maintenance Procedures: Monthly

GENERATOR	None
CASS SYSTEM	None
WATER FEED TANK SYSTEM	None
RO UNIT	None

Table 9 Maintenance Procedures: Every 1,000 Hours

Everything from 100 Hour maintenance plus the following:	
GENERATOR	Retrieve oil samples from sump, governor, turbo charger, and pedestal bearings (6 samples total). Replace all 8 lube oil filters; Change (inspect) and clean all 4 lube oil safety filters; Replace all 4 fuel oil filters; Change (inspect) and clean both fuel oil safety filters; Replace oil in Turbo Charger (both sides); Clean all 6 generator intake filters; Check cylinder pressures and perform leak down test; Grease both electrically driven fuel and oil pumps.
CASS SYSTEM	No additional requirements
WATER FEED TANK SYSTEM	No additional requirements
RO UNIT	No additional requirements

Table 10 Maintenance Procedures: Every 2,000 Hours

Everything from 1000 Hour maintenance plus the following:	
GENERATOR	Replace oil in governor; Change and maintain all 6 fuel injection nozzles; Test both mechanical and electrical over speed trip devices;
CASS SYSTEM	No additional requirements
WATER FEED TANK SYSTEM	No additional requirements
RO UNIT	No additional requirements

Table 11 Maintenance Procedures: Every 4,000 Hours

Everything from 1000 and 2000 Hour maintenance plus the following:	
GENERATOR	Change oil in the drive and free end pedestal bearings; Check crank shaft alignment; Check the contact faces of the cams and tappet rollers; check that the rollers rotate; Inspect jacket water spaces on engine through the plug in the engine block. If the deposits are thicker than 1 mm, clean all liners and engine block (use IAW technical manual); Check for wear in all connecting links between the governor and all fuel injection pumps.
CASS SYSTEM	No additional requirements
WATER FEED TANK SYSTEM	No additional requirements
RO UNIT	No additional requirements

Table 12 Maintenance Procedures: Semiannually

GENERATOR	None
CASS SYSTEM	No additional requirements
WATER FEED TANK SYSTEM	No additional requirements
RO UNIT	No additional requirements

Table 13 Maintenance Procedures: Every 4,000-12,000 Hours

Everything from 4000 Hour maintenance plus the following.	
GENERATOR	Inspect or have contractors inspect all gears Remove and inspect one cylinder head when pressure test and leak down test indicates a problem; Remove and inspect one piston when pressure test and leak down test indicate a problem.
CASS SYSTEM	Check switch point on sensors and change if not operating properly; Change filter element in breather element when dirty;
WATER FEED TANK SYSTEM	Check switch point on sensors and change if not operating properly; Change filter element in breather element when dirty;
RO UNIT	Check switch point on sensors and change if not operating properly; Change filter element in breather element when dirty;

Table 14 Maintenance Procedures: Annually

GENERATOR	None
CASS SYSTEM	None

WATER FEED TANK SYSTEM	None
RO UNIT	None

Table 15 Maintenance Procedures: Every 12,000 Hours

Everything from 4000 hour maintenance plus the following:	
GENERATOR	Remove and send turbo rotor assembly to authorized shop for cleaning, inspection and replacement of worn or damaged parts if needed; Replace bearings on turbo charge.
CASS SYSTEM	No additional requirements
WATER FEED TANK SYSTEM	No additional requirements
RO UNIT	No additional requirements

Table 16 Maintenance Procedures: Every 16,000 Hours

Everything from 4000 hour maintenance plus the following:	
GENERATOR	Change out and send fuel injection pumps to authorized shop for cleaning, inspection and replacement of worn or damage parts if needed; Check the bearing clearances in the tappets and rocker arms; Check the bearing in the camshaft; Check the condition of the main bearing in the crankshaft; Change oil in turning device.
CASS SYSTEM	No additional requirements
WATER FEED TANK SYSTEM	No additional requirements
RO UNIT	No additional requirements

Table 17 Maintenance Procedures: Every 24,000 Hours

GENERATOR	Overhaul diesel engine
CASS SYSTEM	Remove and replace all attached hoses (in the event that a hose blows a hole, it will be replaced immediately); Change high pressure pump if there is water in the oil sump.
WATER FEED TANK SYSTEM	No additional requirements
RO UNIT	No additional requirements

Table 18 Maintenance Procedures: Every 90,000 Hours

GENERATOR	None
CASS SYSTEM	Change bearing in high pressure pump drive motor; Change feed pump and drive motor as one unit;
WATER FEED TANK SYSTEM	Change bearing in high pressure pump drive motor;
RO UNIT	Change feed pump and drive motor as one unit;

5.0 Recommended Spare Parts (kept on-site)

Table 19 is a concise list of spare parts that are routinely kept on hand for general maintenance of the CASS System. Some components of the CASS System have gone out of manufacture, as this technology is no longer supported by the manufacturer. WSI will maintain a minimum number of parts, as listed in Table 19 to assure that all potential repairs can be made. In case any of the parts are no longer available from the manufacturer, WSI will acquire alternate or similar parts from other suppliers or have any particular part(s) rebuilt or re-manufactured.

Table 19 CASS System Spare Parts

Description	Qty
009422727 2.17 L/MIN WATER MIST NOZZLE	12
AFL 5P-20N 10 MICRON FILTER	12
KIT 182 BRONZE REPAIR PARTS –CASS	1
009422726 1.54 L/MIN WATER MIST NOZZLE	12
NON-DETERGENT 30 WT. MOTOR OIL (QT)	12
TOOL, WATER MIST NOZZLE PAAE005476	1
7.5 HP 1200 RPM, SIEMENS 3-PHASE MOTOR TEFC –CASS	1
KIT K02 PISTON 0-RINGS – CASS	1
0050K009502 WATER SENSOR	1
F000008 9 FT. STAINLESS STEEL WIRE BRAID – CASS	6
CASS-WA-PH-427 20" FILTER	12
180G0041 POWER PACK VALVE FOR CASS SYSTEM	1
004605 PRESSURE TRANSMITTER - CASS SYSTEM	2
TSF2021 PUMP FOR CASS	1
4411K65 STRING-WOUND FILTER 20", 5 MICRON FOR CASS	12
KIT 181 MECHANICAL SEAL KIT – CASS	1
7016435770 AIR COOLER, COMPL - FOR CASS SYSTEM	1

6.0 Standard Operating Procedures

The Standard Operating Procedures (SOPs) provided in this section pertain to all equipment listed in Table 1. These procedures include specific steps for the safe operation of generators and the CASS system, including startup, shutdown, emergency operations, and normal operations. These procedures must be understood and abided by all powerhouse employees and management.

Notice:

Do not perform any procedure without full understanding of related components, associated hazards, and relevant system information. Improperly executed procedures could result in serious injury or death. You may need to consult other sources such as system drawings, owner's manuals, cut sheets, schematics, etc., for information needed to safely complete the task. Only trained and authorized personnel may work on the system.

Any non-routine task will be performed under the direct supervision of the Operator, Powerhouse Supervisor, Plant Engineer, and/or Project Engineer.

This section includes detailed tables outlining operating limits for facility equipment and includes procedures for normal equipment startup, normal operation, normal shutdown, emergency shutdown and restart after an emergency shutdown as well as measures to take in the event equipment is malfunctioning. All equipment startups and shutdowns will be automatically logged in the SCADA system.

6.1 Wärtsilä Vasa 6R32 Diesel Generator and CASS System

Normal Startup

1. Check oil sump level;
2. Open all Blow down cocks and purge engine for 2 seconds;
3. Close Blow down cocks;
4. Open fuel supply and return valves;
5. Ensure that manual emergency shutdown lever is completely in the upright position;
6. Ensure that you have approximately 350 PSI start air pressure;
7. Verify that the CASS water return line is open;
8. Verify that the primary and secondary water supply tanks for CASS are full;
9. Upon starting, observe that the following conditions have been met prior to placing electrical load on generator:
    - Engine is running at 720 RPMs;
    - Oil pressure is 50-70 PSI;
    - HT and LT water pressure is at 19-30 PSI;
    - Seawater cooling pressure is 10-30 PSI;
    - Oil is observed in the drive and free end pedestal bearing sight glasses;
    - Turbo oil levels are normal (compressor and turbine sides);
    - Activate CASS system - System will inject water at engine loads consistent with WSI's Title V permit (currently at > 50%)
    - CASS water operating pressure is at 900-1300 PSI;
    - ***ONLY AFTER ALL OF THE ABOVE CONDITIONS ARE MET WILL AN ELECTRICAL LOAD BE PLACED ON THE GENERATOR.***
10. Place electrical load on generator;
11. Log date and time generator was started up on Equipment Round Log Sheet.

Normal Operation

1. Operating rounds will be completed on all running generators every two hours.
2. As the load warrants generator(s) will be taken on and off line as needed.

Normal Shutdown

1. Remove electrical load from generator;
2. Only after non-attached fuel pump is off, close fuel supply and return lines
3. Log date and time generator was shut down on Equipment Round Log Sheet.

Long-Term Shutdown

1. Same as normal shutdown.

Emergency Shutdown

Note: If all three generators are on line during an emission control downtime, the electrical load will be decreased immediately to allow the affected generator to be unloaded and shut down, minimizing the time that the affected generator is operated without emission controls.

Note: If the generator has to be operated without its emission controls on, the Corporate Director of Environmental Compliance will be notified immediately, and any required Deviation Report generated in a timely manner. An entry will be made in the Deviation Log noting date, time, and reason for operating the generator in a noncompliant manner. Furthermore, all attempts will be made to get the affected generator(s) back in compliance as soon as possible or unloaded and shutdown. The Deviation Log and associated Deviation Report (if required) will be stored electronically in the WSI-EMS Portal. The operator will provide the Deviation Log to the Powerhouse Supervisor and/or the Environmental Compliance Manager to 1) determine if an immediate report to the regulating agency (DEC/EPA) is required, and 2) for further WSI evaluation of repetitiveness and methods to alleviate re-occurrences.

If possible, remove the electrical load from the affected generator prior to emergency shutdown. To stop the generator in an emergency situation, push in one of the red emergency stop buttons located on the affected generator local and remote control panels. After pushing in the red emergency stop button, move the manual shut down lever to its down position.

Log date and time generator was shut down on Equipment Round Log Sheet.

Refer to Section 3.1 to identify and repair casualty on affected generator.

Restart Following an Emergency Shutdown

Reset all e-stop buttons and levers to normal position and continue with normal startup.

Table 20 Operating Limits for Wärtsilä Vasa 6R32 Generator and CASS System

Equipment	Operating Limits	Safeties	Consequences/Immediate Actions	Steps to Correct Deviation
Diesel Engine Temperature L/O Before/After Engine	62-70 Degrees C/ 10-13 Degrees C higher	Alarms @ 80 Degrees C Shuts Down @ 90 Degrees C	Generator shuts down if Rising Temp is not addressed in a timely matter Place backup Generator online and unload and shut down affected Generator	Check seawater inlet pressure, Back flush HT/LT coolers, Check attached HT/LT pumps are working properly
HT WATER BEFORE/AFTER Engine	5-8 Degrees C Lower/ 95-100 Degrees C	Alarms @ 105 Degrees C Shuts Down @ 110 Degrees C	Generator shuts down if Rising Temp is not addressed in a timely matter Place backup Generator online and unload and shut down affected Generator	Check seawater inlet pressure, Back flush HT coolers, Check attached HT pump if working properly
LT WATER BEFORE Engine	28-38 Degrees C	Alarms @ 75 Degrees C	Generator remains in alarm condition until Rising Temp is lower to proper temp Place backup Generator online and unload and shut down affected Generator	Check seawater inlet pressure, Back flush HT coolers, Check attached HT pump if working properly
Low Jacket Water Press	19-30 PSI	Alarms @ 18 PSI; Shuts down at 15 PSI	Generator shuts down if Low Pressure is not addressed in a timely matter Place backup Generator online and unload and shut down affected Generator	Check for leaks, Check attached HT pump if working properly, Check HT water level

