

## INTERGOVERNMENTAL AGREEMENT

Pursuant to ORS 190.110 and ORS 465.210, this Agreement is entered between the Oregon Department of Environmental Quality and the City of Portland Water Bureau.

### RECITALS:

1. The City, through the Portland Water Bureau, owns and operates 27 production wells in the Columbia South Shore Well Field, and has plans for well field expansion. The CSSWF is a vital component of the PWB's current water supply system, and an integral part of the PWB's resource base as identified in their Water Management and Conservation Plan. It will be used to a greater extent in the future to meet water supply needs, and expansion can proceed as needed once the WMCP is approved by the Oregon Water Resources Department.
2. The State of Oregon, through the DEQ, manages the Environmental Cleanup Program that identifies and prescribes remedial actions for contaminated properties throughout Oregon, including sites within the CSSWF.
3. The CSSWF is Portland's emergency backup water supply, is also used for seasonal supply augmentation, and constitutes a major beneficial use of groundwater resources in Northwest Oregon. The City holds groundwater rights permits totaling approximately 333 million gallons per day for beneficial use of groundwater in five aquifers in the CSSWF, of which only approximately 138 mgd are currently developed. The City's groundwater rights permits were extended to the year 2085 by the Oregon Water Resources Department in October 2009, and expansion of well field capacity is possible once the Water Management and Conservation Plan is approved by OWRD. The City updated its Wellhead Protection Program in 2003 to reduce the potential for future contamination of its groundwater supply, and has received state certification from DEQ for this program.
4. Groundwater contaminated with industrial solvents has been documented in several areas within, or in close proximity to, the CSSWF. DEQ and PWB interact on an ongoing basis to share data collected during site investigation and remediation, and well field development and use, for the mutual benefit of both agencies. DEQ and PWB have a common interest in working together as partners to maintain, restore, and protect groundwater quality and beneficial use of groundwater in the CSSWF.
5. Because of the importance of the groundwater resources within the CSSWF, DEQ has identified the CSSWF as a vulnerable area in which site assessment and remediation will be expedited. DEQ is currently overseeing response actions at Cleanup and LUST Program sites within the CSSWF where groundwater contamination is either known or suspected, and has closed other sites where groundwater remediation has been completed. Sites where contaminant distribution or movement may be affected by PWB operation of the CSSWF have been identified. The two largest sites are implementing hydraulic control contingency measures as specified in their Records of Decision. East Multnomah County (DEQ site #1749) is actively remediating with a groundwater extraction system to exert hydraulic control on its Troutdale Sandstone Aquifer plume. EMC has developed a contingency plan that can be implemented during periods of prolonged well field pumping. Honeywell (DEQ site # 1274) is designing a groundwater extraction system that when implemented will exert

hydraulic control over its Troutdale Gravel Aquifer and Columbia River Sand Aquifer plume. Honeywell will also be developing a contingency plan that can be implemented during periods of prolonged well field pumping.

6. Chlorinated solvent contamination within the TGA has been documented in the central CSSWF, in PWB monitoring well TG-3, located on the production well PW-10 site at 4800 NE 148<sup>th</sup> Avenue. The source of the contamination is currently unknown. Based on PWB groundwater monitoring, the source is likely located east of NE 148th Avenue, between NE Mason Street near production well PW-16 and the Columbia Slough near production well PW-10. Data collected by PWB in the surrounding area since 1998 indicates that the aquitard separating the first and second aquifers is more permeable in this area than in other well field locations. This raises a concern that TGA contamination in this portion of the well field may migrate downward through the aquitard and impair the groundwater quality and beneficial use of the deeper aquifer. Both agencies agree that identifying and remediating the source of this contamination is a high priority.
7. PWB is concerned that the current cleanup standards specified by OAR 415.315, and the residual risk models and closure criteria that DEQ applies to cleanup sites state-wide may not provide a level of protection to the City's groundwater resources within the CSSWF that would continue to allow the City to deliver groundwater free of detectible contamination over time. PWB is also concerned that current DEQ cleanup rules may not provide adequate protection to the City's groundwater resources from the cumulative impacts of multiple sources of contamination in close proximity to each other.
8. DEQ and the PWB recognize that conditions in the CSSWF represent a unique and challenging set of circumstances requiring timely and thorough investigation, control and cleanup of identified sources of contamination. It is therefore the objective of this partnership agreement to set forth expectations between the PWB and the DEQ with regard to how DEQ carries out its obligations under the cleanup program for sites within the CSSWF, for PWB's operation of the CSSWF, and for information sharing between agencies.

