DEPARTMENT OF
ECOLOGY
State of Washington

State of Washington
Draft
REPORT OF EXAMINATION
FOR WATER RIGHT APPLICATION

PRIORITY DATE
6/25/2013

WATER RIGHT NUMBER
G3-30689

MAILING ADDRESS
Bonneville Power Administration
Jon Malmberg (TETQ-TPP3)
BPA Van Mall Complex
PO Box 61409
Vancouver, WA 98666-1409

SITE ADDRESS (IF DIFFERENT)
2410 E. Hawthorne Road
Mead, WA 99021

Quantity Authorized for Withdrawal

WITHDRAWAL RATE	UNITS	ANNUAL QUANTITY (AF/YR)
200	GPM	0

200 gallons per minute continuously for non-consumptive heat exchange

Purpose

PURPOSE	WITHDRAWAL RATE	ANNUAL QUANTITY (AF/YR)	PERIOD OF USE (mm/dd)
Heat exchange	200 GPM		01/01 - 12/31

Source Location

COUNTY	WATERBODY	TRIBUTARY TO	WATER RESOURCE INVENTORY AREA
SPOKANE	GROUNDWATER		55-LITTLE SPOKANE

SOURCE FACILITY/DEVICE	PARCEL	WELL TAG	TWP	RNG	SEC	QQ Q	LATITUDE	LONGITUDE
Well	36165.9010		26 N.	43 E.	16	NE¼SW¼	47.75028°	-117.37980°
Well	36165.9010		26 N.	43 E.	16	NE¼SW¼	47.75029°	-117.38073°

Datum: WGS84

2 wells approximately 2400 feet North and 2600 East from the SW corner of Section 16

Place of Use (See Attached Map)

PARCELS (NOT LISTED FOR SERVICE AREAS)

36165.9010

LEGAL DESCRIPTION OF AUTHORIZED PLACE OF USE

All of Section 16 except the following: Beginning at the NW corner of Section 16, thence east along the north line of Section 16 4834 feet, thence south 1838.3 feet, thence S. 45°14' W., 353.6 feet to the northerly line of Graves Rd., thence east along said northerly line478.5 feet, thence on a curve to the left with radius of 924.9 feet a distance of 224.6 feet to the east line of the section, thence south along said east section line 87.1 feet to the southerly line of said road, thence west along said southerly line 2172 feet, thence S. 0°14' W., 190 feet, thence N. 89°46' W., 3098 feet to the west line of Section 16, thence north along said west line 2306.10 feet to the point of beginning. AND EXCEPT Washington Water Power Co. (WWP) right of way subject to easement to Defense Plant Corp. easements. AND EXCEPT portion lying southwesterly of the northeasterly line of WWP right of way and Except railroad right of way together with portion described as follows: commencing at the northwest corner of Section 16, thence S. 0°10'27" W., 2615.36 feet, thence S. 0°12'27" W., 1651.20 feet, thence S. 52°49'18" E., 1102.21 feet, thence S. 89°15'24" E., 202.81 feet, to the true point of beginning. All in Section 16, T.26 N., R. 43 E.W.M.

Proposed Works

The subject proposal involves the withdrawal of water from two wells (one acting as a backup) for the purpose of heat exchange. The water would be pumped through a PVC line to the building. The water would then run through a heat pump exchange unit for the purpose of forced air ventilation and cooling. It would return to an injection site located approximately 280 feet northwest of the subject wells.

Development Schedule

BEGIN PROJECT	COMPLETE PROJECT	PUT WATER TO FULL USE
December 1, 2013	June 1, 2015	June 1, 2016

Provisions

Wells, Well Logs and Well Construction Standards

All wells constructed in the state shall meet the construction requirements of WAC 173-160 titled "Minimum Standards for the Construction and Maintenance of Wells" and RCW 18.104 titled "Water Well Construction". Any well which is unusable, abandoned, or whose use has been permanently discontinued, or which is in such disrepair that its continued use is impractical or is an environmental, safety or public health hazard shall be decommissioned.

