

**RECOMMENDATIONS ON THE ROLE OF AEMO
AND THE EFFECTIVENESS OF CURRENT GAS
AND ELECTRICITY EMERGENCY
ARRANGEMENTS**

**A report prepared by the Energy Security Working
Group of the Ministerial Council on Energy**

TABLE OF CONTENTS

1.0	LIST OF ACRONYMS AND ABBREVIATIONS.....	3
2.0	EXECUTIVE SUMMARY	4
3.0	ABOUT THE ESWG.....	7
3.1	Terms of reference	7
3.2	Group membership.....	7
3.3	How this report was developed.....	7
3.4	The Phase 2 report	8
4.0	EXISTING ELECTRICITY AND GAS EMERGENCY ARRANGEMENTS	9
4.1	Current approach to the use of emergency powers.....	10
4.2	Stakeholder comments	10
4.3	Electricity.....	12
4.4	Gas	15
5.0	GOVERNMENT INTERVENTION AND THE BROADER EFFECTS OF ENERGY SUPPLY INCIDENTS.....	18
5.1	Stakeholder comments	18
6.0	THE ROLE FOR AEMO IN THE COORDINATION OF EMERGENCIES	20
6.1	Coordination of Electricity Emergencies.....	20
6.2	Stakeholder comments	20
6.3	Coordination of Gas Emergencies	22
6.4	Stakeholder comments	23
7.0	COMMUNICATION OF PRE-EMERGENCY INFORMATION AND THE INTERACTION OF GAS AND ELECTRICITY	26
7.1	Previous Arrangements	26
7.2	AEMO Arrangements	26
7.3	Stakeholder comments	27
8.0	AEMO'S INTERFACE WITH LIQUID FUELS EMERGENCY ARRANGEMENTS.....	29
8.1	The National Oil Supplies Emergency Committee (NOSEC).....	29
8.2	Stakeholder comments	29
9.0	ESWG'S RECOMMENDATIONS AND CONCLUSIONS	31
9.1	Continuity of emergency management with the transition to AEMO	31
9.2	Expanding AEMO's role	31
9.3	NGERAC	32
9.4	Management of electricity and gas emergency and pre-emergency information	33
9.5	Load shedding	34
9.6	Commercial arrangements and emergency management.....	34
9.7	Liquid fuels	34
	Appendix 1 - The ESWG's Terms of Reference.....	35
	Appendix 2 – Summary of stakeholder submissions.....	36
	Appendix 3 – NEMMCO and NGERAC Emergency Arrangements.....	50
	Appendix 4 – Gas Emergency Arrangements.....	53
	Appendix 5 – Electricity Emergency Arrangements	67

1.0 LIST OF ACRONYMS AND ABBREVIATIONS

AEMO	Australian Energy Market Operator
AEMO ISC	Australian Energy Market Operator Implementation Steering Committee
AER	Australian Energy Regulator
DNSP	Distribution Network Service Provider
ESIPC	Electricity Supply Industry Planning Council of South Australia
ESWG	Energy Security Working Group
GMC	Gas Market Company
GMLG	Gas Market Leaders Group
MCE	Ministerial Council on Energy
NEM	National Electricity Market
NEMMCO	National Energy Market Management Company
NEL	National Electricity Law
NER	National Electricity Rules
NGERAC	National Gas Emergency Response Advisory Committee
NGL	National Gas Law
NGR	National Gas Rules
NOSEC	National Oil Suppliers Emergency Committee
PASA	Projected Assessment of System Adequacy
PTS	Victorian gas Principle Transmission System
REMCo	Retail Energy Market Company Ltd.
SCO	Ministerial Council on Energy Standing Committee of Officials
STTM	Short Term Trading Market
TNSP	Transmission Network Service Provider
VENCorp	Victorian Energy Networks Corporation

2.0 EXECUTIVE SUMMARY

In 2008, the Ministerial Council on Energy's (MCE) Standing Committee of Officials (SCO) tasked the Energy Security Working Group (ESWG) with two interrelated work programs. The first was to advise the Australian Energy Market Operator (AEMO) Implementation Steering Committee (ISC) which was established to ensure the legal aspects of the transition to AEMO were in place by 1 July 2009, on an appropriate structure for electricity and gas emergency management in light of the creation of a single market operator. The second was to advise the SCO on the MCE's potential role in emergency management.

ESWG informed the AEMO ISC of the emergency management issues that would need to be considered in the transition to the new market operator. The AEMO ISC incorporated this information into the development of the scope of AEMO so appropriate arrangements were in place by 1 July 2009. ESWG determined that no issues of concern or difficulties in transitioning from market operators (GMC, NEMMCO, REMCo and VENCorp) to AEMO were identified or expected. This advice was supported by a stocktake of emergency management arrangements prior to the creation of AEMO and analysis by ESWG as to whether these arrangements would be affected by the establishment of the new market operator. ESWG also consulted with industry stakeholders on the role of AEMO and whether the current emergency management arrangements could be reviewed given the establishment of AEMO¹.

Following on from the advice to AEMO ISC, and using the feedback from stakeholders and its own analysis, ESWG has developed a number of recommendations for consideration by MCE SCO that may enhance the response arrangements that are currently in place. These recommendations include suggestions for adapting to the increasing interrelationship between the gas and electricity markets and the unique oversight that can be provided by AEMO. Recommendations designed to increase the level of gas information available to industry to make investment and/or maintenance decisions, which may mitigate supply shortfalls and assist in the management of or response to emergencies, are also suggested. ESWG also acknowledges the interdependencies with the liquid fuels sector, which are not always obvious.

Recommendations

More detail on each of the recommendations is provided in Section 9: ESWG's recommendations and conclusions, and are summarised below:

Recommendation 1: ESWG recommends consideration be given to government and industry working together to understand that investment opportunities in the energy sector are realised in a timely fashion to better manage potential longer term supply shortfalls.

Recommendation 2.1: ESWG recommends consideration be given to expanding the role of AEMO in providing market information on gas by:

- amending the Gas Bulletin Board rules, if required, to enable AEMO to gather more information for effective modelling and information provision for gas, noting that this may require additional assurances on how commercially-sensitive data will be used and protected
- assessing the viability of a gas PASA (projected assessment of system adequacy), noting this may require changes to the National Gas Rules and National Gas Law.

¹ Further references to NEMMCO in this document relate to the timing of stakeholder comments (provided before 1 July 2009)

Recommendation 2.2: ESWG recommends reviewing AEMO's Gas Bulletin Board (GBB) to ensure it is effectively communicating all publicly available information to market participants to assist in monitoring daily gas supplies, and any changes to the GBB rules required to improve information and awareness of any potential shortages that will assist the market to make the necessary investments and/or adjustments in maintenance.

Recommendation 2.3: ESWG recommends consideration be given to consolidating gas and electricity network status and emergency information on one webpage for central communication.

Recommendation 3.1: ESWG recommends consideration be given to leveraging AEMO's expanded responsibilities in gas markets by undertaking the role of the NGERAC Secretariat while the Commonwealth continue as Chair, with the Chair's position to be reviewed once the short term trading market (STTM) commences in June 2010. ESWG also recommends that the review be undertaken by NGERAC jurisdictional members.

Recommendation 3.2: ESWG recommends NGERAC maintain its industry, jurisdiction and consumer representation noting the importance of input from each of these groups in developing its advice.

Recommendation 3.3: ESWG recommends investigation of options to fund NGERAC's on-going activities including through AEMO's funding model.

Recommendation 3.4: ESWG notes NGERAC already informally advises ministers on the possible effects of gas emergencies on electricity supplies. ESWG recommends formalising this role by acknowledging it in NGERAC's MOU. ESWG also recommends an editorial review of NGERAC's MOU to ensure accuracy and consistency.

Recommendation 4.1: ESWG recommends consideration of a review of communication protocols with the aim of achieving high level policy consistency of communication across jurisdictions to the maximum extent possible.

Recommendation 4.2: ESWG recommends consideration be given to the spokesperson role AEMO can undertake during an electricity and/or gas supply shortfall in its covered markets and relevant jurisdictional emergencies, noting that AEMO has clear responsibility for the bulk supply of electricity as outlined in the Power System Emergency Management Plan and the Victorian wholesale gas market, and that for multi-jurisdiction gas supply emergencies, any AEMO spokesperson role would be to reflect NGERAC's advice.

ESWG notes that in assuming NEMMCO and Vencorp's functions, AEMO will conduct exercises to test responses to both electricity and gas supply issues.

Recommendation 5: ESWG recommends that as far as reasonably practical, arrangements for load shedding be as transparent as possible to give consumers confidence in the process.

Recommendation 6: ESWG notes that existing and future contracts and the impending introduction of the STTM will be the primary mechanisms for addressing future gas supply shortfalls.

Recommendation 7: ESWG recommends consideration of how to ensure good communication and flow of information between the liquid fuels and other energy sectors. One approach that may be considered is that:

- AEMO continues current arrangements by providing information for managing a liquid fuels emergency to the National Oil Supplies Emergency Committee (a subgroup of MCE), specifically in consideration of the impact of a liquid fuel emergency and liquid fuel requirements for backup generators and compressors on gas transmission pipelines; and understanding the requirements of oil-powered generators and fuel switching by dual-fuel generators in an oil or gas supply emergency.

3.0 ABOUT THE ESWG

3.1 Terms of reference

In considering the implementation of AEMO, the AEMO Implementation Steering Committee (ISC) identified the need to review arrangements for the management of emergencies in national energy markets. In August 2008 the Ministerial Council on Energy (MCE) Standing Committee of Officials (SCO) formed the ESWG to conduct this review.

The ESWG's terms of reference (see [Appendix 1](#)) specify two main aims for this review. The first is to advise the AEMO ISC on an appropriate structure for electricity and gas emergency management in light of the creation of a single market operator. The ESWG has called this Phase 1. The review's second aim is to advise SCO on the MCE's potential role in emergency management. The group has called this aim Phase 2 and it will be addressed on completion of Phase 1.

In developing this report, the ESWG has consulted with industry and the industry groups the National Gas Emergency Response Advisory Committee (NGERAC), the Gas Market Leaders Group (GMLG), Transmission Network Service Providers (TNSP) Responsible Officers (ROs) and the National Oil Supplies Emergency Committee (NOSEC), as required by its terms of reference.

It should be noted that while Western Australia and the Northern Territory are represented on the ESWG and have participated in the emergency arrangements review, AEMO will not be taking over electricity and gas market operator functions in those jurisdictions.

3.2 Group membership

The ESWG membership consists of representatives from each of the jurisdictions, AEMO and, before the transition to AEMO, NEMMCO and the gas market operators VENCORP, GMC (New South Wales and the Australian Capital Territory) and REMCO (South Australia and Western Australia).

3.3 How this report was developed

The ESWG first undertook a review of the existing emergency arrangements in place in each jurisdiction for the management of electricity and gas supply emergencies. Existing arrangements for the coordination of jurisdictional responses to energy emergencies affecting multiple jurisdictions were also documented. These details are presented in Appendices 3, 4 and 5 and discussed in section 4.0.

As part of this exercise the group mapped jurisdictions' emergency functions that have now been transferred to AEMO. ESWG has also worked with the AEMO ISC to ensure there were no gaps in the transfer of these functions from jurisdictions to AEMO.

The ESWG then released a discussion paper to seek broad industry comment on the appropriateness and effectiveness of these existing emergency arrangements, and to canvass comment and suggestions on appropriate roles and functions that may be assumed by AEMO to achieve improvements in this area. The discussion paper covered the adequacy of existing emergency arrangements, AEMO's role in the coordination of electricity and gas emergencies, communication of pre-emergency information, the interaction of gas and electricity and AEMO's interface with liquid fuels emergency arrangements. This discussion paper is available at: <http://www.ret.gov.au/Documents/mce/security/eswg.html>.

In response to the discussion paper, submissions were received from:

- Australian Petroleum Production and Exploration Association (APPEA)
- Energy Retailers Association of Australia Ltd (ERAA)
- EnergyAustralia
- Jemena Gas Networks (NSW) Ltd (JGN)
- Jemena Ltd (Jemena)
- Major Energy Users Inc (MEU)
- Origin Energy (Origin)
- SP AusNet
- Transend Networks Pty Ltd (Transend)

The ESWG acknowledges the contributions of these organisations to this report and thanks them for their participation.

Appendix 2 gives a summary of the key points of the stakeholders' submissions, which are available on the MCE's website at <http://www.ret.gov.au/Documents/mce/security/ecgeea.html>.

This report contains the ESWG's recommendations addressing Phase 1 of its terms of reference and is informed by the ESWG's members, representing jurisdictions and energy market operators, consultation with industry groups and stakeholder submissions.

3.4 The Phase 2 report

A work plan and expected date of completion of Phase 2 will be confirmed upon completion of Phase 1.

4.0 EXISTING ELECTRICITY AND GAS EMERGENCY ARRANGEMENTS

This section summarises the existing emergency arrangements in place in each jurisdiction for the management of electricity and gas emergencies.

For both electricity and gas, each jurisdiction has its own legislation which confers emergency powers on either the relevant Minister or agencies that can be exercised in emergency situations.

Similarly, for both electricity and gas there are Memoranda of Understanding (MOU) and Emergency Protocols between jurisdictions that set out objectives and principles concerning the use of emergency powers. In each case these MOUs and protocols aim to achieve coordination and communication between jurisdictions prior to and during the exercise of emergency powers.

The main difference between the emergency management approaches in electricity and gas is that the interconnected electricity transmission grid in the eastern states of Australia has a single, independent system and market operator (AEMO), whereas the interconnected gas transmission pipelines do not.

As the system operator for the National Electricity Market AEMO has responsibility for the maintenance of system security for the bulk supply system and has extensive powers under the National Electricity Law and Rules to intervene in the operation of the market including the initiation of load shedding.

AEMO therefore plays a key role in the coordination of a national or multi-jurisdictional response to electricity emergencies. AEMO can request an affected jurisdiction to authorise AEMO to exercise an emergency power in that jurisdiction, and jurisdictions are expected to consult with AEMO, where possible, prior to exercising their emergency powers.

