

GENERAL ORDER 2017-098
Section 49 Oil and Gas Activities Act

Issued to:

Progress Energy Canada Ltd.
500, 140 10th Avenue SE
Calgary AB T2G 0R1

Attention: Mr. Glen Swanson, Manager, Regulatory and Operational Compliance

Order:

Pursuant to section 49(b) of the *Oil and Gas Activities Act* (the Act), I, Jacques Corstanje, order that Progress Energy Canada Ltd. (Progress) must:

1. By September 15, 2017, continuously maintain the water level in the freshwater storage structure located at d-32-C/94-G-07 (the Structure) at or below 50% of the design live storage of the Structure.

Conditions:

- A. The Order and this amendment shall remain in effect until amended or terminated by the Commission.

Reasons:

- i. Progress is the permit holder of the Structure.
- ii. The Structure is a dam under the *Water Sustainability Act*.
- iii. During a field assessment conducted on May 16, 2017, the Commission's Water Manager, Allan Chapman, MSc, PGeo, Dam Safety Officer, Justin Anderson, Operations Officer, Ken McLean and FLNRO Senior Dam Safety Officer, Monty Miedrich, observed features that create a concern about the integrity and stability of the Structure, namely:
 - a. the opening of the existing culvert spillway is perched and not functioning or minimally functioning.
 - b. the existing water level was very high with insufficient freeboard (<0.5 metre), with risk of over-topping.
 - c. water was flowing into the Structure from surface water sources.

General Order 2017-098

- iv. On May 23, 2017 the Commission issued Order 2017-030.
- v. On June 2, 2017, the Commission inspected the site, verifying that water volumes in the Structure had been reduced to at least 1.5 metres below the lowest elevation of the top of the Structure, in compliance with items 1 and 2 of the Order.
- vi. On July 26, 2017 the Structure was inspected by the Commission's Dam Safety and Integrity Engineer, Kevin Fattah, M. Eng, M. Sc., P.Eng., who observed features that created a concern for the integrity and stability of the Structure, namely the following:
 - a. Longitudinal cracks were observed upstream of one side of the Structure, creating a risk for future rotational slumps.
 - b. Flowing water observed on the downstream side of the Structure can cause continuous erosion and slide failures of the embankment, deterioration of embankment faces, crest damage, and breaching.
 - c. The outflow culvert size and location are not consistent for maintaining the required safe freeboard for the Structure.
 - d. Retention of rain water on the Structure's crest due to flat profile and vehicle rutting may cause saturation of the crest.
 - e. High vegetation cover present on the crest and downstream sides of the Structure prevents clear monitoring of the Structure.
 - f. Roots from small trees observed on the crest of the Structure can affect the Structure's safety.
- vii. The Commission's Dam Safety and Integrity Engineer has recommended reducing water level in the Structure to 50% or less of the design live storage to mitigate risks of failure.
- viii. On September 11, 2017, Progress advised the Commission that it had taken steps to further reduce water levels in the Structure.
- ix. On September 13th, 2017 the Commission terminated Order 2017-030.
- x. Based on the July 26th, 2017 inspection and recommendations by the Commission's Dam Safety and Integrity Engineer, I am of the opinion that maintaining water levels in the Structure higher than 50% of the design live storage creates a potential for Structure failure.
- xi. I am of the opinion that this order is required for protection of the environment and to mitigate risk to public safety.

Review and Appeal

Progress may request a review of this order under section 70 of the Act by submitting a request for review to: ogc.determinationreviews@bcogc.ca.

Progress may appeal this order to the Oil and Gas Appeal Tribunal under section 72 of the Act. The process for appeals may be found at www.ogat.gov.bc.ca and a notice of appeal may be sent to the Oil and Gas Appeal Tribunal at:

Oil and Gas Appeal Tribunal
PO Box 4925 Stn Prov Govt
Victoria, BC V8W 9V1



Jacques Corstanje, RPF
Director, Aboriginal Liaison Program
BC Oil and Gas Commission

DATED AT Fort St. John, in the Province of British Columbia, this 13th day of September, 2017.