All wells shall be tagged with a Department of Ecology unique well identification number. If you have an existing well and it does not have a tag, please contact the well-drilling coordinator at the regional Department of Ecology office issuing this decision. This tag shall remain attached to the well. If you are required to submit water measuring reports, reference this tag number.

Installation and maintenance of an access port as described in WAC 173-160- 291(3) is required.

Measurements, Monitoring, Metering and Reporting
An approved measuring device shall be installed and maintained for each of the sources identified by this water right in accordance with the rule "Requirements for Measuring and Reporting Water Use", WAC 173-173.

WAC 173-173 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.

Underground Injection Control Program
The subject infiltration system shall be registered with Ecology's Underground Injection Control Program prior to discharge of any water withdrawn under this authorization.
http://www.ecy.wa.gov/pubs/wac173218.pdf

This use is considered non-consumptive. The withdrawn water shall be returned to the same aquifer in close proximity in time and space to the location from which it was taken.

Water Use Efficiency
Use of water under this authorization shall be contingent upon the water right holder's maintenance of efficient water delivery systems and use of up-to-date water conservation practices consistent with established regulation requirements and facility capabilities.

Proof of Appropriation
The water right holder shall file the notice of Proof of Appropriation of water (under which the certificate of water right is issued) when the permanent distribution system has been constructed and the quantity of water required by the project has been put to full beneficial use. The certificate will reflect the extent of the project perfected within the limitations of the permit. Elements of a proof inspection may include, as appropriate, the source, system instantaneous capacity, beneficial use(s), annual quantity, place of use, and satisfaction of provisions.

Schedule and Inspections
Department of Ecology personnel, upon presentation of proper credentials, shall have access at reasonable times, to the project location, and to inspect at reasonable times, records of water use, wells, diversions, measuring devices and associated distribution systems for compliance with water law.

Findings of Facts
Upon reviewing the investigator's report, I find all facts, relevant and material to the subject application, have been thoroughly investigated. Furthermore, I concur with the investigator that water is available from the source in question; that there will be no impairment of existing rights; that the purpose(s) of use are beneficial; and that there will be no detriment to the public interest.

Therefore, I ORDER approval of Application No. G3-30689, subject to existing rights and the provisions specified above.

Your Right To Appeal

You have a right to appeal this Order to the Pollution Control Hearing Board (PCHB) within 30 days of the date of receipt of this Order. The appeal process is governed by Chapter 43.21B RCW and Chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B.001(2).

To appeal you must do the following within 30 days of the date of receipt of the Order.

File your appeal and a copy of this Order with the PCHB (see addresses below). Filing means actual receipt by the PCHB during regular business hours.

- Serve a copy of your appeal and this Order on Ecology in paper form - by mail or in person. (See addresses below.) E-mail is not accepted.
- You must also comply with other applicable requirements in Chapter 43.21B RCW and Chapter 371-08 WAC.

Street Addresses	Mailing Addresses
Department of Ecology Attn: Appeals Processing Desk 300 Desmond Drive SE Lacey, WA 98503	**Department of Ecology** Attn: Appeals Processing Desk PO Box 47608 Olympia, WA 98504-7608
Pollution Control Hearings Board 1111 Israel Road SW Ste 301 Tumwater, WA 98501	**Pollution Control Hearings Board** PO Box 40903 Olympia, WA 98504-0903

Signed at Spokane, Washington, this day of 2013.

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Keith L. Stoffel, Section Manager

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://www1.leg.wa.gov/CodeReviser.

INVESTIGATOR'S REPORT
Application for Water Right – Bonneville Power Administration
Water Right Control Number G3-30689
Water Resources (ERO), Department of Ecology

BACKGROUND

Description and Purpose of Proposed Application

On June 25, 2013, the Washington State Department of Ecology (Ecology) accepted Water Right Application Number G3-30689 submitted by the Bonneville Power Administration (BPA). Attributes of the application are presented below in Table 1. Lands covered by the proposed place of use are owned by the U.S, Department of Energy, parcel number 36165.9010. The points of withdrawal and injection are located on the same land.

