

# Application to revoke Technical Rule temporary exemption granted to Western Power for Meadow Springs Zone Substation

Appendix 3 - Western Power - Update to Technical Rules  
exemption request

Economic Regulation Authority

WESTERN AUSTRALIA

D197997

Our reference: 47192704  
Contact Person: Sabina Roshan

24 January 2018

Elizabeth Walters  
Assistant Director Electricity  
Economic Regulation Authority  
Level 4, 469 Wellington Street  
PERTH WA 6000

Dear Elizabeth

**Updates to Technical Rules Exemption Request dated 30 April 2015: cl. 2.5.4(b) Meadow Springs Normal Cyclic Rating (NCR) Substation**

On 17 Oct 2018 the Authority requested via email that Western Power to provide an update on the latest actuals and forecast loads at the Meadow Springs and Mandurah Substations, and feedback to confirm if the exemption is still required.

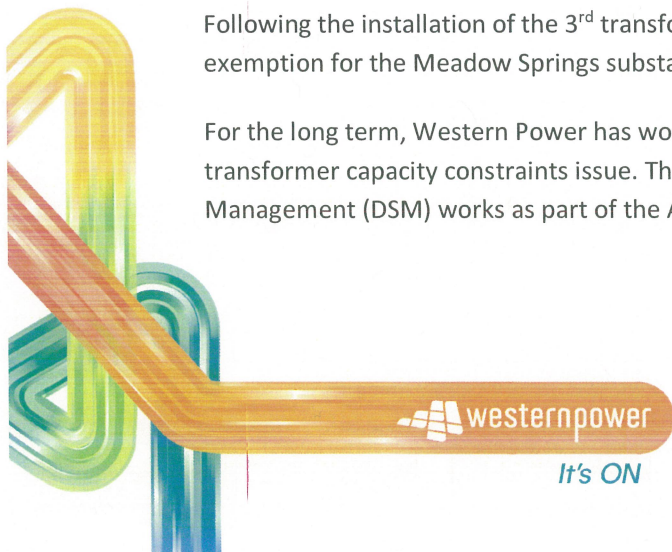
To promote ease of reading and clarity, Western Power's has included the requested information detailing the latest actuals and forecast loads at the Meadow Springs and Mandurah Substations as an attachment to this letter.

Figure 3 of the attachment illustrates that, during 2016 summer the Meadow Springs substation's actual peak load exceeded the NCR capacity as per both the 2011 and 2016 Technical Rules requirement.

Further, in Figure 3 the 2018- 2025 forecast for the Meadow Spring substations indicates that the risk of non-compliance to the NCR requirement for the summer 2019 (2018/19) exists until the installation of Meadow Springs 3<sup>rd</sup> Transformer is completed. The 3<sup>rd</sup> transformer is expected to be in service by Quarter 1/2019 calendar year. Based on this information, Western Power confirms that the Meadow Springs Substation Technical Rules exemption remain in place.

Following the installation of the 3<sup>rd</sup> transformer, Western Power will confirm the need for the exemption for the Meadow Springs substation for the future years beyond 2019.

For the long term, Western Power has works proposed for the Mandurah load area to relieve the transformer capacity constraints issue. This includes reinforcement projects and Demand Side Management (DSM) works as part of the AA4 proposal.



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Western Power will continue to monitor the transformer loads at the Mandurah and Meadow Springs Substations and keep the Authority informed of any major risks to compliance to the Technical Rules NCR requirement.

If you have any queries in regards to this matter, please do not hesitate to contact Sabina Roshan on 9326 7141.

Yours sincerely,



**Rudi James**  
Regulatory Compliance Manager  
Western Power  
[encl.]

## Attachment

### Update on the actual peak loads and load forecast at Meadow Springs (MSS), Mandurah (MH) and the Mandurah load area

#### Mandurah Load Area

The actual combined summer peak of the load area did not exceed the NCR capacity of the load area as per the limits calculated under Technical Rules 2011.

According to the 10% Probability of Exceedance (POE10) forecast, the load area peak may exceed capacity in 2021 as per the 2016 Technical Rules NCR limits. However, given the difference between the predicted peak (POE10) and the actuals for 2018 (35.4MW), and taking into consideration the planned works in the area to relieve capacity constraint, Western Power proposes to take the 'monitor and action' approach.

