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17 March 2015

Mr Chris Pattas
General Manager, Networks
Australian Energy Regulator
GPO Box 520
MELBOUNE VIC 3000
mailto: TASelectricity2017@aer.gov.au

Dear General Manager, Networks,

I refer **AER Tasmanian electricity distribution – Framework and approach** to the Tasmanian Government Department of State Growth, Tasmanian Energy Strategy (Draft for public comment), Section 4.3.7. Actions – positioning Tasmania for the future, "*Identify the necessary pre-conditions for increasing Tasmanian hydro generation output by 10 per cent (in collaboration with Hydro Tasmania)*".

Steel Wave Power is generally supportive of the goal of identifying the necessary pre-conditions for increasing Tasmanian hydro generation output by 10 per cent. Steel Wave Power is disappointed the Performance Improvement sought by Department of State Growth to was reverted to Tasmania's monopoly generator, Hydro Tasmania. These centralised solutions don't offer unique advantages in integrating renewable resources and surviving natural disasters and other outage events. Based on a recent **Framework and Approach** (e.g. United Energy Cost Allocation Method - 1 January 2016) operating efficiency of centralised generation is favoured instead of Decentralised Energy Systems that cut obvious waste (e.g. transmission / distribution losses) with low cost measures.

In addition 10 per cent extra Tasmanian hydro generation output (e.g. for Basslink trading or Tasmanian major industrial customers) can be correlated to 60/40 split (Hydro Tasmania / Community Resilience Microgrids) for just regional Tasmanian townships since that gives maximum opportunity for Decentralised Energy Systems with hot-standby power for very large scale events.

Operating Efficiency = Competence x Maintenance x Equipment

"Operational Excellence" is simply a proactive culture of doing the right things, in the right order to continuously improve agreed performance measures. Efficiency is a cumulative measure of the business process. **Framework and Approach** should measure what AER is really interested in. For example from perspective of harvesting solar irradiation, does AER realise that Munich is further north of equator than Hobart is south of equator (i.e. mentioning Munich since Germany has beaten QLD in solar)?

In its **Framework and Approach** for Australian Energy Regulator the United Energy has Cost Allocation Principles that identify smearing "Shared costs are allocated based on weighted average revenue" since Small-scale Renewable Energy Scheme (SRES) has a low threshold (100 kW) set such that SRES doesn't do the economical basics right for Decentralised Energy Systems with hot-standby power for very large scale events. At some point during this **Tasmanian electricity distribution – Framework and approach,** Large-scale Renewable Energy Target (LRET) will be reset with new centralised generation (e.g. Cattle Hill Wind Farm) being favoured instead of Decentralised Energy Systems capacities nearer SRES than Cattle Hill Wind Farm.

Additionally Steel Wave Power notes the "*Analysis of the impact of the Small Scale Renewable Energy Scheme*" by ACIL Tasman omits a fundamental aspect of capacities dispersed distribution transformers for regional Tasmanian townships surviving natural disasters and other outage events. It shouldn't be too soon to be making this point about community recovery services during and after fires in Tasmania (e.g. Dunalley) that left many homeless and Tasmania with a large damage bill.

Yours Sincerely,

Marcus DW Steel

Principal Application Engineer – SWP

(STEEL WAVE POWER)

References:

a) The CIGRE paper "*Alternative Energy Development on North Stradbroke Island*" by Marcus DW Steel

b) 23rd Annual Conference Pacific Power Association paper on "*Convergence of Frequency and Contingency Schemes with Grid SCADA – Island Perspectives*" – July 2014

c) DNP3 Application Note AN2013-003 "*DNP3 Profile for Electric Vehicle and Mobile Energy Storage*" – November 2013

d) SWP submissions to Ergon Network tariff strategy consultation - 2014-15 consultation information

e) Compendium of Abstracts from CIGRE 2013 Symposium Session 6.1 Integration of Renewables

f) CIGRE's Closing Session summary B1/B2/B4/C6 at Symposium September 2013

g) "Provision of Ancillary Services by Distributed Generators, Technological and Economic Perspective" by Martin Braun - University of Kassel, Germany

Energy use forecast GWh		Decentralised Energy System	
Substation	Baseline GWh	Regional	GWh
Avoca	45.4	Y	45.4
Bridgewater	93.6	Y	93.6
Burnie	315.4	N	0
Chapel Street	221.7	N	0
Creek Road	326.9	N	0
Derby	23.1	Y	23.1
Derwent Bridge	1.1	N	0
Devonport	241.8	N	0
Electrona	48.4	Y	48.4
Emu Bay	17	N	0
George Town	131.1	N	0
Kermandie	31.6	Y	31.6
Kingston	132.2	N	0
Knights Road	57.8	Y	57.8
Lindisfarne	177.9	N	0
Meadowbank	34.2	N	0
New Norfolk	57.8	N	0
North Hobart	297.5	N	0
Norwood	284.1	N	0
Palmerston	51	N	0
Queenstown	29.1	N	0
Railton	299.3	Y	299.3
Risdon 22kV	212.9	N	0
Rokeby	146.9	Y	146.9
Rosebery 22kV	22.2	N	0
Rosebery 44kV	152.4	N	0
Scottsdale	94.4	Y	94.4
Smithton	119.8	Y	119.8
Sorell	115	N	0
St Marys	48.6	Y	48.6
Trevallyn	566.3	N	0
Triabunna	36.6	Y	36.6
Ulverstone	197.3	Y	197.3
Totals	4630.4		1242.8
10% Improvement	-463.04		
DES Penetration		**per township**	**37%**