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revised Friday, April 27, 2012, Friday, September 14, 2012, Wednesday, January 23, 2013

The following is a brief summary of the Council’s System Analysis Advisory Committee (SAAC).

* New unit-service cost metric
  + Net present value $ per MWh, where MWh is taken as annual frozen efficiency load requirement
  + Annual costs include those of existing and new generation, including the levelized cost of new construction – specifically, it includes the levelized cost of new energy efficiency measures
  + The intent is to normalize cost by the unit of service (energy before any conservation) to neutralize the effect of high load futures
* Hydro representation
  + New starting month (October) for the hydro year
  + Introduce continuous operation, while maintaining the current option to model sequentially random hydro years
  + Sequentially random hydro years may better match the provisions of any new Canadian Treaty, which could give the Canadians more operating flexibility
* Creating narratives for futures
  + Very careful discussion of one future, number 750
  + Narratives for other futures, with the assistance of Greg Nothstein, WDOC
* Consideration of alternative optimization techniques, such as genetic algorithms
* Discussion of the operation and interpretation of the model and its results
* Certain language changes: strategies, instead of plans; scenarios, instead of futures.
* Review of certain assumptions: sensitivity of electricity price to other parameters, dispatch of the thermal units, sensitivity of the economic success of unit to construction parameters like lead-time
* Carbon penalty in the RPM: There are potentially several of them:
  + Tax or cap & trade regime, which would influence the fossil fuel effective prices and electricity prices
  + Loss of generation due to regulatory, legislative, or utility risk mitigation action, witness Centralia and Boardman, which would affect electricity prices by reducing supply
* Sources of risk
  + Closing the dams on the Snake River are a significant source of risk to the region
  + Repeal of RPS legislation or voter referendums
  + Treatment of the closure of Centralia and Boardman
* Discussion of options for construction. There is confusion with the option mechanism discussed in the Council’s First Power Plan. The options in the RPM are instead intended simply to reflect economic risks faced by any party that undertakes resource construction.
* Better articulation of the differences with other models that ignore risk:
  + Cost minimization (optimization) models and models requiring return to long-term price equilibrium assume perfect foresight
  + Mean reversion of commodity prices, heat rate stability, and convergence to historical correlation values assume static technology, markets, and regulation