NT Solar Futures

28th January 2020

Mr Lyndon Rowe
Utilities Commissioner
Utilities.commission@nt.gov.au
GPO Box 915, Darwin NT 0801
30th September 2019

Dear Lyndon,

Generator Performance Standards Review

Thank you for the recent opportunity to discuss our views and positions with the Commissioners on Power and Water Corporation's (PWC's) proposed Generator Performance Standards (GPS).

Further to our views already expressed, we note that UC's Draft Determination on PWC's proposed GPS changes were minimalist and aimed at making the code a fairer and more reasonable regulatory instrument, in the light of a changing industry. PWC have pushed back against a number of these minimal changes, which is extraordinary.

We reiterate that if PWC had genuinely engaged in consultation and considered the submissions of key industry players, a vastly different GPS would have been put forward. Nevertheless, it is difficult to comprehend PWC's motivations in seeking, again, some of the additional and significant changes in the wake of the UC's Draft Determination.

PWC appear to have taken the Draft Determination as an 11th hour opportunity to put new wording into clauses which are not related to the UC Draft Determination. In our view, PWC have had ample time to get their proposed changes right. Significant changes should, rightly, be subject to further industry scrutiny and are inappropriate at this stage of the review process.

While the following pages discuss the particulars, it is disconcerting that PWC continues to ignore, or refrains from putting forward more sensible, least cost and investment-friendly approaches to future grid safety, reliability and good management.

We provide our submission in the interest of achieving the NT government's policy of 50% renewables by 2030, and want to actively work with PWC, UC, industry and others to achieve this. Let's work together to help ensure the Territory's boundless possibilities which are at risk with the proposed GPS.

Yours sincerely,

Ilana Eldridge
Director

Updated Summary of the key Generator Performance Standards (GPS) Issues

PWC first publicly released their proposed GPS in December 2018. Since that time, NT Solar have made various representations. NT Solar stand by our previous submissions to PWC and would strongly encourage the UC to take these into account, along with submissions by other industry participants. The following is a summary of the key issues.

1. **PWC are purporting to support the NT government's policy of 50% RE by 2030** but the proposed GPS in its current form introduces significant barriers to new market entrants. We have determined that these barriers will drive up complexity and costs significantly, making the NT unattractive for investment and/or driving up energy prices for consumers.
2. **Uncontrolled residential and commercial ("roof top") solar.** The proposed GPS does not address any of the urgent issues of uncontrolled household and commercial behind the meter solar generation and its effect on system security. The rapidly increasing amount of daytime solar generation when injecting at low demand periods, may push the existing gas turbine generators on the system below their minimum stable operating points. This may well risk a System Black event on the DKIS within the next 12 months. There are a range of possible solutions to address this issue, and NT Solar would welcome being part of this discussion. Many of the least cost solutions lie in a centralized ancillary services model. Instead of supporting a centralized multi option solution the proposed GPS pushes all requirements and cost onto new large generators to be installed at the point of common coupling if they are to achieve automatic access.
3. **Abuse of market power and anti-competitive behaviour from PWC** is demonstrated by their efforts to push through, and attempts to proceed with, a GPS agenda that is not widely supported by Industry (based on submissions) and has not been established as a least cost approach for NT electricity consumers. There has not been **any** comparative economic study completed that demonstrates that the PWC proposal is least cost. There is no demonstrated urgency to endorse the PWC proposal. There has been no market led assessment of demand for renewable energy supply nor has there been any reasonable assessment of the veracity of the proposals held by PWC for new renewable generation. In the absence of reasonable demand assessment (which supports our claim that there is no urgency) we ask the Commission to pause its assessment of the current GPS. It is beholding for the Commission to seek least cost solutions and to therefore assist in driving down the wholesale cost of electricity supply. **There is no urgency and the PWC proposal is not least cost and has not been proven to be the best of all available solutions.**

Indeed a range of possible solutions has not been addressed at all.

4. L**ack of genuine consultation during the GPS review process**. PWC have held information sessions on what is proposed. These sessions were not workshops. PWC have sought submissions which industry have provided consistently opposing the significant changes but have made no significant movement in their position. Nor has there been any genuine attempt at collaborative dialogue with Industry.
5. **Lack of co-ordination between the GPS and the NTEM development**. These two major works packages are intrinsically linked. This was agreed between us during our discussion. PWC apparently see the GPS as largely unrelated to the NTEM or are trying to force through changes advantageous to their position before the NTEM is finalised. GPS and NTEM need significant co-ordination and alignment and again we ask for a pause to the process.
6. **PWC driven to push most responsibility back onto Generators**. PWC is not open to System Control and Generators sharing the responsibility (e.g. central dispatch of ancillary services under an NTEM ancillary services market). This approach is counter-productive as generators providing ancillary services at their connection point, which meets the proposed GPS, is often not in the best interest of the System, and demonstrably so (such as requiring large generators to install battery capacity south of Channel Island, which will not address the, soon to be, largest contingencies on the system – a fault on the 132kV Channel Island to Katherine line segments). PWC are open to negotiated access standards as they must be by law but this process is challenging, time consuming and therefore expensive given the very skewed negotiating position of PWC (as seen in the proposed GPS). All generators strive for automatic access. Under the proposed GPS PWC are effectively ruling this opportunity out of contention.
7. **Removal of semi-scheduled from the GPS** which is inconsistent with the NEM and WEM. In ours and others view this is a step too far. PWC's push to make all large renewable generators dispatchable at this time is both unnecessary and too aggressive given the state of technology and the condition of the network. The proposal is not least cost to the system and has not been modelled to demonstrate its effectiveness. It will drive up costs significantly for generators, without providing real tangible benefits and/or the benefits delivered in a more cost effective and effective manner. In any case the standard system studies process ensures that any system security issues resulting from the new generator connection are addressed as part of the connection agreement (e.g. network augmentation). It was gratifying to see GHD supported this view but incredulous to see the PWC response.
8. **Introduction of new and novel forecasting regime**, which is out of step with current solar resource forecasting technology. It will lead to significant costs to achieve with battery storage and/or unduly conservative forecasting to ensure compliance. This proposal is NOT least cost. We reiterate points made in discussion with the Commissioners about the antiquated and manual operating systems within System

Control. If Systems Control cannot comply with their own forecasting provisions in the GPS, where is the justification for developers to undertake significantly expensive technological works which will lay idle until some future time. There is also no recognition of the time-frames involved in implementing such a forecasting system with System Control, and hence a need to transition in the GPS.

