

National Electricity Rules Negotiated Access Standards



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Australian Geothermal Energy Group
Technical Interest Group No5

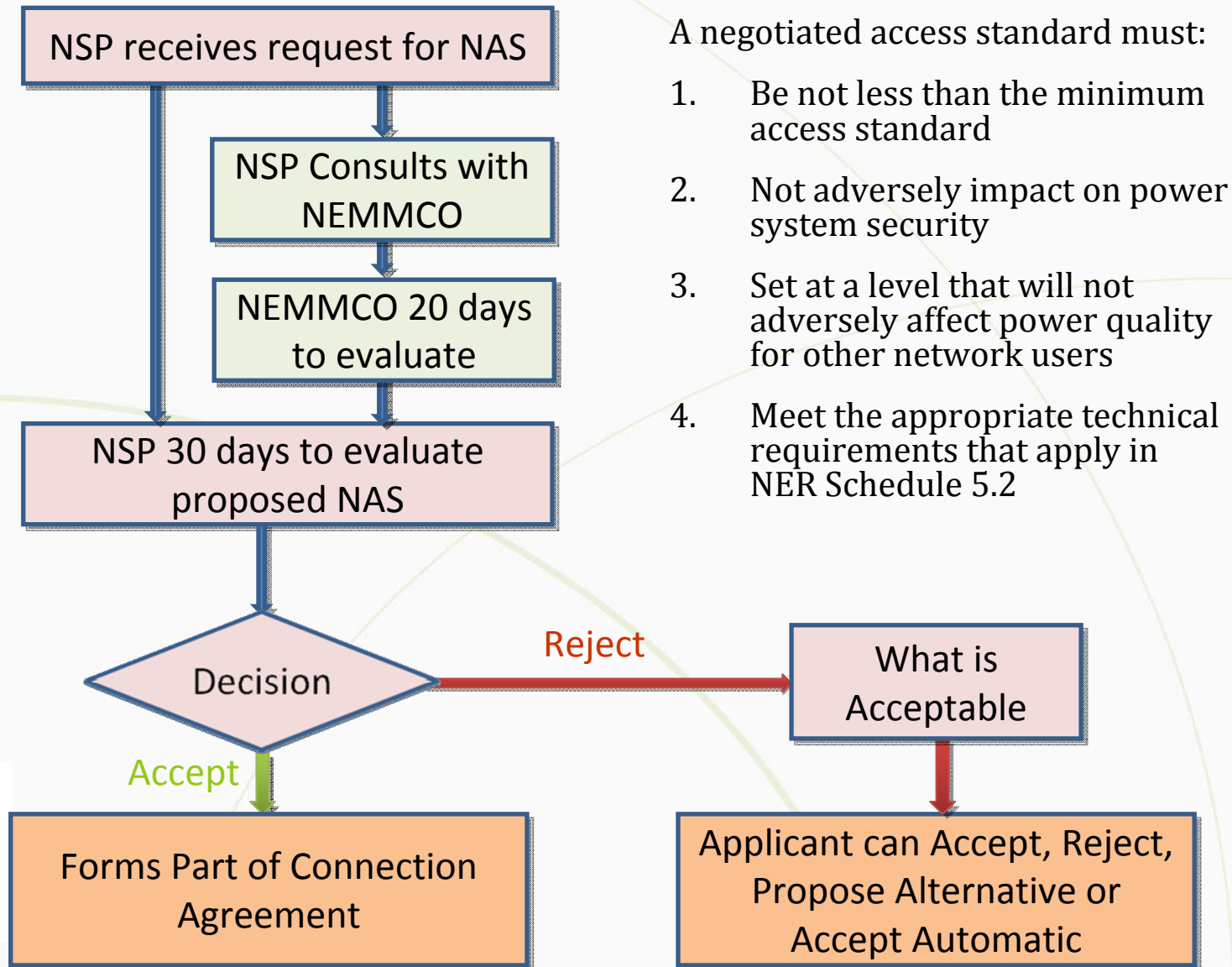
National Electricity Rules Negotiated Access Standards

1. Introduction
2. The negotiated access standards process
3. System standards
4. Conditions for connection of generators
5. Key technical requirements

Introduction

- The National Electricity Rules provides for the development of *negotiated access standards*
- Lodged with the Network Service Provider during when making an *Application for Connection*
- *Negotiated access standards* represent an agreed outcome of technical requirements between the Proponent, the Network Service Provider and NEMMCO
- *Negotiated access standards* capture the technical conditions required to establish connection to the network
- Standards may vary from *automatic* to *minimum access standard* and proponents must at least comply with the *minimum access standards*
- *Negotiated access standards* must be included in the Network Connection Agreement

