Application for a Permit to

Surface Water

RECEIVED
MAY 18 2011
WATER RESOURCES DEPT
SALEM, OREGON

Oregon Water Resources Department
725 Summer Street NE, Suite A
Salem Oregon 97301-1266
(503) 986-0900
www.wrd.state.or.us

SECTION 1: APPLICANT INFORMATION AND SIGNATURE

Applicant Information

NAME			PHONE (HM)
N/A			
PHONE (WK)	CELL		FAX
ADDRESS			
CITY	STATE	ZIP	E-MAIL

Organization Information

NAME			PHONE	FAX
PORTLAND GENERAL ELECTRIC COMPANY			541-481-1211	
ADDRESS LOREN MAYER GENERAL MANAGER – BOARDMAN PLANT 73334 TOWER ROAD				CELL
CITY	STATE	ZIP	E-MAIL	
BOARDMAN	OR	97818	LOREN.MAYER@PGN.COM	

Agent Information – The agent is authorized to represent the applicant in all matters relating to this application.

AGENT / BUSINESS NAME			PHONE	FAX
MARTHA O. PAGEL/ SCHWABE, WILLIAMSON & WYATT			503-540-4260	503-796-2900
ADDRESS 530 CENTER STREET NE, SUITE 400				CELL 503-507-7293
CITY	STATE	ZIP	E-MAIL	
SALEM	OR	97301	MPAGEL@SCHWABE.COM	

Note: Attach multiple copies as needed

By my signature below I confirm that I understand:

- I am asking to use water specifically as described in this application.
- Evaluation of this application will be based on information provided in the application.
- I cannot use water legally until the Water Resources Department issues a permit.
- Acceptance of this application does not guarantee a permit will be issued.
- If I begin construction prior to the issuance of a permit, I assume all risks associated with my actions.
- If I get a permit, I must not waste water.
- If development of the water use is not according to the terms of the permit, the permit can be cancelled.
- The water use must be compatible with local comprehensive land-use plans.
- Even if the Department issues a permit, I may have to stop using water to allow senior water-right holders to get water to which they are entitled.

I (we) affirm that the information contained in this application is true and accurate.

Applicant Signature	Print Name *and title if applicable*	Date
Ray Hendricks	Ray Hendricks, Environmental Engineer	2/11/2011

Revise

For Department Use
App. No. S-87723 Permit No. _____ Date _____

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SALEM, OREGON

SECTION 2: PROPERTY OWNERSHIP

Please indicate if you own all the lands associated with the project from which the water is to be diverted, conveyed, and used.

☐ Yes
- ☐ There are no encumbrances.
- ☐ This land is encumbered by easements, rights of way, roads or other encumbrances.

☒ No
- ☒ I have a recorded easement or written authorization permitting access.
  Note: Applicant owns all of Section 34, T3N, R24E, WM and has written authorization for the remaining affected lands in Section 33, T3N, R24E, WM.
- ☐ I do not currently have written authorization or easement permitting access.
- ☐ Written authorization or an easement is not necessary, because the only affected lands I do not own are state-owned submersible lands, and this application is for irrigation and/or domestic use only (ORS 274.040).
- ☐ Water is to be diverted, conveyed, and/or used only on federal lands.

List the names and mailing addresses of all affected landowners (*attach additional sheets if necessary).*

The names and mailing addresses of all affected landowners are included as an attachment to this application. See Attachment 3 (List of Affected Landowners).

SECTION 3: SOURCE OF WATER

A. Proposed Source of Water

Provide the commonly used name of the water body from which water will be diverted, and the name of the stream or lake it flows into. If unnamed, say so:

Source 1: Carty Reservoir	Tributary to: N/A
Source 2: _____	Tributary to: _____
Source 3: _____	Tributary to: _____
Source 4: _____	Tributary to: _____

If any source listed above is stored water that is authorized under a water right permit, certificate, or decree, attach a copy of the document or list the document number (for decrees, list the volume, page and/or decree name).
Certificate 86056 (Storage Right) and Certificate 86057 (Secondary Use). The existing storage rights authorize use of water for a "thermal power generation facility". Pursuant to ORS 540.520(9), the applicant has provided notice to the Water Resources Department of a change in use from specific to general industrial use.

B. Applications to Use Stored Water

Do you, or will you, own the reservoir(s) described in item 3A above?

☒ Yes.

☐ No. (Please enclose a copy of your written notification to the operator of the reservoir of your intent to file this application, which you should have already mailed or delivered to the operator.)

If *all* sources listed in item 3A are stored water, the Department will review your application using the expedited process provided in ORS 537.147, unless you check the box below. Please see the instruction booklet for more information.

☐ By checking this box, you are requesting that the Department process your application under the standard process outlined in ORS 537.150 and 537.153, rather than the expedited process provided by ORS 537.147. To file an application under the standard process, you must enclose the following:

- A copy of a signed non-expired contract or other agreement with the owner of the reservoir (if not you) to impound the volume of water you propose to use in this application.
- A copy of your written agreement with the party (if any) delivering the water from the reservoir to you.

SECTION 4: WATER USE

Provide the amount of water you propose to use from each source, for each use, in cubic feet-per-second (cfs) or gallons-per-minute (gpm). If the proposed use is from storage, provide the amount in acre-feet (af):
(1 cfs equals 448.8 gpm. 1 acre-foot equals 325,851 gallons or 43,560 cubic feet)

SOURCE	USE	PERIOD OF USE	AMOUNT
Carty Reservoir	Industrial	Year round	3736 ☐ cfs ☐ gpm ☒ af
			☐ cfs ☐ gpm ☐ af
			☐ cfs ☐ gpm ☐ af
			☐ cfs ☐ gpm ☐ af

For irrigation use only:
Please indicate the number of primary and supplemental acres to be irrigated.

Primary: _____ Acres Supplemental: _____ Acres

List the Permit or Certificate number of the underlying primary water right(s): _____

Indicate the maximum total number of acre-feet you expect to use in an irrigation season: _____

- If the use is **municipal or quasi-municipal**, attach **Form M**
- If the use is **domestic**, indicate the number of households: _____
- If the use is **mining**, describe what is being mined and the method(s) of extraction:

_____

SECTION 5: WATER MANAGEMENT

A. Diversion and Conveyance

What equipment will you use to pump water from your source?

☒ Pump (give horsepower and type): Vertical – 150 hp

☐ Other means (describe): ____

Provide a description of the proposed means of diversion, construction, and operation of the diversion works and conveyance of water.
The project will use existing intake and discharge structures. Multiple water pipelines associated with the Carty Generating Station will be connected to the existing Boardman Plant facilities. A detailed description of the diversion and conveyance system is included in Section B.4 of the Application for Site Certificate. See Attachment 4 (Section B.4 of Application for Site Certificate).

B. Application Method

What equipment and method of application will be used? (e.g., drip, wheel line, high-pressure sprinkler)
Water will be distributed by pipes and tanks to the place of use.

C. Conservation

Please describe why the amount of water requested is needed and measures you propose to: prevent waste; measure the amount of water diverted; prevent adverse impact to public uses of affected surface waters.
Water use needs and conservation measures are described in Section O of the Carty Generating Station Application for Site Certificate. See Attachment 5 (Section O of Application for Site Certificate). The project includes internal re-use of water and measures to minimize waste of water.

SECTION 6: RESOURCE PROTECTION

In granting permission to use water from a stream or lake, the state encourages, and in some instances requires, careful control of activities that may affect the waterway or streamside area. See instruction guide for a list of possible permit requirements from other agencies. Please indicate any of the practices you plan to undertake to protect water resources.

☒ Diversion will be screened to prevent uptake of fish and other aquatic life.
Describe planned actions: Water will be pumped from the Carty Reservoir to its place of use by vertical turbine pumps. Each pump will be filtered by a screen.

☒ Excavation or clearing of banks will be kept to a minimum to protect riparian or streamside areas.
Describe planned actions: Excavation or clearing will be kept to a minimum at the point of water withdrawal from Carty Reservoir by using Best Management Practices (BMPs) that are consistent with industry standards.

☒ Operating equipment in a water body will be managed and timed to prevent damage to aquatic life.
Describe: Damage to aquatic life will be minimized at the point of water withdrawal from Carty Reservoir by using BMPs that are consistent with industry standards. Hydraulic conditions and approach velocities to the screens will be designed and managed to reduce the impact of operations on aquatic life.

☒ Water quality will be protected by preventing erosion and run-off of waste or chemical products.
Describe: Erosion and run-off of waste or chemical products will be addressed by using BMPs that are consistent with industry standards.

SECTION 7: PROJECT SCHEDULE

Date construction will begin: 2013

Date construction will be completed: 2016

Date beneficial water use will begin: 2013

SECTION 8: REMARKS

Use this space to clarify any information you have provided in the application (*attach additional sheets if necessary).*
Pursuant to ORS 469.378, the land use determination will be made by the Energy Facility Siting Council. The standard Land Use Information Form is not required and therefore is not included with this application.

