



Minister for Energy and Resources

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19 JAN 2010

1 Spring Street
GPO Box 4440
Melbourne Victoria 3001
Telephone: (03) 9658 4660
Facsimile: (03) 9658 4631
ABN 42 579 412 233
DX: 210404

Our Ref: SU506945

Dr John Tamblyn
Chairman
Australian Energy Market Commission
PO Box A2449
SYDNEY SOUTH NSW 1235

Dear Dr Tamblyn,

RULE CHANGE PROPOSAL: GENERATOR TECHNICAL PERFORMANCE STANDARDS DEROGATIONS

Please find attached, for your action, a rule change proposal to remove most of the Victorian generator technical performance standards derogations from the National Electricity Rules. These jurisdictional derogations relate to the technical capacity of certain Victorian generating units.

Should you have any queries in relation to this proposal, please contact Mr Greg McLeish of the Department of Primary Industries on telephone (03) 9658 4925 or by email at greg.mcleish@dpi.vic.gov.au.

Yours sincerely,

Peter Batchelor MP
Minister for Energy and Resources

30/12/2009

Encl.

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Proposal to Amend or Delete the Victorian Generator Technical Performance Standards Derogations

This proposal is drafted in accordance with the Australian Energy Market Commission (the AEMC) *Guidelines for proponents: preparing a rule change proposal* (May 2009).

1. The Name and Address of the Person Making the Request

The Honourable Peter Batchelor MP
Minister for Energy and Resources
Level 20, 1 Spring Street
MELBOURNE, VIC 3000

2. Does the Proposal Relate to a Jurisdictional Derogation?

The proposal relates to a jurisdictional derogation.

3. Short Description of the Proposed Rule Change

Chapter 9, Schedule 9A3 of version 29 of the National Electricity Rules (the NER) includes jurisdictional technical performance derogations that apply for Victorian generators. This proposal explains why certain of these jurisdictional technical performance derogations are no longer required and details the particular clauses in Chapter 9, Schedule 9A3 that should be amended or deleted.

The following table lists the generators which will be affected, the generating units that are to be removed from the schedule and the specific derogation clauses that are to be amended or deleted.

Table of affected clauses

| Generator | Generator Units Requiring Deletion | Affected Derogation Clauses |
|---|---|--|
| <u>Generation Victoria</u> Current registered generator - Ecogen Energy Pty Ltd ¹ | Jeeralang Power Station A, Units 1 to 4 | Schedule 9A3, cl.4; cl.5; cl.6; cl.7; cl.10; cl.14 |
| | Jeeralang Power Station B, Units 1 to 3 | Schedule 9A3, cl.4; cl.6; cl.7; cl.10; cl.14 |
| | Newport D Power Station, Unit 1 | Schedule 9A3, cl.6; cl.7 |

¹ For the purpose of Schedule 9A3, a reference to a particular generator in relation to a generating unit is taken to be the person currently registered (or deemed to be registered) with AEMO as the Generator in respect of that generating unit (NER, Schedule 9A3, cl.2).

| Generator | Generator Units Requiring Deletion | Affected Derogation Clauses |
|---|---|--|
| <u>Loy Yang Power Ltd</u> Current registered generator - Loy Yang Marketing Management Company Pty Ltd | Loy Yang Power Station A, Units 1 to 4 | Schedule 9A3, cl.5; cl.6; cl.7 |
| <u>Yallourn Power Ltd</u> Current registered generator - TRUenergy Yallourn Pty Ltd. | Yallourn Power Station W, Units 1 to 4 | Schedule 9A3, cl.5; cl.6; cl.7; cl.14; cl.15 |
| <u>Hazelwood Power Corporation Ltd</u> Current registered generator - Hazelwood Power | Hazelwood Power Station, Units 1 to 8 | Schedule 9A3, cl.5; cl.6; cl.7; cl.10; cl.13; cl.14; cl.16 |
| <u>Energy Brix Australia Corporation Pty Ltd</u> Current registered generator - Energy Brix Australia | Morwell Power Station, Units 1 to 5 | Schedule 9A3; cl.5; cl.6; cl.7; cl.10; cl.14; cl.16 |
| <u>Southern Hydro Ltd</u> Current registered generator - AGL Hydro Partnership | Dartmouth Power Station, Unit 1 | Schedule 9A3, cl.5; cl.6; cl.7 |
| | Eildon Power Station, Units 1 and 2 | Schedule 9A3, cl.6; cl.7; cl.10; cl.14 |
| | Clover Power Station, Units 1 and 2 | Schedule 9A3, cl.6; cl.7; cl.10; cl.11; cl.14 |
| | McKay Creek Power Station, Units 1 to 6 | Schedule 9A3, cl.6; cl.14 |
| | West Kiewa Power Station, Units 1 to 4 | Schedule 9A3, cl.6; cl.7; cl.14 |
| <u>Edison Mission Energy Australia Ltd</u> Current registered generator - IPM Australia Ltd | Loy Yang B Power Station, Units 1 and 2 | Schedule 9A3, cl.5; cl.6; cl.7 |

