

Exhibit O Water Use

Boardman to Hemingway Transmission Line Project



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Application for Site Certificate

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ACRONYMS AND ABBREVIATIONS

EFSC or Council	Energy Facility Siting Council
IPC	Idaho Power Company
kV	kilovolt
OAR	Oregon Administrative Rule
ORS	Oregon Revised Statute
OWRD	Oregon Water Resources Department
Project	Boardman to Hemingway Transmission Line Project
Second Amended Project Order	Second Amended Project Order, Regarding Statutes, Administrative Rules, and Other Requirements Applicable to the Proposed BOARDMAN TO HEMINGWAY TRANSMISSION LINE (July 26, 2018)

Exhibit O Water Use

1.0 INTRODUCTION

Exhibit O provides information about anticipated water use related to the construction and operation of the Boardman to Hemingway Transmission Line Project (Project). Exhibit O explains how Idaho Power Company (IPC) will procure the needed water from municipal water sources,¹ and how no groundwater permit, surface water permit, or water right transfer will be required. Exhibit O demonstrates the water use will be minimal and will not result in adverse impacts to water resources.

2.0 APPLICABLE RULES AND SECOND AMENDED PROJECT ORDER PROVISIONS

2.1 Site Certificate Application Requirements

Oregon Administrative Rule (OAR) 345-021-0010(1)(o) provides Exhibit O must include the following information regarding the anticipated water use during construction and operation of the Project:

(A) A description of the use of water during construction and operation of the proposed facility;

(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;

(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 waste water;

...²

(E) If the proposed facility would not need a groundwater permit, a surface water permit or a water right transfer, an explanation of why no such permit or transfer is required for the construction and operation of the proposed facility.

(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 [Energy Facility Siting Council, or 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.

(G) A description of proposed actions to mitigate the adverse impacts of water use on affected resources.

¹ Project impacts on municipal water providers are set forth in Exhibit U, Public Services.

² The Second Amended Project Order provides that Subsection (D) of OAR 345-021-0010(1)(o) does not apply to the Project. Subsection (D) applies only to thermal power plants. Because the Project does not include a power plant, Subsection (D) does not apply to the Project.

2.2 Second Amended Project Order

The Second Amended Project Order states that the Project's site certificate application must include all the information provided for in OAR 345-021-0010(1)(0), except Subsection D. Additionally, the Second Amended Project Order includes the following discussion:

Exhibit O of the application must identify the sources of water to be used during construction and operation of the proposed facility, the quantity of water needed, and the means of disposal of all water discharges from the proposed facility. The application shall provide evidence and analysis to determine whether a new water right or water right transfer is required, and if so, evidence that supports a finding by the Council that the water right should be issued. [See ORS Chapter 537 (Appropriation of Water Generally) or transfer of a water use under ORS Chapter 540 (Transfer or Forfeiture of Water Rights), including a discussion and evaluation of all relevant factors, including those factors listed in ORS 537.153(2) and (3), ORS 537.170(8) and OAR Chapter 690, Divisions 310 (Water Right Application Processing) and 380 (Water Right Transfers).]

Water not obtained from a municipal supplier may require a limited license. Because such licenses cannot authorize use or discharge of water outside a single basin, multiple limited licenses may be required. Limited licenses are under Council jurisdiction.

If a new water right, water right transfer, or limited license is required, Exhibit O must include adequate evidence for the Council to evaluate and make findings approving the required permit or license. It is recommended that the applicant consult with the Oregon Water Resources Department (OWRD) to ensure that all information otherwise required by OWRD is included in the site certificate application.

(Second Amended Project Order, Section III(o)).

3.0 ANALYSIS

3.1 Analysis Area

The analysis area for Exhibit O includes all areas within the Site Boundary, which is defined as “the perimeter of the site of a proposed energy facility, its related or supporting facilities, all temporary laydown and staging areas, and all corridors and micro-siting corridors proposed by the applicant” (OAR 345-001-0010(55)). The Site Boundary encompasses the following facilities in Oregon:

- The Proposed Route, consisting of 270.8 miles of new 500-kilovolt (kV) electric transmission line, removal of 12 miles of existing 69-kV transmission line, rebuilding of 0.9 mile of a 230-kV transmission line, and rebuilding of 1.1 miles of an existing 138-kV transmission line;
- Four alternatives that each could replace a portion of the Proposed Route, including the West of Bombing Range Road Alternative 1 (3.74 miles), West of Bombing Range Road Alternative 2 (3.7 miles), Morgan Lake Alternative (18.5 miles), and Double Mountain Alternative (7.4 miles);
- One proposed 20-acre station (Longhorn Station);
- Ten communication station sites of less than ¼-acre each and two alternative communication station sites;
- Permanent access roads for the Proposed Route, including 206.3 miles of new roads and 223.2 miles of existing roads requiring substantial modification, and for the

Alternative Routes including 30.2 miles of new roads and 22.7 miles of existing roads requiring substantial modification; and

- Thirty temporary multi-use areas and 299 pulling and tensioning sites of which four will have light-duty fly yards within the pulling and tensioning sites.

The Project features are fully described in Exhibit B, and the Site Boundary for each Project feature is described in Exhibit C, Table C-24. The location of the Project features and the Site Boundary is outlined in Exhibit C.

3.2 Methods

Estimated quantities of Project water use were provided by IPC's engineering group and IPC's engineering contractor, who have experience that qualifies them to make these estimates, as detailed in Exhibit D. Municipal water providers located within the counties where the Project is proposed were contacted to verify that they have adequate water available to provide water for the Project without impacting their supplies.

