STATE OF OREGON
DEPARTMENT OF ENVIRONMENTAL QUALITY

In the Matter of: Former Portland Gas Mfg. ) DEQ NO. LQVC-NWR-09-02
 ) ORDER ON CONSENT
 ) AMENDMENT NO. 2
Northwest Natural Gas Company

The Oregon Department of Environmental Quality (DEQ) and NW Natural (Respondent) agree to amend Order on Consent No LQVC-NWR-09-02 as follows:

1. Section 1 is amended to read:

"Purpose

The mutual objectives of DEQ and Respondent are:

A. To determine the nature and extent of releases and potential sources of hazardous substances from the Portland Gas Manufacturing Site (as defined herein) to the Willamette River, including sediments, and to evaluate, select and implement source control measures to address such releases, if necessary, in a manner that complies with the applicable provision of ORS 465.200 through 465.420 and regulations promulgated therefor.

B. To expedite remedial action at the Portland Gas Manufacturing Site by commencing remedial design work while negotiating a Consent Judgment for implementation of DEQ's selected remedy."

2. A new subsection 3.F is added to read:


3. A new subsection 3.G is added to read:

On November 1, 2016, DEQ published notice of its proposed remedial action for the Portland Gas Manufacturing Site and provided an opportunity for public comment. A public meeting was held on

4. A new subsection 5.D is added to read:

“Remedial Design

A. Respondent shall prepare remedial design deliverables satisfying OAR Chapter 340 Division 122, the terms and schedules set forth in the Scope of Work (SOW) contained in Attachment C to this Consent Order, and the terms and schedules set forth in any DEQ-approved work plan. Once approved by DEQ, a work plan is deemed to be incorporated into and made a fully enforceable part of this Consent Order.

B. Respondent’s obligations under this subsection shall be limited to remedial design work and shall not include implementation of remedial action.”

5. Section 8 is amended to read:

“Duration

Unless earlier superseded by a Consent Judgment, this Consent Order is deemed satisfied upon completion of work required under this Consent Order and payment by Respondent of any outstanding oversight costs and penalties. DEQ shall determine whether work under this Consent Order is satisfactorily completed and the Consent Order terminated, by letter issued within 60 days of receipt of the last deliverable required from Respondent under this Consent Order, or as soon thereafter as reasonably practicable.”

6. A new Attachment C: Remedial Design Scope of Work is added to the Consent Order.

7. This Amendment No. 2 modifies Respondent’s obligations under the Consent Order only as to deliverables submitted in draft or final form after the date of its execution. All other terms of the Consent Order remain in effect.

STIPULATED, AGREED, and APPROVED for issuance:
NW Natural

By: ___________________________ Date: ___________________________
(Signature)
Thomas Emerson
(Name)
9 August 2017
(Title)

STIPULATED, AGREED, and so ORDERED:

State of Oregon
Department of Environmental Quality

By: ___________________________ Date: 8/10/17
(Signature)
Nina DeConcini

Nina DeConcini
Northwest Region Administrator
I. SCHEDULE AND OBJECTIVES

Within 75 days of issuance of the Consent Order, Respondent shall submit for DEQ review and comment a draft work plan for Remedial Design and Remedial Action (RD/RA) at the facility. Within 30 days of receipt of DEQ's written comments on the draft RD/RA Work Plan, Respondent shall submit to DEQ for approval a final RD/RA Work Plan addressing DEQ's comments.

The objectives of the RD/RA are to attain the degree of cleanup of hazardous substances and control of further release of hazardous substances as established in the Record of Decision (ROD). The objectives are consistent with the requirements set forth in the Environmental Cleanup Rules, Oregon Administrative Rules (OAR) 340-122-0010 to 0110, and the Environmental Cleanup Laws, Oregon Revised Statutes (ORS), Chapter 465.

II. REMEDIAL DESIGN DELIVERABLES

A. RD/RA WORK PLAN

The RD/RA Work Plan shall be developed in conformance with DEQ's ROD dated [INSERT DATE]; this Scope of Work; and as appropriate, EPA's "Superfund Remedial Design Remedial Action Guidance," OSWER Directive 9355.0-4A, 1986; "Guidance on Expediting Remedial Design and Remedial Action," OSWER Directive 9355.5-02; and any additional guidance documents as directed by DEQ.