Details of each of the proposed rule changes are set out in the Annexure.

4. Nature and Scope of the Issues Concerning the Existing Rules

In November 2007 the Australian Energy Regulator (AER) asked the Victorian Government to remove the technical performance derogations for Victorian generators from the NER. The AER made this request as a result of its investigation into the events of the 16 January 2007 Victorian bushfires. In its 2007 report the AER found that the bushfires caused widespread load shedding to occur in Victoria and that during a disturbance to the power system it was possible for generators to trip without breaching their respective jurisdictional derogations.

In December 2006 the AEMC approved a rule change that aimed to resolve issues relating to the performance standards of generators connected to transmission or distribution networks. The rule change established a transition process which required incumbent generators to register their actual technical capability with the National Electricity Market Management Company Limited, now the Australian Energy Market Operator (AEMO) with this process to be completed by 30 June 2007.

However, the Victorian jurisdictional derogations incorporate technical standards that are inconsistent with the capabilities that the generators have registered with AEMO. While these jurisdictional derogations remain in force, they take precedence over the technical standards that have been registered with AEMO.

The AER considers that since all generators have now registered the capability of their plant and equipment, the Chapter 9 derogations should be removed.

The registered generators, generating units and particular clauses in the NER granting the current technical performance derogations are listed in the following table.

| Generator | Generator Units Requiring Deletion | Current Derogation Clauses |
|---|---|--|
| <u>Generation Victoria</u> Current registered generator - Ecogen Energy Pty Ltd | Jeeralang Power Station A, Units 1 to 4 | Schedule 9A3, cl.4; cl.5; cl.6; cl.7; cl.10; cl.14 |
| | Jeeralang Power Station B, Units 1 to 3 | Schedule 9A3, cl.4; cl.6; cl.7; cl.10; cl.14 |
| | Newport D Power Station, Unit 1 | Schedule 9A3, cl.6; cl.7 |
| <u>Loy Yang Power Ltd</u> Current registered generator - Loy Yang Marketing Management Company Pty Ltd | Loy Yang Power Station A, Units 1 to 4 | Schedule 9A3, cl.5; cl.6; cl.7 |
| <u>Yallourn Power Ltd</u> Current registered generator - TRUenergy Yallourn Pty Ltd. | Yallourn Power Station W, Units 1 to 4 | Schedule 9A3, cl.5; cl.6; cl.7; cl.14; cl.15 |

| | | |
|--|---|--|
| <u>Hazelwood Power Corporation Ltd</u> Current registered generator - Hazelwood Power | Hazelwood Power Station, Units 1 to 8 | Schedule 9A3, cl.5; cl.6; cl.7; cl.10; cl.13; cl.14; cl.16 |
| <u>Energy Brix Australia Corporation Pty Ltd</u> Current registered generator - Energy Brix Australia | Morwell Power Station, Units 1 to 5 | Schedule 9A3; cl.5; cl.6; cl.7; cl.10; cl.14; cl.16 |
| <u>Southern Hydro Ltd</u> Current registered generator - AGL Hydro Partnership | Dartmouth Power Station, Unit 1 | Schedule 9A3, cl.5; cl.6; cl.7 |
| | Eildon Power Station, Units 1 and 2 | Schedule 9A3, cl.6; cl.7; cl.10; cl.14 |
| | Clover Power Station, Units 1 and 2 | Schedule 9A3, cl.6; cl.7; cl.10; cl.11; 14 |
| | McKay Creek Power Station, Units 1 to 6 | Schedule 9A3, cl.6; cl.14 |
| | West Kiewa Power Station, Units 1 to 4 | Schedule 9A3, cl.6; cl.7; cl.14 |
| <u>Edison Mission Energy Australia Ltd</u> Current registered generator - IPM Australia Ltd | Loy Yang B Power Station, Units 1 and 2 | Schedule 9A3, cl.5; cl.6; cl.7 |
| <u>Smelter Trader</u> | Anglesea Power Station Unit 1 | Schedule 9A3, cl. 5; cl.13; cl.16 |

