

AEMC Forum: Generator ramp rates and dispatch inflexibility in bidding

Jamie Lowe
Manager, Market Regulation

5 May 2014

alintaenergy.com.au



Alinta Energy's perspective

- Some AER concerns are valid. But need to consider the range of impacts arising from the issues identified.
- Ramp rates and fast start inflexibility profiles should reflect technical and plant characteristics.
- NEMDE cannot discount price and quantity bids of plant with less flexible ramp rates.
- Price and quantity bids should be the determinants of dispatch outcomes not artificial ramp rates adjusted for commercial reasons – this issue alone justifies attention.
- In the absence of a market that values ramping capability it is appropriate for plant to be required to use technically verifiable ramp rates so to maximise dispatch efficiency.
- The proposal does not provide a clear pathway to implementation and discretion is not advisable.
- Two simplified options exist which are proportionate responses to the issues identified.
- **Option 1: Use of Baseline Ramp Rates**
- **Option 2: 3MW/m or 3 per cent rule per unit**
- If implemented, generators are likely to adjust bidding strategies, increase use of price bands, and adjust availability. Each of these outcomes would be more desirable than ramp rate gaming.

There is justifiable grounds for change but lack of clarity around how to implement change that is not burdensome



Option 1: Baseline Ramp Rate

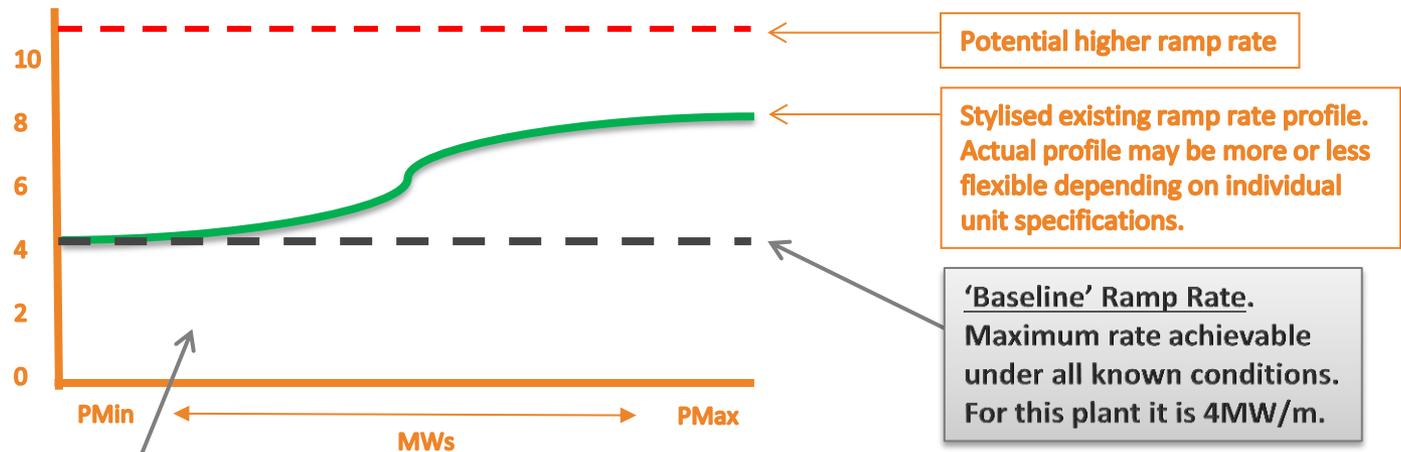
- The baseline ramp rate is one that can be used under all normal operating circumstances between maximum unit output and minimum generation. This rate is not the actual maximum that could be achieved in all circumstances at no or additional cost but what can be achieved under most or all normal operating conditions.
- Baseline ramp rates should not increase the risk of failure either in the long term or short term and will not result in a reduced life expectancy beyond that which would be expected due to normal operations.
- Baseline ramp rates should be set at a level that can maintain output as per dispatch instructions and can reliably move in either direction in subsequent intervals i.e. X up, X down or a up/down combination equating to X.
- Setting a baseline ramp rate does not prohibit revisions based on permanent changes to plant.
- Baseline ramp rates should be set on a unit not generation facility basis. Other things being equal ramp rates should be set on a per unit basis and not aggregated across facilities.

Baseline Ramp Rate approach consistent with the AER proposal but looks to remove potential AER discretion