The gas transmission system is a collection of interconnected, privately owned and separately operated pipelines. There is no single entity responsible for the overall operation of the system and individual jurisdictions have powers to intervene in the management of these systems during emergencies. Under the National Gas Emergency Response Protocol, the MCE has established NGERAC to advise Ministers on the use of their emergency powers and responses to gas supply shortages affecting multiple jurisdictions.

These existing arrangements for gas and electricity emergencies have been summarised in Appendices 3, 4 and 5.

Appendix 3 details how national electricity and gas emergency arrangements are coordinated via AEMO and NGERAC. Appendices 4 and 5 set out the gas and electricity emergency management arrangements, respectively, in each jurisdiction. They include the applicable legislation, functions and responsibilities of the various entities in each jurisdiction that have roles and/or exercisable powers in the event of an emergency.

The emergency arrangements summaries also identify where existing roles and functions could be transferred to AEMO upon its commencement (noting that AEMO assumed the majority of existing functions performed by NEMMCO, VENCORP, GMC, REMCO and ESIPC), and provide some commentary on other functions that have been assumed by AEMO.

4.1 Current approach to the use of emergency powers

Government priorities for the management of energy emergencies are to ensure public order, safety and the operation of community services. The general approach to jurisdictional arrangements for both gas and electricity is that, where possible, market forces are given every opportunity to resolve an emergency and government intervention is exercised as a last resort, typically where market and infrastructure operators require assistance to maintain the safety of infrastructure and supplies to essential users. In line with this approach, load shedding and curtailment procedures are only triggered in accordance with market mechanisms and procedures agreed between a market operator and market participants. Government arrangements to manage energy emergencies should be transparent and good communication between government, market participants, stakeholders and the public is critical for effective management of an energy emergency.

Widespread energy supply disruptions can also arise as a result of extensive damage to local distribution networks through bushfires, windstorms and cyclones. Unlike major supply/demand imbalances that can occur at the bulk supply or wholesale level these outages do not threaten system security or the need for intervention in the market. However, because of the social consequences of this type of supply disruption energy businesses will need to coordinate supply restoration with emergency service agencies and communicate effectively with the public about when supply will be restored. While the response to these types of disruptions will not in most circumstances require the use of government emergency powers, governments will however want to be informed about the extent and duration of the energy supply outages so that it can coordinate relief and recovery activities.

4.2 Stakeholder comments

Emergency management principles

Most stakeholders support the current principle of letting markets resolve energy supply issues and for governments to intervene only as a last resort.

APPEA endorses the position that government arrangements to manage energy emergencies should be transparent and good communication between government, market participants, stakeholders and the public is critical for effective management of an energy emergency. It added that it believes the arrangements established through NGERAC, the National Gas Market Bulletin Board and proposed short term trading market (STTM) provide the information, procedures and requirements necessary for the management of emergency arrangements.

APPEA and ERAA said it is important for jurisdiction governments to act in the interest of the market as a whole and not put the needs of any one jurisdiction ahead of another.

MEU suggested two extra principles that should be adopted in emergency arrangements, these being:

- Equity (the sharing of outages) when load shedding; and
- Inclusion of all stakeholders, especially those most at risk financially, in any load shedding decision making processes.

MEU added there needs to be accountability for load shedding decisions, especially those that lead to commercial loss.

Transend said the priorities of ensuring public order, safety and the operation of community services are believed to be appropriate.

Commercial arrangements and the STTM

APPEA said the sanctity of contracts must be a foundation principle and governments and industry must work together to ensure that the appropriate contractual provisions are put in place to manage any supply shortfall. APPEA and Jemena said that in the event of government intervention, compensation arrangements may not be adequate and must be in place for market participants and asset owners.

EnergyAustralia noted that the ESWG's discussion paper made minimal reference to the role of the short term trading market (STTM), and its contingency gas provisions in particular, in addressing a shortage of supply. Acknowledging the STTM's design is yet to be finalised, EnergyAustralia said a review of national emergency arrangements should recognise the instruments and procedures being established under the STTM to deal with potential gas shortage situations.

ESWG's response:

ESWG is of the view that APPEA's proposal for Governments and industry to work together to ensure contracts are put in place to manage supply shortfalls requires further consideration, particularly bearing in mind the typical operation of force majeure clauses in most producer or pipeline contracts to cover plant or pipeline equipment failures. ESWG notes the STTM and Victorian gas market arrangements provide market based mechanisms for compensating participants whose contracted gas is used by others, and price incentives for those parties who have spare uncontracted gas to make this available at times of supply shortfalls.

With regards EnergyAustralia's comments, ESWG notes that this report together with the National Gas Emergency Response Protocol, as outlined in NGERAC's MOU, already recognises the principle that market arrangements should be given opportunity to provide a response before any centralised/Governmental intervention is triggered, which will include any market based mechanisms under the STTM. With this mind, the ESWG is of the view that no further review is necessary.

Other comments

Jemena advises there is no gas operational storage capacity for distribution in NSW and if the market does not provide sufficient warning, load shedding may not be adequate to support the distribution system and network shutdowns may be the only option. Jemena states this risk is most acute in NSW and was not appreciated in the ESWG discussion paper.

SP AusNet suggested an education programme on the importance of energy assets, their function and the potential dangers of activities near them would be advantageous, for example the use of easements for bushfire fighting, and in a different vein, people climbing on towers.

With regard to communication, SP AusNet noted it is sudden events such as people climbing on towers and explosions where more work can be done to improve the real time response.

ESWG response:

ESWG believes this is a matter to be addressed by the emergency management procedures implemented by each jurisdiction and each pipeline operator.

ESWG recognises the importance of an education program, as discussed by SP AusNet, but feels it is the responsibility of DNSPs, TNSPs, and individual jurisdictions to educate the public where they feel it is necessary.

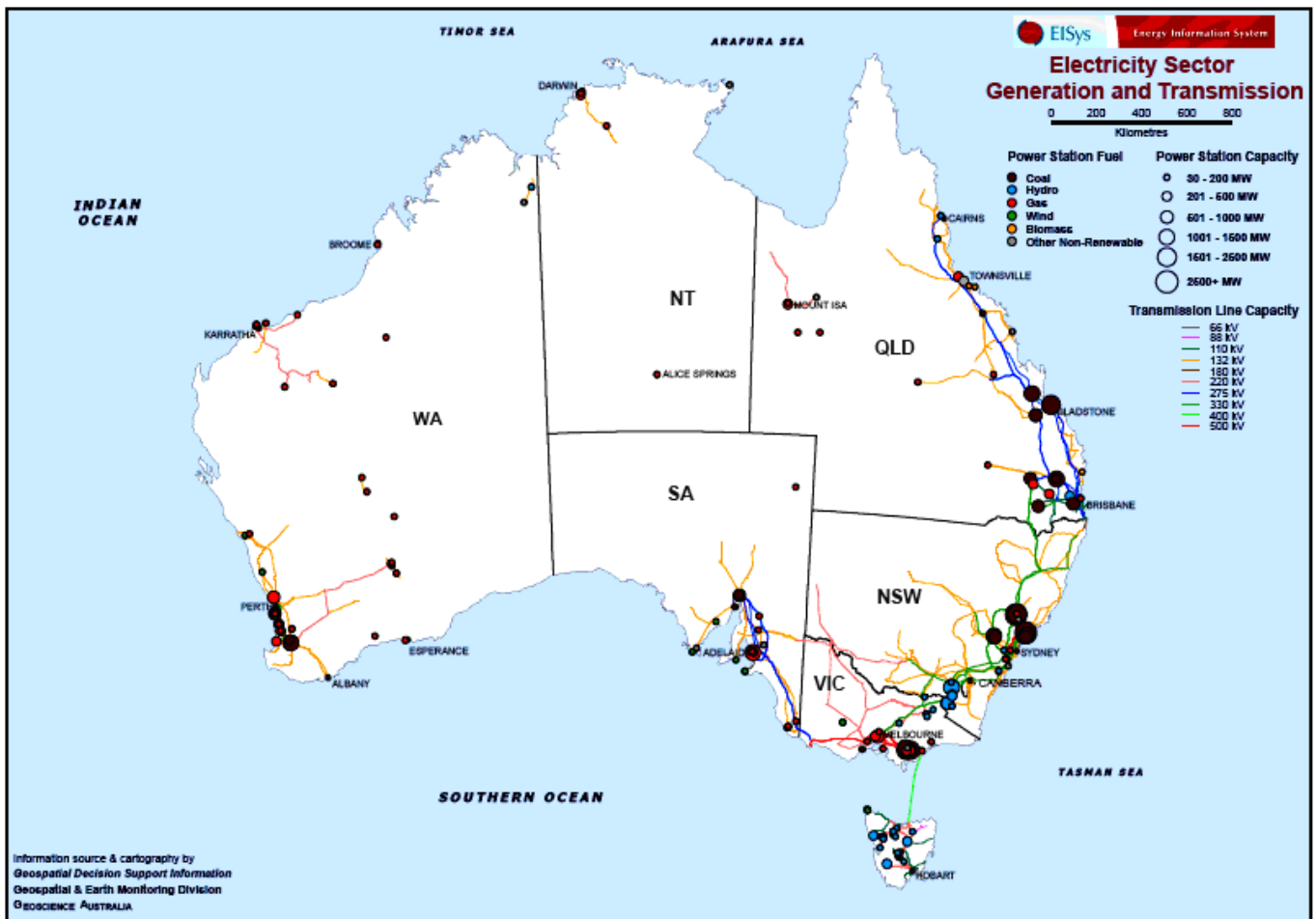
With regards to SP AusNet’s comments on sudden events, ESWG notes there is more warning of weather or bushfire related events because they can be predicted and monitored as they unfold, whereas people climbing towers and explosions are instantaneous and so can’t be monitored. However, ESWG has focussed on the response to emergencies rather than the causes – this is because sudden plant failures have the same impact as outages due to people climbing towers or wilful damage.

4.3 Electricity

Since 1998 the electricity networks in the Australian Capital Territory, New South Wales, Queensland, South Australia and Victoria have operated as part of the National Electricity Market (NEM), with Tasmania joining the NEM in 2005.

Before 1990, only the networks of New South Wales and Victoria were linked (via the Snowy Hydro Electric Scheme). Since then a number of interconnectors have been built joining Queensland to New South Wales (QNI and Directlink) and Victoria to South Australia (Heywood and Murraylink). Following the completion of Basslink in 2006, connecting Tasmania to Victoria, eastern Australia has a fully interconnected electricity network. Western Australia and the Northern Territory each have separate networks and are not part of the NEM. Figure 1 shows Australia's electricity transmission infrastructure.

Figure 1: Australia's electricity transmission line network²



² Source: Geoscience Australia 2008

For jurisdictions that are part of the NEM, current emergency procedures and responsibilities for the management of electricity supply disruptions that constitute a threat to system security (note: there are emergencies in which system security is not an issue) are established by the National Electricity Law (NEL), National Electricity Rules (NER), National Electricity Market Memorandum of Understanding on the Use of Emergency Powers (MOU) and the National Electricity Market Emergency Protocol (the Electricity Protocol).

Where system security is at risk, emergency management is coordinated by a combination of AEMO officers and jurisdictional representatives. The Power System Emergency Management Plan (PSEMP) ensures the market operators respond in a coordinated and timely way to these incidents, and to fulfil AEMO's obligations under the National Electricity Market Rules and policy framework.

The following description of roles and functions is summarised or taken from these various documents.

AEMO assumed NEMMCO's functions from 1 July 2009. As the Western Australian and Northern Territory markets will continue with their own regulators, emergency arrangements for these jurisdictions are not covered in this chapter.

Under the NEL and NER, AEMO's responsibilities include directing participants in certain circumstances and co-ordinating and directing any rotation of widespread interruption of demand in the event of a major supply shortfall or disruption.

Each jurisdiction has legislation conferring emergency powers which may be exercised in emergency situations (see Appendix 5).

Jurisdictions recognise that NEM operational rules have procedures to manage major electricity shortages and, as far as practicable, those procedures should be allowed to operate to deal with major electricity supply shortages before the exercise of jurisdictional emergency powers is considered.

The NEL and NER require AEMO to liaise with jurisdictions if the management of an extensive disruption requires the use of emergency powers in those jurisdictions. The MOU establishes the principles for emergency management by jurisdictions and AEMO, while the Electricity Protocol details the responsibilities and procedures.

In summary, if a jurisdiction intends to exercise its emergency powers then best endeavours must be used to inform AEMO and the other jurisdictions of the action to be taken. If so informed AEMO must use its best endeavours to provide advice to the relevant jurisdiction on actions AEMO may be able to take, and the assessed impact of the proposed actions on the market.

Alternatively, if AEMO believes a jurisdiction's emergency powers need to be activated to manage a situation then AEMO is to use its best endeavours to inform all jurisdictions of the matter. The jurisdiction(s) being requested to activate emergency powers must use its best endeavours to have due regard to AEMO's advice, and notify AEMO as soon as practicable if AEMO is authorised to exercise a jurisdiction's emergency powers.

If an emergency power is activated either by a jurisdiction or AEMO (as authorised by a jurisdiction), then best endeavours must be used to share relevant information such as orders, proclamations, declarations, directions, regulations, notices or rationing measures, with the other parties involved in managing the incident.

All operational communications between AEMO and the jurisdictions occur via Responsible Officers and Jurisdictional System Security Coordinators (JSSCs). Jurisdictions and AEMO each have a nominated Responsible Officer, who is the single point of contact for communication between parties.

As noted above, coordination and communication between jurisdictions and AEMO when there is a threat to supply security occurs via the Responsible Officers and JSSCs. However, there are a number of other functions and roles that are potentially activated to assist in managing such a situation.

These include:

- AEMO Incident Manager;
- AEMO Emergency Communications Manager;
- Jurisdictional Designated Officers/Relevant Officials; and
- Jurisdictional Public Affairs Coordinators.

