2nd March 2006

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Dear John

Consultation: Management of negative residues in the Snowy Region

Snowy Hydro Limited (Snowy Hydro) would like to highlight some apparent misconceptions that have been evident in the first round of submissions to the subject consultation. These misconceptions are associated with re-orientation to Dederang when there are binding constraints from Murray to Tumut network nodes. These include:

1. There are **two** 'status quo' methods of dealing with these negative residues (not one as generally assumed). These are truncation and re-orientation. The potential future solution should be consistent in both flow directions and compared against the current best method.

2. While most submissions have only focussed on the negative residue truncation solution as the status quo, we expected that Participants would focus on re-orientation to Dederang as a viable alternative solution.

3. We believe the focus of AEMC's consideration should be between the LYMMCO proposed solution and re-orientation solution. We further believe that NEMMCO does not require a Rule change to implement re-orientation for northerly flows as it is currently used for southerly flows. Never the less if the AEMC believes that a Rule change is necessary to implement re-orientation for northerly flows; a suggested Rule change is attached in the Appendix 3 for the AEMC's consideration. (Please note that in NEMMCO's consultation on this issue, NEMMCO simply did not have a broader policy and economic mandate to consider the re-orientation option and hence could only consider the issue from a narrow market operational perspective.)

4. The general bench mark for assessment must be the policy direction set by MCE. That is, Full Nodal Pricing (settlement) has been rejected as a policy direction due to broader market efficiency issues and thus is not the appropriate benchmark for consideration of the LYMMCO proposal.

By addressing these misconceptions we highlight that re-orientation to Dederang is a practical and the most appropriate transitional solution for management of negative residues in the Snowy Region.

We also include a separate Appendix that specifically critiques the misguided aspects associated with the Southern Generators and Darryl Biggar's submissions to the Management of Negative Settlement Residues in the Snowy Region consultation. This critique can be found in Appendix 1.

Has Re-orientation Worked to Date?

The LYMMCO proposal has only focused on the northerly flow re-orientation without examining the facts on southerly flow re-orientation. Southerly flow re-orientation to Dederang has been in existence for over 2 years. On close examination of the performance of southerly flow re-orientation to Dederang it can be concluded that:

- Re-orientation has occurred seamlessly without market disruption and without the need for NEMMCO to intervene and restrict interconnector flows;
- No Participants have complained about its operation; and
- Re-orientation works because it allows generation to be supplied to Victoria when demand and prices are high, thereby benefiting Victorian and South Australian customers.

Snowy Hydro has analysed the occasions when re-orientation to Dederang for southerly flow to Victoria has taken place. It was found that on a number of separate occasions re-orientation to Dederang has successfully occurred and hence allowed inter-regional trade to occur from NSW/Snowy to Victoria. These dates are shown in Appendix 2.

LYMMCO have conveniently dismissed these facts and has stuck with their contradictory stance that re-orientation results in miss pricing of Murray generation. As we stated in our submission it is important to note that nearly all generators by definition in a regional market design are 'deliberately mis-priced'. It was recognised through the MCE consultation that this 'mis-pricing' creates less distortion (for the overall efficiency of the market) than 'efficient pricing' (nodal pricing). The Southern Generators assertion about miss-pricing is contradictory to the established MCE policy. Cynically, this same group of generators support 'mis-pricing' for their Latrobe Valley generators.

Snowy Hydro believes re-orientation to Dederang will deliver similar substantiative benefits to consumers just as re-orientation for southerly flow has demonstrated. These additional benefits (compared to the LYMMCO proposal) include:

- Murray competing on equal footing with Victorian generators since both will receive basically the Melbourne regional reference price adjusted for losses;
- More efficient electricity prices for customers in Victoria through increased competition; and
- Increased settlement residue firmness on interconnectors (this is explained in further detail below).

Is the LYMMCO proposed solution a permanent 'band-aid' or a trial 'band-aid'?