The RD/RA Work Plan shall be prepared for all activities to be conducted during remedial design and remedial action and shall include, at a minimum, the following items:

1. Description of proposed RD/RA tasks and activities to be performed.

2. Proposed schedule for submittal of RD/RA deliverables and implementation of all proposed RD/RA activities.

3. Identification and description of duties, responsibilities, authorities, and qualifications of the personnel involved in the remedial design and remedial action.

4. Project organization and identification of reporting relationships, lines of communication, and authorities.

5. Summary of the selected remedy and cleanup levels.

6. General description of remedial actions to be performed.

7. Identification and description of design objectives.
8. Identification and description of design criteria and performance standards that shall be applied to the remedial activities to be conducted by Respondent.

9. Identification and listing of federal, state, or local laws, regulations, or guidance applicable to or associated with the remedial action and an explanation of how they will be incorporated into the design and implementation of the remedial action.

10. Assessment of permitting requirements, including identification of any permitting or procedural requirements exempted pursuant to ORS 465.315(3) (as stated in the ROD or Consent Order, or as proposed to be exempted), and a plan for satisfying any applicable substantive or non-exempted permitting/procedural requirements. A description of permitting requirements shall be included in the specific design reports.

11. Identification of any off-site disposal facilities and requirements for disposal, if any.

12. Identification and description of any site access agreements required to implement RA activities.

13. Description of any proposed bench scale or pilot scale studies, treatability studies, or unit process evaluations. Include study objectives and a schedule for submittal of a more detailed work plan describing design parameters, data requirements, size and scale, mobilization procedures, and schedule for conducting the tests.

14. Identification and description of additional sampling, evaluations, or engineering studies required to supplement available technical information.

15. Identification and description of any property, utility, right-of-way, topographic, or other site surveys required.

16. Description of any special design/implementation problems anticipated and how they will be addressed. Include any special technical problems, anticipated community relations problems, access, easements, rights-of-way, transportation, utilities, and logistics problems.

17. Identification and description of institutional controls to be imposed during and/or after remedial action activities.

18. Description of construction methods and equipment to be used.

19. Procedures for documentation/validation of remedial action activities.

B. SAMPLING AND ANALYSIS PLAN (SAP)

A draft Sampling and Analysis Plan (SAP) shall be prepared and submitted for DEQ review and comment. A final SAP shall be submitted for DEQ approval addressing DEQ’s comments on the draft SAP.
The SAP shall be prepared for all proposed sampling and monitoring activities to be conducted during the remedial design and remedial action phases, such as treatability studies, bench and pilot scale studies, and engineering evaluations. The SAP shall also address confirmation sampling to be conducted following excavation, treatment or other remedial activity, to verify that the remedial action requirements and specified cleanup levels have been attained. This SAP need not address long-term sediment monitoring, which is addressed in Item F, Monitoring, Performance Evaluation, and Contingency Plan.


The SAP shall include, at a minimum:

1. Proposed sampling locations, frequency, parameters, and rationale.

2. A description of sample collection techniques, sampling equipment, sample handling, and decontamination procedures.

3. A description of proposed analytical or test methods.

4. A description of quality assurance and quality control (QA/QC) procedures for both field and laboratory activities, including a data quality objectives plan. For each target compound, compare the method reporting limit and the remedial action standard established in the ROD, for each applicable environmental medium.

5. A description of documentation and data reporting, including a proposed schedule for data report submittals.

6. A description of data analysis and interpretation methods, including statistical methods, sensitivity methods, or mathematical models for:
   i. Evaluating attainment of remedial action cleanup levels.
   ii. Evaluating bench or pilot scale tests for full-scale application of the technology.


If field or lab studies are proposed during the remedial design phase, then the SAP shall be submitted with the RD/RA Work Plan, addressing those activities to be conducted during the remedial design phase. A revised SAP shall then be submitted with the Pre-final (90%) Design Reports (Item D.2) to address all remedial action activities. If no field or lab studies are proposed during the remedial design phase, then the SAP shall be submitted with the Pre-final Design Report.