Therefore, DEQ and the City agree as follows:

#### **AGREEMENT:**

##### **1. PARTNERSHIP GOALS AND OBJECTIVES**

- A. The partnership goal is to identify, assess, contain, and remediate groundwater contamination in the CSSWF, and restore the unrestricted beneficial use of groundwater resources in all aquifers within the CSSWF, in the shortest reasonable time frame.
- B. The partnership objectives are to:
  - 1) identify all remaining sources of existing groundwater contamination in the shortest reasonable time frame;

- 2) determine early in any site assessment the nature of the risk to the CSSWF and potential alternatives to reduce that risk;
- 3) fully characterize the lateral and vertical extent of each identified plume in the shortest reasonable time frame through use of site-specific or area-specific guidelines, strategies, and/or processes to be jointly agreed upon and developed by DEQ and PWB;
- 4) contain, through hydraulic control or other interim measures, all groundwater contaminant plumes that adversely affect the current and future beneficial use of the CSSWF, in the shortest reasonable time frame;
- 5) implement final source and plume remedial action within the shortest reasonable time frame, with an emphasis on permanent remediation methods and technologies that achieve the most protective risk-based concentrations applicable to public water supplies under ORS 465.315, until such time as the City may adopt more stringent standards applicable to the CSSWF, and provide hydraulic control to prevent or minimize the spread of groundwater contamination during beneficial use of the CSSWF.
- 6) Maximize the resources that each agency may have available for use in the well field through collaboration wherever possible in addressing well field contamination issues.

## **2. GENERAL PROVISIONS**

### **A. Cleanup Program in the CSSWF from Site Discovery through Site Closure:**

- 1) DEQ will be the lead agency responsible for initiating site discovery at suspected sources of groundwater contamination in the CSSWF.
- 2) DEQ will not use its Voluntary Cleanup Program for any site in the CSSWF unless it determines and advises the PWB that use of the VCP will result in a faster or more complete remedial action than any other alternative available.
- 3) DEQ will solicit and consider PWB comments on proposed site discovery and site assessment, key milestones in remedial investigation and risk assessment, interim removal actions, remedy selection and implementation, and site closures conducted in the CSSWF.
- 4) PWB will share data and information with DEQ on CSSWF groundwater use, groundwater levels, groundwater quality, aquifer properties, aquifer vulnerability and potential contaminant sources. DEQ will consider and utilize all relevant data provided by PWB when making decisions on site listing, site assessment, remedial investigation and risk assessment, remedy selection and implementation, site closure, and other related site cleanup actions.

- 5) DEQ will provide PWB with copies of draft and final work plans, data and reports specified in Orders and Agreements or otherwise submitted to DEQ by Responsible Parties performing site investigations or remediation activities related to soil and groundwater contamination in the CSSWF.
- 6) DEQ will inform PWB in a timely manner of schedules for initiating actions or responding to site deliverables on all active and orphan DEQ sites in the CSSWF. At a minimum, these deliverables will include all scopes of work, work plans, data, and reports generated during all stages of work from site assessment through site closure. Comments from PWB that are received by DEQ within the specified time frame will be considered by DEQ when responding to the RP. DEQ will provide justification, including technical analysis or rationale with regard to any PWB comments not included in DEQ's response to the RP. As a stakeholder, PWB will be included in all relevant site communications and directly informed of all public notices of site actions.
- 7) DEQ and PWB agree that the Deep Aquifer Yield or DAY model should be used to conduct fate and transport evaluations for sites in the CSSWF where large groundwater plumes exist in one or more well field aquifers and the scale of the evaluation is consistent with the scale of the DAY model. For all CSSWF sites that are of smaller scale and/or primarily within the Upper Gravel Aquifer/Troutdale Gravel Aquifer, Columbia River Sand Aquifer and/or the Overbank Deposits, DEQ and PWB will confer on model selection and use, to determine appropriate models, input parameters, calibration requirements and adequacy of site characterization for modeling purposes. If and when PWB develops a verifiable calibrated groundwater flow and transport model for the shallower aquifers and other shallow hydrogeologic units, the PWB model will become the model of preference to use for the shallow hydrogeologic units.
- 8) DEQ will use the full discretion available to it under its legal authorities to: (1) determine as rapidly as is reasonably possible the risk to the CSSWF from any identified contamination; and (2) devise and implement as rapidly as is reasonably possible measures to reduce the risk and allow the well field to operate without contamination-driven constraints. To implement this commitment, the PWB and DEQ will use the most current available research and information on groundwater contamination assessment and remediation to protect groundwater quality and the beneficial use of groundwater in the CSSWF.
- 9) At sites with unknown, unwilling, or unable RPs, (1) DEQ and PWB will endeavor jointly to develop and implement a work plan outlining time schedules, responsibilities, and sources of financing for site assessment, investigation, and remediation; (2) DEQ will first determine availability of well field settlement funds to implement any such plan, or, if well field settlement funds are not available, will determine availability of Orphan Site Account funds; (3) if sufficient well field settlement and Orphan Site Account funds are unavailable, PWB may make funds available to DEQ; and (4) at a site where PWB desires to conduct its own investigation and remedial activities, DEQ may enter an agreement designating PWB as an authorized representative under ORS 465.250 for purposes of access.