The LYMMCO proposal is essentially allocating property rights (Constraint Support Contracts) to Victorian and South Australian generators without explicit allocation of property rights to specific generators. That is, in transferring settlement residues from the Snowy-NSW interconnector to the Vic-Snowy interconnector the proposal does not allocate property rights to generators such as Southern Hydro and Murray that impact more materially on the transfer level.

It has been pointed out by LYMMCO and other interested parties that the LYMMCO proposal is not easily generalised to other congested locations in the NEM. Apart from this observation, it is not clear to us whether the proposal is a trial or a permanent solution. As was required of Snowy Hydro with its CSP/CSC trial proposal, the net economic benefits of the proposal must be established. In either case, LYMMCO have not justified any net economic benefits especially when compared to the re-orientation

solution.

It appears to Snowy Hydro that the LYMMCO proposal is based on 3 basic grounds:

1. Efficient physical dispatch;
2. Improved inter-regional trade; and
3. New investment.

Please note by definition both the LYMMCO proposal and the re-orientation solution have the exact same physical dispatch efficiency since both use the same equivalent dispatch equations.

With respect to point 2, we show in Appendix 1 that the re-orientation solution provides firmer SRAs and hence improved inter-regional trade compared to the LYMMCO proposal.

New investment considerations are the most interesting point raised by LYMMCO. The following should be noted:

- New investments by definition is a long term decision, and we believe that the Snowy Hydro proposed Snowy Region boundary change proposal is the best long term solution to this problem.

- The LYMMCO proposal simply creates a signal for new investment in the Latrobe Valley to satisfy high demand in Sydney West despite critically constrained transmission to the north (for example see market outcomes on 2 February 2006 periods 12:55 to 13:10) and this is contradictory to the MCE policy.

LYMMCO Proposal at Odds with MCE Policy

The LYMMCO proposal contradicts the MCE policy direction of rejecting Full Nodal Pricing. The proposal is seeking to apply nodal pricing for one specific location and one specific network loop in the NEM. It is noted that between Melbourne and Sydney West there are at least 6 critical nodes and at least 3 material loops. The LYMMCO proposal may only be 'optimal' if all these nodes/loops were priced, which is in effect Full Nodal Pricing, but this is not possible due to the policy direction. As such we believe that the LYMMCO proposal is inconsistent and at odds with the MCE policy direction for pricing in the NEM.

Conclusion

We strongly believe that re-orientation to Dederang for both directions offers the best transitional solution until a Snowy Region boundary change. The Southern Generators have conveniently ignored the successful practice of re-orientation for southerly flow and cynically seeking to impose nodal pricing on only one location in the NEM, that will only provide significant benefit to themselves.

Snowy Hydro appreciates the opportunity to highlight the misconceptions with the LYMMCO proposal. To discuss this issue further, I can be contacted on (02) 9278 1885.

Yours sincerely,

Roger Whitby
Executive Officer, Trading

Appendix 1 - Critique of the LYMMCO submission

A. From the start of the LYMMCO document to section 4:

The submission discussed only northern flow intervention by NEMMCO and there is no comparison or reference to southern direction flow re-orientation which under current procedures is successfully re-oriented to Dederang.

The only exception is on the top of the page 4: 'and for Southerly flow NEMMCO re-orients the network constraint, i.e. "deliberate mis-pricing'.

It is important to note that nearly all generators by definition in the regional market design are 'deliberately mis-priced'. It was recognised through the MCE consultation that this 'mis-pricing' creates less distortion (for the overall efficiency of the market) than 'efficient pricing' (nodal pricing). Their assertion about mis-pricing is contradictory to the established MCE policy. Cynically, this same group of generators support 'mis-pricing' for their Latrobe Valley generators.

B. Section 4

This section addresses the differences between NEMMCO's truncation and their proposal, rather than comparing their proposal with the current practice of re-orientation in the southern direction. The following sections highlight the more appropriate comparison between the LYMMCO proposal and the re-orientation to Dederang option.