Baseline Ramp Rate – example 1

Stylised ramp rate thresholds



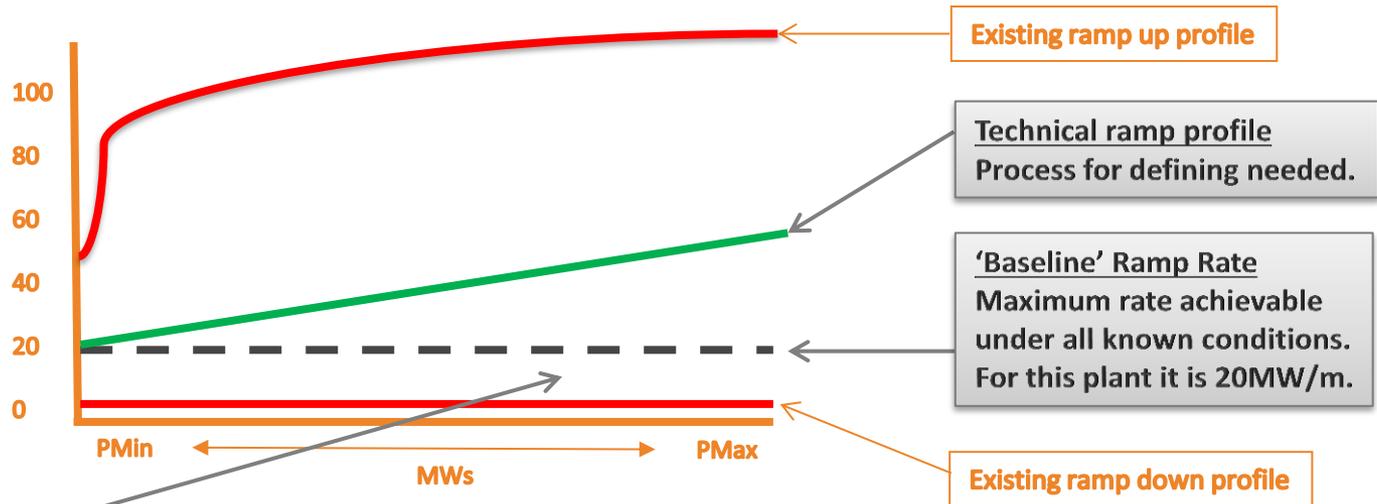
New Obligation

Would need technically justifiable reason to bid in this zone pursuant to proposed AER rule change

Establishes a clear value and single ground for the AER to follow-up with a request for further information

Baseline Ramp Rate – example 2

Stylised ramp rate thresholds



New Obligation

Would need technically justifiable reason to bid in this zone pursuant to proposed AER rule change

Where plant has complicated / divergent ramp rate profile (s) the hurdle for compliance remains the lowest identifiable point

Option 2:

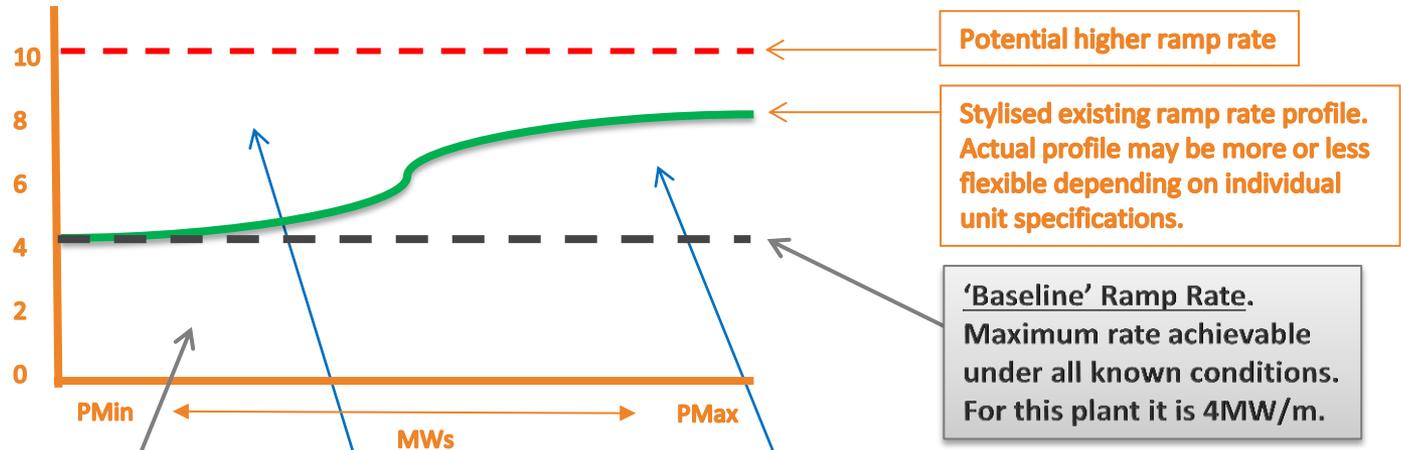
3MW/m > 3 per cent (round up) minimum per unit

Aggregated facility – Current approach				Aggregated facility – Alternative approach				Non-aggregated facility – Comparison			
Units	Size	Σ MW	Rate	Units	Size	Σ MW	Rate	Units	Size	Σ MW	Rate
Somerton Power Station				Somerton Power Station				Braemar Power Station (1)			
4	40	160	3	4	40	160	8	1	168	168	8
Laverton North Power Station				Laverton North Power Station				Oakey Power Station			
2	156	312	3	2	156	312	6	2	141	282	6
Valley Power Power Station				Valley Power Power Station				Quarantine Power Station			
6	50	300	3	6	50	300	12	4	24	96	4
								1	128	128	3
										224	7
Lower Tumut Power Station				Lower Tumut Power Station				Hazelwood Power Station			
6	300	1800	3	6	300	1800	18	8	220	1760	24
Murray Power Station				Murray Power Station				Torrens Island Power Station			
10	95	950		10	95	950	30	4	200	800	16
4	138	552		4	138	552	12	4	120	480	16
		1502	3			1502	42			1280	32

Inelegant, but potentially proportionate solution to the issues raised. Doesn't resolve wider question of market value on ramping capability.

Neither proposal values ramping in the market

Stylised ramp rate thresholds



New Obligation

Would need technically justifiable reason to bid in this zone pursuant to proposed AER rule change

Ramping not valued by the market. Achievable with additional expenditure or impairment. Purely commercial decision as not valued by the market or impacted by proposal.

Additional ramp rate capacity as can go higher as no additional cost – Not valued by the market and usage is purely a commercial decision

Valuing ramping capacity is a separate consideration to the AER proposal but one that resolves a greater range of issues