

**Clean Water Act § 401 Certification Conditions  
for the Hells Canyon Complex Hydroelectric Project**

**(FERC No. P-1971)**

Malheur, Baker, and Wallowa counties, Oregon  
Powder Basin, Grande Ronde Basin, Oregon

The following certification is in response to an application submitted by the Idaho Power Company on June 14, 2018, as supplemented by responses to additional information requests and supplemental documents referred to herein (the "Application"). The Idaho and Oregon Departments of Environmental Quality are hereinafter separately referred to as "IDEQ" and "ODEQ," respectively, and collectively referred to as the "DEQs".

Upon Federal Energy Regulatory Commission ("FERC") issuance of a license to Idaho Power Company for the Hells Canyon Complex Hydroelectric Project ("Project"), Idaho Power Company must comply with the following § 401 Certification conditions:

**I. Project Operation**

The proposed operations are as particularly described in Exhibit A, which is incorporated here in its entirety by this reference. In accordance with applicable law, IPC shall notify the DEQs if FERC authorizes modification to these operations so as to allow the DEQs to determine whether such changes may affect compliance with water quality standards.

**II. Temperature**

**A. Required Actions.** Idaho Power Company ("IPC") shall take the following actions, which are further detailed in the conditions set out below, in order to comply with the Snake River-Hells Canyon Total Maximum Daily Load ("TMDL") temperature load allocation, the Oregon and Idaho salmonid spawning criteria (IDAPA 58.01.02.286; OAR 340-041-0028(4)(a)), and migration corridor temperature criteria (OAR 340-041-0028(4)(d)) ("applicable temperature criteria"):

1. Implement a Temperature Management and Compliance Plan ("TMCP"); and
2. Attain the Year 15 and 30 year thermal load reductions ("required thermal benefits"); or attain the TMDL temperature load allocation and applicable temperature criteria as provided in the approved Temperature Alternative Measures Plan ("TAMP").

**B. Required Thermal Benefits.** IPC shall attain thermal benefits of 1191.6 billion kilocalories ("bkcal") at the inflow to the Project by 30 years after the date that FERC issues a new license for the Project. IPC shall maintain the required thermal benefits throughout the term of the FERC license. No later than 15 years after the date that FERC issues the new license, IPC shall attain thermal benefits of 595.8 bkcal at the inflow to the Project. Or, if an alternative measure is implemented, IPC shall attain the TMDL temperature load allocation and applicable temperature criteria as provided in the approved TAMP.

**C. Implementation of the TMCP.**

1. IPC shall implement the TMCP in order to attain the required 15 and 30 year required thermal benefits. The TMCP shall include the Snake River Stewardship Program ("SRSP") that is specifically described in Exhibit 7.1-5 of the Application, which by this reference is incorporated in its entirety except that the following sentence in Section 2.5.3 of Exhibit 7.1-5 is not incorporated: "The thermal benefits generated from SRS

restoration projects do not need to be discounted on a project site-by-project site basis to account for river and reservoir attenuation, conservatism, or margin of safety, as those factors have already been accounted for in calculating IPC's cumulative thermal load exceedance (see Section 7.1 of the 401 application)." The TMCP shall also include the Brownlee operational component as described in section II.C.6 below and a temperature monitoring plan, as described in section II.D below.

2. As part of the TMCP, IPC shall implement the SRSP, which includes the development and implementation of measures upstream of the Project in the mainstem of the Snake River and in tributaries to the Snake River, in order to attain the required thermal benefits. The thermal benefits attained by IPC through the implementation of the SRSP shall be determined as described in Section 2.3 of Exhibit 7.1-5 of the Application.
3. The selection, design, implementation, monitoring and maintenance of specific SRSP projects shall be in accordance with Restoration Quality Standards and Guidelines ("Restoration Standards") developed by IPC and described in Section 2.5.1 and Attachment 1 of Exhibit 7.1-5 of the Application. As part of the annual reporting process set forth in section II.E below, IPC may propose modifications to the Restoration Standards to reflect information gathered from the implementation of projects. If approved by ODEQ, the modified Restoration Standards shall apply to all SRSP projects constructed after the date the modified Restoration Standards are approved.
4. SRSP projects that are confirmed to be implemented consistent with the project design and the approved Restoration Standards shall count towards the required thermal benefits. The thermal benefits for a project shall continue to be counted towards the required thermal benefits as long as monitoring establishes that the project is maintained in accordance with the Restoration Standards. IPC shall reduce in-river and tributary project thermal benefits by 22% and 25%, respectively, before being applied or credited toward the aggregate thermal load target of 1191.6 Bkcal at the HCC inflow.
5. As part of the annual and five-year SRSP reporting set forth in section II.E below, IPC shall describe the SRSP projects implemented, the status of maintenance on all projects, and the thermal benefits IPC attributes to any project. Thermal benefits shall count towards the required thermal benefits if ODEQ, after consultation with IDEQ, concurs that the project has been implemented and maintained in accordance with the Restoration Standards. If ODEQ finds that a project is not implemented or maintained in accordance with the Restoration Standards, or fails the program audits, IPC shall not count the thermal benefits of such project towards the required thermal benefits unless subsequent monitoring shows the project is in compliance. Information obtained from monitoring will be used to inform the thermal benefit calculation for future projects, but will not be used to adjust credits already assigned to existing approved projects. Following review of the annual and five-year SRSP reports, ODEQ shall notify IPC of the results of its review of projects, and the amount of thermal benefits claimed by IPC that count towards the required thermal benefits.
6. As part of the TMCP, IPC shall implement the Brownlee operational component as specifically described in Section 7.1.2.1 of the Application. The Brownlee operational component includes, at a minimum:
  - a. IPC shall forecast the Hells Canyon Complex outflow 7 day average maximum temperature conditions;
  - b. If forecast at the beginning of the salmonid spawning period indicates a high probability of exceeding the 16.5 degrees Celsius ("°C") target 7- day average

maximum temperature conditions, then IPC shall enhance fall drafting of Brownlee Reservoir to achieve 16.5°C in the Snake River downstream of Hells Canyon Dam; and

- c. IPC shall meet with the DEQs each August to report on the forecasted temperature and discuss the decision to enhance fall drafting of Brownlee Reservoir.
- D. **Monitoring.** IPC shall monitor projects described in the SRSP and in accordance with the Restoration Standards. In addition, IPC shall monitor daily maximum temperatures at the locations specified below in section II.D.1 and in accordance with the approved Temperature Monitoring Plan. Within 90 days of the date of FERC's issuance of a new license for the Project, IPC shall submit to the DEQs for approval a Temperature Monitoring Plan. Once approved by ODEQ, after consultation with IDEQ, IPC shall implement the Temperature Monitoring Plan. IPC may submit proposed revisions to the Temperature Monitoring Plan and, if approved by ODEQ, after consultation with IDEQ, IPC shall implement the revised plan in accordance with ODEQ's approval. The Temperature Monitoring Plan shall include the following components:
  1. Proposed temperature monitoring locations. Locations shall be proposed that are representative of the Snake River flowing into Brownlee Reservoir, within Brownlee Reservoir, within Oxbow Reservoir, within Hells Canyon Reservoir, flowing out of Hells Canyon Dam, and within three miles downstream of the Hells Canyon Dam.
  2. Proposed data collection equipment and procedures.
  3. Proposed frequency of monitoring.
  4. A project-specific *Quality Assurance Project Plan* ("QAPP"); and
  5. A proposal for data analysis and reporting.
- E. **Reporting.** IPC shall provide the following report to ODEQ:
  1. **Brownlee Operations Reports.** In any year when IPC drafts Brownlee Reservoir as described under Section II.C.6, IPC shall:
    - a. Meet with the DEQs in late November for a post-implementation effectiveness meeting; and
    - b. Provide a draft report at the post-implementation effectiveness meeting, which describes the following:
      - i. Whether the target of 16.5°C was attained and if not, analyze data and determine why the target was not attained;
      - ii. Propose actions to ensure the 16.5°C target is not exceeded in the future; and
    - c. Provide a final report by December 31 of the draft year that also includes the above components in sections II.E.1.b.i and ii.
  2. **SRSP Annual Reports.** At the end of each calendar year following the issuance of the new FERC license for the Project, IPC shall provide a SRSP Annual Report that complies with the requirements of subsection (3) of OAR 340-039-0017 including but not limited to the following:
    - a. The results of the required monitoring of SRSP projects including:
      - i. Qualitative (i.e., project) monitoring at all sites.
      - ii. Remote effectiveness monitoring at all sites.

