

LFSM guidance

1. What is LFSM?

A unit can be in either FSM or LFSM.

Limited Frequency Sensitive Mode (LFSM) is a default operating mode that requires changes in active power during high or low frequency events.

Frequency Sensitive Mode (FSM) is an operating mode that can be instructed and typically requires delivery of Primary, Secondary and High frequency response.

LFSM-O requires changes in cases of high frequency. Specifically, that units decrease their active power by at least 2% for every 0.1Hz rise above 50.4Hz.

LFSM-U applies in low frequency. Units must increase their active power by at least 2% for every 0.1Hz below 49.5Hz.

LFSM-O is mandatory (except for specific exceptions as described in the Grid Code).

LFSM-U should be delivered if the capability exists but is not required if operation would be inefficient or if a unit is already operating at maximum capacity.

Operating Mode & Requirements	LFSM-U	LFSM-O
When in FSM	<49.5Hz	>50.5Hz
When in LFSM	<49.5Hz	>50.4Hz
Required change in active power	2% per 0.1Hz	2% per 0.1Hz
Obligation	Not mandatory	Mandatory

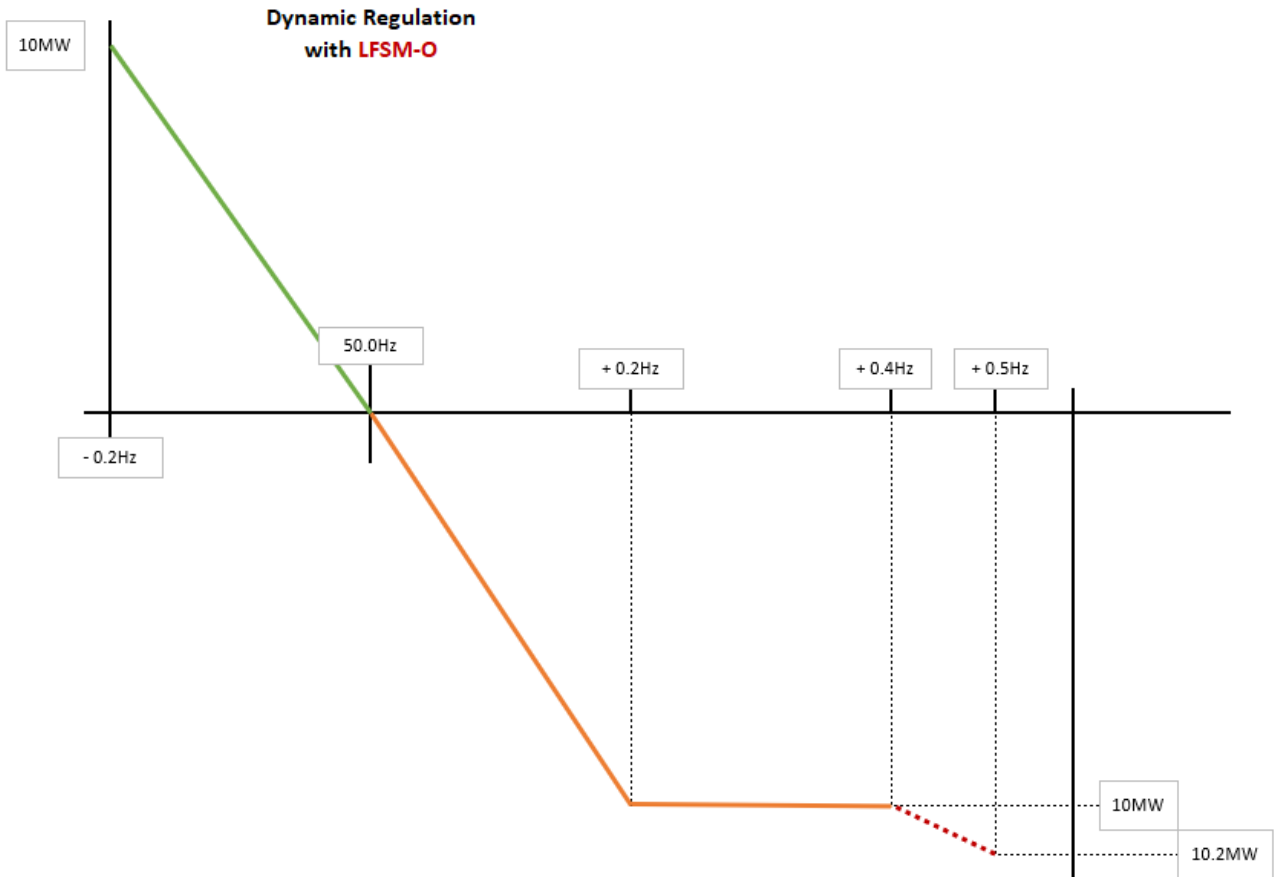
2. Interaction of LFSM with DC, DM & DR

Units contracted to deliver Dynamic Containment (DC), Dynamic Moderation (DM) or Dynamic Regulation (DR) are not considered to be operating in Frequency Sensitive Mode. This mode (FSM) only applies to units delivering Primary, Secondary or High Frequency response (as described in BC3.5.4).

