



# Oregon

John A. Kitzhaber, MD, Governor

## Water Resources Department

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### MEMORANDUM

TO: Water Resources Commission

FROM: Phillip C. Ward, Director

SUBJECT: Agenda Item D, November 15, 2012  
Water Resources Commission Meeting

#### **Request for an Exception to the Willamette Basin Program by NRI Inc. and Pyxis Labs, Application G-17454, Pursuant to ORS 536.295**

#### **I. Issue Statement**

Under ORS 536.295 (Attachment 1), the Water Resources Commission may, under certain circumstances, allow the Department to consider an application to appropriate water for a use not classified as an allowable use by the applicable basin program. NRI Inc. and Pyxis Labs have requested an exception (Attachment 2) to the Willamette Basin Program based on one or more criteria provided in the statute.

This report summarizes the information provided by the applicant, and evaluates the request against statutory criteria and rules of the Commission. The question before the Commission is whether to allow the Department to consider the application even though the use is not classified under the Basin Program. If the exception is granted, the application would then be reviewed in the same manner as any other water-right application.

#### **II. Background**

Basin programs are administrative rules adopted by the Commission that prescribe allowable uses of water. The act of specifying the allowable future beneficial uses is called "classification" and is authorized under ORS 536.340. Classifying beneficial uses in a basin program involves analysis of basin-specific data and substantial public involvement. However, under ORS 536.295 the Commission may allow the Department to consider an application for a use not classified in a basin program if the use meets one or more of the criteria in ORS 536.295(1). The Commission also must evaluate whether the proposed use is consistent with the general policies of the applicable basin program.

Commission approval of a request for an exception to a basin program allows the Department to consider an application to appropriate water for a purpose not classified as allowable by the subject basin program. An exception does not guarantee that a water right will be issued, or if it were issued, how it would be conditioned. In approving a basin-program exception, the

Commission allows the Department to consider the application, notwithstanding the classification. All other aspects of the application review process remain the same. If the Commission does not grant the request, the application will continue to be processed, but will likely be denied because the proposed use is not a classified use in the basin program.

### **III. Discussion**

A summary of Application G-17454, in the name of NRI Inc. and Pyxis Labs, and an evaluation of their request for an exception to the Willamette Basin Program are provided below.

#### ***A. Application summary and basis for consideration***

NRI Inc. and Pyxis Labs applied for a groundwater permit to appropriate 0.123 cubic foot per second (CFS) of water from Well 1 (MULT 105704) in Columbia Slough Basin for year-round industrial use (geothermal heating & cooling). The produced water would be injected into Well 2 (MULT 106416) in the same aquifer. The application map is provided as Attachment 3.

The Department determined Well 1 (MULT 105704) is located in unconfined alluvium within 1/4 mile of Columbia Slough.

The Willamette Basin Program states, in part:

Groundwater in unconfined alluvium within 1/4 mile of the banks of a stream or surface-water source is presumed to be in hydraulic connection with the surface water source, unless the applicant or appropriator provides satisfactory information or demonstration to the contrary. This hydraulically connected groundwater shall be classified the same as the surface source.

The surface water classification in Oregon Administrative Rule (OAR) 690-502-0150(4) states:

Except as specified in subsections (1)(a), (b), and (c) of this rule, all stream systems in the Columbia Subbasin and Columbia Slough are classified year-round only for domestic, commercial use for customarily domestic purposes not to exceed 0.01 cfs, livestock and public instream uses.

The exception request is necessary because the applicable portion of the Willamette Basin Program does not allow industrial use (geothermal heating & cooling).

***B. Exception request evaluation***

The applicants assert that a basin-program exception is warranted on the basis that two of the possible criteria are satisfied. Department staff believe that one of the criteria is satisfied and that the proposed use therefore qualifies for an exception. A review of the criteria along with staff analysis follows below.

**1) Summary of information provided by the applicant under ORS 536.295 (1)(c):  
The use is largely non-consumptive in nature and not likely to be regulated for other water rights.**

Groundwater will likely be available for the proposed use in the amounts requested without injury to prior rights and/or within the capacity of the resource.

The use would be non-consumptive and the draft permit would be conditioned to require that all pumped water be injected into the same (originating) aquifer.

