



The State of New Hampshire
Department of Environmental Services



Robert R. Scott, Commissioner

Mr. Naoto Inoue
Brentwood Dam Ventures, LLC.
25 Limerick Road
Arundel, ME 04046

August 8, 2017
Letter of Deficiency
DSP #17-031

RE: Exeter River Dam #D029001, Brentwood

Dear Mr. Inoue:

The New Hampshire Department of Environmental Services, Dam Bureau (NHDES) is responsible for ensuring the safety of dams in New Hampshire through its dam safety program. In accordance with RSA 482:12 and Env-Wr 302.02, an inspection of the subject dam was conducted on June 14, 2017. Based upon the results of that inspection, as well as upon additional investigation and analysis that were conducted, NHDES is issuing this Letter of Deficiency (LOD) to advise you that it believes the following deficiencies can be remedied in accordance with the deadlines indicated:

Immediately:

1. Clear all debris from the partially open low level gate and repair it to a functional condition so that it can be completely open and closed. (See photos T, U, V and W).

On a continuing basis, monitor the following:

2. Multiple locations of leakage observed along the downstream face of the concrete. Monitor all areas for changes in rate. If any changes are detected, notify the Dam Bureau immediately so that a site visit may be scheduled. Locations noted:
 - a. 2.0' left and 3.0' above the turbine. (See photos A, B and C);
 - b. Gate near the right abutment along the second tier of concrete has a significant hole along the right training wall of concrete. (See photos D, E and F);
 - c. At the base of the penstock (audible leak). (See photo G); and
 - d. Interface between bedrock and concrete along the base of the right abutment. (See photo H).
3. Degradation, cracking, efflorescence deposits, exposed aggregate and spalling of the upstream and downstream concrete faces, the different levels of the concrete crests and the left downstream wall/buttress that separates the sluiceway and the primary overflow spillway. (See photos A, B, C, D, E, F, I, J, K, L, M, N, O, P, Q, R and S).

By September 15th, 2017:

4. Prepare and submit the Operation, Maintenance and Response (OMR) form for your dam to reflect its upgrade in hazard classification to a Significant hazard structure. A blank version of the form may be found at the following link <http://des.nh.gov/organization/divisions/water/dam/index.htm> under the Technical Assistance heading.

By December 1st, 2017:

5. Prepare an Emergency Action Plan (EAP) for review by NHDES. The Administrative Rules related to preparing an EAP, which is required of all Significant hazard dams, are

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provided in Env-Wr Chapter 500. A blank template for completing the EAP may be found on the Dam Bureau website. NHDES has determined that the Significant hazard classification is based solely on the potential damage to residence approximately 100 feet downstream at #46 Mill Road and 400 feet downstream at #506 Middle Road; therefore you are exempted from developing a breach analysis (Env-Wr 502.02) and are only required to produce a simplified inundation map (Env-Wr 503.02). Please contact us if you have any additional questions related to the EAP.

6. Cut all trees, brush and weedy growth from the footprint (earthen embankment) of the dam and 15 ft beyond the footprint of the dam to prevent damage to the dam from root penetration, blow down of the trees and to create a buffer zone to monitor the dam for seepage and other maintenance concerns. Areas to clear include (but not limited to):
 - a. Left abutment. (See photos I, M, O, P, T and X); and
 - b. Right abutment. (See photos D, F, N, T, Y and Z).

By December 1st, 2018:

7. Engage the services of a qualified** consultant in dam-related work to complete an engineering evaluation or analysis of, at a minimum, the items noted below and submit a report to NHDES. The report should include all investigation findings and include recommendations and a schedule for repair, as warranted, to make the dam compliant with the current standards for significant hazard dams.
 - a. Investigate items 1, 2 and 3 above and provide recommendations for repair and/or a monitoring program;
 - b. Detailed hydrologic and hydraulic study of the dam and its contributing watershed;
 - c. Detailed survey and description of the outlet works; and
 - d. Demonstrate that the dam and appurtenant structures are stable during overtopping events.

By December 1st, 2020:

8. Submit all necessary environmental permit applications (dam reconstruction and dredge and fill) to bring your dam in compliance with Env-Wr 100-700 per your dam's hazard classification of significant.**

OR

9. Submit design plans, specifications and any required permit applications to remove your dam in accordance with Env-Wr 600.

**** Review NHDES Dam Safety rule Env-Wr 403.03(a)(1), this rule pertains to qualifications engineers must meet to enable them to work on dams in NH**

By December 1st, 2021:

10. Complete reconstruction of the dam in accordance with permits required as part of item #8 above.

OR

11. Complete removal of dam in accordance with permits required as part of item #9 above.

As part of the most recent inspection, NHDES completed detailed assessments related to the hydrology of the contributing watershed and the hydraulic capacity of your dam. Further, we performed a review of the areas downstream of the dam in order to reassess the dam's current hazard classification. The observations and recommendations in this LOD include the findings related to these more detailed analyses.

Your dam is classified as Significant Hazard structure and is subject to the requirement of having an EAP on file with NHDES and other local and state response agencies. Please visit NHDES's website at the following link to access the complete set of administrative rules related to EAPs, as well as to view the current template and other EAP guidance:
<http://des.nh.gov/organization/divisions/water/dam/eap/index.htm>

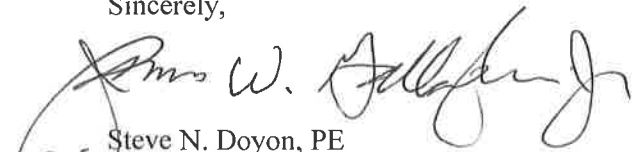
Please note that under New Hampshire's state statute RSA 482:89, NHDES may commence proceedings to levy fines of up to \$2,000 per violation per day against a dam owner who does not respond within 45 days of receipt of a written order, directive, or any notice of needed maintenance, repair, or reconstruction issued by NHDES. To avoid proceedings under this provision, you **must respond** to this LOD. If you fail to return this form within 45 days or fail to otherwise respond in writing within 45 days indicating your intent to remedy the identified deficiencies you will not have the benefit of the compliance deadlines indicated on the form and NHDES will commence a proceeding under RSA 482:89 to seek administrative fines for the identified deficiencies. Please note that responding as required does not preclude NHDES from pursuing other appropriate action for the identified deficiencies, in accordance with NHDES Compliance Assurance Response Policy, available on-line at <http://des.nh.gov/organization/commissioner/legal/carp/index.htm>.

We believe the easiest way to respond is to sign and return the attached "Intent to Complete Repairs" form, either agreeing to correct the identified deficiencies by the dates indicated OR by proposing amendments to the listed work items or dates, which you may do by writing directly on the form. NHDES will evaluate and respond to any reasonable requests for proposed amendments in a timely manner. We have enclosed a self-addressed stamped envelope for you to return this form. You may also scan and e-mail the completed form to damsafety@des.nh.gov or fax it to (603) 271-6120.

Our intent in issuing this LOD is to make you aware of items that require your attention to ensure the continued safe operation of your dam. It is our hope that, through the return of the attached form and correction of the identified deficiencies, you will develop and maintain a commitment to keeping a safe and well-maintained dam.

If you have any questions or comments regarding this LOD or would like to be present at future inspections, please contact Charlie Krautmann, P.E. at 271-4130 or me at 271-3406 or write to the address for the Water Division listed on the bottom of the cover letter.

Sincerely,


for Steve N. Doyon, PE
Administrator
Dam Safety & Inspection Section

Attachments: Photos, Blank OMR form, DB8, DB13
cc: NHDES Legal Unit
Town of Brentwood
Town of Fremont

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