STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
P.O. Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300

August 20, 2002

REGISTERED MAIL

Tacoma Power
Attn: Debbie Young
3628 South 35th Street
Tacoma, WA 98409-3192

Dear Ms. Young:

Enclosed is Amended Order No. DE 02WQSR-4098A-01 requiring you to monitor, fix and report dissolved gas generated by Mayfield and Mossyrock Dams. The requirements of this order replace the requirements of Order No. DE 02WQSR-4098. All questions or correspondence relating to this document should be directed to ~~Kerry Carroll~~ at the Department of Ecology, Southwest Regional Office, P.O. Box 47775, Olympia, Washington 98504-7775, or call (360) 407-6294.

Sincerely,

Deb
Colmette 7269

Kelly Susewind, P.E.
Water Quality Program
Southwest Regional Office

KS:CM:le(enforce/order)
Enclosure

cc: Chris Maynard, Ecology
Leann Ryser, Ecology

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

IN THE MATTER OF THE COMPLIANCE BY Tacoma Power with Chapter 90.48 RCW and the Rules and Regulations of the Department of Ecology	)))))	ORDER No. DE 02WQSR-4098A-01 FIRST AMENDMENT

To: Tacoma Power
Attn: Debbie Young
3628 South 35th Street
Tacoma, WA 98409-3192

Order No. DE 02WQSR-4098, dated June 14, 2002, is hereby amended as follows. These actions are required at the location known as Mayfield Dam and Mossyrock Dam located on the Cowlitz River.

The conditions and requirements of this amended order replace the requirements of Order No. DE 02WQSR-4098 in its entirety.

This is an Administrative Order requiring Tacoma Power to comply with Chapter 90.48 RCW by taking certain actions which are described below. The Department of Ecology (Department) is authorized to issue Administrative Orders requiring compliance whenever it determines that a person has exceeded or is about to exceed any provision of RCW 90.48.

This revised Compliance Schedule is hereby made a condition of Order number DE 01SEASR-3367, issued on January 15, 2002, granting a certification pursuant to section 401 of the Federal Clean Water Act and supersedes Order number DE 02WQSR-4098 issued June, 14, 2002.

The Department's determination that exceedances have occurred or are about to occur is based on the following fact:

> Mossyrock and Mayfield Dams have exceeded and are reasonably anticipated to violate state of Washington water quality standards during periodic high flow events for total dissolved gas as documented by monitoring and modeling conducted by and for Tacoma Power in connection with the relicensing of the Cowlitz River project.

For these reasons, and in accordance with RCW 90.48, it is ordered that Tacoma Power take the following actions to seek to achieve compliance no later than June 14, 2007, with standards for total dissolved gas. These actions are required on the Cowlitz River near the locations known as the Mayfield Dam and Mossyrock Dam.

1. Conduct Monitoring Requirements as follows:

   A. Collect dissolved gas data in the tailraces and forebays of each dam:

      1. Collect forebay data during spills using monitors measuring gas in the reservoir near the dam.

2. Collect cross-sectional transect gas data during several spill scenarios. At a minimum, perform transects below the actual aerated zones during spill.

3. Collect gas data for Mossyrock, Mayfield, and the Salmon Hatchery barrier dams.

4. Assess amount and duration (if any) of air entrainment by turbines.

5. Analyze how the bathymetry below each dam influences TDG levels.

6. Analyze how the dam structures influence spill characteristics and subsequent TDG entrainment.

B. Identify permanent monitoring site(s):

1. Data collection may be limited only to operational spill events that will be defined based on analysis of data obtained during 1.A. above.

2. The quantity and location of permanent monitoring/compliance station(s) will be defined based on analysis of data obtained during 1.A. above.

C. Use acceptable quality assurance practices.

D. Monitors will be at a compensation depth where bubbles do not form on the instruments, generally about 15 feet deep.

E. Reporting will be done in accordance with Condition Number 3 below.

2. If, as a result of the data analysis during 1.A. above, the Department determines that abatement is necessary, take actions to abate gas to meet Water Quality Standards:

A. Reduce dissolved gas through operational adjustments:

1. Identify ways to reduce operational spill.

a. Analyze potential changes to reservoir operation and storage to reduce the spill during water flows that lead to standards exceedances for gas.

b. Analyze any other operational possibilities to reduce high TDG.

B. If the analysis of changes to operations demonstrates that water quality standards will not be assured and the Department determines that further analysis is necessary, proceed to identify potential structural modifications to reduce gas generated by dam operation to meet water quality standards:

1. Perform preliminary engineering analysis of options.

2. Develop preferred options. The U.S. Army Corps of Engineers dissolved gas abatement program on the Columbia and Snake Rivers is a good base model for reference.

C. No later than April 1, 2003, submit a Transect Study Plan including quality assurance plans and an Operational Spill Analysis for each dam to the Department for review and approval.

D. No later than August 1, 2003, submit a Preliminary Compliance Schedule for each dam to the Department for review and approval. A final compliance schedule will be submitted within 120 days of completion of the work described in 1.A. Such schedule shall be designed to obtain compliance no later than June 14, 2007, unless such time is extended by further order of the Department.

3. Reporting Requirements:

A. No later than 30 days after an operational spill at either dam, submit a report that includes the following information to the Department:

1. A description of water conditions for the year in terms of basin runoff conditions and flows as compared to average years.

2. Tables showing dates, times, and amounts (in percent saturation) of dissolved gas when water quality standards are exceeded. Explain reasons for spill. Discuss steps that were taken to fix each problem.

B. By October 1 of each year when operational spill has occurred, submit a report to the Department which include reasons for spill and tables and graphs showing quantities (in cfs) of spill at each dam. The data collected shall include:

- Observed total river flow,
- Project hydraulic capacity,
- Total spill.

C. Notify the Department of any exceedances of the total dissolved gas standards due to spill within one week of violation. Include in this notice, any steps that have been taken to correct the problem.

D. A report summarizing gas entrainment for each dam shall be made available on the website within one month of exceedance of water quality standards.

Submittals and notifications required in this Order shall be made to the following:

Department of Ecology
Southwest Regional Office
Attn: Water Quality Section/Nonpoint Source Unit Supervisor
PO Box 47775
Olympia, WA 98504-7775

Failure to comply with this Order may result in the issuance of civil penalties or other actions, whether administrative or judicial, to enforce the terms of this Order. Prior to the implementation of operational or structural changes, Tacoma Power shall operate the project in a manner consistent with past operations that does not increase the frequency of exceedances. This Order does not restrict or limit the authority of the Department to issue penalties or take other enforcement action with respect to any exceedances.

This Order may be appealed. Your appeal must be filed with the Pollution Control Hearings Board, P.O. Box 40903, Olympia, Washington 98504-0903 within thirty (30) days of your receipt of this Order. At the same time, your appeal must also be served on the Department of Ecology, Fiscal Office, P.O. Box 47615, Olympia, Washington 98504-7615. In addition please send a copy of your appeal to Water Quality Section/Nonpoint Source Unit Supervisor, Department of Ecology, Southwest Regional Office, P.O. Box 47775, Olympia, Washington 98504-7775. The notice of appeal shall contain a copy of the order or decision appealed from, and if the order or decision followed an application, a copy of the application. Your appeal alone will not stay the effectiveness of this Order. Stay requests must be submitted in accordance with RCW 43.21B.320. These procedures are consistent with Chapter 43.21B RCW.

DATED this 20th day of August, 2002, at Olympia, Washington.

Kelly Susewind, P.E.
Southwest Region Manager
Water Quality Program