Equipment	Operating Limits	Safeties	Consequences/Immediate Actions	Steps to Correct Deviation
Low Oil Pressure Level	50-70 PSI	Alarms @45 PSI Shuts down @ 30 PSI	Generator shuts down if Low Pressure is not addressed in a timely matter Place backup Generator online and unload and shut down affected Generator	Check Sump Level, Check For leaks, Check valve lineup if aligned to Centrifuges
Low Oil Level	16-21 CM on Bayonet Gauge	Alarms @12 CM Shuts down @10 CM	Generator shuts down if Low level is not addressed in a timely matter Place backup Generator online and unload and shut down affected Generator	Check Sump Level, Check For leaks, Check valve lineup if aligned to Centrifuges
Over speed	720 RPM	Shuts down @ 820 RPM Electrical 850RPM Mechanical	Generator shuts down if Over speed condition is not addressed in a timely matter Place backup Generator online and unload and shut down affected Generator	Check Governor Oil Level, Check Governor linkage for looseness and or binding
Cass water high level in Engine air Receiver	Below alarm sensor	Alarms @ High water level	CASS System shuts down Place backup Generator online and unload and shut down affected Generator	Ensure that CASS water return line cut off valve is open. Check return line for obstruction(s)
Cass Water Low level in Primary and/or Secondary	Water level above low level mark on	Alarms @ Below level mark on tanks	CASS System shuts down Place backup Generator online and unload and shut down affected Generator	Ensure that CASS water return line cut off valve is open. Check return line for obstruction, Ensure supply water valve is

Equipment	Operating Limits	Safeties	Consequences/Immediate Actions	Steps to Correct Deviation
Tanks	tanks			open
Cass Water Low or No supply pressure to engine	1100-1300 PSI	Shuts down @ below 1000 PSI	CASS System shuts down Place backup Generator online and unload and shut down affected Generator	Inspect CASS Supply Hoses for leaks, Check water level in primary tank, Check condition of water nozzles, check pump
Cass Water High Temp in Primary Tank	40-50 Degrees C	Shuts down @ 55 Degrees C	CASS System shuts down Place backup Generator online and unload and shut down affected Generator	Check Condition of Nozzles, Check water level in secondary tank, Ensure Water Supply Valve is Open
Cass Water High Temp	40-50 Degrees C	Shuts down @ 55 Degrees C	CASS System shuts Down Place backup Generator online and unload and shut down affected Generator	Check Condition of Nozzles, Check water level in secondary tank, Ensure Water Supply Valve is Open
Cass Water Flow Alarm	Flow/No Flow, with alarm triggered in the event of no flow	NA	In the event of an alarm, shut down generator and shift load to other generator	Identify reason for lack of flow and correct before bringing generator back online

6.2 Supply Water System (RO and Supply Water Tank Pump)

Normal Startup

1. Turn the feed water supply ON, while checking for leaks in the pretreatment and inlet feed water lines.
2. Check to ensure power to the motor is de-energized and ON/OFF button on the machine is in the OFF position.
3. For initial start-up, redirect the permeate and concentrate lines to the drain.
4. Open the concentrate and recycle flow control valves two complete turns.
5. Turn the ON/OFF button on the machine ON. System will open allowing water to flow through the machine.
6. Verify that you have 100-140 psi pump pressure. If not adjust system until proper pressure is achieved.
7. Turn on supply tank pump by placing ON/OFF switch to the ON position.
8. Verify that pump pressure is 30-40 PSI.
9. Log date and time the supply water system was started up on Equipment Round Log Sheet.

ONLY AFTER ALL OF THE ABOVE CONDITIONS ARE MET WILL AN ELECTRICAL LOAD BE PLACED ON THE GENERATOR

Normal Operation

1. Operating rounds will be completed on all running generators every two hours.
2. As the load warrants ROs and Supply tank pumps will be taken on and off line as needed.

Normal Shutdown

1. Turn the ON/OFF button on the RO machine off.
2. Turn on supply tank pump by placing ON/OFF switch to the off position.
3. Log date and time the supply water system was shut down on Equipment Round Log Sheet.

Long-term Shutdown

1. Same as normal shutdown.

Table 21 Operating Limits for Supply Water System (RO and Supply Water Tank Pump)

EQUIPMENT	OPERATING LIMITS	SAFETIES	CONSEQUENCES/ IMMEDIATE ACTION	STEPS TO CORRECT DEVIATION
RO Unit Primary Pressure L/O Before/After Engine	100-140 PSI	Visual Alarm @ below 100 or above 140 PSI	May affect water supply to Cass system if problem is not addressed in timely manner	Check city water pressure, Adjust RO pump pressure, check supply tank pump condition

7.0 Annual Employee Training Program

The proposed Annual Employee Training Program will be developed within 90 Days of the Date of Lodging of the Consent Decree. This training program will be implemented for all employees who conduct, manage or oversee:

1. Operation of the three Wärtsilä generators and all related control equipment;
2. Fuel sulfur content compliance assurance;
3. Water treatment system and CASS system compliance for the Wärtsilä Generators;
4. Emissions sampling using the Portable Gas Analyzer.

Within 180 days of the Effective Date of the Consent Decree, employees subject to the training program must complete all training (excepting off-site classes, which must be scheduled within 90 days of the Effective Date of the Consent Decree and completed according to the provider's schedule). The training will include, but not be limited to all procedures described in this PMO Plan document, including:

1. Standard operating procedures;
2. Quality assurance/quality control;
3. Other procedures to ensure that all fuel delivered and blended into storage at the Facility is in compliance with sulfur limits established in the WSI CAA Permits (as defined in the Consent Decree) or otherwise applicable to the Dutch Harbor Facility;
4. That water is treated to meet tolerances of the CASS system;
5. The CASS system is maintained and repaired consistent with the vendor procedures;
6. WSI CAA Permits monitoring, recordkeeping, and reporting obligations are carried out;
7. The portable hand-held analyzer unit is maintained, calibrated and repaired consistent with the Site-Specific Monitoring Plan in Appendix B to the Consent Decree.

New employees will complete this training program prior to assuming duties described in this PMO. New employees will be supervised by experienced personnel until the new employees complete the training program.

Verification of training completion including identities of employees who have received training will include names, training date, and description of method used to demonstrate that employees understood the training. Quizzes will be administered to verify training competency; tests and results will be placed on the Portal.

WSI will review and, as appropriate, update its training at least annually.

All current and all previous versions of the employee training program will be maintained on the WSI-EMS Portal.

8.0 Monitoring, Recordkeeping and Reporting

The following section addresses specific monitoring, recordkeeping, and reporting requirements that pertain to the Consent Decree. This includes the planned creation of an electronic record keeping system (WSI-EMS Portal), ongoing submittal of reports, and automated SCADA record handling, and instructions for recording site-specific monitoring data and calculating daily NO_x emissions for the Wärtsilä generators.

8.1 Forms and Logs

The following forms and logs are mentioned throughout this PMO Plan. A description of each item is included below. All forms and logs listed below must be retained for the life of the Consent Decree.

Table 22 Forms, Logs and Servers

Form/Log Name	Description	Owner/Administrator
Equipment Log	Routine inspection of powerhouse equipment, to be filled out every 2 hours. Records all operating parameters and conditions listed in the log. Equipment Logs are added to the End of Day (EOD) Report and stored in the powerhouse control room. Once per year all EOD Reports are relocated to a long term storage room elsewhere in the plant.	Powerhouse Supervisor/Operator/Assistant Operator
Log Book	Record of daily occurrences including any notable maintenance activities, missed rounds, operational failures or concerns, and any potential deviations from environmental requirements. This log includes the date, time, results of each inspection including any abnormalities identified and corrective actions taken. The Log Book must be signed/initialed daily by the Powerhouse Supervisor//Operator/Assistant Operator on duty. Log Books are scanned to PDF for long term storage.	Powerhouse Supervisor//Operator/Assistant Operator
Deviation Log	Record of circumstances surrounding potential environmental deviations, including those that	Corporate Director of Environmental Compliance or

	may deviate from terms of the Title V permit and those that may deviate from the terms of the Consent Decree. This log captures date, time, duration a description of the potential deviation, and corrective actions.	Environmental Compliance Manager
WSI-EMS Portal	This web-based document server will be created by Westward to file all records and other documents mandated by the Consent Decree. It will be created within 60 days of the effective date of the Consent Decree. The purpose of this server is to make all documents accessible to WSI and the regulating agencies.	Corporate Director of Environmental Compliance or Environmental Compliance Manager

8.2 WSI-EMS Portal

Within 60 Days of the Effective Date, WSI will provide the United States and the State access to an electronic portal ("Portal") to assist in monitoring compliance with this Decree. All documents, certifications, plans, reports, updates, notices, procedures, monitoring data, or other information ("Materials") that are required pursuant to this Decree will be made available to the United States and the State via a secure, web-based Portal. The Portal will: be easily navigable, include links to all Materials in electronic format, allow users to save and print Materials, be clearly organized and indexed according to the Sections and Paragraphs of the Consent Decree, and be accessible 24 hours per day. All Materials will remain available through the Portal until termination of this Decree in accordance with Section XXI (Termination) of the Consent Decree. WSI may assert that information made available via the Portal is protected as Confidential Business Information as set out in the Consent Decree.

8.3 Reporting Requirements

WSI will submit the following reports:

By December 31, 2016, March 31, 2017, June 30, 2017, September 30, 2017, and December 31, 2017, and semiannually on June 30 and December 31 in all years thereafter until termination of the Consent Decree pursuant to Section XXI, WSI will submit a report for the preceding quarter or semiannual period that will include:

The NO_X emissions monitoring results for each Wartsila Generator each day during the reporting period that the monitoring was performed, along with the operating load of the engine at the time;

(1) An estimate of the NO_X emissions in lb/hr from each Wartsila Generator for the period corresponding to each period in Paragraph 8.3(1), using the operating load of the engine and CASS water injection rates from the SCADA system in Appendix B (Site-Specific Monitoring Plan) and the Best Fit Regression Line Equation for each engine in Appendix D (Engine Emissions Calculation Method) to the Consent Decree to calculate NO_X emissions once daily;

(2) Identification of each day during the reporting period that the estimated or actual NO_X emissions of a Wartsila Generator exceeded 38 lb/hr, along with the estimated and, if available, the actual NO_X emissions during such period;

(3) For each Wartsila Generator, the highest, lowest, and average NO_X emission rate in lb/hr during the reporting period using the calculation method in Appendix D (Engine Emissions Calculation Method) to the Consent Decree;

(4) The dates and times of any discrepancies identified pursuant to this Paragraph, and the corrective actions taken to address such

deficiencies;

(5) The status of any CAA permit applications;

(6) If WSI made any amendments or updates in the preceding quarter, a current copy of the PMO Plan

(7) A description of any changes to the PMO Plan and employee training; and

(8) A discussion of WSI's progress in satisfying its obligations under the Consent Decree including, at a minimum, a narrative description of activities undertaken to meet the milestones stated in Appendix C (Environmental Mitigation), the status of the completion of any milestones, and a summary of costs incurred since the previous report.

Each report will also include a description of any non-compliance with the requirements of the Consent Decree or the WSI CAA Permits and an explanation of the likely cause of the violation and of the remedial steps taken, or to be taken, to prevent or minimize such violation. If the cause of a violation cannot be fully explained at the time the report is due, WSI will so state in the report. WSI will investigate the cause of the violation and will then submit an amendment to the report, including a full explanation of the cause of the violation, within 30 Days of the Day WSI becomes aware of the cause of the violation. Nothing in this Paragraph or the following Paragraph relieves WSI of its obligation to provide the notice required by Section XII of the Consent Decree (Force Majeure).

Whenever any violation of the Consent Decree or of the WSI CAA Permits or any other event affecting WSI's performance under this Decree, or the performance of the Captain's Bay Facility, may pose an immediate threat to the public health or

welfare or the environment, WSI will notify EPA and the State orally or by electronic or facsimile transmission as soon as possible, but no later than 24 hours after WSI first knew of the violation or event. This procedure is in addition to the requirements set forth in the preceding Paragraph.

WSI will submit all reports to the persons designated in Section XVII (Notices) of the Consent Decree and promptly post them on the Portal.

Each report submitted by WSI under the Consent Decree will be signed by an official of the submitting party and include the following certification:

> I certify under penalty of law that this document and all attachments 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 submitted is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than 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.

This certification requirement does not apply to emergency or similar notifications where compliance would be impractical.

The reporting requirements of the Consent Decree do not relieve WSI of any reporting obligations required by the CAA or implementing regulations, or by any other federal, state, or local law, regulation, permit, or other requirement.