3.3 Water Uses

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

Construction of the Project transmission lines, access roads, communication stations, and the proposed Longhorn Station will require water. In addition, water would be needed for potable and sanitary purposes. Major water uses are for transmission line structure foundations and station foundations, access road construction, dust control during right-of-way clearing, station grading and site work, and re-seeding restoration work upon Project completion. A minor amount of water will be used to establish station landscaping where required during construction. Drilling and fire prevention also may require minor amounts of water.

In the construction of the transmission line foundations, if the concrete is not obtained from commercial sources, but prepared at the batch plants located at multi-use areas, water will be transported to the concrete batch plant sites where it will be used to mix concrete. From the batch plants, the concrete (ready-mix) will be transported to the structure sites in concrete trucks for use in foundation installations. For analysis and certification purposes, it is assumed that all concrete will be produced at the multi-use areas. However, wherever possible concrete will be purchased from commercial aggregate plants, thereby reducing the amount of water storage and water use at multi-use areas.

Other water uses during foundation construction include water to prepare drilling slurry required to maintain excavations for drilled shaft foundation construction, if required due to soil conditions, and water used by concrete trucks to wash chutes and drums after delivering concrete.

Water usage for access road construction is primarily for moisture conditioning of new bladed roads necessary to achieve adequate compaction to support heavy equipment travel.

Construction of the transmission lines and related facilities will generate a temporary increase in fugitive dust. Water will be applied to disturbed areas and unpaved roadways using water trucks as needed to minimize dust.

During construction, a minor amount of water will be needed for potable and sanitary purposes. Construction workers will need to have access to potable water for drinking and hand-washing purposes. Sanitary services will be provided by local, licensed sanitary service providers.

Sanitary service providers will be responsible for legally obtaining any water needed for their services on the Project.

Water usage for restoration will include the water needed to prepare and apply the hydro mulch to help stabilize disturbed slopes and reseeded of disturbed work areas after construction activities are complete.

Water usage for station construction will be primarily for dust control during site preparation work. During this period, construction equipment will be cutting, moving, and compacting the subgrade surface. As a result, water will be used to compact the subgrade material prior to foundation construction, and trucks providing dust control will make as many as one pass per hour over the station site. Once site preparation work is complete, concrete for the placement of foundations will become the largest use of water, and dust control will be minimal.

If station landscaping is required, drought-tolerant plants will be used to minimize watering requirements after plant establishment.

Normal operations and maintenance of the transmission line and station will require a small amount of water. A restroom facility will be located in the control and communication equipment building at the Longhorn Station. This facility will be connected to the Port of Morrow's water and sewer system.

3.4 Water Sources and Estimated Amounts

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.

The Project will contract with municipal water providers along the transmission-line route, including the City of Boardman, City of Pendleton, City of La Grande, Baker City, and City of Ontario, most likely under contracts between the water providers and the Project construction contractor. If needed, the contracts could be executed directly between the water providers and IPC.

IPC mailed letters to each water provider requesting documentation that they are willing and able to provide water, and confirming that doing so would not adversely impact their ability to provide water for other uses or restrict future growth. These letters are included in Attachment O-1, followed by written responses from water providers. Representatives for two municipal water providers have stated that they have adequate supply to fulfill Project needs during construction; the remainder of the representative have not responded despite multiple attempts at communication. All municipal water providers have previously responded and stated that they have adequate supply to fulfill Project needs. As explained above, minor amounts of water will be required during operation and maintenance at the proposed Longhorn Station. Water provider contacts include:

- Kevin Kennedy, City of Boardman Public Works, publicworks@cityofboardman.com;
- Bob Patterson, City of Pendleton Public Works, bob.patterson@ci.pendleton.or.us;
- Norman Paullus, Jr., City of La Grande Public Works, publicworks@cityoflagrande.org;
- Michelle Owen, Baker City Public Works, mowen@bakercity.com; and
- Jerry Elliott, P.E., City of Ontario Public Works, jerry.elliott@ch2m.com.

During construction, water obtained from these contracted sources will be pumped into tanker trucks at locations indicated by municipal providers and transported to the multi-use areas.

Approximately 36.5 million gallons will be needed during the approximately 36-month construction period. A breakdown of the anticipated water requirements by county is included in Table O-1a. The amount of water required for the Project is equivalent to approximately 112.1 acre-feet, or the amount of water that 83 typical families use over the same time period (based on the Environmental Protection Agency (2016) estimate of 400 gallons per day per family, applied over the 3-year construction schedule). This water use estimate, and the estimates in Table O-1a, include all water uses related to the Project, including the water uses at the related and supporting facilities, such as the multiple-use areas and light-duty fly yards. The estimates in Table O-1b include all water uses related to the Project if the alternative routes are selected. As seen in Table O-1a and O-1b, the alternatives and their comparable segments of the Proposed Route would not vary in the total amount of water estimated for use.

