InterGen Australia

Stanwell Corporation Limited

Tarong Energy Corporation Limited

7 December 2007

Dr John Tamblyn
Chair
Australian Energy Market Commission
Level 5
201 Elizabeth Street
Sydney NSW 2000

Dear Dr Tamblyn,

CONGESTION MANAGEMENT REVIEW DRAFT REPORT

1 Introduction

Stanwell Corporation Limited, InterGen Australia, and Tarong Energy (the Group) welcomes the opportunity to respond to the Draft Congestion Management Review (the Draft Report) put forward by the Australian Energy Market Commission (AEMC). While individual businesses may put forward separate submissions addressing the broader issues discussed in the Draft Report, this letter focuses on an analysis of Positive Flow Clamping (PFC). Specifically, this paper focuses on the impacts for the financial market and dispatch efficiency.

We note that as part of the Draft Report, the AEMC is considering the way in which negative settlement residues are managed and whether improvements can be made to improve the existing Settlement Residue Auction (SRA) mechanism as a means of improving inter-regional trading risk. In that context, PFC is being considered as an alternative to Zero Flow Clamping (ZFC) to manage negative settlement residues. The AEMC considers the main benefit of PFC compared with conventional clamping is that inter-regional settlement residues (IRSRs) continue to accumulate following the intervention, thus improving the firmness of IRSR units. Further, the Draft Report also sites that PFC is likely to result in improved dispatch efficiency.

Specifically, this submission addresses:

- the likely impact of PFC on improving the firmness of the IRSR units, therefore its overall contribution to enhancing inter-regional trade and consequently assesses whether the implementation of PFC would be worthwhile; and
- the changes in overall system costs (including system losses) under PFC.

To assist in understanding the impact of PFC, the Group engaged two analytical reports (attached) from Energy Edge and ROAM Consulting[1]. Energy Edge have undertaken an analysis of PFC as a means of reducing negative settlement residues, firming-up IRSR units and increasing competition and market liquidity. In addition, a broader group of Queensland generators engaged ROAM Consulting to undertake an initial analysis of the dispatch efficiency implications across the National Electricity Market (NEM). While the purpose of this submission is to outline the key elements of the Reports (including results, methodology and findings), a number of important comments are highlighted with respect to each of the pieces of analysis below:

A copy of both Reports is attached and the following discussion provides a high level overview of the results, methodology and conclusions provided by Energy Edge and ROAM Consulting.

Energy Edge

Energy Edge's Report provides an analytical framework to consider the problem which is broken down into the following elements:

- PFC and IRSR basis risk (based on an historical analysis) - this framework is then applied to the Queensland-New South Wales Interconnector (QNI) [2] to determine the causes that contribute to the basis risk inherent in the associated IRSR contracts (i.e. how much of the risk is attributable to a range of key factors including negative residues, interconnector capacity, thermal constraints, interconnection contingency outages); and
- Impact on market risk and market liquidity - assessing the impact for various trading strategies (i.e. hedging and speculative activities).

Energy Edge finds that PFC's impact upon the Market Liquidity of electricity derivatives is not sufficient to warrant its introduction given:

- the risks attending regulatory change;
- the increased dispatch risk caused by constraining inter-regional generation; and
- that nearly all of the benefit PFC could deliver would in fact be obtained from implementing a number of the AEMC's other draft recommendations.

In fact, adopting the draft recommendation to cease netting off negative settlement residue against positive residue is likely to deliver much of the IRSR Unit basis risk reductions which could be achieved by PFC. This would avoid the need to directly intervene in the physical settlement of the electricity prices that form a basis for the value of all electricity derivatives. Further, related Draft Report recommendations including:

- a three year term for Settlement Residue Auction (SRA) processes;
- negative settlement residues to be funded by directly billing the importing TNSP; and
- improving the reliability and predictability of the underlying network;

will deliver far greater benefits for the market liquidity of electricity derivatives than PFC with less direct intervention in the physical market.

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[1] In addition to group members, CS Energy and NewGen Power were party to the engagement of ROAM Consulting.

[2] The current physical circumstances associated with QNI imply that it is a good initial case study as it is likely to accumulate more negative settlement residue than many other regulated interconnectors in the National Electricity Market (NEM)

In addition, an obligation on NEMMCO to outline how it interprets and applies the provisions associated with flow clamping will probably have a more significant positive impact on market liquidity than the decision on whether it is PFC or ZFC or whether the appropriate threshold is $6,000 or $100,000. This is because the predictability of such actions has a positive impact on pricing and risk management for all derivative activity, not just interregional transactions, regardless of whether it is for speculative or hedging purposes.