The existing storage rights under Certificate 86056 (the source of water for this application) authorize use of water for a "thermal power generation facility". Pursuant to ORS 540.520(9), the applicant has provided notice to the Water Resources Department of a change in use of the stored water from specific to general industrial use.

RECEIVED
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Land Use Information Form

Oregon Water Resources Department
725 Summer Street NE, Suite A
Salem, Oregon 97301-1266
(503) 986-0900
www.wrd.state.or.us

Applicant: NOT APPLICABLE. LAND USE FORM NOT REQUIRED. PURSUANT TO ORS 469.378, LAND USE CONSISTENCY WILL BE DETERMINED BY ENERGY FACILITY SITING COUNCIL.

First _____ Last _____

Mailing Address: _____

City _____ State _____ Zip _____ Daytime Phone: _____

A. Land and Location

Please include the following information for all tax lots where water will be diverted (taken from its source), conveyed (transported), and/or used or developed. Applicants for municipal use, or irrigation uses within irrigation districts may substitute existing and proposed service-area boundaries for the tax-lot information requested below.

Township	Range	Section	¼ ¼	Tax Lot #	Plan Designation (e.g., Rural Residential/RR-5)	Water to be:			Proposed Land Use:
						☐ Diverted	☐ Conveyed	☐ Used	
						☐ Diverted	☐ Conveyed	☐ Used	

List all counties and cities where water is proposed to be diverted, conveyed, and/or used or developed:

B. Description of Proposed Use

Type of application to be filed with the Water Resources Department:

☐ Permit to Use or Store Water ☐ Water Right Transfer ☐ Permit Amendment or Ground Water Registration Modification
☐ Limited Water Use License ☐ Allocation of Conserved Water ☐ Exchange of Water

Source of water: ☐ Reservoir/Pond ☐ Ground Water ☐ Surface Water (name) _____

Estimated quantity of water needed: _____ ☐ cubic feet per second ☐ gallons per minute ☐ acre-feet

Intended use of water: ☐ Irrigation ☐ Commercial ☐ Industrial ☐ Domestic for _____ household(s)
☐ Municipal ☐ Quasi-Municipal ☐ Instream ☐ Other _____

Briefly describe:

Not applicable. Determination will be made through Energy Facility Siting Council.

Note to applicant: If the Land Use Information Form cannot be completed while you wait, please have a local government representative sign the receipt at the bottom of the next page and include it with the application filed with the Water Resources Department.

See bottom of Page 3. →

For Local Government Use Only

The following section must be completed by a planning official from each county and city listed unless the project will be located entirely within the city limits. In that case, only the city planning agency must complete this form. This deals only with the local land-use plan. Do not include approval for activities such as building or grading permits.

Please check the appropriate box below and provide the requested information

☐ Land uses to be served by the proposed water uses (including proposed construction) are allowed outright or are not regulated by your comprehensive plan. Cite applicable ordinance section(s): _____.

☐ Land uses to be served by the proposed water uses (including proposed construction) involve discretionary land-use approvals as listed in the table below. (Please attach documentation of applicable land-use approvals which have already been obtained. Record of Action/land-use decision and accompanying findings are sufficient.) **If approvals have been obtained but all appeal periods have not ended, check "Being pursued."**

Type of Land-Use Approval Needed (e.g., plan amendments, rezones, conditional-use permits, etc.)	Cite Most Significant, Applicable Plan Policies & Ordinance Section References	Land-Use Approval:	
Not applicable		☐ Obtained ☐ Denied	☐ Being Pursued ☐ Not Being Pursued
		☐ Obtained ☐ Denied	☐ Being Pursued ☐ Not Being Pursued
		☐ Obtained ☐ Denied	☐ Being Pursued ☐ Not Being Pursued
		☐ Obtained ☐ Denied	☐ Being Pursued ☐ Not Being Pursued
		☐ Obtained ☐ Denied	☐ Being Pursued ☐ Not Being Pursued

Local governments are invited to express special land-use concerns or make recommendations to the Water Resources Department regarding this proposed use of water below, or on a separate sheet.

Not applicable. Determination will be made through Energy Facility Siting Council.

Name: _____ Title: _____

Signature: _____ Phone: _____ Date: _____

Government Entity: _____

Note to local government representative: Please complete this form or sign the receipt below and return it to the applicant. If you sign the receipt, you will have 30 days from the Water Resources Department's notice date to return the completed Land Use Information Form or WRD may presume the land use associated with the proposed use of water is compatible with local comprehensive plans.

Receipt for Request for Land Use Information

Applicant name: _____

City or County: _____ Staff contact: _____

Signature: _____ Phone: _____ Date: _____

7-29-75
A3, 24-34
LAND 1

BARGAIN AND SALE DEED

KNOW ALL MEN BY THESE PRESENTS, that the State of Oregon, acting by and through its Director of Veterans' Affairs, Grantor, for and in consideration of the payment of $1,027,060 plus one percent thereof for each month after April 30, 1975 until delivery or recordation of this deed being the true and actual consideration paid for this transfer, receipt of which is hereby acknowledged, hereby grants, bargains, sells and conveys unto Portland General Electric Company, a Corporation of Oregon, Grantee, three parcels of land in Morrow County, Oregon, totaling about 3,520 acres and certain easements described as follows:

> Sections 26, 34 and 35, T3N, R24E, WM, and Section 5 and the West half of Section 4, the NE ¼ of Section 10, the SE ¼ of Section 3, the SW ¼ of Section 2 and the NW ¼ of Section 11, T2N, R24E, WM, Morrow County, Oregon, together with easements for (A) a pumping plant and buried pipeline, (B) reservoir flowage and related dams, (C) nuclear exclusion area, (D) dewatering overflow, (E) transmission lines, (F) railroad, (G) roadway, and (H) a barge basin, all as described in Easements A through H attached hereto.

TO HAVE AND TO HOLD unto the said grantee Portland General Electric Company, its successors and assigns forever, such title as Grantor holds and subject to agreements herein contained; save and except as set forth in Exhibit I attached hereto and by this reference made a part hereof, the grantor excepts and reserves to itself, its successors and assigns, all minerals, as defined in ORS 273.775(1), and including soil, clay, stone, sand and gravel and all geothermal resources, as defined in ORS 273.775(2), together with the right to make such use of the surface as may be reasonably necessary for

Audit 29210-20
See Audit 30911
Land 5547

Recorded 8-13-75
Book "M" of Microfilm # 8457
Records of Morrow Co, OR

EXHIBIT D

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prospecting for, exploring for, mining, extracting, reinjecting, storing, drilling for and removing such minerals and geothermal resources; provided, however, that the rights hereby reserved to use the surface for any of the above activities shall be subordinate to that use of the surface of the premises deeded herein, or any part thereof, being made by the owner thereof on the date the State of Oregon leases its reserved minerals or geothermal resources; in the event such use of the premises by a surface rights owner should be damaged by one or more of the activities described above then such owner shall be entitled to compensation for such damages.

The grantee agrees to hold the grantor harmless and assumes liability for providing liability insurance on all property contained in Easement (C) herein as required in that certain deed dated December 12, 1963, between the United States of America and the State of Oregon recorded in Morrow County records in Book 70 Pages 91 through 94.

The grantee also agrees to hold the grantor harmless and to defend the grantor against all loss, cost and liability arising from or connected with the use of the land and rights in land herein conveyed, by the grantee and those holding under the grantee.

All easements (which term shall be deemed to include without limitation water storage and usage rights) which are granted to the Boeing Agri-Industrial Company or its successors, are to run with the land and shall not be terminated by reason of a transfer of ownership or termination, cancellation or expiration of a leasehold interest.

All easements (which term shall be deemed to include without limitation water storage and usage rights) which are granted to the Boeing Agri-Industrial Company or its successors, are to run with the land and shall not be terminated by reason of a transfer of ownership or termination, cancellation of expiration of a leasehold interest.

IN WITNESS WHEREOF, the State of Oregon, by and through its State Director of Veterans' Affairs, has caused his seal to be affixed hereunto and these presents to be executed on this 29th day of July, 1975.

STATE OF OREGON, by and through its
STATE DIRECTOR OF VETERANS' AFFAIRS

H.C. Sandfield

~~(Acting)~~

STATE OF OREGON)
) ss.
County of Marion)

On this 29th day of July, 1975, before me, a notary public in and for said county and state, personally appeared the within-named H. C. Sandfield, to me known to be the ~~(acting)~~ Director of Veterans' Affairs of the State of Oregon, who being first duly sworn did say that he executed the foregoing instrument on behalf of the STATE OF OREGON and by authority of his office; and said H. C. Sandfield acknowledged the execution of said instrument to be the free act and deed of said State of Oregon.

IN TESTIMONY WHEREOF I have hereunto set my hand and affixed my official seal, the date in this my certificate above written.