The amount of water required for dust control will depend on precipitation, temperature, soil conditions, and frequency of use. Dust control water application may also include eco-safe biodegradable, liquid copolymers to stabilize unpaved road surfaces and manage fugitive dust where extended use is anticipated. Average water use for dust control along the transmission line and related facilities was estimated assuming that one 3,000-gallon water truck will operate in each county, emptying its tank twice per day during construction. However, it is anticipated that the use of water will be more heavily concentrated over the earlier portions of the schedule during access road construction, foundation construction and tower erection. Water for dust control at the Longhorn Station was estimated based on the specific construction sequence planned at that facility. Worst-case water use for the Project would occur if the weather were exceptionally dry with high temperatures, which would require additional water for dust control. Worst-case estimates (shown in Table O-1a and O-1b) were calculated assuming a 50 percent increase in water use for all Project dust control throughout construction. The worst-case estimate of 54.8 million gallons (approximately 168.3 acre-feet) of water for Project construction would be equivalent to irrigating approximately 2 to 3 acres of alfalfa for one season. The worst-case water usage would be relatively minor in comparison to existing agricultural use.

As each municipality has confirmed sufficient available capacity to meet the estimated water needs of the Project, impacts to above-ground (surface water) or below-ground (groundwater) water supplies are not anticipated as a result of Project construction or operation.

During operation, the amount of water required for the Project is minor. The restroom facility at the Longhorn Station is estimated to use approximately 30 gallons per day (11,000 gallons annually). This facility will be connected to the Port of Morrow's water and sewer system. The Port of Morrow has confirmed with the applicant that it can adequately serve that facility.

To ensure the availability of water supplies, IPC proposes that the Council include the following condition in the site certificate:

Water Use Condition 1: Water Use Condition 1: During construction, the certificate holder shall ensure the availability of adequate water supplies to meet all construction-related water needs through municipal water suppliers or by contracting with private sources.

Table O-1a. Estimated Water Use for Proposed Route Construction Activities by County^{1,2}

Route	County	Water Source	Dust Abatement ³ (gal.)	Foundation Construction ⁴ (gal.)	Road Construction ⁵ (gal.)	Restoration ⁶ (gal.)	Station ⁴ (gal.)	Comm. Station ⁴ (gal.)	Total Water, 2020–2022 (gal.)	Annual Average Water Use (gal./year)	Total Worst-Case Water Use ⁷ (gal.)
Proposed Route	Morrow	City of Boardman Public Works	4,614,787	725,156	270,800	633,000	209,125	0	6,452,869	2,150,956	9,679,303
	Umatilla	City of Pendleton Public Works	3,983,290	528,281	281,200	713,000	0	0	5,505,771	1,835,257	8,260,457
	Union	City of La Grande Public Works	3,886,137	554,531	216,400	697,000	0	13,125	5,367,193	1,789,064	8,044,227
	Baker	Baker City Public Works	6,606,433	951,563	446,400	1,040,000	0	8,750	9,053,145	3,017,715	13,579,718
	Malheur	City of Ontario Public Works	7,189,353	1,138,594	486,800	1,342,000	0	17,500	10,174,247	3,391,416	15,270,708
Total			26,280,000	3,898,125	1,701,600	4,425,000	209,125	39,375	36,553,225	12,184,408	54,834,413

¹ Owyhee County is not included because it is outside the Oregon portion of the Project.

² Typical operation and maintenance activities will not require water, with the exception of water required for fire protection during extreme fire conditions, which is estimated as 3,000 gallons per year. Drought tolerant plant materials will be used during revegetation of disturbed areas to minimize watering requirements after plant establishment. Restroom facility at Longhorn Station will require 11,000 gallons annually.

³ Average water use for dust control along the transmission line and related facilities was estimated assuming that a single construction crew would require one 3,000-gallon water truck to empty tank four times per day during construction. Due to the project size, it is assumed that two separate construction crews would be utilized during construction, resulting in a total of 24,000 gallons of water per day for dust control purposes during construction.

⁴ Average water use for construction of foundations and switching and communication stations was estimated assuming that mixing of wet concrete (4,000 pounds per square inch mix) would consume 35 gallons/cubic yard of concrete and concrete washout (for chutes and drums) would consume 25 percent of the amount required for concrete mixing, or 8.75 gallons/cubic yard of concrete. For analysis and certification purposes, it is assumed that all concrete will be produced within the same county that it is used for construction.

⁵ Average water use for road construction was estimated assuming that 4,000 gallons of water would be needed for every mile of new or improved access road.

⁶ Average water use for site restoration was estimated assuming that 1,000 gallons would be needed for every acre revegetated.

⁷ Worst-case estimates were calculated assuming a 50 percent increase in all water uses throughout construction.
gal. – gallons

Note: The letters mailed out to the municipalities in October 2016 overestimated the amount of water needed for Project construction compared to that provided in Table O-1a above. Two of the five municipalities responded that they could meet the larger estimate of water needs. The other three municipalities did not respond.

Table O-1b. Estimated Water Use for Alternative Route Construction Activities by County^{1,2}

Route	County	Water Source	Dust Abatement ³ (gal.)	Foundation Construction ⁴ (gal.)	Road Construction ⁵ (gal.)	Restoration ⁶ (gal.)	Station ⁴ (gal.)	Comm. Station ⁴ (gal.)	Total Water, 2020–2022 (gal.)	Annual Average Water Use (gal./year)	Total Worst-Case Water Use ⁷ (gal.)
Double Mountain	Malheur	City of Ontario Public Works	777,227	111,563	62,000	157,000	0	4,375	1,112,165	370,722	1,668,247
Morgan Lake	Union	City of La Grande Public Works	1,845,915	269,063	118,800	367,000	0	4,375	2,605,152	868,384	3,907,729
West of Bombing Range Road	Morrow	City of Boardman Public Works	194,307	160,781	22,000	54,000	0	0	431,088	143,696	646,632
Total			2,817,449	541,406	202,800	578,000	0	8,750	4,148,405	1,382,802	6,222,608

¹ Owyhee County is not included because it is outside the Oregon portion of the Project.