- iii. Quantitative (i.e., effectiveness) monitoring on a selected sample of projects representative of the in-stream habitat and riparian revegetation project types.
    - b. A description of the SRSP projects implemented in that year, the baseline for each project, the status of implementation of all projects, expected completion date and any other information necessary to determine if a project has been implemented and maintained in accordance with Restoration Standards. IPC shall include a map showing the location of all projects implemented to date.
    - c. The thermal benefits IPC attributes to any projects implemented in that year. For projects implemented in prior years, a statement as to whether the project is being maintained in accordance with Restoration Standards and if so, the thermal benefits IPC claims from those projects.
    - d. A description of the proposed projects scheduled for implementation in the next year or future years, including IPC's estimate of those projects' aggregate thermal benefits.
    - e. An audit review report, including a summary of whether the sites surveyed complied with the acceptance threshold for the audit and any remediation activities if necessary.
    - f. The cumulative thermal benefits from that year and past years, and IPC's assessment of whether implementation of the TMCP, including the SRSP, is reasonably likely to achieve the 15 and 30 year required thermal benefits.
    - g. A report of daily maximum temperature and associated data files measured within three miles downstream of Hells Canyon Dam, including a comparison between these data and data representing inflow to Brownlee and outflow temperatures in the Snake River below Hells Canyon Dam.
    - h. IPC may include a request for the DEQs to consider approval of alternative or additional measures, including but not limited to Plan B as described in Section 7.1.2.5.3.1 and Exhibits 7.1-8 and 7.1-9 of the Application, hereinafter referred to as "Plan B", which by this reference is incorporated in its entirety. As used in this section II, "Temperature Alternative Measures" are methods or approaches not included in the TMCP that will provide, or assist in providing, reasonable assurance that the required thermal benefits will be achieved, or in the case of Plan B, reasonable assurance that the TMDL temperature load allocation and applicable temperature criteria will be met. The DEQs shall review such a request as provided in section II.F below. Such a request shall include the following:
      - i. The basis or reasons why IPC considers Temperature Alternative Measures to be necessary or appropriate.
      - ii. A detailed description of proposed Temperature Alternative Measures.
      - iii. An analysis of how the Temperature Alternative Measures will provide, or assist in providing, reasonable assurance that the required thermal benefits will be attained.
      - iv. A statement of whether the proposed Temperature Alternative Measures will cause or contribute to a violation of applicable water quality standards.
3. **DEQs' Response to SRSP Annual Reports.**
- a. The DEQs shall review SRSP Annual Reports to determine whether SRSP projects were implemented and maintained in compliance with Restoration Standards. If

ODEQ, after consultation with IDEQ, does not concur that projects were implemented and maintained in compliance with Restoration Standards, the ODEQ shall notify IPC of the amount of thermal benefits in that year that shall be counted towards the required thermal benefits.

- b. ODEQ shall notify IPC whether they approve of or reject any amendment to the TMCP to address issues associated with implementation.
  - c. The DEQs shall respond to any Temperature Alternative Measures request as provided in section II.F below.
4. **SRSP Five-Year Reports.** At the end of every fifth calendar year following the issuance of a new FERC license for the Project, IPC shall provide a SRSP Five-Year Report that includes the following:
- a. All the required elements of the annual report for that year.
  - b. Summary of data analysis, progress on implementation of the TMCP, and program effectiveness during the five-year-review period.
  - c. Identification of any data gaps, program inefficiencies or challenges.
  - d. An evaluation of observed changes occurring relative to pre-SRSP project conditions in monitored implemented projects (including vegetation, hydrology, and morphology).
  - e. A summary and evaluation of changes in applicable laws or regulations related to the regulatory baseline in the SRSP program area that may affect the thermal benefits assigned to projects and otherwise as required by OAR 340-039-0030.
  - f. Any proposed changes to Restoration Standards, including changes to modeling of thermal benefits. Any such changes must be approved by ODEQ, after consultation with IDEQ, before implemented by IPC.
  - g. Summary of thermal benefits associated with previously implemented projects that were not previously quantified, including any benefits unquantified due to a lack of data or recognized methodology. New benefits not previously quantified can only be counted towards meeting the required thermal benefits if ODEQ, after consultation with IDEQ, approves the data and methodology for determining such benefits.
  - h. Non-temperature benefits calculated, projected or observed specific to projects that have been implemented. This includes a discussion of progress towards meeting the non-temperature related goals of the in- stream work in the mainstem Snake River as well as non-temperature benefits of the tributary restoration work.
  - i. Summary of any new SRSP restoration actions and quantification methodologies proposed.
  - j. Estimates of current trajectory of thermal benefits to achieve modeled conditions. A report and consolidation of the previous annual summaries of the progress toward achieving the required thermal benefits, including an analysis and updated assessment of whether the program is reasonably likely to achieve compliance with the 15 and 30 year required thermal benefits.
5. **DEQs' Response to SRSP Five-Year Reports.** The DEQs shall respond to a Five Year Report as follows:
- a. With respect to information that must or may also be included in the SRSP Annual Reports, the DEQs shall respond as set forth in section II.E.3 above.

- b. ODEQ shall notify IPC whether it approves of or rejects any changes to the Restoration Standards proposed by IPC.
- F. **Temperature Alternative Measures.** The process and the standard for determining whether Temperature Alternative Measures are required are set forth below.
1. **IPC Proposal.** In any SRSP Annual or Five-Year Report, IPC may include a request for the DEQs to consider approval of Temperature Alternative Measures.
    - a. Within 60 days of the receipt of IPC's proposal, ODEQ shall meet with IPC and discuss the proposal and any additional information that may be required by ODEQ in order to make a determination.
    - b. Within 90 days of the meeting and the submission of additional information, whichever occurs later, ODEQ, after consultation with IDEQ, shall notify IPC in writing of its approval or denial of the proposed alternative measures. If denied, ODEQ shall specify the basis for the rejection.
    - c. Within 120 days of approval, if any, of proposed alternative measures, IPC shall submit to the DEQs for approval a Temperature Alternative Measures Plan, as described below.
  2. **ODEQs' Determination that Temperature Alternative Measures are Required.** With respect to the Brownlee operational component, if water temperature in the Snake River below Hells Canyon Dam during salmonid spawning period exceeds the 16.5°C target in three consecutive years, IPC shall submit for the DEQs' approval an alternative measures report, including but not limited to its proposed alternative measures set forth in section 7.1.2.5.3 of the Application. In addition, with respect to the SRSP, after the second Five-year SRSP Report, and after any subsequent five-year report, ODEQ, after consultation with IDEQ, may determine that Temperature Alternative Measures are required in accordance with section II.F.4 below.
    - a. Within 60 days of the receipt of the applicable report, the DEQs and IPC shall meet to discuss the report, whether Temperature Alternative Measures are required, and any other issues including but not limited to any additional information that may be required by ODEQ in order to make a determination.
    - b. Within 90 days of the meeting and the submission of additional information, whichever occurs later, ODEQ, after consultation with IDEQ, shall notify IPC if Temperature Alternative Measures are required.
    - c. Within 180 days of the notification, IPC shall submit to the DEQs for approval a Temperature Alternative Measures Plan, as described below.
  3. **Temperature Alternative Measures Plan ("TAMP").**
    - a. IPC shall include the following in any TAMP that addresses compliance with applicable temperature criteria:
      - i. Details of the measure to be implemented, including a comparison of the proposed measure to the current SRSP. If ODEQ, after consultation with IDEQ, requires Plan B as the Temperature Alternative Measure, the TAMP must provide details with respect to Plan B, including, at a minimum, the manner in which IPC achieves the TMDL temperature allocation and the other applicable temperature criteria.

