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Submitted to: NEMReform@aemo.com.au

RE: Constraint Formulation Guidelines – ISF Rule Consultation

About Shell Energy in Australia

Shell Energy is an energy solutions business and renewables and battery energy storage system developer in Australia.

As the one of the largest electricity providers to commercial and industrial businesses in Australia[1], Shell Energy offers integrated solutions and market-leading[2] customer satisfaction, innovation across a portfolio of electricity, gas, environmental products and energy productivity. Our residential energy retailing business Powershop, acquired in 2022, serves households and small business customers in Australia.

Our generation assets include 662 megawatts of gas-fired peaking power stations in Western Australia and Queensland, supporting the transition to renewables, and the 120-megawatt Gangarri solar energy development in Queensland. Shell Energy also operates the 60MW Riverina Storage System 1 in NSW, as well as the 200MW Rangebank Storage System and 370MW Koorangie Storage System both located in Victoria.

Shell Energy Australia Pty Ltd and its subsidiaries trade as Shell Energy, while Powershop Australia Pty Ltd trades as Powershop. Further information about Shell Energy and our operations can be found on our website here.

Minimum co-efficient value for the inclusion of a DUID or interconnector on the left hand (controllable) side of a constraint equation

Shell Energy supports an increase in the minimum coefficient that can be applied to a DUID or interconnector on the left hand side (LHS) of a constraint equation. We acknowledge the current negative impacts on efficient market dispatch caused by the issue of a relatively low value of constraint co-efficient. We observe that the current minimum coefficient can result in a DUID or interconnector that has very small system impact from a power system security perspective being included on the left hand, or controllable, side of a constraint equation. The current minimum value of 0.07 for inclusion in the LHS of the constraints results in a large lever effect where DUID's or interconnectors with a small co-efficient can be reduced in output or flow by values exceeding 14 MW as opposed to decreasing a DUID or interconnector with a co-efficient of 1 by one MW. We consider this to be an inefficient market outcome with consequences for both spot market settlement and financial contract offers.

We note the summary of a review undertaken by AEMO as part of this consultation process and take on face value statements in the Consultation Paper as no data has been supplied to assess their veracity. However, whilst AEMO has undertaken analysis at values of 0.15 and 0.40, which in terms of this analysis is a wide gap, no analysis was undertaken at values of 0.20 and 0.25 or of the use of different values for DUID's and interconnectors. At the time of original consultation regarding the widespread adoption of the Option 4, or so called co-optimised constraint formulation as the standard constraint formulation to be used in the NEM, the original value for inclusion of an interconnector term was 0.20 and use of this value did not result in a then known dispatch security issue. The proposed change to 0.15 whilst decreasing the discussed level effect would only reduce the value to slightly over a 6:1 ratio. We recommend AEMO consider additional analysis in the

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0.20 and 0.25 range, which would further reduce the lever effect for individual DUID's and interconnectors prior to determining the final value. Further, we recommend that AEMO consider if the value for DUID's, which would apply primarily to local remote generators at times of a binding constraint and that applied to interconnector terms need to be the same value as this was the original case in the NEM dispatch process.

ISF and VSR Rule Changes Requirements

Shell Energy is supportive of the proposed change as marked up in the draft Constraints Formulation Guideline issued by AEMO as part of this consultation. However, with regards to section 6.4 of the Guideline we recommend that this section be renamed to Power System Security Services Enablement Constraints to avoid any confusion with what may be other forms of security constraints. Such a change in naming would not require the inclusion of Inertia in the section title as these constraints are a type of power system security services constraint. Where the guideline refers to security services constraint, we recommend this be changed to system security services constraint to again remove the potential for confusion with other types of security linked constraints.

Additional Issue – Generic Constraints without Generator Direction

Shell Energy recommends that the wording of section 5.9 of the Guideline (FCAS Constraints - Moving generating units at risk to the LHS), be amended to provide additional clarity on its use. The current wording implies that use of this type of generic constraint can be imposed in isolation from the use of a clause 4.8.9 Direction to the relevant generator. Shell Energy contends that this type of constraint it must only be implemented in conjunction with the issue of a clause 4.8.9 Direction.

Clause 3.8.1 covers the Central dispatch process which in subclause (b) allows for the use of both network constraints and constraints imposed by ancillary services requirements. The form for network constraints are set out in clause 3.8.10 and ancillary services constraints are set out in clause 3.8.11. Neither of these clauses allow for the imposition of constraints of the form defined in section 5.9 of the Guideline. Further whilst clause 4.3.1 places obligations on AEMO to manage power system security it does not overrule the requirement for AEMO to comply with the requirements of clause 3.8 (refer to subclause 4.3.1(i) and the defined term dispatch in this subclause) in the dispatch process absent the use of a clause 4.8.9 Direction. Whilst subclause 4.3.1(j) provides AEMO the right to:

> "determine any potential constraint on the dispatch of scheduled resources and ancillary services and to assess the effect of this constraint on the maintenance of power system security".

Clause 4.3.1 does not provide the right to implement these constraints into the dispatch process absent the issue of a clause 4.8.9 Direction. We consider that Rules clause 4.9.2 confirms this is the case. Clause 4.9.2 provides the right to AEMO to issue a dispatch instruction to Scheduled Generators, Semi-Scheduled Generators and Scheduled Integrated Resource Providers. In particular, clause 4.9.2(a) sets out that;

> "To implement central dispatch or, where AEMO has the power to direct or to instruct a Scheduled Generator, Semi-Scheduled Generator or Scheduled Integrated Resource Provider either under Chapter 3 or this Chapter, then for the purpose of giving effect to that direction or instruction, AEMO may at any time give an instruction to the Generator or Integrated Resource Provider in relation to any of its generating units or bidirectional units (a dispatch instruction)"

We consider that in this clause "implement central dispatch" refers to meeting the requirements of chapter 3 and that the wording "the power to direct or instruct" refers to Clause 4.8.9. We consider this is the applicable clause which applies to section 5.9 of the Guideline as this section leads to the imposition of a constraint in the central dispatch process that reduces the active energy output of a DUID. Whilst clause 3.8.1 allows for such an outcome by the use of a network constraint, the use of a form of a non-network or generic constraint as inferred by section 5.9 of the Guideline must in our view be only imposed in central dispatch in conjunction with the issue of a clause 4.8.9 Direction.

Similarly, with regards to Clause 4.9.3A - Ancillary services instructions, this applies only to a dispatch instruction for the provision (or enablement) of an ancillary service, not a right to reduce active energy output on a DUID to reduce the procurement requirement of a frequency control ancillary service(s).

We recommend that AEMO amend section 5.9 of the Guideline, to indicate that the movement of the generator to the LHS of the constraint will only be undertaken in conjunction with the issue of a clause 4.8.9 Direction to give effect to the reasons for this change. Absent the issue of such a clause 4.8.9 Direction to the affected DUID(s), it is unclear in our view that the National Electricity Rules currently provide the right to AEMO to make this change even though we acknowledge it is being made for justifiable reasons.

Shell Energy welcomes further engagement on this topic. If you have any questions or would like further details relating to this submission, please contact Peter Wormald at peter.wormald@shellenergy.com.au.

Yours sincerely,

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