ROAM Consulting

As mentioned the Draft Report puts forward the concept of PFC as a substitute for ZFC. This proposal has been put forward on the premise that PFC delivers Positive Settlement Residues, in comparison with Zero Flow Clamping, which prevents the accumulation of either Negative or Positive Settlement Residues.

In response to the PFC proposal, ROAM Consulting have undertaken market simulations (and detailed load-flow modelling) for the 2010-11 financial year to understand the market/dispatch and efficiency impacts of PFC. This year was considered a relevant case year for analysis as it incorporates the 1200MW (approx) of new generation proposed for the region and planned transmission developments. In order to determine the relative impacts of PFC a number of scenarios were compared including: No clamping; Zero clamping and PFC (at 250MW and 500MW)

The simulation methods applied provide a view of the possible changes in NEM dispatch and pricing as a result of the PFC proposal. The market simulations show that as the clamping limit implemented with PFC increases, NEM dispatch and pricing outcomes are increasingly distorted. The specific details of ROAM Consulting's methodology and results are discussed in the second part of this submission, however, the key findings of this Report include:

- implementation of PFC on QNI results in a reduction in market efficiency (measured as a function of total production cost) in the order of $0.26 million to $6.09 million for 2010-11 (depending on the positive clamping parameter) relative to the current zero clamping arrangement;
- PFC is also likely to increase transmission system losses;
- possible perverse spot market outcomes due to the relationship between dispatch and network powerflows on other network limits. These outcomes are likely are to be unpredictable and dependent on the network conditions at the time, which is inconsistent with promoting stable and transparent markets; and
- the resulting reduction in generation dispatch from the South-west Queensland generators is likely to have flow-on impacts with respect to risk factors and the capability for these generators to enter into contracts at the Queensland Regional Reference Node.

In summary, on the strength of the findings provided by Energy Edge and ROAM Consulting the Group considers that significant concerns exist with respect to the PFC concept. In fact in the context of a cost benefit framework, the combined findings indicate that, if introduced, PFC is likely to result in a reduction in dispatch efficiency which needs to be balanced against limited benefits with respect to market liquidity. On this basis, we consider that the other Draft Report recommendations relating to risk management be further developed and that the PFC concept be set aside.

2 Energy Edge – *PFC Review*

2.1 PFC AND MARKET LIQUIDITY

2.1.1 General comments and terminology

For purposes of assessing the impact of PFC on market liquidity, this analysis first considers the likely impact of PFC on the basis risk associated with the IRSR units. As a fundamental principle, there are two main forms of basis risk associated with the IRSR units - volume and price basis risk. The following observations are made with respect to each form of risk.

- *Volume basis risk* - occurs when volume differences exist between the IRSR units and a fixed MW exposure (and effectively arises when transmission ratings fall below notional levels due to a range of factors including counter price flows).
    - It is noted that while the current practice of ZFC, does not address the issue of volume risk associated with counter price flows, PFC does at least partially mitigate volume basis risk during these periods, but it is expected to be rather immaterial.
- *Price basis risk* - represents the extent price differences captured by the IRSR units in any given trading interval are not the same as the price difference between the two relevant Regional Reference Prices (RRP) for the same trading interval.
    - The negative settlement residues essentially manifest themselves into price basis risk for IRSR units as a result of the current rules associated with the recovery of negative settlement residue (there will also be some volume basis risk attributable to negative settlement residues).
    - However, there are a number of other factors that contribute to price basis risk due to negative settlement residues. These result from counter price flows due to dispatch process issues, dispatch process errors and metering and settlement issues. According to the Energy Edge Report, PFC would not result in mitigating price basis risk arising from these factors.
- Negative settlement residues present a small proportion of the basis risk associated with IRSR units. PFC would apply only at times of counter price flows arising from so-called 'disorderly bidding' which itself occurs during only a small proportion of negative settlement residue events. The effect of PFC on basis risk across the QNI would be negligible.
- Given that the current practice of netting the negative residues against positive residues in the same billing period is to cease and is proposed to be replaced with the allocation of the costs to TNSPs, the majority if not all of the price basis risk will be eliminated from the IRSR units. On this basis, the potential impacts on IRSR basis risk attributable to negative settlement residue will be relatively immaterial if the other AEMC recommendations are implemented.

