

DOMINION BATH COUNTY

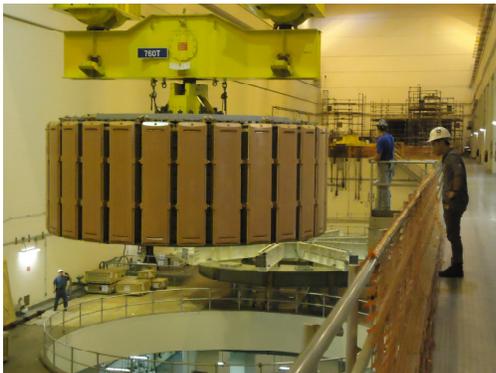
Bath County Control System Commissioning and Training Simulator

Introduction

The Bath County Pumped Storage Station consists of two large reservoirs — one 1,262 feet (385 meters) higher than the other, a massive power house and the huge tunnels that connect them. When power demand is low, water is pumped from the lower reservoir to the upper one. When power demand is high, water is run through the tunnels to the lower reservoir turning six turbine generators, for a maximum station output of 3,003MW. The water level in the 265-acre upper reservoir can fluctuate as much as 106 feet when the unit is operated.



Virtual Commissioning



The control systems at the plant have been migrated to Ovation DCS in phases by the collaboration of MEL and Dominion on the DCS configuration, staging, and training.

MEL adhered to the virtual startup concept in DCS engineering by integrated the newly developed Ovation Configuration of each turbine to a MEL designed dynamic simulator using THINK™ simulation engine. Along with the developed Ovation Graphics, MEL and

Dominion DCS engineers were able to validate the complete control system configuration of each turbine before its commissioning.

Operator Training

The THINK™ Simulator was used for operator training after the control system staging was complete. The operators were able to evaluate and test alternative operating procedures for normal and abnormal operation, including startup and restart, and improve upon the existing operation.

