Clean Water Act § 401 Certification Modification
for
PacifiCorp’s Non-Capacity License Amendment for the
North Umpqua Hydroelectric Project
(FERC No. 1927)
Umpqua River Basin
Douglas County, Oregon

The Oregon Department of Environmental Quality issues this § 401 water quality certification modification pursuant to PacifiCorp’s February 25, 2022, application to the Federal Energy Regulatory Commission to amend the existing license for the North Umpqua Hydroelectric Project ("Project", FERC No.1927). Upon the Commission’s issuance of an amended license that includes this water quality certification PacifiCorp must implement and comply with the conditions of this certification.

As described more fully in the February 2022 license amendment application, PacifiCorp seeks authorization to modify the Project’s Toketee and Fish Creek developments to operate as a pumped storage facility ("Pumped Storage Project"). These § 401 Certification Conditions apply to the operation of the Pumped Storage Project and are distinct from and in addition to the § 401 Certification Conditions issued to PacifiCorp June 28, 2002, pursuant to the Commission’s relicensing of the Project (all terms herein are as defined in Oregon Administrative Rule Chapter 340, Division 041).

1. Water Quality Management Plan

Within three months following the Commission’s issuance of an amended license, PacifiCorp must submit to DEQ a Water Quality Management Plan. Upon approval by DEQ, PacifiCorp must file the WQMP with FERC and implement the WQMP. The WQMP must include:

a) Monitoring Locations

Water quality monitoring is required at the locations identified in Table 2 of the July 29, 2022, Evaluations and Findings document. The WQMP must identify the name and location of each station, the depth or depths of each monitoring location, and any other characteristics needed to characterize the location of each water quality data recording site.

b) Duration

PacifiCorp must monitor water quality at the locations referenced in Condition 1(a) as follows:
i. Pre-construction water quality monitoring is required at all locations from June through September until project operation begins.

ii. Water quality monitoring is required at all locations for three years (i.e., from June through September) once the modified Project is placed in operation.

iii. After the second year of required post-operation monitoring, PacifiCorp may recommend reducing monitoring requirements at certain locations if data support a finding that further monitoring at these locations is not required to evaluate the project’s effects on water quality. DEQ may review and approve such a recommendation if DEQ finds that further monitoring is not required to evaluate project-related effects on water quality.

iv. DEQ may require additional monitoring and/or adaptive management after the third year of monitoring, as warranted, to demonstrate support for all recognized beneficial uses.

c) Methodology

The WQMP must describe field methodology including but not limited to:

i. Data collection protocol, analytical methods, and laboratory method reporting limits,

ii. Compliance monitoring and field audit schedule,

iii. Instrument calibration procedures and schedule,

iv. Contingency plan for inoperable or malfunctioning equipment.

d) Parameters

Water quality monitoring is required for the following parameters:

i. At the permanent Soda Springs water quality station collocated with USGS gauge 14316460, PacifiCorp must continue to monitor temperature, dissolved oxygen, specific conductivity, pH, and turbidity.

ii. PacifiCorp shall monitor water temperature, dissolved oxygen, specific conductance, pH, total dissolved gas pressure, and turbidity at all other monitoring locations unless expressly authorized otherwise by DEQ.

e) Adaptive Management

If DEQ finds that operation of the modified Project causes a degradation of water quality, DEQ will require PacifiCorp to submit a report that evaluates the cause of the degradation. If project-related degradation results in a violation of water quality standards, the report must also propose adaptive management measures to investigate and modify project operations to prevent continued violation of water quality standards.

f) Reporting

PacifiCorp must report water quality monitoring data to DEQ by December 31 of each year for which monitoring was performed. PacifiCorp shall analyze the effects, if any, of Project operation on water quality in the report. Following review and approval of the report by DEQ, PacifiCorp shall file the report with FERC.
2. Biological Criteria; Protection of Beneficial Uses OAR 340-0421-0011

a) Flows and Ramping

PacifiCorp must not operate the modified Project in a manner that reduces flows in Project reaches below the minimum levels set in Section 5 of the North Umpqua Settlement Agreement dated June 13, 2001 (“Agreement”) or causes ramping in Project reaches to exceed the maximum limits prescribed in Section 6 of the Agreement.

