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FEDERAL ENERGY
REGULATORY COMMISSION

Central Vermont Public Service Corporation

February 27, 2004

Mr. Jeffrey Cueto
VT Agency of Natural Resources
Dept. of Environmental Conservation
103 South Main Street
Waterbury, VT 05676

RE: CVPS Weybridge Project (FERC No. 2731)
Operations Update and
Diversion Structure Annual Performance Report

Dear Jeff:

We have completed another year of operation with the Weybridge diversion structure. This letter report summarizes operation of the structure in 2003 - the second year of five years during which the performance of the structure will be reviewed as required by Condition F of the 401 water quality certificate. We are also providing copies to the USFWS and the FERC for their information.

As you may recall, CVPS endured a prolonged shutdown at the Weybridge project in 2003. The shutdown was for the replacement of electrical switchgear, however, difficulties in refurbishing a bearing caused the shutdown to extend from early June until late December 2003. The shutdown resulted in atypically high flow conditions in the bypass and prevented bypass flow and diversion structure calibration measurements last fall. Because of the installation of the new minimum flow gate (Photo 1) and the extensive electrical and mechanical work, CVPS was unable to recalibrate the flow distribution in and around the structure in 2003 as originally planned. We also postponed our plans for a site meeting with your Agency last fall to inspect the diversion structure.

However, in addition to routine operator observations, CVPS engineers and its Construction Manager visited the diversion structure on several occasions throughout 2003. Despite the atypical flow conditions, the structure appeared to perform as intended throughout 2003. The only notable observations are discussed here. During the spring 2003 run-off, several of the eleven inch boards released (Photo 2). All of the boards were replaced in early summer 2003 when runoff subsided. At this time we noted that a pool approximately five feet deep and eight feet long had developed on the downstream side of the structure near the powerhouse island.

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During the fall of 2003 high flows from a storm - exacerbated by the project outage - caused all of the eleven inch boards to release. High flows to the bypass until late December prevented the replacement of those boards. Significant ice has developed in the bypass this winter (see Photo 3) and boards have not yet been replaced. It appears that the pool area described above may have spread. The fish passage slot has not changed and appears to function as intended. Overall the diversion structure remains structurally sound.

