



# **CONNECTION ASSESSMENT & APPROVAL PROCESS**

## ***ASSESSMENT SUMMARY***

*Applicant: Great Lakes Power Inc.*

*Project: MacKay TS - Replace breakers & disconnect switches*

***CAA ID No. 2002-EX050***

***Long Term Forecasts & Assessments Department  
Consistent Information Set Department***

*Date: 29<sup>th</sup> July 2002*

## ASSESSMENT SUMMARY

### *GREAT LAKES POWER Inc. - MacKay TS*

#### *Replace 115kV breakers & disconnect switches*

##### *1.0 General Description*

Three of the existing 115kV circuit breakers at MacKay TS are considered to be at the end of their useful life and are to be replaced.

In addition, the disconnect switches associated with these three breakers (two per breaker) are also to be replaced due to their unreliability and inadequate BIL rating.

The scheduled in-service dates for the new circuit breakers and their associated disconnect switches are as follows:

circuit breaker 612	end-August 2002
circuit breaker 632	end-September 2002
circuit breaker 662	end-October 2002

##### *2.0 Proposed Work*

The proposed work involves the like-for-like replacement of the existing circuit breakers and disconnect switches with new units having enhanced ratings, as follows:

###### *115kV Circuit breakers:*

Alstom Type DT1-145F SF <sub>6</sub>	
Maximum operating voltage	145kV continuous
Rated interrupting capability	40kA
Continuous rating	2000A (existing units: 1200A)
BIL	650kV (existing units: 350kV)

###### *115kV Disconnect Switches:*

Alstom Type CGCB	
Maximum operating voltage	145kV continuous
Fault rating	31.5kA
Continuous rating	2000A
BIL	650kV (existing units: 350kV)

The facilities that are to be replaced are shown in Diagram 1.

##### *3.0 Assessment*

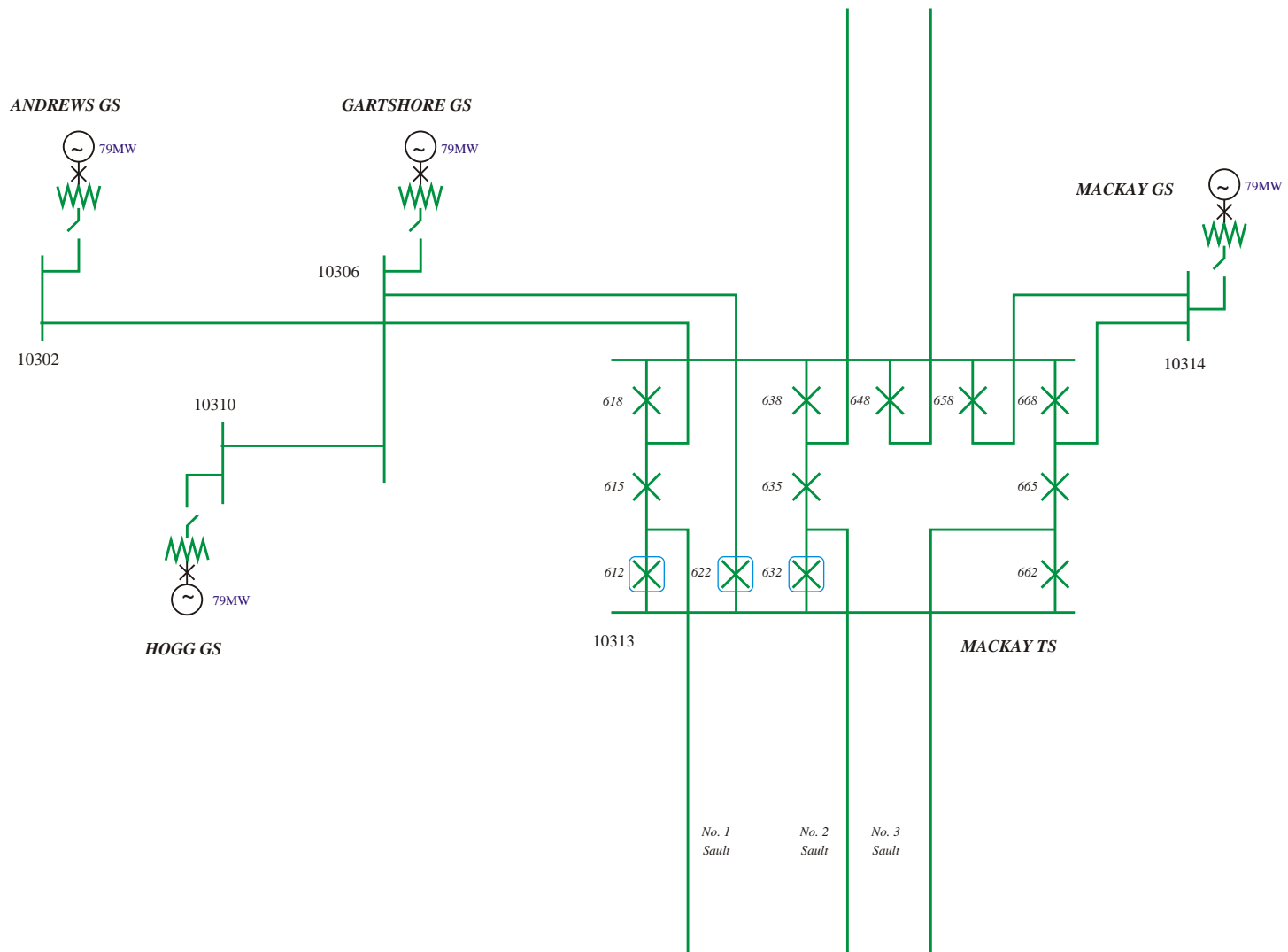
Since the proposed work involves a like-for-like replacement of existing facilities it will have no adverse impact on the IMO-controlled grid.

It should be noted, however, that the three replacement breakers will not comply with the Transmission System Code that requires a rating of 50kA for new 115kV breakers.

While the 40kA rating of the new breakers is expected to be adequate for all foreseeable developments on the GLP system, should a third party initiate a development that would result in the fault level increasing above 40kA, then the subsequent replacement of these three breakers would be expected to be undertaken at Great Lake Power's expense.

#### ***4.0 Notification Of Approval***

It is therefore recommended that a Notification of Approval of the Connection Proposal be issued.



breakers that are to be replaced  
 (Includes the associated disconnect switches)

**DIAGRAM 1**

29th July 2002