Notary Public for Oregon
My commission expires: 9/14/77

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EXHIBIT 1

(Description of easement property)

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EASEMENT A

An easement to construct, operate and maintain a water intake structure, pumping plant and related facilities in, on, upon and across a rectangular parcel of land 200 feet by 240 feet having a frontage of 200 feet on the South shore of the Columbia River in Section 16, T4N, R23E, WM, Morrow County, Oregon, said parcel of land being identified on PGE Drawing No. C-12943 dated April 23, 1974, as revised, through May 21, 1975 attached as Exhibit II hereto (hereinafter referred to as Drawing No. C-12943) as the "Pumping Plant Site". This land is to be utilized by PGE for the water intake structure, pump house and related facilities.

An easement for a buried pipeline, 150 feet in width being 75 feet on either side of the centerline shown and described as "Make Up Water Pipe Line" on the attached Drawing C-12943 to which reference is made. Such real property shall be utilized for carrying water from the intake structure to the Plant Site and for related facilities.

EASEMENT B

The easement to overflow those parcels of land in Sections 1, 2, 3, 4, 8, 9, 10 and 12, T2N, R24E, WM, Sections 25, 33, 34, 35 and 36, T3N, R24E, WM, constituting the "Carty Reservoir" as shown on Drawing No. C-12943; together with the lands in the above described sections occupied by the dams and dikes shown on said drawing and referred to therein as the "West Dam", "East Dam", "Closure Dam" and "Divider Dike", all being in Morrow County, State of Oregon.

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EASEMENT C

An easement permitting Portland General Electric Company to control activities to the extent presently required by the Nuolear Regulatory Commission on the following described premises: All of Sections 21 through 36, T3N, R24E, WM, Sections 1 through 12 and Sections 15 through 18, T2N, R24E, WM. Said lands are identified on Drawing No. C-12943 as being within the "Boundary of Property under Portland General Electric Company Control".

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EASEMENT D

An easement authorizing PGE to overflow the lands within Sixmile Canyon for the purpose of dewatering the Carty Reservoir. Said easement and its location are shown as "Flow Easement Sixmile Canyon 435 CFS (Dewatering)" on attached Drawing No. C-12943 to which reference is made.

EASEMENT E

An easement for electric transmission lines 125 feet in width being 62.5 feet on either side of the centerline shown and described as "230 KV Transmission" on the attached Drawing No. C-12943 to which reference is made. In addition an easement for electric transmission lines 700 feet in width being 350 feet on either side of the centerline shown and described as "500 KV Transmission" on the attached Drawing No. C-12943 to which reference is made. An easement for a transmission line commencing at the present point of termination of Pacific Power & Light Company's 34.5 KV transmission to the Plant Site. Said easement shall be 125 feet in width, being 62.5 feet on either side of the centerline shown and described as "34.5 Transmission" on Drawing No. C-12943 to which reference is made. Said easement shall be used for construction purposes.

EASEMENT F

An easement to install, maintain and operate a railroad connecting the Plant Site with the main line of the Union Pacific Railroad over the easement hereinafter described: An easement for railroad purposes 150 feet in width being 75 feet on either side of the centerline shown and described as "PGE RR Spur" on Drawing No. C-12943 to which reference is made.

EASEMENT G

An easement for a 150-foot roadway easement over, along and across Tower Road as such road is now laid out or where not now laid out then as shown or designated as "Tower Road" "Access Road" on the attached Drawing No. C-12943 to which reference is made. Said easement shall be 75 feet in width on either side of the center-line depicted on such drawing. An easement for a 50-foot roadway easement connecting PGE's "Pumping Plant Site" to adjacent public thoroughfares. Said easement extends 25 feet on either side of a centerline designated "Access Road" on Drawing No. C-12943 to which reference is made.

EASEMENT H

An easement authorizing Portland General Electric Company to construct, maintain and operate for receipt and delivery of fuel, material and equipment, a barge basin and related facilities in, on, upon and across a rectangular parcel of land 200 feet by 200 feet having a frontage of 200 feet on the south shore of the Columbia River in Section 18, T4N, R24E, WM, in Morrow County, Oregon, said parcel of land being identified on Portland General Electric Company Drawing C-12943 as the "Barge Unloading Facility".

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EXHIBIT I

Excerpt from minutes of State Land Board meeting held February 12, 1975.

The Department of Veterans' Affairs has requested release of the mineral and geothermal rights on State-owned lands which are being considered by the Portland General Electric Co. for siting of nuclear and coal-fired generating plants. Both the Nuclear Regulatory Commission and the mortgaging institution require exclusive ownership. The Department of Geology and Mineral Industries has informed the Division that there may be some speculative oil and gas lease value to the property. No other mineral except gravel and stone is known in this area.

Originally, the Department had asked the Land Board to approve release of minerals within the entire 3,520 acres considered for purchase by PGE. However, because of the possibility, however remote, of gas and oil deposits beneath the surface, it was considered advisable to release mineral rights only where necessary. This included an 800-meter exclusion zone for the nuclear zone, and for each of the coal-fired plants. Because of the difficulty of making land descriptions for circular property, the exclusion zones would be squared up. Because there is somewhat of an overlap of the zones, total acreage on which mineral releases are requested is 1,040 acres for the three plants for which plans have been made. For the total contemplated (six plants), the acreage would be 1,320.

There was some discussion with Mr. Corcoran regarding designation of the probability of minerals and of including in the asking price, the probable value of minerals.

The Division recommended Board approval of the mineral releases, contingent upon issuance of a plant-by-plant siting certificate by NTEC and the Governor. The Treasurer pointed out that PGE is not seeking to acquire this area for mineral which may or may not be there, but only because of federal financing requirements.

The Board voted unanimously to release, with the condition recommended by the Division, mineral rights on 1,320 acres described as follows, to the extent such property underlies the land to be conveyed:

COAL PLANT

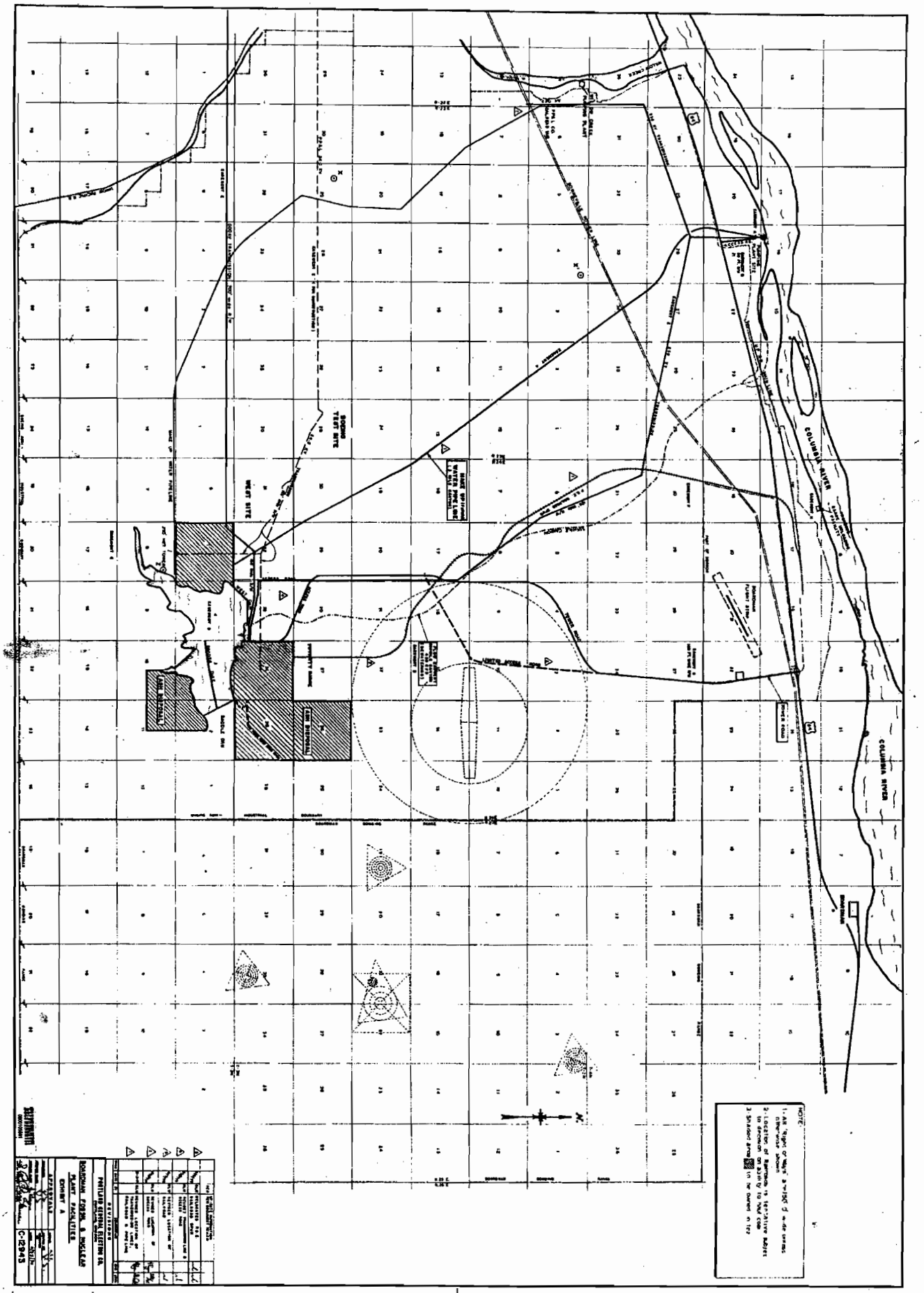
The tracts of land situated in Morrow County, State of Oregon more particularly described as follows:

The NW 1/4 of the NE 1/4, and the NE 1/4 of the NW 1/4 of Section 3. Being in Township 2 North, Range 24 East, Willamette Meridian. The SE 1/4, the SW 1/4, the S 1/2 of the NE 1/4, and the S 1/2 of the NW 1/4 of Section 34. The N 1/2 of the SW 1/4 of Section 35. Being in Township 3 North, Range 24 East, Willamette Meridian.