Any information provided pursuant to the Consent Decree may be used by the United States and the State in any proceeding to enforce the provisions of the Consent Decree and as otherwise permitted by law.

8.4 SCADA System

WSI will install (or will have installed), operate, and maintain a Supervisory Control and Data Acquisition ("SCADA") system to automatically collect data relevant to air pollution emissions from each of the Wartsila Generators at the Captain's Bay Facility powerhouse.

1. The SCADA system will operate, with respect to each Wartsila Generator, at all times that the subject Wartsila Generator is operating, except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities (including, as applicable, system calibration checks).

    a. A monitoring system malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring system failures that are caused in part by poor maintenance or careless operation are not malfunctions.

    b. WSI will complete monitoring system repairs in response to a monitoring system malfunction and return the monitoring system to operation as expeditiously as practicable.

2. At a minimum, when in operation, the SCADA system will collect and record data on the following parameters no less frequently than once every five minutes:

    a. Wartsila Generator fuel usage per unit;

    b. Wartsila Generator hours of operation per unit;

c. Wartsila Generator electric generator kilowatt hours ("KWH") production per unit; and

d. Wartsila Generator total water usage of the Combustion Air Saturation System ("CASS") system per unit.

3. All meters used in the collection of data for the SCADA system will be calibrated by a third party on a schedule recommended by the meter manufacturer(s).

4. WSI will install (or will have installed), operate, and maintain the SCADA system in accordance with the Site-Specific Monitoring Plan in Appendix B to the Consent Decree.

5. WSI will upload the current data collected by the SCADA system for the Wartsila Generators to the Electronic Portal described in Section 8.2 by the end of the month following the month in which the data was collected and in accordance with Section 8.3 (Reporting Requirements) of this PMO. WSI will maintain all data collected by the SCADA system for the Wartsila Generators on the Electronic Portal for the life of the Consent Decree and as required by Section XIV (Information Collection and Retention) of the Consent Decree.

6. WSI will also manually monitor and record the following parameters from each Wartsila Generator at six hour intervals when such Wartsila Generator is in operation: fuel usage; hours of operation; KWH production; total water usage from CASS.

7. At least once per month for each Wartsila Generator and, in any month in which such Wartsila Generator is in operation, WSI will compare the results of the manual monitoring with the results of the SCADA system.

a. If the comparison shows a difference of more than 5% for any parameter, WSI will investigate the cause of the discrepancy; take corrective action to address the discrepancy as expeditiously as practicable; take a follow-up manual reading after completion of the corrective action; and again perform a

comparison. This process will be completed until the discrepancy no longer exists.

b. WSI will keep records of the date and time of each such discrepancy and the corrective action taken.

8.5 Emission Sampling and Daily NO_x Emissions Calculations

Emissions sampling and calculations procedures for the Wärtsilä engines are described in Appendices B and D, respectively.

WSI will monitor and record NO_X emissions (in parts per million) from the exhaust of each Wartsila Generator within six hours of startup of the generator and in any event according to the schedule set forth in Paragraph 8.5.1. below when such generator is operating. Emissions will be monitored and recorded with a Testo 350 portable hand-held emission analyzer (or an equivalent portable hand-held emission analyzer) the "Portable Gas Analyzer") to measure concentrations of NO_X, and to derive a NOx emission rate. WSI will calculate Wartsila Generator NO_X emission rates (lb/hour) using the Best Fit Regression Line Equation for each engine as described in Appendix D (Engine Emissions Calculation Method) to the Consent Decree.

1. For the first six months after the Effective Date of the Consent Decree, monitoring will be conducted at a minimum frequency of once per week for each operating Wartsila Generator. Provided that each monitoring result for the subject Wartsila Generator does not exceed 37 lb/hour NO_X during that six month period, the monitoring frequency for the subject generator may be reduced to a minimum of once per month provided, however, that if, at any time, a monitoring result exceeds 37 pounds per hour (lb/hr) NO_X, for the subject Wartsila Generator, then the monitoring frequency for the subject generator will revert to a minimum of once per week , until such time that consecutive monitoring results for a subsequent six month period for the subject generator do not exceed 37 lb/hr NO_X. At such time, the monitoring frequency for the subject Wartsila Generator may be reduced in accordance with the preceding sentence.
2. WSI will follow the procedures described in "Conditional Test Method 34" ("CTM-034") when using the Portable Gas Analyzer. An electronic copy of

CTM-034, the "Draft Method for the Determination of O_2, CO, & (NO and NO_2) for Periodic Monitoring" is available at the EPA Technology Transfer Network, Emission Measurement Center: http://www3.epa.gov/ttn/emc/ctm.html.

3. WSI will calibrate, operate, and maintain the Portable Gas Analyzer in accordance with the Site-Specific Monitoring Plan in Appendix B to the Consent Decree.

4. NO_X emissions monitoring for each Wartsila Generator will be performed while the generator is operating.

5. Concurrently with the NO_X emissions monitoring, WSI will monitor and record the date and time of the monitoring and record the SCADA operating parameters for that Wartsila Generator.

6. For each Wartsila Generator monitoring event, WSI will use 40 C.F.R. Part 60, Appendix A-7, Method 19 methodology, fuel oil specific heat, and SCADA fuel consumption records to convert the measured NO_X emission concentration into an emission rate (pound per hour) expressed as NO_2.

The following provides additional instructions for using the spreadsheet to log the emissions sampling data and for calculating daily data. Open a generator-specific spreadsheet ("Wärtsilä EU X Emissions and Operational Records.xlsm" where X matches the unit number)

1. If there is new emissions sampling data to input, do the following:

2. Enter Date, kW Load, % Load, Fuel Consumption, Water Consumption in the appropriate columns.

3. Click on the green "CLICK TO CALCULATE COEFFICIENTS" button to perform the regression analysis. The results will be reported automatically and entered in the Daily Emission Data sheet. No additional action is required until the next time emissions data is entered.

4. The spreadsheet will have data in all rows and appear as presented in Figure 4.

Figure 4 Example Operations Log and Calculated Variables

OPERATIONS LOG: EMISSION UNIT ID 1

Emissions Sampling Data Source	Run/Date	kW Load	% Load	Fuel Consumption (gph)	Water Consumption (gph)	Measured Emission Rate (lb/hr)	Date Verification	Y	X1	X2
Alaska Source Test 2013 Test Data		2000	100	139	8	37.9	--	--	--	--
		2000	100	128	8	35.6	--	--	--	--
		2000	100	132	8	35.6	--	--	--	--
		1870	85	109	7	33.7	--	--	--	--
		1870	85	108	6	33.5	--	--	--	--
		1870	85	103	6	33.0	--	--	--	--
		1650	75	100	5	28.3	--	--	--	--
		1650	75	100	5	29.3	--	--	--	--
		1650	75	93	4	28.9	--	--	--	--
		1400	65	96	5	28.4	--	--	--	--
		1400	65	89	4	28.8	--	--	--	--
		1400	65	83	5	27.5	--	--	--	--
		1100	50	68	2	20.3	--	--	--	--
		1100	50	62	2	21.6	--	--	--	--
	9/18/2013	1100	50	67	2	21.1	9/18/2013	6.873013	0.215388	0.066393

If there is no new emissions sampling data or if the sampling data has already been entered, select the "Daily Emissions Data" tab of the same spreadsheet.

1. Enter the Date, Engine Load and Water Injection Rate in the table.
2. Click on "CALCULATE DAILY NOx."
3. Verify that the date reported in Column F is consistent with the most recent Testo 350 sampling date.
4. Verify that the calculated emission rate is 'reasonable.' Confirm that the emission rate is not above the limit.
5. If the emission rate is calculated at above the limit, perform an emissions sampling following the procedures of Appendix B.
6. If emissions sampling shows that emissions are in excess of the allowable value, notify the Power Plant Operator and complete appropriate recording and reporting tasks.

9.0 Air Quality Compliance

This PMO incorporates by reference the terms and conditions of WSI's active Title V and minor permits, and any future revisions to those permit conditions that may take effect after the

effective date of the Consent Decree. A renewed Title V permit is expected to be issued shortly after the effective date of the Consent Decree (pending review by EPA and finalization by ADEC). This permit will incorporate a Compliance Assurance Monitoring (CAM) program. The CAM Plan will meet the requirements of 40 C.F.R. 64 for the water injection NO_x controls for the Wärtsiläs.

10.0 PMO Plan Revisions

This PMO Plan will be reviewed and updated on an annual basis or as otherwise required by EPA or ADEC. All revisions to the PMO Plan will be submitted to EPA and ADEC with the quarterly report.

Appendix B

Site-Specific Monitoring Plan

APPENDIX B:
SITE-SPECIFIC MONITORING PLAN

Westward Seafoods, Inc.

Prepared By:

December 2016

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1.0 Background

Westward Seafoods, Inc. (WSI) owns and operates a seafood processing facility in Dutch Harbor, Alaska known as the Captain's Bay Facility (Facility). According to Paragraph 23 of the consent decree entered in *United States of America and State of Alaska, Plaintiffs, v. Westward Seafoods, Inc., Defendant*, entered in 2016, WSI is required to monitor and record NO_x emissions concentrations in parts per million from the exhaust of each of WSI's three Wärtsilä generators, Emission Unit (EU) IDs 1 – 3, located at the Facility beginning within six hours of generator startup unless the startup monitoring and recording has already been completed for that generator within the past week. Section 23.a of the consent decree specifies: For the first six months after the Effective Date of this Consent Decree, monitoring shall be conducted at a minimum frequency of once per week for each operating Wärtsilä Generator. Provided that each monitoring result for the subject Wärtsilä Generator does not exceed 37 lb/hour NO_x during that six month period, the monitoring frequency for the subject generator may be reduced to a minimum of once per month. If at any time, a monitoring result exceeds 37 pounds per hour (lb/hr) NO_x, for the subject Wärtsilä Generator, then the monitoring frequency for the subject generator shall revert to a minimum of once per week, until such time that consecutive monitoring results for a subsequent six month period for the subject generator do not exceed 37 lb/hr NO_x. At such time, the monitoring frequency for the subject Wärtsilä Generator may be reduced in accordance with the monthly schedule. When adverse weather conditions would make the monitoring required weekly or within six hours of startup unsafe for WSI's staff, the required monitoring may be postponed, provided that WSI records the time, date, and a description of the adverse weather conditions in its monitoring records and conducts the required monitoring as soon as it becomes safe for its staff to do so.

On-site emission monitoring will be conducted by Westward personnel. Personnel performing emission monitoring will ensure that all monitoring is conducted following this Site-Specific Monitoring Plan and the procedures described in the analyzer instruction manual. Due to the requirement to conduct repeated testing, notifications will be submitted to EPA or ADEC ten days prior to the initial test conducted according to this plan.

Table 1-1 presents an inventory of the emission units subject to this Site-Specific Monitoring Plan.

Table 1-1 Emission Units Subject to Site-Specific Monitoring

EU ID	Emission Unit Name	Emission Unit Description	Rating/Size
1	Wärtsilä Generator	Model 6R32D, Serial Number 5015	2,220 kW
2	Wärtsilä Generator	Model 6R32D, Serial Number 5016	2,220 kW
3	Wärtsilä Generator	Model 6R32D, Serial Number 5017	2,220 kW

The Environmental Protection Agency has established procedures, for handheld analyzers that use electrochemical cells (EC cells). This document, *Site-Specific Monitoring Plan* provides step-by-step calibration, operation and maintenance procedures for handheld gas analyzers based primarily on Conditional Test Method 034 (CTM-034). Certain aspects of other procedures are also incorporated into this monitoring plan, as described herein. 40 CFR 60, Appendix A-7, Method 19 is used for conversion from measured parts per million (ppm) concentrations to pounds per hour (lb/hr) emission rate of NO_2. This test plan will also refer to the use of SCADA to collect operational data during the performance testing.

Source Information and Source Description

Owner/Operator:	Westward Seafoods, Inc.
Source Name:	Dutch Harbor Seafood Processing Facility, Captain's Bay Plant
Location:	53º 51´ 30.30" North; 166º 33´ 08.65" West
Permit Contact:	Greg Peters
Email:	greg.peters@wsi.us

2.0 Site-Specific Emissions Monitoring Requirements

The emission monitoring results will be expressed in parts per million (ppm) NO_x and converted to pounds per hour value by using the calculation procedures of Method 19 of 40 CFR 60, Appendix A-7, based on hourly fuel consumption and heat content, as measured by the SCADA system.

