

**July 2006
Micro-generation
Stakeholder Comment Form**

Comments From: **Howell-Mayhew Engineering**
Date: **2006 August 10**
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1. If a Micro-generator (less than 150kW in size and exports less than 25kW to the AIES) wishes to connect to the distribution system, but does not wish to receive payment for exported energy:

The AESO will not require visibility of the generator, therefore, the DGO will not be required to become a Pool Participant

- Support
 Oppose
 Indifferent

Reasons for Stakeholder Position:

All responses on this Stakeholder Comment Form are focussed on "personal load-offset generators" (PLOG), not bigger ones. Personal load-offset generators are grid-connected, less than ~0.050 MW, that operate in parallel with the WSP on either a grid-dependent or a grid-UPS basis, are focussed on offsetting loads and not merchant power profits, and are sized to generate up to the maximum annual energy consumption of the site upon which they are located, such as a home or building.

This is a great suggestion. It is very smart, efficient, and forward thinking to change the law (regulation or practice) so that Personal Load-Offset Generator Owners (PLOGOs) who don't "want" to be paid for their exported electricity are not required to pay \$250 per year for the privilege of not being paid for it.

I think the EUA only says that the energy is required to be "exchanged" through the Market. Does this mean that Market participation is required? How does "not being a Market Participant" reflect on the EUA law that requires "exchange"? Will this change the AESO's role?

The DGO will submit a Generator Asset Addition form and a SLD, and an Asset ID will be assigned

- Support
 Oppose
 Indifferent

Reasons for Stakeholder Position:

Comments: What is the value to the PLOGO to submit such forms and get an asset ID? What is the value to the AESO in tracking such small generators? If there is no asset ID, how will the AEUB respond, as they are requiring an asset ID in their application form.

Recommendation: Add to the AESO suggestion: A PLOGO will not be required to submit a Generator Asset Addition form and a SLD, and an Asset ID will not be assigned.

A preface can also be added to our recommendation: "If a PLOGO is not wishing to be paid the Alberta Advantage Renewable Energy Tariff, ".

(This is a possible name for a new Alberta renewable power feed-in tariff, much like Ontario's Standard Offer Contract that pays \$420/MWh for solar PV and \$110/MWh for microwind turbines.)

The DGO will *not* receive payment for energy that is exported to the AIES

- Support
 Oppose
 Indifferent

Reasons for Stakeholder Position:

This is an odd statement to Option 1 that is stating that the PLOGO is not "wishing" payment for the exported energy!

The point is not whether a PLOGO "wishes" to receive payment or not... Of course the PLOGO wishes to get paid, but the costs forced upon the PLOGO to pay for energy data resolved to 15-minute intervals in order to track the energy for this payment is inordinately higher than the value of the exported energy to begin with... The PLOGO doesn't want or need her data to be tracked every 15 minutes; only the EUA, AESO and SSC want this, but why? What does it really matter?

Recommendation: Let's be smart and figure out a way to zero out the payment transaction costs. Net metering or equal-rate net billing does this very well as is shown by 8 provinces and 40 American states!

Generation metered data (DSM) files will not be provided to the AESO or the LSA

- Support
 Oppose
 Indifferent

Reasons for Stakeholder Position:

Great suggestion. There does not seem to be any value to the PLOGO in submitting such files. Sounds like a smart thing to do in order to zero out the transaction costs for paying for this energy.

In the event that energy is exported to the AIES, it will not be accounted for by the Pool or the Load Settlement Agent.

- Support
 Oppose
 Indifferent

Reasons for Stakeholder Position:

Great suggestion. There does not seem to be any value to the PLOGO in having the LSA or the Market account for such energy. Sounds like a smart thing to do in order to zero out the transaction costs for paying for this energy.

Metered generation cannot be used to offset the metered load data.

- Support
 Oppose
 Indifferent

Reasons for Stakeholder Position:

What is the rational basis for not permitting this? This is the basis for net metering and its customer-equivalent equal-rate net billing (or call it "generation banking" if this is a more politically correct way to spin it)! Measurement Canada will be permitting meters to be net metered within the year. We can already purchase the bi-directional cumulative meters that are

needed for equal-rate net billing, so the metering technology is already here and able to accept this. Wouldn't such metering be a reasonable and simple policy to implement? Surely the leadership by 8 provinces and 40 American states that permit and even encourage net metering can't be wrong – now is the time for Alberta to realise the obvious.