The proposed water use is nonconsumptive heat exchange.

Table 1 Application Summary

Attributes	Summary
Name	**Bonneville Power Administration**
Priority Date	6/25/2013
Instantaneous Quantity	200 gpm
Annual Quantity	Non-consumptive
Purpose of Use	Heat Exchange
Period of Use	01/01-12/31
Place of Use	Portions of Section 16, T. 26 N., R. 43 E.W.M.

Table 2 Proposed Sources of Withdrawal or Diversion

Source Name	Parcel	WellTag	Twn	Rng	Sec	QQ Q	Latitude	Longitude
WELL	36165.9010		26 N.	43 E.	16	NE¼SW¼	47.75028°	-117.37980°
WELL	36165.9010		26 N.	43 E.	16	NE¼SW¼	47.75029°	-117.38073°

Expediting Process

Normally, new water right applications are acted upon in the order in which they are received – by priority date. Certain new water right applications are afforded priority processing if they meet certain conditions. With respect to this application, WAC 173-152-050(2) provides that an application may be processed prior to competing applications if the department determines that:

"The proposed water use is non-consumptive and if approved would substantially enhance or protect the quality of the natural environment." (WAC 173-152-050(2)(b))

Ecology also has a policy titled "Priority Processing of Heat Pump Applications" – POL 2020. This Policy reiterates that an application for withdrawal of water for heat exchange purposes may be afforded priority processing provided that the conditions set forth in WAC 173-152-050(2)(b) are met.

1. Nonconsumptive Use: Ecology Water Resource Program Policy POL-1020 governs determination of consumptive vs. nonconsumptive water use. The Policy defines ground water use as nonconsumptive when:

"...there is no diminishment of the source. In order not to diminish the source, the withdrawn water is injected or infiltrated immediately back to the aquifer. The water must be returned in the same quantity and quality (excluding temperature change) at a point in close proximity to the withdrawal wells. An example of this use is a heat pump."

2. Substantially Enhance or Protect the Natural Environment: An open-loop water source exchange system such as that proposed generally provides a considerable improvement in energy efficiency over comparable traditional systems. There is an energy savings over air-source heat pumps, particularly during periods of below-freezing weather, and there is no direct combustion associated with these systems as there would be with coal, oil or natural gas. The energy savings and reduction of greenhouse gases that this type of system provides over conventional heating and cooling systems can be considered as substantially enhancing the natural environment.

The proposed open-loop heat exchange system meets the criteria set forth in WAC 173-152-050(2)(b) and is afforded priority processing. Priority processing was approved by Keith Stoffel, Water Resources Section Manager, Eastern Region Office on June 7, 2013.

Legal Requirements for Approval of Appropriation of Water

RCWs 90.03 and 90.44 authorize the appropriation of public water for beneficial use and describe the process for obtaining water rights. Laws governing the water right permitting process are contained in RCW 90.03.250 through 90.03.340 and RCW 90.44.050. In accordance with RCW 90.03.290, determinations must be made on the following four criteria in order for an application for water rights to be approved:

- There must be no impairment of existing rights
- Water must be available
- The water use must be beneficial
- The water use must not be detrimental to the public interest.

This report serves as the written findings of fact concerning all things investigated regarding Water Right Application Number G3-30689.

Public Notice

RCW 90.03.280 requires that notice of a water right application be published once a week, for two consecutive weeks, in a newspaper of general circulation in the area where the water is to be stored,

diverted and used. Notice of this application was published in the *Spokesman Review* on July 19 and July 26, 2013; no letters of concern or protest were received.

State Environmental Policy Act (SEPA)

A water right application is subject to a SEPA threshold determination (i.e., an evaluation whether there are likely to be significant adverse environmental impacts) if any one of the following conditions are met.