2.1 Test Methods

Emissions sampling will determine NO_x concentrations based on the following methods:

- 40 CFR 60 Appendix A, Method 7E (portions as applicable);
- 40 CFR 60 Appendix A, Method 19 (for conversion from ppm to lb/hr);
- CTM-034;

2.2 Description of Sampling Location

EU IDs 1 – 3 each have stacks with diameters of 23.5 inches. All stacks have two 3 inch test ports at 90° and 180° clockwise in relation to stack (3 o'clock and 6 o'clock, respectively). The ports are fitted with steel cover plates, which have ½" threaded apertures. The probe is fitted with a threaded/beveled fitting that threads directly into the apertures. Previous performance testing has successfully employed high-temperature cloth to seal the ports. Figure 2.2-1 through Figure 2.2-3 present images of the sample port configuration.

Sample ports are located approximately twelve feet downstream and twelve feet upstream of the nearest flow disturbance on each unit. When expressed in terms of stack diameters, the sampling ports are approximately 6.1 stack diameters from the nearest upstream or downstream flow disturbance. These port locations conform with the criteria for sample site location: sampling ports must be at least two stack diameters downstream of any disturbance (e.g. turbocharger exhaust, crossover junction or recirculation take-off) and one-half stack diameter upstream of the gas discharge to the atmosphere[1].

[1] ICAC Test Method for Periodic Monitoring (CTM-034), Section 7.1.1

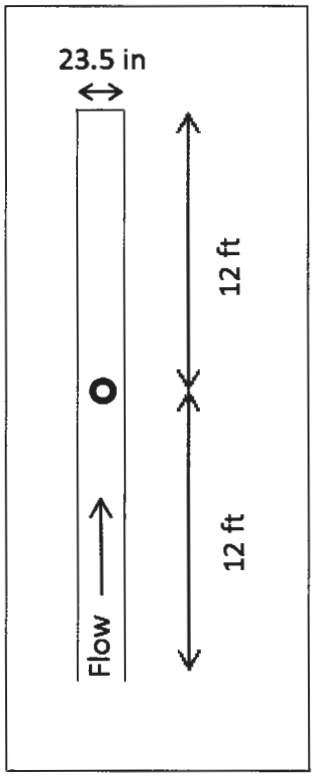

Figure 2.2-1 Test Port in Relation to Nearest Flow Disturbances

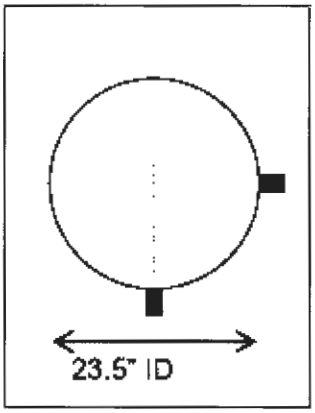

Figure 2.2-2 Locations of Sample Ports

Figure 2.2-3 Photo of Sample Port

2.3 Monitoring Equipment

The Testo 350 Portable Emission Analyzer[2] will be deployed for emissions monitoring with the following components:

1. Testo's 28 inch industrial gas sampling probe (to be ordered from Testo)

[2] http://www.testo350.com/testo-350/350testapp.html

2. Teflon-lined sample hoses;
3. Testo 350 electrochemical analyzer (including flue gas pump and thermoelectric cooler with automatic condensate removal pump[3]);
4. Cylinder gas regulators (to regulate calibration gases to a maximum of 12" H_2O/30 hectopascals [hPa]). Use atmospheric bypass to protect the instrument from accidental overpressures.

A suction pump draws the sample through the hose towards the analyzer at 1 liter/minute (l/min). The stack sample train is similar to that of the calibration train, with the exception that during stack sampling, the analyzer probe is inserted into a testing port rather than tubing connected to calibration gas. Specifications of the Testo 350 analyzer sensors are presented in Table 2-1.

Table 2-1 Testo 350 Sensor Specifications[4]

Parameter	NO_2 Specifications	NO Specifications	NO_x Specifications	O_2 Specifications
Principle of Operation	Electrochemical Sensor	Electrochemical Sensor	Calculated	Electrochemical Sensor
Range	0 to 500 ppm	0 to 4000 ppm	NA	0 to 25vol%
Accuracy	±5 ppm: 0 – 99 ppm; ±5%: > 99.9 ppm	±5 ppm: 0 – 99 ppm; ±5%: 100 – 1999 ppm ± 10%: > 1999 ppm		± 0.2Vol.%
Resolution	0.1 ppm	1 ppm		0.01vol.%

The Testo 350 has the capabilities to record concentration measurements and upload to a computer file, but in order to ensure that the concentration measurements are recorded in accordance with the test method, analyzer readout should be logged by hand in the attached forms.

[3] A moisture removal system is required according to CTM-034 Sections 3.1.4, 5.1.5
[4] Testo 350 Instruction Manual, 3.2.4 – 3.2.5

Westward will retain the analyzer and its stored data. Analyzer data will be uploaded to a computer file and stored onsite. Westward will also retain the hand-recorded data and provide copies of the data log as required by the Consent Decree in semiannual operating reports.

Engine load will be monitored continuously by SCADA during testing.

2.4 Maintenance

See Section 7 of the Testo 350 instruction manual for specific directions for changing analyzer components.

3.0 Testing Procedures

3.1 Testo Use and Set Up

Testing will be conducted at in-use operating loads according to production demand using the Testo 350 handheld analyzer.

Testing must follow the directions presented in the analyzer instruction manual.

The Testo may be used in several different positions: lying flat; hanging horizontally by handle; plugged vertically to the wall bracket by the handle). To prevent measuring errors the position of the Testo 350 must not be changed during a measurement. [5]

It is important to set up the Testo using the following sequence:

1. Ensure battery is fully charged prior to commencing test day;
2. Connect the test probe;
3. Ensure that condensate container is empty;
4. Turn Power on;
5. Conduct a gas path check in accordance with Section 5.5.2 of the Testo Manual to ensure all components are connected properly.

Prior to beginning the measuring phase, the analyzer will automatically zero. Ambient air used for zeroing the sensors should be free of interfering gases. Manual zeroing can also be done, in accordance with the Emissions Sampling procedures described herein. Manual zeroing should not be done within 10 minutes of an automatic zero.

Ensure that the proper analyzer settings are selected for the application (see "Before the Measurement," p. 69 of handbook) including:

1. Diesel fuel;
2. Internal combustion engine;
3. NO_x measurement.

---

[5] Testo 350 Instruction Manual, Section 6.2.1

Ensure that condensate never exceeds 25 milliliters (container maximum capacity). DO NOT remove condensate container while analyzer pump is in operation.[6] This could lead to water intrusion in the EC cells.

Do not break any seals or disconnect any fittings in the system until after the post-test calibration error check.

3.2 Fuel Monitoring

Obtain the average fuel consumption rate (gallons/hr) specified by SCADA during the test data phase of each engine emissions test. For each engine, this will include two minutes of SCADA fuel rate data, which is used to calculate the average for that specific period of time.

Obtain High Heat Value of fuel from fuel supplier. If none is available or if different fuel types are blended (i.e. ULSD, DF#1, fish oil), a representative fuel sample will be sent for analysis every quarter. These parameters will be used as input values for the Method 19 calculation described in Section 4.1.

3.3 Testing Phases

While the compliance demonstration is centered on the emissions sampling task, ensuring the accuracy of the NO_x emissions monitoring plan requires completion of all of the following methods:

1. Repeatability check;
2. Pre-test calibration error check;
3. Emissions sampling;
4. Zero calibration error;
5. Span calibration error.

All procedures are based on EPA's Conditional Test Method 034 (CTM-034). A linearity check is not required by CTM-034.

3.4 Calibration Gas Requirements

Prior to and directly following emissions monitoring, test the analyzer with calibration gases to ensure that the instrument is functioning properly and that the calibration settings did not drift during emissions monitoring. The procedure, from the beginning of the pre-test calibration phase to the end of the post-test calibration phase shall not exceed 12 hours. You may test more than one engine in between pre-and post-calibrations.

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[6] Testo 350 Manual, 7.9

Zero calibration gases for NO_x are permitted to consist of fresh air free of ambient NO_x;[7] or nitrogen containing less than 1.26 ppm NO and 0.16 ppm NO_2. 99.995% pure nitrogen is proposed for zero calibration gas for NO, NO_2 and O_2. This test procedure will make use of both types of zero gas.

CTM-034 allows for the span gas to range between 25% and 150% of the average measured stack gas concentration. However, according to the more rigorous standard for span gases expressed in Test Method 7 of 40 CFR 60 Appendix A, if the measured concentration is greater than 100% of the calibration span gas concentration, then the test run will be considered invalid. All span calibration gases must be certified[7]. The maximum NO_x concentration that was measured during previous emissions testing was 861.9 ppm at 1,100 kW (50% load). , Calculated NO and NO_2 values based on the discussion of anticipated NOx values are presented in Table 3-1. NO and NO_2 gas concentrations were based on the ratio of NO to NO_2 instrument range values, which is 8:1.

Oxygen concentrations measured during previous emissions testing ranged up to 13.4%. A span value of 14% is proposed to allow for any elevated oxygen values.

Table 3-1 presents proposed test gas concentrations[8].

Table 3-1 Proposed maximum Span, Mid-Level and Zero Gas Concentrations

Gas	NO_2 Range	NO Range	O_2 Range
Span	150 ppm	1050 ppm	14.0% O_2
Zero	99.995% N_2		
Balance Gas	Air	Nitrogen	Nitrogen

3.5 Repeatability Check Procedure

Repeatability checks must be conducted once within 5 days prior to the testing date. Repeatability checks must also be performed whenever an EC cell is replaced or if a cell is exposed to gas concentrations greater than 150% of the highest span gas concentration. Since this test protocol will occur at a minimum of 1 week intervals, the repeatability check procedure should be performed prior to each emissions test.

This procedure involves introducing the NO and NO_2 span gases, individually, and recording the EC cell responses for a series of four measurement cycles, each. Each measurement cycle

[7] CTM-034, Section 6.1
[8] Rounded to nearest whole number

consists of a ramp up phase (5 minutes), a test data phase (2 minutes) and a refresh phase (10 minutes).

The responses for each test data phase are averaged, and the absolute difference between the highest and lowest average result is calculated. The absolute value of the difference between the highest and lowest calculated average test data phase for each span gas may not vary more than ±3% of the span gas, as shown in

Table 3-2. The specific steps in this procedure are detailed in the attached Repeatability Check Procedure Form (Attachment A).

Table 3-2: Repeatability Check Allowable Deviation

Span Gas	Allowable Deviation
1050 ppm NO	±31.5 ppm
150 NO_2	±4.5 ppm

3.6 Interference Check

Analyzers that have been verified for interference response by EPA are considered to be in compliance with the CO, NO and NO_2 interference requirements of CTM-034.[9] EPA's Environmental Technology Verification Program issued a Joint Verification Statement specifying that no interference was found in NO or NO_2 measurements when testing with the Testo 350. [10] This satisfies the requirement of CTM-034.

3.7 Pre-Test Calibration Error Check[11]

The Calibration Error Check is performed before and after exhaust gas sampling. From the beginning of the pre-test calibration error check to the end post-test calibration error check, sampling must be completed within 12 hours. This process ensures the reliability of readings taken from the exhaust stack. Refer to Post - Test Calibration Error Check, Section 3.9, for additional details on the post-test calibration check.

The operator is responsible for ensuring that post-testing calibration error checks are conducted regularly enough to avoid losing extensive sampling data. It is up to the operator's

[9] CTM-034, Section 4.3
[10] ETV Joint Verification Statement, Determining Nitrogen Oxides Emissions, Testo 350 Portable Emissions Analyzer
[11] CTM-034, Section 6.2.1 – 6.2.3

discretion to perform sample runs on all engines prior to commencing the post-test calibration check, or to perform calibrations individually for each engine.

This procedure is essentially the same for the pre-test calibration and post-test calibration. The procedure consists of several steps:

- Zero Phase: in which the analyzer is exposed first to ambient air, then to nitrogen long enough for O_2, NO, and NO_2 readings to be at, or near, zero.
- NO Calibration Runs: two runs for NO span gas. In between runs is an 8 minute refresh phase.
- NO_2 Calibration Runs: two runs for NO_2 span gas. In between each run is an 8 minute refresh phase.