The amount of water extracted and injected at all wells would be accounted for by utilizing totalizing flow meters at each production and injection well. The permittee would keep a complete record of the amount of water diverted each month, and would submit a report to the Department annually or more frequently as may be required by the Department.

Prior to use of water under a permit, if issued, the permittee would register the injection activity with the Oregon Department of Environmental Quality's Underground Injection Control Program.

Prior to receiving a certificate of water right, the permit holder would submit documentation affirming that any applicable additional requirements of the Department's Division 230 rules have been met.

Staff analysis: The Department believes the use would be non-consumptive, and not likely to be regulated for other water rights in that all groundwater extracted would be injected into the same (originating) aquifer.

**2) Summary of information provided by the applicant under ORS 536.295 (1)(f), the use would provide a public benefit such as riparian or watershed improvement:**

The applicant asserts in the exception request that the use of groundwater in the building would provide the building owner and tenants with an energy-efficient method for space conditioning while conserving significant amounts of electricity.

Staff analysis: Under ORS 541.600, "*public benefit* means a benefit that accrues to the public at large rather than to a person, a small group of persons, or a private

enterprise.” The proposed use would benefit principally the building’s owners and tenants. It is true that the proposed use is a relatively green means of heating and cooling, and would thus provide an indirect public benefit. However, despite the desirability of managing the water-energy nexus conjunctively, staff believe that indirect benefit *alone* would be insufficient to justify a basin-program exception because doing so would imply that ancillary benefits related to similar exception requests, however small or indirect, must logically be recommended for approval, even if the small or indirect public benefit occurs entirely outside the realm of water management. Consequently, the Department does not believe that the proposed use of groundwater meets the criterion that the use would provide a public benefit that justifies a basin-program exception under ORS 536.295(1)(f).

**3) Evaluation of consistency of proposed use with the general policies of the Willamette Basin Program:**

ORS 536.295(4) requires the Commission to evaluate whether the proposed use is consistent with the general policies of the Willamette Basin Program (Attachment 4). The general policies for groundwater management under the Willamette Basin Program are as follows [OAR 690-502-0020(2)]:

- (a) Prevent excessive water level declines, restore aquifer stability in areas of decline and preserve with limited storage capacity for designated uses;
- (b) Identify low-yield aquifers and inform local agencies of probable groundwater capacity limitations for some uses;
- (c) Ensure safe municipal and domestic groundwater supplies by participating with the Department of Environmental Quality and the State Health Division in a formal monitoring program to document changes in quality and provide data for aquifer management;
- (d) Minimize impairment of surface water uses resulting from hydraulic connection between groundwater and surface water;
- (e) Encourage the development of programs for making groundwater resource information available to the public and local agencies.

Staff analysis: The Department believes that the proposed use of groundwater is consistent with the general policies of the Willamette Basin Program.

#### **IV. Conclusions**

To grant an exception to a basin program under ORS 536.295, the Commission must find that the request meets at least one of the statutory criteria, and that the proposed use is consistent with the general policies of the applicable basin program.

1. NRI Inc. and Pyxis Labs have demonstrated that the use is largely non-consumptive in nature and not likely to be regulated for other water rights.
2. The request is consistent with the general policies of the Willamette Basin Program.

#### **V. Alternatives**

The Commission may consider the following actions:

1. Approve the request by NRI Inc. and Pyxis Labs for a basin-program exception because the use is largely non-consumptive in nature and not likely to be regulated for other water rights; and the use is consistent with the general policies of the Willamette Basin Program.
2. Deny the request by NRI Inc. and Pyxis Labs for a basin-program exception.
3. Take no action and direct staff to continue to work with the applicant.

#### **VI. Recommendation**

The Director recommends Alternative 1: that the Commission approve the request by NRI Inc. and Pyxis Labs for a basin-program exception because the use is largely non-consumptive in nature and not likely to be regulated for other water rights; and because the use is consistent with the general policies of the Willamette Basin Program.

