Precise and reliable fuel forecasting and reporting enables Nova Scotia Power to uncover fuel cost savings to justify transmission system upgrades.

 Tightening emissions regulations drove NSP's need for greater sophistication in their fuel forecasting. Switching to PLEXOS from resource optimization software that could no longer handle their dispatch complexities, they uncovered considerable fuel cost savings.

 Tightening emissions regulations, decreasing load and increasing variable generation were all causing NSP's dispatch modeling to become substantially more complex.

 After a Fuel Adjustment Mechanism Audit completed by Liberty Consulting Group, NSP learned that its Modeling Dynamic Reactive Reserve (MDRR) dispatch model was limited. The tool was economically dispatching coal units ahead of the generators in a way that created an infeasible dispatch, and the model was under-forecasting the natural gas and HPO fuel requirement.

 Based on the audit's recommendation, they chose PLEXOS to address the dispatch issue. In addition, the PLEXOS model was able to explicitly consider the sync condenser contribution to the system load.

 Initially, PLEXOS and the previous tool ran in parallel for two quarterly fuel forecasts to validate the model. The team grew confident in the accuracy and PLEXOS became the tool for recording fuel forecasts.

 PLEXOS accurately forecasted fuel and purchased power requirements from the start of the changeover and succeeded in forming the base case for all system studies and fuel forecasts. NSP was able to justify transmission system upgrades based on fuel cost savings. The organization now relies solely on PLEXOS to deliver accurate fuel forecasts and reports.

 NSP provides power to around 500,000 customers in Nova Scotia, Canada. Its diverse generation mix includes HFO, gas, coal/petcoke, oil, hydro/tidal, wind and biomass.