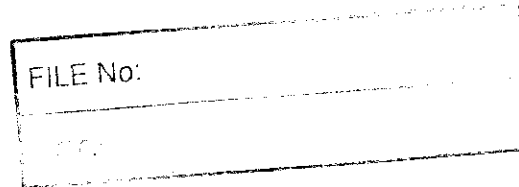


Mr M. Rawstron
General Manager
Regulatory Affairs – Electricity
ACCC
PO Box 1199
Dickson ACT 2602



Dear Mike,

Snowy Hydro Trading Pty Limited: Extension of Notional Unit Derogation

This correspondence is in response to ACCC Public Notice Calling for Submissions relating to the NECA Application for authorisations No A90776, A90777 and A90778 regarding the above subject.

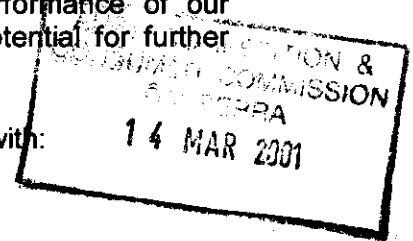
This correspondence is on behalf of both Snowy Hydro Trading Pty Limited, of which I am CEO, and Snowy Mountains Hydro Electric Authority, of which I am Commissioner.

As background, the application to NECA was made only after discussion with NEMMCO and NECA over some months. From mid 2000, we experienced very considerable difficulty with software development and hardware procurement, made substantially worse by difficulties with our US based supplier (we had little or no choice). This was complicated by the novel and extremely complex nature of the demands for this energy management system (particularly in the context of the topography and pre-existing platforms of the Authority). On a "no surprises" basis our progress was discussed with Messrs. Kelly and van der Mye and their advice sought. It was well recognised that we were confronting an extremely challenging software project and that delays were inevitable. NEMMCO had had similar experience in a range of software projects.

Many remedial actions had been considered but the advice from external sources, consistent with our internal view, was that we should not divert our limited resources from the main task because the risk of extensive delays and an unsatisfactory interim solution was too great.

The situation is somewhat better than expected in that hardware is now being delivered and software development is progressing with less frequent surprises. In seeking the extension for 6 months we anticipated an improvement in the performance of our suppliers and this is confirmed. There does remain however, the potential for further delays and we are proposing a monthly reporting of progress to NECA.

In responding to this submission two important issues need to be dealt with:



Firstly in discussions with NECA some questions were raised with regard to "anti competitive detriment." Noting that the application is for a short-term extension, ie continuation of the current situation, we believe a pragmatic solution is readily available.

Specifically, the current notional unit agreement between NEMMCO and Snowy Hydro Trading provides a mechanism for Snowy Hydro Trading to forward, to NEMMCO, forecast of its generation intentions on an aggregated basis. This allows NEMMCO to reduce the uncertainty of its interconnector capability forecasts in pre-dispatch, thereby addressing the concerns of non-transparency that have been raised. It is this non-transparency that is suggested by NEMMCO to give rise to anti competitive detriment.

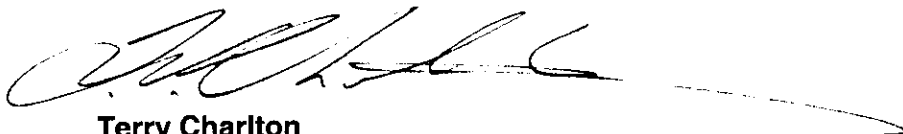
NEMMCO however has not yet chosen to utilize this mechanism that would provide the broader market with increased transparency. Upon extension to the derogation, Snowy Hydro Trading remains willing to participate with NEMMCO in the already agreed process and to negotiate any further changes or improvement in the current agreement as might be necessary.

Secondly, some of the detail concerns raised by NEMMCO seem misplaced. I have attached detailed comments to address these issues. SHTPL is not seeking to change the future basis of code required operation. Our objective is simply an extension to accommodate the non-delivery to Snowy by its AGC system software supplier.

I have also attached a copy of our original application to NECA (setting out the reasons for this change) and with NEMMCO's approval, I am also happy to provide a copy of the NEMMCO – Snowy Hydro Trading notional unit agreement.

In summary, we believe that this submission will address all the major concerns raised. Please be assured that Snowy is pursuing the installation of its AGC systems as soon as is practically possible and with vigour and a very considerable resource priority. We have formally agreed with NECA (and ACCC if required) to report on a monthly basis so that the earliest termination of the proposed situation can be achieved.