The Negotiated Access Standards Process



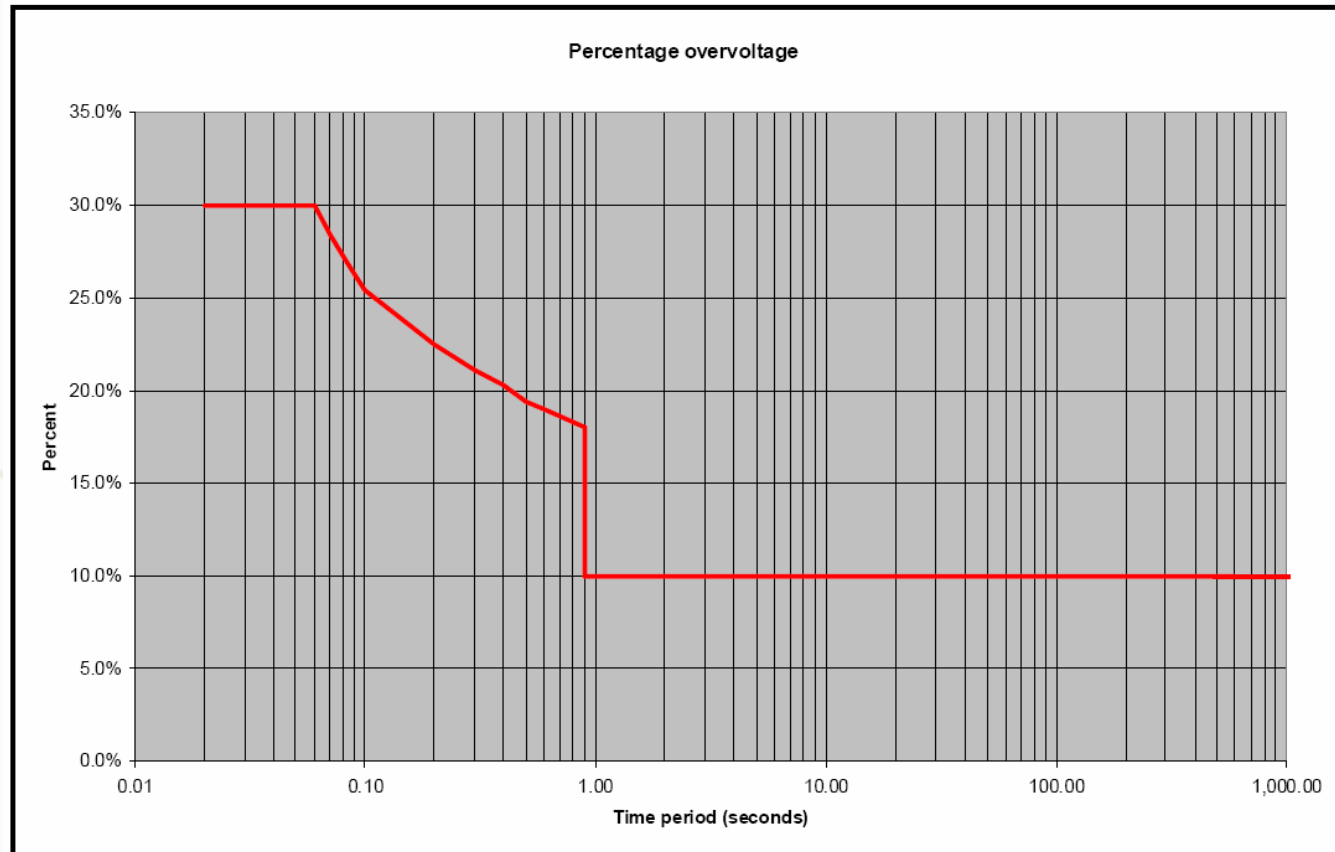
Schedule 5.1a

System Standards

- Are intended to establish a common technical standard for all *Registered Participants* and support the safe and reliable operation of equipment.
- Generally, they are intended to be consistent with good industry practice.
- Should not impose undue costs on the industry or participants.
- *Registered Participants* should not rely on the system standards being fully complied with at a *connection point*.
- *Registered Participants* should be advised in circumstances where the standard of supply may be different from the *system standards*.
- Except for standards of *frequency* and system stability, Participants have the opportunity to negotiate the terms of a *connection agreement* to improve the standard of *supply* to the level of the *system standard*.