Attachments:

1. ORS 536.295
2. NRI Inc. and Pyxis Labs Basin Program Exception Request
3. Application map
4. OAR 690-502-0020

Dwight French/Tim Wallin  
(503) 986-0819/(503) 986-0891

## Attachment 1

### ORS 536.295

**ORS 536.295 Conditions for consideration of application for use not classified in basin program.** (1) Notwithstanding any provision of ORS 536.300 or 536.340, the Water Resources Commission may allow the Water Resources Department to consider an application to appropriate water for a use not classified in the applicable basin program if the use:

- (a) Will be of short duration during each year;
- (b) Will be for a continuous period of no longer than five years;
- (c) Is largely nonconsumptive in nature and not likely to be regulated for other water rights;
- (d) Is necessary to ensure public health, welfare and safety;
- (e) Is necessary to avoid extreme hardship;
- (f) Will provide a public benefit such as riparian or watershed improvement; or
- (g) Is of an unusual nature not likely to recur in the basin, and unlikely to have been within the uses considered by the commission in classifying the uses presently allowed in the applicable basin program including but not limited to:
  - (A) Exploratory thermal drilling;
  - (B) Heat exchange;
  - (C) Maintaining water levels in a sewage lagoon; or
  - (D) Facilitating the watering of livestock away from a river or stream.

(2) A permit granted on or before January 1, 1993, for a quasi-municipal use of water shall be considered a permit for a classified use under ORS 536.340 if at the time the application was submitted or the permit was granted, the basin program identified municipal use as a classified use.

(3) The commission by rule may determine the specific uses permitted within a classified use.

(4) In making the determination under subsection (1) of this section, the commission shall evaluate whether the proposed use is consistent with the general policies established in the applicable basin program.

(5) The Water Resources Department shall process and evaluate an application allowed by the commission under subsections (1) to (4) of this section in the same manner as any other water right application, including determining whether the proposed use would result in injury to an existing water right. [1989 c.9 §1; 1993 c.591 §1; 1999 c.703 §1]

## Attachment 2

**From:** Nick Mitchell [mailto:nmitchell@geonomicdevelopments.com]  
**Sent:** Monday, December 05, 2011 11:07 AM  
**To:** Kerry Kavanagh  
**Subject:** Re: Application G-17454 NRI Inc. and Pyxis Labs

Hi Kerry,

Sorry for the delay in following up with you.

The owner has chosen to request for a basin program exception, citing exceptions (c) Is largely nonconsumptive in nature and not likely to be regulated for other water rights; and (f) Will provide a public benefit such as riparian or watershed improvement.

Exception (c) is cited because the manner of groundwater extraction for the GeoThermal heating/cooling system is 100% non-consumptive. When the heat pump in the building (not serving the entire building) is calling for heat, water is extracted from the well and ran through a heat exchanger, and is re-injected directly back into the ground via a "re-injection well." The re-injected water has not been affected.

Exception (f) is cited because the use of GeoThermal resources (ground water) is an energy-efficient way of providing space conditioning. This technology provides the building owner and tenants with space conditioning while conserving significant amounts of electricity.

Please let me know if there is anything else you need from myself or the building owner, and how to handle payment for the \$500 examination fee.