There are multiple calibration error limits that are applied over the course of a calibration. These limits are summarized in Table 3-3.

The cell temperature and flow rate are also monitored during the calibration. These are subject to special conditions:

- Flow rate[12]
  - must not vary by more than ±10% throughout the test, or
  - must not operate within a tolerance that does not affect the concentration of the readings by more than ±3%. Testo provided guidance on this tolerance, as noted in Table 6.
- Cell Temperature (Tsens)[13]
  - must not vary by more than ±10°F for each measurement cycle and
  - must not vary by more than ±20°F from the pre-test calibration check to the post-test calibration check.

  During a post-test calibration, if an invalid calibration occurs, the entire test is regarded as invalid. In this case, take corrective action and repeat the analyzer calibration check until acceptable performance is achieved.

If at any time during the pre-test calibration check, the recorded error for a calibration check exceeds the allowable deviation, the procedure must be cancelled. All data collected during the pre-test calibration error check is invalid. Refresh the analyzer with fresh air for 10 minutes and start the pre-test calibration run again. In the event of continued failure, additional maintenance to the Testo may be needed (e.g.: adjusting the calibration of an EC cell, replacing one or more EC cells, servicing the pump). Specific instructions on how to perform service on the Testo can be found in the Testo Manual.

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[12] CTM-034, Section 5.1.8
[13] CTM-034, Section 7.3

Table 3-3: Deviation Limits for Calibration Error Check

	Condemning limit:	O_2	NO	NO_2	Flow Rate May not vary more than: [A]	Tsens (cell temp) May not vary more than:
Zero	Readings must fall within:	±0.3% O_2	±31.5 ppm	±4.5 ppm	±0.1 l/min	±10°F for a cal run
Calibration	Average of test data phase error allowable deviation:	0.7%	±52.5ppm	±21.0 ppm	±0.1 l/min	±10°F for a cal run
	Calculate the average of the test data phase. Each individual test data phase reading must be within ±2% of the average, or 1 ppm, whichever is higher.				±0.1 l/min	±10°F for a cal run

Note: Alternatively, the analyzer sample flow rate must be maintained within a tolerance range that does not affect the gas concentration readings by more than ±3%. A representative of Testo, Jordan Aguilar verified that "The flow rate from the gas pressure regulator will not alter the calibration as long as the O_2% value is within tolerance (+/-0.2%). If the O_2% measurement is correct that ensures that all the other sensors are being completely saturated" (October 9, 2014).

3.8 NOx Emission Testing

The emissions sampling will consist of one test run per engine. The runs for all three engines can be combined between calibration phases (i.e.: pre-test calibration phase, Engine 1 Test, Engine 2 Test, Engine 3 Test, and post-test calibration phase). Alternatively, emissions sampling can be conducted with calibrations before and after each engine sample (i.e.: pre-test calibration, Engine 1 Test, post-test calibration; pre-test calibration, Engine 2 Test, post-test calibration; etc.). Note: in the event that a post-test calibration test fails, the whole sampling program will be rendered invalid.

The test will consist of five steps:

- Zero the analyzer with ambient air free from NOx: simply allow the O_2 concentration to normalize at 20.9%. There is no specific length of time that is required for this zero phase.
- Insert the test probe into the center of the exhaust stack: 11.75 inches.[14] Ensure that the probe's in-built thermocouple is not touching the probe basket. [15]
- Ramp up Phase: Similar to the procedures above, with records taken each minute, for 5 minutes.

[14] CTM-034, Section 7.2
[15] Testo 350 Manual, Section 6.2.2

- Test Data Phase: A single test run consisting of two minutes, with recordings taken every 15 seconds.
- Refresh Phase: The phase in which the analyzer is refreshed with ambient air, and records are taken once per minute for 10 minutes.

3.9 Post - Test Calibration Error Check

Following each run or series of runs, a post-test calibration error check is necessary to confirm the validity of the collected data.

As with the pre-test calibration error check, the procedure for the performing the post-test calibration error check follows the same procedure as the pre-test calibration error check. Also, the allowable deviations are the same (Table 3-3). In addition to these, the cell temperature must be within ±20°F from pre-test calibration error check to post-test calibration error check.

In the event that any of these parameters is exceeded, all testing conducted since the previous calibration error check is invalid and the testing program must be re-started again from the beginning.

4.0 Results Report

Monitoring results will be saved onsite and made available to EPA and ADEC via the electronic Portal according to the quarterly or semiannually schedule, as specified by Paragraph 52 of the Consent Decree. Monitoring results will be comprised of:

- A written report including:
  - A summary of the test results
  - Date, start time, technician, engine, measured test parameters (NO, NO_2, total NO_x consisting of the sum of measured NO plus NO_2 values, O_2, fuel consumption rate, engine load);
  - Brief description of test procedure;
  - List of any deviations from the Site-Specific Monitoring Plan or notable findings.
- All handwritten test records and calibration check forms.

All submittals to EPA will be certified by the responsible official with the following statement:

> I certify under penalty of law that this document and all attachments 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 submitted is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than 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.

Submittals to ADEC will contain the certification statement required by the current Title V Permit.

The monitoring results will include Reference Method 19 calculations to convert NOx (combined NO plus NO_2) from ppm to pounds per hour (lb/hr) (http://www.epa.gov/ttnemc01/methods/method19.html).

The results of the emissions monitoring conducted under this Appendix B will be used to calculate the daily NO_x emissions following the procedure described in Appendix D. See Appendix D for directions for entering emissions and SCADA data in appropriate spreadsheets.

4.1 Conversion from Concentrations to Mass Emission Rates (Method 19 Calculations)

To determine compliance with the NOx monitoring frequency threshold limit (37.0 lb/hr) and the NOx emission limit (42.3 lb/hr), one must convert the results of the emissions test to lb/hr NOx. Use the following procedure.

First, collect fuel rate data and fuel high heat values as described in Section 3.2.

Sum the NO and NO_2 averages from the test data phase for each engine test run.

Input these, and the O2 average from the test data phase into the equations, as described below.

Table 19-1 of Method 19 provides a conversion factor to multiply NO_x values in ppm by 1.194×10^{-7} to convert to pounds of NO_x per standard cubic foot of exhaust (lb/scf).

Table 19-2 of Method 19 provides an F-factor of 9,190 dscf/10^6 Btu for diesel. Following Method 19 procedures for dry basis calculations (given that the Testo 350 has a condensate trap), the emissions in lb/hr can be determined through the following equation for dry basis.

$$E = C_d F_d \frac{20.9}{(20.9 - \%O_2)}$$

Where:

E = Pollutant emission rate, lb/MMBtu

C_d = Pollutant concentration, dry basis, lb/scf,

F_d = Dry volumes of combustion components per unit of heat content, scf/million Btu: for diesel fuel, it is 9,190 dscf/10^6 Btu. The higher heating value of the combusted fuel must be multiplied by 9,190 dscf/10^6 to use this factor.

$\%O_2$ = Measured exhaust oxygen concentration, volume percent.

To determine the NO_x concentration in lb/hr, multiply the resulting pounds of NO_x/MMBtu by the higher heating value of the diesel fuel (assumed to be 0.137030 MMbtu/gal) and the hourly diesel consumption volume.

Example calculation based on permit limit of 571 ppm NO_x limit:

$$E = C_d F_d \frac{20.9}{(20.9 - \%O_2)}$$

$$= 571\ ppm \times 1.194 \times 10^{-7} \frac{lb}{scf} \times \frac{9{,}190 scf}{MMBtu} \times \frac{20.9\%}{(20.9\% - 15\%)} = 2.22 \frac{lb}{MMBtu}$$

Assuming

19,300 btu/lb (Higher heating value for diesel fuel),

7.1 lb/gal (Diesel fuel density),

139 gal/hr (Maximum fuel consumption),

15% oxygen in the exhaust stack (as measured with the Testo 350).

$$2.22 \frac{lb}{MMBtu} \times 137{,}030 \frac{btu}{gal} \times \frac{1 MMbtu}{1{,}000{,}000 btu} \times 139 \frac{gal}{hr} = 42.28 \frac{lb}{hr}$$

5.0 SCADA System

Operation and maintenance of the SCADA system, including calibration of meters and sensors that provide data to the SCADA system, is addressed in Attachment B of this Site-Specific Monitoring Plan.

Attachment A

Testing Forms

Repeatability Check: 1050 PPM NO Gas Test

Step 1 Instructions	1) Introduce 1050 ppm NO calibration gas to the calibration assembly. 2) Adjust flow of gas such that a very small amount of gas is exiting the bypass. Sample flow rate should always be 1 liter/min. 3) Record the readings in the Ramp Up Phase once per minute for five minutes. 4) Do not adjust the system except to ensure that the calibration gas flow rate is correct.

Run #	1			2			3			4		
Ramp Up Phase ONE READING PER MINUTE	Time	NO	Flow Rt.	Time	NO	Flow Rt.	Time	NO	Flow Rt.	Time	NO	Flow Rt.

Step 2 Instructions	1) Do not switch gases! Begin the "Test Data Phase" 2) Record readings every 15 seconds for a total of two minutes.

	Time	NO	Flow Rt.	Time	NO	Flow Rt.	Time	NO	Flow Rt.	Time	NO	Flow Rt.
Test Data Phase ONE READING EVERY 15 SECONDS												
Average NO:												

Step 3 Instructions	1) Switch to fresh air by removing the sample port from the calibration assembly. 2) Record readings once per minute for at 10 consecutive minutes.

	Time	NO	Flow Rt.	Time	NO	Flow Rt.	Time	NO	Flow Rt.	Time	NO	Flow Rt.
Refresh Phase ONE READING PER MINUTE												

Step 4 Instructions	1) Find the lowest and highest average NO concentrations from the Test Data Phase. 2) Calculate the difference. (High - Low) 3) Compare the Difference to the allowable deviation.

High NO avg:	
Low NO avg:	
Diff:	
Allow. Dev.	±31.5 ppm
Pass/Fail?	

Repeatability Check: 150 ppm NO_2 Gas Test

Step 1 Instructions	1) Introduce 150 ppm NO_2 calibration gas to the calibration assembly. 2) Adjust flow of gas such that a very small amount of gas is exiting the bypass. Sample flow rate should always be 1 liter/min. 3) Record the readings in the Ramp Up Phase once per minute for five minutes. 4) Do not adjust the system except to ensure that the calibration gas flow rate is correct.

Run #	1			2			3			4		
Ramp Up Phase ONE READING PER MINUTE	Time	NO	Flow Rt.	Time	NO	Flow Rt.	Time	NO	Flow Rt.	Time	NO	Flow Rt.

Step 2 Instructions	1) Do not switch gases! Begin the "Test Data Phase" 2) Record readings every 15 seconds for a total of two minutes.

Test Data Phase ONE READING EVERY 15 SECONDS	Time	NO	Flow Rt.	Time	NO	Flow Rt.	Time	NO	Flow Rt.	Time	NO	Flow Rt.
Average NO_2:												

Step 3 Instructions	1) Switch to fresh air by removing the sample port from the calibration assembly. 2) Record readings once per minute for at 10 consecutive minutes.

Refresh Phase ONE READING PER MINUTE	Time	NO	Flow Rt.	Time	NO	Flow Rt.	Time	NO	Flow Rt.	Time	NO	Flow Rt.

Step 4 Instructions	1) Find the lowest and highest average NO concentrations from the Test Data Phase. 2) Calculate the difference. (High - Low) 3) Compare the Difference to the allowable deviation.

High NO_2 avg:	
Low NO_2 avg:	
Diff:	
Allow. Dev.	±4.5 ppm
Pass/Fail?	

Linearity Check: High, Mid, Zero for NO, NO_2, and O_2	
Instructions	1) Introduce 1,050 ppm NO calibration gas to the calibration assembly. 2) Sample flow rate should always be at or near 1 liter/min. 3) Allow the gas reading to stabilize (look for several consecutive similar responses) 4) Record the response. Determine the deviation, and whether the result is within the allowable deviation range. 5) Purge the analyzer with fresh air for 10 minutes between gas injections. 6) Repeat Steps 1-5 for each of the remaining gases.

