Special Commission Update – 12 February 2010

Contents

Generation capacity for peak electricity demand

Background

The Commission is concerned by risks to the provision of adequate generation capacity to meet peak electricity demand. Although sufficient physical capacity exists to meet expected peak demand, slow-start thermal generation plant is not always offered into the market, particularly at times when low prices are expected. This has been a concern for the System Operator (SO), which had to partly or completely suspend the reserves market on six occasions during 2009 in order to meet demand.

The Commission, the SO and stakeholders have identified this issue as being a serious risk to security of supply. There are also concerns about the adequacy of pricing signals for peaking generation and demand-side response.

The SO facilitated a Capacity Adequacy Working Group, and the Commission worked with a technical sub-group, to consider the problem and a range of possible solutions. From this process the following solution has been chosen.

The Solution package

The solution package consists of:

(a) The Commission reviewing the way in which Whirinaki Power Station is offered for dispatch;
(b) improving the information provided by the SO to market participants;
(c) improving the way in which instantaneous reserves are dispatched and priced; and
(d) reviewing the rules associated with decreasing demand in a grid emergency when interruptible load has also been offered.

The package is consistent with the government's energy policy and the Market Development Programme currently underway.

Note: One component of the package was a review of the Whirinaki offer strategy. That review, and the eventual decision to change the strategy, was carried out by the Commission and not discussed with the Working Group or the technical sub-group.

Change to Whirinaki offer strategy

The Commission has contracted with the Crown for the provision of Reserve Energy from Whirinaki Power Station. The Commission must determine how Whirinaki is offered into the wholesale electricity market.

The Whirinaki offer strategy is now being changed, as a result of concerns that the current strategy may be influencing the availability of other thermal plant. The change also supports the policy direction of Whirinaki becoming a commercial peaking plant, in that the new offer strategy is more commercial.

The offer strategy has two parts – the energy offer (effective during prolonged energy shortages, such as 'dry years') and the capacity offer (effective at all other times). Only the capacity offer is being changed at this point. Under the new capacity offer, Whirinaki will be offered at a fixed price of $5,000/MWh.

This change will apply from 1 March 2010

The current energy offer will still apply when hydro shortage risk increases above 1% and the Commission declares a Security Watch phase. Under these conditions, Whirinaki's offer price will fall to the station's short-run marginal cost (currently $387/MWh).

The following document sets out the new offer strategy, includes a copy of the offer instruction that will be sent to Contact Energy (who operate Whirinaki) and explains the rationale for the change.

- http://www.electricitycommission.govt.nz/opdev/secsupply/index.html#reserve-energy

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Instantaneous Reserve Dispatch Improvement Rule Change

Three key concerns have been identified in relation to dispatch of instantaneous reserve (IR) during scarcity situations:

1. if insufficient reserves are dispatched, the system will become insecure, which increases the risk of forced load curtailment if unforeseen events (system failures) occur;
2. the price signal (effectively zero) sent to IR providers undermines the incentives for those provides to provide IR (which in turn further reduces system security); and
3. shifting generation from the IR market to the energy market reduces energy prices. This is counter to the price signal required during a time of scarcity, where prices should remain high or rise.

The solution identified increases system security and provides pricing incentives for IR providers to dispatch IR. It has two main components:

1. Dispatching all available IR in real time during a scarcity situation. This requires a change to the SO's dispatch software (SPD).
2. Ensuring that all IR providers whose IR is dispatched in a scarce situation are paid IR compensation if the final IR price is less than their offer price.

Rule changes are required to implement the solution. A copy of the rule change is available on the Commission website.

- http://www.electricitycommission.govt.nz/rulesandregs/recommend/index.html

Due to the potential seriousness of the situation (i.e. the risk of operating the system in an insecure state), the rule changes have been made under the urgent rule change provisions of the Electricity Act (section 172E(3)). That means that consultation on the rule changes will take place after the rule changes are made.

The rule changes will come into effect on 1 May 2010, to ensure the SO has time to implement the necessary software changes. However, the Commission has decided to publish the rule changes at this point so that the industry participants have advanced notice of the changes.

While an industry technical group has worked with the Commission to develop the rule changes, the urgent rule change provisions of the Act require full consultation to be completed within six months. The Commission will shortly begin the formal consultation process.

Contacts

Contact details for the Commission are at: http://www.electricitycommission.govt.nz/contact

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