Schedule 5.1a

Example - Power Frequency Voltage



The system standards provide for

- Co-ordinated approach between *Registered Participants*; and
- Support best use of capital funds

Schedule 5.2

Conditions for Connection of Generators

- Sets down additional requirements and conditions that generators must satisfy as a condition of connection
- Schedule requires that generator proponents:
 - Co-operate with *Network Service Providers* on technical matters
 - Provide information to *Network Service Provider* or NEMMCO.
- Must comply with the *system standards*
- Must comply with *performance standards* and any terms and conditions of agreed with the *Network Service Provider* or NEMMCO
- Does not provide basis for the provision of additional services with *Network Service Provider* or NEMMCO
- Schedule 5.2 provides for *automatic access standards* and determination of *negotiated access standards* from *minimum access standards*.

Schedule 5.2

Provision of Information

- The *Generator Proponent* must provide the relevant *Network Service Provider* and NEMMCO with all technical information for the generating system specified in Schedule 5.5
- *Generator proponents* must provide to the relevant *Network Service Provider* and NEMMCO information on the control systems that are appropriate for network modeling purposes.
- Information provided must capture all *control systems* that respond to *voltage* or *frequency* disturbances on the *power system* that form part of the *generating system*.
- Models of the generating system, provided by the proponent, must be developed in accordance with *Generating System Model Guidelines* or as agreed with NEMMCO.
- The *Generator proponent* must update this information within 3 months after commissioning tests are completed.
- If requested, the *Network Service Providers* must provide the *Generator Proponent* with appropriate network and system information.

Schedule 5.2

Key Technical Requirements (1)

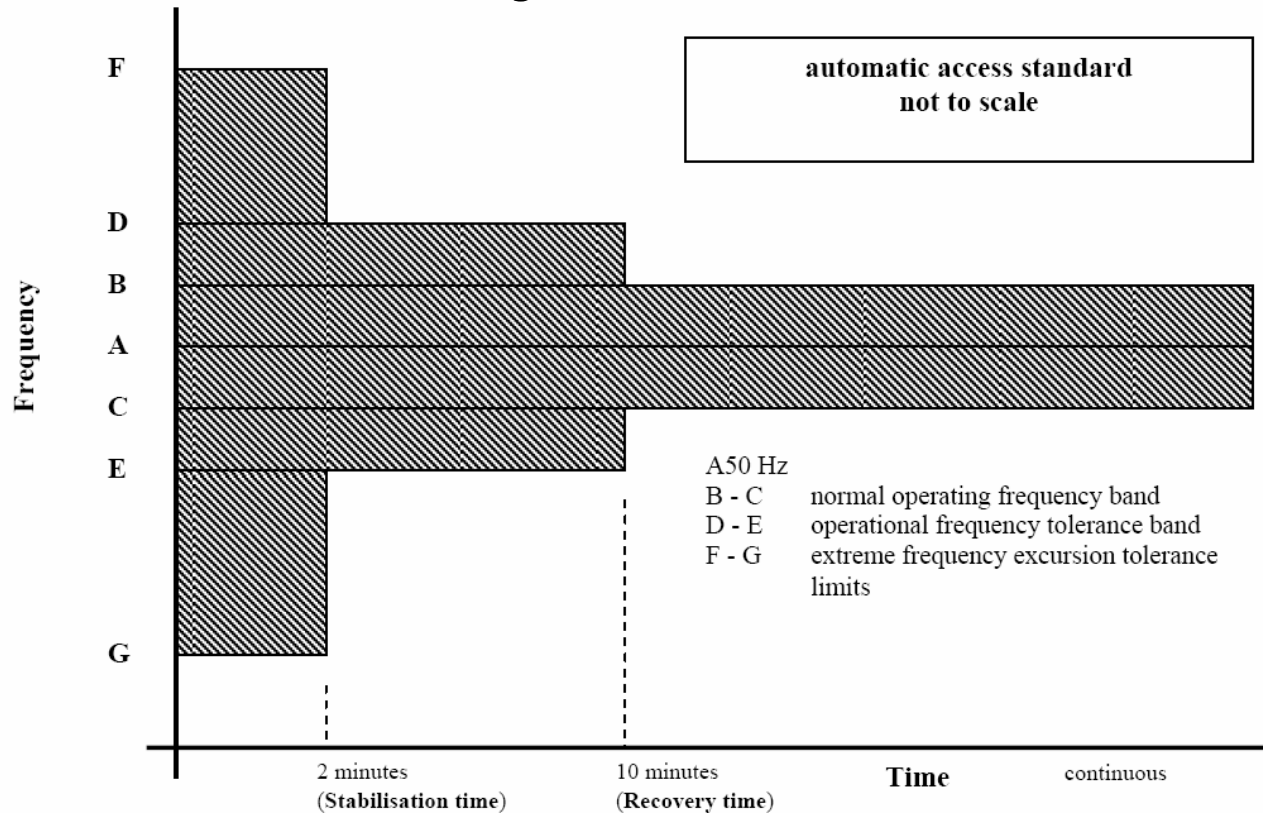
- S5.2.5.1 Reactive power capability
 - *Automatic, negotiated and minimum access standards*
 - Consideration must be given to *system standards*
 - Function of *active power*
 - Provision for commercial negotiation between parties to provide the deficit of reactive power
 - If none compliant for some operating conditions, then limitations can be documented and operational arrangements agreed between parties for those conditions