Calibration Gas	Gas Concentration	Analyzer Response (ppm)	Deviation (ppm)	Allowable Deviation	Pass Yes/No
NO-high	1050 ppm			±26.2 ppm	
NO-mid	525 ppm			±26.2 ppm	
NO-zero	zero			±26.2 ppm	
NO_2-high	150 ppm			±4.5 ppm	
NO_2-mid	75 ppm			±4.5 ppm	
NO_2-zero	zero gas			±4.5 ppm	
O_2-high	14.0% O_2			±0.3% O_2	
O_2-mid	7.0% O_2			±0.3% O_2	
O_2-zero	zero			±0.3% O_2	

Pre-Test Calibration Error Check

Step 1: Zero Phase	1) Introduce fresh air and allow O_2 reading to stabilize at 20.9% This phase should be done away from any interfering gases. 2) Introduce zero gas (nitrogen) to the calibration assembly. 3) Record the O_2, NO, NO_2, sensor temperature (Tsens), and flow rate readings once per minute until readings are constant for at least two consecutive minutes.

	Time	O_2	NO	NO_2	Flow Rt.	Tsens.
Zero Phase ONE READING PER MINUTE						
Allowable Dev:		+/−0.3%	±31.5 ppm	±4.5 ppm	May not vary more than:	May not vary more than:
pass/fail					±0.1l/min	±10°F

Step 2: 1050 ppm NO Span Calibration Test	1) Introduce fresh air and allow O_2 reading to stabilize at 20.9%. Remember: no interfereing gases! 2) Introduce the NO span gas. 3) Ramp Up Phase: Record readings once per minute for five consecutive minutes. 4) Test Data Phase: Record readings every 15 seconds for two consecutive minutes.

	Cal Run 1				Cal Run 2			
	Time	NO	Flow Rt.	Tsens.	Time	NO	Flow Rt.	Tsens.
Ramp Up Phase ONE READING PER MINUTE								
Test Data Phase ONE READING EVERY 15 SECONDS								
Test Data Phase Average:			May not vary more than:	May not vary more than:			May not vary more than:	May not vary more than:
Allowable Dev:		±52.5 ppm				±52.5 ppm		
Single Reading Dev: Calculate ±2% of avg or 1 ppm (highest one)			±0.1 l/min	±10°F			±0.1 l/min	±10°F
Pass/Fail:								

Step 3: Refresh Phase	1) Introduce fresh air to the system. 2) Record data once per minute for 10 consecutive minutes.

Refresh Phase ONE READING PER MINUTE								

Step 4: 150 ppm NO_2 Calibration Test	1) Introduce fresh air and allow O_2 reading to stabilize at 20.9%. Remember: no interfereing gases! 2) Introduce the NO_2 span gas. 3) Ramp Up Phase: Record readings once per minute for five consecutive minutes. 4) Test Data Phase: Record readings every 15 seconds for two consecutive minutes.

	Cal Run 1				Cal Run 2			
	Time	NO_2	Flow Rt.	Tsens.	Time	NO_2	Flow Rt.	Tsens.
Ramp Up Phase ONE READING PER MINUTE								
Test Data Phase ONE READING EVERY 15 SECONDS								
Test Data Phase Average:			May not vary more than:	May not vary more than:			May not vary more than:	May not vary more than:
Allowable Dev:		±7.5 ppm				±7.5 ppm		
Single Reading Dev: Calculate ±2% of avg or 1 ppm (highest one)			±0.1 l/min	±10°F			±0.1 l/min	±10°F
Pass/Fail:		Pass	Pass	Pass		Pass	Pass	Pass

Step 5: Refresh Phase	1) Introduce fresh air to the system. 2) Record data once per minute for 10 consecutive minutes.

Refresh Phase								

Step 6: 14% O_2 Calibration Test	1) Introduce fresh air and allow O_2 reading to stabilize at 20.9%. Remember: no interfereing gases! 2) Introduce the 14% O_2 span gas. 3) Ramp Up Phase: Record readings once per minute for five consecutive minutes. 4) Test Data Phase: Record readings every 15 seconds for two consecutive minutes.							
	Cal Run 1				Cal Run 2			
	Time	O_2	Flow Rt.	Tsens.	Time	O_2	Flow Rt.	Tsens.
Ramp Up Phase ONE READING PER MINUTE								
Test Data Phase ONE READING EVERY 15 SECONDS								
Test Data Phase Average:			May not vary	May not vary			May not vary	May not vary
Allowable Dev:		±0.7%	more than:	more than:		±0.7%	more than:	more than:
Single Reading Dev: Calculate ±2% of avg			±0.1 l/min	±10°F			±0.1 l/min	±10°F
Pass/Fail:								
Step 7: Refresh Phase	1) Introduce fresh air to the system. 2) Record data once per minute for 10 consecutive minutes.							
Refresh Phase ONE READING PER MINUTE								

		ENGINE 1				
Step 1 Zero Phase		1) Zero the analyzer with fresh air. Allow O_2 reading to stablize at 20.9%				
Step 2 Exhaust Test		1) Insert the probe into the port before the catalyst, 11.75 inches into the exhaust stack, perpendicular to the outer edge of the exhaust. 2) Ramp Up: Record analyzer responses once per minute for 5 minutes: O_2, NO, NO_2, Tsense, and flow rate. 3) Test Data Phase: Record analyzer responses every 15 seconds for two minutes. 4) Refresh Phase: Record analyzer responses once per minute for 10 minutes. 5) Calculate O2, NO, NO2, Tsense, and flow rate tolerances and determine conformance with allowable deviation limits.				
	Time	O_2	NO	NO_2	Flow Rt.	Tsens
Ramp Up Phase ONE READING PER MINUTE	4:00	0	150	5	0.98	610
	4:01	2	230	11	0.98	610
	4:02	5	357	29	0.98	610
	4:03	6	380	30	0.98	611
	4:04	6	382	30	0.98	612
Test Data Phase ONE READING EVERY 15 SECONDS	4:05:00	6	382	31	0.98	610
	4:05:15	6	382	31	0.98	610
	4:05:30	6	383	31	0.98	612
	4:05:45	6	382	31	0.98	610
	4:06:00	6	383	31	0.98	612
	4:06:15	6	383	32	0.98	612
	4:06:30	6	382	31	0.98	610
	4:06:45	7	383	32	0.98	611
	Average:	5	351	27	May not vary more than: ±0.1 l/min	May not vary more than: ±10°F
Refresh Phase ONE READING PER MINUTE	4:07	2.0	300	21	0.98	70
	4:08	15.0	250	15	0.98	70
	4:09	19.9	98	8	0.98	70
	4:10	20.9	5	2	0.98	70
	4:11	20.9	2	0	0.98	70
	4:12	20.8	0	0	0.98	70
	4:13	20.8	0	0	0.98	70
	4:14	20.7	0	0	0.98	70
	4:15	20.9	0	0	0.98	70
	4:16	20.9	0	0	0.98	70

		ENGINE 2				
Step 1 **Zero Phase**		1) Zero the analyzer with fresh air. Allow O_2 reading to stablize at 20.9%				
Step 2 **Exhaust Test**		1) Insert the probe into the port before the catalyst, 11.75 inches into the exhaust stack, perpendicular to the outer edge of the exhaust. 2) Ramp Up: Record analyzer responses once per minute for 5 minutes: O_2, NO, NO_2, Tsense, and flow rate. 3) Test Data Phase: Record analyzer responses every 15 seconds for two minutes. 4) Refresh Phase: Record analyzer responses once per minute for 10 minutes. 5) Calculate O2, NO, NO2, Tsense, and flow rate tolerances and determine conformance with allowable deviation limits.				
	Time	O_2	NO	NO_2	Flow Rt.	Tsens
Ramp Up Phase ONE READING PER MINUTE						
Test Data Phase ONE READING EVERY 15 SECONDS						
	Average:				May not vary more than:	May not vary more than:
					±0.1 l/min	±10°F
Refresh Phase ONE READING PER MINUTE						

		ENGINE 3				
Step 1 **Zero Phase**		1) Zero the analyzer with fresh air. Allow O_2 reading to stablize at 20.9%				
Step 2 **Exhaust Test**		1) Insert the probe into the port before the catalyst, 11.75 inches into the exhaust stack, perpendicular to the outer edge of the exhaust. 2) Ramp Up: Record analyzer responses once per minute for 5 minutes: O_2, NO, NO_2, Tsense, and flow rate. 3) Test Data Phase: Record analyzer responses every 15 seconds for two minutes. 4) Refresh Phase: Record analyzer responses once per minute for 10 minutes. 5) Calculate O2, NO, NO2, Tsense, and flow rate tolerances and determine conformance with allowable deviation limits.				
	Time	O_2	NO	NO_2	Flow Rt.	Tsens
Ramp Up Phase ONE READING PER MINUTE						
Test Data Phase ONE READING EVERY 15 SECONDS						
Average:					May not vary more than:	May not vary more than:
					±0.1 l/min	±10°F
Refresh Phase ONE READING PER MINUTE						

Post-Test Calibration Error Check

Step 1: Zero Phase

1) Introduce fresh air and allow O_2 reading to stabilize at 20.9% This phase should be done away from any interfering gases.
2) Introduce zero gas (nitrogen) to the calibration assembly.
3) Record the O_2, NO, NO_2, sensor temperature (Tsens), and flow rate readings once per minute until readings are constant for at least two consecutive minutes.

	Time	O_2	NO	NO_2	Flow Rt.	Tsens.
Zero Phase ONE READING PER MINUTE						
Allowable Dev:		+/−0.3%	±31.5 ppm	±4.5 ppm	May not vary more than:	May not vary more than:
pass/fail					±0.1l/min	±10°F

Step 2: 1050 ppm NO Span Calibration Test

1) Introduce fresh air and allow O_2 reading to stabilize at 20.9%. Remember: no interfereing gases!
2) Introduce the NO span gas.
3) Ramp Up Phase: Record readings once per minute for five consecutive minutes.
4) Test Data Phase: Record readings every 15 seconds for two consecutive minutes.

	Cal Run 1				Cal Run 2			
	Time	NO	Flow Rt.	Tsens.	Time	NO	Flow Rt.	Tsens.
Ramp Up Phase ONE READING PER MINUTE								
Test Data Phase ONE READING EVERY 15 SECONDS								
Test Data Phase Average:			May not vary more than:	May not vary more than:			May not vary more than:	May not vary more than:
Allowable Dev:		±52.5 ppm				±52.5 ppm		
Single Reading Dev: Calculate ±2% of avg or 1 ppm (highest one)			±0.1 l/min	±10°F			±0.1 l/min	±10°F
Pass/Fail:							Temperature variation from pre-cal to post-cal may not vary more than:	
							±20°F	

Step 3: Refresh Phase	1) Introduce fresh air to the system. 2) Record data once per minute for 10 consecutive minutes.							
Refresh Phase ONE READING PER MINUTE								
Step 4: 150 ppm NO_2 Calibration Test	1) Introduce fresh air and allow O_2 reading to stabilize at 20.9%. Remember: no interfereing gases! 2) Introduce the NO_2 span gas. 3) Ramp Up Phase: Record readings once per minute for five consecutive minutes. 4) Test Data Phase: Record readings every 15 seconds for two consecutive minutes.							
	Cal Run 1				Cal Run 2			
	Time	NO	Flow Rt.	Tsens.	Time	NO	Flow Rt.	Tsens.
Ramp Up Phase ONE READING PER MINUTE								
Test Data Phase ONE READING EVERY 15 SECONDS								
Test Data Phase Average:			May not vary more than:	May not vary more than:			May not vary more than:	May not vary more than:
Allowable Dev:	±7.5 ppm					±7.5 ppm		
Single Reading Dev: Calculate ±2% of avg or 1 ppm (highest one)			±0.1 l/min	±10°F			±0.1 l/min	±10°F
Pass/Fail:							Temperature variation from pre-cal to post-cal may not vary more than:	
							±20°F	
Step 5: Refresh Phase	1) Introduce fresh air to the system. 2) Record data once per minute for 10 consecutive minutes.							
Refresh Phase ONE READING PER MINUTE								

Step 6: 14% O_2 Calibration Test	1) Introduce fresh air and allow O_2 reading to stabilize at 20.9%. Remember: no interfereing gases! 2) Introduce the 14% O_2 span gas. 3) Ramp Up Phase: Record readings once per minute for five consecutive minutes. 4) Test Data Phase: Record readings every 15 seconds for two consecutive minutes.