4.1 Inefficient dispatch (physical dispatch)

Please note that both re-orientation and their proposal supports fully efficient physical dispatch and hence there is no advantage in LYMMCO's proposal.

4.2. Effect of forward hedging contract trade

With respect to improved inter-regional trade, we believe LYMMCO is comparing their proposal with the wrong benchmark. The LYMMCO proposal should be compared to the re-orientation to Dederang option and not compared with the current operational arrangement of truncation. When the LYMMCO proposal is compared to re-orientation, it is clear that re-orientation offers firmer settlement residues.

Please note that re-orientation provides firmer SRAs than LYMMCO's proposal (as currently demonstrated in the market. Refer to trading period 13:35 on the 26/01/2006 as explained below).

It is easy to check the assertion that re-orientation provides higher SRA value for NSW to Snowy for the southern flows. (This was highlighted in Eraring Energy submission). The amount is equivalent to:

Murray generation * (Murray price –Vic price).

It is very difficult to analyse the difference in proposals for the northern direction because LYMMCO's proposal implies significant artificial increases in Victorian prices. Based on Snowy's analysis it is likely that SRAs will significantly reduce or even not exist due to reduced competition and increased prices in Victoria under the LYMMCO proposal.

Re-orientation will provide firm SRAs in both directions, it is easy to prove that it provides firmer SRA

in southern direction than in comparison to LYMMCO's proposal, for northern direction it will significantly depend on incentives and behaviour (based on our analysis provided in our initial submission on incentives) it can be expected that re-orientation will provide firmer SRAs.

The overall conclusion is that re-orientation is expected to provide firmer SRAs than under the LYMMCO proposal which has been mathematically proven in current re-orientation for southern direction operation.

4.3. Investment incentives (1)

Re-orientation to Dederang based on the first bullet point (in section 4.3 of LYMMCO's submission) is better as it provides firmer SRAs. Other points will be discussed below.

Conclusion: Based on LYMMCO's defined criteria it is obvious that the re-orientation proposal is at least equal to or better when compared to LYMMCO's proposal. It has already been tested (in the south direction) and it been proven that it works with minimal market disruption.

Investment incentives are probably the most interesting criteria and will be discussed below.

4.3. Investment incentives (2)

It is really important that LYMMCO raised the criteria as one of efficiency.

(a) It is important to note that investment decisions are long term decisions and this is the reason why Snowy Hydro regional boundary proposal of fixing the problem rather than trying to put inefficient 'band-aids' is a far superior solution;

(b) This is also an important criteria to understand that the MCE policy is not just about 'efficient pricing' (nodal pricing), but also about overall effect on market;

(c) Snowy Hydro already elaborated in previous submissions and through our presentation to the AEMC that in the assessment of efficient investment, the overall network and generation incentives needs to be taken into account rather than only focusing on one node**. If this proposal is accepted it will give inappropriate market signals to build generation in Latrobe Valley to satisfy high demand in Sydney West**. This signal is a false investment signal and is the direct consequence of LYMMCO wanting to 'band-aid' only one node and one loop, while the problem affects a number of nodes and at least three loops between Melbourne and Sydney. It is probably a classic example why nodal pricing does not necessarily represent an efficient solution (especially when not implemented across the entire market).

LYMMCO also fail to accept (selectively) that the MCE policy direction does not define an efficient market narrowly by assessing it based only on efficient pricing. By rejecting Full Nodal Pricing the MCE recognised that other benefits needs to be discussed. One such benefit is investment incentives which were discussed above and LYMMCO's proposal miserably failed on this criteria. The other criteria are:

- benefit to customers;
- increased competition; and
- efficient utilisation of resources.

