Attachment 1

Integral Energy's request for the AER to determine how Integral Energy is to report to the AER on the recovery of *Jurisdictional Scheme Amounts* in respect of the NSW Solar Bonus Scheme

Background to the NSW Solar Bonus Scheme

On 1 January 2010 the NSW "Solar Bonus Scheme" (Scheme) came into effect under amendments to the Electricity Supply Act 1995 (NSW). The Scheme was the NSW Government's response to the outcomes of analysis and consultation undertaken by the NSW Solar Feed-in Tariff Taskforce, and which reported to Ministers in February 2009, setting out the social and economic benefits and costs of introducing a feed-in tariff scheme into NSW.

The stated objectives of the Scheme as implemented were to:

- encourage and support persons who want to generate renewable energy as a response to climate change;
- develop jobs in the renewable energy sector by assisting renewable energy generation to compete with non-renewable energy generation;
- increase public exposure to renewable energy technology in order to encourage the whole community to respond to climate change.

To support these general social objectives the NSW Government included as part of the Scheme "feed-in" tariff incentives. The cost of these incentives (Solar Bonus Rebates) arising in each distribution area were required under the Scheme to be funded by all electricity consumers within each of those distribution areas.

Implementation of the Scheme in Integral Energy's network area

The manner in which the Scheme was implemented for each distribution network was marginally different, in consideration of the need for transitional arrangements to provide for a harmonised scheme across NSW.

For Integral Energy, the effect of the transitional arrangements was the least pronounced as its pre-existing (and voluntary) retail feed-in tariff offering (Sun Power) was generally consistent with the proposed final form of the harmonised Scheme; most notably the Scheme was to be a gross feed-in tariff. As Integral Energy's Sun Power offering was a gross feed-in tariff Integral Energy was able to transition all eligible Sun Power customers into the Scheme from 1 January 2010, approximately 3,900 customers.

As a consequence, all of these customers were eligible to earn the full 60c/kWh rebate on all energy produced by their Photovoltaic (PV) generators from the commencement of the Scheme.

Consumer and market responses to the Scheme

As the Scheme was commenced over the traditional January holiday period, the initial response from consumers was relatively modest, although applications to connect complying PV generators during this period were still significantly greater than historic trends.

Over the following months customer understanding of the Scheme improved, aided by generous product offerings of both electricity retailers and solar panel providers. The improved customer awareness and innovative product offerings lead to steady increases in the rates of customers applying to Integral Energy to connect complying PV generators.

However, due to the requirements of the Scheme that for a PV generator to be compliant it must be installed by a Clean Energy Council approved installer, Integral Energy noted that the rate at which generators were connected to our network significantly lagged the rate of applications. Although there have been step changes in the rate of connecting PV generators to the distribution network, these step changes were repeatedly outstripped by step changes in new applications to connect compliant generators.

The chart below shows the recorded weekly rates of applications being received and the rate at which compliant generators have been connected between May and December 2010. It should be noted that following the close of the 60c Scheme applications received by Integral Energy for permission to connect new compliant generators has reduced significantly.