The derogations in Schedule 9A3 relate to:

- power system stabilising facilities (clause 4);
- reactive power capability (clause 5);
- generating unit response to disturbances (clause 6);
- partial load rejection (clause 7);
- protection systems that impact on system security (clause 10);
- asynchronous operation (clause 11);
- governor systems (load control) (clause 13)
- governor control equipment (clause 14);
- reactive current compensation (clause 15); and
- excitation control system (clause 16).

This rule change proposal proposes to remove all derogations in Schedule 9A3 except those that relate to Smelter Trader's Anglesea Power Station Unit 1. The State Electricity Commission of Victoria (the SECV) is the responsible market participant in respect of the Anglesea Power Station. The SECV has advised the Victorian Government that the current derogations applying to the Anglesea Power Station should remain in place.

AEMO, Alcoa, and the SECV Trader have looked at the Anglesea Power Station in detail. It is possible that the technical issues in relation to it may not be resolved during the remaining life of the power station.

5. Explanation of how the Proposed Rule will Address the Issue

The deletion of the technical performance derogations that apply to the Victorian generating units will ensure that those generating units comply with the technical performance capabilities that have been registered with AEMO.

6. How does the Proposed Rule Contribute to the Achievement of the National Electricity Objective?

The National Electricity Objective is "to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to –

- (a) price, quality, safety, reliability and security of supply of electricity; and
- (b) the reliability, safety and security of the national electricity system."

The negotiated performance standards agreed between AEMO and the Victorian generators are set in accordance with the performance standard requirements. These requirements ensure that the generating units operate in line with their registered actual capabilities or at a higher agreed rate (NER, s.4.16.5).

The removal of the jurisdictional technical performance derogations for Victorian generators will ensure that these generators comply with their registered technical performance capabilities. The AER considers that this will improve the safety and security of the supply of electricity and the safety and security of the national electricity system.

7. Expected Benefits and Costs of the Proposed Change

The benefit of removing the derogations is as stated above: the change will compel the Victorian generators to comply with the technical standards that they have agreed with AEMO.

As these technical standards have already been settled between AEMO and the Victorian generators, the generators should not face substantial unexpected costs in meeting the higher expectations that these standards require.

8. The Potential Impacts of the Change on Those Likely to be Affected

The Victorian Department of Primary Industries has consulted with Victorian generators, and AEMO about the proposed removal of the derogations. With the exception of the ESCV response

in relation to Anglesea Power Station, the Department has not received any objection to the derogations now being removed.

The changes may cause certain Victorian generators to undertake upgrade work to ensure that they meet their agreed technical performance standards. For other users of the network, the removal of the derogations should ensure better quality of electricity supply and better network security.

Annexure

Details of the Proposed Rule changes to NER, Chapter 9, Schedule 9A3

1. Power system stabilising facilities (clause 4);
2. Reactive power capability (clause 5);
3. Generating unit response to disturbances (clause 6);
4. Partial load rejection (clause 7);
5. Protection systems that impact on system security (clause 10);
6. Asynchronous operation (clause 11);
7. Governor systems (load control) (clause 13)
8. Governor control equipment (clause 14);
9. Reactive current compensation (clause 15); and
10. Excitation control system (clause 16).

1. Power system stabilising facilities

NER Schedule 9A3, clause 4 – existing clause

4. Additional services that may be required (clause S5.2.2 of schedule 5.2)

- 4.1 A *Generator* listed in Table 1 is taken to have been required by the relevant *Network Service Provider* to provide *power system stabilising facilities* for the *generating units* listed in Table 1.
- 4.2 Clause 4.1 ceases to apply in respect of a *generating unit* if the relevant *Generator*, *AEMO* and the relevant *Network Service Provider* so agree expressly in writing.

