

MEMORANDUM

August 7, 2003

To: Kathy Vest  
From: Rod Wittinger

Subject: Cost Estimate for Procurement of a Prototype Type 1 Optimizer

1. A Type 1 Optimizer is both the hardware and software to perform unattended index tests or relative efficiency tests on Kaplan turbines. The first such device, called an Index Test Box (ITB), was developed by Woodward Governor Company about twenty (20) years ago. Subsequently, Bonneville Power Administration (BPA) provided funding of \$68,000 to Portland General Electric (PGE) to purchase and install the first prototype device. Although jointly tested by BPA and PGE and found to work exactly as intended, Woodward did not make the device available to the commercial market.
2. Due to the Corps' present efforts to optimize the efficiency and performance of each of the Kaplan generating units on the Columbia and Snake Rivers, such a labor saving device is now needed. The Contractor, who was the original inventor, has estimated his present costs to construct and program a modern version of the ITB at \$150,000 and to take about one year for delivery. The Corps has asked for additional technical capabilities of this new ITB, such as compatibility so that it may be incorporated into the Columbia River GDACS control system. This will necessitate several field trips to the Pacific Northwest by the Contractor, who lives in Illinois.
3. Given inflation over the last twenty years, which would nearly double the original price, and the additional technical requirements the Government currently requests, the Government's estimate was established at \$147,368.00.

Signed:

  
Rod Wittinger, P.E.