Schedule 5.2

Key Technical Requirements (2)

- S5.2.5.3 Generating unit response to frequency disturbances

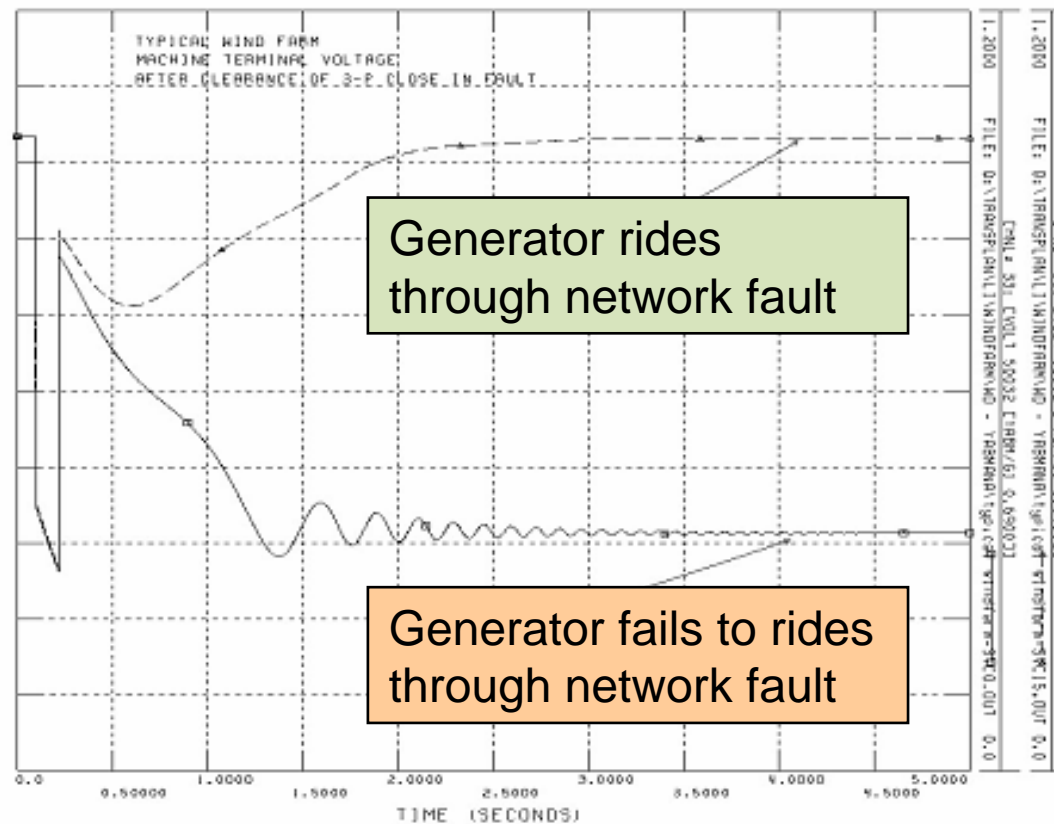
— *Automatic, negotiated and minimum access standards*



Schedule 5.2

Key Technical Requirements (3)