The AESO's suggestion here is contrary to Motion 510 on net metering that was passed by the Alberta Legislature on 2005 November 21. The motion reads "*Be it resolved that the Legislative Assembly urge the government to adopt net metering of electricity for producers of all sizes, thereby allowing them the opportunity to sell any excess electricity they produce back to the grid.*" Since our MLAs are urging net metering to happen, then I would think that the AESO should be responding appropriately to this motion and thus allowing metered generation data to offset metered load data.

Not permitting this means that people will need to give their exported electricity away for free, which the Energy Retailers then pick up and sell to their neighbours for its fully delivered price. People are already saying to me that this is government sanctioned corporate theft of electricity... does the AESO really want to facilitate such responses from people?

Upon what basis in developing an organised reasonable sustainable society is this statement suggested? How does this statement facilitate potential PLOGOs make decisions towards taking the environmentally sustainable choices that we all need to be making today? Shouldn't the AESO be seeing the bigger picture and thus doing their own part in facilitating such choices, instead of blocking them?

Recommendation: Permit metered generation to be used to offset the metered load data for a PLOG if its PLOGO is not subscribed to the Alberta Advantage Renewable Energy Tariff. This net offset will then be fed into the billing system to create a bill in the standard manner.

The DGO, WSP, and the AESO must be in agreement of this option, and provide an executed letter to the AESO.

- Support
- Oppose
- Indifferent

Reasons for Stakeholder Position:

What is going to happen if the PLOGO wants to not be paid because of the inordinately high transaction costs, but the WSP and AESO does want her to be paid?

Why add red tape and expense to this? We need to be focussing on zeroing out transaction costs, and the way to do this is to reduce time and expenses expended for all parties.

Recommendation: Make Option 1 the default instead of the exception, and require it to be shown on the WSP's application form.

Option 2. If the DGO wishes to receive payment for energy exported to the AIES, the following will apply: (no changes to the existing rules)

The DGO must become a Pool Participant and follow all ISO Rules accordingly.

- Support
 Oppose
 Indifferent

Reasons for Stakeholder Position:

All responses to Option 2 are also focussed on the same personal load-offset generators (PLOG), as in Option 1.

What value is this to the PLOGO? I recommend that PLOGOs not be required to become Market participants because there is no value to them in doing this. We need to be figuring out a simple way to transact payments for PLOGOs that don't involve the complexity of the ETS and SSC, which were designed for generators that are typically 1000 to 500,000 times larger!

Typical PLOGs are 0.001 to 0.004 MW solar photovoltaics (PV) on houses, 0.005 to 0.040 MW solar PV on small buildings, 0.030 to 0.100 MW microturbines on small buildings, 0.001 to 0.050 MW microwind turbines on farms, and 0.001 to 0.020 MW microhydro turbines on farms. PLOG technologies coming down the development and supply chain will include Stirling engines, fuel cells, and high efficiency PV systems.

The largest quantity of these PLOGs will be the 0.001 to 0.004 MW house-located systems – the market potential for houses alone in Alberta is 700 000 and rising. For all technical and safety reasons, these PLOGs are equivalent to a "negative load" and so for safety, technical, and regulatory reasons they need to be treated as such. A negative load behaves in exactly the same manner as a regular load in matters regarding technical and safety considerations, but instead the electrical energy is exported to the AIES instead of being imported from it. These house-sized PLOGs have the same effect in stability and demand on the grid as if someone were to turn off a burner on an electric stove.

The point of all this is: presently the EUA, HEEA, AESO, Petroleum Registry, AEUB and WSPs do not regulate, do not require approvals and do not track how 700 000 Albertan's turn on and turn off their stove burners... so for any kind of a reasonable mature technical, safety or regulatory basis, why do they NEED to do this for PLOGs?