UNITS 1, 2, 3 AND 4

The tracts of land situated in Morrow County, State of Oregon, more particularly described as follows:

The SW 1/4, the S 1/2 of the NW 1/4 and the NW 1/4 of the NW 1/4 of Section 4; The SE 1/4, the NE 1/4, the SW 1/4, the E 1/2 of the NW 1/4, and the SW 1/4 of the NW 1/4 of Section 5; The N 1/2 of the NE 1/4, and the NE 1/4 of the NW 1/4 of Section 8; The N 1/2 of the NW 1/4 of Section 9; All being in Township 2 North, Range 24 East, Willamette Meridian.



OPTION

In consideration of the conveyance to Portland General Electric Company of certain land and easements described as follows:

> Sections 26, 34 and 35, T3N, R24E, WM and Section 5 and the West half of Section 4, the NE ¼ of Section 10, the SE ¼ of Section 3, the SW ¼ of Section 2 and the NW ¼ of Section 11, T2N, R24E, WM, Morrow County, Oregon, together with easements for (A) a pumping plant and buried pipeline, (B) reservoir flowage and related dams, (C) nuclear exclusion area, (D) dewatering overflow, (E) transmission lines, (F) railroad, (G) roadway, and (H) a barge basin, all as described in Easements A through H attached hereto.

PGE hereby agrees to reconvey said land and easements to the State of Oregon for the same consideration in the event that the Agreement between Portland General Electric Company and the Boeing Agri-Industrial Company in the form attached hereto terminates. This option to repurchase shall extend for a period of two years from the date it can be exercised, subject to Boeing Agri-Industrial Company's rights under Section (1) D.6 of said Agreement.

IN WITNESS WHEREOF, the Parties hereto have caused this Option to be executed this _____ day of _____, 1975.

PORTLAND GENERAL ELECTRIC COMPANY

By _____

Attest: _____

S-87723

EASEMENT

This easement granted as of the _____ day of _____, 1975, by P. J. Taggares Company and Simplot Industries, Inc. (hereinafter called "Grantors") to Boeing Agri-Industrial Company (hereinafter called "Grantee")

W I T N E S S E T H :

WHEREAS Grantors are sublessees from Grantee of certain lands in Morrow County, Oregon, consisting of a portion of the approximately 100,000 acres in Morrow and Gilliam Counties, Oregon, which Grantee leases from the State of Oregon (hereinafter called the "Boeing Property") and Grantors have constructed and installed a buried water pipeline identified as the "Simtag Pipeline," and extending along a route from Point W to Point X, located and described in Exhibit 1 attached hereto and by this reference made a part of this instrument (hereinafter called the "Simtag Pipeline"), and

WHEREAS in connection with its plans to irrigate additional portions of the Boeing Property and in order to fulfill certain obligations of Grantee to Portland General Electric Company (hereinafter called "PGE"), Grantee requires certain easements and rights relating to the use of and access to the Simtag Pipeline,

NOW THEREFORE, for good and valuable consideration the receipt of which is hereby acknowledged, Grantors hereby jointly

EXHIBIT C

S-87725

and severally grant, bargain, sell and convey to Grantee the following described easements and rights for the uses and purposes hereinafter set forth.

1. An easement and right at all times during the term of Grantors' sublease from Grantee, or any extention thereof, to transmit via the Simtag Pipeline and receive at Point X a flowage of water of up to 25 cubic feet per second.

2. An easement during the term of Grantors' sublease from Grantee, or any extention thereof, 150 feet in width (i) extending the entire length of the Simtag Pipeline and 75 feet on each side of the centerline thereof and (ii) further extending generally ___° ___" ___, ___° ___" ___ from Point X to Point X1 identified on Exhibit 1 by a route to be determined by Grantee, with the approval of Grantors which shall not be unreasonably withheld, for the following uses and purposes.

a. To provide Grantee ingress to, possession of and egress from the Simtag Pipeline to the extent reasonably required to transmit and receive water via said pipeline pursuant to paragraph 1 hereof including, without limitation, the right to connect Grantee's pumping facilities and pipelines to said pipeline at Points W and X and to service, maintain, repair and replace said pipeline or any part thereof.

b. To construct and install a buried pipeline of a size and design determined by Grantee, which shall connect with the Simtag Pipeline at Point X and shall

be located generally along the centerline of said easement from Point X to Point X1 (said pipeline shall connect with another pipeline of Grantee at Point X1).

3. All easements and rights granted in this instrument shall be binding upon Grantors and their successors, assigns and transferees and shall inure to the benefit of Grantee and its grantees, successors, assigns, transferees and licensees. Without limiting the generality of the foregoing, Grantee may from time to time assign to PGE the easements and rights herein granted by Grantors to Grantee or license PGE to use such easements and rights.

IN WITNESS WHEREOF, Grantors, each by its duly authorized officer, have executed this instrument as of the ____ day of _____, 1975.

P. J. Taggares Company

By _____
President

Simplot Industries, Inc.

By _____
President

STATE OF OREGON)
) ss
County of Multnomah)

On this_____day of_____, 19____, before me, a notary public in and for said county and state, personally appeared the within-named_____, to me known to be the_____of Portland General Electric Company, who being first duly sworn did say that he executed the foregoing instrument on behalf of Portland General Electric Company as authorized by its Board of Directors; and said _____ acknowledged the execution of said instrument to be the free act and deed of said Portland General Electric Company

IN TESTIMONY WHEREOF I have hereunto set my hand and affixed my official seal, the date in this my certificate above written.

_____
Notary Public for Oregon
My commission expires:

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CONSENT AND AGREEMENT

This instrument executed and delivered as of the ____ day of _____, 1975, by the State of Oregon, acting by and through its Director of Veterans' Affairs (the "State")

W I T N E S S E T H :

WHEREAS on January 1, 1974, The Boeing Company assigned to Boeing Agri-Industrial Company ("BAIC") its rights under a lease (the "Boeing Lease") dated July 2, 1963, as amended by a supplement to lease dated December 13, 1963, between the State, as lessor, and The Boeing Company, as lessee, of approximately 100,000 acres of land in Morrow and Gilliam Counties, Oregon (the "Boardman Property"), which assignment was consented to in writing by the State provided that said assignment in no way altered the obligations of The Boeing Company to the State under the Boeing Lease, and

WHEREAS the State has negotiated with Portland General Electric Company ("PGE") for the conveyance by the State to PGE of about 3,520 acres of the Boardman Property as sites (hereinafter referred to collectively as the "Plant Site") for electric generating stations and related and incidental purposes and BAIC has negotiated with PGE for the release by BAIC of the Boeing Lease with respect to the Plant Site and for the subordination by BAIC of its leasehold interest thereunder to certain easements (the "easements") appurtenant to the Plant Site which affect other areas of the Boardman Property, and

EXHIBIT B.

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WHEREAS BAIC and PGE have entered into an Agreement in the form attached as Exhibit 1 to this instrument (the "Agreement") under the terms of which the obligations of BAIC are conditioned upon, among other things, consummation of the above mentioned conveyance by the State to PGE and the execution by the State of this instrument;

NOW, THEREFORE, in consideration of the premises:

1. The State hereby consents to all terms and provisions of the Agreement including all exhibits thereto.

2. Upon the satisfaction (or waiver) of all conditions set forth in sections (27) and (28) of the Agreement, the rent payable by BAIC to the State for the Boardman Property shall be reduced in the proportion that the area of the Plant Site (3,520 acres) bears to the total area heretofore subject to the Boeing Lease (100,000 acres) and an appropriate rent proration shall be made at the time the next payment of rent is due to the State.

3. The option of the State to reacquire the Plant Site and the easements (a copy of which is a part of Exhibit D to the Agreement) shall be and hereby is subordinated and made subject to the rights of BAIC under section (1)D.6. of the Agreement.

4. The State hereby acknowledges and agrees that the use by PGE of the Plant Site and easements contemplated

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and permitted by the Agreement shall be deemed to be BAIC's use for the purposes of paragraph 1 of Article IV of the Boeing Lease in the same manner and to the same extent as if PGE were a subtenant of BAIC within the contemplation of paragraph 3 of Article IV of the Boeing Lease.