Snowy Hydro pointed out in previous submissions that the only potential beneficiary are customers in Snowy region (more specifically customers around the Murray switchyard), however there is no

customers in the area and there is no serious prospects for significant customer growth. On the other side dis-beneficiaries are clearly Victorian customers that will pay high prices during low demand in Victoria to Victorian generators (who are the only beneficiary of this proposal).

As already demonstrated in our previous submission, this proposal reduces competition in Victoria by actively discouraging Murray to withdraw generation.

As already demonstrated in our previous submission that the LYMMCO proposal will encourage utilisation of high cost generation in Victoria in preference of Murray generation. Please check actual data on 2/2/2006 and 12:55 to 13:10 when NEMMCO did not reacted quickly to reduce negative residues and gas generation had been issued dispatch target while Murray generation has been backed off.

C. Section 5 and 6 - Future regional boundary change

It was demonstrated in previous sections that for any assessment of efficient market operation (including investment incentives) rather than assessing only the enforcement of nodal pricing, the overall solution is more important and any band-aid solution if not aligned with this overall policy can create serious problems.

D. Section 7 - Reasons for an Urgent Change

We highlight two very important points here:

Re-orientation to Dederang has been demonstrated as superior solution than LYMMCO's proposal and re-orientation can be implemented at the same speed.

As a matter of fact re-orientation could have been implemented in October 2005 and all the issues raised by LYMMCO would have been solved for this summer if not for one of LYMMCO's proponents which blocked the re-orientation option.

As already demonstrated above if narrow 'nodal pricing' gets implemented, it can send clear incentives to build plant in Latrobe Valley to satisfy high demand in Sydney West, which demonstrate that narrow approach and the non understanding of other loop issues including 'western ring' and 'southern hydro' loops which can have negative effects on market efficiency.

The comment in the LYMMCO submission about 'Victorian customers lose out' is very worrying, as it shows that LYMMCO has not appropriately interpreted Snowy's comments. Snowy Hydro's argument is very simple. Once when we recognised that Full Nodal Pricing is not the only measurement of an efficient market any rule change has to be assessed on other benefits (including investment incentives, customer and competition benefits etc.).

It is important to understand that any decision outside Full Nodal Pricing effectively makes a judgment call on pricing (including LYMMCO's proposal who argues about increased prices in VIC due to the exploitation of wrong regional boundary definitions), however Snowy argues that Participants (like LYMMCO) have to demonstrate the net benefits of their proposals and Snowy Hydro pointed out that their proposal only benefits VIC generators to the expense of VIC customers (we cannot see any efficiency in this) as well as reducing competition.

General Comments on Darryl Biggar's submission

Darryl Biggar comments focus on specific issues and recognised that the LYMMCO proposal as a 'band-aid' or partial solution. While Darryl's paper has academic value (and Snowy Hydro would have generally accepted his analysis methodology prior to the MCE policy deliberation) given the policy context it has a number of questionable assumptions ie:

- Nodal pricing is the only benchmark
- Participants will not change their bidding behaviour in response to change in financial incentives (rule changes)
- Spot market is the fundamental market for analysis

Darryl's analysis comes from the same efficient pricing (nodal pricing) prospective that assumes that nodal pricing is the only benchmark and MCE policy has rejected it. It fails to takes into account other aspect of efficiency as described above in comments on LYMMCO's submission. It fails to comment on broader market impact due to the proposal, but concentrates on 'band-aids' to enforce nodal pricing in one specific location assuming that this will automatically mean an efficient market. Darryl specifically fails to analyse the critical and interrelated affects of the adjacent loops on both sides of the 'Murray loop'.

Most importantly Darryl fails to analyse and compare LYMMCO's solution with the existing solution for southerly direction (re-orientation) especially given the context of the MCE policy direction.

His analysis also concentrates on period on 2 February when prices are below $100 (and NEMMCO did not intervene) which is irrelevant as NEMMCO does not need to intervene in these satiations (and as a consequence there is no inefficiency). However he failed to analyse the period between 12:55 to 13:10 that created a need for NEMMCO intervention, but NEMMCO did not intervene. This period will prove that Murray generation gets substituted with gas generation in Victoria, and this is allowed to occur will ultimately lead to withholding of generation at Murray and dispatch of high cost generation in Victoria.

