



MAJOR ELECTRICITY USERS' GROUP

19 November 2010

Dr Carl Hansen
Chief Executive
Electricity Authority
By email to carl.hansen@ea.govt.nz

Dear Carl

Request to increase number of loss tranches for estimating AC branch losses to be included in work programme

1. At the MEUG meeting on 20th October that you and Dr Layton attended we discussed how increasing the number of loss tranches to approximate AC branch losses would sharpen pricing signals and reduce prices. We are aware the Authority has yet to publish a work programme. The purpose of this letter is to ask the Authority to include investigation into increasing the number of loss tranches into the work programme and to assign it a high priority.
2. The imperfection but necessity of having to use a finite number of linear tranches to approximate quadratic AC branch losses within a linear programme such as SPD has been long recognised. When the electricity market was established in 1996 software and hardware limitations restricted approximation of AC branch losses to three tranches. This very coarse approximation of losses remains in place today. Mr Graeme Everett of Norske Skog Tasman wrote to the System Operator in 2004 regarding concerns with how transmission losses were modelled in SPD. Since that date there has been a comprehensive upgrade of SPD, funded by consumers, to enable improvements such as use of more loss tranches.
3. Earlier this year Mr Everett suggested to Electricity Commission staff that in light of the conclusion of the SO's software development programme this option was worthy of further investigation.
4. A study undertaken by Dr Ramu Naidoo showed that increasing the number of loss tranches on AC branches from 3 to 6 for all trading periods in the period July 2009 to June 2010 had a significant impact on prices and efficiency. Considerable savings were available by more efficient dispatch of generation plant. Electricity prices decreased by nearly 3% in the North Island and 2% in the South Island. We believe that these initial results are sufficiently encouraging to support the Authority according further investigation of this proposal a high priority.

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5. As far as we are aware it is a simple matter to alter the number of loss tranches in SPD and requires no code changes.
6. At the MEUG Executive Committee meeting held on Wednesday there was strong support for this issue to receive the highest priority and for MEUG to write to the Authority requesting that changes be implemented expeditiously. Members commented that they knew of no other initiative that the Electricity Authority is working on that has this level of tangible benefit for consumers.
7. MEUG would like to commend Dr Bruce Smith and Dr Ramu Naidoo for their excellent work on this project and we look forward to a continued focus on similar projects that bring long term benefits to consumers.

Yours sincerely



Ralph Matthes
Executive Director

cc Dr Brent Layton, Chair, Electricity Authority