5. The State hereby agrees and consents that all covenants, agreements, easements (which term shall be deemed to include without limitation water storage and usage rights) and rights granted to, or provided for, Boeing in the Agreement shall be construed as covenants running with the land which shall be binding upon and inure to the benefit of (i) the parties to the Agreement and their grantees, successors, assigns and transferees and (ii) the fee owner of the Boardman Property upon termination, cancellation or expiration of the Boeing Lease.

6. Any liens arising out of work performed, materials furnished or obligation incurred by or for PGE with respect to the Plant Site or the easements shall not be deemed to be liens for purposes of paragraph 4 of Article IV of the Boeing Lease.

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IN WITNESS WHEREOF the State of Oregon has caused this instrument to be executed by its duly authorized and empowered officer this ____ day of _____, 1975.

STATE OF OREGON, acting by and through its director of Veterans' Affairs

By _____
H. C. SAALFELD
Director of Veterans' Affairs
State of Oregon

STATE OF OREGON)
) SS
COUNTY OF MARION)

On this ____ day of _____, 1975, before me, a notary public in and for said county and state, personally appeared the within-named H. C. SAALFELD, to me known to be the Director of Veterans' Affairs of the State of Oregon, who being first duly sworn did say that he executed the foregoing instrument on behalf of the STATE OF OREGON and by authority of his office; and said H. C. SAALFELD acknowledged the execution of said instrument to be the free act and deed of said State of Oregon.

IN TESTIMONY WHEREOF I have hereunto set my hand and affixed my official seal, the date in this my certificate above written.

_____
Notary Public for Oregon
My commission expires:

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The terms and provisions of the foregoing instrument are accepted and agreed to effective as of the date first therein written.

BOEING AGRI-INDUSTRIAL COMPANY

By _____
President

Attest _____
(Title)

PORTLAND GENERAL ELECTRIC COMPANY

By _____
President

Attest _____
(Title)

S-87723

STATE OF _____)
) SS
COUNTY OF _____)

_____, 1975.

Personally appeared _____, who, being sworn, stated that he is the _____ of P. J. Taggares Company, and that the foregoing instrument was voluntarily signed on behalf of said corporation by authority of its board of directors. Before me:

_____
Notary Public for _____
My commission expires:

STATE OF _____)
) SS
COUNTY OF _____)

_____, 1975.

Personally appeared _____, who, being sworn, stated that he is the _____ of Simplot Industries, Inc., and that the foregoing instrument was voluntarily signed on behalf of said corporation by authority of its board of directors. Before me:

_____
Notary Public for _____
My commission expires:

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CONSENT

1. The Travelers Insurance Company ("Travelers") is mortagee of the subleasehold estate of P. J. Taggares Company and Simplot Industries, Inc. ("sublessees"), in and to certain real property in Morrow County, Oregon, pursuant to a Sublease dated September 5, 1973, as amended by an Agreement and Amendment of Sublease dated November 15, 1974, between sublessees and Boeing Agri-Industrial Company ("BAIC") as sublessor.

2. Travelers hereby consents to the execution by sub-lessees of the foregoing instrument entitled "Easement" and to the terms and provisions thereof and agrees that any foreclosure of Travelers' aforesaid mortgage, any sale pursuant to the exercise of any power of sale thereunder and any right of Travelers to remove the Simtag Pipeline shall be subordinate to the easements and rights granted to BAIC in said instrument. Notwithstanding such subordination, in the event Travelers gives at least 30 days' prior written notice by certified mail to BAIC and Portland General Electric Company ("PGE") of its intention to consummate any such foreclosure or exercise any such power of sale or right of removal of the Simtag Pipeline, Travelers may proceed therewith unless BAIC or PGE purchases said pipeline within said 30-day period by payment in cash to Travelers for said pipeline of an amount equal to Grantors' actual cost therefor, less depreciation computed on an assumed straight line basis over a ten-year useful life commencing July 1, 1975.

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3. All references in paragraph 2 hereof to BAIC shall apply to any grantee, successor, assignee or transferee thereof (including, without limitation, PGE) which may become entitled to the easements and rights granted to BAIC in said instrument.

THE TRAVELERS INSURANCE COMPANY

By _____
(Title)

Dated: _____, 1975.

STATE OF _____)
) SS
COUNTY OF _____)

_____, 1975.

Personally appeared _____, who, being sworn, stated that he is the _____ of THE TRAVELERS INSURANCE COMPANY, and that the foregoing instrument was voluntarily signed on behalf of said corporation by authority of its board of directors. Before me:

_____
Notary Public for _____
My commission expires:

The terms and conditions of the foregoing consent are approved and agreed to effective as of the date thereof.

P. J. TAGGARES COMPANY

By _____
President

SIMPLOT INDUSTRIES, INC.

By _____
President

S-87723

STATE OF _____)
) SS
COUNTY OF _____)

_____, 1975.

Personally appeared _____, who, being sworn, stated that he is the _____ of P. J. Taggares Company, and that the foregoing instrument was voluntarily signed on behalf of said corporation by authority of its board of directors. Before me:

_____
Notary Public for _____
My commission expires:

STATE OF _____)
) SS
COUNTY OF _____)

_____, 1975.

Personally appeared _____, who, being sworn, stated that he is the _____ of Simplot Industries, Inc., and that the foregoing instrument was voluntarily signed on behalf of said corporation by authority of its board of directors. Before me:

_____
Notary Public for _____
My commission expires:

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Attachment 2

Place of Use Legal Description

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PORTLAND GENERAL ELECTRIC COMPANY
LAND DESCRIPTION
Secondary Water Permit Place of Use
Carty Generating Station

A TRACT OF LAND BEING THAT PORTION OF SECTIONS 33 AND 34, TOWNSHIP 3 NORTH, RANGE 24 EAST, WILLAMETTE MERIDIAN, MORROW COUNTY, OREGON, BEING MORE PARTICULARLY DESCRIBED AS:

BEGINNING AT A 2-1/2" BRASS CAP MONUMENT AT THE NORTHWEST CORNER OF SAID SECTION 34; THENCE, ALONG THE NORTH LINE OF SAID SECTION 34, NORTH 89°43'47" EAST, 1820.55 FEET TO THE WESTERLY LINE OF A PARCEL OF LAND KNOW AS THE BOARDMAN COAL HANDLING SITE FACILITY AND DESCRIBED IN INSTRUMENT NO. 26048 IN THE MICROFILM RECORDS OF SAID COUNTY; THENCE ALONG SAID COAL HANDLING SITE FACILITY THE FOLLOWING SIX COURSES: SOUTH 0°05'00" WEST, 1000.00 FEET; THENCE, SOUTH 6°10'43" WEST, 246.68 FEET; THENCE, SOUTH 0°00'00" WEST, 725.00 FEET; THENCE, SOUTH 90°00'00" WEST, 66.00 FEET; THENCE, SOUTH 00°00'00" WEST, 577.00 FEET; THENCE, SOUTH 7°48"10" EAST, 372.60 FEET; THENCE, LEAVING SAID WESTERLY LINE, SOUTH 90°00'00" WEST, 1729 FEET TO THE WEST LINE OF SAID SECTION 34; THENCE, SOUTHERLY ALONG THE WEST LINE OF SAID SECTION 34 TO A POINT THAT IS 1597 FEET SOUTHERLY OF A 2-1/2" BRASS CAP MONUMENT AT THE WEST QUARTER CORNER OF SAID SECTION 34; THENCE, LEAVING SAID WEST LINE, NORTH 73°00'00" WEST, 1110 FEET; THENCE, NORTH 42°58'44" WEST, 862 FEET; THENCE, SOUTH 68°42'16" WEST, 2737 FEET; THENCE, SOUTH 34°14'20" WEST, 1307 FEET TO THE SOUTH LINE OF SAID SECTION 33; THENCE, WESTERLY ALONG THE SOUTH LINE OF SAID SECTION 33, 329 FEET TO A 2-1/2" BRASS CAP MONUMENT AT THE SOUTHWEST CORNER OF SAID SECTION 33; THENCE, ALONG THE WEST LINE OF SAID SECTION 33, NORTH 0°50'07" WEST, 2254 FEET TO THE NORTH RIGHT OF WAY LINE OF THE BOARDMAN-DALREED TRANSMISSION LINE; THENCE, ALONG SAID NORTH RIGHT OF WAY LINE, NORTH 89"59'12" EAST, 1452 FEET; THENCE, LEAVING SAID NORTH RIGHT OF WAY LINE, NORTH 45°00'00" EAST, 1607FEET; THENCE, NORTH 0°00'00" EAST, 1985 FEET TO THE NORTH LINE OF SAID SECTION 33; THENCE, ALONG THE NORTH LINE OF SAID SECTION 33, NORTH 90°00'00" EAST, 2633 FEET TO THE POINT OF BEGINNING.