Yours sincerely,



Terry Charlton
CEO, Snowy Hydro Trading Pty Limited
Commissioner, Snowy Mountains Hydro Electric Authority

NEMMCO Concerns expressed in its letter to NECA dated 1 February 2001

Understanding of inability to operate on aggregated basis

“NEMMCO continues to fail to understand why SHTPL cannot operate its generators as aggregated units until its control and communication systems are replaced.”

The lack of understanding perhaps relates to NEMMCO’s experience with Automatic Generation Control (AGC) systems at a system level rather than at a plant control level.

For most AGC systems that control at ‘system level’, no consideration of ‘plant level’ control requirements are typically needed. This is due to two general reasons/assumptions. Firstly, that there are no common elements of production constraints between different thermal generating units that the control system need consider, even within the same power station. Secondly the thermal generating unit control system over rides the AGC control system actions (the unit control system is self-contained). However, when using an AGC system to control interconnected hydro generating plant, both these assumptions are invalid. Specifically, there are substantial common elements such as head ponds, pressure tunnels, surge tanks, penstocks, tail bays, tail bay surge tanks, tail race tunnels, intermediate ponds etc. Accordingly this plant control management function must be effected at a macro level (AGC system) rather than unit control level. In such hydro systems the consequences to plant, people and environment of getting the plant control wrong is significant due to the hydraulic forces employed.

SMHEA’s current AGC system operates on a scheme wide basis and cannot be modified to operate on an aggregated basis as suggested by NEMMCO. Currently NEMMCO provides to Snowy a single scheme wide dynamic AGC target (ignoring Blowering). This is used by the Snowy AGC system to load Snowy across all of its generating units. To operate on an aggregate basis, NEMMCO must provide in the future four dynamic aggregate AGC targets (one for Murray, Upper Tumut, Tumut 3 and Guthega). The current AGC system is unable to control generation on this basis (it has only a single ‘area control’ as opposed to four independent ‘area controls’ required for future operation).

The current AGC system is a legacy system with no vendor support. Additionally, the AGC system is critically important to dynamically load Snowy’s generation safely. Snowy’s control system (including AGC) directly controls individual unit loadings. In complex hydro generation systems, the AGC system has specific control functions to assure that plant loadings do not impact on plant and people safety or the environment. Inadvertent control action could lead to air entrainment and subsequent catastrophic failure of hydro turbines, surge tank and tail bay spillage which inturn, could lead to power station flooding etc and environmental damage from uncontrolled releases from dam spillways. Accordingly, plant loading cannot be allowed to affected through an inappropriate AGC control system.

SMHEA has let a contract with a major provider of such systems, to provide a new AGC that provides for operation on an aggregate basis, rather than a scheme wide basis. Unfortunately, for reasons beyond SMHEA’s control, the new AGC system delivery has been delayed.

System Security Role

'NEMMCO does not accept that this situation would not "put system security at risk"

SHTPL acknowledges that the current arrangements are not optimal as far as the transmission system within the Snowy Region is concerned. This is the reason that SHTPL has sought an extension of the derogation for the minimal time possible.

However, to suggest that Snowy should operate without an AGC system (as would result if the derogation was not extended as the current Snowy AGC system would have to be decommissioned) does not recognise system security compromise that will result by manual dynamic loading of Snowy plant. This was in fact demonstrated by the system incident on the 15 January. The replacement Snowy AGC control system would have allowed at least the aggregate control loadings to be more effectively managed during such events.

Ancillary Services Provision

NEMMCO is unable to see how having Snowy generation operate on an aggregate basis would "pose considerable risk to its' ability to provide ancillary services."

Snowy Hydro Trading disputes the NEMMCO comments "that the SHTPL ancillary services agreement already provides ancillary services to be provided on an aggregated basis." Without a replacement AGC in place, SHTPL is simply unable to provide frequency control ancillary services on an aggregated basis. This was recognised at the time of contract formulation, discussed and agreed with NEMMCO, and the standard form contract varied to specifically acknowledge that SHTPL could not be obliged to provide FCAS ancillary services unless its replacement AGC was operational under aggregated Snowy dispatch.

NEMMCO's Specific Concerns

1. NEMMCO's ability to maintain power system security may be compromised

This must be managed in real time and as full SCADA data is provided by SMHEA to NEMMCO, accordingly SHTPL understands NEMMCO has full and sufficient information to discharge its responsibilities.

2. Management of Power Flows on Snowy lines

While it is recognised that the market dispatch process cannot directly manage flows on Snowy lines, the current arrangements do allow the flows to be managed. Irrespective of market dispatch process, without the replacement AGC system, aggregate unit dispatch cannot be physically implemented by Snowy.