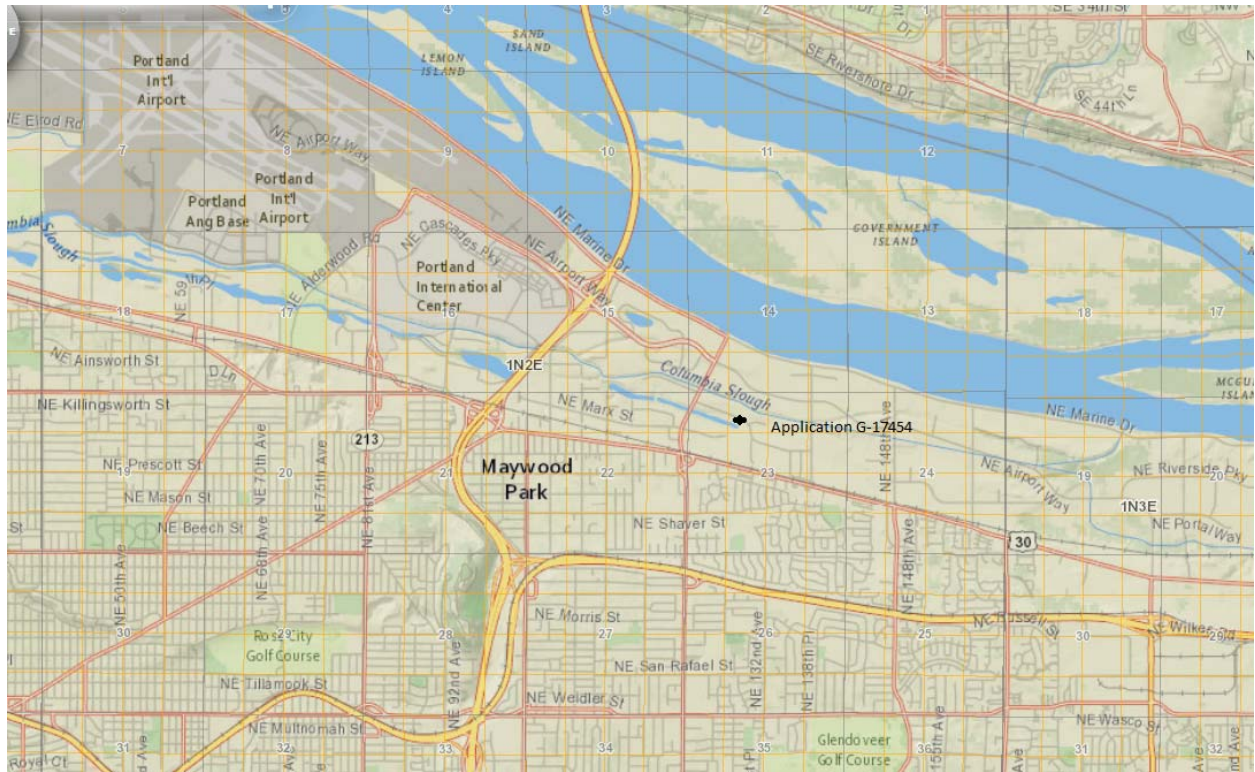
Best,

Nick

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**Attachment 3**





## **Attachment 4**

### **690-502-0020**

#### **Policies**

Water Resources Commission and Department activities which affect the waters of the Willamette River Basin shall be compatible with the policies established in this rule. Surface water allocation, groundwater management, municipal and domestic water systems, reservoir coordination, conservation and land use coordination are important issues in the Willamette Basin. The Commission's policies on these issues are as follows:

- (1) Surface water allocation:
  - (a) Protect undeveloped streams with instream values for public instream uses;
  - (b) Seek a balance in the future appropriation of water between instream and total out-of-stream uses on those streams already significantly developed for out-of-stream purposes;
  - (c) Preserve opportunities for future economic development by reserving water for future use;
  - (d) Minimize the likelihood of over-appropriation due to new uses;
  - (e) Manage stored waters which have been released for instream purposes to meet flow needs reflected in established instream water rights;
  - (f) Allow irrigation use for the longest period possible between March 1 and October 31 provided sufficient water is available.
- (2) Groundwater management:
  - (a) Prevent excessive water level declines, restore aquifer stability in areas of decline and preserve with limited storage capacity for designated uses;
  - (b) Identify low-yield aquifers and inform local agencies of probable groundwater capacity limitations for some uses;
  - (c) Ensure safe municipal and domestic groundwater supplies by participating with the Department of Environmental Quality and the State Health Division in a

formal monitoring program to document changes in quality and provide data for aquifer management;

- (d) Minimize impairment of surface water uses resulting from hydraulic connection between groundwater and surface water;
  - (e) Encourage the development of programs for making groundwater resource information available to the public and local agencies.
- (3) Municipal and domestic water systems: Support coordinated water service planning and consolidation by water purveyors to preserve and protect adequate and safe drinking water supplies for human consumption in the Willamette Basin.
- (4) Reservoir coordination:
- (a) Promote funding to study and implement the Willamette River Basin Review Study reconnaissance phase recommendations with significant potential to assist the state in meeting its resource management objectives;
  - (b) Formalize reservoir operation guidelines with the Corps of Engineers to meet state water management objectives and enter into a memorandum of understanding or other agreement that defines the reservoir coordination process and water management objectives.
- (5) Water conservation:
- (a) Implement programs to eliminate wasteful water use;
  - (b) Improve the efficiency of water use through implementation of voluntary conservation measures;
  - (c) Give priority to developing subbasin conservation plans and providing public assistance in areas of known over-appropriation of surface water and groundwater and in water quality problem areas as listed by the Department of Environmental Quality.
- (6) Land use coordination: Promote effective state and local water resource planning and protection and efficient water use through coordination with land use programs.