Table 1:

| Generator | Generating Units |
|---------------------|---|
| Generation Victoria | Jeeralang Power Station A, Units 1 to 4 |
| Generation Victoria | Jeeralang Power Station B, Units 1 to 3 |

NER Schedule 9A3, clause 4 – proposed changes to the clause

- Delete all of clause 4.

2. Reactive power capability

NER Schedule 9A3, clause 5 – existing clause

5. Reactive Power Capability (clause S5.2.5.1 of schedule 5.2)

Clause S5.2.5.1 of schedule 5.2 of the *Rules* is replaced for a *Generator* listed in Table 2 in respect of those *generating units* listed in column 2 of Table 2 by the following:

For the purpose of this clause S5.2.5.1:

'*rated active power output*' means the 'Rated MW (Generated)' (as defined in the *Generating System Design Data Sheet*) for the relevant *synchronous generating unit*; and

'*nominal terminal voltage*' means the 'Nominal Terminal Voltage' (as defined in the *Generating System Design Data Sheet*) for the relevant *synchronous generating unit*.

- (a) Each of the *synchronous generating units*, while operating at any level of *active power output*, must be capable of:
- (1) supplying at its terminals an amount of *reactive power* of at least the amount that would be supplied if the *generating unit* operated at *rated active power output*, *nominal terminal voltage* and a lagging power factor of 0.9; and
 - (2) absorbing at its terminals an amount of *reactive power* of at least the amount that would be absorbed if the *generating unit* operated at *rated active power output*, *nominal terminal voltage* and a leading power factor set out in respect of that *generating unit* in column 3 of Table 2.
- (b) In the event that any of the relevant power factors referred to in paragraph (a) above cannot be provided in respect of a *generating unit*, the relevant *Generator* must reach a commercial arrangement under its *connection agreement* with the relevant *Network Service Provider*, or with another *Registered Participant*, for the supply of the deficit in *reactive power* as measured at that *generating unit's* terminals.

Table 2:

| Generator | Generating Units | Leading Power Factor |
|--------------------|---|----------------------|
| Loy Yang Power Ltd | Loy Yang Power Station A Units 1,3 and 4 | 0.944 |
| Loy Yang Power Ltd | Loy Yang Power Station A Unit 2 | 0.952 |
| Yallourn Power Ltd | Yallourn Power Station W Units 1 and 2 | 0.954 |

| | | |
|---|---|-------|
| Yallourn Power Ltd | Yallourn Power Station W Units 3 and 4 | 0.941 |
| Hazelwood Power Corporation Ltd | Hazelwood Power Station W Units 1 to 8 | 0.989 |
| Smelter Trader | Anglesea Power Station Unit 1 | 0.991 |
| Energy Brix Australia Corporation Pty Ltd | Morwell Power Station Unit 1 | (-) |
| Energy Brix Australia Corporation Pty Ltd | Morwell Power Station Units 2, 3 and 4 | (-) |
| Energy Brix Australia Corporation Pty Ltd | Morwell Power Station Unit 5 | 0.979 |
| Generation Victoria | Jeeralang A Power Station Units 1 to 4 | 0.978 |
| Southern Hydro | Dartmouth Power Station Unit 1 | 0.972 |
| Edison Mission Energy Australia Ltd | Loy Yang B Power Station Units 1 and 2 | 0.941 |

NER Schedule 9A3, clause 5 – proposed changes to the clause

- Delete the following Generating Units from the table:
 - Loy Yang Power Station A, Units 1,3 and 4;
 - Loy Yang Power Station A, Unit 2;
 - Yallourn Power Station W, Units 1 and 2;
 - Yallourn Power Station W, Units 3 and 4;
 - Hazelwood Power Station W, Units 1 to 8;
 - Morwell Power Station, Unit 1;
 - Morwell Power Station, Units 2, 3 and 4;
 - Morwell Power Station, Unit 5;
 - Jeeralang A Power Station, Units 1 to 4;
 - Dartmouth Power Station, Unit 1; and
 - Loy Yang B Power Station, Units 1 and 2.