Communication with the public via the media is an essential aspect of managing an emergency situation. In general, AEMO responsibilities for media communications are to provide the following information:

- Basic information about the incident such as the timeframe for resolving the issue and affected area;
- Whether further load shedding is required and for how long;
- Advice on supply and demand balance for individual regions and the entire NEM;
- Advice related to forecast demand;
- Advice related to the NEM and the NEM Rules;
- Advice related to overall system security and market operation; and
- Advice to electricity industry call centres to ensure consistent information is given to the public.

Affected jurisdictions' government media teams are responsible for:

- Conveying policy issues and the government's response;
- Managing community impact; and
- Issues related to intervention, notices, restrictions, and enforcement.

Affected generators and network service providers' media teams are responsible for:

- Issues related to their own business; and
- Issues related to the operation and maintenance of their own assets.

Affected retail participants' media teams are responsible for:

- Issues related to customer impact and customer management; and
- Issues related to their own business.

It should be noted there is some variation to the above responsibilities in some jurisdictions, such as Queensland, as detailed in appendix 5.

Where practicable, AEMO, jurisdictions and media staff will endeavour to confer with each other before releasing their statements to the media, with the objective of providing consistent, accurate and timely media statements.

In the event that an emergency situation cannot be managed without shedding load to maintain system security, an agreed approach to allocating load shedding is followed. This can occur either within a jurisdiction (among relevant connection points) or between jurisdictions.

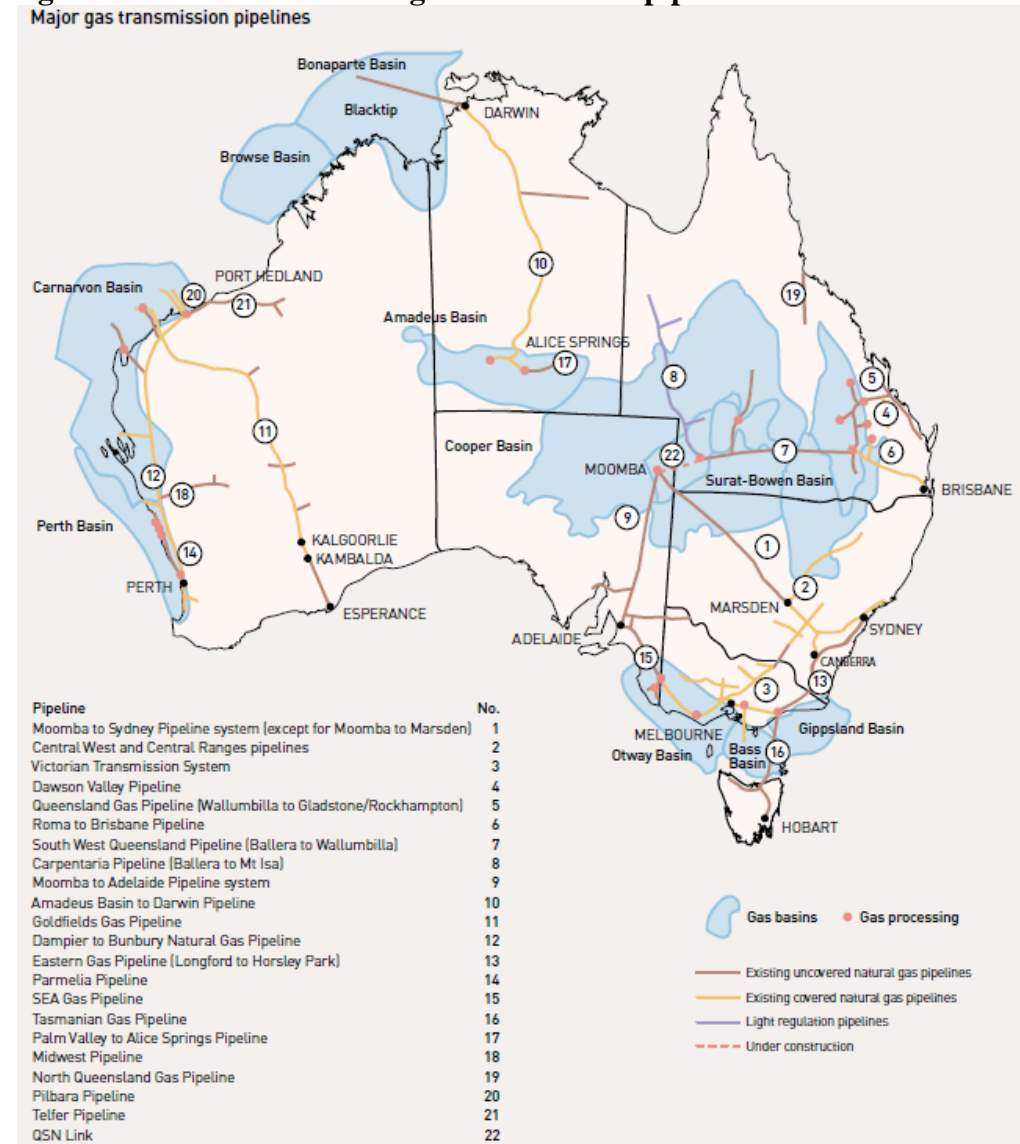
During a major supply shortfall, load shedding is allocated between NEM regions in proportion to load at the time, subject to transmission constraints. Load shedding will take different forms. Immediately after an incident supply/demand imbalances will be resolved by automatic under-frequency load shedding. This is initiated by protection devices in the network. AEMO might also direct that large blocks of load be shed. If there is sufficient time load shedding can take place at a local level and operationally this is managed by DSNP's on advice from AEMO. This type of load shedding will involve the use of rotational load shedding where different load blocks are turned off for a few hours at a time.

Load shedding directions during an emergency are communicated by AEMO based on priorities previously identified by jurisdictions and submitted to AEMO by the Jurisdictional System Security Coordinators. Jurisdictional load shedding guidelines are incorporated into AEMO's operating guidelines.

4.4 Gas

The eastern states and territory's gas networks have recently become fully interconnected following the commissioning of the Queensland-South Australia–New South Wales (QSN) pipeline in January 2009, linking Queensland's network to the Moomba to Adelaide and Moomba to Sydney pipelines. Interconnection is a relatively recent development, with the Eastern Gas Pipeline, Tasmanian Gas Pipeline, SEA Gas pipeline and the connection between the Victorian Principal Transmission System (PTS) and the Moomba to Sydney Pipeline all built since 1998. Western Australia and the Northern Territory each have separate gas networks. Figure 2 shows Australia's gas transmission pipelines.

Figure 2: Australia's natural gas transmission pipeline network³



All of Australia's gas transmission pipelines are privately owned and largely operated independently of each other, with flows scheduled in accordance with contract nominations, except in the Victorian PTS where gas flows are scheduled via a spot market.

The increasing level of interconnection and transparency of eastern Australian markets makes them more robust and able to manage supply demand imbalances via market mechanisms. However, the increasing interconnection of gas transmission pipelines between jurisdictions and the increasing interaction between the gas and electricity markets makes the management of a supply shortfall that cannot be resolved by the market more complex and increases the need for the coordination of major gas supply emergencies across jurisdictions.

Hence, in 2005 a National Gas Emergency Response Protocol was developed and implemented through a Memorandum of Understanding between the Commonwealth and all States and Territories. The Protocol was developed to ensure Ministers are consulted prior to any individual Minister engaging their state's emergency powers. NGERAC was established to provide a forum for all stakeholders, both industry and users, to inform jurisdictions prior to advice being provided

³ Source: State of the Energy Market 2008, Australian Energy Regulator

to Ministers on the use of their powers. AEMO, in continuing NEMMCO's responsibilities, is a member of NGERAC.

NGERAC's other functions include the following:

- a) Advise the MCE and jurisdictions on:
 - (i) NGERAC's assessment of the gas supply and demand balance over a reasonable period, having regard to seasonal peaks in demand; and
 - (ii) The likely risk of major gas supply shortages.
- b) Develop advice for the MCE and jurisdictions on circumstances that could trigger the use of emergency powers;
- c) Develop advice for the MCE and jurisdictions on options for sharing gas between inter-connected jurisdictions during major gas supply shortages;
- d) Develop protocols for communication of information and decisions between the MCE, jurisdictions and industry in the event of a major gas supply shortage; and
- e) Conduct emergency simulation exercises to test cross-border emergency response and management procedures.

Appendix 3 details NGERAC's functions including its notification and escalation processes.

Coordination of gas supply emergencies affecting multiple jurisdictions is managed by the affected jurisdictions themselves. In particular, there is a well established process of telephone conferences involving affected parties in South Australia, NSW and ACT to coordinate responses to outages or incidents affecting the supply of gas in these jurisdictions from the Moomba gas production facility. These are normally convened and hosted by either the South Australian jurisdictional agencies or the operator of the affected gas facility. Appendix 4 details gas emergency management arrangements in the Australian Capital Territory, New South Wales, Queensland, South Australia, Tasmania, Victoria and Western Australia.

Operating under the auspices of the MCE, the Gas Market Leaders Group (GMLG) has assisted in facilitating the establishment of a National Gas Market Bulletin Board, which commenced operation in July 2008, and is developing a STTM for natural gas, planned to commence in 2010. These facilities will each provide valuable system and market information to assist in the management of gas emergencies.

Both the National Gas Bulletin Board and STTM are/will be operated by AEMO.

5.0 GOVERNMENT INTERVENTION AND THE BROADER EFFECTS OF ENERGY SUPPLY INCIDENTS

A key component of the management of energy supply emergencies is understanding the broader effects on the community of an electricity or gas supply interruption and the resulting need for effective communication with emergency services. The impact of an event such as a blackout ranges from minor inconveniences, such as some household appliances needing to be reset, through to the loss of provision of essential services. Information such as the extent and expected duration of an outage is vital for emergency services to determine their response and highlights the importance of timely, effective communication between government, market operators, energy infrastructure managers, emergency services and the public.

5.1 Stakeholder comments

Consistent approach across jurisdictions for interaction with emergency services

ERAA and Jemena said a consistent approach and harmonisation of energy emergency management across jurisdictions should be a goal, with the variation in the arrangements between jurisdictions for communication and coordination with emergency services making communication difficult for the number of stakeholders operating across jurisdictions, with Jemena suggesting common guidelines for utility interfaces to all jurisdictional emergency response processes would be an invaluable tool for energy companies.

ESWG response:

ESWG agrees with the ERAA and Jemena's comments and recommends further consideration of harmonising energy emergency procedures across jurisdictions to the maximum extent possible (see Section 9: ESWG's recommendations and conclusions).

Transend said that transmission network service provider (TNSP) interaction with emergency services could be improved if TNSP's were directly assigned this liaison role, rather than the current arrangement where TNSP's are contracted to be NEMMCO's agent.

MEU suggests that due to factors such as increasing use of gas for electricity generation, arrangements for communications and coordination need to be able to sustain more frequent incidents and multiple incidents in either electricity or gas, or both. It says that as a result, there is a greater need for careful and transparent communication in energy supply emergencies and it must be recognised that energy consumers are most affected by an energy supply shortage.

ESWG response:

ESWG is of the view that TNSP's have a role to deal with emergency services concerning their own assets. AEMO has contracted with TNSP's to ensure information from emergency services comes to AEMO via the TNSP so that AEMO does not have to deal with all the different emergency service agencies and to allow for AEMO management of the NEM in a consistent, co-ordinated manner.

Regular exercise of emergency procedures

Transend provided examples from their experiences, where they have found the best responses are achieved when the lines of communication and procedures used during an emergency are the same as those used during day to day operations. It is important these procedures are regularly exercised to ensure compliance under the stresses of an emergency event and such exercises contribute to maintaining the understanding and agreement required in an emergency, noting NEMMCO

conducts annual emergency management exercises which have assisted in educating NEMMCO, JSSC's and RO's on their responsibilities and tested processes.

ESWG response:

ESWG agrees with Transend's comment regarding the need for regular exercises and advises AEMO will continue the exercises that were conducted by NEMMCO.

Regarding everyday lines of communication being the same as those for emergency, ESWG agrees with this principle but notes that in practice they seldom are, particularly where operator or government intervention is involved as there are not daily interactions with Governments, emergency services and other relevant bodies on operational matters.

Load Shedding

MEU comments that load shedding schedules have been developed by governments in isolation with little or no consultation with those most affected and provided an example from their experiences in NSW. They noted that once developed, the schedules are communicated by governments to the market participants and market operators, and then applied by these parties and very seldom shared with those consumers most likely to be affected, if at all.

ESWG response:

ESWG recognises the process to develop load shedding schedules and the degree to which they are available to consumers varies between jurisdictions and, while acknowledging the NSW gas example highlighted by MEU, notes that there are cases where gas load curtailment tables are published and individual end use customers are able to ascertain which table they are in (e.g. in Victoria).

ESWG recommends consideration of increased consultation with large energy users on the approach to developing load shedding tables and increased transparency in the load shedding principles, which could include the determination of priority tables, the requirements to shed as directed by AEMO between the jurisdictions and the allocations between distributors by the TSNP. Considering the commercial implications of load shedding, ESWG is of the view that it is not in a position to make any further recommendation regarding load shedding.

6.0 THE ROLE FOR AEMO IN THE COORDINATION OF EMERGENCIES

6.1 Coordination of Electricity Emergencies

As outlined in section 3.3, the processes and procedures for electricity emergency management in the NEM are well developed and documented. Each role has defined functions and responsibilities, and minimal if any change has taken place or is required with the establishment of AEMO.

6.2 Stakeholder comments

Information provision

Jemena and Transend both noted reviews of past incidents have regularly identified that providing enough and sufficient information about an incident is an area that could be improved. They noted that one of AEMO's roles is to ensure that advice to stakeholders, including Ministers and their departments, is acted on in a timely and responsive way. This extends to the escalation of emergencies through the proposed emergency response levels to the point that Ministerial action is taken to implement emergency powers and Jemena notes there does not appear to be an adequate structure in place for the escalation process.

Jemena noted that the information requirements for market participants vary according to the type of incident and generally there is good exchange of information. It said the availability of information may be constrained by the type of event and the period over which it extends and AEMO may wish to consider establishing protocols based on scenarios that enable delivery and exchange of the minimum information required by market participants.

