

HYDRO

File No. 352.92.00/01

INTER-OFFICE MEMORANDUM

DATE: June 20, 1994
TO: Twin Falls Board of Directors
FROM: Samuel D. Banfield
SUBJECT: Twin Falls Power Plant

In July 1974, the Twin Falls Plant was formerly moth-balled with the intent that the plant could be reactivated in a minimum period of time should the need arise. Since that time the facilities have been maintained with the building being heated and kept in a relatively water tight condition, the powerhouse equipment is kept dry and protected from corrosion, the penstocks are kept dry by eliminating water leaks, the water control structure at Ossok is maintained in the operating mode, the power transformer radiators have been drained and/or removed to eliminate oil leaks.

With these items in place, the power facilities have been maintained with a limited restart capability. It must be realized, however, that in the last twenty years a number of factors have worked against keeping the Twin Falls Plant in a state of readiness. Aging of equipment, availability of spare parts, and the availability of personnel familiar with the plant equipment and operation are some of these factors.

In the intervening years since the moth-ball took place, a number of estimates have been prepared in regards to reactivation of the Twin Falls Plant and these are summarized below:

- (a) 1979 estimate \$450,000.
- (b) 1983 estimate \$775,000.
- (c) 1990 estimate \$2,350,000.

Please note that these estimates are in the dollars of the year in which the estimate was undertaken and, in all cases, it was assumed that the plant equipment would be reactivated without any modification and/or repairs. That is to say that the excitation and control system, for example, could be reactivated as is without any modifications or repairs and assuming spare parts availability. It was also assumed in all estimates that the operating mode of the plant would be identical to the original design, i.e., base load. A similar type estimate done in 1994 dollars gave a figure of \$2,850,000.

Unfortunately, these estimates do not take into account our current knowledge of spare parts and the obsolescence of certain systems. With this knowledge, we have concluded that some replacement and modification of the various systems would be required. Specifically, replacement of the excitation system, cooling water pipes, station DC supply, instrumentation, and telecontrol facilities would be required, with a partial replacement of the governor system, control systems, and protection and control equipment. In addition, it is also known that major cavitation repairs would be required for the runner.

With this in mind, it is estimated that some \$10 million would be required to bring the Twin Falls Plant up to modern operating standards, including those items which were known in the previous estimates.

In order for this plant to be suitable for peaking operations, an additional \$15 million would be required mainly for penstock insulation, wicket gate seals, tailrace weir, control structure at Baikie Lake, and additional engineering costs. The total cost for this peaking option would be \$25 million.

Based on these estimates and the supporting background information, it is the conclusion of the CF(L)Co engineering and operating personnel that very little could be gained by pre-spending large sums of money on the Twin Falls Plant. As one can see, most of the expenditures would be in the area of complete or partial replacement or new works such as control structures, penstock insulation, etc.

It is therefore the recommendation of CF(L)Co Engineering and Operations that the Twin Falls Plant should be maintained as in the past. That is to spend the minimum amount of money possible to keep the plant in its present condition.



Samuel D. Banfield
Vice-President
Operations & Engineering

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S. BANFIELD RECOMMENDED NO ROOF REPLACEMENT AND THAT THE \$250,000 BE TAKEN OUT OF THE BUDGET. DO ONLY MODERATE REPAIRS ALONG CURRENT PRACTICE. D. RANCE REQUESTED BREAKDOWN OF CURRENT MAINTENANCE AND REPAIR EXPENDITURES FOR THE WHOLE SYSTEM. BANFIELD WILL PROVIDE. OMBRELLO REQUESTED A COPY OF THE \$10 MILLION ESTIMATE BE DISTRIBUTED. BANFIELD WILL DO THIS AND WILL INCLUDE THE \$15 MILLION ESTIMATE, AS WELL. D. COLLETT ASKED WHAT THE PLANT EXPOSURE WAS WITHOUT THE ROOF REPAIR. BANFIELD STATED IT WOULD BE EXPOSED TO DETERIORATION, BUT NOT MAJOR.