The table would therefore be as follows:

Table 2:

| Generator | Generating Units | Leading Power Factor |
|----------------|-------------------------------|----------------------|
| Smelter Trader | Anglesea Power Station Unit 1 | 0.991 |

NER Schedule 9A3 – proposed amended clause

5. Reactive Power Capability (clause S5.2.5.1 of schedule 5.2)

Clause S5.2.5.1 of schedule 5.2 of the *Rules* is replaced for a *Generator* listed in Table 2 in respect of those *generating units* listed in column 2 of Table 2 by the following:

For the purpose of this clause S5.2.5.1:

'*rated active power output*' means the 'Rated MW (Generated)' (as defined in the *Generating System Design Data Sheet*) for the relevant *synchronous generating unit*; and

'*nominal terminal voltage*' means the 'Nominal Terminal Voltage' (as defined in the *Generating System Design Data Sheet*) for the relevant *synchronous generating unit*.

- (a) Each of the *synchronous generating units*, while operating at any level of *active power output*, must be capable of:
- (1) supplying at its terminals an amount of *reactive power* of at least the amount that would be supplied if the *generating unit* operated at *rated active power output, nominal terminal voltage* and a lagging power factor of 0.9; and
 - (2) absorbing at its terminals an amount of *reactive power* of at least the amount that would be absorbed if the *generating unit* operated at *rated active power output, nominal terminal voltage* and a leading power factor set out in respect of that *generating unit* in column 3 of Table 2.
- (b) In the event that any of the relevant power factors referred to in paragraph (a) above cannot be provided in respect of a *generating unit*, the relevant *Generator* must reach a commercial arrangement under its *connection agreement* with the relevant *Network Service Provider*, or with another *Registered Participant*, for the supply of the deficit in *reactive power* as measured at that generating unit's terminals.

Table 2:

| Generator | Generating Units | Leading Power Factor |
|----------------|-------------------------------|----------------------|
| Smelter Trader | Anglesea Power Station Unit 1 | 0.991 |

3. Generating unit response to disturbances

NER Schedule 9A3, clause 6 – existing clause

6. Generating unit response to disturbances (clauses S5.2.5.3, S5.2.5.4 and S5.2.5.5 of schedule 5.2)

- 6.1 A *Generator* listed in Table 3.1 is, in respect of a *generating unit* listed in column 2 of Table 3.1, taken to comply with the requirements of clause S5.2.5.3, S5.2.5.4 and S5.2.5.5 of schedule 5.2 of the *Rules* if the *generating unit* complies with clause 6.3 below.
- 6.2 A *Generator* listed in Table 3.2 is, in respect of a *generating unit* listed in column 2 of Table 3.2, taken to comply with the requirements of clause S5.2.5.3, S5.2.5.4 and S5.2.5.5 of schedule 5.2 of the *Rules* if the *generating unit* complies with clause 6.4 below.
- 6.3 The *generating unit* must be able to maintain continuous uninterrupted operation in the event of:
- (a) *disconnection* of the single largest *generating unit* on the *power system* provided that system *frequency* does not fall below 49.5 Hz and recovers to above 49.9 Hz within four minutes; and
 - (b) a two-phase to ground line fault adjacent to the power station switch yard cleared in primary protection time.
- 6.4 The *generating unit* must be able to maintain continuous uninterrupted operation in the event of *disconnection* of the single largest *generating unit* on the *power system* provided that system *frequency* does not fall below 49.5 Hz and recovers to above 49.9 Hz within four minutes.

Table 3.1:

| Generator | Generating Units |
|---------------------|---------------------------------------|
| Loy Yang Power Ltd | Loy Yang A Power Station Units 1 to 4 |
| Generation Victoria | Newport D Power Station Unit 1 |

Table 3.2:

| Generator | Generating Units |
|---|--|
| Yallourn Energy Ltd | Yallourn W Power Station Units 1 to 4 |
| Hazelwood Power Corporation Ltd | Hazelwood Power Station Units 1 to 8 |
| Energy Brix Australia Corporation Pty Ltd | Morwell Power Station Units 1 to 5 |
| Generation Victoria | Jeeralang A Power Station Units 1 to 4 |

| | |
|--|---|
| Generation Victoria | Jeeralang B Power Station Units 1 to 3 |
| Southern Hydro Ltd | Dartmouth Power Station Unit 1 Eildon Power Station Units 1 and 2 Clover Power Station Units 1 and 2 McKay Creek Power Station Units 1 to 6 West Kiewa Power Station Units 1 to 4 |
| Edison Mission Energy Australia Ltd | Loy Yang B Power Station Units 1 and 2 |

NER Schedule 9A3, clause 6 – proposed changes to the clause

- Delete all of clause 6.