b) Updated SPCC Plan

Within six months after issuance of an amended FERC license, PacifiCorp shall complete a review of any new or modified oil storage equipment related to completion of the modified Project. PacifiCorp shall review and update the Oil Spill Control and Countermeasure Plan for the Fish Creek Hydroelectric Plant (PacifiCorp, December 2016), as necessary and required by 40 CFR § 112, to reflect added equipment, materials and sources of potential spills represented by the authorized changes to project operation.

c) Spill Reporting

In the event of a spill or release or threatened spill or release to waters of the state of petroleum or other hazardous substances at or above reportable quantities as specified in state and federal regulations, PacifiCorp must implement spill response procedures, notify Oregon Emergency Response System within 24 hours, and comply with ORS Chapters 466 and 468, as applicable.

3. Temperature OAR 340-041-0028

PacifiCorp must take action to ensure operation of the modified Project does not cause the 7dAM temperature in the Slide Creek impoundment from increasing by more than 0.3°C relative to baseline, i.e., incoming water temperature.

a) Water Quality Monitoring

PacifiCorp shall assess the thermal effects of the Pumped Storage Project by measuring temperature at locations upstream and downstream of the Fish Creek tailrace. PacifiCorp shall perform water quality monitoring in accordance with the WQMP developed in accordance with Condition 1 of this certification.

b) Ambient Air Temperature

PacifiCorp must use measurements of ambient air temperatures recorded at the National Weather Service, Medford, Oregon Office for 12 miles WSW of Lemolo Lake, Oregon (Toketee, Oregon (TOFO3)) or next nearest available reporting station to inform project operations if needed to reduce the Pumped Storage Project’s thermal effects.

c) Adaptive Management

When weather forecasts predict extended (i.e., 7 days or more) ambient temperatures at or above the 90th percentile warmest 7-day temperatures PacifiCorp must consider and implement alternate
operating schedules to reduce the effect of project operations during periods of high thermal stress. These may include:

i. Reducing the number of Pumped Storage Project generation cycles during periods of high ambient temperature,

ii. Other adaptive strategies informed by water quality monitoring and/or refined water quality modeling.

d) Reporting

PacifiCorp must document in the annual report required by Condition 1 of these § 401 Certification Conditions any temporary operational changes undertaken specifically to limit temperature gain in the Slide Creek impoundment. The report shall:

i. Identify the 90th percentile of the warmest seven-day ambient temperature,

ii. Summarize ambient air temperatures during the reporting period and identify any periods that exceed the 90th percentile of the warmest seven-day ambient temperature.

iii. Analyze monitoring data to evaluate the effect of project operation on temperature in the North Umpqua River.

iv. Discuss any operational changes undertaken during the reporting period specifically to reduce the project’s effect on temperature.

v. Propose modifications to PacifiCorp’s adaptive management strategies, if warranted, based on a review of operational monitoring data, revised or refined water quality models, or other relevant new information.

4. Dissolved Oxygen OAR 340-041-0016

PacifiCorp must take action to ensure operation of the Pumped Storage Project does not cause dissolved oxygen downstream of the Fish Creek tailrace to decrease more than 0.1 mg/l relative to baseline (i.e., incoming) water conditions as measured at a location upstream of the Fish Creek tailrace.

a) Water Quality Monitoring

PacifiCorp shall assess the effects of the Pumped Storage Project by measuring dissolved oxygen at locations upstream and downstream of the Fish Creek tailrace. PacifiCorp shall perform water quality monitoring in accordance with the WQMP developed in accordance with Condition 1 of this certification. Adaptive Management

PacifiCorp must consider and implement operating schedules when ambient conditions are predicted to cause dissolved oxygen saturation to be less than the 8.0 mg/l criterion. During these conditions, PacifiCorp will perform measures to limit the Pumped Storage Project’s reduction in dissolved oxygen to no more than 0.1 mg/l. These may include:

i. Increasing air entrainment in turbine discharge.

ii. Other adaptive strategies informed by water quality monitoring and/or refined water quality modeling.
b) Reporting

PacifiCorp must document in the annual report required by Condition 1 of these § 401 Certification Conditions any temporary operational changes undertaken specifically to limit dissolved oxygen reductions in the Slide Creek impoundment. The report must:

   i. Analyze monitoring data to evaluate the effect of project operation on dissolved oxygen at locations downstream of the Fish Creek powerhouse tailrace.
   
   ii. Discuss any operational changes undertaken during the reporting period specifically to reduce the project’s effect on dissolved oxygen.
   
   iii. Propose modifications to PacifiCorp’s adaptive management strategies, if warranted, based on a review of operational monitoring data, revised or refined water quality models, or other relevant new information. Following DEQ review and approval PacifiCorp must implement the adaptive management measures.