² Typical operation and maintenance activities will not require water, with the exception of water required for fire protection during extreme fire conditions, which is estimated as 3,000 gallons per year. Drought-tolerant plant materials will be used during revegetation of disturbed areas to minimize watering requirements after plant establishment. Restroom facility at Longhorn Station will require 11,000 gallons annually..

³ Average water use for dust control along the transmission line and related facilities was estimated assuming that a single construction crew would require one 3,000-gallon water truck to empty tank four times per day during construction. Due to the project size, it is assumed that two separate construction crews would be utilized during construction, resulting in a total of 24,000 gallons of water per day for dust control purposes during construction.

⁴ Average water use for construction of foundations and switching and communication stations was estimated assuming that mixing of wet concrete (4,000 pounds per square inch mix) would consume 35 gallons/cubic yard of concrete and concrete washout (for chutes and drums) would consume 25 percent of the amount required for concrete mixing, or 8.75 gallons/cubic yard of concrete. For analysis and certification purposes, it is assumed that all concrete will be produced within the same county that it is used for construction.

⁵ Average water use for road construction was estimated assuming that 4,000 gallons of water would be needed for every mile of new or improved access road.

⁶ Average water use for site restoration was estimated assuming that 1,000 gallons would be needed for every acre revegetated.

⁷ Worst-case estimates were calculated assuming a 50 percent increase in all water uses throughout construction.
gal. – gallons

3.5 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.

Water used during construction for dust control (approximately 26.3 million gallons) and hydro-mulching restoration will infiltrate into the ground or evaporate into the atmosphere. The amount of water used for dust control will be sufficiently small that runoff will not occur outside of the Site Boundary. Water used for foundations (approximately 3.9 million gallons) will remain in the concrete mix. Management and handling of concrete truck washout areas and disposal of excess or degraded drilling slurry are addressed in Exhibit V. No Project wastewater will be discharged into wetlands, lakes, rivers, or streams. No water use or discharges are anticipated during operations.

3.6 Explanation for No Permits or Transfers

OAR 345-021-0010(1)(o)(E): If the proposed facility would not need a groundwater permit, a surface water permit or a water right transfer, an explanation of why no such permit or transfer is required for the construction and operation of the proposed facility.

The Project's need for water primarily occurs during construction of the Project. Water will be procured from municipal suppliers along the Project, and no groundwater permit, surface water permit, or water right transfer will be required. The municipal water rights will allow use for industrial purposes such as a transmission line project. Because no new water rights will be necessary for the Project, neither a limited license for construction use nor other water right permits will be required.

Attachment O-1 summarizes IPC communications with the municipal suppliers, who have each indicated willingness and ability to supply water for the Project. Letters from IPC to water suppliers requesting documentation that they are willing and able to provide water and responses from water providers are included in Attachment O-1. Based on communications with the municipal water providers, estimated water requirements and calculated equivalent family demand, the Project's water requirement will be minimal and is not expected to injure any existing water rights or restrict planned future growth near the Project.

3.7 Permit or Transfer Information

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.

As described in the previous section, water will be procured from municipal suppliers along the Project, and no groundwater permit, surface water permit, or water right transfer will be required. As a result, this standard is not applicable.

3.8 Mitigation Measures

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

Based on assurances from municipal water providers, which will supply Project construction needs, no adverse impacts are expected to result from water use at the Project during construction and operation. Therefore, no mitigation measures are required to address water use.

4.0 IDAHO POWER'S PROPOSED SITE CERTIFICATE CONDITIONS

IPC proposes the following site certificate condition to ensure compliance with the relevant Council standards:

During Construction

***Water Use Condition 1:** During construction, the certificate holder shall ensure the availability of adequate water supplies to meet all construction-related water needs through municipal water suppliers or by contracting with private sources.*

5.0 CONCLUSIONS

Exhibit O includes the application information provided for in OAR 345-021-0010(1)(o).

6.0 COMPLIANCE CROSS-REFERENCES

Table O-2 identifies the location within the application for site certificate of the information responsive to the application submittal requirements in OAR 345-021-0010(o) and the relevant Second Amended Project Order provisions.

Table O-2. Compliance Requirements and Relevant Cross-References

Requirement	Location
OAR 345-021-0010(1)(o)	
(o) Exhibit O. Information about anticipated water use during construction and operation of the proposed facility. The applicant shall include:	
(A) A description of the use of water during construction and operation of the proposed facility.	Exhibit O, Section 3.3
(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.	Exhibit O, Section 3.4, Table O-1a and Table O-1b
(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.	Exhibit O, Section 3.5

