STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
15 W Yakima Ave, Ste 200 • Yakima, WA 98902-3452 • (509) 575-2490

June 1, 2010

Battelle Memorial Institute
Attn: Michael J. Stephenson
PO Box 999 MSIN: J2-25
Richland WA 99352-0999

Re: Water Right Application No. G4-35268 – Temporary Authorization for Ground Water Withdrawal to be Used for a Ground Source Heat Pump

THIS AUTHORIZATION SHALL IN NO MANNER BE CONSTRUED TO GUARANTEE OR IMPLY THAT A PERMANENT WATER RIGHT WILL ISSUE FOR THE WATER USE HEREIN AUTHORIZED.

Background

On February 17, 2010, Battelle Memorial Institute, of Richland, Washington filed an application to withdraw from four extraction wells and to re-inject water into four separate injection wells for the use of a heat pump associated with the new Biological and Computational Sciences Building located on Parcel No. 114083000002010.

The applicant proposes to withdraw 1900 gallons per minute (gpm) from four wells for a common central heating and cooling system. The system is an open-loop ground source heat pump in which ground water is distributed through the heating and cooling system and then re-injected into the aquifer. The extraction wells and injection wells are located within W½SW¼ of Section 14, T. 10 N., R. 28 E.W.M.

The applicant is requesting this Temporary Authorization until a permanent decision can be issued by the Department of Ecology (Ecology) regarding Application No. G4-35179. The permanent water right is for the same purpose of use as this Temporary Authorization. The applicant entered into a cost reimbursement agreement with Ecology to have the permanent water right application processed by a consultant (Aspect Consulting).

This project also requires a permit from Ecology's Water Quality Program to address temperature impacts to the Columbia River, which on the State's 303(d) listing as being impaired by temperature.

Public Notice

Battelle's request for a new water right was published in the Tri-City Herald on August 20, and August 27, 2008. No letters of protest or comments were received for this public notice during the 30-day protest period.

State Environmental Policy Act (SEPA)

This project required a SEPA review under WAC 197-11-800(4). Ecology, acting as the SEPA lead agency, determined the project will have no probable significant adverse impacts on the environment and issued a Mitigated Determination of Nonsignificance (MDNS) on December 14, 2009. The MDNS is conditioned that Battelle must meet the requirements of Water Quality's Administrative Order No. 7165 issued on October 21, 2009, and Water Resources' Preliminary Permit (discussed below). Copies of the MDNS documents can be obtained by contacting Ecology's Central Region Office in Yakima, Washington, at (509) 575-2490.

Well drilling and ground water testing was completed under a Preliminary Permit issued by Water Resources on January 22, 2009. Further system testing was completed under Administrative Order No. 7165 issued by Water Quality on October 21, 2009. Battelle submitted a final version of the Hydrogeologic Evaluation on March 22, 2010. Ecology staff and our consultant (Aspect) and accepted the report as meeting the requirements of the Preliminary Permit and Administrative Order. However, Ecology staff stated that additional supporting data would be required as part of the Sampling and Analysis Plan (SAP) required for a State Waste Discharge Permit.

Impairment

With the requested period of use for this Temporary Authorization, there is a very low probability of impairment of any senior rights. The open-loop heat pump is nonconsumptive; therefore, the net hydraulic effect on the regional aquifer system is expected to be negligible. Examination of the predicted change in water table elevation from operation of the GSHP system indicate some amount of drawdown is expected to occur to the full lateral extent of the model domain (based on ground water modeling conducted by PNNL). However, significant drawdown (greater than 0.65 feet) is predicted to occur no further than an approximate 2,000 foot radius up gradient while pumping at 1,900 gpm under steady state conditions. Average operation of the GSHP will require ever-changing flow rates of 400 to 730 gpm, with only short-term peak pumping rates reaching 1,900 gpm. The groundwater system is not likely to ever reach a steady state hydraulic condition; therefore, these drawdown estimates are considered worst case and will not impair any senior groundwater withdrawal. Furthermore, drawdown is not predicted to propagate down gradient of the injection wells; therefore, impairment of senior surface water diversions on the Columbia River is not expected.

Public Interest

Injecting water back into the same aquifer from which it was withdrawn is considered a

nonconsumptive use of water. The non-consumptive use of water to run a ground source heat pump is not a detriment to the public interest.

Conclusions and Decision

There is water available for the proposed project and can take place on a short-term basis without impairing existing water rights, is non-consumptive, and is not contrary to public interest.

This Temporary Authorization is subject to the following limitations and provisions:

1. Beneficial use of water under this Temporary Authorization is contingent on obtaining a companion permit from Ecology's Water Quality Program, including all associated conditions.