- ii. An evaluation of whether the measure may cause or contribute to a violation of applicable water quality standards. The TAMP must include a detailed description of actions needed to prevent a violation of water quality standards.
- iii. If the construction or implementation of the measure may require permitting or approval by any state or federal agency, a description of the process necessary and the estimated time period to acquire such permitting or approval.
- iv. A schedule for the implementation of the measure.

**4. Temperature Alternative Measures Standard.**

- a. IPC shall implement Plan B or other approved Temperature Alternative Measures if, taking into account any previously approved revisions to the SRSP, projects implemented and to be implemented under the SRSP, ODEQ, after consultation with IDEQ, determines that the SRSP, in addition to the Brownlee operational component described above, does not appear reasonably likely to achieve the year 15 and 30 required thermal benefits. ODEQ, after consultation with IDEQ, may require that Plan B be submitted as the Temperature Alternative Measure if it determines that other proposed alternative measures, if any, are not likely to achieve the required thermal benefits or otherwise meet the TMDL temperature load allocation and the applicable temperature criteria.
- b. In determining whether to approve proposed alternative measures and a TAMP, ODEQ, after consultation with IDEQ, shall consider the following:
  - i. Whether Plan B or the proposed alternative measures, as presented in the TAMP, are reasonable likely to achieve the required thermal benefits or otherwise meet the TMDL temperature load allocation and the other applicable temperature criteria.
  - ii. Whether Plan B or the proposed alternative measures, operated alone or in combination with other Temperature Alternative Measures, after consideration of any mercury or other water quality studies undertaken and any other information ODEQ deems relevant, may cause or contribute to a violation of applicable water quality standards. As provided in section II.F.3.a above, IPC must include in the TAMP a detailed description of any actions necessary to prevent a violation of water quality standards; and
  - iii. Other issues relevant to the implementation of Plan B or the proposed alternative measures, including whether the construction or implementation of the measure may require any permitting or approval by any state or federal agency, including FERC.

**5. Implementation of TAMP.**

- a. Upon ODEQ's approval of the TAMP, IPC shall implement the TAMP in accordance with its terms and schedule, including any modifications made by ODEQ as conditions of its approval.
- b. Unless and until ODEQ approves a TAMP in writing, IPC shall continue to implement the approved TMCP to achieve the year 15 and 30 year required thermal benefits.

### III. Dissolved Oxygen ("DO")-Brownlee Reservoir TMDL Load Allocation.

- A. Required Actions.** IPC shall take the following actions, which are further detailed in the conditions set out below, in order to comply with the Brownlee Reservoir Snake River Hells Canyon Total Maximum Daily Load Dissolved Oxygen allocation:
1. Implementation of the Riverside Operational Water-Quality Improvement Project ("ROWQIP") or any approved Brownlee DO Alternative Measure;
  2. Attainment of the TMDL DO allocation by reducing phosphorus loads upstream of Brownlee by 15,000 pounds during mid-April through mid-October (183 days) each year;
  3. Implementation of the Grand View Sediment Reduction Program ("Grand View Program"); and
  4. Implementation of the Swan Falls Project Aquatic Vegetation and Debris Removal Program ("Swan Fall Program").
- B. Implementation of the ROWQIP, Grand View Program, and Swan Falls Program.** Upon the issuance of a new FERC license for the Project, IPC shall continue to implement the ROWQIP, Grand View Program, and Swan Falls Program, as such programs are described in the Section 7.2.1 of the Application, which by this reference is incorporated in its entirety, and in accordance with this 401 certification in order to meet the DO load allocation for the FERC license term unless Brownlee DO Alternative Measures are approved in accordance with section III.B.6 below.
1. **ROWQIP Monitoring Plan.** Within 120 days of the issuance of a new FERC license for the Project, IPC shall submit to the DEQs for approval a monitoring plan that monitors implementation of the ROWQIP. Once approved by ODEQ, after consultation with IDEQ, IPC shall implement the monitoring plan in accordance with its terms and schedule, including any modifications made by ODEQ as conditions of its approval. The monitoring plan shall include, at a minimum, a requirement that IPC will monitor for:
    - a. Total phosphorus concentrations in Riverside Canal tributary inflows.
    - b. Total phosphorus concentrations in spill from all locations, including the end of the canal delivery system.
    - c. Total suspended solids concentration in Riverside Canal tributary inflows.
    - d. Flow data collected at the Boise River diversion; other tributary inflow locations; and spill from all locations, including the end of the canal delivery system.
    - e. Total phosphorus monitoring at river mile 345.
  2. **Grand View Program Monitoring Plan.** Within 120 days of the issuance of a new FERC license for the Project, IPC shall submit to the DEQs for approval a monitoring plan that monitors implementation of the Grand View Program. Once approved by ODEQ, after consultation with IDEQ, IPC shall implement the monitoring plan in accordance with its terms and schedule, including any modifications made by ODEQ as conditions of its approval. The monitoring plan shall include, at a minimum, a requirement that IPC will monitor for:
    - a. Total phosphorus concentrations in drains and tributaries in Grand View program area.
    - b. Total suspended solid concentrations in drains and tributaries in Grand View program area.



3. **Swan Falls Monitoring Plan.** Within 120 days of the issuance of a new FERC license for the Project, IPC shall submit to the DEQs for approval a monitoring plan that monitors implementation of the Swan Falls Program. Once approved by ODEQ, after consultation with IDEQ, IPC shall implement the monitoring plan in accordance with its terms and schedule, including any modifications made by ODEQ as conditions of its approval. The monitoring plan shall include, at a minimum, a requirement that IPC will monitor for:
  - a. Number of truckloads of aquatic vegetation and debris removed at the Swan Falls project annually between April 15 and October 15.
  - b. The total phosphorus removed from the Snake River following removal of aquatic vegetation and debris from the Swan Fall project.
4. **Brownlee DO Annual Reports.** Within 120 days of December 31 of each year following the issuance of the new FERC license for the Project, IPC shall provide to the DEQs an Annual Report that includes the following information:
  - a. The results of monitoring accomplished in the past year in accordance with the approved monitoring plans described in sections III.B.1 through .3;
  - b. Total phosphorus load reduction analysis demonstrating whether the implementation of the ROWQIP, Grand View Program, and Swan Falls Program attained the DO load allocation, expressed as a total phosphorus reduction, for that year; and
  - c. Any proposed changes to the ROWQIP, Grand View Program, or Swan Falls Program, as applicable, and any Brownlee DO Alternative Measures proposed by IPC. As used in this section III, "Brownlee DO Alternative Measures" are methods or approaches not included in the ROWQIP, Grand View Program, or Swan Falls Program, as applicable, which will provide, or assist in providing, reasonable assurance that the DO load allocation described in section III.A.2 above will be achieved. ODEQ shall review such a proposal as provided in section III.B.6 below. Any such proposal must include the following:
    - i. The basis or reasons why IPC considers Brownlee DO Alternative Measures to be necessary or appropriate;
    - ii. A detailed description of the proposed alternative measure;
    - iii. An analysis of how the proposed alternative measure will provide, or assist in providing, reasonable assurance that the DO load allocation described in section III.A.2 above will be attained; and
    - iv. A statement of whether the proposed alternative measures will cause or contribute to a violation of applicable water quality standards.
  - d. **DEQ Response to Brownlee DO Annual Reports.** ODEQ, after consultation with IDEQ, shall respond to Brownlee DO Annual Reports, if necessary, as follows:
    - i. Within 90 days, ODEQ shall either approve or reject proposed changes to the ROWQIP, Grand View Program, or Swan Falls Program, as applicable.
    - ii. ODEQ shall respond to a proposed alternative measures as set forth in section III.B.6 below.
5. **Brownlee DO Five-Year Reports.** Within 120 days of December 31 of every fifth calendar year following the issuance of a new FERC license for the Project, IPC shall provide a Brownlee DO Five-Year Report to the DEQs that includes the following:

