

1 Q. **Reference: Refurbishment of Ebbegunbaeg Dam (2027–2030) - Ebbegunbaeg, Attachments 1**
2 **and 2**

3 Hatch and KGS Group make a number of recommendations in the Executive Summary of the
4 Hatch report (page 11 and 12 of 268) and in Table ES-5 of the KGS Group report (pages 12 to 17
5 of 381). Has Hydro implemented these recommendations?

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8 A. Please refer to Attachment 1 for the status of the recommendations within the reports provided
9 by Hatch Limited¹ and KGS Group,² respectively.

¹ “2027 Capital Budget Application”, Newfoundland and Labrador Hydro, July 14, 2026, Vol. II, Project 1, att. 1.

² “2027 Capital Budget Application”, Newfoundland and Labrador Hydro, July 14, 2026, Vol. II, Project 1, att. 2.

Table 1: Granite Lake and Meelpaeg Reservoir Dam Safety Review Recommendations – Hatch Limited

Recommendation	Response	Status
Regular inspections by Dam Safety professionals should be continued with particular focus on previously identified potential deficiencies as discussed in the text of this report and the checksheets.	Regular inspections continue. This includes:	Ongoing
	- Routine inspections completed by operations personnel trained in Dam Inspections on a targeted biweekly frequency	
	- Internal Engineering inspections are completed twice annually (Spring & Fall)	
	- External Consultant is engaged to complete third party inspection in the fall of the 'High' or higher hazard classification structures, as well as those that have demonstrated performance issues during the year. MD-1 is included within this scope of work	
	- Dam Safety Reviews are completed on the frequency set out in the Canadian Dam Association's ("CDA") Dam Safety Guidelines.	
Monitoring and/or repair work is recommended for structures MD-1A (small riprap, erosion) and MD-10 (large crest potholes). The crest elevation and slopes of the right embankment of MSD-8 should be reviewed to ensure they are in conformance with the design drawings, and rehabilitation works completed where there are deficiencies in the dam construction.	Monitoring continues of the small anomalous condition at MD-1A adjacent to the left abutment of MD-1S consisting of small riprap and slight erosion of the upstream slope. The area in question has had little to no movement observed in recent years.	Ongoing
Surveillance monitoring protocol should be modified as possible to include annual, repeatable (and "superimposable") photos from several locations on each structure.	Known deficiencies are tracked as a part of the routine surveillance program with photos taken as required .	Ongoing
Vegetation control should continue to be exercised at all dams, with specific attention directed towards vegetation removals at MD-1, MSD-6, 7, 8, and MD-FCS.	Vegetation control practices continue as a part of routine maintenance. Vegetation removal was completed following the Hatch 2011 dam safety review, with subsequent work completed in 2021.	Completed
MD-3,4,5, MSD-6,7,8, MD-FCS, MD-12, MD-1A,B,C,D, and MD-1S should be classified as "Low". MD-BC, MD-10, and MD-9 should be classified as "Significant".	A 'Low' Dam Classification was adopted for MD-1 following the completion of the Hatch 2011 DSR. The classification of the structure has since been changed to 'Significant' following the completion of the 'MD-1 Flood and Dam Breach Analysis' by Stantec in 2024.	Completed
To verify the assumptions made for the embankment dam stability assessments, Hydro could give consideration to performing the following: (1) dam surveys, (2) geotechnical investigations, and (3) installation of additional piezometers.	All recommendations were completed as a part of the 'Ebbegunbaeg Dam Remediation Options Study' by AtkinsRealis in 2026.	Completed
Consideration should be given to performing an updated flood study to incorporate hydrometeorological data from the past 25 years including recent severe storm scenarios i.e. Hurricane Igor, Summer 2010. This study will provide important information on the status of the dam structures and emergency operation procedures relative to an up-to-date IDF flood level.	Flood Study for the Bay d'Espoir System was updated in 2018 with the completion of the 'Probable Maximum Flood Study for the Bay d'Espoir Hydroelectric Development' by Hatch. This included the Meelpaeg reservoir where MD-1 is located.	Completed
Public Safety Reviews should be conducted for the sites noted in this study.	A Public Safety Review was completed on the Meelpaeg reservoir in 2012, with subsequent installation of the recommended control measures.	Completed
Consider developing a dam safety integrated learning system to increase the effectiveness of the dam safety management system.	A new Dam Safety Training course was developed in 2014 through collaboration with CEATI that incorporated different aspects of Dam Safety to replace the existing training program.	Completed