5. Total Dissolved Gas OAR 340-041-0031

PacifiCorp must take action to ensure operation of the Pumped Storage Project does not cause the entrainment of atmospheric gas below the Fish Creek tailrace at concentrations that exceed 110 percent of saturation.

a) Water Quality Monitoring

PacifiCorp shall assess the effects of the Pumped Storage Project by measuring total dissolved gas at locations upstream and downstream of the Fish Creek tailrace. PacifiCorp shall perform water quality monitoring in accordance with the WQMP developed in accordance with Condition 1 of this certification. Adaptive Management

If monitoring indicates the TDG water quality standard is not met, PacifiCorp shall consult with DEQ on adaptive management strategies to reduce the effect of project operation on water quality. PacifiCorp shall develop and submit an adaptive management plan to DEQ to attain the TDG criteria. Following DEQ review and approval of the adaptive management plan, PacifiCorp shall implement the plan.

b) Reporting

PacifiCorp must submit an annual report prepared in accordance with Condition 1(e) of these § 401 Certification Conditions. The report must:

   i. Analyze monitoring data to evaluate the effect of project operation on total dissolved gas.
   
   ii. Discuss any operational changes undertaken during the reporting period specifically to reduce the project’s effect on total dissolved gas.
   
   iii. Make recommendations regarding changes to future water quality monitoring actions, as warranted and as supported by a review of operational monitoring data. Following DEQ review and approval PacifiCorp must implement the adaptive management measures.
6. **pH OAR 340-041-0021**

PacifiCorp must ensure Project operation does not cause changes to water quality that result in pH values outside the ranges prescribed in the Umpqua basin-specific criteria given in OAR 340-041-0326.

a) **Water Quality Monitoring**

PacifiCorp must monitor pH as required by Condition 1 of these §401 Certification Conditions.

b) **Adaptive Management**

If monitoring indicates the pH water quality standard is not met, PacifiCorp shall consult with DEQ on adaptive management strategies to reduce the effect of project operation on water quality. PacifiCorp shall develop and submit an adaptive management plan to DEQ to attain the pH criteria. Following DEQ review and approval of the adaptive management plan, PacifiCorp shall implement the plan.

c) **Reporting**

PacifiCorp must submit an annual report prepared in accordance with Condition 1(e) of these § 401 Certification Conditions. The report must:

i. Analyze monitoring data to evaluate the effect of project operation on pH,

ii. Discuss any operational changes undertaken during the reporting period specifically to reduce the project’s effect on pH,

iii. Make recommendations regarding changes to future water quality monitoring actions, as warranted and as supported by a review of operational monitoring data. Following DEQ review and approval PacifiCorp must implement the measures.

7. **Turbidity OAR 340-041-0036**

PacifiCorp must minimize Project operations that may contribute to sedimentation and turbidity.

a) **Water Quality Monitoring**

PacifiCorp shall assess the effects of the Pumped Storage Project by measuring turbidity in accordance with the WQMP developed in accordance with Condition 1 of this certification. Monitoring is required at the Fish Creek forebay outlet, the Fish Creek tailrace, and the Slide Creek impoundment downstream of the Fish Creek tailrace. Best Management Practices

PacifiCorp must engage in Best Management Practices to reduce sedimentation, erosion and other actions that contribute to turbidity in Project waters.

b) **Adaptive Management**

If monitoring indicates the turbidity water quality standard is not met, PacifiCorp shall consult with DEQ on adaptive management strategies to reduce the effect of project operation on water
quality. PacifiCorp shall develop and submit an adaptive management plan to DEQ to attain the turbidity criteria. Following DEQ review and approval of the adaptive management plan, PacifiCorp shall implement the plan.

c) Reporting

PacifiCorp must submit an annual report prepared in accordance with Condition 1(e) of these § 401 Certification Conditions. The report must:

i. Analyze monitoring data to evaluate the effect of project operation on turbidity,

ii. Discuss any operational changes undertaken during the reporting period specifically to reduce the project’s effect on sedimentation and turbidity,

iii. Make recommendations regarding changes to future water quality monitoring actions, as warranted and as supported by a review of operational monitoring data. Following DEQ review and approval PacifiCorp must implement the measures.