ESWG response:

ESWG disagrees with the comments regarding AEMO's role being to ensure that its advice is acted on and there not being an adequate structure in place for the escalation process. This may be due to a misunderstanding on the scope of AEMO's advisory role. While it is true that Ministers can accept or reject AEMO's advice, AEMO has no obligation and no powers to ensure that advice it provides to Ministers, for example, is acted upon.

The escalation of emergency management for the electricity sector is set out in the Power System Emergency Management Plan, which has been developed in accordance with the Emergency Management protocol and MoU between jurisdictions. The structure is well developed, tested and has been used effectively in real emergencies.

For gas there are separate structures for emergencies wholly within a jurisdiction and for emergencies across jurisdictions and both structures are well developed and tested. For an emergency wholly within a jurisdiction, each jurisdiction has an emergency response plan. Inter-jurisdictional emergencies are managed by NGERAC through the National Gas Emergency Response Protocol in its MOU between jurisdictions.

Load shedding

MEU made a number of recommendations regarding load shedding:

- Consumers need to be better advised directly of loading shedding rather than just relying on market participants to disseminate information. In particular the AEMO website should provide load shedding information including the location and expected duration of load shedding and AEMO should provide users with the option to be informed of load shedding by SMS and email.

- AEMO should monitor the accuracy and timeliness of advice provided by market participants to consumers as a result of AEMO decisions.
- Networks must consult with AEMO prior to being allowed to implement involuntary load shedding if they wish to retain their impunity from litigation.
- AEMO should have a more transparent process for developing emergency management and load shedding procedures. This should include a comprehensive consultation process that includes end users, as they are the stakeholders most affected by load shedding and currently are not consulted when developing load shedding tables.

ESWG response:

As discussed earlier under Section 4.1, ESWG recognises the process to develop load shedding schedules and the degree to which they are available to consumers varies between jurisdictions, noting the NSW gas example highlighted by MEU contrasts to Victoria where the gas load curtailment tables are published and individual end use customers are able to ascertain which table relates to them.

With regard to the proposal that networks must consult with AEMO, ESWG notes that under the National Electricity Rules, when AEMO instructs TNSPs and DNSPs to load shed, they are obligated to comply. Network load shedding is often an emergency response and is required to protect infrastructure. In addition, load shedding by DNSPs may be localised and not impact the operation of the NEM. ESWG notes that for AEMO to be involved in gas load shedding decisions it would need to have a much greater role in the physical operation of pipelines than it does. Currently AEMO only operates the Victorian PTS.

Other issues

Jemena suggested NEMMCO consider the role of the Australian Energy Regulator (AER) in the emergency context. ESWG is of the view that the AER has no role in the real time management of energy emergencies.

Transend noted that NEMMCO's work with market participants and stakeholders has provided the electricity supply industry with well designed and executable plans and the process whereby NEMMCO reviews its performance following power system events and facilitates annual emergency exercises provides an effective continuous improvement environment. The definition of roles and responsibilities for emergency management in the NEM has been refined as a result of this work and to change these arrangements just because AEMO assumes NEMMCO's functions would not be in the best interests of market participants, stakeholders and customers. Transend also noted there needs to be sufficient flexibility in emergency plans and guidelines to enable AEMO and system operators to make the decisions they need to, within what can often be tight timeframes.

ESWG response:

As Transend has noted, the definition of roles and responsibilities for emergency management in the NEM are well developed. ESWG advises that, other than through the continuous improvement processes developed by NEMMCO, or any opportunities the bringing together of a number of market operators under AEMO might bring, there is no intention to change these responsibilities now AEMO has assumed NEMMCO's role.

It is important to anticipate the dynamics that increasing interaction between gas and electricity markets may have on the ability of market operators and governments to respond to emergencies.

6.3 Coordination of Gas Emergencies

As described in section 4.4, the only current formally constituted body for the coordination of national gas emergencies is NGERAC.

Prior to the transition to AEMO, NGERAC was assisted in performing some of its functions through contracting analytical support services from VENCORP and GMC. Under this contract, VENCORP and GMC have developed a model of the interconnected gas transmission system spanning the Australian Capital Territory, New South Wales, South Australia, Tasmania and Victoria. This model enabled studies to be performed by VENCORP and GMC to produce an annual contingency report on behalf of NGERAC in which all credible major contingencies were examined to assess survival times at different times of year and the impacts of potential response actions.

Since 1 July 2009, AEMO operates the NEM and the interconnected electricity transmission network, is the national electricity planner, is responsible for producing the national Gas Statement of Opportunities, operates the Victorian Principal Transmission System (PTS) and Victorian gas spot market, and provides retail gas market services for the Australian Capital Territory, New South Wales, Queensland, South Australia and Victoria. AEMO has resources for electricity and gas planning, operational and market expertise, and a 24 x 7 emergency response capability.

AEMO also assumed the role of providing analytical support and emergency response advice to NGERAC (replacing the services that were previously provided by VENCORP and GMC under contract to NGERAC). AEMO will provide integrated modelling and planning for the impacts of gas supply disruptions on electricity supply and electricity market scenarios (e.g. prolonged peak demand) on gas supplies.

AEMO operates the National Gas Market Bulletin Board and will operate the gas STTM, due to commence operation initially in NSW and SA in 2010. While these roles do not allow AEMO to physically operate gas pipelines (other than the Victorian PTS), they do provide AEMO with direct access to well-established communication channels with most gas market participants across the eastern states of Australia. These roles give AEMO ready access to historical and frequently updated information on certain infrastructure capacities and the supply and demand situation across the entire interconnected gas transmission network and the Victorian PTS.

Given AEMO's responsibilities for gas and electricity, this raises the question of NGERAC's future role and the relationship between the two bodies. ESWG recommends consideration should be given to AEMO assuming some or all of NGERAC's functions, as AEMO's resources and capabilities make it well placed to do so.

AEMO involvement in existing NGERAC functions does not require a change to the National Gas Emergency Response Protocol, however any new functions, including change of NGERAC's Chair or Secretariat, would need to be unanimously agreed by the jurisdictions.

It is recognised any coordination function for AEMO would still need to constitute at least some form of industry and user representative committee to assist it to develop and implement those functions. Additionally, consideration should be given to how these functions might align with the intended electricity arrangements, where AEMO provides information to jurisdictionally appointed Responsible Officers or JSSCs (depending on the jurisdiction) who then brief Ministers on emergency management options.

Consideration of AEMO assuming other responsibilities for NGERAC must include clarifying any potential conflicts of interest with NGERAC members.

6.4 Stakeholder comments

Emergency management

EnergyAustralia and the ERAA said greater consideration of the role of existing markets and the short term trading market (STTM) is needed in emergency management, and national emergency arrangements must be considered in the STTM rules, both acknowledging the STTM is still being developed.

ESWG response:

ESWG agrees with EnergyAustralia and the ERAA that the STTM should provide greater transparency in market information and pricing signals to mitigate and minimise the need for intervention in gas emergencies, and the principle that markets be given every opportunity to respond is acknowledged in this report. ESWG notes the emergency response being discussed in this review is when those market mechanisms alone are inadequate.

Jemena commented that current mechanisms for allocating gas supplies during a supply shortage are not well defined or executed and should be reviewed and that AEMO should consider how current informal understandings within the gas industry of the need for good communication before, during and after an emergency be made formal and firm.

Jemena fully supports any proposal by AEMO to consolidate and centralise communication through a system like the National Gas Market Bulletin Board and said the Bulletin Board will greatly assist in the management of gas emergencies and should meet the needs of each jurisdiction.

ESWG response:

ESWG recommends consideration of centralising electricity and gas emergency information on one webpage. This is discussed further in section 7.3: Other Issues, and in Section 9: ESWG's recommendation and conclusions.

Management of supply security and gas quality

JGN said accountability for security of gas supply for major retail market centres and management of gas quality are not addressed and need to be, advising that the increasing interconnection of gas networks, complexity of commercial arrangements and the STTM not considering gas quality mean that network operators are less in a position to be able to perform this role. Jemena and JGN agreed that AEMO should take on a central coordination role in gas markets, with JGN suggesting AEMO assume accountability for security of supply and manage gas quality.

ESWG response:

ESWG notes that for AEMO to take on responsibility for gas quality and overall system security would require it to have responsibility for the physical operation of gas networks with associated powers of direction and information gathering. It currently only has this role for the Victorian Principal Transmission System (PTS). With regard to gas quality, ESWG considers that, with or without the STTM, responsibility for monitoring and controlling the quality of gas entering and leaving each pipeline system should rest with the producers and the pipeline operator. ESWG notes that AEMO, as operator of the Victorian gas market and the forthcoming STTM, has a central coordination role in the Victorian gas market and soon will have a market operation role in the NSW and SA gas markets.

Load shedding

MEU recommended that, with regards to load shedding, industrial consumers should be allowed to declare the minimum requirements they have for gas supplies to allow them to continue to maintain their assets in a safe and secure manner.

MEU also advised that large gas consumers, in particular, need to be well informed of load shedding because, unlike electricity consumers, who generally share the burden of load shedding through rolling blackouts, they are always the first to be curtailed.

MEU notes that under the STTM process AEMO has no role in the final decision to load shed, which remains with the distribution network operator who has been granted the power by government to involuntarily load shed a consumer without reference to the consumer's commercial rights. It said that as AEMO will be operator of the STTM, then AEMO should have a much larger say as to whether the distribution network can or should unilaterally exercise its powers to load shed, and as a bare minimum, the network operator should be required to confer with AEMO prior to being allowed to exercise its load shedding powers with impunity from litigation. [see comment on page 21]

NGERAC

Stakeholder opinion on the future role and form of NGERAC was divided. APPEA and MEU support NGERAC's on-going operation in its current form (MEU arguing that the benefits of NGERAC's formal forum outweigh possible faster information flow in AEMO's hands) while ERAA, Jemena and Origin said AEMO should take over from NGERAC and take a leadership role / assume some of NGERAC's functions. MEU suggested that AEMO should provide the information and advice to NGERAC it requires to perform its function. APPEA and Origin commented that regardless of what form NGERAC takes, industry and broad stakeholder involvement in NGERAC must not be diminished.

A number of stakeholders suggested that NGERAC's role should be expanded to:

- Include coordination of pipeline and production facility maintenance (EnergyAustralia);
- Consider opportunities for AEMO to extend its gas emergency management coordination and information sharing functions into other jurisdictions (Origin); and
- Assess and advise ministers of the effect of a gas emergency on jurisdiction electricity supplies (MEU).

MEU said there is a need to separate the role of NGERAC, which only operates in inter-jurisdiction gas emergencies, from single jurisdiction gas emergencies.

ESWG response:

Consistent with the stakeholder views, ESWG is of the view that there is still a need for NGERAC, particularly as the gas market in eastern Australia is fragmented in terms of regulation.

ESWG recommends AEMO undertake the secretariat role for NGERAC and the Commonwealth continue as Chair, with the Chair's position to be reviewed once the STTM commences in June 2010. AEMO taking over the secretariat role will allow NGERAC to take advantage of AEMO's access to market information and be more quickly informed. ESWG agrees with APPEA and Origin's comments that it is important for NGERAC to maintain its industry, jurisdiction and consumer representation to remain effective.

ESWG agrees with EnergyAustralia's proposal for the need for coordination of pipeline and production facility maintenance but does not agree that NGERAC is the body to do this. ESWG recommends consideration is given to the benefits of improved coordination of gas pipeline and infrastructure maintenance by the industry should AEMO develop and publish a gas PASA (projected assessment of system adequacy) on the gas Bulletin Board.

ESWG agrees with MEU's comment that NGERAC's role be expanded to include advising Ministers on the possible effects of gas emergencies on jurisdiction electricity supplies. ESWG notes NGERAC already informally performs this role, with NEM operator AEMO being a member of NGERAC and some of NGERAC's emergency exercises involving electricity. ESWG recommends formalising this role in NGERAC's MOU.

Further to MEU's comments, ESWG considers NGERAC's role of providing advice in inter-jurisdiction emergencies is clearly defined.

For more detail on the recommendations regarding NGERAC, see Section 9: ESWG recommendations and conclusions.

7.0 COMMUNICATION OF PRE-EMERGENCY INFORMATION AND THE INTERACTION OF GAS AND ELECTRICITY

7.1 Previous Arrangements

Before the creation of AEMO, in Victoria, NEMMCO and VENCORP entered into communication arrangements to ensure both parties were informed on conditions where the availability of gas or electricity could have an impact on each other. Operational discussions and exchange of information may be required from time to time to manage the Victorian gas system and market and the NEM.

If the electricity reserve levels for the Victorian region fell below a predetermined level then NEMMCO initiated discussions with VENCORP. Similarly, if VENCORP detected threats to the gas supply in Victoria they initiated discussions with NEMMCO. Commercial details of individual plants were not communicated. The Electricity Supply Industry Planning Council (ESIPC) also generally advised NEMMCO of potential gas supply issues in South Australia.

Electricity availability was transparent as NEMMCO published information on its website and sent information directly to NEM participants. The information detailed electricity reserve levels on a daily basis out for the next two years together with short term advice by way of market notices of short term reserve shortfalls. Energy limitations were modelled in the quarterly drought studies. These will soon be replaced by routine Energy Adequacy Assessment Projections. These energy studies require generation companies to advise of their energy capabilities, which would include any gas fuel limitations. The results also provide generators with a projection of their longer term generation duty and fuel needs.

7.2 AEMO Arrangements

AEMO has access to information that was previously held by ESIPC, NEMMCO, GMC, REMCO and VENCORP, plus additional information provided for the Gas Statement of Opportunities, the National Gas Market Bulletin Board and the gas STTM in NSW and SA, that could pre-empt and/or enable preparedness for an emergency. Possible scenarios include:

- What appears to be a local jurisdiction issue, such as an impending gas shortage, may in fact have a major effect in another jurisdiction in a different area of energy, such as reduced gas fired electricity generation capacity. For example, a failure at the Longford gas production facility in Victoria could cause a gas shortage and resulting electricity shortage in Tasmania.
- Existence of conditions that could lead to electricity reserve shortfalls in the NEM such as a hot weather forecast and significant generation capacity off line (e.g. NSW on 31 October 2008), which could lead to a need for increased operation of gas-fired generation.