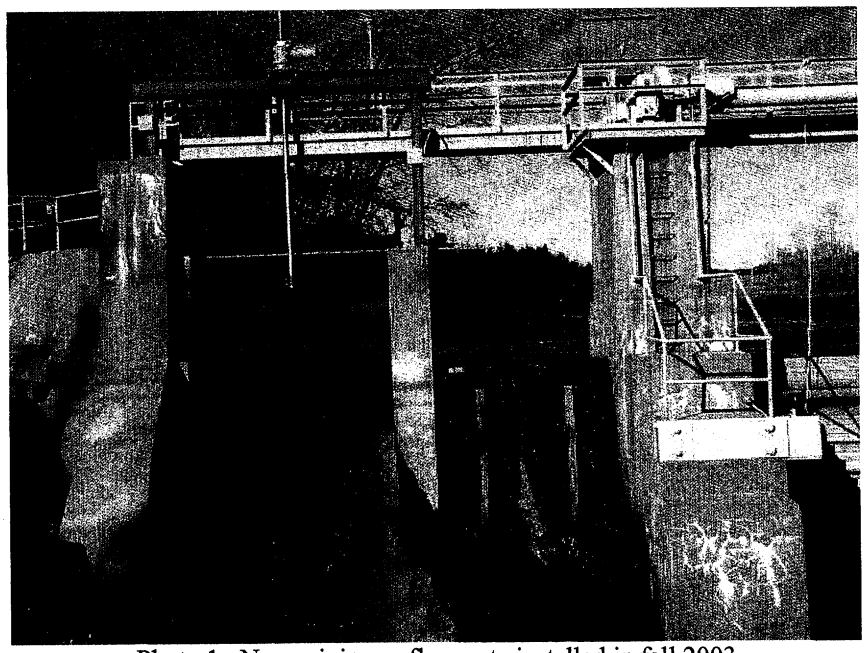

Photo 1: New minimum flow gate installed in fall 2003

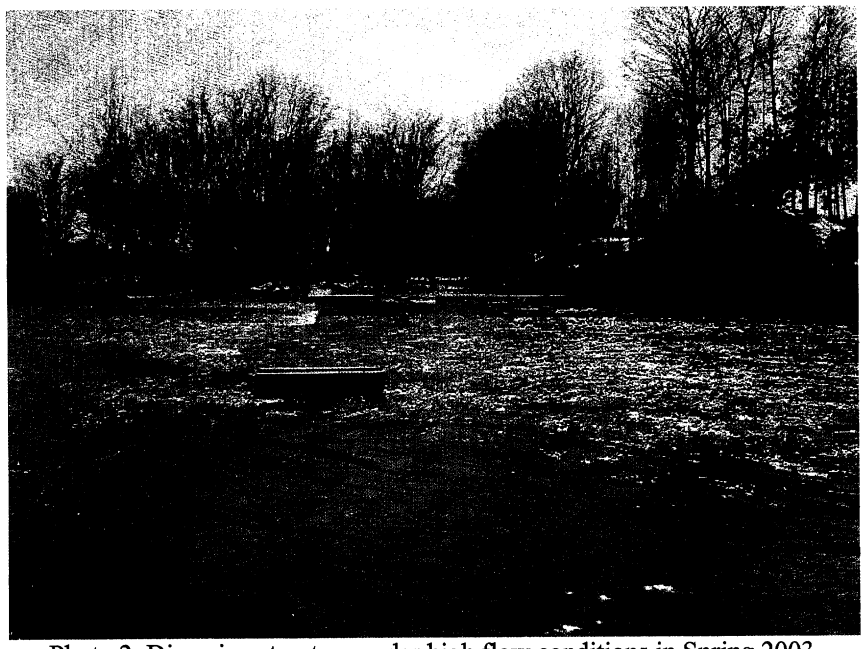

Photo 2: Diversion structure under high flow conditions in Spring 2003

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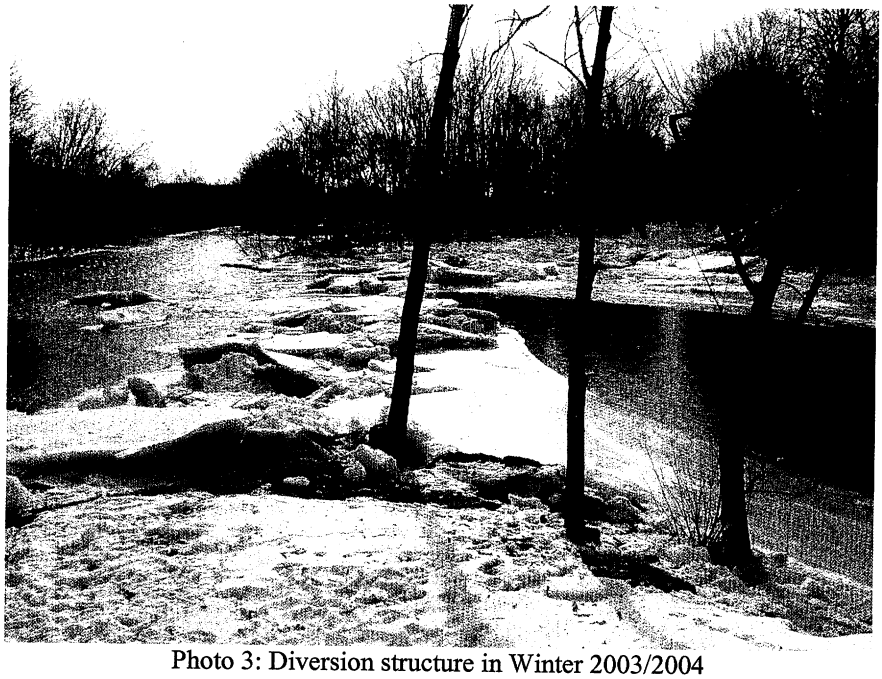

Photo 3: Diversion structure in Winter 2003/2004

Conclusions and Plans for 2004

The diversion structure performance in 2003 suggests that it is an effective device even in atypical flow conditions. CVPS will evaluate the pool that is developing downstream of the structure in 2004 and determine if other energy dissipation measures are warranted. We plan to complete more detailed flow measurements in 2004, both to calibrate the new minimum flow gate and to assess potential changes in the flow pattern around the diversion structure after two winters of operation. We are also planning to complete a turbine index test to develop a turbine rating curve to meet the requirements of Condition K of the Water Quality Certificate. We will reschedule a site meeting with the interested parties once spring runoff subsides. In the meantime, please call if you have any questions or comments. Thank you.

Sincerely,

John C Greenan

John C. Greenan
Project Coordinator

cc: M. Grader (USFWS)
T. Oakes (Kleinschmidt)
J. Wallin (MRM)
FERC Secretary
M. Scarzello (CVPS)