- 10) DEQ and the PWB will assess the need for Orphan Site Account or PWB financing, staffing, and contractor resources within the CSSWF on a periodic or as-needed basis and take such assessments into account when considering PWB or DEQ-led site investigations.
- 11) DEQ has established a dedicated account within the Hazardous Substances Remedial Action Fund that can receive contributions from PWB through DEQ for the purposes of funding those investigations in the well field jointly agreed to by the DEQ and the PWB which cannot be funded by RPs or other funding sources. Funds paid by PWB to DEQ pursuant to its Administrative Order on Consent related to the EMC plume were the first of such deposits to the account dedicated to well field use.

B. Operation of CSSWF Wells for Water Supply Purposes:

- 1) PWB will be the lead agency responsible for operating and maintaining the CSSWF for water supply purposes.
- 2) Subject to provisions of this agreement, PWB will actively seek the advice and concurrence of DEQ with regard to use of the CSSWF for seasonal supply augmentation purposes.
- 3) Prior to June 1 of each year, PWB will submit a draft pumping plan (plan) to DEQ for non-emergency seasonal supply augmentation use of CSSWF groundwater resources.
- 4) DEQ will be provided 15 days to comment on the plan. DEQ comments that are received within this timeframe will be considered by PWB when finalizing the plan. PWB will provide justification and, if applicable, supporting technical documentation to DEQ with regard to any DEQ comments not addressed or included in the final plan.
- 5) PWB will provide DEQ with summer water supply status reports whenever updated. In conjunction with those reports, and to the extent possible, PWB will also provide DEQ with regular updated estimates of when operation of the well field for seasonal supply augmentation is expected to commence. To the extent possible, PWB will also provide DEQ with 24 hour final notice prior to commencement of well field operations.
- 6) PWB will monitor and collect data on groundwater discharge, groundwater quality, and groundwater levels before, during, and after use of the CSSWF wells for seasonal supply augmentation purposes, as specified in the plan.
- 7) PWB will provide DEQ with status reports on operation of CSSWF wells every two weeks during their use for emergency supply or seasonal supply augmentation purposes, and will provide DEQ with an annual CSSWF operations and monitoring report by May 31<sup>st</sup> of the following calendar year. The report will contain information on annual groundwater use, groundwater levels, and

groundwater quality. If any data collected during seasonal or emergency supply operation indicates a significant issue with respect to water quality within the CSSWF, PWB agrees to notify DEQ as soon as the issue becomes known so that DEQ can evaluate and take appropriate measures.

- 8) DEQ will timely consult with PWB if DEQ is considering recommending or imposing pumping limitations for CSSWF wells. Pumping limitations will only be considered as a last resort, after use of removal actions, hydraulic control, and all other interim measures to limit contaminant plume migration have been attempted, within the time frames of the Partnership Goals and Objectives specified above.
- 9) PWB may, without prior notice to or approval from DEQ, operate CSSWF wells at its own discretion as necessary for emergency use, well maintenance operations, well exercising or well rehabilitation pumping, collection of groundwater quality samples, performance of scientific or engineering studies, Blue Lake refill or UV reactor validation testing, or other similar routine or essential operations and maintenance purposes.
- 10) DEQ will not impose limits on PWB use of any CSSWF wells for emergency water supply purposes without adequate justification.
- 11) PWB will notify DEQ and any mutually identified stakeholders as soon as feasible when CSSWF wells are operated for emergency supply purposes.