Order on Consent No. LQVC-09-02, Amendment 2
Scope of Work
Page 3
C. **RD/RA SITE HEALTH AND SAFETY PLAN**

A site-specific Health and Safety Plan (HASP) shall be prepared to address all field activities to be conducted during the remedial design and remedial action phases and shall include construction hazards, chemical exposure hazards, on-site worker safety, and measurement of potential off-site impacts.


The HASP shall include at a minimum:

1. Scope and applicability of plan.
2. Identification and responsibilities of key health and safety personnel.
3. Task/operation safety and health risk analysis for each site task and operation, including a description of known hazards and risks and procedures for assessing risks.
4. Personnel training requirements.
5. Personal protective equipment to be used.
6. Medical surveillance requirements.
7. Air monitoring requirements, including types and frequency, and a description of air monitoring methods to be used.
8. Site control measures, including communication, site security, and work zone delineation.
9. Decontamination plan for personnel, equipment, and facilities.
11. Confined space entry procedures, if applicable.
12. Spill containment program.
13. Identification of potential construction hazards and precautionary measures to minimize hazards.
A copy of the HASP shall be provided to the Oregon Occupational Safety and Health Division.

If field or lab activities are proposed during the remedial design phase, then the HASP shall be submitted with the RD/RA Work Plan. The HASP submitted with the RD/RA Work Plan need only address those activities to be conducted during the remedial design phase. A revised HASP shall then be submitted with Pre-final (90%) Design Reports (Item D.2) to address all remedial action activities.

D. DESIGN REPORTS (Plans and Specifications)

Construction plans and specifications and related design information, to accomplish the remedial action selected by DEQ, shall be submitted to DEQ for review and approval. Design reports shall be submitted in the following phases:

1. PRELIMINARY DESIGN MEETINGS

   Upon completion of approximately 50% of the remedial design effort, and prior to submittal of the 90% Remedial Design Report (Item D.2), Respondent shall make an oral presentation to DEQ. The objective of this presentation is to identify and allow correction of any problem areas before extensive design has been completed.

   The presentation shall include the following:
   a. Design objectives, criteria, and standards.
   b. Description of design elements.
   c. Preliminary drawings and schematics.
   d. Description of problems encountered or anticipated that may delay the project schedule.
   e. Preliminary construction schedule.

2. PRE-FINAL DESIGN

   The Pre-final Design Report shall contain a compilation of major design items reflecting an approximate 90% completion. This report shall serve as the draft design report and may constitute construction-ready drawings for a design/build process. The report shall contain the following, as applicable:
   a. Design criteria/standards.
   b. Final design/analyses calculations.
   c. Drawing index and final drawings.
   d. Final specifications.
e. Final construction schedule.

f. Detailed description of remedial action activities to be performed, including methods and equipment for:
   i. mobilization.
   ii. site preparation.
   iii. excavation.
   iv. demolition, clearing, and removal of buildings, structures, equipment, vehicles, existing pavement, foundations, and floors, as applicable.
   v. site restoration, including backfilling and grading.

g. Estimates of soil volumes to be excavated, or volume of media to be treated.

h. Detailed site layout drawings, delineating the areas to be excavated or treated.

i. Excavation methods, including area delineation, slope stabilization, characterization and management of excavated materials, dewatering and water management, and incorporation of confirmation sampling.

j. Description of permitting requirements, if any, to include:
   i. construction/operating permits required.
   ii. permitting authorities and specific permit requirements.
   iii. permit application processing procedures, schedule, and fees.
   iv. monitoring and compliance testing requirements.

k. Identification and description of construction quality assurance/quality control (QA/QC) program requirements and procedures for construction QA/QC program implementation.

l. Equipment startup and operator training requirements to include:
   i. contractor/vendor procedures for providing appropriate service visits by experienced personnel to supervise installation, adjustment, startup, and operation of treatment systems.
   ii. identification of appropriate operational procedures training for personnel.
m. Description of proposed control measures to minimize releases of hazardous substances to all environmental media during construction or installation activities.

n. Description of proposed surface water runoff control measures during construction.

o. Identification and description of dust control and noise abatement measures to minimize and monitor environmental impacts of construction or installation activities.

p. Identification and description of any site security measures necessary to minimize exposure to hazardous situations during remedial action.

q. Identification and description of transportation requirements, including haul route selection, load limits, truck haul schedule, restricted routes, traffic control needs, accident prevention and response, and decontamination.

r. Summaries of treatability studies, bench scale or pilot scale studies, or other engineering studies conducted during the design phase, including results and conclusions.

s. Land disposal requirements to include:
   i. identification and description of off-site land disposal facilities.
   ii. specific treatment/disposal requirements.