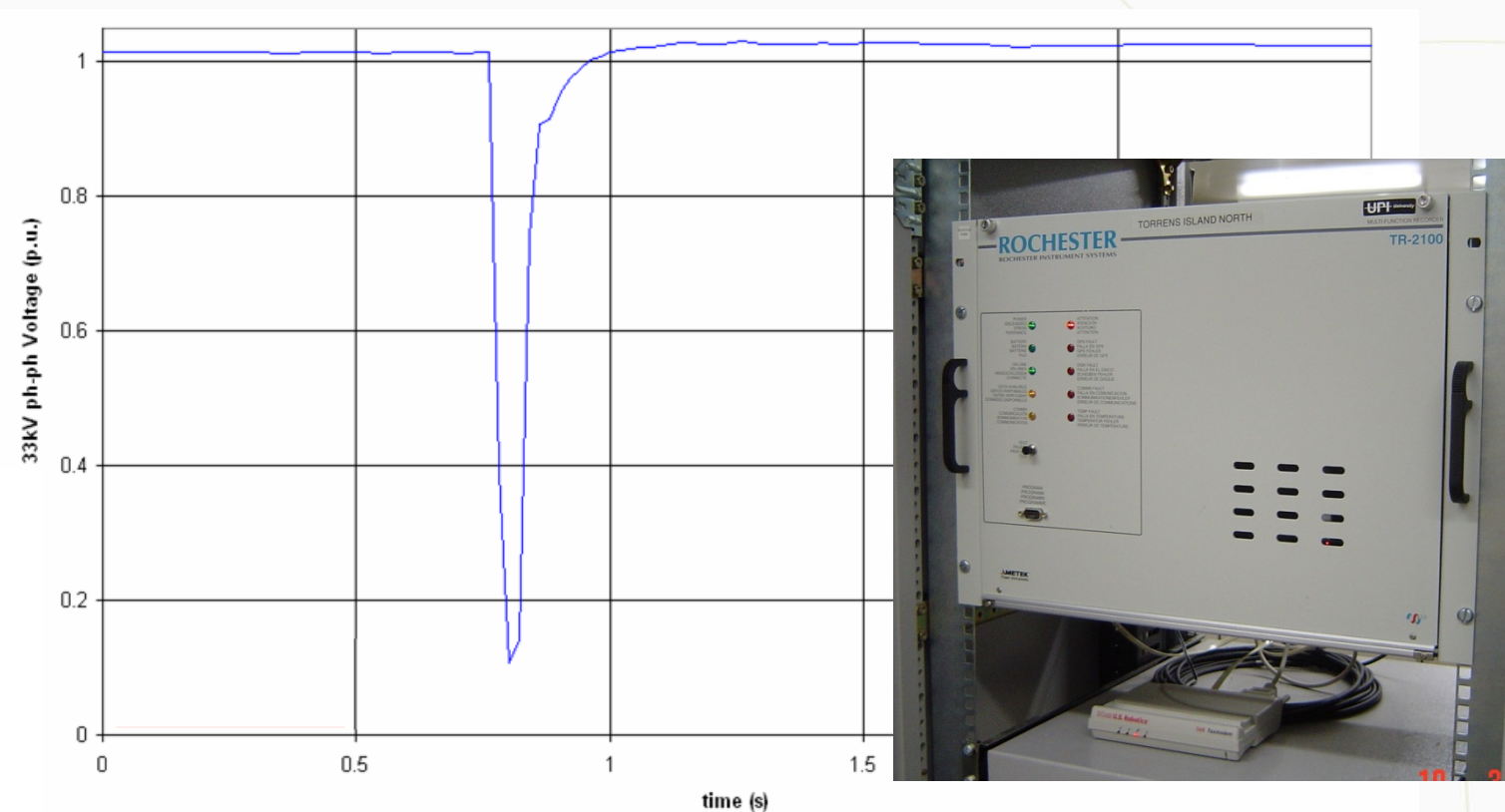
- S5.2.5.5 Generating system response to disturbances following contingency events
 - *Automatic negotiated and minimum access standards*



Schedule 5.2

Key Technical Requirements (4)

- *Network Service Providers* are required to install recorders
- NER requirement under clause 4.11.1
- Located at the generator connection point



Schedule 5.2

Key Technical Requirements (4)

- S5.2.5.12 Impact on network capability
 - *Automatic, negotiated and minimum access standards*
 - Consider an example using Heywood Interconnection having an import capability of say 500 MW



Source	Transfer Capacity [MW]	
	Automatic	Minimum
Interconnection	500	400
New Generator	100	100
Total Transfer	600	500

Summary

- The *National Electricity Rules* support the development of *negotiated access standards*
- All participants must comply with the *system standards* in Schedule 5.1 of the NER
- Generators must comply with the technical requirements in Schedule 5.2 of the NER
- The outcome of the *negotiated access standards* must be captured in the *connection agreement*
- A generator proponent carries significant obligations and responsibilities under the NER
- These responsibilities and obligations are ongoing

Questions

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