- a. All the required elements of the Brownlee DO Annual Report for that year;
  - b. Trend analysis of total phosphorus data collected at Brownlee Reservoir inflow; and
  - c. A discussion of how total phosphorus data collected at the inflow to Brownlee Reservoir compares to Snake River Hells Canyon TMDL target of 0.07 mg/L.
6. **Brownlee DO Alternative Measures.** The process and the standard for determining whether Brownlee DO Alternative Measures are required are set forth below.
- a. **IPC Proposal.** In any Brownlee DO Annual Report, IPC may include a request for the DEQs to consider approval of Brownlee DO Alternative Measures.
    - i. Within 60 days of the receipt of IPC's proposal, the DEQs shall meet with IPC and discuss the proposal and any additional information that may be required by the DEQs in order to make a determination whether Brownlee DO Alternative Measures are required.
    - ii. Within 90 days of the meeting or the submission of additional information, if requested by the DEQs, whichever occurs later, ODEQ shall notify IPC in writing of its approval or denial of the proposed alternative measures. If denied, ODEQ shall specify the basis for the rejection.
    - iii. Within 120 days of approval of the proposed alternative measures, if any, IPC shall submit to the DEQs for approval a Brownlee DO Alternative Measures Plan, as described in section III.B.6.c below.
  - b. **DEQs' Determination that Brownlee DO Alternative Measures are Required.** After any Brownlee DO Annual Report, ODEQ may, after consultation with IDEQ, determine that Brownlee DO Alternative Measures are required in accordance with section III.B.6.d below.
    - i. Within 60 days of the receipt of an Annual Report and after consultation with IDEQ, ODEQ shall notify IPC if Brownlee DO Alternative Measures are required.
    - ii. Within 120 days of the notification, IPC shall submit to the DEQs for approval a Brownlee DO Alternative Measures Plan, as described in section III.B.6.c below.
  - c. **Brownlee DO Alternative Measures Plan.** IPC shall include the following in any Brownlee DO Alternative Measures Plan:
    - i. Details of the measure to be implemented, including a comparison of the proposed alternative measure to the ROWQIP, Grand View Program, or Swan Falls Program, as applicable.
    - ii. Whether the proposed alternative measure, operated alone or in combination with other Brownlee DO Alternative Measures, may cause or contribute to a violation of applicable water quality standards, and if so, the alternative measures plan must include a detailed description of actions needed to prevent a violation of water quality standards.
    - iii. If the construction or implementation of the proposed alternative measure may require permitting or approval by any state or federal agency, a description of the process necessary and the estimated time period to acquire such permitting or approval.
    - iv. A schedule for the implementation of the proposed alternative measure.

d. **Brownlee DO Alternative Measures Standard.**

- i. IPC shall implement **Brownlee DO** Alternative Measures, such as a measure to directly supplement DO in Brownlee Reservoir if, taking into account any previously approved revisions to the ROWQIP, Grand View Program, or Swan Falls Program, as applicable, and after consultation with IDEQ, ODEQ determines the ROWQIP, Grand View Program, and Swan Falls Program are currently not attaining the DO load allocation described in section III.A.2 above or is not reasonably likely to attain that DO load allocation in the future.
- ii. In determining whether to approve a proposed alternative measure and Brownlee DO Alternative Measures Plan, the DEQs shall consider the following:
  - (a) Whether the proposed alternative measure, as presented in the alternative measures plan, is reasonably likely to attain the DO load allocation described in section III.A.2 above and;
  - (b) Whether the proposed alternative measures, operated alone or in combination with other Brownlee DO Alternative Measures, may cause or contribute to a violation of water quality standards, and if so, whether there are any actions that can be undertaken to ensure no such violation occurs; and
  - (c) Other issues relevant to the consideration of the proposed alternative measure, including whether the construction or implementation of the measure may require any permitting or approval by any state or federal agency, including FERC.

e. **Implementation of the Brownlee DO Alternative Measures Plan.**

- i. After consultation with IDEQ and upon ODEQ's approval of the Brownlee DO Alternative Measures Plan, IPC shall implement the plan in accordance with the approved plan terms and schedule, including any modifications made to the plan by ODEQ as a condition of its approval.
- ii. Unless and until ODEQ approves a Brownlee DO Alternative Measures Plan, IPC shall continue to implement the ROWQIP, the Grand View Program, and the Swan Falls Program as set forth in Section 7.2.1 of the Application and in accordance with the conditions of this certification to achieve the DO load allocation described in section III.A.2 above.

**IV. DO-DO Criteria Below Hells Canyon Dam.**

**A. Required Actions.** IPC shall take the following actions, which are further detailed in the conditions set out below, in order to comply with the applicable DO criteria (IDAPA 58.01.02; OAR 340-041-0016):

1. IPC shall install and operate the distributed aeration systems on turbine units 1 through 4 at the Brownlee Powerhouse as described in Section 7.2.2 of the Application, which by this reference is incorporated in its entirety.
2. IPC shall test each system following installation.
3. Between July 1 and October 22, IPC shall add as much additional oxygen as possible or increase DO in the outflow from the Hells Canyon Dam, as measured at the turbine water intake system at Hells Canyon Dam, by an average of 1.2 mg/L, whichever is greater, until any further addition or increase would cause an exceedance of the current total

dissolved gas criterion set forth in section VI below. IPC shall calculate this 1.2 mg/L requirement as a minimum of the 30 consecutive -day floating average of the calculated daily mean dissolved oxygen concentration.

4. Between October 23 and December 31, IPC shall add as much additional oxygen as possible or increase DO in the outflow from the Hells Canyon Dam, as measured at the turbine water intake system at Hells Canyon Dam, by an average of 1.5 mg/L, whichever is greater, until any further addition or increase would cause an exceedance of the current total dissolved gas criterion set forth in section VI below. IPC shall calculate this 1.5 mg/L requirement as a seven- day mean minimum. For calculating the mean, concentrations in excess of 100 percent of saturation are valued at the saturation concentration.

