

Oak Grove Hydroelectric Project Water Conveyance Trestles

Revised Statement of Work

The purpose of this Statement of Work (SOW) is to describe the work that Portland General Electric Company (PGE) agrees to perform at three Oak Grove Hydroelectric Project Water Conveyance Trestles; Canyon Creek, Cripple Creek, and Pint Creek (Trestles). The work described herein will be performed under an Administrative Settlement Agreement and Order on Consent (ASAOC) negotiated with the U.S. Department of Agriculture, Forest Service (Forest Service).

PGE completed a site investigation (SI) and human health and ecological risk evaluation at the Trestles. The nature and extent of the hazardous substance impacts has been delineated and the Forest Service has concluded that an Engineering Evaluation/Cost Assessment (EE/CA) should be performed. Therefore, this SOW has been revised to incorporate the EE/CA. The schedule, objectives, and deliverables are described below.

Schedule

Actions/Deliverables	Schedule (Completion Date)
Work Plan	Effective Date of AOC
Sampling and Analysis Plan (SAP)	Included in Work Plan
Health & Safety Plan (HSP)	August 1, 2011
SI Field Work	September 15, 2011
Supplemental Work Plan/SAP	October 15, 2011
Supplemental SI Field Work	October 30, 2011
Draft SI Summary Report	November 30, 2011
Final SI Summary Report	May 31, 2012
Trestles EE/CA Draft Report	September 30, 2013
Trestles EE/CA Final Report	45 days after receipt of Forest Service comments

Objectives

I. Site Investigation

PGE has encountered soil impacted by grit blast and paint containing hazardous substances. The hazardous substances impacted soils were encountered in the process of repainting the Canyon Creek Trestle, which is one of three trestles that support the flowline to the Three Lynx Hydroelectric Powerhouse. The original paint was applied during construction approximately 88 years ago and sandblasted and repainted in the 1970's

PGE's painting contractor requested the soils below the trestle be tested to ensure that their company was not liable for previous contamination that may be present beneath the trestle. PGE initially collected and analyzed six random soil samples for Resource Conservation and Recovery Act (RCRA) metals. Based on the initial results, PGE performed additional sampling to further characterize and delineate the presence of hazardous substances in the soils below the Canyon Creek Trestle. Several phases of investigations were performed from beginning July 2008 and ending October 2011.

The additional sampling identified the presence of Arsenic, Cadmium, Chromium, Lead, and Silver that exceed Oregon Department of Environmental Quality (DEQ) human health and ecological risk screening values and/or default background concentrations.

There are two other Trestles in the Oak Grove Hydroelectric Project that were constructed, sandblasted, and repainted in a similar fashion as Canyon Creek Trestle; Pint Creek and Cripple Creek Trestles. PGE collected random soil samples at both Cripple and Pint Creek Trestles and analyzed them for RCRA metals. The Cripple and Pint Creek soil sample results were similar to Canyon Creek. Consequently, these two Trestles were investigated as part of the Trestles SI.

The sampling methods and procedures used to collect and analyze soil samples are described in the Sampling and Analysis Plan appended to the Work Plan. The results of the completed SI activities are presented in the May 31, 2012 Final SI Report.

II. Risk Evaluation

The objective of the human health and ecological risk evaluations are to characterize the potential current and reasonably likely future risks to human health and the environment as a result of a threatened or actual release of a hazardous substance. The magnitude of potential risk at the site will be used to support risk management decisions and evaluate if a Non-Time-Critical Removal Action under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) should follow.

Screening-level human health and ecological risk evaluations were completed by comparing the exposure point concentrations calculated using the SI results against generic human health and ecological risk-based screening levels. Human health risk to soil was evaluated by comparing the detected hazardous substance concentrations to DEQ's Generic Risk-Based Concentrations for Individual Chemicals, September 15, 2009. Ecological risks from exposure to soil were evaluated using DEQ Guidance for Ecological Risk Assessment dated September 22, 2003; that references the Level II Screening Level Values (SLVs) for Soil, December 2001. Human health and ecological risks for exposure to sediment with hazardous substances was evaluated using DEQ's Guidance for Assessing Bioaccumulative Chemicals of Concern in Sediment, April 2007.

The risk screening evaluation includes guidance from a PGE terrestrial biologist regarding the presence of threatened and endangered species. A fisheries biologist also provided guidance regarding the limits of the stream channels so the data can be factored into the topographic survey.

A Risk Evaluation Report was submitted with the May 31, 2012 Final SI Report. In response to Forest Service comments, PGE performed additional ecological risk evaluation tasks in February 2012. The results of the additional ecological risks screening tasks were summarized in a March 15, 2013, letter to the Forest Service. The Forest Service responded to PGE in a May 16, 2013 letter concluding that an EE/CA is required to evaluate cleanup alternatives to address soil exceeding the human health screening criteria.

III. Engineering Evaluation/Cost Analysis

The EE/CA will be completed for the Trestles to evaluate appropriate removal action objectives and appropriate removal action technologies/alternatives based on effectiveness, implementability, cost, and compliance with applicable or relevant and appropriate requirements. Non-sampling field work for the alternatives will include, but not be limited to, surveying for purposes of defining potential soil removal areas and for volume calculations. Alternatives analysis will include the consideration of access, slope stability, removal action worker safety, engineering controls, site restoration, and cost of implementation.

IV. Reporting

The Final SI Report documents the results of the soil sampling, including previous sample results, and the risk evaluation. The SI Report was submitted to the Forest Service on May 31, 2012 and approved by the Forest Service on May 16, 2013.

The EE/CA draft and final reports will be prepared for the Trestles in accordance with the U.S. Environmental Protection Agency's (EPA's) guidance for conducting non-time-critical removal actions under CERCLA and will incorporate the results of the previously conducted investigations and the risk evaluation.

The EE/CA draft and final reports will include an executive summary; an introduction providing the site description, site history, discussion of previous investigations, and extent of impacts; results of the Risk Evaluation; and removal action alternatives evaluation. Sample locations and removal area(s) will be shown on figures and photographic documentation included in the draft and final EE/CA reports. Discussions will include the potential need for removal action equipment alternatives.

V. Removal Action

The Forest Service will evaluate the EE/CA Report (Final). If required, the Forest Service will document their decision to proceed with a non-time-critical removal action in an Action Memorandum (AM) including the selected removal action alternative.

Deliverables

Deliverables under this SOW include the following:

<u>Deliverable</u>	<u>Status</u>
Revised Statement of Work	Due May 31, 2013
SI Work Plan and Sampling and Analysis Plan	Complete
SI Health and Safety Plan	Complete
EE/CA Report (Draft)	Due September 30, 2013
EE/CA Report (Final)	Due 45 days after receipt of Forest Service comments