9. **Lack of willingness of PWC to work with TGen and Generators for the good of the Darwin Katherine Interconnected System (DKIS).** DKIS is a small system and there is a need to actively work together to achieve 50% RE by 2030 at least cost, whilst still promoting competition. This is not happening.
10. **Claiming the approach is least cost when there has been no detailed technical and cost analysis of alternative GPS approaches.** NT taxpayer value for money has not been established by PWC, UC or GHD. There are many ways to achieve a secure and reliable system, and these need to be independently assessed before proceeding with a revised GPS.
11. **GPS will drive up RE energy prices and will not achieve a least cost future for NT electricity consumers.** With the right GPS and NTEM the NT could have a fantastic least cost electricity system and a stable grid. What is proposed is a raw deal for NT electricity consumers driven by, in our view, an irrational fear from PWC that if the proposed GPS is not taken, system reliability and security will be compromised.

Utilities Commission GPS Draft Determination – PWC submission 10th January 2020.

In relation to PWC's submission to the UC of the 10th January 2020, we provide the following specific comments:

1. General – It was appreciated that this was submitted by PWC early to allow other participants chance to respond.
2. Clause 3.3.4 – Provision of Info (Generator models) – PWC proposed changes provide some clarity but go too far. There will be sensitivity from Original Equipment Manufacturers (OEMs) around what is proposed, particularly in regard to providing unencrypted models and containing insufficient confidentially clauses to protect their valuable Intellectual Property (IP).
3. Clause 3.3.5 – Technical Requirements (Negotiated access). PWC have removed the requirement to respond in 30 days and instead refer to timeframe to meet NTNER 5.3.6 (which deals with the timeframe to provide an offer to connect). NT NER 5.3.6 (a)(1) states "The Network Service Provider may amend the time period referred to in paragraph (a)(1) to allow for any additional time taken in excess of the period allowed in the preliminary program for the negotiation of access standards, where allowed under jurisdictional electricity legislation." A reasonable conclusion upon reading this is that PWC can delay as long as they "reasonably" like. There is no definition or limits on what "reasonably" might consist of. Such an approach is clearly counterproductive to encouraging investment in this industry, and the 30-day requirement should remain.
4. Clause 3.3.5.5 – Response following Disturbances - PWC appear to have put a lot of detail into the changes here. On a first review there are no particular issues that we can see for inverter coupled generation, but we do note that these are new requirements which the private sector industry (and others) have had no opportunity to consider in detail.
5. Clause 3.3.5.11 Frequency Control. GHD included the words "subject to energy availability" but PWC want to remove from para b(1) (which deals with "not making the problem worse") . This removal from para b(1) would be reasonable but unnecessary. A large generator needs to stay at its dispatch instruction under the proposed GPS. For para b(2) PWC have proposed "subject to energy source availability as determined in capacity forecasts under clause 3.3.5.17". We think this inclusion is wrong. A generator should be able to exceed its forecast if there is a drop-in frequency (such as a generator on the network has tripped offline). All generators should try to contribute what they can to maintain the System regardless of forecast. We are opposed to this. It is clearly an unwise change to that which PWC have proposed.

   Clause 3.3.5.14 – Active Power. PWC have added the wording "as determined in

capacity forecasts under clause 3.3.5.17", after "subject to energy source availability", and other changes. We do not agree with these changes and strongly suggest they be removed. This removes flexibility for System Control. If SC want to gives us dispatch instruction to generate higher then we will be subject to energy source availability. The proposed wording would limit output to the capacity forecast. We doubt that this is what they want. Also, the energy source availability is not necessarily determined in the capacity forecast. There will be times when other factors such as solar forecast error is high, charging/discharging batteries, etc where our capacity forecast does not reflect energy source availability. Other changes are ok.

6. Clause 3.3.5.15 – Inertia and CFCAS – again the inclusion of the wording "as determined…" is not supported. If there is a contingency event then why restrict generators to their capacity forecast? If we can do more then we should assist (and get paid under our PPA for this additional generation).
7. Clause 3.3.5.17 – Forecasting. We agree with the wording changes except the removal of (f). (f) was a sensible inclusion by GHD that you can vary from your capacity forecast as a result of actions to correct system frequency in accordance with other provisions of the code. This should be retained, as per the above arguments. There is a perception that this somehow gives us wriggle room not to comply with the forecast (e.g. not be scheduled) which is wrong. If there is an issue, then we all respond to keep the lights on regardless of forecast. It is in our commercial interests the keep the system secure and operational, and as a good corporate citizen. Once everything is stable again, then the forecast rules apply.
8. Clause 12 – Transition arrangements. Does not affect us, but unfair that if a generator who has a connection agreement but has not connected by 1 April 2019, and there is something unreasonable in the new code, then the generator has to pay PWC "reasonable" costs associated with negotiating an access standard. Same applies to negotiating other matters to be agreed under the Code, and also for any resultant testing. There is no incentive for PWC to conclude negotiations and behave reasonably. This exposes generators to unknown and uncontrollable costs.