**B. Monitoring Plan.** Within 90 days of the issuance of a new FERC license for the Project, IPC shall submit to the DEQs for approval a Dissolved Oxygen Water Quality Monitoring Plan. Once approved by ODEQ, after consultation with IDEQ, IPC shall implement the monitoring plan in accordance with ODEQ's approval. The Dissolved Oxygen Water Quality Monitoring Plan must, at a minimum, include the following components:

1. A description of the method IPC will use to determine whether the distributed aeration systems are achieving the required increase in DO.
2. Identification of DO monitoring locations. IPC shall monitor DO at locations that are representative of DO levels in the Snake River flowing into Brownlee Reservoir, within Brownlee Reservoir, within Oxbow Reservoir, within Hells Canyon Reservoir, at the turbine water intake at Hells Canyon Dam, and within three miles downstream of the Hells Canyon Dam.
3. Identification of downstream monitoring locations for intergravel dissolved oxygen. IPC shall monitor for intergravel DO below Hells Canyon Dam at sampling locations that include, at a minimum, two sampling locations within 10 miles downstream of the Hells Canyon Dam.
4. Proposed data collection procedures including description of equipment, methods and frequency of monitoring.
5. A project-specific *Quality Assurance Project Plan* ("QAPP"); and
6. A proposal for data analysis.

**C. Outflow DO Annual Reports.** Within 90 days of December 31 of each year following the issuance of the new FERC license for the Project, IPC shall provide to the DEQs an Outflow DO Annual Report that includes the following information:

1. Updates on the installation and testing of the distributed aeration systems currently scheduled for installation by mid-year 2019;
2. The results of monitoring accomplished in the year in accordance with the approved Dissolved Oxygen Water Quality Monitoring Plan;
3. An analysis regarding whether the systems are achieving or are anticipated to achieve the required increase in DO; and
4. A discussion of how aeration affects total dissolved gas concentrations in the Snake River within and below the Hells Canyon Complex.

**D. Alternative Measures.** If, after any Outflow DO Annual Report and after consultation with IDEQ, ODEQ determines that either (1) the distributed aeration systems are not achieving or

will not likely achieve an increase in DO in the outflow of Hells Canyon Dam, as measured at the turbine water intake system at Hells Canyon Dam, of at least an average of 1.2 mg/L during July 1 to October 22 and 1.5 mg/L during October 23 to December 31, or (2) monitoring results collected within 3 miles downstream of Hells Canyon dam indicate DO levels fall below applicable minimum DO criteria, then ODEQ shall notify IPC that Outflow DO Alternative Measures are required. Within 120 days of the notification, IPC shall submit to the DEQs for approval an Outflow DO Alternative Measures Plan.

1. IPC shall include the following in any Outflow DO Alternative Measures Plan:
  - a. Details of the measure to be implemented, including a comparison of the proposed alternative measure to the proposed distributed aeration systems;
  - b. An evaluation of whether the proposed alternative measure may cause or contribute to a violation of applicable water quality standards, and if so, whether there are any actions that can be undertaken to ensure no such violation occurs;
  - c. If the construction or implementation of the proposed alternative measure may require permitting or approval by any state or federal agency, a description of the process necessary and the estimated time period to acquire such permitting or approval; and
  - d. A schedule for the implementation of the proposed alternative measure.
2. Upon ODEQ's approval of an Outflow DO Alternative Measures Plan, IPC shall implement the plan in accordance with the approved plan's terms and schedule, including any modifications made to the plan by ODEQ as a condition of approval.
3. Unless and until ODEQ approves an Outflow DO Alternative Measures Plan, IPC shall continue to operate the proposed distributed aeration systems as set forth in sections IV.A.3 and .4 to achieve the required increase in DO in the outflow from Hells Canyon Dam.

## **V. Oxbow Bypass Destratification**

- A. Required Actions.** IPC shall take the following actions, which are further detailed in the conditions set out in sections V.B and C below, to comply with applicable DO criteria (IDAPA 58.01.02.250.f.i; OAR 340-041-0016).
- B. Oxbow Operating Plan.** Within one year of the issuance of the new FERC license for the Project, IPC shall submit to the DEQs and FERC for approval the final Oxbow Operating Plan for a destratification system. The system shall address thermal stratification in the deep pool of the Oxbow Bypass and the resulting anoxic conditions by introducing sufficient mixing (using diffused air bubbles) to prevent thermal stratification and development of anoxic conditions in the deep pool. The Oxbow Operating Plan shall include:
  1. Final design plans;
  2. Parameters and requirements for operation and expected performance;
  3. A monitoring plan to determine whether the system is meeting performance goals;
  4. Adaptive management protocols; and
  5. A reporting schedule.
- C. Installation and Operation of the System.** Within 6 months of ODEQ's and FERC's approval of the Oxbow Operating Plan, IPC shall install the system in accordance with the approved

design and thereafter operate the system for the FERC license term in accordance with the approved Operating Plan.

**VI. Total Dissolved Gas ("TDG").**

- A. **Required Actions.** IPC shall take the following actions, which are further detailed in the conditions set out in this section VI below, to comply with applicable TDG criteria (IDAPA 58.01.250.01.b and 300; OAR 340-041-0031(2)) and the TMDL load allocations:
1. IPC shall meet and maintain a TDG level of less than 110% of saturation at the sampling locations defined in section VI.B.2 below, except when flows exceed the ten-year, seven-day average flood.
  2. IPC shall install and implement flow deflectors as described in Section 7.3.1.2- .4 of the Application, which by this reference are incorporated in its entirety, except that:
    - a. IPC shall construct and install the Oxbow Dam spillway flow deflector within 2 years of the completion of FERC's required design review process and any required permitting;
    - b. IPC shall construct and install Hells Canyon sluiceway flow deflectors within 2 years of construction of the Oxbow Dam spillway flow deflector; and
    - c. IPC shall construct and install Brownlee Dam spillway flow deflectors within 2 years of construction of the Hells Canyon sluiceway flow deflectors.
  3. IPC shall continue preferential Brownlee Dam upper gate spill until the flow deflectors are installed and operating.
- B. **TDG Operating Plan.** Within 90 days of the issuance of the new FERC license for the Project, IPC shall submit to the DEQs an TDG Operating Plan that includes:
1. A proposed schedule for the submittal for approval of the design plans to FERC, and installation of flow deflectors at the Brownlee Dam spillway, the Oxbow Dam spillway and the Hells Canyon sluiceway;
  2. A monitoring plan to determine whether the system is meeting the applicable criteria and load allocation. The monitoring plan shall include, at a minimum, monitoring of TDG concentrations during spill events, specific locations to define point of sampling location below each dam for determining compliance, and a description of the methodology and equipment that will be used for monitoring;
  3. Adaptive management measures as described in Section 7.3.2 of the Application, which is incorporated here in its entirety by this reference; and
  4. A reporting schedule.
- C. **Installation and Operation of the System.** In accordance with the schedule in the approved TDG Operating Plan, IPC shall install the deflectors; and IPC shall monitor in accordance with the approved TDG Operating Plan to determine if TDG criteria and the load allocations are met at sampling locations defined in the monitoring plan.
- D. **TDG Alternative Measures.** If ODEQ, after consultation with IDEQ, notifies IPC that monitoring indicates that TDG criteria and allocations are not being met, then within 120 days of such notification IPC shall submit to the ODEQ proposed TDG alternatives measures and a TDG alternative measures plan to address compliance with applicable criteria and allocations. IPC shall implement the plan in accordance with the approved plan terms and schedule, including any modifications made to the plan by ODEQ as a condition of its approval. Unless

and until ODEQ approves a TDG alternative measures plan, IPC shall continue to meet conditions set forth in section VI.A above.