#### C. Definitions

- 1) Emergency Use is defined as operation of the CSSWF in a situation where some or all of the Bull Run surface supply is unavailable.
- 2) Seasonal Supply Augmentation is defined as operation of the CSSWF to blend a percentage of groundwater with surface water to maintain and/or extend daily or seasonal surface water supply during the summer-fall dry season, as identified in the plan.
- 3) Well Maintenance Operations and Well Exercising are defined as short production well pumping periods of up to several days to ensure that all equipment is working, and to collect water quality samples.
- 4) Rehabilitation Use is defined as water produced during testing of well pumps and motors before and after pumps or other associated equipment is serviced, and pumping that occurs during well repair, redevelopment or testing.

#### D. Continued Coordination and Data Sharing

- 1) DEQ and PWB will continue to participate in Quarterly Planning and Coordination Meetings.

- 2) Quarterly meeting planning and management will be assigned to an interagency team consisting of one staff member from each agency who will also jointly facilitate the meetings. DEQ will identify a Well Field Coordinator to work directly with the PWB representative.
- 3) PWB will provide updates on summer pumping plans, well field use and expansion plans, most recent CSSWF monitoring data, and protection program activities at applicable quarterly meetings.
- 4) DEQ will report on individual site assessment, investigation and remediation progress, cleanup program changes, and potential concerns regarding well usage at applicable quarterly meetings.
- 5) Policy issues emerging at quarterly meetings will be handled by briefing of managers in the respective agencies for direction on appropriate action.
- 6) PWB and DEQ will coordinate groundwater level and groundwater quality monitoring within the CSSWF and share data among involved parties.

E. Conflict Management

- 1) Conflicts are expected to be resolved among immediately-involved staff members as the first resort. Each agency's staff are responsible for identifying and resolving interagency partnership conflicts as early as possible. A conflict brief (see below) may be prepared if deemed useful. Staff member(s) will work directly with their counterpart(s) in the partnership agency to resolve issues. Resolutions will be reported at quarterly meetings if appropriate.
- 2) If direct inter-staff resolution is unsuccessful, the following process will be utilized:
  - a) Any quarterly meeting participant may prepare a written conflict brief of not more than two pages that includes the following sections:
    - i. Problem definition-specify what is not working
    - ii. List of causes-separate the causes from the people involved
    - iii. List of countermeasures-proposed actions (what, who, when)
  - b) Distribute conflict brief to quarterly meeting participants 15 days prior to the next scheduled quarterly meeting. Conflict brief discussion becomes the first agenda item at the next scheduled quarterly meeting. Discussion will be limited to one hour maximum.
  - c) Quarterly meeting discussion will be led by the regular quarterly meeting co-facilitators. Discussion will identify items of interagency consensus, areas of disagreement, and any needed supplemental detail for each of the three sections of the conflict brief. The group will consider specific disagreements

and suggested supplemental items. Once all items have been agreed to the conflict brief will be accepted by both agencies and the actions will be implemented as agreed to.

- d). If issues remain unresolved at the end of the allotted discussion time, they will be referred to the next level of management for discussion and resolution.

F. Agency Tools

- 1) DEQ will regularly update its Environmental Site Cleanup Information database to provide the most current information on CSSWF sites mutually identified by PWB and DEQ, so that PWB can keep current on individual site cleanup status.
- 2) PWB and DEQ will use the most current applicable guidance developed by DEQ, EPA or other outside agencies and organizations such as Interstate Technology and Regulatory Council to support evaluation and decision-making regarding site assessments, remedial investigations, risk assessments, interim removal actions, remedy selection and implementation, and site closures in the CSSWF.

G. Retention of Rights

Neither agency waives any authority or accepts any liability by virtue of entering into this agreement.

H. Duration, Termination and Notice

- 1) This agreement shall remain in force until terminated.
- 2) This agreement may be terminated by either party upon 60 days written notice to the other party.


I. Amendments

- 1) This agreement may be amended by mutual written consent of the Director of the Oregon Department of Environmental Quality (or an alternate designated for signature authority pursuant to Internal Management Directive MSD.00.050) and the City Commissioner-in-Charge of the Portland Water Bureau.



**SIGNATURES:**

**Approved as to Form by City Attorney**

  
Signature

5/26/10  
Date

**Oregon Department of Environmental Quality**

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Nina DeConcini  
Land Quality Division Administrator

\_\_\_\_\_  
Date

**City of Portland Water Bureau**

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Randy Leonard  
Commissioner-in-Charge

\_\_\_\_\_  
Date