3. Limiting Competition in the NEM

The current Notional Unit agreement between NEMMCO and Snowy provides a mechanism to address the pre-dispatch/dispatch uncertainty issue. (That being a provision requiring SHTPL to provide in good faith a forecast of its intended aggregated loading pattern versus dispatch levels in order for NEMMCO to improve its pre-dispatch forecast) However, NEMMCO (SHTPL understands) has chosen not to implement IT systems to utilise the information SHTPL offered to provide.

SHTPL offers to provide this information and if required to negotiate with NEMMCO in good faith to further enhance the current notional unit agreement as an interim measure to assist with the matter.

SHTPL urges NEMMCO to enhance the level of transparency regarding demand forecasts and forecasts of interconnect capability. This of course, is a much broader issue than simply addressing forecast aggregate Snowy generation patterns.

4. Effect on loss factors

NEMMCO should be aware that the material effect on loss factors within the Snowy region is negligible, as the losses between the internal Snowy transmission nodes are small. This is in sharp contrast to the Snowy region design recommended by NEMMCO in which gross distortions to inter-regional loss factors occur. (For example, negative inter-regional loss factors often occur when exports from Snowy to NSW are up to a level of 800 to 1200 MW, indicating the true regional boundary includes Canberra load well to the north of the current Snowy region.)



S N O W Y M O U N T A I N S
H Y D R O - E L E C T R I C A U T H O R I T Y

6 December 2000

Dr Stephen Kelly
Managing Director
NECA
Level 5
41 Currie Street
ADELAIDE SOUTH AUSTRALIA 5000

Dear Stephen

I am writing with respect to the notional unit derogation held by Snowy Hydro Trading Pty Limited under the code that permits the Scheme to be bid into the NEM as a single aggregated generator. This derogation is presently timed to cease on 31 March 2001.

To conform with the code post derogation the Snowy will be required to combine its 31 generating units into 5 aggregate units (representing the 5 Scheme physical connection points to the NEM) and to manage these 5 aggregate units into the market.

As our existing generation control and communication systems do not have the necessary functionality to manage the Schemes 5 aggregate units a decision was taken in 1998 to replace the data acquisition (DAC)/automatic generation control (AGC) system, the IDP Communications link between Snowy and NEMMCO and to develop an aggregate unit planning and bidding (AUPAB) system. This is a major undertaking given the nature and overall complexity of the Scheme.

Subsequently contracts were let to a large USA based Company for a replacement AGC system an Australian Software House for the AUPAB system.

Due to the uniqueness of the Scheme, its complexity and the limited choice of suppliers for such systems development considerable difficulties and delays were encountered in achieving commercially acceptable contracts.

Subsequent to the award of contracts we have experienced difficulties in getting Contractors to commit the requisite resources, and have found it necessary to maintain a significant presence of our people at their works in the USA. Development of the software code to adequately manage and optimise the Scheme's performance has also presented significant difficulties and risk resulted in programme delays.

Whilst the original programme provided for the systems to be installed and available for an operational 'soak' test by the end of February 2001, despite our best endeavours this date is no longer achievable.

With factory acceptance testing of the AGC system planned to start late January 2001 it is difficult to predict at this time whether or not performance difficulties will be identified, however, the potential for further delays to the programme are real.

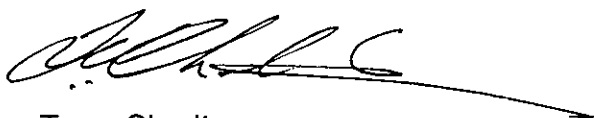
Consequently, given the work yet to be done and the probability that the system may not initially fully meet factory test performance criteria and that further difficulties may well be encountered during commissioning, the most realistic date for full operation of the system is during the third quarter of 2001.

We believe that an extension of the derogation will not impact other market participants nor put system security at risk.

Conversely, however, for the Scheme to be required to operate on an aggregate unit basis, without the necessary systems in place poses considerable risk to its ability to provide ancillary services to the NEM and would significantly impact on its operational efficiency and on its ability to meet its water inflow management and diversion obligations.

Thus, in view of the foregoing and in accordance with the provisions of the Code we formally make application to NECA to extend the Notional Unit Derogation for Snowy Hydro for a period of 6 months, from 31 March 2001 to 30 September 2001.

Yours sincerely



Terry Charlton
Commissioner SMHEA
CEO Snowy Hydro Ltd