(a) It is a surface water right application for more than 1 cubic feet per second, unless that project is for agricultural irrigation, in which case the threshold is increased to 50 cubic feet per second, so long as that irrigation project will not receive public subsidies;
(b) It is a groundwater right application for more than 2,250 gallons per minute;
(c) It is an application that, in combination with other water right applications for the same project, collectively exceed the amounts above;
(d) It is a part of a larger proposal that is subject to SEPA for other reasons (e.g., the need to obtain other permits that are not exempt from SEPA);
(e) It is part of a series of exempt actions that, together, trigger the need to do a threshold determination, as defined under WAC 197-11-305.

Because this application does not meet any of these conditions, it is categorically exempt from SEPA and a threshold determination is not required.

INVESTIGATION

Jeff MacLennan met with BPA's representative Mr. Colin McGlocklin on July 25, 2013, at BPA's construction site on East Hawthorne Road. Also present were Carl Hoyt, Garco Construction Project manager, Tom Richardson of H2O Well drilling, and Brad Porter, BPA's on-site point of contact. Mr. McGlocklin is the lead engineer for the installation of the heat exchange system. BPA will be drilling the source and injection wells on the same parcel. The site is located on East Hawthorne Road about a half mile east of Highway 2. This site is over the Spokane Valley Rathdrum Prairie aquifer. The heat exchange process calls for pumping water from one of two source wells with the second well used as a backup, passing it through a heat pump exchange unit for the purpose of forced air ventilation, and then injecting it back into the ground through a well located approximately 280 feet Northwest of the source wells.

The intent is to have the full discharge from the heat exchange system return to the source aquifer within a short time of being withdrawn. By doing this, the purpose is considered a nonconsumptive use. The requirement for the water to be returned to the same location from which it was withdrawn without any changes to its chemical content was emphasized to Mr. McGlocklin. He reaffirmed his understanding of this requirement. Mr. McGlocklin is also aware Underground Injection Control registration is required.

According to Mr. McGlocklin, 100 gpm provides sufficient margin to meet any requirements of the heat exchange system. If this proves to be the case, then the certificate will be reduced accordingly. A search of the well log database in Section 16 showed wells in this area produce between 30 and 5,000 gpm.

Impairment Considerations of Senior Water Rights

Impairment is an adverse impact on the physical availability of water for a beneficial use that is entitled to protection. A water right application may not be approved if it would:

- Interrupt or interfere with the availability of water to an adequately constructed groundwater withdrawal facility of an existing right. An adequately constructed groundwater withdrawal facility is one that (a) is constructed in compliance with well construction requirements and (b) fully penetrates the saturated zone of an aquifer or withdraws water from a reasonable and feasible pumping lift.
- Interrupt or interfere with the availability of water at the authorized point of diversion of a surface water right. A surface water right conditioned with instream flows may be impaired if a proposed use or change would cause the flow of the stream to fall to or below the instream flow more frequently or for a longer duration than was previously the case.
- Interrupt or interfere with the flow of water allocated by rule, water rights, or court decree to instream flows. Degrade the water quality of the source to the point that the water is unsuitable for beneficial use by existing users (e.g., via sea water intrusion).

There are over 75 water rights and claims within a half mile of the proposed points of withdrawal. Even though there are a large number of wells within close proximity, this application should not impair any of these senior water users for two reasons: first, this is a non-consumptive use; and second, in comparison to the physical characteristics of the source, that is the Spokane Valley-Rathdrum Prairie aquifer, the impact of withdrawing 200 gpm is negligible.

Water Availability

For water to be available for appropriation, it must be both physically and legally available.

Physical availability

For water to be physically available for appropriation there must be ground or surface water present in quantities and quality and on a sufficiently frequent basis to provide a reasonably reliable source for the requested beneficial use or uses. In addition, the following factors are considered:

- Volume of water represented by senior water rights, including federal or tribal reserved rights or claims;
- Water right claims registered under Chapter 90.14 RCW
- Ground water uses established in accordance with Chapter 90.44 RCW, including those that are exempt from the requirement to obtain a permit; and
- Potential riparian water rights, including non-diversionary stock water.
- Lack of data indicating water usage can also be a consideration in determining water availability, if the department cannot ascertain the extent to which existing rights are consistently utilized and cannot affirmatively find that water is available for further appropriation.