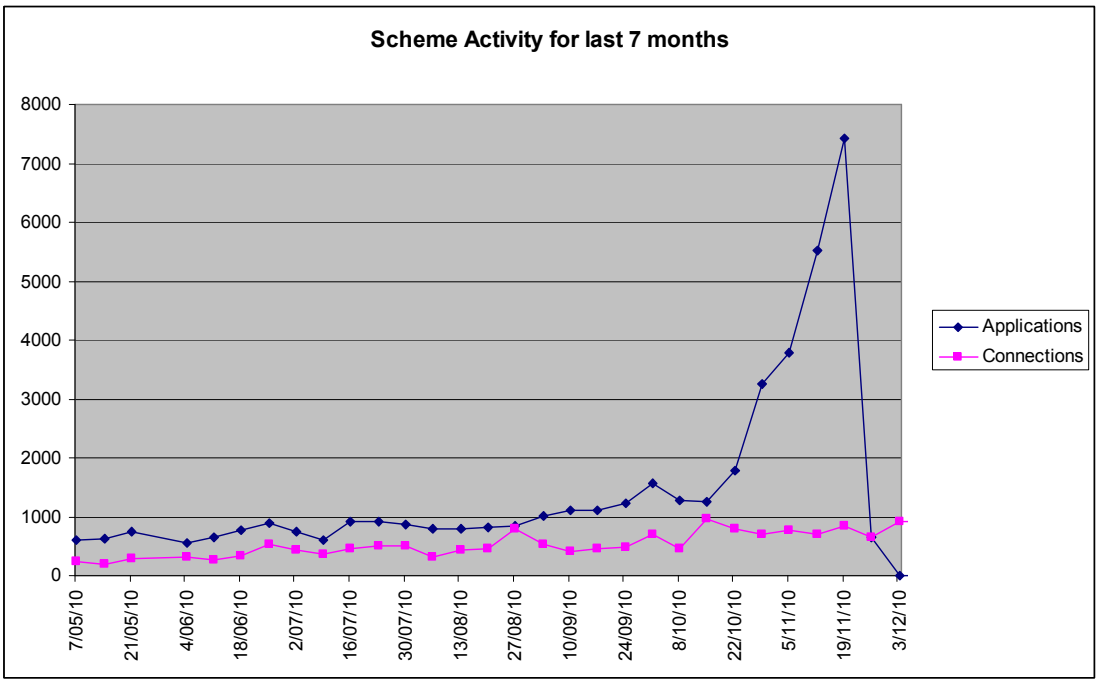

Chart 1: Scheme activity in Integral Energy's network area between 7 May & 3 December 2010

Amendments to the Scheme

On 27 October 2010, the NSW Government released reports produced by Industry and Investment NSW and the expert consultant AECOM. Based on the analysis included in these reports the NSW Government announced (and had passed that day) changes to the Scheme[1].

Notable changes to the Scheme included:

- closing access to the 60c/kWh rebate to applicants that failed either of two criteria, being:
  - Entry into a binding contract to lease or purchase a compliant generator (or expansion of an existing generator) by midnight on 27 October 2010; and
  - Lodgement of an application to connect a compliant generator (or expansion of an existing generator) with the respective distribution network by midnight on 18 November 2010;
- Introduction of a 20c/kWh rebate for all compliant generators that failed either of the criteria above;
- Redefining compliant generators to include those connected to the distribution networks through net metering arrangements; and
- Establishment of a notional target installed capacity to allow the Scheme to be closed to new entrants once 300MW of capacity has been installed and connected.

Implications of Scheme and other Amendments on Expected Rebates

As clearly intended by the NSW Government, Integral Energy expects a significant reduction in the potential future rebates as a result of the changes. Indeed, without modification, AECOM estimated the potential value of rebates payable under the Scheme across NSW would be in the order of $4b over the 7 year operation of the Scheme[2]. In the same report provided to Industry & Investment NSW, AECOM estimated that the rebates payable under the amended Scheme would be in the order $1.5b[3].

In addition, recent Federal Government announcements regarding the Renewable Energy Target scheme (RET) are also expected to have significant implications on the outcomes of the amended Scheme.

The reduction in the expected rebates payable under the Scheme arises for several reasons, including:

1. **Reduced rebate**. The reduced rebate payable to customers who join the Scheme moving forward is expected to significantly reduce its attractiveness to customers. Indeed, customers who install a PV generator with an average out of pocket capital cost of $2,400[4] would expect rebates to fully fund the capital outlay in approximately 2 years[5] of the generator being connected. With a

[1] Electricity Supply Amendment (Solar Bonus Scheme) Bill 2010.
[2] AECOM, Solar Bonus Scheme – Forecast NSW PV Capacity and Tariff Payments, 25 October 2010, page 33.
[3] AECOM, Solar Bonus Scheme – Forecast NSW PV Capacity and Tariff Payments, 25 October 2010, page A-9.
[4] AECOM, Solar Bonus Scheme – Forecast NSW PV Capacity and Tariff Payments, 25 October 2010, page 22.
[5] Industry & Investment NSW, NSW Solar Bonus Scheme – Statutory Review – Report to the Minister, October 2010, page 4.

reduction in rebates payable to a third of the initial value, it would be expected that the payback period would more than triple in NPV terms.

It is instructive to note that at the new rebate value of 20c/kWh, a standard 1.5kW PV generator would likely require rebates for over 7 years to fully fund the capital cost of the generator. This payback period is not only longer than for the original 60c rebate, but is also longer than the entire length of the Scheme. As a consequence, it is much less likely that rebates received by new entrants will be sufficient to recover the initial capital investment in the PV generator.