	Cal Run 1				Cal Run 2			
	Time	O_2	Flow Rt.	Tsens.	Time	O_2	Flow Rt.	Tsens.
Ramp Up Phase ONE READING PER MINUTE								
Test Data Phase ONE READING EVERY 15 SECONDS								
Test Data Phase Average:			May not vary more than:	May not vary more than:			May not vary more than:	May not vary more than:
Allowable Dev:		±0.7%				±0.7%		
Single Reading Dev: Calculate ±2% of avg			±0.1 l/min	±10°F			±0.1 l/min	±10°F
Pass/Fail:								

Temperature variation from pre-cal to post-cal may not vary more than:
±20°F

Step 7: Refresh Phase	1) Introduce fresh air to the system. 2) Record data once per minute for 10 consecutive minutes.

Refresh Phase ONE READING PER MINUTE								

Appendix C

Environmental Mitigation

APPENDIX C
ENVIRONMENTAL MITIGATION

I. Lighting Replacement Project:

A. Defendant and Alyeska shall reduce NO_x emissions at the Captain's Bay and Alyeska Facilities, respectively, by replacing existing lighting at the Captain's Bay and Alyeska Facilities with high efficiency bulbs and fixtures (primarily LEDs), which consume less power to obtain the same amount of illumination ("Lighting Replacement Project"). The total lighting load at the Captain's Bay Facility shall be reduced by at least 42% (from 286 to 166 kilowatts (KW) and the total lighting load at the Alyeska Facility shall be reduced by at least 36% (from 143 to 91.5 KW). Defendant and Alyeska shall complete installation of the equipment and infrastructure required for the Lighting Replacement Project on or before March 31, 2017.

B. Defendant and Alyeska shall continue to use the high efficiency lighting installed as part of the Lighting Replacement Project for at least three years after the date they complete installation of the equipment and infrastructure required for the Lighting Replacement Project at both facilities.

C. On or before May 31, 2020, Defendant and Alyeska shall submit a report that documents:

1. The date installation of the Lighting Replacement Project was completed;
2. The money expended by Defendant and Alyeska in implementing the Lighting Replacement Project;
3. A statement that the WSI and Alyeska Facilities have each been operated with the equipment comprising the Lighting Replacement Project for a period of three years after completion of installation; and
4. A description of the environmental benefit and other results of implementing the Lighting Replacement Project.

II. Electrical Tie-In Project:

A. Defendant and Alyeska shall reduce NO_x by taking the following actions ("Electrical Tie-In Project"):

1. On or before March 31, 2017, Defendant and Alyeska shall a) have installed a five megawatt transformer for the City of Unalaska Division of Public Utilities ("Unalaska") to provide an electrical connection between Unalaska and the Alyeska Facility and b) have installed and implemented other necessary changes at the Alyeska Facility to allow the transmission of electricity from Unalaska to the Alyeska Facility.
2. On or before March 31, 2017 and for a three-year period thereafter, Defendant and Alyeska shall cease operation of the electrical generators at the Alyeska Facility identified as Emission Unit 5 (Caterpillar 3606 or EU5) and Emission Unit 6 (Caterpillar 3608 or EU6) and purchase 80-100% of its electrical needs from Unalaska to replace electrical power that would otherwise be produced by these generators at the Alyeska Facility except as provided below. During this three-year period, operation of EU5 and EU6 shall only be allowed during such times as would be allowed for an "emergency stationary internal

combustion engine" as defined in 40 C.F.R. § 60.4219 or situations in which Unalaska is unwilling or unable to supply power at levels that could have been provided by Emission Units 5 and 6 alone.

B. During the three-year period discussed in Paragraph II.A.2 above, Defendant and Alyeska shall keep records of:
   1. The total power purchased from Unalaska each month (MW-hrs);
   2. The date, time, duration, of operation of EU 5 or EU6, and the reason for operating the unit;
   3. For any period of time of operation of EU5 or EU6 claimed to be due to an emergency, a description of how the operation during that period meets the definition of an emergency; and
   4. The total power produced by EU 5 and 6 each month (MW-hrs).

C. Defendant and Alyeska shall include in the quarterly or semiannual report required by Paragraph 53(a) of the Consent Decree:
   1. A calculation of the net NO_x reduction (tons per quarterly or semiannual reporting period) resulting from the Electrical Tie-In Project, calculated as follows: 5.8 lb NOx times the amount of MW-hrs of electricity purchased from Unalaska during that period; and
   2. A summary of the information required by Paragraph II.B above.

D. On or before May 31, 2020, Defendant and Alyeska shall submit a report that documents:
   a. The date Alyeska ceased operation of the EU5 and EU6 and began to purchase at least 80-100% of its electrical needs from Unalaska.
   b. The money expended by Defendant and Alyeska in implementing the Electrical Tie-In Project.
   c. A description of the environmental benefit, including an estimate of the total NOx reduction (calculated as provided in Paragraph II.C.1. above) resulting from the project over its three-year period of operation, and other results of implementing the Electrical Tie-In Project.

E. Defendant and Alyeska shall retain for the duration of this Consent Decree, the utility billing receipts from Unalaska and other records that show the amount of power purchased from Unalaska for the Alyeska Facility, such as meter readings. Defendant and Alyeska shall make the records available to EPA and the State upon request.

Appendix D

Daily NO_X Emissions Estimation Calculation Procedure

APPENDIX D:
DAILY NO_x EMISSIONS ESTIMATION CALCULATION PROCEDURE

Westward Seafoods, Inc.

Prepared By:

HMH Consulting, LLC

December 2016

1.0 Introduction

As required in Paragraph 23 of the Consent Decree (United States of America and State of Alaska, Plaintiffs, v. Westward Seafoods, Inc., Defendant, entered in 2016 (Consent Decree), Westward Seafoods, Inc. (WSI) is required to develop a reliable method for estimating NO_x emissions once daily in pounds per hour from each Wärtsilä Generator based on the engine fuel combustion rate and Combustion Air Saturation System (CASS) water injection rates based on a Best Fit Regression Line Equation model for each Wärtsilä engine. This appendix describes the methodology and procedures for calculating daily NO_x emissions based upon SCADA data and both historic and ongoing emissions sampling.

As required by the Consent Decree, the best-fit line used to estimate hourly NO_x emissions was initially developed based on operating load and water injection rates. Incidentally, there was some variation within the NO_x emissions according to a given load in the existing September 2013 source test data. For example, at 2000 kW and 8 gallons per hour (gal/hr) water consumption, NO_x emissions ranged from 35.6 lb/hr to 37.9 lb/hr. However, fuel consumption varied between 128 gal/hr and 139 gal/hr during the 2000 kW runs. These fuel consumption rates appear to have more influence on the NO_x emissions outcome. Thus, a closer or more conservative best-fit linear equation was developed by using fuel consumption measured during the full duration of the emission sampling period instead of load.

2.0 Methodology

Daily NO_x emissions are to be determined as a function of engine fuel rate and water injection rate as they relate to weekly monitored NO_x emissions. Rather than using a simple linear regression to model the relationship between the dependent variable (NO_x emission rate) and a single independent variable, the best fit equation requires a multiple linear regression because the NO_x emission rate variable is dependent upon two independent variables: fuel rate and water consumption. Thus, the relationship modeling the hourly emission rate as a function of fuel rate and water consumption was formulated as described herein.

Least squares for multiple regressions was used to find the best fit by solving for the coefficients and intercept of the following equation of three variables:

$$\hat{y} = b_0 + b_1 x_1 + b_2 x_2$$

Where:

$\hat{y}$ = point on the best-fit line

b_0 = intercept

b = coefficients for independent variables

x_1 = independent variable representing *Fuel Rate (gal/hr)*

x_2= independent variable representing *Water Rate (gal/hr)*

The coefficients can be solved by expressing the relationship in terms of covariance:

$$cov(y, x_1) = b_1 cov(x_1, x_1) + b_2(x_2, x_1)$$
$$cov(y, x_2) = b_1 cov(x_1, x_2) + b_2(x_2, x_2)$$

The spreadsheet *Multiple Regression Procedure – Source Test Basis.xlsx* was created to establish the best-fit linear regression model and test it before it would be applied to the SCADA and emissions monitoring data for each of the three Wärtsilä generators. The calculations presented in the spreadsheet are provided so that the statistical methods upon which the best-fit linear relationship was based would be available for review.

A regression model for each of the Wärtsilä generators was initialized using data from a source test conducted in September 2013. The data collected during the September 2013 source test is representative of operating loads ranging from 50% to 100%. All necessary water injection data was included in the source test report for each test run. These data points were sufficient for developing the regression models and testing them. However, the previously collected data should have been accurate to the 10^{th} of a gallon.

Once the covariances were calculated based on the 15 entries from the September 2013 source tests, values for b_1 and b_2 could be determined by solving the following system of equations. In each of the spreadsheets, the solutions were found by using matrix operations.

$$113.09 = 498.65b_1 + 43.74b_2$$
$$10.35 = 43.74b_1 + 4.12b_2$$

The two equations could be solved easily for b_1 and b_2.

$$b_1 = 0.091$$
$$b_2 = 1.550$$

Using the following equation, b_0 could be determined using calculated values for b_1 and b_2 and where $\bar{y}, \overline{x_1}, and\ \overline{x_2}$ were mean *Emission Rate*, mean *Fuel Rate* and mean *Water Consumption Rate*, respectively. Since b_0 is the intercept, its value could be found by setting x_1 and x_2 to zero and solving for y.

$$(y - \bar{y}) = b_1(x_1 - \overline{x_1}) + b_1(x_2 - \overline{x_2})$$
$$b_0 = 12.665$$

And,

$$y = 12.665 + 0.091x_1 + 1.550x_2$$

This approach was verified by importing the same September 2013 source test data for EU 1 and processing it using R, a language and environment for statistical computing and graphics analysis program. According to the website for the R Project for Statistical Computing, "R provides a wide variety of statistical (linear and nonlinear modeling, classical statistical tests, time-series analysis, classification, clustering, …) and graphical techniques, and is highly extensible. The S language is often the vehicle of choice for research in statistical methodology, and R provides an Open Source route to participation in that activity[1]."

R produced values for b_1, b_2 and b_0 that were very similar to the respective Excel results. However, Excel spreadsheets will enable the user to save the observations and automatically calculate the emission rates in a single common application. Multiple linear regression values calculated by *R* are provided in Figure 2-1. Note that the estimated values for "Intercept", "Fuel Rate" and "WaterRate" in the figure agree with the values calculated based upon the procedure using Excel.

Values calculated in *R*:

$$b_0 = 12.633$$

$$b_1 = 0.091$$

$$b_2 = 1.545$$

[1] www.r-project.org/about.html, "Introduction to R"

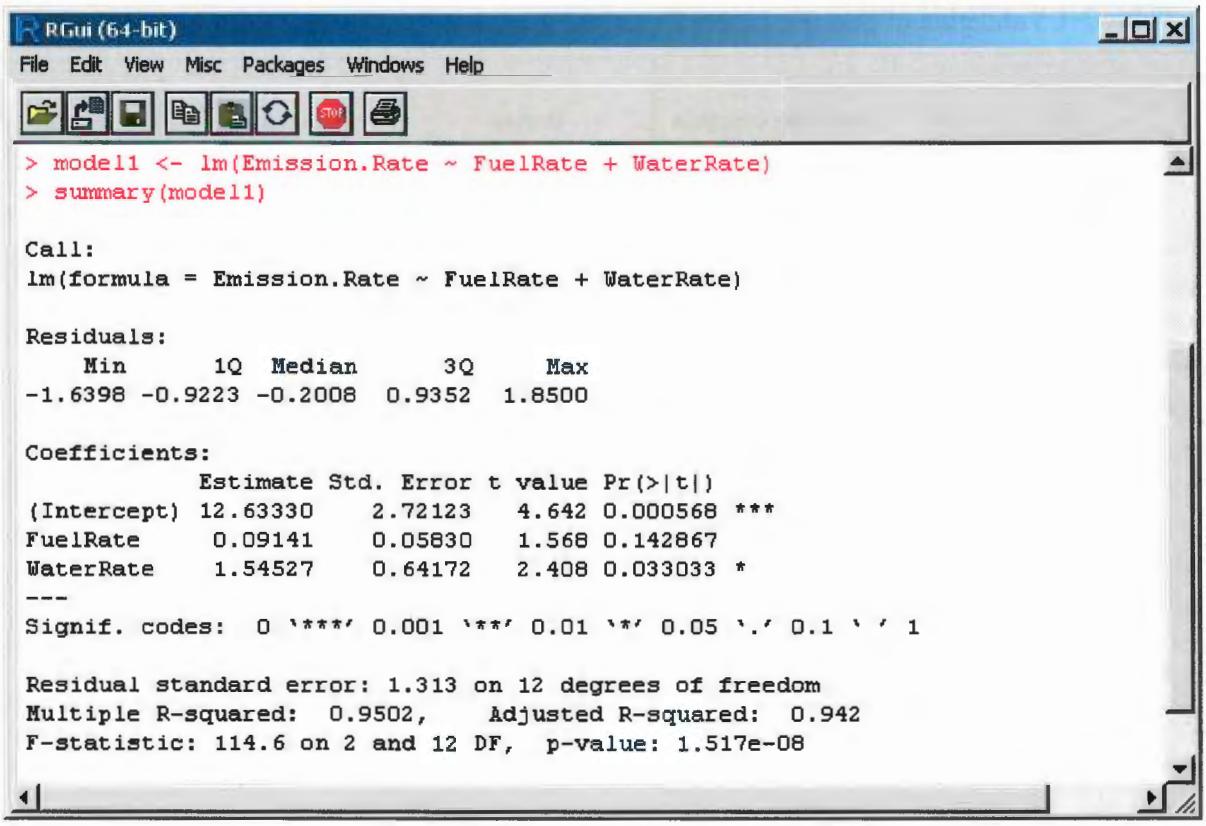


Figure 2-1 *R* Analysis Output

The best-fit line can be validated by testing the formula with data collected during the September 2013 source test.