It is anticipated AEMO would put in place arrangements to ensure aggregated technical capability information, as distinct to confidential market information, is available to ensure inter-related gas/electricity emergencies can be effectively coordinated. Protocols should be developed such that information is also available to the respective markets to give the greatest opportunity for the markets to respond.

By providing aggregated information generally available to market participants, commercial information is not communicated between the respective markets but the physical system operators can be alert to any inter-related issues.

7.3 Stakeholder comments

Cross electricity and gas emergency arrangements and coordination

Jemena, MEU, Origin and Transend commented that AEMO's creation is an opportunity to address the growing interdependency of gas and electricity and effective coordination of an emergency across gas and electricity markets. Origin noted the legislative framework may need to be amended to allow AEMO to effectively coordinate emergencies across gas and electricity markets.

ESWG response:

ESWG notes that outside of the Victorian PTS, AEMO does not operate gas pipelines and so is not in the position to coordinate gas emergencies like it is with electricity. ESWG recommends AEMO assume NGERAC's secretariat role and formalising its participation in NGERAC in providing consistent advice to Ministers on the potential effects of a gas emergency on electricity (discussed in more detail in Section 6.4 and Section 9: ESWG recommendations and conclusions). ESWG is of the view that these recommendations and AEMO's central role in electricity emergency management will enable AEMO to effectively manage electricity emergencies while being central in providing advice to manage gas emergencies.

Emergency planning and preparation

A number of stakeholders raised issues regarding emergency planning and preparation. Jemena, MEU and Transend said AEMO should run regular emergency exercises and generally do preparatory work for emergencies to develop effective communications, develop familiarity with people and procedures, educate stakeholders of their responsibilities and test and improve processes. MEU added that the growing interconnection of gas and electricity means AEMO should be planning for increased frequency of gas and electricity supply incidents.

ESWG response:

ESWG agrees with stakeholder comments regarding preparing for cross gas/electricity emergencies, noting both NGERAC and AEMO (as NEMMCO) have run emergency exercises involving the interaction of gas and electricity and will continue to do so. ESWG recommends further consideration of preparation for these types of emergencies and in particular involving all industry participants in emergency exercises (see Section 9: ESWG's recommendations and conclusions).

Other Issues:

Transend said AEMO should consider what additional assistance TNSPs could provide with coordination and communication at the jurisdictional level in relation to gas issues affecting electricity generation.

Further to its comments on electricity and gas load shedding, MEU said AEMO should keep large gas consumers fully informed of the progress of an electricity emergency, as these users will be the first to be curtailed when gas load shedding occurs.

Potential conflict between supply security and commercial priorities

Jemena raised the issue that, with the establishment of AEMO, there will be a risk that the priorities for commercial operation of the electricity market and security of supply may not always be complementary. It said AEMO should consider how it can demonstrate to network operators that the priorities for emergency management will not be compromised as incidents escalate.

Jemena said this issue and the potential for confusion in roles and responsibilities within AEMO may also extend to planning, with a possibility that long-term system planning of networks could be

influenced by market operation rather than the over-riding requirements for safety and security of supply.

ESWG response:

ESWG is not of the view that the creation of AEMO gives rise to a conflict of commercial and system security priorities, noting that if there is such a risk it would have existed with NEMMCO and AEMO is not responsible for security of gas supply except in Victoria. Likewise, with long term system planning, any such concerns would have already existed with NEMMCO and, with the exception of Victoria, AEMO does not have a role in gas planning. ESWG's recommendations acknowledge that AEMO may be well placed to provide information on planned investments but will not be a part of the process for gas market planning decisions.

Other issues

Jemena also commented that the introduction of AEMO provides an opportunity to co-ordinate planned outages of both electric and gas transmission network elements and mitigate risks of interdependencies, which is particularly relevant for gas supplied generation during peak electricity or gas demand periods and particularly acute in the southern states.

MEU suggested a visual signal on NEMMCO's website to indicate the expected future status of electricity supply, as the National Gas Market Bulletin Board does with gas supply, and to highlight the currently provided timing and duration of expected outages of transmission assets would be beneficial for consumers. It noted gas use for power generation is expected to increase in the future and therefore AEMO should monitor daily the impact of gas supplies on electricity supplies and communicate any potential shortages in supply.

ESWG response:

ESWG agrees with Jemena's comment on the need to coordinate planned outages of both electricity and gas infrastructure but notes AEMO does not operate pipelines outside of Victoria. With this in mind, ESWG recommends consideration is given to the coordination of gas pipeline and infrastructure maintenance by the industry which may be informed by AEMO publishing a gas PASA on the gas Bulletin Board. This recommendation is discussed further in Section 9: ESWG's recommendations and conclusions. ESWG notes that, with regard to any possible effects of gas shortages on electricity generation, any planned gas outages should be reflected by gas generators in the electricity short and medium term PASAs.

In regard to MEU's feedback, ESWG recommends consideration of consolidating gas and electricity network status and emergency information on one webpage for central communication (see Section 9: ESWG's recommendations and conclusions). ESWG notes there is already substantial electricity information on AEMO's website including 5 minute prices and demands, projections of power system reserves by region, market notices that advise of projected reserve shortfalls, actual reserve shortfalls and system incidents.

8.0 AEMO'S INTERFACE WITH LIQUID FUELS EMERGENCY ARRANGEMENTS

The NEM is largely reliant on coal and natural gas for generation, however it is possible that certain extraordinary events can increase reliance on liquid fuels as an input to generation. The 3 June 2008 Varanus Island incident in WA highlighted that gas-fired generators and industrial users switched, where it was possible, from gas to liquid fuels and coal. This incident highlights that an unexpected increase in demand for liquid fuels resulting from a supply disruption affecting the NEM could put stress on the supply of liquid fuels. Therefore, AEMO will need to consider how it interacts with the National Oil Supplies Emergency Committee to provide updates on electricity market conditions that may affect Australia's supply of liquid fuels.

8.1 The National Oil Supplies Emergency Committee (NOSEC)

NOSEC is the body responsible for developing emergency response arrangements and monitoring fuel supply situations. NOSEC is an MCE working group and comprises representatives from all levels of government and industry. The Inter-Governmental Agreement in Relation to a National Liquid Fuel Emergency sets out the roles and responsibilities of the Commonwealth and States in managing an emergency. On 19 September 2008 the Hon Martin Ferguson AM, Commonwealth Minister for Resources and Energy, signed the Liquid Fuel Emergency Guidelines 2008 and the Liquid Fuel Emergency (Activities - Essential Users) Determination 2008 (the Determination) and these have now been lodged on the Federal Register of Legislative Instruments. The Determination reflects the agreement of NOSEC that, for the purpose of a liquid fuel emergency, those activities undertaken by police, corrective services, fire and rescue, ambulance, state emergency services, public transport and taxis are entitled to receive priority access to petroleum products.

The Commonwealth Minister has the power to make determinations in real time as needed. The Guidelines and Determination have been signed by the Minister and are now law. The amended Liquid Fuel Emergency Act 1984 (the Act) came into effect on 21 December 2007. The Act may be found at:

<http://www.comlaw.gov.au/ComLaw/Legislation/Act1.nsf/asmade/bytitle/ADE571FE3039FD58CA256F7200158D10?OpenDocument>

The Liquid Fuel Emergency (Activities – Essential Users) Determination 2008 has been prepared in accordance with the Act and the above Guidelines (Section 11). The Liquid Fuel Emergency Guidelines can be found at:

<http://www.frli.gov.au/ComLaw/legislation/legislativeinstrument1.nsf/sh/browse&CATEGORRY=legislativeinstrument>

8.2 Stakeholder comments

Jemena said the main issues at the transmission level of gas and electricity networks are primarily focussed on the liquid fuel requirements for generators, including backup generators and compressors in gas transmission networks.

MEU notes that there are a number of oil-fired power stations operating in the NEM, as well as a number of power stations that can operate on oil as well as gas, and recognises that security of the power system is dependent on both the supply of gas and of oil. MEU states the ability of some consumers to respond to shortages of gas and electricity can be dependent on their ability to change between their normal supply arrangements and oil, and if oil is in short supply then the ability of some consumers to support the gas and electricity security arrangements by load shedding could

well be compromised. With these points in the mind, MEU recommends that AEMO have regard to supply issues facing the oil industry as much as it does the gas industry.

Transend notes a TNSP business relies on liquid fuels for transport and this is particularly important during power system events when it needs to mobilise field response staff to ensure public safety and restoration of supply.

ESWG response:

ESWG agrees there is a role for AEMO to be aware of the cross-fuel interdependencies in the National Energy Market – see Section 9 – ESWG’s recommendation and conclusions.

9.0 ESWG'S RECOMMENDATIONS AND CONCLUSIONS

9.1 Continuity of emergency management with the transition to AEMO

As part of its review of jurisdiction emergency arrangements for this report the ESWG considered the continuity in emergency management arrangements with the creation of AEMO and agreed that, beyond mapping existing jurisdiction emergency arrangements to the new institution, no issues of concern or difficulties in transitioning from market operators GMC, NEMMCO, REMCo and VENCORP, to AEMO were identified or expected.

Recommendation 1: ESWG recommends consideration be given to government and industry working together to understand that investment opportunities in the energy sector are realised in a timely fashion to better manage potential longer term supply shortfalls.

9.2 Expanding AEMO's role

ESWG notes AEMO has important information gathering and modelling functions. Consideration should be given to amending the Gas Bulletin Board rules to enable AEMO to gather more information for effective modelling and information provision for gas, noting that this may require the aggregation of data to ensure commercial information is adequately protected.

Further, consideration should also be given to AEMO developing a gas PASA (projected assessment of system adequacy) to be published on the gas Bulletin Board covering the jurisdictions of New South Wales, Victoria, Queensland and South Australia. As with electricity, the gas PASA could, for example, provide up to a 24 month projection of planned gas outages and expected pipeline and production capacities, using aggregated information so as to not identify individuals. In order for AEMO to develop a gas PASA in line with that available for the electricity sector, amendments to the NGL/ NGR to require the gas industry to provide the required information are needed. Also required is a Gas Reliability Standard, up-to-date information on supply and up-to-date information on network capability and demand forecasts, which may require additional rules and powers to be given to AEMO to collect this information. Other considerations include how regularly the gas PASA would be updated and the frequency of modelling.

These initiatives would allow AEMO to improve the information it provides market participants and enable them to make better decisions. ESWG notes AEMO is well placed to gather and provide this information for gas. An interim solution is for AEMO to produce estimates of projected available capacity and projected peak demand requirements by pipeline based on the information provided for the Bulletin Board and forecasts developed for the Gas Statement of Opportunities. However, this may not reflect the true operational limitations of the gas infrastructure, as AEMO does not operate all pipelines. This would not be directly comparable to the electricity PASA, as it would be a comparison of projected capacity and projected demand. This approach would also require additional resources for AEMO, and is likely to require additional consultation with industry to develop (possibly through GMLG).

ESWG recognises the need for coordination of planned outages of gas and electricity infrastructure for maintenance and notes that, with the exception of the Victorian PTS, AEMO has no gas network coordination powers and no authority to direct maintenance. Improving AEMO's provision of information, through a gas PASA published on the gas Bulletin Board, would assist gas market participants in planning their maintenance.

ESWG recognises the synergies between gas and electricity provided by AEMO and is of the view that AEMO should have a much stronger role in the provision of information on gas supply

reliability across the jurisdictions of New South Wales, Victoria, Queensland and South Australia. Consideration should be given to AEMO establishing common webpages that link key gas Bulletin Board information with NEM data, to improve the consistency and transparency of gas and electricity information.

Recommendation 2.1: ESWG recommends consideration be given to expanding the role of AEMO in providing market information on gas by:

- amending the Gas Bulletin Board rules, if required, to enable AEMO to gather more information for effective modelling and information provision for gas, noting that this may require additional assurances on how commercially-sensitive data will be used and protected
- assessing the viability of a gas PASA (projected assessment of system adequacy), noting this may require changes to the National Gas Rules and National Gas Law.

Recommendation 2.2: ESWG recommends reviewing AEMO's Gas Bulletin Board (GBB) to ensure it is effectively communicating all publicly available information to market participants to assist in monitoring daily gas supplies, and any changes to the GBB rules required to improve information and awareness of any potential shortages that will assist the market to make the necessary investments and/or adjustments in maintenance.

Recommendation 2.3: ESWG recommends consideration be given to consolidating gas and electricity network status and emergency information on one webpage for central communication.

9.3 NGERAC

AEMO's roles as operator of the NEM, Victorian gas market and Principal Transmission System, and future operator of the Adelaide and Sydney STTM hubs, give it direct access to market information which would enable it to more quickly inform NGERAC and respond to information requests than under the current NGERAC arrangements. ESWG also notes AEMO (and previously VENCORP and GMC which are now part of AEMO) provides analytical and modelling services to NGERAC and these would effectively move in-house should AEMO take on the secretariat role. NGERAC's MOU would need to be amended to permit AEMO to undertake the secretariat role.

If AEMO is to assume greater responsibility for NGERAC, ESWG notes that NGERAC's on-going funding could be sourced from the market via an AEMO fee and considers this a reasonable arrangement, given the increasing interconnectedness between the gas and electricity markets also exposes market participants to the risks of both markets, and would benefit from the advice of NGERAC. As NGERAC's annual costs are approximately \$150,000 per year, ESWG is of the view that absorbing any additional fee will have a minimal impact and, considering the relatively small amount of money involved, AEMO's funding for NGERAC could apply to all market participants, rather than just the gas market.

ESWG notes NGERAC already informally advises Ministers on the possible effects of gas emergencies on electricity supplies.