2. **RET scheme changes**. One of the key determinants on customers' willingness to join the Scheme has been the capital cost required to gain entry, i.e. the out of pocket cost of the PV generator.

   For several years the Federal Government has provided support to reduce these out of pocket costs through the RET scheme. Although complex in its application, the RET Solar Credits subsidise the initial capital costs by providing tradeable Renewable Energy Certificates (RECs) to the developer of a PV generator. The value (currently $40) and multiplier of the RECs generally relates to the expected renewable energy output into the future at an agreed value for that output. For a standard 1.5kW PV generator in Sydney the federal Department of Climate Change and Energy Efficiency estimates the value of Solar Credits for installations prior to 30 June 2011 at $6,200[6].

   The value of these credits has been significant in stimulating the take-up of domestic PV generation. In light of the value of these grants, the recent increase in demand for PV generators and the appreciating Australian dollar against the US dollar there is anecdotal evidence to suggest that some PV generators could be installed at, or close to, zero upfront cost to the customer.

   Therefore, in light of the Federal Government announcing reductions in the value multiplier of Solar Credits, and increasing the speed at which the multipliers are scheduled to decrease in coming years, it is expected that the capital cost for PV generators will begin to increase, particularly if the Australian dollar depreciates against the US dollar.

3. **Connection configuration**. A further consideration to bear in mind is that the rebate under the amended Scheme is expected to be less than the expected average cost of delivered electricity. The regulated residential price for delivered energy for customers in Integral Energy's network area is approximately 23c/kWh.

   As a result, it would be expected that a prudent and informed customer would generally chose to connect any new compliant generators via a net metering connection. That is, the customer would consume their own production and only export any excess electricity generated by their generator. In this manner a customer would earn (save) 23c/kWh for all electricity produced and consumed compared to the 20c/kWh they would receive if they were to export all energy produced.

   As a consequence it is expected that rebates paid to these customers would be significantly lower than for customers on gross connections. In its report to

[6] http://www.climatechange.gov.au/en/government/initiatives/renewable-target/need-ret/~/media/publications/renewable-energy/solar-credits-fs-pdf.ashx

Industry & Investment NSW, AECOM estimated that the electricity that would be injected into Integral's network for a 1.5kW PV generator under a net connection arrangement would be approx 18% of that under a gross connection arrangement[7].

4. **Establishment of a generation "cap".** The final material amendment of the Scheme was the introduction of a "cap" on the level of installed compliant generator capacity for NSW as a whole. While the 300MW of installed capacity is not a firm cap, but rather a trigger at which point the Minister may close entry to the Scheme, it does provide a guide as to the maximum annual rebates that would be payable under the Scheme.

   On information available to Integral Energy, it is believed that sufficient applications have been lodged or will be received shortly by the NSW DNSPs to aproach this "cap" As a consequence Integral Energy expects one of two scenarios to prevail over the coming months. Either, customers will continue to invest heavily in compliant generators placing pressure on the Scheme leading the Minister to close the Scheme, or the number and size of new entrants to the Scheme will fall to immaterial levels which may allow the Scheme to continue without any material impact on the overall level of rebates payable to compliant generators.

   Experience since the end of the transitional phase from the 60c rebate to the 20c rebate appears to indicate that the latter is prevailing. Integral Energy notes that in the event that the lower applications rates are not permanent, the hiatus will enable existing applications to be installed and connected, and thereby limiting the potential for, and magnitude by which, applications may exceed the notional 300MW "cap" for NSW.

While the information above does not mean there will be no new entrants into the amended Scheme, rather it highlights that at this stage for Integral Energy's network area it is expected that the number of new entrants will be minimal, and will have an immaterial impact on the forecast annual Rebates payable to customers.

National Electricity Rule requirements

The clauses of the National Electricity Rules (NER) most relevant to this request are set out in Transitional Chapter 6 as it applies to the current NSW Distribution Determinations. The content of Modified clause 6.18.7C relating to the reporting on jurisdictional schemes has been replicated below. The content and application of the material contained in this attachment and the accompanying excel spreadsheet to Integral Energy's request has been prepared to meet the matters specified in Modified clause 6.18.7C(h).

