

## Facility Registration Form for Demand Response Facility

<b>DEMAND RESPONSE FACILITY (DRF) STANDING CAPABILITY DATA</b>				
<b>To be completed by Market Participant (with initial and company stamp on every page)</b>				
Description of Data Submission ( ): _____				
Name of Market Participant:				
Name of DRF:				
Aggregate Maximum Load of DRF:		MW		
Aggregate Maximum Load Curtailment Capacity:		MW		
Aggregate Maximum Ramp-Up Rate:		MW/min		
Aggregate Maximum Ramp-Down Rate:		MW/min		
Details of Load Facility: (To provide breakdown of the each DRF installation. Please submit in separate sheets if required.)				
Building Name				
Postal Code for Each Building				
Voltage Level of Connection Point to the Grid				
Maximum Load	MW	MW	MW	MW
Registered Maximum Load Curtailment Capacity (MW)	MW	MW	MW	MW
Maximum Ramp-Up Rate	MW/min	MW/min	MW/min	MW/min
Maximum Ramp-Down Rate	MW/min	MW/min	MW/min	MW/min

<b>To be completed by PSO</b>				
Name of Transmission Licensee's 66kV substation serving the DRF:				
Load Zone:				
Additional Information:				
<b>To be completed by EMC-MO</b>				
Name: B1-B2-B3				

Name of Applicant:	Designation of Applicant:	Company Name:	Signature of Applicant:

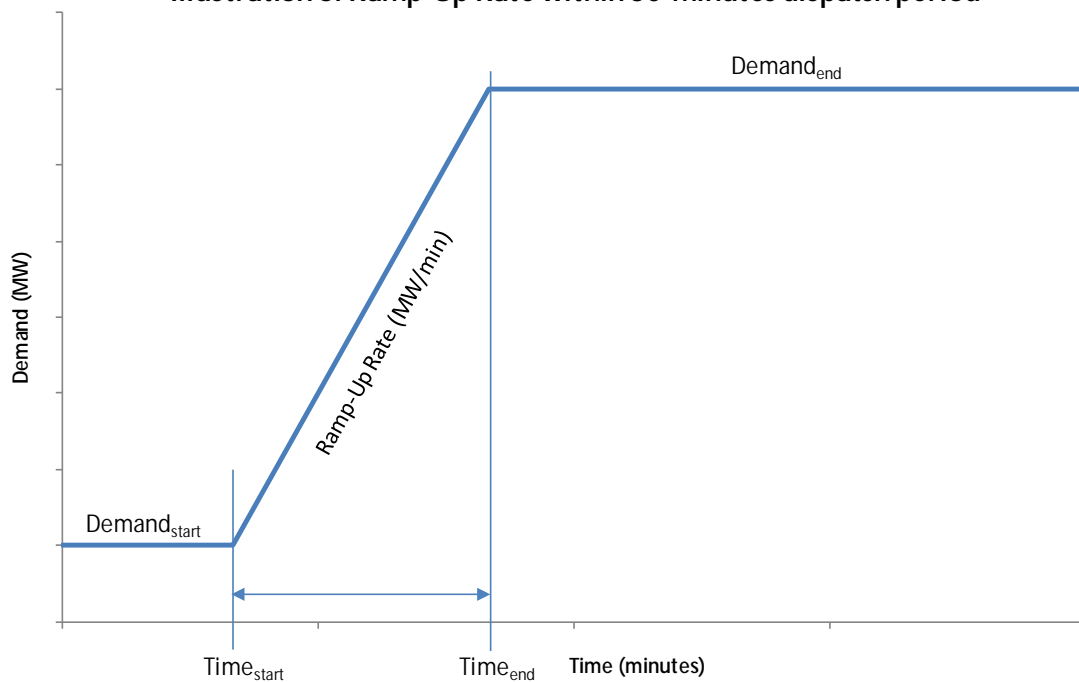
## EXPLANATORY NOTES FOR DEMAND RESPONSE FACILITY (DRF)

The following data are required according to Appendix 6E – Standing Capability Data, Chapter 6 of Singapore Electricity Market Rules:

- Aggregate Maximum Load of DRF – Total aggregated load that consumed by the DRF. This shall be expressed in MW rounding to one decimal place.
- Aggregate Maximum Load Curtailment Capacity (E.2.1.3) – Total load registered to provide demand response. This shall be expressed in MW rounding to one decimal place.
- Maximum Load - This is the amount of load that each installation consumed in the facility. This shall be expressed in MW rounding to one decimal place.
- Registered Maximum Load Curtailment Capacity – This is the amount of load that each installation seeks to be registered to provide demand response. Half-hourly load profile for each load facility for the immediate past 1 month to support the declared capability is to be submitted. This shall be expressed in MW rounding to one decimal place.
- Aggregate Maximum Ramp-Up Rate (E.2.1.4) – Not more than the sum of the Maximum Ramp-up Rate for each building if the load facility is or seeks to be registered to be scheduled for energy withdrawal for the purposes of load curtailment within the 30-minutes dispatch period. This shall be expressed in MW/minute rounding to three decimal places.
- Maximum Ramp-Up Rate – This is calculated in accordance with the formula below and expressed in MW/minute rounding to three decimal places. Test data, with a sampling rate of 1 minute and minimum record of 30 minutes, to support the declared ramp-up rate capability shall be submitted. The values of Demand<sub>end</sub>, Demand<sub>start</sub>, Time<sub>end</sub> and Time<sub>start</sub> shall also be submitted with reference to the test data and (Demand<sub>end</sub> – Demand<sub>start</sub>) shall be no less than the Maximum Load Curtailment Capacity.

$$\text{Maximum Ramp-Up Rate} = \frac{\text{Demand}_{end} - \text{Demand}_{start}}{\text{Time}_{end} - \text{Time}_{start}}$$

### Illustration of Ramp-Up Rate within 30-minutes dispatch period



- Aggregate Maximum Ramp-Down Rate (E.2.1.5) – Not more than the sum of the Maximum Ramp-Down Rate for each building if the load facility is or seeks to be registered to be scheduled for energy withdrawal for the purposes of load curtailment within the 30-minutes dispatch period. This shall be expressed in MW/minute rounding to three decimal places.
- Maximum Ramp-Down Rate – This is calculated in accordance with the formula below and expressed in MW/minute rounding to three decimal places. Test data, with a sampling rate of 1 minute and minimum record of 30 minutes, to support the declared ramp-down rate capability shall be submitted. The values of Demand<sub>end</sub>, Demand<sub>start</sub>, Time<sub>end</sub> and Time<sub>start</sub> shall also be submitted with reference to the test data and (Demand<sub>start</sub> – Demand<sub>end</sub>) shall be no less than the Maximum Load Curtailment Capacity.

$$\text{Maximum Ramp-Down Rate} = \frac{\text{Demand}_{\text{start}} - \text{Demand}_{\text{end}}}{\text{Time}_{\text{end}} - \text{Time}_{\text{start}}}$$

### Illustration of Ramp-Down Rate within 30-minutes dispatch period