3. FINAL DESIGN

The Final Design Report shall incorporate required revisions resulting from DEQ's review and comments on the Pre-final Design Report. The Final Design Report shall provide the basis for the remedial action activities to be undertaken at the facility. The Final Design Report shall include the elements described above, plus draft bid packages for construction contractors, as necessary.

E. CONSTRUCTION QUALITY ASSURANCE AND CONTROL PLAN

The Construction Quality Assurance and Control (CQA/QC) plan is a document that describes the site-specific components of the construction quality assurance program. The purpose of the CQA/QC Plan is to ensure, with a reasonable degree of certainty, that a completed project meets or exceeds all design criteria, plans, and specifications. The Plan shall be reviewed and approved by the person with the overall responsibility for the design and submitted with the Pre-final (90%) Design Report. The Plan shall address the following:

1. Construction quality assurance objectives, specific quality control requirements, and performance standards to be enforced during implementation of remedial actions.
2. Identification of responsibilities and authorities of all organizations and key personnel involved in the design and construction of the site remediation.

3. Description of the construction quality assurance personnel’s qualifications.

4. Description of inspection activities, observation and tests to be conducted, schedules, and scope.

5. Procedures for scheduling and managing submittals, including those of subcontractors, off-site fabricators, suppliers, and purchasing agents.

6. Sampling strategies to include sampling types, locations, size, frequency of testing, acceptance and rejection criteria, and plans for implementing corrective measures.

7. Documentation of inspections and sampling events.

8. Proposed schedule for submittal of inspection and sampling reports to DEQ.

F. MONITORING, PERFORMANCE EVALUATION, AND CONTINGENCY PLAN

The objectives of the Monitoring, Performance Evaluation, and Contingency Plan include monitoring variations in sediment quality (and other media such as porewater and surface water, as appropriate) at or near target remediation areas, monitoring contaminant concentrations and migration, evaluating the effectiveness of source removals and other remedial actions, verifying results of fate and transport modeling, and evaluating effectiveness of site remedial actions in attaining the remedial action objectives, goals, requirements, and specified cleanup levels. The plan shall also propose response actions to occur in the event of statistically significant exceedence of the sediment, porewater, or surface water remediation criteria during the long-term monitoring program.

A draft Monitoring, Performance Evaluation, and Contingency Plan shall be submitted for DEQ review and comment with the Pre-final (90%) Design Report. A final plan shall be submitted with the Project Completion Report for DEQ approval addressing DEQ’s comments on the draft plan under a separate Remedial Action Consent Judgment being prepared for the Site. The draft and final Monitoring, Performance Evaluation, and Contingency Plans shall be submitted according to the schedule of deliverables in the approved RD/RA Work Plan and shall include, at a minimum:

1. Proposed frequency and duration of monitoring periods.

2. Proposed monitoring locations and parameters.

3. A description of sample collection techniques, sampling equipment, and sample handling procedures.

4. Descriptions of proposed analytical or test methods.

Order on Consent No. LGVC-09-02, Amendment 2
Scope of Work
Page 8
5. A description of quality assurance and quality control (QA/QC) procedures for both field and laboratory activities, including a data quality objectives plan. For each target compound, compare the method reporting limit and the remedial action standard established in the ROD.

6. Documentation and data reporting, including a proposed schedule for data report submittals.

7. A description of methods for data analysis, including modeling and statistical methodology, for evaluating changes and trends in sediment quality (and other media such as porewater and/or surface water, as appropriate), contaminant migration, and attainment of remedial action objectives and criteria as specified in the ROD.

8. Proposed trigger mechanisms and assessment criteria that would warrant evaluation of contingency measures.

9. A contingency plan to include identification of potential response actions and a description of the procedures and process for evaluating and implementing potential response actions.

10. A description of assessment criteria for modifications to the long-term sediment (and other media, as appropriate) monitoring program.

11. A description of how investigation-derived waste will be managed.