Appendix 2 – Data Showing Successful Re-orientation

South Flow Re-orientation Days
19/01/2006
20/01/2006
22/01/2006
26/01/2006
24/02/2006

Appendix 3 – Draft Rule Change

Proposed amendments to the Rules are highlighted below.

Part 8 – Network Constraint Formulation

(a) Despite any other provision of the *Rules* to the contrary, including without limitation clauses 3.6.4(a), 3.6.4(a1), 3.6.4(b), 3.7.2(c)(3), 3.7.3(d)(3), 3.8.1(b)(5), 3.8.1(b)(6), 3.13.4(o) and 3.13.8(a)(5), *network* limitations may occur which impact on both *intraregional* and *inter-regional* power flows.

(b) *NEMMCO* must determine and represent *network constraints* in *dispatch* which may result from limitations on both *intra-regional* and *inter-regional* power flows.

(c) If the use of a *network constraint* in *dispatch* developed under clause (b) substantially creates, in *NEMMCO's* reasonable opinion, a significant *inter-regional* power flow from a *region* with a *dispatch price* that is greater than the *dispatch price* of the importing *region* (a 'significant counter price power flow'), *NEMMCO* must, without prejudicing its obligations to maintain *power system security*, use reasonable endeavours to apply an alternative formulation for that *network constraint* for the expected duration of the significant counter price power flow. That alternative form of the *network constraint* must apply for the expected period of the significant counter price power flow if the original formulation of the *network constraint* were used.

(c1) For the avoidance of all doubt, should a significant counter price power flow be forecast for the Snowy to Victoria *interconnector* or the Victoria to Snowy *interconnector* the normal *network constraints* orientated to Murray *network* node will be replaced by *network constraints* orientated to Dederang *network* nodes.

(d) *NEMMCO* must develop and *publish* a procedure for determining when an *interregional* power flow referred to in clause (c) and (c1) is considered to be significant for the purposes of that clause.

(e) This *participant derogation* will cease to apply on:

(1) 31 July 2007;

(2) the implementation of the first regional boundary review by the *AEMC*; or

(3) as otherwise determined by the *AEMC*.

(e1) Clauses (f) to (p) commence on 1 October 2005.

(f) *NEMMCO* must determine and *publish* a list of *network constraints* (the 'Murray/Tumut constraint list') developed pursuant to clause (b) that relate directly to managing power flows in either a northward or southward direction between the *network* nodes to which the following *power station*s are directly connected:

(1) Lower Tumut;

(2) Upper Tumut;

(3) Murray; and

(4) Guthega.

(g) For the purpose of clauses (f) to (p), constraint "k" in the Murray/Tumut constraint list must be expressed in the following generic form:

$$\alpha_k \times LT + \beta_k \times UT + \delta_k \times MURR + \lambda_k \times GUTH + \gamma_k \times V\text{-}Sn + \eta_k \times Sn\text{-}NSW \leq RHS_k$$

Where:

LT is the *dispatch* target for MW from Lower Tumut *power station*;
UT is the *dispatch* target for MW from Upper Tumut *power station*;
MURR is the *dispatch* target for MW from Murray *power station*;
GUTH is the *dispatch* target for MW from Guthega *power station;*
Sn-NSW is the *dispatch* target for MW flow on the Snowy to NSW *interconnector*;
V-Sn is the *dispatch* target for MW flow on the Victoria to Snowy *interconnector*; and
RHS includes a line rating term with an effective coefficient of 1.

