Q. **B-25, Replace Emergency Diesel Generator, $611,400**

Please provide a comparison of the advantages and disadvantages, other than capital cost, from the experience of Hydro and from other utilities, of the purchase of a containerized unit versus the purchase of a diesel genset and the construction of a new building to house it.

A. This is Hydro's first project related to a hydro generation plant whereby a black start diesel genset is being replaced with a larger unit requiring a larger room to accommodate it. However, Hydro has had experience with replacing diesel gensets with larger units in its rural operations diesel generating plants serving prime power to isolated communities that are not connected to the provincial interconnected power grid.

An advantage of a containerized system is that it offers a short site construction period. It also allows the new diesel plant to be witness tested before it leaves the manufacturing facility thereby providing opportunity to ensure it has no deficiencies before it is delivered to the Bay d'Espoir site. In addition a containerized unit also offers the flexibility of relocating the diesel plant to another location, if desired in the future, at a much lower cost then the new building alternative. An advantage of a new building alternative is that it allows greater flexibility in a customized design for increasing floor spacing and ceiling clearances inside the building. However Hydro is satisfied that a containerized plant can be provided meeting requirements for proper floor spacing and ceiling clearances.

Hydro is a member of a hydro generation interest group, Hydraulic Plant Life Interest Group, along with many utilities in Canada and the United States. Hydro

issued a request to this group regarding their experience in completing similar projects whereby containerized plant and new building plant alternatives were considered. A response was received from two utilities as follows;

1) Transalta:

" We found that the difference between the powerhouse infrastructure to accommodate the generator indoors was more complicated than the stand-alone building outside, therefore easier and less expensive to be located outside."

2) Mighty River Power Limited:

" We have no particular preference for either solution, each has certain advantages over the other."

A containerized diesel genset was initially considered for Bay d'Espoir due to the availability of a suitable location. Due to the layout of the plant site, the closest location near the powerhouse to place a new building was at the far end of the powerhouse from the Station Service Panel. At that location, an existing storage building would have to be relocated (more practically demolished and rebuilt elsewhere). The smaller containerized unit can be located beside the cliff in the foreground of the picture below. This is the closest possible location to station service and the control room.