**New Chelsea Hydro Plant Refurbishment, Schedule B, page 12-13 ($3,973,000)**

**Q. Please provide the cost differential between a hydraulic governor vs. the electronic governor solution proposed and the amount of oil expected to be reduced in the system by using an electronic governor (see Volume 2, Energy Supply, Appendix 2, page 4).**

A. On page 4 of Volume 2, Energy Supply, Appendix 2, Attachment A the two alternatives identified were the upgrading of the existing Woodward hydraulic governor with an electronic controller and the replacement of the Woodward governor with an all-electric solution.

An electronic controller from GE Global Services (formerly Woodward) is $30,000 US and replacement of the oil reservoir and sump is approximately $30,000 US. In addition to these $60,000 US direct costs from the manufacturer, there will be costs associated with shipment, testing, and engineering support along with costs to refurbish the power piston using a local machine shop.

Based upon pricing received in April 2003 for the Tors Cove governor replacement project, an all-electric governor costs approximately $70,000 US plus shipping, testing and engineering support.

Therefore there is relatively little cost difference between the two technologies. The final decision on governor technology will be based upon detailed engineering design and plant specific requirements.

The existing Woodward gate shaft governor system contains 26 gallons of oil.