121 SW Salmon Street
Portland, OR 97204

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PORTLAND GENERAL ELECTRIC COMPANY
LAND DESCRIPTION
Carty Reservoir

A TRACT OF LAND OVERFLOWED UP TO ELEVATION 677 FEET MEAN SEA LEVEL ON THOSE PARCELS OF LAND IN SECTIONS 2, 3, 4, 5, 8, 9, AND 10, TOWNSHIP 2 NORTH, RANGE 24 EAST, WILLAMETTE MERIDIAN, SECTIONS 33 AND 34, TOWNSHIP 3 NORTH, RANGE 24 EAST, WILLAMETTE MERIDIAN, CONSTITUING THE "CARTY RESERVOIR" AS SHOWN ON THE ATTACHED DRAWING "APPLICATION MAP TO ACCOMPANY SECONDARY WATER PERMIT; TOGETHER WITH THE LANDS IN THE ABOVE DESCRIBED SECTIONS OCCUPIED BY THE DAMS AND DIKES SHOWN ON SAID DRAWING AND REFFERED TO THEREIN AS "WEST DAME" AND "SADDLE DAM", ALL BEING WITHING MORROW COUNTY, STATE OF OREGON.

121 SW Salmon Street
Portland, OR 97204

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Attachment 3
List of Affected Landowners

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Names and Mailing Addresses of Affected Landowners

Threemile Canyon Farms, LLC
Attention: Mr. Martin Myers, General Manager
75906 Threemile Road
Boardman, Oregon 97818

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Attachment 4

Section B.4 of
Application for Site Certificate

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Response: The Carty Generating Station would not be a co-generation facility; therefore, all of the fuel used is chargeable to the heat rate. For the purposes of this exhibit, the fuel chargeable to power heat rate has been calculated as the net heat of electric power production using the following formula:

$$FCP = (FI - FD) \times (10^{\wedge}6/P)$$

Where:

FCP = Fuel chargeable to power heat rate,
FI = Expected fuel input to the facility (Btu/hr) (HHV)
FD = Average fuel displaced by co-generation (Btu/hr) (HHV)
P = Net output of the facility in kW

Calculation:

FI = 5,950 MBTU/hr
FD = 0
P = 861,000 kW
FCP = 6,910 BTU/kWh (HHV)

The calculated FCP is approximate and will depend on the actual CTG(s), HRSG(s), and STG(s) selected, along with the amount of HRSG duct firing being used.

B.4 RELATED AND SUPPORTING FACILITIES MAJOR COMPONENTS, STRUCTURES, AND SYSTEMS

OAR 345-021-0010(1)(b)(B) *A description of major components, structures and systems of each related or supporting facility.*

Response:

Co-Ownership of Related and Supporting Facilities

Under the Agreement for Construction, Ownership, and Operation of the Number One Boardman Station on Carty Reservoir dated as of October 15, 1976, between PGE, Idaho Power Company, and Pacific Northwest Generating Company, PGE has the right to construct and operate on Carty Reservoir additional generating units and to utilize facilities of the Boardman plant that may be used in common with the new generating units, including, but not limited to, the reservoir, pumping facilities, pipelines from the Columbia river, roads, railroad spurs, docks, parking lots, fencing and transmission facilities.[2] A copy of said agreement is included as Appendix B-1 to the ASC.

[2] See Section 19 of the Agreement for Construction, Ownership and Operation of the Number One Boardman Station on Carty Reservoir dated as of October 15, 1976.

Grassland Switchyard

A 500-kV, AC, open-air switchyard, called the Grassland Switchyard, would be located west of the Carty Generating Station. The Grassland Switchyard would be a leveled and graveled area approximately 750 by 775 feet (approximately 15 acres), surrounded by a security fence. The switchyard would include 500-kV circuit breakers and disconnect switches to allow for clearing faults on the connected transmission lines and for maintenance of the circuit breakers and transmission lines. The breakers would be arranged for ultimate connection in a breaker and one half configuration. Steel take-off towers would be provided for termination of 500-kV overhead transmission lines that would connect the Grassland Switchyard with the plant generator step-up transformers and outgoing transmission lines. A small building would be included to provide a controlled environment for the protective relaying and communication equipment. Temporary disturbances associated with construction of the Grassland Switchyard are expected to be approximately 6 acres located in the vicinity of the switchyard. The existing 500-kV Boardman to Slatt transmission line would be routed through the Grassland Switchyard via a new transmission lead from the Boardman Plant to the new switchyard.

Transmission Line

Transmission lines would be constructed from the Carty Generating Station step-up transformers to the new Grassland Switchyard, and an individual transmission line would be built for each block. The transmission lines leading from the Carty Generating Station to the Grassland Switchyard would be approximately 0.75 miles in length and would require approximately four transmission line towers for each line (a total of eight towers for both blocks). Approximately one acre of land would be temporarily disturbed at the base of each tower during construction; and up to one mile of a 20-foot wide temporary access road would be constructed. The towers would be lattice-type steel towers approximately 100 to 150 feet tall and spaced approximately 1,000 feet apart.

From the Grassland Switchyard, PGE would utilize the existing 500-kV Boardman to Slatt transmission line and construct a new 500-kV single circuit or double circuit transmission line for transmission of energy produced. Temporary disturbances resulting from the use of the existing transmission line would be associated with connecting the new Grassland Switchyard to the existing transmission line. Construction of the new line would include the disturbances associated with construction of new towers, construction of a new approximately 18-mile temporary access road, and stringing of the new lines. Details regarding the temporary disturbances associated with the new transmission lines and using the existing transmission line are provided in Exhibit C. If the Boardman Plant is decommissioned, the transmission line lead from the Boardman Plant to the Grassland Switchyard would be removed and the remaining transmission lines would remain operational as part of the Carty Generating Station.

Interconnecting Water Pipelines

Multiple water pipelines associated with the Carty Generating Station would be connected to the existing Boardman Plant facilities (shared facilities). Shared facilities with pipelines essential to the Carty Generating Station include the intake structure for raw service water, wastewater discharge structure for discharge to Carty Reservoir, the potable water system, the sanitary sewer, fire water supply, and the demineralized water supply. The pipes would be installed either below or above grade, with trenches under road and railroad crossings.

Areas where these interconnecting pipelines may be installed are located in places that have already been disturbed by the existing Boardman Plant or would be disturbed during the construction of the Carty Generating Station. Utility interconnects, shown on Figure B-5, include the specific proposed locations of the service water supply pipeline and existing intake structure, wastewater, the potable water system, the sanitary sewer, fire water, and a below-grade electrical raceway. Demineralized water would be transported from the Boardman Facility to the Carty Generating Station through a pipeline located in the same utility interconnect corridor as the other interconnections. Each of these interconnects are shown in relationship to the Site Boundary and the Boardman Plant site boundary. The interconnections are considered related and supporting facilities for the Carty Generating Station; however, since they connect to existing Boardman Plant facilities, which will be shared by the two plants, a portion of the interconnections lies within the Site Boundary, and a portion of them lies within the site boundary for the Boardman Plant. Shared facilities are operated under the Boardman Site Certificate.

From Carty Reservoir, water passes into the existing intake structure through two separate water systems to the Boardman Plant: a circulating water system and a service water system. The existing systems are described below, followed by a description of how the Carty Generating Station would be integrated into the existing structures.

The existing Circulating Water System is a 180,000-gpm withdrawal, half of which is taken from each of two bays. Each bay is protected from floating debris by a bar grate and a traveling water screen. A 90,000-gpm submersible pump is suspended in each bay. Circulating water is delivered to the Boardman plant condenser through a 96-inch pipe and returned to the reservoir discharge channel through another 96-inch pipe after removing the heat from the turbine exhausts.

The existing Service Water System is a 14,000-gpm withdrawal with an electric fire water pump and three service water pumps supplied from a 48-inch header protected from floating debris by a bar grate and traveling screen. The three service water pumps are each capable of 7,000 gpm, so two are run at a time. The service water pumps discharge through a 75-micron screen to protect the downstream heat exchangers. The service water is delivered to the Boardman plant

through 36-inch pipes. The return pipe discharges to the same discharge channel as the circulating water.

The same 48-inch intake pipe that supplies the Boardman Plant service water was terminated with a flange end just outside of the intake structure building to allow for future expansion. There is no isolation on the 48-inch pipe, so it would have to be plugged at the bar grate to remove the flange to extend the pipe. Service water for the Carty Generating Station would be connected at this point and the required pumping system constructed as an addition to the intake structure. There would be no need to modify the in-water portion of the intake structure; however, there would be changes to the equipment layout within the existing building, and a new enclosure would be attached to the existing building. The existing heating, ventilating, and air conditioning (HVAC) system would be moved a few feet southwest from its existing location to make room for the new Carty Generating Station enclosure and equipment; the new enclosure would be supplied by the existing HVAC system by leaving the shared wall open. A new monorail system for extracting pumps for maintenance would also be installed. From this point, the service water would be directed through a 14-or 16-inch PVC pressure pipe for approximately 5,000 feet along the proposed utility corridor to the Carty Generating Station.