In summary, significant basis risk still exists in IRSR units relative to firm basis swaps. The majority of this basis risk relates to Volume Basis Risk. Negative Settlement Residue is only a very small proportion of the total residue value attributable to IRSR units and the introduction of PFC will have very little impact on the level of basis risk associated with IRSR units.

2.1.2 Modelling methodology

Due to time constraints, it was not possible to undertake a comprehensive modelling exercise in relation to the impact of PFC on the basis risk associated with IRSR units. However, Energy Edge has conducted a high level historical analysis using QNI residues as a case study to determine:

- historical levels of negative residue events (including times when PFC may have been applied);
- the impact of negative settlement residue upon IRSR units;
- the materiality of basis risk associated with IRSR units;
- what proportion of that basis risk is attributable to negative settlement residue; and
- the extent to which PFC may reduce the basis risk associated with IRSR units.

While the report details the modelling approach, the following outlines the broad process adopted by Energy Edge:

1. analysis of the difference in risk profiles of IRSR units under two scenarios (with and without PFC) and different PFC thresholds ($6,000 and $100,000).
2. The modelling draws on a number of statistical methods to illustrate the risk profiles including statistical payoff diagrams and distribution of payoffs as well as a comparative analysis between the scenarios[3].

2.1.3 Results

- Based on the historical analysis (July 2003 to September 2007) of the settlement residues accumulating along QNI the following observations can be drawn:
    - Historically, counterpriced flows have occurred for only a very small portion of time (and occurrence has been limited by NEMMCO clamping actions). Southward flow for 2% of time and Northward flow for 1% of time.
    - The value of negative residues is small in comparison to the total residues accumulated. Southward residues around 3% and Northward around 0.8% of total value. This is negligible in comparison to the volatility of the total values.
    - Over the period around 15 hours of negative settlement residues worth around $1.3M were caused by flow changing direction (PFC events) and 33 hours worth around $5M for events caused by prices changing sign (ZFCevents).
- For the purposes of determining the level of basis risk associated with the IRSR unit attributable to negative residues, Energy Edge have applied a range of statistical techniques to Q107 and Calendar 2006 QNI residues. Calendar 2006 represents the most recent complete annual data set and Q107 is illustrative of periods when large price differentials were expected due to the reduced generation profile in Queensland due to the drought.

The following table provides a high level residue and risk breakdown of the aggregated weekly results for Q107, which provides an indicator of the risk profile adopted by a trading strategy

[3] Note the dependence of the payoff on underlying physical variables (particularly spot prices and interconnector flow) is used in conjunction with a portfolio of liquid derivative assets to determine the degree of unhedgable risk associated with the IRSR units. On this basis, key modelling inputs include spot market outcomes associated with each scenario including spot prices, dispatch volumes and corporation revenues and behavioural considerations.

attempting to hedge away risks accepted when holding an SRA.

Table 1: Settlements (Q1 2007) per unit (1 SRA, 1 MW cap) with weekly netting	**Dollar value per unit**
Residual risk settlements (SRA – Firm Basis Swap)	-3,687
Residual risk explained by interconnector flow being constrained below full max	-3,562
Negative residues	-125

- The first line represents the total IRSR risk ($3,687) for each Q107 IRSR unit following the allocation of negative settlement residues to future IRSR auction pools (in-line with the current netting arrangements). The second line provides the IRSR basis risk attributable to the interconnector flow being constrained below its notional value ($3,562). Taking account of the risk attributable to operation of the interconnector, the remaining risk ($125) is due to negative residues, which is represented in the third line. In other words, the owners of the Q107 IRSR unit would have been only exposed to $125 per unit of negative residue risk for the Q107 product.

- This means that for each MW unit of the inter-regional trading strategy only $125 of settlement risk was due to negative settlement residues (3 per cent of unfunded settlement). In fact, the vast majority (97 per cent) of risk was attributable to interconnector flow limitations at approximately $3,600.

- If the negative residues were to be funded by the TNSP, then it would have a negligible impact on the risk profile, as the $125 value would disappear from the settlement outcomes.

- Although the case study was based upon QNI it is expected to be reflective of the characteristics of IRSR Units in all regions as the differences in the underlying nature of the physical assets relative to financial assets does not change from one region of the NEM to another. The current physical circumstances associated with QNI imply that it is likely to accumulate more negative settlement residue than many other regulated interconnectors in the NEM. Furthermore the magnitude of the difference between IRSR Unit basis risk attributable to volume issues relative to price issues is so significant that localised physical characteristics are never likely to be sufficient to change the fact that volume issues are the major source of basis risk associated with IRSR Units.