(h) (1) Subject to clause (h)(3), if in any *dispatch interval* of a *trading interval* any of the *constraints* in the Murray/Tumut constraint list have bound, then congestion fund payments must be determined for Lower Tumut and Upper Tumut *power station*s pursuant to clauses (i) to (o).
(2) If in any *trading interval* clause (h)(1) does not apply, then no congestion fund payments need be determined pursuant to clauses (i) to (o) for that *trading interval*.
(3) If in any *trading interval* an *administered price period* is declared pursuant to clause 3.14.2, in any one of the Victorian, Snowy or NSW *regions*, no congestion fund payments are to be determined for that *trading interval* pursuant to this *participant derogation*.

(i) If congestion fund payments must be determined for Lower Tumut and Upper Tumut *power station*s pursuant to clause (h)(1) then, for each relevant *trading interval*, *NEMMCO* must determine power flows between Murray and Tumut as either northwards or southwards as follows.

Let:

X be, for each *dispatch interval* in a *trading interval*, the sum of the absolute value of all RHS values of binding *constraints* in the Murray/Tumut constraint list where the *constraint* has bound on flows in the direction from Tumut to Murray; and
Y be, for each *dispatch interval* in a *trading interval*, the sum of the absolute value of all RHS values of binding *constraints* in the Murray/Tumut constraint list where the *constraint* has bound on flows in the direction from Murray to Tumut.
If:
X < Y then power flows for the *trading interval* between Murray and Tumut must be determined as northwards and congestion fund payments must be determined for Lower Tumut and Upper Tumut *power station*s pursuant to clause (n); and

X ≥ Y then power flows for the *trading interval* between Murray and Tumut must be determined as southwards and congestion fund payments must be determined for Lower Tumut and Upper Tumut *power station*s pursuant to clause (o).

(j) In any *trading interval* where any of the *constraints* in the Murray/Tumut constraint list have bound for one or more *dispatch intervals*, *NEMMCO* must perform the following calculation for every *dispatch interval* in the relevant *trading interval*:

$$SPd_p = \left[DPS_{nowy} \times TLF_p \right] - \left[\sum_k (CSP_{ak} \times Coeff_{p,k}) \right]$$ for p = Lower Tumut and Upper Tumut

Where:

SPd_p is the substitute price for each *dispatch interval* for *generation* from *power station* "p";
DPS_{nowy} is the *dispatch price* that applies to the Snowy *region* for the relevant *dispatch interval*;
TLF_p is the *transmission loss factor* for *power station* "p";
CSP_{ak} is the *constraint* marginal value ($/MWh) as determined by the *dispatch* engine for each *dispatch interval* of relieving binding *constraint* "k" by a marginal amount; and
$Coeff_{p,k}$ is the coefficient (α, β, δ, λ, γ or η) assigned to element "p" in *constraint* "k" from the Murray/Tumut constraint list developed pursuant to clause (g),

and subject to the following:

(1) if the SPd_p determined pursuant to this clause is calculated as an amount less than the *market floor price* it must be deemed to be equal to the *market floor price*;
and
(2) if the SPd_p determined pursuant to this clause is calculated as an amount greater than *VoLL* it must be deemed to be equal to *VoLL*.

(k) A substitute price (SP) for each *trading interval* must be determined by *NEMMCO* for generation from *power station* "p" as follows:

SP_p is the substitute price being the arithmetic average for a *trading interval* of each relevant *dispatch interval* of SPd_p; and
SPd_p is as determined pursuant to clause (j).

(l) *NEMMCO* must determine for each relevant *trading interval* an *energy* value differential (EVD) as follows:

$EVD_p = SP_p - (TLF_p \times RRP_{Snowy})$ for p = Lower Tumut and Upper Tumut
Where:
EVD_p is the per unit *energy* value differential for a *trading interval* for *power station* "p";
TLF_p is the *transmission loss factor* for *power station* "p";
SP_p is the substitute price determined pursuant to clause (k); and
RRP_{Snowy} is the *regional reference price* for a *trading interval* that applies to the Snowy *region*.

