The State of New Hampshire
Department of Environmental Services

Michael P. Nolin
Commissioner

August 2, 2005
Letter of Deficiency
DSP#05-024

Mr. Richard Kalin
P.O. Box 516
Hollis, NH 03049

RE: Haydens Mill Pond Dam #119.09, Hollis

Dear Mr. Kalin:

The Department of Environmental Services, Dam Bureau (DES) consistently strives to enhance the safety of dams in New Hampshire through its dam safety program. One of the many instruments that play a part in reaching this goal is our inspection program. DES is forwarding this correspondence to you to advise you that in accordance with RSA 482:12 and Env-Wr 502.02, an inspection of the subject dam was conducted on June 10, 2005. During this visual inspection and/or file review, the following deficiencies were observed:

Outstanding items from the 2002 LOD:

1. There was cracked concrete on the upstream face of the dam to the right of the spillway;

2. The overall condition of the concrete spillway is poor. There is spalled concrete on the right spillway channel wall, the downstream face of the spillway has severe concrete erosion on the right side at the contact with the right wall, and the spillway center buttress wall has severe erosion on the left side approximately 1 foot above the apron. The dam owner noted that the slab had been grouted during the 1999 repairs to the dam;

3. There are missing stones and soil erosion at the downstream end of the right spillway training wall at the contact of the concrete and stone wall;

4. The historical seepage under the stone wall at the downstream toe of the dam is approximately flowing at 10gpm;

5. There is seepage through the stones located to the left of the low level outlet;

6. There is a wet area located approximately 50 feet to the left of the right abutment and 50 feet from the downstream toe. This wet area is directly below where the wall failed and is partially obscured by fallen blocks;

7. The operations and maintenance plan (O&M) need updating;

8. The Emergency Action Plan (EAP) has not been tested;

P.O. Box 95, 29 Hazen Drive, Concord, New Hampshire 03302-0095
Telephone: (603) 271-3503 • Fax: (603) 271-2867 • TDD Access: Relay NH 1-800-735-2964
DES Web site: **www.des.nh.gov**

The following additional items were noted during the inspection and file review:

9. A 30' long by 7' wide section of the dam crest along the downstream face had fallen down hill. The exposed crest section was dry and approximately 23 feet of the crest of the dam remained intact. Adjacent sections of the wall appear unstable and in danger of failing; and

10. There were several sinkholes in the crest of the dam adjacent to the masonry walls, both upstream and downstream.

DES believes that the above deficiencies can be corrected by performing the following items by the indicated schedule:

September 1, 2005:

1. Retain the services of a geotechnical engineer to perform an investigation and stability analysis related to the stability of the entire length of the downstream stone face of the dam;

2. Update the O&M plan. The plan should describe the control of impoundment levels, monitoring/maintenance procedures, and identify emergency contact personnel. In addition, the plan should include information on the method and frequency of the monitoring of the leaning downstream stone face. Measurements taken to date should be submitted to the DES for review;

3. Update and test the EAP;

December 1, 2005:

4. Submit the report generated as part of item 1, above, and include a plan and schedule for repairs to the failed section of the downstream masonry wall, as well as for any sections of the embankment that are found to have inadequate factors of safety;

5. Repair the cracked gunite resurfacing on the upstream right concrete retaining wall, to the right of the spillway, and the deterioration and cracking of the concrete on the abutment walls and bottom slab of the spillway;

6. Repair the concrete spillway, specifically the spalled concrete on the right hand side training wall, the downstream face of the spillway at the contact with the right training wall, and the spillway center buttress on the left side approximately 1 foot above the apron;

7. Replace the missing stones and repair the erosion on the downstream end of the right spillway training wall at the contact of the concrete and stone wall;

December 1, 2006:

8. Complete repairs in accordance with the plans, as reviewed and approved by DES, resulting from item 4, above;

On a continuing basis:

9. Continue to monitor the leaning downstream wall and the historical seepage. The monitoring results should be submitted to the DES Dam Bureau on an annual basis; and

10. Routinely fill in the sinkholes that develop on the crest of the dam adjacent to the masonry walls until such time as the repairs referenced in item 8 are complete.

DES is requesting that you complete and submit the attached "Intent to Complete Repairs" form, within 30 days of receipt of this letter, that will provide for correction of the identified deficiencies by the date(s) indicated above. Please call or write to our office if the repairs are completed ahead of the aforementioned schedule so that DES may schedule a follow-up inspection. Unless notified otherwise, DES will conduct the follow-up inspection on or after the date(s) indicated above. If you believe changes to the items of work or dates are necessary, please make the changes directly on the form and provide a brief explanation. We have enclosed a self addressed stamped envelope for you to return this form.

Our intent in sending you this correspondence is to make you aware of items that DES believes warrant your attention to insure the continued safe operation of your dam. It is our hope that, through the submittal of the attached form and a commitment to keeping a well-maintained dam, you will voluntarily comply with the requested items of work. If we do not receive the intent form or a similarly adequate written reply, we will assume that you are in agreement with our findings and recommendations and DES will carry out follow-up inspections accordingly.

If you have any questions or comments regarding this Letter of Deficiency or would like to be present at future inspections, please contact me at 271-3406, or write to the Water Division at the address listed on the bottom of the cover page.

Sincerely,

COPY

Grace E. Levergood, P.E.
Dam Safety Engineer

Attachments: Guideline for an O&M plan & copy of O&M currently on file dated 12/15/88, Sketch Illustrating Deficiencies, DB13

cc: Bethann M. McCarthy, P.E., EAP Coordinator
Gretchen R. Hamel, Legal Unit Administrator
Town of Hollis

Certified #7000 1670 0000 0588 6387

GEL/was/h:/safety/wendy/lod/119-09blod.doc