6.18.7C Recovery of jurisdictional scheme amounts

Reporting on jurisdictional schemes

(g) If during the *regulatory control period* a *Distribution Network Service Provider* is or becomes subject to *jurisdictional scheme obligations* under an *applicable jurisdictional scheme*, the *Distribution Network Service Provider* may request the *AER* to determine how it is to report to the *AER* on its recovery of *jurisdictional scheme amounts* under that scheme for each *regulatory year* of the *regulatory control period* and on the adjustments to be made to subsequent *pricing proposals* to account for over or under recovery of those amounts.

[7] AECOM, Solar Bonus Scheme – Forecast NSW PV Capacity and Tariff Payments, 25 October 2010, page C-3.

(h) To make a request under paragraph (g), a *Distribution Network Service Provider* must submit to the *AER* a written statement which specifies:

(1) the name of the relevant applicable jurisdictional scheme;

(2) the date the *Distribution Network Service Provider* became subject to *jurisdictional scheme obligations*; and

(3) details of how the *Distribution Network Service Provider* proposes to:

(i) estimate the *jurisdictional scheme amounts* for the relevant applicable jurisdictional scheme for the purposes of modified clause 6.18.7A(b);

(ii) carry out any adjustments to *jurisdictional scheme amounts* for the relevant *jurisdictional scheme* for the purposes of modified clause 6.18.7A(b); and

(iii) report to the *AER* on the recovery process under modified clauses 6.18.7A(a) to (c).

(i) If a *Distribution Network Service Provider* makes a request under paragraph (g) and provides a statement under paragraph (h):

(1) clauses 6.6.1A(c) to (f) of general Chapter 6 apply to the *AER* and *Distribution Network Service Provider* as if references to "a statement under paragraph (b)" in those clauses was a reference to "a statement under clause 6.18.7C(h) of Appendix 1 of Chapter 11"; and

(2) the *AER* and *Distribution Network Service Provider* are bound to comply with clauses 6.6.1A(c) to (f) of general Chapter 6 in respect of the determination requested under paragraph (g) as if it had been requested under clause 6.6.1A(a) of general Chapter 6 and a statement had been provided in accordance with clause 6.6.1A(b) of general Chapter 6.

Further, Integral Energy notes that NSW Solar Bonus Scheme has been included as a Jurisdictional Scheme within Chapter 6 of the NER. As such the AER is not required to make a determination as to whether the Scheme is a Jurisdictional Scheme. The relevant clause of the NER has been replicated below.

6.18.7A Recovery of jurisdictional scheme amounts

Jurisdictional schemes

(d) A scheme is a *jurisdictional scheme* if:

(1) the scheme is specified in paragraph (e); or

(2) the *AER* has determined under clause paragraph (l) that the scheme is a *jurisdictional scheme*, and the *AER* has not determined under paragraph (u) that the scheme has ceased to be a *jurisdictional scheme*.

(e) For the purposes of paragraph (d)(1), the following schemes are *jurisdictional schemes*:

(1) schemes established under the following laws of participating jurisdictions:

(i) Electricity Feed-in (Renewable Energy Premium) Act 2008 (ACT);

(ii) Division 3AB of the Electricity Act 1996 (SA);

(iii) Section 44A of the Electricity Act 1994 (Qld);

(iv) Electricity Industry Amendment (Premium Solar Feed-in Tariff) Act 2009 (Vic);

(2) the Solar Bonus Scheme established under the Electricity Supply Act 1995 (NSW); and

(3) the Climate Change Fund established under the Energy and Utilities Administration Act 1987 (NSW).

Integral Energy's proposed forecasting methodology to report on recovery of *Jurisdictional Scheme Amounts* in respect of the NSW Solar Bonus Scheme

Integral Energy proposes a simplified approach to forecast future rebates paid and payable to compliant generators largely due to the amendments to the Scheme on 27 October 2010. As highlighted below, the process becomes increasingly simple as further actual data becomes known.

1. Calculation of prior year forecast errors is to be undertaken as per the attached spreadsheet, which applies an unders and overs approach consistent with our understanding of the NER requirements for jurisdictional schemes and draws on our experience with other related mechanisms such as the transmission cost recovery tariff unders and overs approach currently employed by the AER. The

model therefore contains Integral Energy's proposed approach to meeting the ongoing reporting and adjustment requirements of the NER.