The point also is: is the AESO really going to be expecting the average PLOGO in Alberta to understand the ISO Rules let alone follow them? Wouldn't the AESO be putting itself into a legally tenuous position by mandating that average homeowners follow the ISO Rules? These Rules were made for large GFOs and large IPPs, not PLOGOs!

Recommendation: Add to the AESO suggestion: "A PLOGO will not be required become a Pool Participant."

Interval Metering is required, per 4.6.1(b) of the SSC.

- Support
- Oppose
- Indifferent

Reasons for Stakeholder Position:

The electricity generated by an average-sized house-based solar PV system is 20 million times smaller than the total electrical generation in 2002 in Alberta (3 MWh/year for a house-sized PV system compared to 62 000 000 MWh/year for all of Alberta).

The cost of tracking these PV sites goes far beyond the value of the electricity that they produce! The 3 MWh they generate per year has a value of \$240 per year at the average 2005 Market daytime price of \$80/MWh. The \$250 annual Market participant and digital certificate fees to track this \$240 per year are one matter that seems to be inappropriate; the annual fees that some WSPs charge for MDM on the meters at PLOG sites, at \$700 to \$1000 per year due to the AESO's SSC's hourly MDM profiling requirements is additional and even more serious matter. I would not think that a society that expends \$1000+ worth of effort per year to track \$240 worth of value is going to be perceived to be economically viable, so why are we going in this direction?

Why does the AESO and Alberta's regulatory processes that require that PLOGs that generate such tiny amounts of electricity be tracked on a 15-minute basis? It does not seem to make any kind of organisational sense to do this. No corporation would spend their time being concerned about such tiny tiny amounts of energy and its related money value, so why does the government, and why do the regulators?

Let's get on with the task of organising our province so that our laws and regulations are reasonable about these systems! There are many more productive things that need to be done other than making sure the SSC regulates PLOGs! Let's allow PLOGOs to make their own decisions about such technologies without being hindered by laws, processes, approvals and regulations that were designed for the much larger generating facilities that require these regulations.

Recommendation: Permit meters, which are certified to be net meters, run backwards and forwards; allow generation credits to be banked over a full year like British Columbia, 7 other provinces and 40 American states; make a blanket assumption about their effect on UFE so that UFE issues don't become an obstacle; and otherwise ignore PLOGs.

If a DG meets the requirements per 4.6.1(b)1, it is exempt from having an interval meter.

- Support
- Oppose
- Indifferent

Reasons for Stakeholder Position:

Great suggestion. It needs to be increased to accommodate the range of PLOGs that are going to be added to buildings in Alberta, such as the new 0.040 MW PV system going into Calgary.

Recommendation: For PLOGs, make the export portion of this clause be the same capacity as the rated upper limit capacity defined for an officially designated PLOG classification. This will work great for feed-in tariffs too.

Data must be provided to the AESO and the LSA in accordance with App. B, Section 3 of the SSC for every 15-minute interval during the month, in the DSM format described in B.6.2.4.2 of the SSC.

- Support
 Oppose
 Indifferent

Reasons for Stakeholder Position:

Same response as with the response to various other suggestions including the interval metering one above. We need to be reducing the effort expended on tracking the data for PLOGs, so as to zero out their payment transaction costs. This does not head the AESO in the direction that will achieve zero transaction costs.

Recommendation: Do not require this for PLOGs.

In the case of a cumulative meter, the data from the monthly meter read must be distributed across every 15-minute interval during the month.

- Support
 Oppose
 Indifferent

Reasons for Stakeholder Position:

On a practical level what is the reason for wanting such tiny amounts of electricity to be resolved on a 15-minute basis? Some MDMs are saying that this process is so costly to them to do that they are wanting us to pay up to \$100 per month to handle data from a cumulative meter that will see \$120 worth of electricity exported from it per year. It seems that this requirement is much too finely detailed for meters that record such small amounts of energy.

Recommendation: Only require that cumulative PLOG meter data be included in monthly LS totals, not 15-minute LS totals.

General Comments:

Thank you for making these suggestions. We appreciate your efforts in trying to find reasonable solutions to the quagmire that Alberta's laws, regulations and processes are forcing upon PLOG technologies and the people who want to become PLOGOs.

[Additional Notes](#)

Please return this form with your comments by August 11th, 2006, to:

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