Table 2-1 Validation of Best-Fit Linear Equation: Emission Rate by Fuel Rate and GPH Water

Run	kW Load	% Load	Fuel Consumption (gph)	Water Consumption (gph)	Measured Emissions (lb/hr)	Validation (lb/hr)
1	2000	100	139.0	8.0	37.9	37.69
2	2000	100	128.0	8.0	35.6	36.69
3	2000	100	132.0	8.0	35.6	37.05
4	1870	85	109.0	7.0	33.7	33.41
5	1870	85	108.0	6.0	33.5	31.77
6	1870	85	103.0	6.0	33.0	31.32
7	1650	75	100.0	5.0	28.3	29.50
8	1650	75	100.0	5.0	29.3	29.50
9	1650	75	93.0	4.0	28.9	27.31
10	1400	65	96.0	5.0	28.4	29.13
11	1400	65	89.0	4.0	28.8	26.95
12	1400	65	83.0	5.0	27.5	27.95
13	1100	50	68.0	2.0	20.3	21.94
14	1100	50	62.0	2.0	21.6	21.40
15	1100	50	67.0	2.0	21.1	21.85

Based on a review of the validation data, the linear equation under-predicts when fuel consumption is high or water consumption is low for a given load (see Run 1 of Table 2-1 for under-prediction due to lack of characterization of fuel use and Runs 5 and 6 of the table for under-prediction due to lower water consumption values).

If the engine fuel rate or water injection rate is outside of the range used during emissions sampling to develop the linear regression relationship, then these data will be flagged as invalid. For example, if the minimum fuel rate during emissions sampling was 62 gallons per hour, the daily NO_x emission value would be invalid at fuel rates less than or equal to 61.9 gallons per hour. See Section 4.0 for further discussion.

3.0 Procedure

Individual spreadsheets have been developed for each of the Wärtsilä generators based on the linear regression calculation method discussed herein. The spreadsheets are named:

1. Wartsila EU 1 Emissions and Operations Records.xlsx
2. Wartsila EU 2 Emissions and Operations Records.xls
3. Wartsila EU 3 Emissions and Operations Records.xlsx

Emission unit-specific data from the September 2013 source test and water consumption data representing operations during source testing is provided as an initial basis for the linear regression calculations.

During testing, it was determined that every time a new emission measurement was added to the spreadsheet, the linear regression formula incorporated the entry and the linear relationship was updated accordingly. However, previous entries were also updated according to the new intercept and coefficients. Therefore, a macro was developed that did not affect previously established intercept and coefficient values. The macro employs a built-in multiple regression calculation to determine the values as described in Section 2.0.

The spreadsheet will have two primary functions:

1. NO_x emission measurements made one time every week a Wärtsilä generator operates will be entered into a spreadsheet log along with contemporaneous engine fuel rate and water consumption data measured by the SCADA system. The best-fit linear model will be updated upon entry of the emission measurement and required SCADA data by clicking on the "button" that starts the macro.
2. Contemporaneous instantaneous hourly engine fuel rate and hourly water consumption parameters measured by the SCADA system will be entered one time per day so that daily NO_x emission rates can be calculated according to the most up-to-date equation for the best-fit linear model.

3.1Instructions for Using Spreadsheet

1. Open a generator-specific spreadsheet ("Wärtsilä EU X Emissions and Operational Records.xlsm" where X matches the unit number)
2. If there is new valid emissions sampling data to input, do this first, as follows:
    a. Enter Date, kW Load, % Load, Fuel Consumption, Water Consumption and the emission rate determined according to the procedures of the Appendix B Site-Specific Monitoring Plan in the appropriate columns.
    b. Click on the green "CLICK TO CALCULATE COEFFICIENTS" button to perform the regression analysis. The results will be reported automatically and entered in the Daily Emission Data sheet. No additional action is required until the next time emissions data is entered.
    c. The spreadsheet will have data in all rows and appear as presented in Figure 2.

OPERATIONS LOG: EMISSION UNIT ID 1

Emissions Sampling Data Source	Run/Date	kW Load	% Load	Fuel Consumption (gph)	Water Consumption (gph)	Measured Emission Rate (lb/hr)	Date Verification	Y	X1	X2
Alaska Source Test 2013 Test Data		2000	100	139	8	37.9	--	--	--	--
		2000	100	128	8	35.6	--	--	--	--
		2000	100	132	8	35.6	--	--	--	--
		1870	85	109	7	33.7	--	--	--	--
		1870	85	108	6	33.5	--	--	--	--
		1870	85	103	6	33.0	--	--	--	--
		1650	75	100	5	28.3	--	--	--	--
		1650	75	100	5	29.3	--	--	--	--
		1650	75	93	4	28.9	--	--	--	--
		1400	65	96	5	28.4	--	--	--	--
		1400	65	89	4	28.8	--	--	--	--
		1400	65	83	5	27.5	--	--	--	--
		1100	50	68	2	20.3	--	--	--	--
		1100	50	62	2	21.6	--	--	--	--
	9/18/2013	1100	50	67	2	21.1	9/18/2013	6.873013	0.215388	0.066393

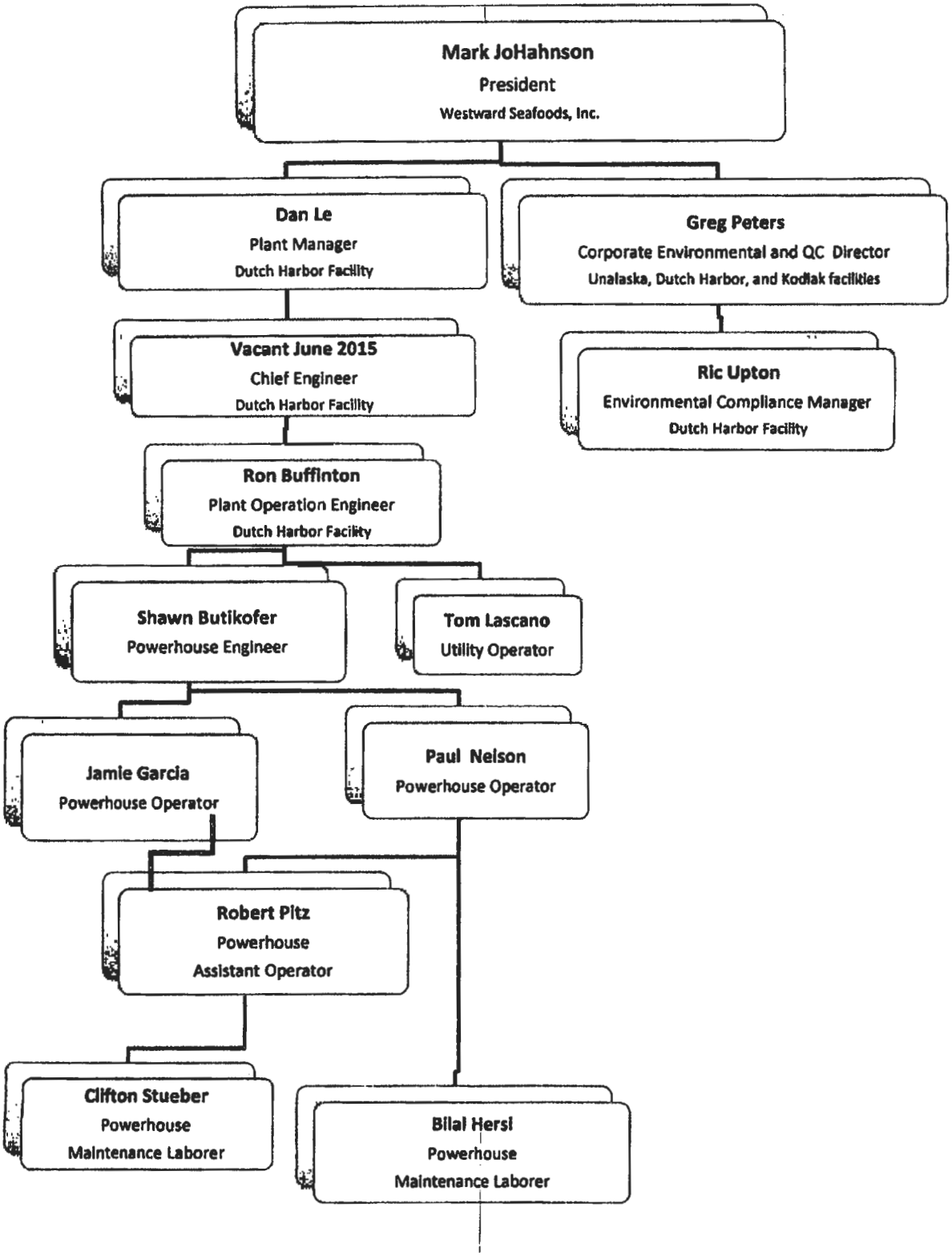
Figure 2 Example Operations Log and Calculated Variables

3. If there is no new emissions sampling data or if the sampling data has already been entered, select the "Daily Emissions Data" tab of the same spreadsheet.
    a. Enter the Date, Engine Load, Fuel Consumption and Water Injection Rate in the table.
    b. Click on "CALCULATE DAILY NOx."
    c. Verify that the date reported in Column F is consistent with the most recent Testo 350 sampling date.
    d. Verify that the calculated emission rate is 'reasonable.' Confirm whether the emission rate is above the permit limits (42.3 lb/hr as BACT and 38 lb/hr for CEM).
    e. If the emission rate is calculated at or above the limits, perform an emissions sampling following the procedures of Appendix B.
    f. If emissions sampling shows that emissions are in excess of the allowable values, notify the Power Plant Operator and complete appropriate recording and reporting tasks.
4. Daily calculated NO_x emission data should be compiled and submitted according to Paragraph 43 of the Consent Decree.
5. Fuel rate or water injection rate data that is measured outside of the respective rates established during emission testing using the Testo 350 results should be flagged as invalid. The spreadsheet will include an error message if such data is entered.

4.0 Final Comments

Initially, as long as only the 2013 source test data are available, the calculated NO_x emissions for a given fuel rate will be lower when the water injection rate is lower. However, this will be corrected when the sheet is populated with additional measurement data and in the event that higher emission rates are measured as a result of diminished water injection rates. Alternatively, if water injection rates are always high enough to keep NO_x emissions from becoming elevated, the established correlation will remain suitable.

Every time a new emission test is added to a unit-specific spreadsheet, the statistics will be updated and future NO_x emission rate calculations will be based on the most recent representation of NO_x as a function of fuel and water injection rates. Emission factors will be updated on a monthly basis.



Organizational Chart update 2015. Westward Seafoods, Inc. Dutch Harbor, AK