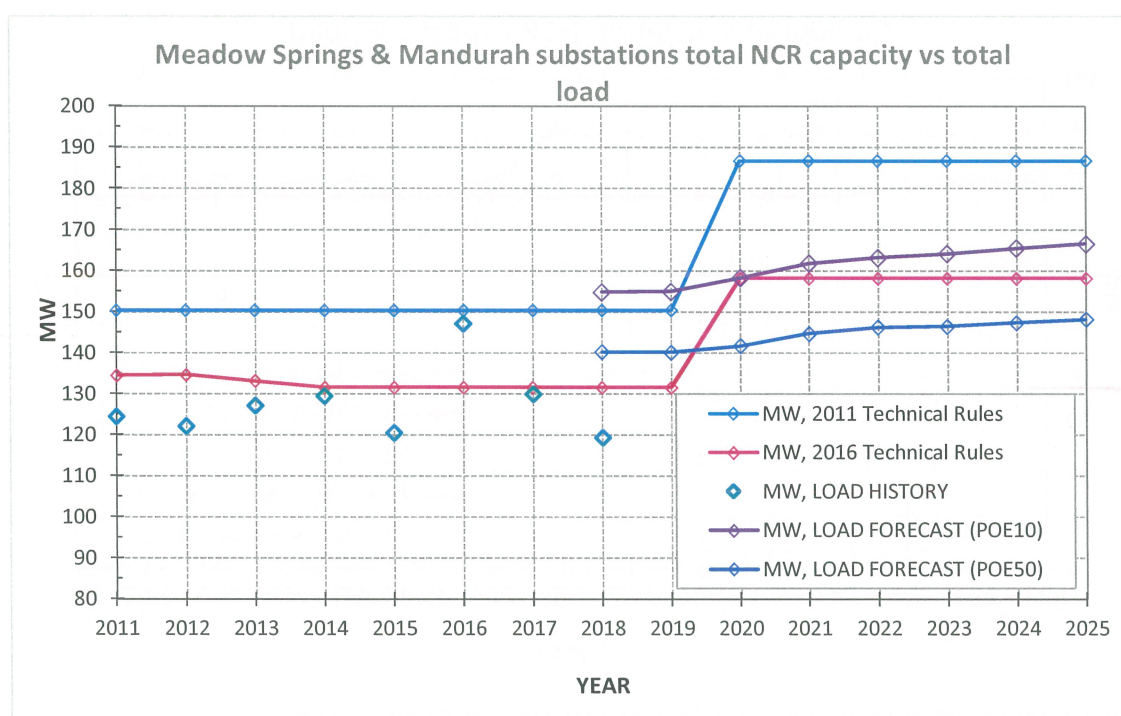


Figure 1. Mandurah Load Area (MH+MSS) forecast, actual peak loads and NCR capacities



## Mandurah Substation

The actual summer peak of the substation did not exceed the NCR capacity limits under Technical Rules 2011.

Based on the 10% Probability of Exceedance (POE10) forecast, the substation peak may exceed capacity from 2019 marginally as per the 2016 Technical Rules NCR limits. However, taking into consideration:

- the Mandurah Demand Side Management (DSM)<sup>1</sup> project that will be operation from 2020, and
- the reinforcement works planned under the AA4 will eventuate to provide additional capacity,

Western Power proposes to take the 'monitor and action' approach.