- Note that alternative scenarios with PFC (and different application threshold levels) have been simulated and the results highlighted in the Report. However, they are not specifically reported here as they are in line with the outcomes discussed above, that is PFC is unlikely to materially impact the risk profile of an IRSR unit.

2.2 IMPACT ON TRADING STRATEGIES AND MARKET LIQUIDITY

As previously discussed, the Draft Report cites a likely positive effect of PFC on financial market liquidity. Further, the AEMC refers to the number of market participants in each region and the volume of contracts offered in each region in the context of the impact of PFC on financial market liquidity. However, the Draft Report does not define Market Liquidity. In examining the issue, Energy Edge, have adopted a general financial markets definition of market liquidity applied in the context of the electricity sector is as follows;

"The ability to execute a given volume of a particular electricity derivative product type easily through an act of buying or selling without causing a significant movement in the price and with minimum loss of value."

Implicit in this definition are the following features: Volume; Product; Types; Price Sensitivity; and Cost of transacting. On the basis of this definition there are a number of characteristics and areas of impact that need to be considered including market depth, turnover, product choice and cost of transacting. In this light, based on the previous analytical findings, Energy Edge considers the impact that PFC has on both hedge and speculative trading in the context of changes to market liquidity. The key findings are detailed below:

- In the case of **risk averse organisations** adopting straight line hedge trading strategies, it is unlikely that their trading policies (including hedge limit methodology) would permit the significant use of IRSR Units or derivative transactions against regions other than the region in which the physical exposure exists. This risk aversion to using interregional trading activities is unlikely to change for such organisations whilst there is any material basis risk residual in IRSR Units.
    - As demonstrated, PFC will only resolve a small portion of the basis risk with IRSR Units. It is not expected to result in any material change in the level of interregional trading by these entities and therefore will not have any material impact on market liquidity.
- Many physical market participants, whether they are generators or retailers, actively manage their market risk by constantly reprofiling their hedge portfolio as market and corporate circumstances change (**dynamic/active trading strategies**). This means that target hedge volumes will change over time, product mixes might change and the path taken in obtaining a target hedge level will not be straight. Organisations of this nature are likely to already be registered as SRA market participants and utilise IRSR units as a risk management tool to some extent.
    - A material increase in the firmness of IRSR Units might result in market participants of this nature increasing the extent to which they use IRSR units and interregional derivatives as part of hedge strategies (or result in an organisation currently only using IRSR units for speculative position taking to start using the product as hedge instruments). However, as discussed in the previous section it is questionable as to whether PFC will make any material difference to the firmness of IRSR units and certainly significant basis risk will remain if PFC were to be the only change implemented. Therefore, it is unlikely that the introduction of PFC would change the extent active physical participants might use inter-regional trading activities for hedging purposes. Even if the utilisation of inter-regional derivatives for the purposes of hedging was to increase, it is unlikely to have a material impact upon market liquidity.
        - With respect to the level of turnover specifically, PFC is likely to simply result in the movement of a certain volume of derivatives formerly traded against one regional reference price (RRP) to the same volume of derivatives traded against an alternative RRP.
        - PFC and the access to IRSR Units with less basis risk is not the sort of factor that influence hedge limit methodologies by market participants in the NEM.
- In the case of **speculative positions**, it is unlikely that the use of IRSR Units for creating speculative positions is going to positively impact Market Liquidity because IRSR Units themselves are only a very small portion of the total electricity derivatives traded in the NEM. Furthermore the small improvement in the level of basis risk is not likely to be sufficient to entice speculative traders to introduce new derivative product types or provide tighter bid/offer spreads under their market making activities. The availability of a marginally firmer IRSR Unit is not going to be the trigger that attracts new speculative traders to the Australian electricity derivative market or to encourage existing speculative traders to trade in regions they current traders.

3 Roam Consulting – Investigation of Positive Flow Clamping

3.1 MODELLING METHODOLOGY

According to ROAM Consulting, a change from the current arrangement of ZFC to PFC will have significant implications for all participants in the NEM, but particularly generators nearby the intra-regional issues that cause Negative Settlement Residues. The key impacts may be described in terms of:

- Pool price and revenues;
- Dispatch and generator volume;
- Market efficiency, and;
- System losses.

Each of these issues is discussed in turn.