Recommendation 3.1: ESWG recommends consideration be given to leveraging AEMO's expanded responsibilities in gas markets by undertaking the role of the NGERAC Secretariat while the Commonwealth continues as Chair, with the Chair's position to be reviewed once the short term trading market (STTM) commences in June 2010. ESWG also recommends that the review be undertaken by NGERAC jurisdictional members.

Recommendation 3.2: ESWG recommends NGERAC maintain its industry, jurisdiction and consumer representation noting the importance of input from each of these groups in developing its advice.

Recommendation 3.3: ESWG recommends investigation of options to fund NGERAC's on-going activities including through AEMO's funding model.

Recommendation 3.4: ESWG notes NGERAC already informally advises ministers on the possible effects of gas emergencies on electricity supplies. ESWG recommends formalising this role by acknowledging it in NGERAC's MOU. ESWG also recommends an editorial review of NGERAC's MOU to ensure accuracy and consistency.

9.4 Management of electricity and gas emergency and pre-emergency information

The review of jurisdiction energy emergency arrangements conducted as part of this report (see appendices 3, 4 and 5) and stakeholder comments have highlighted significant variations between jurisdictions. ESWG notes consistent emergency arrangements would simplify communication for energy companies operating across jurisdictions to the benefit of all parties. While there are opportunities to create more consistent communication processes, the structure of the electricity and gas industries differs between jurisdictions, and emergency communication processes will need to take into account these differences.

AEMO creates an opportunity to have a central point for communication with the media in energy emergencies. Consideration should be given to AEMO taking on first response spokesperson role for both gas and electricity, noting that AEMO has clear responsibility for the bulk supply of electricity as outlined in the Power System Emergency Management Plan and for the Victorian wholesale gas market. For multi-jurisdiction gas supply emergencies, any AEMO spokesperson role would be to reflect NGERAC's advice.

For other energy supply emergencies there may be multiple industry participants who are affected, and no single spokesperson from whom the community and media can obtain information. This can create confusion about what is happening and how an emergency is being managed, which can in turn lead to a perception that response to the emergency is inadequate. Situations where this problem can arise need to be identified and protocols put in place so that it is clear when AEMO will take on the spokesperson role and what it can say. Additionally, even where AEMO takes on a spokesperson role for the industry, it is recognised that other industry participants will want and/or need to make public comment about what is happening in respect to their assets.

Recommendation 4.1: ESWG recommends consideration of a review of communication protocols with the aim of achieving high level policy consistency of communication across jurisdictions to the maximum extent possible.

Recommendation 4.2: ESWG recommends consideration be given to the spokesperson role AEMO can undertake during an electricity and/or gas supply shortfall in its covered markets and relevant jurisdictional emergencies, noting that AEMO has clear responsibility for the bulk supply of electricity as outlined in the Power System Emergency Management Plan and the Victorian wholesale gas market, and that for multi-jurisdiction gas supply emergencies, any AEMO spokesperson role would be to reflect NGERAC's advice.

ESWG notes that in assuming NEMMCO and Vencorp's functions, AEMO will conduct exercises to test responses to both electricity and gas supply issues.

9.5 Load shedding

ESWG acknowledges the primary aim of load shedding is to maintain system security. It notes load shedding is driven by network and jurisdiction priorities and the range of circumstances and often very short response times means making load shedding information public is not feasible. However, ESWG notes there is scope for educating industry and the public on how loading shedding works. Further consideration should be given to how this might be achieved.

Recommendation 5: ESWG recommends that as far as reasonably practical, arrangements for load shedding be as transparent as possible to give consumers confidence in the process.

9.6 Commercial arrangements and emergency management

Noting stakeholder concerns regarding existing commercial arrangements and emergency management, ESWG is of the view that existing and future contracts and the impending introduction of the STTM will be the primary mechanism for addressing future supply shortfalls.

Recommendation 6: ESWG notes that existing and future contracts and the impending introduction of the STTM will be the primary mechanisms for addressing future gas supply shortfalls.

9.7 Liquid fuels

ESWG recognises the link between the liquid fuels and gas and electricity sectors and the importance of NOSEC and the energy sector being aware of each other's processes. Consideration should be given to how to ensure good communication and flow of information between the liquid fuels and energy sectors.

Recommendation 7: ESWG recommends consideration of how to ensure good communication and flow of information between the liquid fuels and other energy sectors. One approach that may be considered is that:

- AEMO continues current arrangements by providing information for managing a liquid fuels emergency to the National Oil Supplies Emergency Committee (a subgroup of MCE), specifically in consideration of the impact of a liquid fuel emergency and liquid fuel requirements for backup generators and compressors on gas transmission pipelines; and understanding the requirements of oil-powered generators and fuel switching by dual-fuel generators in an oil or gas supply emergency.

Appendix 1 - The ESWG's Terms of Reference

The main focus of the Working Group is to advise the Australian Energy Market Operator (AEMO) Implementation Steering Committee (ISC) within six months on an appropriate structure for electricity and gas emergency management with consideration given to:

- A review of current arrangements to manage electricity and gas emergency responses, and the appropriate role for AEMO in managing emergencies;
- The consistency and the degree of inter-linkage between the different national emergency response mechanisms and scope for harmonisation and simplification of the electricity and gas emergency response protocols;
- An assessment of the likely benefits of a common approach to national emergencies;
- The adequacy of information provided to industry and governments from current emergency response procedures;
- The effectiveness of current arrangements to facilitate communication, coordination and data sharing between the different national emergency bodies; and
- Potential synergies between electricity and gas emergency management, and linkages to those for liquid fuels.

Subsequently the Working Group is to advise SCO on the MCE's potential role in energy emergency management, including:

- The circumstances which might qualify as a "national" energy emergency;
- The appropriateness of powers currently available to the MCE in its own right or through its member Ministers to deal with emergency situations;
- The potential role for MCE in coordination of responses to national energy emergencies;
- The adequacy of information flows to the MCE to inform decision making in emergencies; and
- Actions which the MCE might take to assist management of energy emergencies."

The MCE SCO notes the importance of the ESWG engaging with industry in undertaking this review. In particular, the ESWG is to consult with groups relevant to managing of emergency arrangements including: National Gas Emergency Response Advisory Committee (*NGERAC*); National Oil Supplies Emergency Committee (*NOSEC*); Gas Market Leaders Group (*GMLG*); Responsible Officers/Transmission Network Service Providers (*TNSP*).

The ESWG is to have regard to the views and advice of stakeholders in preparing its findings.

Appendix 2 – Summary of stakeholder submissions

The following table summarises the key points of stakeholder submissions. The text in the table is quoted directly from the submissions unless indicated otherwise. The full submissions are available on the MCE's website at: <http://www.ret.gov.au/Documents/mce/security/eswg.html>

For the purposes of compiling this summary, the ESWG has placed stakeholder comments not specifically addressing a section or question in the discussion paper, under what it considers to be the most relevant heading.

Responses were received from:

- Australian Petroleum Production and Exploration Association (APPEA)
- Energy Retailers Association of Australia Ltd (ERAA)
- EnergyAustralia
- Jemena Gas Networks (NSW) Ltd (JGN)
- Jemena Ltd (Jemena)
- Major Energy Users Inc (MEU)
- Origin Energy (Origin)
- SP AusNet
- Transend Networks Pty Ltd (Transend)

RESPONDENT	Key points of response
	<p>2.1 Current Approach to the Use of Emergency Powers</p> <ul style="list-style-type: none"> • Are these principles and approaches appropriate and sufficient?
APPEA	<p>The sanctity of contracts must be a foundation principle. Governments and industry must work together to ensure that the appropriate contractual provisions are put in place to manage supply shortfall. In the event of government intervention, compensation arrangements must be in place.</p> <p>Government intervention is clearly a matter of last resort. APPEA endorses the discussion paper position that “The general approach to jurisdictional arrangements for both gas and electricity is that, where possible, market forces are given every opportunity to resolve an emergency and government intervention is exercise as a last resort”.</p> <p>The APPEA endorses the position set out in the discussion paper that “Government arrangements to management energy emergencies should be transparent and good communication between government, market participants, stakeholders and the public is critical for effective management of an energy emergency.</p> <p>APPEA understands the need of government to received timely and accurate data throughout the gas chain at the time of an emergency. APPEA believes the arrangements established through the NGRERAC and the National Gas Market Bulletin Board and proposed for the Short Term Trading Market provide the information procedures and requirements necessary for the management of emergency arrangements.</p> <p>Given the growing linkages between states in the gas market, most notably between New South Wales, Victoria and South Australia, it is essential for state governments to act in the interest of the market as a whole without putting the needs of any one state as paramount to the needs of another.</p>
EnergyAustralia	<p>National Gas emergency arrangements must recognise the role of existing markets, including the STTM.</p> <p>It is observed the discussion paper makes minimal reference to the role of the STTM in addressing supply shortage situations. While we acknowledge the STTM has yet to be implemented and its rules formally established, for completeness, and to minimise inconsistencies and avoid duplications, the review of nation emergency arrangements should recognise the instruments and procedures being established under the STTM to deal with potential gas shortage situations.</p> <p>A key element of the STTM is the “Contingency Gas” mechanism...While the use of this mechanism ie expected to occur prior to any Minister or Governor declared states of supply emergency, it should nevertheless be recognised as a key step in the process taken to deal with supply emergencies. This is to ensure that the Contingency Gas mechanism is allowed to operate prior to any Minister or Governor declaring a state of supply emergency.</p>
ERAA	<p>The ERAA is supportive of the principle that, wherever possible, market forces should be given every opportunity to resolve an emergency and that government intervention should be exercised as a last resort. The ERAA is also supportive of a consistent approach across jurisdictions to manage emergency situations and maintains that it is desirable for jurisdictions to work together during emergency situations to ensure a safe, fair and equitable outcome for customers and market participants alike.</p>
Jemena	<p>Generally the existing principles and approaches described by the ESWG are acceptable in all jurisdictions. However, Jemena notes two specific weaknesses in the current approach to use of emergency powers:</p> <ul style="list-style-type: none"> • Commercial Perspectives. The commercial perspectives of market participants and asset owners may not be adequately recognised or compensated during emergencies. Market forces should give rise to adequate management of emergencies, and where government intervention is necessary, procedures agreed between the market operator and market participants should be utilised. However, if such procedures don’t exist or inadequately deal with the commercial dynamics in market operation, there remains a potential for delayed or inadequate response and intervention by government.

	<ul style="list-style-type: none"> Gas Distribution Storage Capacity. There is no operator storage capacity for distribution in NSW. If market parameters do not operate in sufficient time or provide sufficient warning, load shedding or rationing may not be adequate to support the distribution system. In these instances, network shutdowns are the only contingency. This risk is most acute in NSW and does not seem to be fully appreciated by the ESWG paper.
JGN	<p>JGN notes that, among the wide reaching and significant changes that the gas market is experiencing under the energy market reform agenda, clear accountabilities for two essential market outcomes have not yet been addressed:</p> <ol style="list-style-type: none"> 1. Security of gas supply for major retail market centres 2. Management of gas quality
MEU	<p>In general, the following basic principles for managing energy emergencies are sound and appropriate:</p> <ul style="list-style-type: none"> Load shedding and curtailment procedures are only triggered in accordance with market mechanisms and procedures agreed between a market operator and market participants. Government arrangements to manage emergencies are transparent and there are good communications between government and stakeholders including major energy users. <p>Two additional principles need to be added to these two basic principles:</p> <ol style="list-style-type: none"> 1. That there must be equity introduced into allocation of energy (either by the provision of the energy such as rolling blackouts or by payment of compensation) when there is load shedding, and 2. There must be a commitment to ensuring all stakeholders be included in the decision making process, especially involving those stakeholders who are most likely to be commercially impacted by any decision. <p>Whilst principles and approaches may have prominence, commitment to achieving an equitable outcome is equally important. All stakeholders have to be included in reaching a decision on future arrangements.</p> <p>As loss of power and/or gas can cause significant damage to consumers, accountability, especially when commercial losses are incurred, must be paramount.</p>
Origin	<p>Origin is supportive of the proposed general principle in managing energy emergencies, whereby market forces are given sufficient opportunity to resolved emergency issues prior to any government intervention. This approach is likely to result in less distortionary outcomes and offer a greater level of certainty to market participants.</p>
SP AusNet	<p>From Submission: In relation to current approach to the use of Emergency Powers, we believe that these principles are appropriate & sufficient.</p> <p>We feel that an education program/campaign would be advantageous in relation to the importance of the assets & their function, e.g. CFA [Country Fire Authority] using the easements as front line fire fighting & the potential danger that this type of action may have.</p> <p>We also feel that an education program/campaign would be advantageous in regards to a process that is in place in Victoria that pertains to when we have persons climbing on the assets (towers etc). In terms of communication, we feel that for events such as storms & bushfires, we normally get advance warning, however it is the events such as persons climbing on towers, explosions etc that we feel more work can be done in terms of improving the real time response.</p>
Transend	<p>The priorities of ensuring public order, safety and the operation of community services appear to be appropriate. Experience gained in the operation of the NEM supports the concept of government intervention as a last resort. Have experienced difficulties at time(s) implementing load shedding there needs to be sufficient flexibility in emergency plans and guidelines to enable NEMMCO and system operators to make the decisions they need to, within what can often be reasonably tight timeframes.</p>