## **VII. Harmful Algal Blooms ("HAB").**

- A. Required Actions:** IPC shall take the following actions, which are further detailed in the conditions set out in this section VII.A below, to comply with the applicable criteria (OAR 340-041-0007(10), (12) and (13); IDAPA 58.01.02.200.05 and .06).
1. Within 90 days of issuance of the new FERC license, IPC must submit to the DEQs a HAB monitoring plan. At minimum, the HAB monitoring plan must include:
    - a. Identification of times and locations of high recreational activity and any other location identified by the DEQs.
    - b. A minimum of weekly visual monitoring during periods of high recreation.
    - c. Additional quantitative (e.g. cell counts, species identification, toxin concentration, or other as deemed needed by ODEQ or Oregon Health Authority ("OHA") monitoring if visual monitoring indicates potential HAB.
    - d. Submission of visual and quantitative monitoring results to the OHA.
    - e. Advisory postings at the sampling locations following issuance of an advisory by OHA.
    - f. Additional visual and quantitative monitoring as needed to provide OHA sufficient data to lift the advisory.
    - g. Monitoring shall follow OHA guidelines (Oregon Health Authority P.H., 2018). ODEQ will work with OHA on review of the monitoring plan.
  2. After consultation with IDEQ and once approved by ODEQ, IPC shall implement the HAB monitoring plan in accordance with ODEQ's approval.
- B. HAB Monitoring Plans.** IPC shall review and update the HAB monitoring plans at least once every five years to reflect monitoring results or new versions of OHA guidance documents. Updated HAB monitoring plans shall be submitted to the DEQs for review and approval.
- C. HAB Alternative Measures.** If ODEQ, after consultation with IDEQ, notifies IPC that visual and quantitative monitoring indicates that occurrence of HAB are increasing, then within 120 days of such notification IPC shall submit to the ODEQ proposed HAB alternative measures and a HAB alternative measures plan. IPC shall implement the plan in accordance with the approved plan terms and schedule, including any modifications made to the plan by ODEQ as a condition of its approval.

## **VIII. Mercury**

- A. Required Actions:** IPC shall take the following actions, which are further detailed in the conditions set out below, to comply with the applicable criteria (OAR 340-041-0007(10) and OAR 340-041-0033(1), (2) and (3); IDAPA 58.01.02.210.01):
1. IPC shall continue to assist in funding the U.S. Geological Survey ("USGS") mercury and methylmercury study as described in Section 6.6.2.2.1 of the Application, which includes the development of a predictive model.
  2. IPC shall update the DEQs annually on the progress of the mercury and methyl mercury studies with USGS.
  3. If ODEQ determines after consultation with IDEQ that USGS has failed to complete the study, then IPC shall complete the study and develop the predictive model.

4. The study shall be completed and the predictive model shall be developed no later than one year following issuance of the FERC license or by another, later date approved by the DEQs.

- B. Methyl Mercury Reports.** At the end of each calendar year following the issuance of the new FERC license for the Project, IPC shall provide an annual report on the status of and any results from the mercury and methyl mercury study released by USGS and ambient water quality monitoring. Within 90 days following completion of the Hells Canyon Complex predictive model, whether by USGS or IPC, IPC shall provide the DEQs with a report identifying the key processes that influence methyl mercury production in the Hells Canyon Complex.
- C. Methyl Mercury Management Scenarios.** Within 180 days of completion of the report on key processes described in section VIII.B above, IPC shall run a series of management scenarios to evaluate how to minimize, to maximum extent practicable, the Project's effect on methyl mercury production.
- D. Methyl Mercury Management Plan.** Within 180 days following completion of the Hells Canyon Complex predictive model scenarios described in section VIII.C above, IPC shall propose to the DEQs a methyl mercury management plan to address the Hells Canyon Complex's role in methyl mercury production. After consultation with IDEQ and once approved by ODEQ, IPC shall implement the methyl mercury management plan in accordance with ODEQ's approval.

**IX. Biological Criteria; Statewide Narrative Criteria; Protection of Designated Beneficial Uses; Antidegradation; Compliance with Other Appropriate Requirements of State Law**

- A. Required Actions:** IPC shall take the following actions, which are further detailed in the conditions set out below, in order to ensure that waters of the State are of sufficient quality to support aquatic species without detrimental changes in the resident biological communities as required by OAR 340-041-0011; to maintain overall water quality at the highest possible levels and deleterious factors to lowest possible levels, and prevent deleterious conditions to fish and other aquatic life as required by OAR 340-041-0007(1), (7), respectively; to protect designated beneficial uses as required by OAR 340-041-0004 and OAR 340-041-0121; and to comply with other appropriate requirements of state law pursuant to ORS 468B and 33 U.S.C. 1341(d):
  1. Develop and implement a macroinvertebrate monitoring plan;
  2. Implement survey and entrapment management plans; and
  3. Maintain proposed minimum flows.
- B. Macroinvertebrate Monitoring Plan.** Within 90 days of issuance of a new FERC license for the Project, IPC shall submit to ODEQ for approval a macroinvertebrate and periphyton monitoring plan.
  1. **Components:** At a minimum, IPC shall include the following components in the monitoring plan:
    - a. A description of an appropriate sampling technique for macroinvertebrate and periphyton monitoring below Hells Canyon Dam, which shall include standard bioassessment metrics including densities, abundance, richness and tolerance;
    - b. Identification of monitoring locations below Hells Canyon Dam, which shall, at a minimum, include one sampling location within 10 miles downstream of the Hells Canyon Dam and one sampling location within 30 miles downstream of the Hells Canyon Dam; and



- c. Identification of the frequency of macroinvertebrate and periphyton monitoring below Hells Canyon Dam, which shall include proposed sampling during summer; and
    - d. Measurement and reporting of river stage at a location within 5 miles downstream of Hells Canyon Dam.
  2. **Implementation of Macroinvertebrate Monitoring Plan.** Once approved by ODEQ, IPC shall implement the macroinvertebrate monitoring plan in accordance with ODEQ's approval.
  3. **Annual Reports.** Within 120 days of December 31 of each calendar year following the issuance of the new FERC license for the Project, IPC shall provide to the ODEQ an annual report that includes the results of macroinvertebrate and periphyton monitoring completed in the past year in accordance with the approved monitoring plan.
  4. **Periodic Meetings.** Following each fifth year of monitoring, IPC shall meet with ODEQ and, based on the monitoring results, discuss evidence of continuing impairment, if any, of macroinvertebrate and periphyton communities during the previous five years. If ODEQ determines monitoring demonstrates that the resident biological community below Hells Canyon Dam is in fair or good condition based on comparison of the standard bioassessment metrics to the monitoring results, then ODEQ may allow IPC to cease monitoring for a period of time or for the remaining term of the license.
  5. **Alternative Measures.** After the first five-year report, if ODEQ determines the Project is continuing to impair health of the macroinvertebrate and periphyton communities, IPC shall develop an alternative measures plan that must include the following:
    - a. A detailed description of proposed alternative measures;
    - b. An analysis of how alternative measures will provide, or assist in providing, reasonable assurance that the macroinvertebrate and periphyton communities or other designated beneficial uses will not be impaired by Project operations; and
    - c. A statement of whether the proposed alternative measures will cause or contribute to a violation of applicable water quality standards.
  6. **Implementation of Alternative Measures.** Upon ODEQ's review and approval of the alternative measures plan, IPC shall implement the plan in accordance with the approved plan's terms and schedule, including any modifications made to the plan by ODEQ as a condition of its approval.
- C. **Entrapment Management Plan; Minimum Flows.** Within 180 days of issuance of a new FERC license for the Project, IPC shall take the following actions as specifically described below unless an Alternative Measure is approved in accordance with this section IX.C.3 below.
  1. **Entrapment Management Plan.** Within 180 days of issuance of a new FERC license for the Project, IPC shall:
    - a. Implement the Summer Entrapment Pool Survey Plan;
    - b. Implement section 2.1 of the Juvenile Fall Chinook Salmon Entrapment Management Plan, including adaptive management described therein;
    - c. Report continuous temperature data collected in the entrapment pools;
    - d. Measure variation in river stage at the Snake River at Hells Canyon Dam gaging station 13290450 (RM 247) or at any other gaging station located within five miles downstream of Hells Canyon Dam; and

- e. Report these measurements to ODEQ on a monthly and annual basis.
2. **Minimum Flows.** IPC shall operate in accordance with proposed operations for project outflows as described in Exhibit A.
3. **Alternative Measures.** If the new FERC license modifies proposed operations as set forth in Exhibit A then, within 60 days of issuance of a new FERC license for the Project, IPC shall notify ODEQ and prepare a report that evaluates the effect of any such operational changes on the resident biological communities and describes why IPC considers the additional or modified measures provide, or assist in providing, reasonable assurance of compliance with water quality standards. Within 90 days of receipt of this report and any additional information requested by ODEQ, whichever date is later, ODEQ may modify the conditions in this section IX.C to align with FERC requirements or as necessary to prevent a violation of applicable water quality standards, protect designated beneficial uses, or to comply with other appropriate requirements of state law.