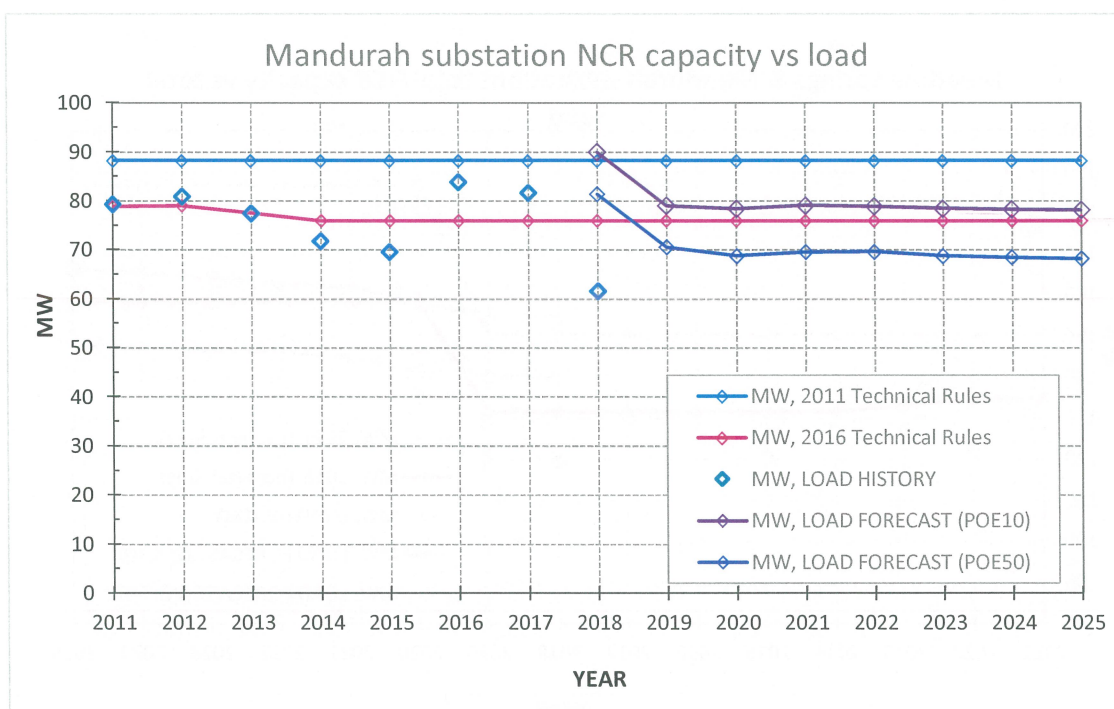


Figure 2. Mandurah substation forecast, actual peak loads and NCR capacities

<sup>1</sup> Reduction in load due to DSM is not taken into account in the load forecast

### Meadow Springs Substation

The actual summer peak of the substation exceeded the NCR capacity in 2016, and without the exemption being granted, Western Power would have been non-compliant with the Technical Rule.

The Meadow Springs 3rd Transformer project will be completed by Quarter 1/2019 calendar. Therefore, based on the 10% Probability of Exceedance (POE10) forecast, the substation peak may exceed capacity in 2019 (highlighted in the circle in Figure 3) as per the 2011 Technical Rules NCR limits.

Based on the forecast, Western Power seeks to retain the exemption for the Meadow Springs substation until a further review can be performed post implementation of the 3<sup>rd</sup> transformer.

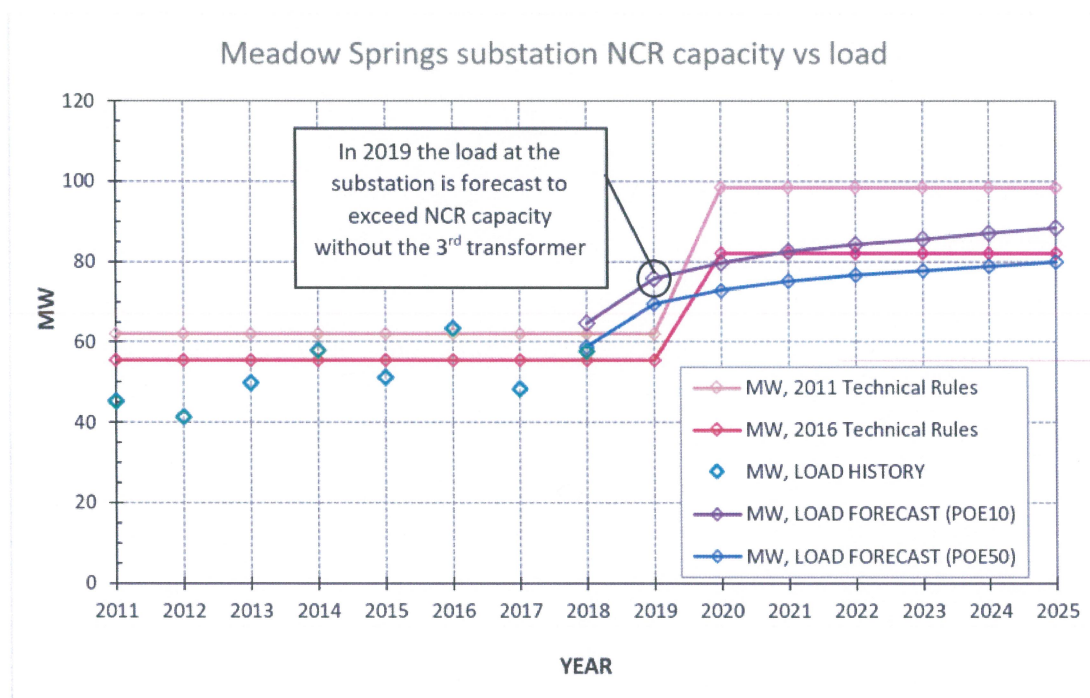


Figure 3. Meadow Springs substation forecast, actual peak loads and NCR capacities