RESPONDENT	Key points of response
	<p>3.0 Government intervention and the broader effects of energy supply incidents</p> <ul style="list-style-type: none"> • In dealing with the broader effects of an energy supply disruption, are current arrangements for communication and coordination with emergency services well designed and executed? How can they be improved? • Are roles and responsibilities clearly defined for incident types where government involvement may or may not occur? If not, how can any uncertainty be addressed?
Jemena	<p>The current arrangements for communication and coordination with emergency services vary between jurisdictions and energy.</p> <p>For example, each state has a different set of arrangements for interfaces to peak emergency management response organisations. This variation makes it difficult for an asset owner operating across jurisdictional boundaries to implement common approaches to emergency response. Instead, organisations like Jemena must have different approaches for each of the energy classes and the states each asset is operated in.</p> <p>NSW, WA and more recently SA have employed processes for the specific management of utilities and a government sponsored collective interface into state emergency response arrangements.</p> <p>The Victorian experiences of the heatwave events in January and February 2009 demonstrated a marked improvement on previous experiences. However, there is still a significant opportunity to leverage the protocols from NSW and SA into VIC.</p> <p>Harmonisation of communication and coordination arrangements within and across jurisdictions should be a goal for ESWG.</p> <p>Roles and responsibilities for government intervention are not clearly defined in a format, agreed between emergency management agencies in all jurisdictions. A set of common guidelines for utility interfaces to all jurisdictional Emergency Response (ER) processes would be an invaluable tool for energy companies.</p>
MEU	<p>The MEU considers that the following developments will influence energy markets very significantly:</p> <ul style="list-style-type: none"> • The harmonisation of gas and electricity markets • The Federal Government’s intervention in energy markets through the introduction of CPRS and RET. <p>The above developments will lead to:</p> <ul style="list-style-type: none"> • A greater use of gas for electricity generation, for example, the building of more gas peaking electricity generation capacity. • A greater need for fast start gas peaking capacity to support the increased use of intermittent renewable energy, such as wind and solar power. <p>Arising from the above, a single gas incident may have huge implications for both gas and electricity markets. Moreover, the MEU expects greater volatility in energy markets, greater incidence of network constraints, and more arbitrage activities by energy suppliers, which would add to greater stress on the reliability of energy networks.</p> <p>Arrangements for communications and coordination would need to be able to sustain:</p> <ul style="list-style-type: none"> • More frequent incidents • Multiple incidents in either electricity or gas, or in both energy sources. <p>As a result, there is a greater need for careful and transparent communication with regard to energy supply emergencies. In this regard, it must be recognised that it is energy consumers who are most affected by an energy supply shortage. Whilst some energy market participants might be impacted, none are impacted to the extent consumers are, whether the consumer is a domestic user or an industrial user</p>

	<p>Currently, in the case of electricity supply, NEMMCO provides information to “<i>Market Participants</i>”. The overwhelming majority of electricity consumers are not Market Participants as defined, yet the bulk of the communications initiated by NEMMCO is to Market Participants. By and large, consumers are expected to seek information for themselves by contacting their retailers or perhaps network service providers when their electricity supply suddenly ceases. Whilst there are schedules for constraining electricity supplies in an emergency, few consumers either know about them or even how they have been developed. Certainly, the decisions made while developing them did not involve consumers either in how they are developed or how they are to be applied.</p> <p>In the case of gas emergencies, only large consumers are advised to reduce or cease gas demand. Except in very exceptional circumstances (such as the fire at Longford in 1998) are small gas consumers ever constrained from using gas. Despite this inequitable decision to require large gas consumers to always be load shed when there is a gas emergency, there has been no attempt to provide any compensation for always being the first to be load shed. Further, despite always being first in the schedules for being load shed, large consumers have little or no say in where they are prioritised. Many large gas consumers need to retain some gas to maintain the safety and security of their assets, yet it is required by the developers of the load shedding schedules that the consumer must make contact with them to ensure that some gas is permitted to be used to allow operations to be carefully ramped down to protect the assets.</p> <p>Effectively, the load shedding schedules have been developed by governments in isolation with little or no consultation with those most affected (and this has been most clearly seen in recent times, in NSW). Once developed, the schedules are communicated by governments to the market participants and market operators, and then applied by these parties. Contact with the consumers who are most likely to be load shed (and where they each sit within the priority listings in the schedules) is very seldom shared with those consumers most likely to be affected, if at all.</p>
Transend	<p>Presently Transend liaises with emergency services as NEMMCO’s agent under an agreement for Transend’s provision of operational services to NEMMCO. This arrangement is satisfactory but could be improved if this responsibility were assigned directly to the TNSP and not reliant on an agreement between the parties. It is important these procedures are regularly exercised to ensure compliance under the stresses of an emergency event. NEMMCO conducts annual emergency management exercises which have assisted in educating NEMMCO, JSSC’s and RO’s on their responsibilities and tested processes. Exercises of this nature are significant contributors to maintaining the understanding and agreements required during an emergency event.</p>

RESPONDENT	Key points of response
	<p>4.1 Role of AEMO in co-ordination of Electricity Emergencies</p> <ul style="list-style-type: none"> • Are current arrangements for communication and coordination in electricity emergencies well designed and executed? How can they be improved? • Are market participants provided with enough and sufficient information about incidents? If not, what information is required? • With the establishment of AEMO, are there other changes to emergency management roles, functions and responsibilities that could be considered to improve responses to, and management of, electricity emergencies?
Jemena	<p>The Responsible Officer and JSSC roles provide a reasonable level of communication transfer.</p> <p>The dynamics of an electricity supply shortfall event typically result in a level of uncertainty for an initial period, until adequate situational awareness is developed by the incident managers and other stakeholders. At times, the level of detail requested by government and emergency response agencies to assist with their near-term, state based emergency response planning is not available from incident managers. Information might be required by the AEMO on outage lengths, restoration plans, and customer</p>

	<p>numbers. The short-term information constraint often impedes good communication between all electricity agencies concerned with an escalating incident. One opportunity for improving the communication flow in the event of electricity emergencies is to do pre-work on the working relationships between the various agencies. Familiarity with the people, procedures and the correct response actions is an excellent basis for effective communication during an emergency. This can be readily achieved through regular contact and joint exercises, coordinated through the AEMO.</p> <p>The information requirements for market participants vary according to the type of incident. Generally, and through open lines of communication, there is good exchange of information related to an incident. The availability of the information may be constrained by the type of event and the period over which it extends. The AEMO may wish to consider establishing protocols based on scenarios that enable deliver and exchange of the minimum information required by market participants. The priorities described by the ESG for emergency management by the AEMO (human life, trauma, system safety, security of supply, environment, and property) should be reiterated in communications between market participants as incidents escalate.</p> <p>In principle, the AEMO role enables the provision of a consistent and centralised flow of communication and advice across jurisdictions. The difficulty arising from the AEMO role is the organisation’s capacity to ensure that advice to stakeholders, including Minister’s and their departments, is acted on in a timely and responsive way. This extends to the escalation of emergencies through the proposed ER levels to the point that Ministerial action is taken to implement emergency powers. There does not appear to be adequate structure associated with the escalation process.</p> <p>With the establishment of the AEMO, there will be a risk that the priorities for commercial operation of the electricity market and security of supply may not always be complimentary. AEMO should consider how it can demonstrate to network operators that the priorities for emergency management cannot be compromised as incidents escalate.</p> <p>The potential for confusion in roles and responsibilities within AEMO may also extend to planning. There is a possibility that long-term system planning of networks could be influenced by market operation rather than the over-riding requirements for safety and security of supply. AEMO should consider the role of the AER in the context of emergency response.</p>
Origin	<p>Origin’s preference is for emergency issues to be resolved via the market. We therefore consider market interventionist mechanism such as the Reliability Emergency Reserve Trader to be distortionary and would be wary of any attempts to broaden its scope. The most efficient way in resolving any short term reliability issues is likely to be through demand side measures.</p>
MEU	<p>The ESG has effectively decided that the current NEMMCO processes for emergency management are acceptable. The MEU does not agree.</p> <p>A review of the NEMMCO website shows there is not clear advice to consumers as to who will be impacted by load shedding or for how long. All that is provided are statements that load shedding will be carried out by distribution businesses on a rotational basis. Finding even this out requires some digging into the NEMMCO website. What AEMO could do is to make the NEMMCO website much more user friendly and transparent. One of the key aspects should be to highlight aspects about emergencies when they occur, such as applies on the gas bulletin board.</p> <p>There are a number of other issues that should be considered by the ESG in assessing the current NEMMCO approach to management of emergencies:</p> <ol style="list-style-type: none"> 1. The MEU considers that AEMO should be planning for possible eventualities involving more frequent, and possibly multiple electricity and gas supply incidents. Therefore, there is a greater degree of inter-relationship that must be addressed in the future. 2. Consumers are naturally concerned about the loss of power. As noted earlier, the concentration of activity is on NEMMCO advising Market Participants of the need to load shed, but it is not Market Participants that are impacted by load shedding but consumers. As a result there is a need to better advise consumers of the need for load shedding, rather than relying on the Market Participants to further disseminate NEMMCO decisions. <p>With the current improvements and ease in communications (such as email, texting and websites), it is much easier to more widely broadcast information. For</p>

	<p>example, it would be relatively easy for AEMO to seek feedback from interested parties as to whether they would like to be included in advices as to load shedding in those areas where consumers who have identified a desire to be informed, are located. Such advice could be by automatically generated email which would provide information as to the expected duration of the outage and if the outage is part of a program of rolling outages, when the next outage might be expected.</p> <p>Another approach should be to ensure the AEMO website readily identifies outages and provide information on them. Under the current arrangements, it is necessary to search the NEMMCO website to find such information. A way of achieving this would be to highlight on the AEMO webpage clear and easy directions to seek information on outages. Such a location could be expanded to include details of individual network outages as well as system outages.</p> <ol style="list-style-type: none"> 3. AEMO relies on Market Participants to forward information to consumers, so it is necessary to verify the timeliness and accuracy of such advice being provided to consumers on behalf of AEMO. AEMO should introduce a method for verifying the accuracy and timeliness of advice provided by Market Participants to consumers as a result of AEMO decisions 4. ...What is not clear, is how AEMO will manage emergencies (other than in a very high level fashion) and how these procedures will impact consumers. When developing approaches for management of emergencies, AEMO should develop a transparent process for the development of management of emergencies, including a comprehensive consultation process. It is clearly unacceptable for governments and AEMO to develop load shedding processes in isolation of those who will be directly impacted by such processes. <p>The MEU would recommend that AEMO puts into practice at least an annual contingency planning exercise.</p> <p>The issue of consumer involvement in the development and implementation of load shedding schedules cannot be over-stressed. Consumers are the parties who suffer most in the event of a lack of energy supplies, yet consumers are almost ignored when developing the approach to managing an energy shortage.</p> <p>There are a number of improvements to the current emergency arrangements that can be implemented.</p> <ul style="list-style-type: none"> • AEMO can improve of the current NEMMCO arrangements in the management of loss of electricity supplies, especially in the areas of communications. • AEMO should develop a more inclusive approach than used by NEMMCO in the development of the management and implementation processes for load shedding. • Networks must consult with AEMO prior to being allowed to implementing involuntary load shedding if it wishes to retain its impunity from litigation.
Transend	<p>NEMMCO's work with market participants and stakeholders has provided the electricity supply industry with well designed and executable plans.</p> <p>There may be room for improvement in the coordination and communication during large scale events if some activities were assigned directly to the local system operator to assist NEMMCO in focusing on the market and larger multiregional issues.</p> <p>In reviews of past incidents, providing enough and sufficient information about incidents is an area which has been regularly identified as one that could be improved.</p> <p>The process whereby NEMMCO reviews its performance following power system events and facilitates annual emergency exercises provides an effective continuous improvement environment.</p> <p>Definition of roles and responsibilities for emergency management in the NEM has been refined by NEMMCO and to change these arrangements just because of a move to AEMO would not be in the best interests of market participants, stakeholders and customers.</p> <p>It may be prudent to consider what additional assistance TNSPs could provide with coordination and communication at the jurisdictional level in relation to gas issues affecting electricity generation.</p>

RESPONDENT	Key points of response
	<p>4.2 Role of AEMO in Coordination of Gas Emergencies</p> <ul style="list-style-type: none"> • Does the current NGERAC framework provide Ministers with appropriate and timely advice to enable them to determine if and how to exercise their emergency powers? • What role could AEMO play in provision of advice to Ministers to enable them to make informed decisions on if and how they might exercise their emergency powers? Further to this, are there functions currently performed by NGERAC (outlined on page 13) that could be moved to AEMO to enable it to more effectively play a ministerial adviser role? • What benefits and issues arise from any proposal for AEMO to take a central coordination role in the management of gas supply disruptions? • Are current mechanisms for allocating gas supplies during a gas supply shortage well defined and executed? How can they be improved? • Are current arrangements for communication and coordination in gas emergencies well designed and executed? How can they be improved? • With the establishment of AEMO, are there other changes to emergency management roles, functions and responsibilities that could be considered to improve responses to, and management of, gas emergencies?
APPEA	<p>APPEA has been a participant in NGERAC since its formation and supports its ongoing operation.</p> <p>While the APPEA would welcome AEMO's involvement in NGERAC, it remains the case that industry and user representatives must continue to be directly involved in any arrangements to develop and implement gas emergency management arrangements. APPEA does not support any diminution of the role that industry currently plays in NGERAC as part of any alternate arrangements.</p>
EnergyAustralia	<p>EnergyAustralia believes that there is significant opportunity to improve on the existing arrangements particularly in light of key changes in the industry including the establishment of AEMO and the development of the Short Term Trading market in Sydney and Adelaide.</p> <p>AEMO's role should be expanded to include coordination of maintenance by production and pipeline facilities. Experience of past gas supply emergency events have demonstrated the significant adverse consequences and potential wealth transfers that can arise from coincident outages of key production and pipeline facilities. The concept of a market operator taking a role in ensuring coordinated approach to planned maintenance to minimise impacts on systems security is not unusual. NEMMCO for instance, has similar responsibilities in the electricity market. ...[F]uture emergency situations caused by overlapping maintenance can largely be avoided by expanding AEMO's role to include the coordination of maintenance of pipeline and production facilities. Energy Australia therefore strongly recommends that the ESGW expand AEMO's role to include this responsibility.</p> <p>National gas emergency arrangements must be recognised under STTM rules.</p> <p>EnergyAustralia is of the strong view that any Minister or Governor declared state of emergency, or any other state of emergency as defined under the national gas emergency arrangements should also trigger administered pricing and capped financial settlement outcomes under the STTM rules (specifically participants should face an administered price cap and be relieved of deviation price risk and Market Operator Service costs). In the absence of such an approach, a participant which has been directed by the Government to divert gas supplies to another demand source may be exposed to financial penalties under the STTM design (specifically deviation costs and Market Operator service Costs). Further, in the absence of administered pricing, opportunistic pricing of gas during times of systems stress by some participants may lead to wealth transfers with other participants facing significant adviser financial impacts. Small participants with relatively less supply diversity could be particularly exposed and severely impacted.</p>

ERAA

The ERAA notes that the ESWG discussion paper focuses on the future role of National Gas Emergency Response Advisory Committee (NGERAC) and how AEMO might be ideally placed to assume some or all of the functions of that advisory committee. The emphasis of the paper appears to be on organisational and structural issues, in the first instance. Given that VENCORP currently provides a range of analytical and gas contingency modelling services to NGERAC, and given their experience in the management and coordination of gas emergencies in Victoria, ERAA members are of the view that it would be logical and practical for AEMO to take over from NGERAC.