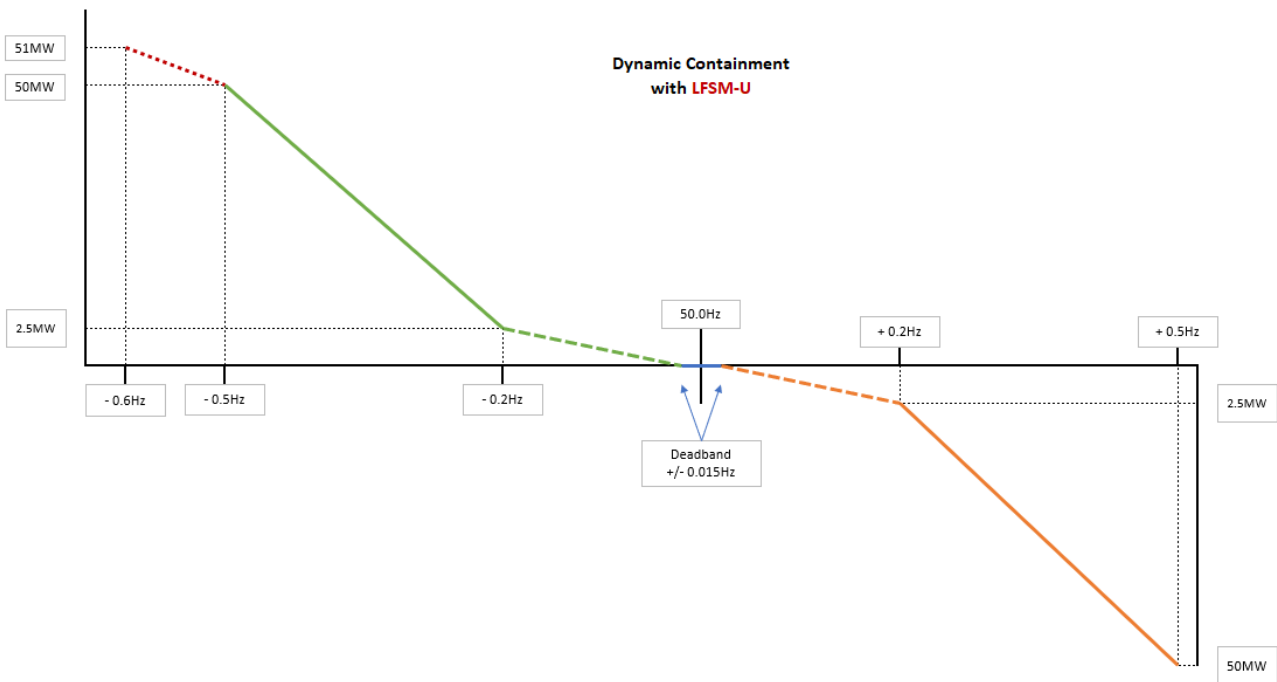
Therefore, providers of DC, DM and DR will be operating in LFSM.

Where a requirement to operate in LFSM coincides with a contract to deliver DC, DM, or DR, we ask providers of DC/DM/DR to stack these services with LFSM.

For example, a unit contracted to provide 10MW of DR-H should provide the full 10MW of response (as measured from its baseline) at frequencies above 50.2Hz. If frequency moves above 50.4Hz the unit should, in addition, reduce its active power in accordance with LFSM-O (i.e. 2% per 0.1Hz).



For example, a unit contracted to provide 50MW of DC-L should provide the full 50MW of response (as measured from its baseline) at 49.5Hz. If frequency falls further (below 49.5Hz) then, provided efficient capability exists, the unit should, in addition, increase its active power in accordance with LFSM-U (i.e. 2% per 0.1Hz).



3. Performance monitoring

Where DC/DM/DR delivery overlaps with delivery due to LFSM-O/U, the provider should submit their Performance Baseline with an adjustment considering the LFSM delivery. The ESO will then apply normal Performance Monitoring assessment to the baseline to calculate the k factor and payment amounts for delivery of DC/DM/DR.

Providers should ensure that any submitted/contracted quantity of DC/DM/DR can be delivered simultaneously with LFSM. Non or under delivery of DC/DM/DR due to LFSM will result in performance penalties applied via the Performance Monitoring process.