The proposed use is considered nonconsumptive because the water withdrawn will be returned to the same aquifer in close proximity in time and space to the location from which it was taken.

Legal availability

To determine whether water is legally available for appropriation, the following factors are considered:

- Regional water management plans – which may specifically close certain water bodies to further appropriation.

- Existing rights – which may already appropriate physically available water.
- Fisheries and other instream uses (e.g., recreation and navigation). Instream needs, including instream and base flows set by regulation. Water is not available for out of stream uses where further reducing the flow level of surface water would be detrimental to existing fishery resources.
- The Department may deny an application for a new appropriation in a drainage where adjudicated rights exceed the average low flow supply, even if the prior rights are not presently being exercised. Water would not become available for appropriation until existing rights are relinquished for non-use by state proceedings.

As indicated above, the proposed project is nonconsumptive. Since the water use is nonconsumptive, it will have no physical impact to the source, a large, fast moving aquifer. In addition, there will be no impacts to existing rights, reservations of water, basin management plans, instream flows or other instream uses. Groundwater is available for the proposed nonconsumptive heat exchange use both legally and physically.

Beneficial Use

The use of water for heat exchange purposes is defined in statute as a beneficial use (RCW 90.54.020(1) and Ecology Policy POL-2020).

Public Interest Considerations

Consideration of Protests and Comments

No letters of concern were filed against this application.

The proposed withdrawal of water is considered a nonconsumptive appropriation. Approval of this application would result in an overall benefit to the natural environment by increasing the energy efficiency of the heating and cooling system of the building. There has been no public expression of protest or concern regarding the subject proposal, and no findings through this investigation indicating that there would be any detrimental impact to the public welfare through issuance of the water right. With that, this use is considered to be in the public interest.

Conclusions

In conclusion, water is available for appropriation, and the proposed use would be a beneficial use, would not impair existing water rights, and would not be detrimental to the public welfare. This examiner finds that water is available for appropriation for nonconsumptive continuous heat exchange in the amount of 200 gallons per minute.

RECOMMENDATIONS

Based on the above investigation and conclusions, I recommend that this request for a water right be approved in the amounts and within the limitations listed below and subject to the provisions listed above.

Purpose of Use and Authorized Quantities

The amount of water recommended is a maximum limit and the water user may only use that amount of water within the specified limit that is reasonable and beneficial:

200 gpm
0 acre-feet per year
Nonconsumptive Heat Exchange

Points of Withdrawal

Two wells within the NE¼SW¼, Section 16, Township 26 North, Range 43 East Willamette Meridian

Place of Use

All of Section 16 except the following: Beginning at the NW corner o Section 16, thence east along the north line of Section 16 4834 feet, thence south 1838.3 feet, thence S. 45°14′ W., 353.6 feet to the northerly line of Graves Rd., thence east along said northerly line478.5 feet, thence on a curve to the left with radius of 924.9 feet a distance of 224.6 feet to the east line of the section, thence south along said east section line 87.1 feet to the southerly line of said road, thence west along said southerly line 2172 feet, thence S. 0°14′ W., 190 feet, thence N. 89°46′ W., 3098 feet to the west line of Section 16, thence north along said west line 2306.10 feet to the point of beginning. AND EXCEPT Washington Water Power Co. (WWP) right of way subject to easement to Defense Plant Corp. easements. AND EXCEPT portion lying southwesterly of the northeasterly line of WWP right of way and Except railroad right of way together with portion described as follows: commencing at the northwest corner of Section 16, thence S. 0°10′27″ W., 2615.36 feet, thence S. 0°12′27″ W., 1651.20 feet, thence S. 52°49′18″ E., 1102.21 feet, thence S. 89°15′24″ E., 202.81 feet, to the true point of beginning. All in Section 16, T.26 N., R. 43 E.W.M.

Jeff MacLennan, Report Writer *Date*

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