2. Integral Energy proposes to set forecasts of the expected rebates payable for the 1 July 2011 price based on the sum of the actual rebates paid in 2009/10, and estimates of the rebates payable for the 2010/11 and 2011/12 financial years.

3. Integral Energy proposes to set forecasts of the expected rebates payable for the 1 July 2012 price change based on the 2010/11 financial year actuals (consistent with the approach used for the Weighted Average Price Cap), adjusted for any forecast error, the year to date actuals forecast forward to the end of the financial year, adjusted for any prior year forecast error and estimates of the rebates payable for the 2012/13 financial year.

4. Integral Energy proposes to set forecasts of the expected rebates payable for the 1 July 2013 price change based on the 2011/12 financial year actuals (consistent with the approach used for the Weighted Average Price Cap), adjusted for any forecast error, the year to date actuals forecast forward to the end of the financial year, adjusted for any prior year forecast error and estimates of the rebates payable for the 2013/14 financial year.

The forecasting methodology proposed by Integral Energy will be largely a mathematical exercise recognising that the process will be primarily driven by actual data in combination with fixed assumptions that Integral Energy is seeking expert assistance is establishing.

When lodging its pricing proposal for the 2011/12 financial year Integral Energy expects that all material connection applications will have been received and processed. As noted earlier, there is likely to be future applications to join the Scheme however the number of these applications is expected to be minimal. Further, the rebates payable for new entrants is expected to be less than the average for existing connections with customers achieving greatest value by connecting via a net metering configuration. As a consequence Integral Energy's proposed approach to recovering rebates payable to new entrants is through the calculation annual forecast error.[8]

Therefore, Integral Energy believes that the total number of participants in the Scheme should be known in all material respects removing the need to develop forecasts in this area and can simply use actual data. Further, this actual data will also provide Integral Energy with the actual installed (or proposed) capacity of all compliant generators.

Further, Integral Energy expects that virtually all compliant generators in its area will be connected via a gross metering configuration. As a consequence Integral Energy will avoid the need to consider the profile of PV generation relative to customer consumption patterns to determine the rebates payable, relying instead on expert industry advice on the expected generation of units connected to its network.

The single area of uncertainty that Integral Energy will need to forecast is in respect of the rate at which any remaining applications to connect are realised with an actual connected generator. Integral Energy has maintained statistics on the historic rate at which compliant generators have been connected to its network via the Notice of

[8] In the event that circumstances change resulting in a material increase in the capacity expected to be installed, Integral Energy would seek further expert advice to quantify the expected net generation and include the outcomes of this advice in the same manner as the assumed annual generation set out below.

Service Works forms that **must** be lodged with Integral Energy when the generator is connected to the network.

This historic data, as well as expert analysis on the changes in market capacity to install compliant generators will inform Integral Energy forecasts in this area. However, as approvals to connect a compliant generator issued by Integral Energy expire after 12 months Integral Energy expects that all current applications will result in a compliant generator by 30 November 2011. From this point on the full complement of compliant generators will be both known and active providing actual generation data from this point.

As a consequence of the limited number of variables that Integral Energy will need to consider in its forecasting process the annual forecast can be calculated as simply as:

Annual rebate forecast = 60c * expected annual generation

Where: expected annual generation is the sum of:

- Opening generation capacity (kW) * assumed annual generation per kW; and
- New capacity added (kW) * average percentage of the year in service * assumed annual generation per kW

Potential Government funding and alternative calculation of the Jurisdictional Scheme Amount

Integral Energy notes that at the time of drafting this request the NSW Government is taking advice on a range of options to minimise, manage or otherwise delay expected price rises to end consumers.

While the policy outcomes from this advice (if any) may remain unknown for some time, Integral Energy is aware that the Government is considering options such as using the Climate Change Fund to offset the costs of SBS rebates paid to customers, as well as delaying the recovery of rebates paid to customers by collecting the actual payments made to customers in arrears.

In the event that Integral Energy receives (or expects to receive) funds from sources other than its Scheme cost recovery tariffs to offset Integral Energy will include these funds as revenues within the Jurisdictional Scheme Amounts spreadsheet as attached to this request. In this manner, it can be assured that customers will only be required to fund the net impact on Integral Energy arising from the Scheme.