Requirement	Location
(E) If the proposed facility would not need a groundwater permit, a surface water permit or a water right transfer, an explanation of why no such permit or transfer is required for the construction and operation of the proposed facility.	Exhibit O, Section 3.6
(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.	Exhibit O, Section 3.7
(G) A description of proposed actions to mitigate the adverse impacts of water use on affected resources.	Exhibit O, Section 3.8
Second Amended Project Order, Section III(o)	
Exhibit O of the application must identify the sources of water to be used during construction and operation of the proposed facility, the quantity of water needed, and the means of disposal of all water discharges from the proposed facility. The application shall provide evidence and analysis to determine whether a new water right or water right transfer is required, and if so, evidence that supports a finding by the Council that the water right should be issued. [See ORS Chapter 537 (Appropriation of Water Generally) or transfer of a water use under ORS Chapter 540 (Transfer or Forfeiture of Water Rights), including a discussion and evaluation of all relevant factors, including those factors listed in ORS 537.153(2) and (3), ORS 537.170(8) and OAR Chapter 690, Divisions 310 (Water Right Application Processing) and 380 (Water Right Transfers).]	Exhibit O, Section 3.4, Section 3.6
Water not obtained from a municipal supplier may require a limited license. Because such licenses cannot authorize use or discharge of water outside a single basin, multiple limited licenses may be required. Limited licenses are under Council jurisdiction.	Exhibit O, Section 3.6
If a new water right, water right transfer, or limited license is required, Exhibit O must include adequate evidence for the Council to evaluate and make findings approving the required permit or license. It is recommended that the applicant consult with the Oregon Water Resources Department (OWRD) to ensure that all information otherwise required by OWRD is included in the site certificate application.	Exhibit O, Section 3.6

7.0 RESPONSE TO NOTICE OF INTENT AND SCOPING MEETING COMMENTS

ODOE received over 450 comments based on the NOI and the related scoping meetings. ODOE summarized those comments in the First Amended Project Order (December 2014) and then removed the summaries from the Second Amended Project Order “to reduce the risk of misinterpreting the intention of the individual comment.”³ Although ODOE eliminated the requirement that IPC address the comment summaries, IPC nonetheless voluntarily addresses those summaries here in Table O-3, identifying the location within the ASC of the information responsive to the comments summarized in the First Amended Project Order.

³ Second Amended Project Order, Section VI(a).

Table O-3. Comment Summaries

Comment Summaries	Location
Impacts to water sources should be addressed in Exhibit I (especially erosion and sediment control and impacts of herbicide use); on above- and below-ground water supplies, Exhibit O (Water use and sources), Exhibit P (especially impacts to fish-bearing streams from construction activities and herbicide use).	Exhibit O, Section 3.3, Section 3.5, Attachment O-1; Exhibit I; Exhibit P1

8.0 REFERENCES

Environmental Protection Agency. 2016. Water Sense [Internet]. Available online at: <http://www.epa.gov/WaterSense/pubs/indoor.html>.

**ATTACHMENT O-1
RECORD OF COMMUNICATIONS WITH MUNICIPAL WATER
PROVIDERS**

The following table summarizes preliminary communications with municipal water providers who are willing and have adequate water available to supply the Project. The water volumes in this table represent the initial Project estimates, which were revised during subsequent Project design. The current estimates are presented in Table O-1 of this exhibit. All of the listed suppliers have provided IPC with either oral or written assurances that the amounts of water requested by IPC will be available at the time of construction. In addition, IPC mailed letters to municipal water providers requesting documentation that they are willing and able to provide water (based on the updated estimates), and confirming that doing so would not adversely impact the providers' ability to provide water for other uses or restrict future growth. These letters are included following the summary table below, followed by written responses from water providers.

County	Water Source	Preliminary Estimates of Water Quantity Needed (gallons)	Contact Person	Municipal Water Provider Assurance
Morrow	Boardman	8,760,262	Kevin Kennedy <i>Public Works Director</i> (541) 481-9252 kennedyk@cityofboardman.com	Kevin Kennedy provided written assurance: "This letter is to confirm the City of Boardman's water supply can meet your project demands in the estimated amount of 2,920,087 gallons per year. Totaling 8,760,262 gallons over a three-year period." <i>Letter, 10/17/2016</i>
Umatilla	Pendleton	7,497,417	Bob Patterson, P.E. <i>Public Works Director</i> (541) 966-0241 bob.patterson@ci.pendleton.or.us	"Water can be supplied if the project commences. Contract arrangements can be made at that time." <i>Email, 11/9/2016</i>
Union	La Grande	7,310,261	Norman J Paullus, Jr. <i>Public Works Director</i> (541) 962-1325 publicworks@cityoflagrande.org	Norman J. Paullus, Jr. provided written assurance: "The City remains committed to providing water for this project. Supplying water for this project would not significantly impact the City's ability to meet other water needs or provide water for other users." <i>Letter, 10/30/2015</i> <i>No response received in 2016.</i>

County	Water Source	Preliminary Estimates of Water Quantity Needed (gallons)	Contact Person	Municipal Water Provider Assurance
Baker	Baker City	12,356,361	Michelle Owen <i>Public Works Director</i> (541) 523-6541 mowen@bakercity.com	<p>“Water usage has changed since my last correspondence with your firm. Idaho Power’s earlier letter in 2012 states the project would require 861,000 gallons each year for three years during the construction. The letter from last month now requests 1,479,000 gallons per year, a significant increase. In addition to the increased quantity requested, the City has experienced two years in a row of reduced supply from our watershed that has caused the need to restrict usage to large irrigation customers such as the golf course and parks.</p> <p>While I still anticipate the City of Baker City would be able to supply the quantity of water requested over three years, there may be times when the amount of water per day is restricted in order to meet the regular demands of the City.”</p> <p><i>Letter, 11/30/2015</i></p> <p><i>No response received in 2016.</i></p>
Malheur	Ontario	13,768,923	Jerry T. Elliott P.E. <i>Water and Wastewater Operations</i> (541) 889-8011 Jerry.elliott@ch2m.com	<p>“Your request for water estimated at approximately 1.7 million gallons per year over a three year period is well within the capabilities of our water infrastructure capacity. Our current water treatment facilities have the capability to produce over 10 million gallons per day of potable water. Your demands would not significantly impact our ability to safely and effectively service our current customer obligations. Nor would it impair our ability to provide water for other uses.”</p> <p><i>Letter, 12/1/2015</i></p> <p><i>No response received in 2016.</i></p>