2. The priority date of this water right is February 17, 2010.

3. The points of withdrawal (extraction wells), points of injection (injections wells), and place of use are all be located within the W½SW¼ of Section 14, T. 10 N., R. 28 E.W.M., Benton County, Parcel No. 114083000002010.

4. The period of use will be from the date of this Temporary Authorization until February 28, 2011, OR until Ecology issues a Report of Examination for Water Right Application No. G4-35179, which supersedes this Temporary Authorization.

5. This Temporary Authorization may be revoked for cause.

6. The withdrawal of ground water shall not exceed 1900 gpm.

7. The purpose of use is for a non-consumptive industrial purpose.

8. The operator of the system under this Temporary Authorization shall:

   a) Be aware of the parameters and provisions and operate accordingly.
   b) Have a copy of this Temporary Authorization.
   c) Provide said copy of this Temporary Authorization to Ecology staff upon request.

9. Withdrawal of water under this Temporary Authorization may be limited or otherwise regulated in favor of senior rights.

10. An approved measuring device shall be installed and maintained for each of the sources authorized by this water right in accordance with the rule "Requirements for Measuring and Reporting Water Use" WAC 173-173. This rule describes the requirements for data accuracy, device installation and operation, and information reporting. It also allows a water user to petition the Department of Ecology for modifications to some of the requirements. http://www.ecy.wa.gov/programs/wr/measuring/measuringhome.html

11. Whenever water is being withdrawn, the **daily** maximum instantaneous rate of withdrawal (gpm), and the total **daily** volume of water shall be recorded and maintained by the permittee. These readings shall be documented by time, date, and the person conducting the measurements. Copies of these records shall be submitted to the Department of Ecology with the following information: owner, contact name if different, mailing address, daytime phone number, WRIA 40, and Application No. G4-35179. **Records shall be submitted to Ecology by February 28, 2011**. Recorded water use data shall be submitted via the Internet. To set up an Internet reporting account, contact the Central Region Office. If you do not have Internet access, you can still submit hard copies by contacting the Central Region Office for forms to submit your water use data.

12. Department of Ecology personnel, upon presentation of proper credentials, shall have access at reasonable times, to the records of water use that are kept to meet the above conditions, and to inspect at reasonable times any measuring device used to meet the above conditions.

13. This Temporary Authorization shall in no way excuse the applicant from compliance with any applicable federal, state, or local statutes, ordinances, or regulations including those administered by other programs of the Department of Ecology.

14. The water source and place of use may not be located entirely upon land owned by the applicant. Therefore, the applicant is advised that issuance of a permit by the Department of Ecology for appropriation of the waters in question does not convey a right of access to, or other right to use, land which the applicant does not legally possess.

15. No water right in perpetuity shall result from this Temporary authorization.

Be sure to do the following:

- Include a copy of this document that you are appealing with your Notice of Appeal.
- Serve and file your appeal in paper form; electronic copies are not accepted.

1. To file your appeal with the Pollution Control Hearings Board:

Mail appeal to:	OR	Deliver your appeal in person to:
The Pollution Control Hearings Board PO Box 40903 Olympia WA 98504-0903		The Pollution Control Hearings Board 4224 – 6th Ave SE Rowe Six, Bldg 2 Lacey WA 98503

2. To serve your appeal on the Department of Ecology:

Mail appeal to:

The Department of Ecology
Appeals & Application for Relief Coordinator
PO Box 47608
Olympia WA 98504-7608

OR

Deliver your appeal in person to:

The Department of Ecology
Appeals & Application for Relief Coordinator
300 Desmond Dr SE
Lacey WA 98503

3. And send a copy of your appeal packet to:

Mark C. Schuppe, Section Manager
Water Resources Program, Dept. of Ecology
Central Region Office
15 W Yakima Ave Ste 200
Yakima WA 98902-3452

For additional information visit the Environmental Hearings Office Website: http://www.eho.wa.gov
To find laws and agency rules visit the Washington State Legislature Website: http://www.leg.wa.gov/CodeReviser

Sincerely,

Mark C. Schuppe, Section Manager
Water Resources Program/CRO

MCS:KC:EH:gh
100602

cc: Tyson Carlson, Aspect Consulting
Philip Rigdon, Director, Natural Resources Division, Yakama Nation
Bob Raforth, Water Quality Program, Department of Ecology/CRO (pdf)
Avery Richardson, Water Resources Program, Department of Ecology/CRO

Certified Mail: 7006 0100 0002 8191 9949

Enclosures: *Your Right To Be Heard*
Water Measuring Requirements & Form 1