Q. **Re: Project B-5 Unit 1 and Unit 2 Generator Stator Rewind**

What would be the operational consequences, in terms of providing reliable power in a Labrador Infeed context, of one of Units 1, 2 or 3 being temporarily unable to provide synchronous condensing capacity due to, for example, a failure of the stator windings?

A. The total synchronous condenser requirements for the Labrador Infeed include the three Holyrood units operating as synchronous condensers and three new high inertia synchronous condensers at the Soldiers Pond Converter Station for a total synchronous condenser plant of six units. Regular scheduled maintenance for this rotating equipment will see annual maintenance outages of several weeks each year for each synchronous condenser and major maintenance outages lasting up to one month per unit at five to six year intervals. While maintenance to synchronous condensers will be scheduled during low Labrador Infeed loading levels, one does note that, given the maintenance schedules, there will be a twelve to eighteen week period in which there will be one synchronous condenser out of service for maintenance each year. To this end, system analysis has been completed to determine the impact that the loss of a synchronous condenser with one unit already out of service for maintenance will have on successful operation of the Labrador Infeed. The results indicate that such a condition will not have an adverse impact on continued operation of the Labrador Infeed at its pre disturbance loading level. In other words, the sudden loss of the synchronous condenser would not result in loss of load on the Island. Should such an event occur (e.g. a failure of a stator winding) while another synchronous condenser is out for maintenance, the power deliveries over the Labrador Infeed would be reduced until the synchronous condenser out for maintenance is returned to service, in order to avoid system

upset should there be a loss of a third synchronous condenser. With five synchronous condensers in service and one out with a failure of the stator winding, maintenance on the remaining synchronous condensers would have to be deferred until winding repairs are completed if one were to maximize deliveries via the Labrador Infeed, or synchronous condenser maintenance would proceed with reduced loading on the Labrador Infeed. The level of load reduction on the Labrador Infeed is dependent upon which synchronous condenser fails, the time of year, and so on. As a result the load reduction level has not been defined at this time, but will be determined as part of detailed engineering studies used to prepare the operating guidelines for the Labrador Infeed in final design.