8. General Conditions

a) Implementation: PacifiCorp must provide DEQ evidence that PacifiCorp has received all required permits and approvals before Project construction activities commence.

b) Certification Modification: Without limiting DEQ’s discretion to take other actions in accordance with 33 USC § 1341, DEQ may modify the Certification to add, delete, or modify Certification conditions as authorized by OAR 340-048-0050.

c) Project Changes. PacifiCorp shall notify DEQ of any change in ownership, scope, or operation of the Project. PacifiCorp shall obtain DEQ’s review and approval before undertaking any such change to the Project, including but not limited to changes to Project structures, construction, operations, and flows, which, among other changes, may potentially affect water quality.

d) Project Repair or Maintenance. PacifiCorp shall obtain DEQ’s review and approval before undertaking Project repair or maintenance activities that may potentially affect water quality (other than repair or maintenance activities authorized by the amended FERC license). DEQ may, at PacifiCorp’s request, approve specified repair and maintenance activities on a periodic or ongoing basis.

e) Project Inspection. PacifiCorp shall allow DEQ 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.

f) Posting of § 401 Certification. PacifiCorp shall post a copy of these Certification conditions in a prominent location at the Project office.

g) 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.

h) 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 DEQ, shall control.
9. **Project Specific Fees**

In accordance with ORS 543.080, PacifiCorp shall pay project-specific fees, in 2022 dollars adjusted according to the formula in Condition 9b below, to DEQ for costs of overseeing implementation of this Certification.

a) Oregon Department of Environmental Quality

PacifiCorp shall pay project-specific fees to DEQ, made payable to State of Oregon, Department of Environmental Quality, according to the following schedule:

<table>
<thead>
<tr>
<th>FERC License</th>
<th>Annual Project-Specific Fee</th>
<th>Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upon License Amendment</td>
<td>$3,500 prorated to June 30</td>
<td>Within 30 days</td>
</tr>
<tr>
<td>Years 1 - 3</td>
<td>$3,500</td>
<td>July 1</td>
</tr>
</tbody>
</table>

b) Annual Adjustment

Fee amounts shall be adjusted annually, according to the following formula:

\[ AD = D \times \frac{CPI-U}{(CPI-U - June 2022)} \]

Where:

- **AD** = Adjusted dollar amount payable to agency.
- **D** = Dollar amount pursuant to Condition 9a 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. Department 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 DEQ and PacifiCorp.

c) Payment Schedule

PacifiCorp shall pay fees pursuant to a written invoice from DEQ. Except as provided below, project-specific fees are due on July 1 of each year following issuance of the new FERC License. PacifiCorp shall pay an initial prorated payment to DEQ within 30 days of issuance of the amended FERC license, for the period from the date of license issuance to the first June 30 which follows license amendment issuance.

d) Credits

DEQ will credit against this amount any fee or other compensation paid or payable to DEQ directly or through other agencies of the State of Oregon, during the preceding year (July 1 to June 30) for DEQ’s costs of oversight.
e) Expenditure Summary

Upon request, DEQ shall, on a biennial basis, provide PacifiCorp with a summary of project specific expenditures.

f) Duration

The DEQ fee will expire 3 years after the first July 1 following the issuance of the new FERC license, unless DEQ terminates it earlier because oversight is no longer necessary. One year before the expiration of the fee, or earlier if mutually agreed, DEQ and PacifiCorp shall review the need, if any, to modify, extend, or terminate the fee, in accordance with ORS 543.080. PacifiCorp shall pay any project-specific fee required after such review as provided in ORS 543.080.

OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY

Ranei Nomura, acting for:    Date

Keith Andersen

Western Region Administrator