Q. Provide the details by plant of the inputs necessary to determine the plant efficiency curves and describe how plant improvements are incorporated into these curves and reflected in final forecast Hydraulic production. (NP-36 NLH, Page 1, Line 8 to 11)

A. Plant efficiency data is based upon Hydro's unit efficiency curves, which is in turn based upon plant/unit index testing. Other than the Bay d'Espoir runner replacements, no action has been taken to improve or change the physical efficiency characteristics of the units.

Dispatch realities tend to place unit loading at points below optimum. As a result, unit efficiency on an annual or monthly basis is below the theoretical maximum based upon the index curve tests. A model will attempt to simulate unit operations close to optimum except when there is too much water in which case the model will forgo efficiency to use water. To reflect reality of operating off of optimum, the model is calibrated against experience. The result of the calibration is a reduction in or downgrading of the efficiency curves used in the model.

Operational improvements undertaken by Hydro are directed at moving units to more efficient points more often, by undertaking economic dispatch and unit commitment efforts. The result is an improvement in the unit efficiency and, everything else being equal, conversion factor. These improvements are incorporated into the model again by calibrating the plant efficiency curves.

The response to NP 126 NLH summarizes the calibration activity undertaken in advance of the preparation of the hydraulic production forecast to ensure its reasonableness.