Letters to Water Providers

5 October 2016

Mr. Kevin Kennedy, Public Works Director
City of Boardman, Public Works Department
200 City Center Circle
P.O. Box 229
Boardman, Oregon 97818
publicworks@cityofboardman.com

Subject: Idaho Power's Boardman to Hemingway 500 kV Transmission Line Project

Dear Mr. Kennedy:

Idaho Power Company (IPC) is filing the Final Application for Site Certificate to the Oregon Energy Facility Siting Council (EFSC) in which we are proposing to construct the Boardman to Hemingway Project (Project) with a projected in-service date no earlier than 2022. Construction is expected to take between 2 and 3 years. More information is available at <http://www.boardmantohemingway.com/>.

We reached out to you in October 2015 to re-confirm water availability from the City of Boardman for the Boardman to Hemingway Transmission Line Project and to request whether providing the estimated amount of water needed for the Project would significantly impact the City of Boardman's ability to meet other water needs or provide water for other users. We appreciate your timely written response to our requests in the past, confirming the City of Boardman's water supply could meet the Project demands at those times.

As required by Oregon's Department of Energy, EFSC, we are re-verifying the water availability of the City of Boardman for the Project and whether providing the estimated amount of water needed for the Project would significantly impact the City of Boardman's ability to meet other water needs or provide water for other users.

The major water needs for the Project would occur during construction, and include water for foundation concrete mixing and dust control during grading and site work. In Morrow County, Project water needs for construction are estimated at approximately 8,760,262 gallons, or approximately 2,920,087 gallons per year for three years.

Based on our preliminary communications with you (in June 2011 and November 2015), it is our understanding that the City of Boardman's water supplies are adequate to meet Project needs in Morrow County (estimated above) without affecting your ability to serve other water demands and without restricting planned future growth. Also, we understand that the City of Boardman's water rights allow use for industrial purposes such as a transmission line project.

IPC respectfully requests acknowledgement of this letter and a written response by the City of Boardman confirming water availability and indicating whether providing the estimated amount of water needed for the Project would impact your ability to provide water. IPC intends to submit your letter as documentation for the EFSC permitting process. Formal contracting for water would occur at a later time, if the Project is approved and permitted.

I appreciate your assistance in this matter. If you have questions or comments, please contact me at your convenience.

Respectfully submitted,

Todd Adams
Project Leader
Idaho Power Company
PO Box 70
Boise, ID 83707
tadams@idahopower.com

5 October 2016
Mr. Bob Patterson, P.E.
Public Works Director
City of Pendleton, Public Works Department
500 Southwest Dorion Avenue
Pendleton, Oregon 97801-2090
bob.patterson@ci.pendleton.or.us

Subject: Idaho Power's Boardman to Hemingway 500 kV Transmission Line Project

Dear Mr. Patterson:

Idaho Power Company (IPC) is filing the Final Application for Site Certificate to the Oregon Energy Facility Siting Council (EFSC) in which we are proposing to construct the Boardman to Hemingway Project (Project) with a projected in-service date no earlier than 2022. Construction is expected to take between 2 and 3 years. More information is available at <http://www.boardmantohemingway.com/>.

We reached out to you in October 2015 to re-confirm water availability from the City of Pendleton for the Boardman to Hemingway Transmission Line Project and to request whether providing the estimated amount of water needed for the Project would significantly impact the City of Pendleton's ability to meet other water needs or provide water for other users. We appreciate your timely written response to our requests in the past, confirming the City of Pendleton's water supply could meet the Project demands at those times.

As required by Oregon's Department of Energy, EFSC, we are re-verifying the water availability of the City of Pendleton for the Project and whether providing the estimated amount of water needed for the Project would significantly impact the City of Pendleton's ability to meet other water needs or provide water for other users.

The major water needs for the Project would occur during construction, and include water for foundation concrete mixing and dust control during grading and site work. In Umatilla County, Project water needs for construction are estimated at approximately 7,497,417 gallons, or approximately 2,499,139 gallons per year for three years.

Based on our preliminary communications with you (in June 2011 and November 2015), it is our understanding that the City of Pendleton's water supplies are adequate to meet Project needs in Umatilla County (estimated above) without affecting your ability to serve other water demands and without restricting planned future growth. Also, we understand that the City of Pendleton's water rights allow use for industrial purposes such as a transmission line project.

IPC respectfully requests acknowledgement of this letter and a written response by the City of Pendleton confirming water availability and indicating whether providing the estimated amount of water needed for the Project would impact your ability to provide water. IPC intends to submit

your letter as documentation for the EFSC permitting process. Formal contracting for water would occur at a later time, if the Project is approved and permitted.

I appreciate your assistance in this matter. If you have questions or comments, please contact me at your convenience.