If the Boardman Plant is decommissioned, the Site Boundary of the Carty Generating Station maybe amended to incorporate the areas occupied by the essential shared facilities: intake structure, discharge structure, demineralized water supply and fire water supply, and the sanitary sewer; unless another generating facility retaining the shared facilities and subject to EFSC jurisdiction is located at the Boardman plant site. The potable water supply is currently located entirely within the Site Boundary; therefore, modification of the Site Boundary would not be necessary for the potable water connection. The sanitary sewer is currently located to the east of the Site Boundary. The Site Boundary would need to be extended to the east by a minimum of 550 feet at the southern end and 950 feet at the northern end to incorporate the sanitary sewer ponds. The intake structure is located approximately 625 feet to the southeast of the Site Boundary, and the discharge structure is located approximately 850 feet to the southeast.

Carty Reservoir

Carty Reservoir is a wastewater and cooling pond for the Boardman Plant and would be a shared facility. Carty Reservoir would provide service water to the Carty Generating Station and would potentially receive cooling tower blow down and wastewater from the wastewater collection sump. The reservoir also stores water used to irrigate nearby agricultural fields. Because the area is arid, all the water for filling and maintaining the reservoir is pumped through pipes from the Columbia River, approximately 10 miles to the north. When full, at a surface elevation of 677 feet above mean sea level (MSL), the reservoir has a capacity of 38,000 acre-feet (12 billion gallons), a surface area of approximately 1450 acres (2.3 square miles), and a maximum depth of 77 feet. The average pool elevation for the reservoir since 1990 has been

approximately 667 to 668 feet above MSL. At this elevation, the reservoir surface area is approximately 1,100 acres and contains approximately 26,000 acre feet of water (8.5 billion gallons). The reservoir is not used for recreation, and there is no public access to it.

PGE constructed Carty Reservoir beginning in 1976 and completed construction by November 1977. Water was first pumped into the reservoir in January 1978, and the reservoir was filled by early 1980. The reservoir is in Six Mile Canyon, which slopes downward from the reservoir to the Columbia River. In the vicinity of the reservoir, the canyon is dry and has no natural surface water. The reservoir was constructed by excavating earth and rock from the floor of the canyon to form two dams that now lie across the canyon at the northwestern and northeastern edges of the reservoir (known as the West and Saddle Dams, respectively).

Water leaves Carty Reservoir only through withdrawals for use at the Boardman Plant or on nearby agricultural fields; through evaporation from the surface of the reservoir; and through underground seepage from the reservoir. There is no surface discharge or seepage from the reservoir to Six Mile Canyon. Seepage at the West Dam is captured in a buried toe drain and pumped back into the reservoir, and, there is a concrete emergency spillway adjacent to the West Dam.

Carty Reservoir is currently within the Site Boundary of the Boardman plant; if the Boardman Plant is decommissioned, the Site Boundary of the Carty Generating Station would be amended to incorporate Carty Reservoir and all associated pumping facilities and seepage collection systems, unless another generating facility retaining the Carty Reservoir and subject to EFSC jurisdiction is located at the Boardman plant site. The reservoir would continue to operate under the Carty Generating Station Site Certificate.

Additional information regarding Carty Reservoir is available in Exhibit V.

Utility Lines

A below-grade electrical raceway would connect the new plant to the existing Boardman Plant. Figure B-5 contains details regarding the location of the raceway. The raceway would contain communication cables to connect the plant phone and data highway systems into the existing Boardman Plant communication and data highway systems. In addition, electric power cables may be installed to allow for transmission of auxiliary power from the existing Boardman Plant to the Carty Generating Station in emergency operating conditions. Utility lines would be installed in areas already disturbed by the existing Boardman Plant or areas that would be within the Energy Facility Site. If the Boardman Plant is decommissioned, the facilities associated with phone and data highway systems would remain and the Carty Generating Station Site Certificate would be amended to incorporate those facilities, unless another generating facility retaining the utility lines and subject to EFSC jurisdiction is located at the Boardman plant site.

Evaporation Ponds

Lined evaporation ponds may be constructed to receive process wastewater from the Carty Generating Station if all the wastewater is not discharged to Carty Reservoir. Processes that may discharge to evaporation ponds include CTG water wash wastes, cooling tower blowdown, wastewater from the neutralization tank for water demineralization, wastewater from multimedia filtration, plant equipment and drains (after passing through an oil/water separator), and evaporative cooling blowdown. Wastewater disposal options are discussed in more detail in Exhibits O and V.

The evaporation ponds proposed in this ASC were sized to hold 390 acre-feet per year. Each pond has a unique shape to fit the constraints of the construction site, but in general the ponds are 10 to 15 acres in size and 8 feet deep, with a water-side side slope of 3:1. When sizing the evaporation ponds, an evaporation rate of 48 inches per year was used. The actual size and/or number of evaporation ponds constructed will depend on the amount of wastewater that is ultimately determined will be released to Carty Reservoir. To construct all four of the proposed evaporation ponds, approximately 67 acres will be disturbed and 58 acres will be permanently disturbed. A permanently disturbed area of 58 acres would result in approximately 50 acres of evaporative surface area. Evaporation ponds are discussed further in Exhibit V.

Roads

The Carty Generating Station loop roads would be paved and would connect to the existing Tower Road. The loop road would be approximately 24 feet wide and approximately 2,500 feet in length; it would have spur roads leading to individual buildings and areas of the Site that require additional access.

Temporary Construction Facilities

Additional areas in the vicinity of the Energy Facility Site would be provided for construction offices, construction parking, construction laydown, and temporary storage of soil displaced during the construction process. Similar temporary construction areas would be provided in the vicinity of the Grassland Switchyard. Temporary disturbances are described in Exhibit C.

B.5 CORRIDOR SELECTION ASSESSMENT

OAR 345-021-0010(1)(b)(D) *If the proposed energy facility is a pipeline or a transmission line or has, as a related or supporting facility, a transmission line or pipeline that, by itself, is an energy facility under the definition in ORS 469.300, a corridor selection assessment explaining how applicant selected the corridor(s) for analysis in the application. In the assessment, applicant shall evaluate the corridor adjustments the Department has described in the project order, if any. The applicant may select any corridor for analysis in the application and may*

Attachment 5

Section O of
Application for Site Certificate

S-87723

EXHIBIT O

WATER USE
OAR 345-021-0010(1)(o)

TABLE OF CONTENTS

APPENDICES

LIST OF TABLES

LIST OF FIGURES

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O.1 INTRODUCTION

OAR 345-021-0010(1)(o) *Information about anticipated water use during construction and operation of the proposed facility.*

Response: This exhibit provides details regarding uses of water, the source of water used, and the avenues of water loss and output from the Carty Generating Station. OAR 345-021-0010(1)(o)(D) is satisfied by Figure O-1– Water Mass Balance Average Annual Conditions and Figure O-2 – Water Mass Balance Summer Condition. OAR 345-021-0010(1)(o)(E) applies only if the proposed facility would not need a groundwater permit, a surface water permit, or a water right transfer; since the Carty Generating Station would need a secondary use permit, Subsection E is not applicable. Information regarding the secondary use permit can be found in Section O.5. Mitigation measures for adverse impacts of water use are presented in O.6.

Portland General Electric Company (PGE) anticipates using approximately 10,000,000 gallons of water from Carty Reservoir during construction of each block (total of 20,000,000 gallons of water). During operation the Carty Generating Station, under annual average conditions, would use approximately 2,300 gallons per minute (gpm) from the Carty Reservoir and approximately 1 gpm from an existing well. Water would be withdrawn from Carty Reservoir under a secondary use permit. Potential adverse impacts related to water use would be mitigated by reusing wastewater from the Carty Generating Station internally and by operating Carty Reservoir at a slightly higher elevation during the winter months than current operation, but well under the maximum pool elevation level.

O.2 Water Uses and Sources

OAR 345-021-0010(1)(o)(A) *A description of the use of water during construction and operation of the proposed facility.*

OAR 345-021-0010(1)(o)(B) *A description of each source of water and the applicant's estimate of the amount of water the facility will need during construction and during operation from each source under annual average and worst-case conditions.*

Response:

O.2.1 Construction

During construction, water would be used for dust abatement, washing equipment and vehicles, washing concrete trucks after delivery of concrete loads, fire suppression during construction, and water supply for testing and commissioning. PGE anticipates using approximately 10,000,000 gallons during the construction period for each block (total of 20,000,000 gallons of

water). A majority of the water would be used in the later phases of construction to support commissioning activities.

All non-potable water used for construction activities would be obtained from Carty Reservoir. Temporary pumps and piping may be required to support initial construction activities until the permanent pumps and piping are installed. Carty Reservoir has a maximum surface area of approximately 1,450 acres and contains approximately 38,000 acre feet of water (12 billion gallons) at a maximum pool elevation of 677 feet above mean sea level (MSL). The average pool elevation for the reservoir since 1990 has been approximately 667 to 668 feet above MSL. At this elevation, the reservoir surface area is approximately 1,100 acres and contains approximately 26,000 acre feet of water (8.5 billion gallons). An Oregon Water Resources Department secondary use permit application (for general industrial use) for use of the existing water rights held by PGE (Certificates of Water Right Nos. 86056 and 86057) is included in this ASC as Appendix O-2 – Application for a Permit to Use Surface Water and was directly submitted to the Oregon Water Resources Department. This category allows for use of water for construction purposes. This water right is sufficient for all water needs during construction of the proposed Carty Generating Station.