4. Partial load rejection

NER Schedule 9A3, clause 7 – existing clause

7. Partial load rejection (clause S5.2.5.7 of schedule 5.2)

7.1 For a *Generator* listed in Table 4.1, in respect of those *generating units* listed in column 2 of Table 4.1, clause S5.2.5.7(c) of schedule 5.2 of the *Rules* is modified by the addition of the following after "*nameplate rating*":

"and system *frequency* remains within 47 Hz to 52 Hz provided that system *frequency* returns to:

Table 4.1:

| Power Station | Generating Units |
|---------------------------------------|--|
| Loy Yang Power Ltd | Loy Yang A Power Station Units 1 to 4 |
| Generation Victoria | Newport D Power Station Unit 1 |
| Yallourn Energy Ltd | Yallourn W Power Station Units 1 to 4 |
| Hazelwood Power Corporation Ltd | Hazelwood Power Station Units 1 to 8 |
| Energy Brix Australia Corporation Ltd | Morwell Power Station Units 1 to 5 |
| Generation Victoria | Jeeralang A Power Station Units 1 to 4 Jeeralang B Power Station Units 1 to 3 |
| Edison Mission Energy Australia Ltd | Loy Yang B Power Station Units 1 and 2 |

7.2 For a *Generator* listed in Table 4.2, the application of clause S5.2.5.4(a) of schedule 5.2 of the *Rules* to those *generating units* listed in column 2 of Table 4.2 is varied by replacing "30%" with "25%".

Table 4.2

| Generator | Generating Units |
|-----------------------------------|---------------------------------------|
| Loy Yang Power Ltd | Loy Yang A Power Station Units 1 to 4 |
| Yallourn Energy Ltd | Yallourn W Power Station Units 1 to 4 |
| Hazelwood Power Corporation | Hazelwood Power Station Units 1 to 8 |
| Energy Brix Australia Corporation | Morwell Power Station Units 1 to 5 |

| | |
|--|--|
| Edison Mission Energy Australia Ltd | Loy Yang B Power Station Units 1 and 2 |
|--|--|

7.3 For a *Generator* listed in Table 4.3, in respect of a *generating units* listed in column 2 of Table 4.3, clause S5.2.5.4(a) of schedule 5.2 of the *Rules* is modified by the addition of the following after "*nameplate rating*":

"and allowing that the *generating unit's* output may be manually adjusted to avoid rough running bands following automatic control action".

Table 4.3

| Generator | Generating Units |
|--------------------|---|
| Southern Hydro Ltd | Dartmouth Power Station Unit 1 Eildon Power Station Units 1 and 2 Clover Power Station Units 1 and 2 West Kiewa Power Station Units 1 to 4 |

NER Schedule 9A3, clause 7 – proposed changes to the clause

- Delete all of clause 7.

5. Protection systems that impact on system security

NER Schedule 9A3, clause 10 – existing clause

10. Protection systems that impact on system security (clause S5.2.5.9 of schedule 5.2)

For the purposes of clause S5.2.5.9 of schedule 5.2 of the *Rules*, in the case of a *Generator* listed in Table 7, in respect of those *generating units* listed in column 2 of Table 7:

- (a) the relevant *Network Service Provider* is taken to have agreed that the *Generator* is to provide protections for those *generating units* to perform the following functions except where indicated otherwise in column 3 of Table 7:
 - (1) protection for faults on the line and connections to the unit transformer of the *generating unit* and *transmission network* or *distribution network* (as the case may be);
 - (2) protection for faults within the generator transformer of the *generating unit*;
 - (3) protection for faults within the *generating unit*;
 - (4) protection for excitation system faults;
 - (5) protection for faults in the phase isolated bus or its terminations between the *generating unit* and the generator transformer of the *generating unit*; and
 - (6) protection for faults within the generator transformer of the *generating unit*;
- (b) where indicated in column 3 of Table 7, the protection system is not required to be duplicated; and
- (c) the *Generator* must ensure that only settings approved by the relevant *Network Service Provider* in writing are applied on the *protection systems* of the *generating unit* and must not change any of those settings without the prior written approval of the relevant *Network Service Provider*.