In terms of the methodology employed by ROAM Consulting, an initial analysis of historical market outcomes show that negative settlement residues do not occur often nor with severity on interconnectors other than QNI. This is due to the growth in generation in South-west Queensland exceeding the transmission capability between this region and the regional reference node. This outcome essentially aligns with the Energy Edge analysis.

Looking forward, ROAM Consulting have undertaken market simulations (and detailed load-flow modelling) for the 2010-11 financial year to understand the market and efficiency impacts of PFC. This year was considered a relevant case year for analysis as it incorporates the 1200MW (approx) of new generation proposed for the region and planned transmission developments. In order to determine the relative impacts of PFC a number of scenarios were compared including:

- No clamping;
- Zero clamping; and
- PFC (at 250MW and 500MW).

3.2 IMPACT ON POOL PRICES

By implementing Clamping on QNI, pool price outcomes will be affected. Depending on the degree by which the Clamping affects the dispatch, the modelling conducted has found that the difference in pool prices in both Queensland and New South Wales can be dramatic.

The ROAM modelling shows PFC has two main effects on Queensland pool prices:

1. Clamping to a positive flow increases the pool price relative to ZFC. Clamping to a higher value (500MW versus 250MW) exaggerates this price difference and on certain trading days, the Queensland RRP reaches to the price ceiling (VOLL, $10,000/MWh).

2. The second effect is that PFC extends the duration of the high prices. The combination of these two effects means that the average price across investigated trading days is increased significantly by PFC. (see FIGURE 5.1 of the report)

The reason why PFC can increase pool prices significantly is that the generation removed from South-west Queensland generators cannot fully be supplied via the forced increased supply

from New South Wales via QNI. Therefore, other units in Queensland with available capacity may have to be dispatched due to subtle flow-on effects of the Constraint Equations. The units called upon in these situations will typically be high cost as at these high demand periods most low-cost generation will be running at full capacity. Therefore this supply may come from either switching on expensive peaking units, or by utilising very high 'opportunity' bids at the upper ends of baseload generators' bid stack.

Table 2: Average Pool Price During Clamping Intervals ($/MWh)				
Clamping	**Queensland**	**New South Wales**	**Victoria**	**South Australia**
NoClamp	1387.33	148.24	128.70	76.92
ZFC	1282.85	201.50	163.28	87.06
PFC_250	1351.34	247.21	183.59	89.59
PFC_500	2468.17	283.49	193.02	89.45

Table 2 shows that ZFC may actually serve to reduce the Queensland pool price, relative to the pool price outcome under no Clamping. This is due to a few instances where the Queensland pool price goes to VOLL without clamping, however, remains below VOLL after ZFC. This is an outcome of the transmission constraint equations under normal operating conditions. Except for this outcome and taking ZFC as the reference case, it can be seen that increasing PFC serves to increase the pool price outcome across the whole NEM.

3.3 IMPACT ON GENERATION DISPATCH AND REVENUES

Clamping to zero or a positive flow on the QNI interconnector results in a forced reduction in generation dispatch for the generators between the interconnector and the intra-regional limitation. As described previously, the analysis completed for this assessment shows that it is the South-west Queensland limit which is the most significant limitation in the Queensland intra-regional network. As such, Clamping of the QNI interconnector provides for a negative impact on the set of South-west Queensland generators only, whilst allowing other generators in the Queensland region, and generators south of Queensland to increase generation due to the impact of the Clamping event.

Table 3 indicates that the average generation dispatch from the South-west Queensland generators during the periods of Clamping (as described in Section 3.2). This shows that the average southerly flow (counter-price flow) on QNI during periods of Negative Settlement Residues is 400MW. Therefore, when ZFC is implemented the average total generation from the South west Queensland generators must reduce by 400MW in total.

In these circumstances the generators will likely be bidding at the price floor and therefore will be subject to 'pain sharing' whereby their dispatch will be shared in proportion to the submitted available capacity offers. As shown by the difference in total South-west Queensland generation dispatch with respect to the ZFC dispatch outcome, the PFC scenarios of 250MW and 500MW both result in a forced reduction in South-west Queensland generation by 250MW and 500MW in total respectively. This may increase the risk associated with contracting at the reference node by these generators.

