B-29 Reliability Upgrades-Frequency Converter, $1,320,200

Q. Provide specifics of the known problems within the controls synchronizing equipment, ventilation system and insulators.

A. The failure of the automatic synchronizer requires synchronization of the unit to the system to be done manually. This involves different members of the operational staff manipulating and monitoring the synchronizing from different locations in the facility. Staff must adjust and match voltage and speed of the unit to the system by communicating with each other by telephone and VHF radio. The speed and voltage must be matched exactly for successful synchronization. Individual response times and delays combined with noise interference to the communications leads to failed synchronization attempts. These failed synchronization attempts result in major disturbances to the mill operation and the main transmission system. Replacement of the automatic synchronizer as proposed in the 2007 Capital Budget Application will eliminate these problems.

The facility does not have a proper ventilation and cooling system for the converter equipment. Consequently, the fire doors must be kept open to allow air flow from the outside, through the building to cool the transformers and the converter. This air flow carries dust and dirt from the mill operation into the converter equipment. This interferes with efficient operation and leads to equipment outages for periodic cleaning. This project involves sealing the converter building and installing forced air units and filters to bring clean cooling air to the equipment.

The insulators are cracked and deteriorated to the point that failure is imminent. Failure of an insulator would create a major fault disturbance to the system, as well as a safety hazard condition. The ventilation system installation and insulator replacements were approved in Hydro's 2006 Capital Budget.