## **X. General Conditions.**

- A. **Document Submittal and Review Process.** Except as provided in this certification, IPC shall follow the submittal and review process set forth in this section X.A with respect to all documents required by this certification to be submitted to ODEQ for approval, and this process shall be followed until the document is approved by ODEQ or the document review time frame has expired.
  1. After IPC submits a document, ODEQ will (a) notify IPC in writing that the document is approved; (b) notify IPC in writing of any deficiencies in the document; or (c) modify the document. and approve the document.
  2. If ODEQ notifies IPC of deficiencies in the document, IPC shall submit a document revised to cure those deficiencies within 30 calendar days of receipt of the notice.
  3. The submittal process shall be repeated until ODEQ notifies IPC that the document is approved. However, IPC's documents shall meet the requirements of this certification no later than 90 days from ODEQ's notification of deficiencies and IPC's failure to develop an ODEQ-approved document within such time frame will be considered a violation of this condition of this certification.
  4. Once documents are approved by ODEQ, and if ODEQ directs IPC to submit the documents to FERC, then IPC shall submit these documents to FERC with a request that such documents be incorporated into and enforceable as a part of this license. IPC shall implement this certification in accordance with its terms and conditions.
- B. **Certification Compliance Schedules.** If any event occurs that is beyond the IPC's reasonable control and that causes or may cause a delay or deviation in compliance with schedules contained in this section 401 Certification and the required plans, IPC shall immediately notify the DEQs in writing of the cause of delay or deviation and its anticipated duration; the measures that have been or will be taken to prevent or minimize the delay or deviation; and the timetable by which IPC proposes to carry out such measures. It is IPC's responsibility in the written notification to demonstrate to the DEQ's satisfaction that the delay or deviation has been or will be caused by circumstances beyond the control and despite due diligence of IPC. If IPC so demonstrates, the DEQs shall extend times of performance of related activities under this condition, as appropriate. Circumstances or events beyond IPC's control include, but are not limited to, acts of nature, unforeseen strikes, work stoppages, fires, explosion, riot, sabotage, or war. IPC may also consider other circumstances or events as beyond IPC's control. These other circumstances or events may include, but not be limited to, changes in state statutes; delays in

the receipt of necessary approvals for construction design or permits; or delays that ODEQ agrees IPC would not have been expected to anticipate. These other circumstances or events will only be considered if they are not due to the actions or inactions of IPC. Increased cost of performance or consultant's failure to provide timely reports may not be considered circumstances beyond IPC's control.

- C. **§ 401 Certification Modification.** ODEQ may modify this Certification to add, delete, or alter Certification conditions as necessary and feasible if:
1. Changes in conditions regarding operation of the Project from those described in the Application will affect or might affect compliance with water quality standards and requirements;
  2. There are changes to water quality standards, the TMDL, applicable federal laws or other appropriate requirements of state law; or
  3. Modifications are otherwise authorized under state law, including but not limited to OAR 340-048-0050.
- D. **Project Changes.** IPC shall notify the DEQs of any change in ownership, scope, or operation of the Project. IPC shall obtain ODEQ's review and any additional certification deemed necessary by ODEQ under Clean Water Act § 401 before undertaking any such change to the Project that may affect water quality.
- E. **Project Repair or Maintenance.** IPC shall obtain ODEQ's review before undertaking Project repair or maintenance activities that may potentially affect water quality. ODEQ may, at IPC request, approve specified repair and maintenance activities on a periodic or ongoing basis.
- F. **Project Inspection.** IPC shall allow the DEQs such access as necessary to inspect the Project area and Project records required by this Certification at reasonable times as necessary to monitor compliance with § 401 Certification conditions.
- G. **Posting of § 401 Certification.** IPC shall post a copy of these Certification conditions in prominent locations at each of the Project Powerhouses.
- H. **Water Quality Standards Compliance.** Notwithstanding the conditions of this Certification, no wastes shall be discharged and no activities shall be conducted which will violate state water quality standards.
- I. **Conflict Between Certification Conditions and Application.** To the extent that there are any conflicts between the terms and conditions in this certification and how activities, obligations, and processes are described in the Application, the terms and conditions in this certification, as interpreted by ODEQ, shall control.
- J. **State DEQ Coordination.** Subject to the requirements of their respective state laws, ODEQ and IDEQ shall use their best efforts to cooperatively administer and oversee implementation of their respective § 401 Certifications, including any adaptive management adjustments thereto.
- K. **Dispute Resolution.**
1. In the event of a dispute between IPC and the DEQs, including without limitation a dispute that arises because IPC receives conflicting decisions from the DEQs, regarding implementation of 401 certifications, including any adaptive management adjustments thereto, IPC shall notify the DEQs within thirty (30) calendar days of its actual knowledge of the act, event, or omission giving rise to the dispute and shall describe such dispute with specificity.

2. Unless the DEQs and IPC participate in mediation under section X.K.3 below, IPC shall, within thirty (30) calendar days of the notice under section X.K.1, convene one meeting or conference call to attempt to resolve the dispute at the level of implementing staff for IPC and the DEQs. If the dispute is not resolved within fifteen (15) calendar days after the first meeting or call, IPC shall convene a second meeting or conference call within forty-five (45) calendar days of the first meeting or call to attempt to resolve the dispute at the level of supervisory staff for IPC and the DEQs.
  3. Upon the written consent of ODEQ, IDEQ, and IPC, the DEQs and IPC may forgo the process in section X.K.2 and seek to resolve the by mediation through a mutually agreed-upon mediator.
  4. If the dispute is not resolved within fifteen (15) calendar days of the second meeting or call under section X.K.2 or completion of mediation under section X.K.3, as applicable, IPC shall give notice to the DEQs that there remains a dispute among these entities. Within a reasonable time, ODEQ and IDEQ shall give notice to IPC of their resolution of the disputed matter, and IPC shall take actions required by the DEQs in this notice. In the event that ODEQ and IDEQ do not agree on a final resolution, ODEQ and IDEQ reserve their respective authorities under the Clean Water Act and state law to make decisions or require actions on disputed matters.
- L. **Project Oversight Payment.** IPC shall pay the project oversight payment as required by applicable law and in the manner and amount as particularly described in Exhibit B, which is incorporated here in its entirety by this reference.