(m) A CSC allocation factor is determined as follows:

CSC allocation factor = (A – B) / A
Where:
A is nominal *transmission* limit between Murray and Tumut which is to be taken as 1350 MW for the purpose of this *participant derogation*; and
B is nominal *interconnector* capacity from the NSW *region* to the Snowy *region* which is to be taken as 800 MW for the purpose of this *participant derogation*.

In clauses (n) and (o), the following conventions apply:
a "trading amount" (TA) is a payment to or from a *Market Participant* or inter-regional settlement residue fund;

if TA > 0, then this represents a payment *to* the *Market Participant* or inter-regional settlement residue fund as appropriate;

if TA < 0, then this represents a payment *from* the *Market Participant* or inter-regional settlement residue fund as appropriate.

(n) If power flows between Murray and Tumut for a *trading interval* have been determined as northwards pursuant to clause (i), *NEMMCO* must determine the following amounts:

(1) An *energy* value adjustment determined as follows:
$EVA_N = \sum_p (AGE_p \times EVD_p)$ for p = Lower Tumut and Upper Tumut
Where:
EVA_N is the *energy* value adjustment for northward flows between Murray and Tumut that is to be applied to the determination of the trading amount pursuant to this clause (n);
AGE_p is the adjusted gross *energy* for a *trading interval* for *generation* from *power station* "p"; and
EVD_p is the *energy* value differential determined pursuant to clause (l) for *generation* from *power station* "p";

(2) *Trading amounts* determined as follows:
$TA_1 = Min (EVA_N, IRSR_{Sn-NSW})$
$TA_2 = -1 \times TA_1$

Where:

TA_1 is a *trading amount* for Snowy Hydro Limited;
$IRSR_{Sn-NSW}$ is the inter-regional settlement residue allocated to flows **from the Snowy *region* to the NSW *region*** for the relevant *trading interval*; and
TA_2 is a *trading amount* for the inter-regional settlement residue allocated to flows **from the Snowy *region* to the NSW *region***.

(o) If power flows between Murray and Tumut for a *trading interval* have been determined as southwards pursuant to clause (i), *NEMMCO* must determine the following amounts:

(1) A *trading amount* determined as follows:
$TA_3 = \sum_p (AGE_p \times EVD_p)$ for p = Lower Tumut and Upper Tumut
Where:
TA_3 is a *trading amount* for Snowy Hydro Limited;
AGE_p is the adjusted gross *energy* for a *trading interval* for *generation* from *power station* "p"; and
EVD_p is the *energy* value differential determined pursuant to clause (l) for *generation* from *power station* "p";

(2) A *settlements residue trading amount* determined as follows:
$TA_4 = -1 \times IRSR_{Sn-NSW}$
Where:
TA_4 is a *trading amount* for the inter-regional settlement residue allocated to flows **from the Snowy *region* to the NSW *region***; and
$IRSR_{Sn-NSW}$ is the inter-regional settlement residue allocated to flows **from the Snowy *region* to the NSW *region*** for the relevant

trading interval;

(3) A *trading amount* to determined as follows:

$TA_5 = (IRSR_{NSW–Sn} – TA_3 – TA_4) * CSC$ allocation factor

Where:
TA_5 is a *trading amount* for Snowy Hydro Limited;
$IRSR_{NSW–Sn}$ is the inter-regional settlement residue allocated to flows **from the NSW *region* to the Snowy *region*** for the relevant *trading interval*; and
CSC allocation factor is the CSC allocation factor determined pursuant to clause (m).

(4) A *settlements residue trading amount* determined as follows:

$TA_6 = (–1 \times TA_3) – TA_4 – TA_5$

Where:
TA_6 is a *trading amount* for the inter-regional settlement residue allocated to flows **from the NSW *region* to the Snowy *region***.

(p) *NEMMCO* must *publish* all *trading amounts* arising from application of this *participant derogation* (if any) using the current settlement cycle.