Respectfully submitted,

Todd Adams
Project Leader
Idaho Power Company
PO Box 70
Boise, ID 83707
tadams@idahopower.com

5 October 2016

Mr. Norman J. Paullus, Jr.
City of La Grande
Public Works Director
800 X Avenue
La Grande, OR 97850
publicworks@cityoflagrande.org

Subject: Idaho Power's Boardman to Hemingway 500 kV Transmission Line Project

Dear Mr. Paullus:

Idaho Power Company (IPC) is filing the Final Application for Site Certificate to the Oregon Energy Facility Siting Council (EFSC) in which we are proposing to construct the Boardman to Hemingway Project (Project) with a projected in-service date no earlier than 2022. Construction is expected to take between 2 and 3 years. More information is available at <http://www.boardmantohemingway.com/>.

We reached out to you in October 2015 to re-confirm water availability from the City of La Grande for the Boardman to Hemingway Transmission Line Project and to request whether providing the estimated amount of water needed for the Project would significantly impact the City of La Grande's ability to meet other water needs or provide water for other users. We appreciate your timely written response to our requests in the past, confirming the City of La Grande's water supply could meet the Project demands at those times.

As required by Oregon's Department of Energy, EFSC, we are re-verifying the water availability of the City of La Grande for the Project and whether providing the estimated amount of water needed for the Project would significantly impact the City of La Grande's ability to meet other water needs or provide water for other users.

The major water needs for the Project would occur during construction, and include water for foundation concrete mixing and dust control during grading and site work. In Union County, Project water needs for construction are estimated at approximately 7,310,261 gallons, or approximately 2,436,754 gallons per year for three years.

Based on our preliminary communications with you (in June 2011 and November 2015), it is our understanding that the City of La Grande's water supplies are adequate to meet Project needs in Union County (estimated above) without affecting your ability to serve other water demands and without restricting planned future growth. Also, we understand that the City of La Grande's water rights allow use for industrial purposes such as a transmission line project.

IPC respectfully requests acknowledgement of this letter and a written response by the City of La Grande confirming water availability and indicating whether providing the estimated amount of water needed for the Project would impact your ability to provide water. IPC intends to submit

your letter as documentation for the EFSC permitting process. Formal contracting for water would occur at a later time, if the Project is approved and permitted.

I appreciate your assistance in this matter. If you have questions or comments, please contact me at your convenience.

Respectfully submitted,

Todd Adams
Project Leader
Idaho Power Company
PO Box 70
Boise, ID 83707
tadams@idahopower.com

5 October 2016

Ms. Michelle Owen, Public Works Director
Baker City, Public Works Department
1655 First Street
P.O. Box 650
Baker City, OR 97814
mowen@bakercity.com

Subject: Idaho Power's Boardman to Hemingway 500 kV Transmission Line Project

Dear Ms. Owen:

Idaho Power Company (IPC) is filing the Final Application for Site Certificate to the Oregon Energy Facility Siting Council (EFSC) in which we are proposing to construct the Boardman to Hemingway Project (Project) with a projected in-service date no earlier than 2022. Construction is expected to take between 2 and 3 years. More information is available at <http://www.boardmantohemingway.com/>.

We reached out to you in October 2015 to re-confirm water availability from the City of Baker City for the Boardman to Hemingway Transmission Line Project and to request whether providing the estimated amount of water needed for the Project would significantly impact the City of Baker City's ability to meet other water needs or provide water for other users. We appreciate your timely written response to our requests in the past, confirming the City of Baker City's water supply could meet the Project demands at those times.

As required by Oregon's Department of Energy, EFSC, we are re-verifying the water availability of the City of Baker City for the Project and whether providing the estimated amount of water needed for the Project would significantly impact the City of Baker City's ability to meet other water needs or provide water for other users.

The major water needs for the Project would occur during construction, and include water for foundation concrete mixing and dust control during grading and site work. In Baker County, Project water needs for construction are estimated at approximately 12,356,361 gallons, or approximately 4,118,787 gallons per year for three years.

Based on our preliminary communications with you (in June 2011 and November 2015), it is our understanding that the City of Baker City's water supplies are adequate to meet Project needs in Baker County (estimated above) without affecting your ability to serve other water demands and without restricting planned future growth. Also, we understand that the City of Baker City's water rights allow use for industrial purposes such as a transmission line project.

IPC respectfully requests acknowledgement of this letter and a written response by Baker City confirming water availability and indicating whether providing the estimated amount of water needed for the Project would impact your ability to provide water. IPC intends to submit your

letter as documentation for the EFSC permitting process. Formal contracting for water would occur at a later time, if the Project is approved and permitted.

I appreciate your assistance in this matter. If you have questions or comments, please contact me at your convenience.

Respectfully submitted,

Todd Adams
Project Leader
Idaho Power Company
PO Box 70
Boise, ID 83707
tadams@idahopower.com

5 October 2016

Mr. Jerry T. Elliot P.E.
Water and Wastewater Operations
444 SW 4th Street
Ontario, OR 97914
Jerry.elliott@ch2m.com

Subject: Idaho Power's Boardman to Hemingway 500 kV Transmission Line Project

Dear Mr. Elliot:

Idaho Power Company (IPC) is filing the Final Application for Site Certificate to the Oregon Energy Facility Siting Council (EFSC) in which we are proposing to construct the Boardman to Hemingway Project (Project) with a projected in-service date no earlier than 2022. Construction is expected to take between 2 and 3 years. More information is available at <http://www.boardmantohemingway.com/>.

We reached out to you in October 2015 to re-confirm water availability from the City of Ontario for the Boardman to Hemingway Transmission Line Project and to request whether providing the estimated amount of water needed for the Project would significantly impact the City of Ontario's ability to meet other water needs or provide water for other users. We appreciate your timely written response to our requests in the past, confirming the City of Ontario's water supply could meet the Project demands at those times.