Table 7:

| Power Station | Generating Units | Derogations |
|---------------------------------|--|---|
| Hazelwood Power Corporation Ltd | Hazelwood Power Station Units 1 to 8 | Not required to duplicate protections for excitation system faults. |
| Generation Victoria | Jeeralang A Power Station Units 1 to 4 | Not required to duplicate protections for faults in the unit transformers of the <i>generating unit</i> . |

| | | |
|---|---|--|
| Generation Victoria | Jeeralang B Power Station Units 1 to 3 | Not required to duplicate protection for excitation system faults or for faults in the unit transformers of the <i>generating unit</i> . |
| Energy Brix Australia Corporation Pty Ltd | Morwell Power Station Units 1 to 5 | Not required to duplicate any protections. Not required to provide protection for faults within transformers (and connections thereto) which do not form part of the power station. |
| Southern Hydro Ltd | Eildon Power Station Units 1 and 2 | Not required to duplicate protections for faults within the unit transformers of the <i>generating unit</i> . |
| Southern Hydro Ltd | Clover Power Station Units 1 and 2 | Not required to duplicate any of the protections. |

NER Schedule 9A3, clause 10 – proposed changes to the clause

- Delete all of clause 10.

6. Asynchronous operation

NER Schedule 9A3, clause 11 – existing clause

11. Asynchronous operation (clause S5.2.5.10 of schedule 5.2)

A *Generator* listed in Table 8 is not required to have protection to prevent pole slipping or asynchronous operation in respect of those *generating units* listed in column 2 of Table 8.

Table 8:

| Generator | Generation Units |
|--------------------|------------------------------------|
| Southern Hydro Ltd | Clover Power Station Units 1 and 2 |

NER Schedule 9A3, clause 11 – proposed changes to the clause

- Delete all of clause 11.

7. Governor systems

NER Schedule 9A3, clause 13 – existing clause

13. Governor Systems (load control) (clause S5.2.5.11 of schedule 5.2)

For the purposes of clause S5.2.5.11 of schedule 5.2 of the *Rules*, a *Generator* listed in Table 10 is not required to include *facilities* for load control for those *generating units* listed in column 2 of Table 10.

Table 10:

| Generator | Generation Units |
|---------------------------------|--------------------------------------|
| Hazelwood Power Corporation Ltd | Hazelwood Power Station Units 1 to 8 |
| Smelter Trader | Anglesea Power Station Unit 1 |

NER Schedule 9A3, clause 13 – proposed changes to the clause

- Delete Hazelwood Power Station Units 1 to 8 from Table 10.

The table would therefore be as follows:

| Generator | Generation Units |
|------------------|-------------------------------|
| Smelter Trader | Anglesea Power Station Unit 1 |

NER Schedule 9A3 – proposed amended clause

13. Governor Systems (load control) (clause S5.2.5.11 of schedule 5.2)

For the purposes of clause S5.2.5.11 of schedule 5.2 of the *Rules*, a *Generator* listed in Table 10 is not required to include *facilities* for load control for those *generating units* listed in column 2 of Table 10.

Table 10:

| Generator | Generating Unit |
|------------------|-------------------------------|
| Smelter Trader | Anglesea Power Station Unit 1 |

8. Governor control equipment

NER Schedule 9A3, clause 14 – existing clause

14. Governor control equipment (clause S5.2.5.11 of schedule 5.2)

- 14.1 For the purposes of clause S5.2.5.11 of schedule 5.2 of the *Rules*, a *Generator* listed in Tables 11.1 to 11.4 is taken to have agreed the overall response requirements set out in clause 14.2 below with the relevant *Network Service Provider* in respect of those *generating units* listed in column 2 of Tables 11.1 to 11.4.
- 14.2 For a *Generator* listed in Tables 11.2 to 11.4, the overall response of a *generating unit* listed in the relevant Table to system *frequency* excursions must achieve an increase in the *generating unit's* generated output of 5% for a 0.1 Hz reduction in system *frequency* and a reduction in the *generating unit's* generated output of 5% for a 0.1 Hz increase in system *frequency*, subject to the following:
- (a) for those *generating units* listed in Table 11.1, this clause only applies when operating in speed control mode;
 - (b) for those *generating units* listed in Table 11.2, the *generating unit* is only required to achieve a change in the *generating unit's* generated output in accordance with the requirements of British Standard BS EN 60045-1: 1993 with a droop setting 4%;
 - (c) for those *generating units* listed in Table 11.3, the *generating unit* is only required to achieve a change in the *generating unit's* generated output in accordance with the requirements of the relevant British Standard for governors for hydro-electric generating units with an overall droop setting of 4% and a deadband of not more than 0.1 Hz; and
 - (d) for those *generating units* listed in Table 11.4, the requirements of this clause are subject to requirements for steam pressure control for briquette plant operation.