Table 3 – Average SOUTH-WEST QUEENSLAND Generation Dispatch During Clamping Intervals (MW)									
Clamping	Braemar Stage 1	Braemar Stage 2	Condamine	Darling Downs	Kogan Creek	Millmerran	Oakey GT	SOUTH-WEST QUEENSLAND Tot Gen	Diff w.r.t ZFC
NoClamp	356	394	130	617	726	830	282	3335	402
ZFC	313	346	114	543	639	730	247	2933	-
PFC_250	286	317	105	497	585	668	226	2684	-248
PFC_500	259	287	95	450	530	605	205	2431	-502

3.4 IMPACT ON SYSTEM EFFICIENCY

In order to quantify the impact of PFC on system efficiency, ROAM has utilised the short-run marginal costs for all generators in the NEM from ACIL Tasman's *2007 Fuel resource, New Entry and Generation costs in the NEM* Report. Using these assumed generation costs, and comparing the difference in dispatch between simulated cases featuring ZFC and PFC respectively, a direct comparison can be drawn in terms of total system efficiency.

These results are detailed below:

- ROAM Consulting's simulations (described at 5.3 of the report) show that Clamping to alleviate Negative Settlement Residues typically increases the total NEM cost compared with not Clamping. Furthermore, of the Clamping options, ZFC was found to deliver the lowest increase in cost relative to no Clamping.

- Of the PFC cases, Clamping at 250MW was found to generally increase the system cost again relative to ZFC. Implementing PFC at 500MW was found to significantly increase system costs relative to both ZFC and PFC at 250MW.

- From these results, it may be inferred that *any* level of PFC will increase NEM system costs relative to the current strategy of ZFC, and furthermore, the higher the value at which the interconnector is Clamped, the greater the increase to system cost.

Table 4 shows the average annual cost differences resulting from the implementation of the different QNI Clamping strategies relative to not performing any Clamping on the interconnector.

Table 4 – Average Cost Impact of Clamping Strategies for QNI	
Clamping Strategy	**Average Cost Increase for 2010-11**
Zero Flow Clamping	$0.41m
PFC at 250MW	$0.67m
PFC at 500MW	$6.23m

3.5 IMPACT ON SYSTEM LOSSES

Altering interconnector flows via measures such as Clamping will have an impact on the magnitudes and directions of power flows in the transmission network. These flows will impact the amount of power lost across the network. By comparing the difference in interconnector

flows resulting from the different Clamping strategies, the impact on system losses can be estimated.

ROAM conclude that forcing a higher flow to the North via PFC will certainly increase system losses as measured by transmission flows on the notional QNI between the notional Queensland and New South Wales reference nodes. Increasing Clamping from zero to 250MW towards the North will result in a notional increase in system losses of around 10MW on average. Increasing PFC to 500MW will more than double the estimated losses to in excess of 30MW, compared with ZFC.

Implementation of PFC at the upper level of 500MW could increase total energy losses over the year by at least (30 * 70 / 2) 1,050MWh. In extreme instances up to 200 Trading intervals may result in Negative Settlement Residues. Implementation of the maximum 500MW PFC on the QNI interconnector would result in more than 3,000MWh of increased losses in the transmission network. The additional fuel required to generate the energy lost in the transmission network will have flow effects in terms of NEM efficiency and secondary outcomes such as possible increased greenhouse gas emissions.

The analysis shows that forcing PFC will result in an increase in transmission system losses associated with transferring power over long transmission lines from distant generators to meet demand in adjoining regions of the NEM.

4 Other issues - AEMC proposal for generators to fund negative settlement residues

The Group notes the proposal put forward by the AEMC with respect to generators funding negative settlement residues. Given at this stage, specific details on the operation of this initiative have not been provided it is difficult to put forward comments. However, we note that this suggestion is designed to achieve similar outcomes as those expected under the PFC proposal. Therefore, on the basis of the Energy Edge and ROAM Consulting findings with respect to PFC (that the contribution of negative settlement residues to IRSR basis risk is minimal), the group questions the merits of this proposal.

Further, from an operational perspective, it would be difficult to implement due to issues in determining contributing generators (and under what set of market conditions it is likely to be applied) and this is likely to result is significant implementation costs and possible disputes.

The participating generators would be pleased to further discuss these issues with the AEMC. Questions relating to this submission can be directed to Erin Bledsoe on (07) 3335 3804.

Yours faithfully,

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Don Woodrow	**Tanya Mills**	**Jackie Barber**
Manager Regulation and Government Affairs	Manager Planning and Strategy	A/General Manager Marketing & Trading
InterGen Australia	Stanwell Corporation Limited	Tarong Energy Corporation Limited