Table 2: Meelpaeg and Burnt Structures Dam Safety Review Recommendations – KGS Group

Recommendation	Response	Status
Consider Installation of vibrating wire piezometers to continuously monitor the piezometric levels.	Recommendations were completed as a part of the 'Ebbegunbaeg Dam Remediation Options Study' by AtkinsRealis in 2026 with a piezometer installed in MD-1A.	Completed
During the installation of the instruments, the samples of embankment fill materials and foundation soils can be collected to perform laboratory testing in order to estimate the shear strength material properties.	Recommendations were completed as a part of the 'Ebbegunbaeg Dam Remediation Options Study' by AtkinsRealis in 2026.	Completed
Obtain representative samples of filter materials and complete gradation tests to assess the filter compatibility for the earthfill embankment dams.	Compatibility between the embankment materials was reviewed in sections 8.6.2 and 8.6.3 of the 'Ebbegunbaeg Dam Remediation Options Study' by AtkinsRealis in 2026.	Completed
Consider repair or replace of broken station markers.	Ongoing as a part of routine maintenance for dams.	Ongoing
Remove the substantial tree/bush growth at the downstream toe area to prevent vegetation growth from impeding visual inspections of the embankment dam and lowering the efficiency of the ditches/channels of conveying seepage water to downstream. Prevention measures for future growth would be preferred.	Vegetation control practices continue as a part of routine maintenance. Vegetation removal was completed following the Hatch 2011 dam safety review, with subsequent work completed in 2021.	Ongoing
Re-assess the dam classifications for MD-1, MD-1S and MD-12 which were adopted as interim in previous reports. The implications of the dam classification on maintaining the required state of alertness and facilitating the procedures for such scenario should be factored in the decision for assigning a dam classification to these dams.	The classification of the MD-1 has been changed to 'Significant' following the completion of the 'MD-1 Flood and Dam Breach Analysis' by Stantec in 2024.	Completed
Revisit the freeboard calculations for MD-1B and MD-1D.	Subsequent survey data for the dam shows that the crest elevations are higher than indicated on the design drawings, thus lowering the risk associated with the potential fetch issues identified by KGS Group. As such, the completion of the freeboard calculations was deferred and will be completed during the next Dam Safety Review planned for completion in 2032.	Scheduled
Continue to visually monitor the embankment dam to ensure conditions are not deteriorating over time.	Regular inspections continue. This includes: - Routine inspections completed by operations personnel trained in Dam Inspections on a targeted biweekly frequency - Internal engineering inspections are completed twice annually (Spring & Fall) - External Consultant is engaged to complete third party inspection in the fall of select structures, MD-1 is included within this scope of work - Dam Safety Reviews are completed on the frequency set out in the CDA Dam Safety Guidelines.	Ongoing
Install instrumentation for continuous monitoring (vibrating-wire piezometers and slope inclinometers).	Recommendation for piezometers were completed as a part of the 'Ebbegunbaeg Dam Remediation Options Study' by AtkinsRealis in 2026. Slope inclinometers were not installed at this time given the plan to address the noted slope instability issues associated with the dam. Slope inclinometer installation will be reviewed following the completion of the remediation work.	Completed
Complete topographical survey (obtain several cross sections) of the embankment dam and redo the stability analysis.	Recommendations were completed as a part of the 'Ebbegunbaeg Dam Remediation Options Study' by AtkinsRealis in 2026.	Completed
Continued monitoring of the boiling area to assess if any changes are occurring.	Regular inspections continue. This includes: - Routine inspections completed by operations personnel trained in Dam Inspections on a targeted biweekly frequency - Internal Engineering inspections are completed twice annually (Spring & Fall) - External Consultant is engaged to complete third party inspection in the fall of select structures, MD-1 is included within this scope of work - Dam Safety Reviews are completed on the frequency set out in the CDA Dam Safety Guidelines.	Ongoing
Carry out investigation / study to determine the root cause of the boiling and foundation condition of the dam at this location.	Recommendations were completed as a part of the 'Ebbegunbaeg Dam Remediation Options Study' by AtkinsRealis in 2026.	Completed