Table 11.1:

| Generator | Generating Unit |
|---------------------|--|
| Generation Victoria | Jeeralang A Power Station Units 1 to 4 |
| Generation Victoria | Jeeralang B Power Station Units 1 to 3 |

Table 11.2:

| Generator | Generating Unit |
|---------------------|---------------------------------------|
| Yallourn Energy Ltd | Yallourn W Power Station Units 1 to 4 |
| Hazelwood Power | Hazelwood Power Station units 1 to 8 |

| | |
|---|------------------------------------|
| Corporation Ltd | |
| Energy Brix Australia Corporation Pty Ltd | Morwell Power Station Units 1 to 4 |

Table 11.3:

| Generator | Generating Unit |
|--------------------|--|
| Southern Hyrdo Ltd | Eildon Power Station Units 1 and 2 McKay Power Station Units 1 to 6 West Kiewa Power Stations Units 1 to 4 |
| Southern Hyrdo Ltd | Clover Power Station Units 1 and 2 |

Table 11.4:

| Generator | Generating Unit |
|---|------------------------------------|
| Energy Brix Australia Corporation Pty Ltd | Morwell Power Station Units 2 to 4 |

NER Schedule 9A3, clause 13 – proposed changes to the clause

- Delete all of clause 13.

9. Reactive current compensation

NER Schedule 9A3, clause 15 – existing clause

15. Reactive current compensation (clause S5.2.5.13 schedule 5.2)

For the purposes of clause S5.2.5.13(b)(3)(x) of schedule 5.2 of the *Rules*, a *Generator* listed in Table 12 is taken to have agreed with the relevant *Network Service Provider* that in respect of those *generating units* listed in column 2 of Table 12, the *excitation control system* of the *generating unit* need not be capable of providing reactive current compensation settable for boost or droop.

Table 12:

| Generator | Generating Units |
|--------------------|---------------------------------------|
| Yallourn Power Ltd | Yallourn Power Station W Units 1 to 4 |

NER Schedule 9A3, clause 15 – proposed changes to the clause

- Delete all of clause 15.

10. Excitation control system

NER Schedule 9A3, clause 16 – existing clause

16. Excitation Control System (clause S5.2.5.13 of schedule 5.2)

For the purposes of clause S5.2.5.13(b) of schedule 5.2 of the *Rules*, a *Generator* listed in Table 13 is not required to provide *power system* stabilising action in relation to those *generating units* listed in column 2 of Table 13.

Table 13:

| Generator | Generating Units |
|---|--------------------------------------|
| Energy Brix Australia Corporation Pty Ltd | Morwell Power Station Units 1 to 5 |
| Hazelwood Power Corporation Ltd | Hazelwood Power Station Units 1 to 8 |
| Smelter Trader | Anglesea Power Station Unit 1 |

NER Schedule 9A3, clause 16 – proposed changes to the clause

- Delete the following Generating Units from the table:
 - Morwell Power Station Units 1 to 5
 - Hazelwood Power Station Units 1 to 8.

The table would therefore be as follows:

| Generator | Generating Units |
|----------------|-------------------------------|
| Smelter Trader | Anglesea Power Station Unit 1 |

NER Schedule 9A3, clause 16 – proposed amended clause

16. Excitation Control System (clause S5.2.5.13 of schedule 5.2)

For the purposes of clause S5.2.5.13(b) of schedule 5.2 of the *Rules*, a *Generator* listed in Table 13 is not required to provide *power system* stabilising action in relation to those *generating units* listed in column 2 of Table 13.

Table 13:

| Generator | Generating Units |
|----------------|-------------------------------|
| Smelter Trader | Anglesea Power Station Unit 1 |