Potable water would be obtained from a temporary tie in with the Boardman Plant potable water system or hauled in from nearby potable water systems. Boardman Plant potable water is obtained from an existing well located 750 feet northwest of the existing Boardman Plant. Potable water would be required for items such as ice machines, coolers, and sinks for construction facilities to support construction personnel.

O.2.2 Operation

The primary uses of water during operation of the Carty Generating Station would be steam generation and cooling tower makeup water. Water would also be used for demineralized water production, potable water, service water, and fire water tank supply. Figures O-1 and O-2 provide the water mass balance for average annual and summer conditions (worst case). Average annual conditions are the average annual temperature and humidity for the site based on the nearest recording weather station. There are not necessarily a certain numbers of days when this average temperature would occur; rather, the average of the temperatures for the entire year will be equally this temperature. As used in the preliminary Application for Site Certificate, summer conditions, which are the worst case for water use, are the American Society of Heating, Refrigerating and Air-Conditioning Engineers 1% warm season temperature. It is anticipated that worst case conditions would prevail for no more than 1% of the days per year.

Using average annual conditions without duct firing provides for the best estimate of the total water usage. More water than indicated in the average annual case would be used when it is hotter and the unit is at base load or the unit is at base load plus some amount of duct firing. Less water would be used when it is cooler or when the unit is run at less than base load or is off line for routine scheduled maintenance.

The proposed locations of pipelines to transport water to the Carty Generating station are shown on Figure B-5 in Exhibit B. A description of the existing and proposed water supply infrastructure is also provided in Section B.4, subsection Interconnection Water Pipelines. Since existing intake and discharge structures would be used, there would be no construction along the shoreline of Carty Reservoir.

Potable water would be obtained from the existing Boardman potable water system, which obtains its water from an existing well located 750 feet northwest of the existing Boardman Plant. All other operational uses of water would use raw water from Carty Reservoir. Table O.2-1 provides the anticipated amount of water the Carty Generating Station would need during operation from each source under annual average and summer conditions. Anticipated water use and water loss, presented in Tables O.2-1 and O.3-1, were derived from Figures O-1 and O-2. Gallons per minute from Figures O-1 and O-2 are rounded in the tables. The original unrounded numbers from Figures O-1 and O-2 were multiplied by a conversion of 1,440 minutes per day and then rounded to produce the gallons per day values in the tables. Since the gallons per minute and the gallons per day in the table both start with the unrounded numbers from the figures, multiplying the gallons per minute in the table by 1,440 minutes per day will not result in the same gallons per day presented in the table. In any event, the rounding or un-rounding does not have a material impact on the analysis.

The gallon per day usage estimate for potable water and sanitary systems is dependent on the number of permanent staff and will vary from 800 to 1,440 gallons per day.

Table O.2-1 Anticipated Water Use

Use[1]	Source	Annual Average Condition (gpm [gpd])	Summer Condition (gpm [gpd])
Potable Water and Sanitary Systems	Existing Well	approximately 1 [800 to 1,440]	approximately 1 [800 to 1,440]
Cooling Tower Water	Carty Reservoir	2,100 [3,060,000]	3,700 [5,290,000]
De-mineralized Water Production for Steam Generation	Carty Reservoir	90 [128,000]	120 [171,000]
Miscellaneous drains and HRSG blowdown quenching	Carty Reservoir	100 [145,000]	120 [174,000]
Evaporative Cooling of combustion turbine inlet air	Carty Reservoir	0 [0]	95 [135,000]
Totals	**All Sources**	**2,291 [3,334,000]**	**4,036 [5,771,000]**

Note:
[1]Anticipated water use is based on two blocks of combined cycle generation.

Water from Carty Reservoir is also used for irrigation by Three Mile Canyon Farms. Reservoir Permit No. R-6276 includes an addendum to PGE's Reservoir Permit Application No. R-51520, which outlines the planned use of Carty Reservoir for irrigation. The addendum states that the maximum pool elevation allows for a 10-foot drawdown for irrigation, resulting in a storage capacity of approximately 11,000 acre-feet for irrigation. Water is withdrawn from Carty

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Reservoir by Three Mile Canyon Farms in accordance with a water right permit issued by the Oregon Water Resources Department (WRD) (Permit No. S-41645). The water right permit, as amended, authorizes use of Carty Reservoir water on up to 6,833.7 acres. The specific acreage/location of use allowed under the water right is specified in a Final Order issued by WRD on February 28, 2001 (Special Order v. 55, p. 212). Copies of the permits and amendments noted above are available in Appendix O-1.

O.3 Water Losses

OAR 345-021-0010(1)(o)(C) *A description of each avenue of water loss or output from the facility site for the uses described in (A), the applicant's estimate of the amount of water in each avenue under annual average and worst-case conditions and the final disposition of all wastewater*

Response: Permanent water losses at the Carty Generating Station would occur primarily as evaporative loss from cooling tower evaporation and drift, combustion turbine evaporative cooling (seasonal), evaporation from the lined evaporation ponds (if they are constructed as a wastewater disposal option), non-recoverable losses from the heat recovery steam generator (HRSG) and discharge of sanitary sewage. Losses attributed to miscellaneous plant drains, combustion turbine evaporative cooler blowdown, cooling tower blowdown, mixed bed spent chemical regenerant, and media filter backwash would be sent back to Carty Reservoir or to on-site lined evaporation ponds. Exhibit V provides additional information regarding process water handling options. Water losses that may be recovered would be reused within the facility as well. These include HRSG blowdown and blowdown quench water and reject water from the reverse osmosis treatment equipment. These losses would be recovered and used as makeup to the cooling tower. Table O.3-1 provides the anticipated amount of water losses at the Carty Generating Station during operation under annual average and summer conditions.

Table O.3-1 Anticipated Water Losses

Source of Loss[1]	Annual Average Condition, gpm [gpd]	Summer Condition, gpm [gpd]
Sanitary Sewage	1 [1,000]	1 [1,000]
Cooling Tower Evaporation and Drift	2,000 [2,920,000]	3,500 [4,990,000]
HRSG Non-recoverable Losses	20 [28,800]	28 [40,300]
De-mineralized Water Production (chemical waste)	7 [10,000]	9 [13,000]
Service Water – Evaporative Cooling	0 [0]	95 [135,000]
Plant and Equipment Drains	50 [72,000]	50 [72,000]
Multi-Media Filtration Backwash	9 [13,000]	17 [24,500]
Cooling Tower Blowdown	180 [262,000]	310 [449,000]
Totals	**2,267 [3,306,800]**	**4,010 [5,724,800]**

[1]Anticipated water loss is based on two blocks of combined cycle generation.

O.4 Secondary Use Permit

OAR 345-021-0010(1)(o)(F) *If the proposed facility would need a groundwater permit, a surface water permit or a water right transfer, information to support a determination by the Council that the Water Resources Department should issue the permit or transfer of a water use, including information in the form required by the Water Resources Department under OAR Chapter 690, Divisions 310 and 380.*

Response: PGE has an existing water use permit for storage in Carty Reservoir. PGE has provided the information necessary to support a determination by the Energy Facility Siting Council that the WRD should issue a secondary water right permit authorizing the use of stored water from Carty Reservoir at the Carty Generating Station in Appendix O-2 – Application for a Permit to Use Surface Water; this application has also been directly submitted, with fees, to the WRD. In addition, PGE has changed the use of water under the existing water right Certificates 86056 and 86057 from the specific industrial use of "thermal power generation facility" to general industrial use. Appendix O-3 contains a letter from the Oregon WRD to Martha Pagel of Schwabe, Williamson & Wyatt regarding the Oregon WRD's acceptance of the change in water use.

O.5 Mitigation

OAR 345-021-0010(1)(o)(G) *A description of proposed actions to mitigate the adverse impacts of water use on affected resources.*

Response: Generally, potential adverse impacts related to water use could include impacts to recreation if the water was taken from a recreational water source or transported across a recreational or environmentally sensitive area; impacts to surrounding domestic or irrigation wells if significant amounts of water were withdrawn from groundwater; and impacts to local service providers to supply water to users. All non-potable water required for Carty Generating Station construction and operation would be supplied from the Carty Reservoir under a WRD secondary use permit and the volume of water required for the Carty Generating Station would not require an increase in the existing permitted reservoir volume. In addition, the Carty Reservoir is not used for recreation and is located immediately adjacent to the Carty Generating Station, so there would be no impacts to recreation or from the transportation of water across recreational areas or environmentally sensitive areas. Water stored within the Carty Reservoir is not used by local service providers and therefore water use would not affect service providers' ability to provide water to their users. Water from the reservoir is also used for irrigation; however, the existing permitted reservoir volume is sufficient to meet the volume requirements of the irrigation, Boardman Plant and Carty Generating Station uses. The Carty Generating Station would also reuse water internally, which would further reduce potential impacts. There are no adverse impacts on affected resources identified; therefore PGE is not proposing any mitigation measures.