As required by Oregon's Department of Energy, EFSC, we are re-verifying the water availability of the City of Ontario for the Project and whether providing the estimated amount of water needed for the Project would significantly impact the City of Ontario's ability to meet other water needs or provide water for other users.

The major water needs for the Project would occur during construction, and include water for foundation concrete mixing and dust control during grading and site work. In Malheur County, Project water needs for construction are estimated at approximately 13,768,923 gallons, or approximately 4,589,641 gallons per year for three years.

Based on our preliminary communications with you (in December 2015), it is our understanding that the City of Ontario's water supplies are adequate to meet Project needs in Malheur County (estimated above) without affecting your ability to serve other water demands and without restricting planned future growth. Also, we understand that the City of Ontario's water rights allow use for industrial purposes such as a transmission line project.

IPC respectfully requests acknowledgement of this letter and a written response by the City of Ontario confirming water availability and indicating whether providing the estimated amount of water needed for the Project would impact your ability to provide water. IPC intends to submit

your letter as documentation for the EFSC permitting process. Formal contracting for water would occur at a later time, if the Project is approved and permitted.

I appreciate your assistance in this matter. If you have questions or comments, please contact me at your convenience.

Respectfully submitted,

Todd Adams
Project Leader
Idaho Power Company
PO Box 70
Boise, ID 83707
tadams@idahopower.com

Letters from Water Providers



City of Boardman

200 City Center Circle
P.O. Box 229
Boardman, OR 97818
Phone: (541) 481-9252
Fax: (541) 481-3244
TTY Relay 711
www.cityofboardman.com

October 17, 2016

Mr. Todd Adams, Project Leader
Boardman to Hemingway Project
P.O. Box 70
Boise, ID 83707

RE: Idaho Power's Boardman to Hemingway Transmission Line Project

Mr. Adams,

This letter is to confirm the City of Boardman's water supply can meet your project demands in the estimated amount of 2,920,087 gallons per year. Totaling 8,760,262 gallons over a three-year period.

Please understand that if the City of Boardman's water demands change for any reason in the three-year period, the City of Boardman's demands will be met first and foremost.

Respectfully,

Kevin Kennedy
Public Works Director
kennedyk@cityofboardman.com

5 October 2016
Mr. Bob Patterson, P.E.
Public Works Director
City of Pendleton, Public Works Department
500 Southwest Dorion Avenue
Pendleton, Oregon 97801-2090
bob.patterson@ci.pendleton.or.us

CITY OF PENDLETON
RECEIVED

OCT 10 2016

Subject: Idaho Power's Boardman to Hemingway 500 kV Transmission Line Project

Dear Mr. Patterson:

Idaho Power Company (IPC) is filing the Final Application for Site Certificate to the Oregon Energy Facility Siting Council (EFSC) in which we are proposing to construct the Boardman to Hemingway Project (Project) with a projected in-service date no earlier than 2022. Construction is expected to take between 2 and 3 years. More information is available at <http://www.boardmantohemingway.com/>.

We reached out to you in October 2015 to re-confirm water availability from the City of Pendleton for the Boardman to Hemingway Transmission Line Project and to request whether providing the estimated amount of water needed for the Project would significantly impact the City of Pendleton's ability to meet other water needs or provide water for other users. We appreciate your timely written response to our requests in the past, confirming the City of Pendleton's water supply could meet the Project demands at those times.

As required by Oregon's Department of Energy, EFSC, we are re-verifying the water availability of the City of Pendleton for the Project and whether providing the estimated amount of water needed for the Project would significantly impact the City of Pendleton's ability to meet other water needs or provide water for other users.

The major water needs for the Project would occur during construction, and include water for foundation concrete mixing and dust control during grading and site work. In Umatilla County, Project water needs for construction are estimated at approximately 7,497,417 gallons, or approximately 2,499,139 gallons per year for three years.

Based on our preliminary communications with you (in June 2011 and November 2015), it is our understanding that the City of Pendleton's water supplies are adequate to meet Project needs in Umatilla County (estimated above) without affecting your ability to serve other water demands and without restricting planned future growth. Also, we understand that the City of Pendleton's water rights allow use for industrial purposes such as a transmission line project.

IPC respectfully requests acknowledgement of this letter and a written response by the City of Pendleton confirming water availability and indicating whether providing the estimated amount of water needed for the Project would impact your ability to provide water. IPC intends to submit

your letter as documentation for the EFSC permitting process. Formal contracting for water would occur at a later time, if the Project is approved and permitted.

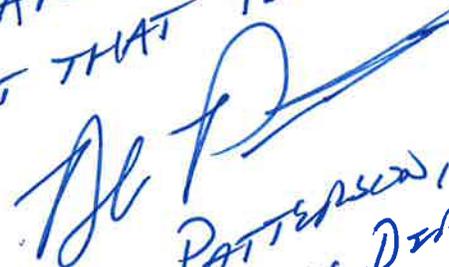
I appreciate your assistance in this matter. If you have questions or comments, please contact me at your convenience.

Respectfully submitted,



Todd Adams
Project Leader
Idaho Power Company
PO Box 70
Boise, ID 83707
tadams@idahopower.com

WATER CAN BE SUPPLIED
IF THE PROJECT COMMENCES.
CONTRACT ARRANGEMENTS CAN
BE MADE AT THAT TIME.



BOB PATTERSON, PE
PUBLIC WORKS DIRECTOR