**Exhibit A - Proposed Operations**

	<b>Brownlee</b>	<b>Oxbow</b>	<b>Hells Canyon</b>
Maximum reservoir elevation (ft msl)	2,077	1,805	1,688
Minimum reservoir elevation (ft msl)	1,976	1,800 <sup>4</sup>	1,683 <sup>1</sup>
Flood control	Elevations at or below USACE flood- control mandates	NA	NA
<b>Daily Reservoir Elevation Changes</b>			
January 1- May 20	Not to exceed 3 feet <sup>2</sup>		
May 21- June 20	Draft not to exceed 1 foot <sup>2,3</sup>		
June 21- July 4	Draft not to exceed 3 feet or go below elevation of 2,069 ft-msl <sup>2,3</sup>		
July 5-Dec 31	Not to exceed 3 feet <sup>2</sup>		
January 1-December 31		5 foot <sup>4</sup>	5 feet above <sup>1</sup>
<b>Reservoir Target Elevations</b>			
May 20	2,069 or higher		
August 7	2,059 or less <sup>5</sup>		
<b>Project Outflows</b>			
Fall Chinook salmon stable flow program second Monday in October through second Friday in December			8,500 cfs to 13,500 cfs <sup>6</sup>
Hourly ramp-rate restrictions	NA	NA	1 ft per hour - up and down <sup>7</sup>
Maximum daily flow fluctuation, June 1- September 30	NA	NA	10,000 cfs <sup>8</sup>
<b>Minimum flow</b>			
<ul style="list-style-type: none"> <li>Fall Chinook incubation and rearing period</li> </ul>	NA	NA	Dependent upon flow established to protect critical redd <sup>9</sup>
<ul style="list-style-type: none"> <li>Completion of fall Chinook rearing and incubation period to initiation of fall Chinook stable flows</li> </ul>			6,500 cfs at Johnson Bar Gage
<ul style="list-style-type: none"> <li>Year-round at McDuff Gage</li> </ul>			13,000 cfs; 11,500 cfs <sup>10</sup>
Minimum bypass flow	NA	100 cfs	NA
Adaptive fish protection operations			Operational protocols established to reconnect entrapment pools or respond to temperature conditions in critical entrapment areas during the fall Chinook salmon rearing period <sup>11</sup> .

<sup>1</sup> A minimum reservoir elevation limit of 1,678 will be in place during atypical conditions. A maximum daily reservoir-level fluctuation will be 10 ft under atypical conditions. See note 2 for description of atypical conditions.

<sup>2</sup> Except for atypical conditions which are defined as operations needed to: 1) protect the performance, integrity, reliability or stability of the electrical system with which the HCC is interconnected; 2) compensate for any unscheduled loss of generation; 3) provide generation during severe weather or extreme market conditions; 4) inspect, maintain, repair, replace or improve the electrical system or facilities related to the HCC; 5) prevent injury to people or damage to property; or 6) assist in search-and rescue activities.

<sup>3</sup> IPC will protect peak spawning periods for smallmouth bass and crappie by limiting Brownlee Reservoir drafts to no more than 1 ft from the highest elevation reached during a 30-day period starting on May 21, and by maintaining an elevation of at least 2,069 ft msl from the end of the 30-day period through July 4. This operational constraint is secondary to any conflicting operational requirement.

<sup>4</sup> A minimum reservoir elevation limit of 1,795 will be in place during atypical conditions. A maximum daily reservoir-level fluctuation will be 10 ft under atypical conditions. See note 2 for description of atypical conditions.

<sup>5</sup> This proposed operation is consistent with a flow augmentation operational regime that IPC has complied with annually since 2006.

<sup>6</sup> Flow below HCC within this period to be operationally stable at levels set annually between 8,500 cfs and 13,500 cfs as determined by flow forecasts. Minor deviations from the stable flow below Hells Canyon Dam may be required to ensure Brownlee Reservoir does not fill prior to the 2nd Friday in December. Communication with NOAA Fisheries prior to deviating from minimum flow may be required to determine any potential effect to spawning fall Chinook salmon consistent with requirements identified in any future Hells Canyon Complex Biological Opinion.

<sup>7</sup> The compliance point for ramp rate and flow measurements will be at the Johnson Bar Gage, located approximately 18 miles downstream of Hells Canyon Dam.

<sup>8</sup> A limit of 16,000 cfs will be in place during atypical conditions. See note 2 for description of atypical conditions.

<sup>9</sup> At the conclusion of fall Chinook salmon stable flow program in early December (see note 6), IPC biologists currently determine the flow required to protect the most critical shallow redd. This flow becomes the minimum flow during the fall Chinook salmon incubation and rearing period (typically near the middle to end of May). The conclusion of the incubation and rearing period is currently determined through weekly observations of fall Chinook salmon rearing areas during Entrapment Surveys (see note 10) with agreement from NOAA Fisheries consistent with requirements identified in the existing Hells Canyon Biological Opinion.

<sup>10</sup> These flows also relate to navigation flows. FERC Staff concluded in the 2007 FEIS that while IPC did not propose 13,000 cfs at Lime Point for navigation purposes that "this value is consistent with the flow releases from Hells Canyon Dam assumed by [IPC] for modeling purposes. In the absence of an explicit proposal, we consider it part of [IPC's] proposed operation." In 2007, the U.S. Army Corps of Engineers recommended to FERC a minimum flow for safe navigation of 11,500 cfs at "the Snake River below McDuff Rapids at China Garden, Idaho gaging station 13317660." IPC concurs with the Corps' recommendation and anticipates that the new license will provide for a minimum flow of 11,500 cfs measured at McDuff Rapids at China Garden,

Idaho gaging station 13317660 with a proviso that IPC would not be required to use reservoir storage to meet the 11,500 cfs minimum flow.

<sup>11</sup> Adaptive operations are described in section 2.1.4 of the Juvenile Fall Chinook Salmon Entrapment Management Plan for the Upper Hells Canyon Reach of the Snake River, October 2018, and such adaptive operations will not deviate from other relevant operational constraints (e.g. - ramp rate).

**Exhibit B - Oregon Project Oversight Payment**

**Amount**

The annual cost of overseeing implementation of the conditions in the Clean Water Act section 401 certification is set forth in the table below ("Oregon Payment").

Year	Amount
1	\$125,250
2	\$125,250
3	\$110,640
4	\$112,725
5	\$112,725
6-30	\$74,105

Idaho Power Company ("IPC") shall pay this Oregon Payment in each of the first thirty (30) years beginning July 1 of each year following issuance of a FERC license in 2018 dollars adjusted according to the formula set forth below, and IPC shall pay an initial prorated payment within thirty (30) days following issuance of a FERC license for the period from the date of FERC license issuance to the first June 30 which follows that license issuance.

**Adjustment**

The Oregon Payment must be adjusted annually, according to the following formula:

$$AD = D \times (CPI-U) / (CPI-U - \text{December 2018})$$

Where:

AD= Adjusted dollar amount payable to Oregon Department of Environmental Quality.

D = Dollar amount pursuant to Oregon Payment above,

CPI- U = the most current published version of the Consumer Price Index-Urban.

The CPI-U is published monthly by the Bureau of Labor Statistics of the U.S. Dept. of Labor. If that index ceases to be published, any reasonably equivalent index published by the Bureau of Economic Analysis may be substituted by written agreement between ODEQ and IPC.

**Payment Schedule**

Except for the initial prorated payment due within thirty (30) days following issuance of a FERC license, IPC shall pay the Oregon Payment within thirty (30) days of receipt of invoice from ODEQ, and make the payment payable to the Oregon Department of Environmental Quality.



**Expenditure Summary**

In accordance with ORS 543.080(9), each agency that receives all or any portion of the Oregon Payment shall, on a biennial basis, provide IPC with a summary of project specific expenditures.

**Termination; Extension.**

Prior to one year before the expiration of the Oregon Payment, IPC shall meet with all agencies that oversee implementation of the conditions in the Clean Water Act section 401 certification to review the need, if any, to modify, extend, or terminate such oversight and corresponding Oregon Payment. After such review, ODEQ shall propose modifications, an extension, or termination of the Oregon Payment. Any dispute over ODEQ's decision related to any modification or extension of the Oregon Payment shall be resolved in accordance with ORS 543.080(6).