There are obvious benefits with this approach such as improved coordination between gas and electricity markets through AEMO's direct involvement with both, better access to most up to date information and an objective appreciation of the inherent roles markets can play in better managing any supply issues. However, there are certain key principles and objectives that we, as retailers, would like this body to adhere to, such as:

- Allowing markets to manage and resolve, as far as possible, any supply shortages by efficiently moving gas to where it is needed;
- Articulating key information in a timely and well defined manner to facilitate stakeholder response;
- Objectively assessing any emergency issue against a well laid out criteria, as set by an independent body similar to the Reliability Panel in electricity, and allocating the appropriate emergency level accordingly;
- Ensuring all the information has been acquired and relevant criteria met before recommending that jurisdictional powers are invoked; and
- Acknowledging the ongoing commercial arrangements various stakeholders have while proposing strategies to mitigate a supply risk.

Recognising the role of markets in gas emergency arrangements.

The discussion paper makes minimal reference to the role of the STTM in addressing future supply shortage situations. The STTM has yet to be implemented and its rules and procedures established under National Gas Law, so this may be understandable. However, as the concept of "Contingency Gas" has been developed for the STTM, it would have been useful for the review of national emergency arrangements to acknowledge the instruments and procedures established under the STTM to deal with potential gas shortage situations.

Contingency Gas in the STTM is a market-based mechanism administered by AEMO in response to potential gas supply shortages at the Adelaide and Sydney Hubs, including both demand-side and supply-side responses. The use of this mechanism is expected to occur prior to any jurisdictionally declared state of supply emergency, and it should be recognised as a key step in the process taken to deal with supply emergencies. This is consistent with the principle under the National Gas Emergency Response Procedures of allowing markets to work to the extent possible, prior to resorting to intervention by government.

Just as it would be highly beneficial for the national gas emergency arrangements to be cognizant of the STTM design with respect to market or market operator responses to emergencies, it would equally be appropriate for the STTM design and rules to be consistent with national or jurisdictional gas emergency arrangements and likely responses. The STTM design attempts to ensure that risks are manageable during times when the system may be under stress by defining a number of market "states" which would trigger administered pricing and hence cap participant financial exposures. An example of such a state is a "System Force Majeure" State. While such a state could coincide with a jurisdictionally declared state of emergency, this may not necessarily be the case. It is to be hoped that the STTM Rules will provide for recognition of jurisdictionally declared emergencies as a trigger for some relief from market exposures in the STTM.

One of the stated desired outcomes of the STTM is to allow the NSW Continuity Supply Scheme to be discontinued. This decision ultimately rests with the NSW Government and is subject to their assessment that the STTM will replace the functionality of the Continuity Scheme. ERAA members who are participants in the NSW gas market are of the view both arrangements in place will prove unworkable and result in extreme regulatory uncertainty.

ERAA members are concerned that a significant development on the national gas reform agenda, the Short Term Trading Market (STTM), has been given minimal attention in this discussion paper. Presumably this is because this discussion paper is about a first round review of where functions might be ideally located. ERAA urges the ESWG to consider how the STTM could be impacted by the management of emergencies by governments and include this within the scope of the next review, once the

	organisational issues associated with this discussion paper have been resolved.
Jemena	<p>In principle, the AEMO role enables the provision of a consistent and centralised flow of communication and advice across jurisdictions. The difficulty arising from the AEMO role is the organisation’s capacity to ensure that advice to stakeholders, including Minister’s and their departments, is acted on in a timely and responsive way. This extends to the escalation of emergencies through the proposed ER levels to the point that Ministerial action is taken to implement emergency powers. There does not appear to be adequate structure associated with the escalation process.</p> <p>There is a level of understanding within the gas industry about the needs for sound, well coordinated and responsive communications prior to, during and after gas emergencies. Communication during emergencies is critical to the effectiveness of response and timely recovery. The AEMO should consider how best to ensure these informal understandings might be made more firm.</p> <p>The option proposed by AEMO to consolidate and centralise communication through a system like the National Gas Market Bulletin Board is fully supported. The Bulletin Board will greatly assist in the management of gas emergencies, and should meet the needs of each jurisdiction.</p> <p>The NGERAC process could be assumed within the AEMO processes.</p> <p>AEMO involvement in a central coordination role will enhance market operation and enable market driven responses. This may be the greatest opportunity to solve supply shortfalls across jurisdictions and limit ministerial intervention that may be detrimental to the national response perspectives.</p> <p>AEMO should recognise that organisations such as Jemena, which owns and operates gas assets across jurisdictions and within state boundaries, is affected by the commercial market operation more so than other utilities. In NSW, the commercial factors in supplying gas play a significant role during the escalation of incidents. This is particularly relevant in the scenarios where gas supply into NSW may be impeded by outages on the sources of supply. If AEMO were to play a more significant central coordination role in the management of gas supply disruptions, consideration would have to be given to the interactions with market participants.</p> <p>The current mechanisms for allocating gas supplies during a supply shortage are not well defined or executed. Different expectations and network capacities exist in different jurisdictions. For example, there are different profiles of interdependencies on gas supplies, particularly in respect to gas supplied electricity generation, in QLD, VIC, TAS and SA. Gas supplies to major customers and the associated commercial arrangements can be skewed at times of emergencies. Jurisdictional processes at times, fail to address these issues.</p> <p>The NGERAC proposals will promote improved communications. What is not clear is whether the NGERAC proposals will be adequate on an on-going basis, particularly in respect to multi-jurisdictional issues.</p> <p>Jemena supports the NGERAC proposals being assumed within AEMO as a way forward.</p>
JGN	<p>Security of supply for major retail market centres</p> <p>There have been major gas market changes which create the need to redefine market accountability for security of supply. These include:</p> <ul style="list-style-type: none"> • Retail markets and, as a result, businesses have changed from the days of single fuel retailers operating principally in one specific jurisdiction. It is no longer a reasonable expectation that if all else fails then the historical incumbent retailer will always be there as the last resort to procure upstream security of supply to entire retail jurisdiction; • Security of supply to distribution networks (and ultimately security of supply to end-consumers) is now dependent on the performance of complex interconnected transmission systems and complex commercial relationships. ... • Introduction of the short term trading market (STTM) will in effect remove the existing retailer contractual obligations to networks to bring sufficient gas to market to meet retail customer demand. JGN will no longer be able to rely on these contractual obligations which enable JGN to make inquiries about gas sourcing plans and its own assessment of the adequacy of total system supply in respect of its metropolitan NSW network. <p>Ultimately, the flow of gas to distribution networks is (and should continue to be) the out come of commercial agreement between producers, shippers and pip line operators. However, the market changes noted above make it essential that overall operational responsibility is formally defined for assessing security of supply across the system and for the coordination of participants’ responses (if necessary) before emergency conditions arise.</p>

At present JGN initiates periodic discussion with NSW gas retailers concerning the adequacy of their short and medium term upstream gas sourcing, and also in relation to known events (e.g. pre winter each year and ahead of planned upstream outages: In addition, JGN will also initiate discussion with retailers and pipeline operators during the course of potential upstream supply threats. This latter function is expected to change once AEMO is responsible for scheduling contingency gas in STTM networks. However, the STTM will not address the first of the two functions that is, assessing adequacy of upstream gas sourcing arrangements to supply particular markets.

For various reasons, neither pipeline shippers, the pipelines themselves nor distributors seem well placed to undertake the role of assessing supply security. ... This therefore leaves AEMO best placed to oversight the entire system, and therefore in a position to identify and assess impending risks to supply security and to escalate appropriate response through coordination with market participants.

GAS QUALITY MANAGEMENT

As with security of supply, substantial market change is occurring giving rise to a need to redefine market accountability for managing gas quality.

Bilateral contracts

- The STTM will change the commercial structure for the sale of gas between shippers and retailers at the points of entry to an STTM distribution network by replacing direct bilateral contracts between individual retailers and shippers with the 'sale' of gas by settlement of an aggregate market pool. Consequently, there will no longer be a contractual situation between retailers and shippers to enforce distribution network gas quality specifications/
- Similarly, the loss of a contractual structure between retailers and shippers may compromise the ability of retailers to provide networks with access to real time gas quality measurements from producers. Without effective means of enforcing or monitoring the quality of gas, distribution networks would no longer have even the bare minimum of influence or control over the quality of gas delivered to their network.
- A further consequence of the loss of contractual structure between retailers and shippers is that retailers may not be able to pass on any liability exposure to shippers for the consequences arising from delivering off-specification gas to the network. Hence, the current contractual chain will no longer be effective in providing any commercial incentive for shippers to take responsibility for gas quality in STTM distribution networks.
- JGN has approached STTM developers on the above points, but the issues are still being considered. At this stage the STTM design does not enforce or otherwise address gas quality.

Multiple production sources of gas

- The number of individual production sources of gas (and therefore potentially different gas qualities) that are being transported to NSW markets has increased dramatically over recent years. NSW markets are now interconnected with Longford (Vic), Orbost (Vic), Culcairn (gas from Vic), Moomba (SA) and NSW coal seam methane. In addition the new QSN link adds multiple new production sources from Queensland. The quality of gas delivered into NSW is currently measured and managed at the point of production. The increasing numbers of production sources (across four states) supplying into NSW make it impractical for each NSW distributor to be ultimately accountable to monitor and manage gas quality. These difficulties will be compounded by the contractual issues described above.

Presently, the NSW Gas Supply Act and associated regulations place the principal regulatory and market responsibility for gas quality on NSW networks (on the presumption that this responsibility can be supported by appropriate contractual structures).

As described above, it will no longer be possible or practical for NSW gas network operators to carry on responsibility for gas testing and monitoring. If these obligations were to stay with networks, then it is likely that duplication of all gas producer quality measurements closer to the distribution network would be required. In turn, the day to day management of quality would have to occur by terminating supply on transmission pipelines rather than at the producer end. This would create additional risks for transmission pipelines, risks for customers and additional costs for the market. None of these eventualities are in the interests of the market or of the national gas objective.

CONCLUSION

From the foregoing discussion, JGN concludes that;

- AEMO is best placed to oversight the entire system, and therefore in a position to assume accountability for security of supply for major retail market centres; and
- AEMO is best placed to assume accountability for managing NSW gas quality.

	<p>JGN urges that consideration should be given to the roles and responsibilities that need to be transferred to AEMO in order to meet these accountabilities.</p>
<p>MEU</p>	<p>In general, the comments made above under electricity supply emergencies apply equally to gas emergencies, but with a singular key difference – that under gas emergencies, small consumers are most unlikely to be impacted and that the management of the loss of supply will be almost always applied to large consumers every time there is an emergency.</p> <p>Because of this, there is an even greater need than under an electricity emergency for AEMO to develop tools to keep large consumers of gas fully aware of the progress of an emergency. There is a second major difference between management of electricity and gas emergencies, in that jurisdictional energy ministers continue to have a much greater role in addressing gas emergencies, whereas under electricity emergencies, much of the responsibility in emergency management has been directly ceded to NEMMCO, as the market operator. Even under the STTM for NSW and SA (and potentially ACT and Queensland) AEMO in its gas market operator role, is still not expected to be responsible for gas load shedding, as this responsibility will still reside with the network operators – Jemena in NSW and Envestra in SA – and with the jurisdictional energy ministers.</p> <p>NGERAC</p> <p>The ESWG paper concentrates on the role of NGERAC of playing a role in gas emergency management. In fact, this process only applies where there is potential for multi-regional gas emergencies, yet many of the gas emergencies experienced are single regional, and the NGERAC process does not apply. Because of this there is a need to separate the role of NGERAC and single region gas emergencies. ...</p> <p>.. There is potential for AEMO to carryout many of the functions of NGERAC, and act in a similar way as NEMMCO does for electricity emergencies. Removing NGERAC from the process of advising energy ministers has some attraction as it potentially provides for a faster information flow for ministers. Against this, NGERAC provides for a formal forum for officers of the affected jurisdictions to discuss options with the attendance of competent industry representatives. The value of the formality of the NGERAC process should not be underestimated.</p> <p>On balance, the MEU considers that retention of NGERAC has greater benefits for the gas market than attempting to nominally speed up the decision processes by disbanding NGERAC and then requiring AEMO to directly liaise with jurisdictions – getting the right decision is better than a wrong but potentially speedier decision, especially as, in the case of the gas market realities where large consumers consistently will bear the commercial outcomes of any gas load shedding.</p> <p>With the impending greater impact of gas supplies on the electricity market, the role of NGERAC should be expanded to include assessments of the impacts of a gas emergency on jurisdictional electricity supplies and to prepare advice to jurisdictional energy ministers on these impact. To provide such advice would require the greater involvement of AEMO in providing information on electricity.</p> <p>There is a view that a role similar to that of NGERAC should be established for the electricity market, rather than the current non-transparent processes used by NEMMCO.</p> <p>LOAD SHEDDING</p> <p>Firstly, the development of the load shedding schedules is carried out in a non-transparent fashion, and is more related to the ease of load shedding than any other aspect. As a modification to the current processes, AEMO should be required to develop the load shedding schedules with government in a fully transparent way, allowing consumers to be involved and consulted in the development of the schedules.</p> <p>Secondly, many industrial processes require some gas to maintain the consumers’ assets in a safe and secure manner. Such gas consumers should be allowed to declare the minimum requirements they have for gas supplies to allow them to continue to maintain their assets in a safe and secure fashion.</p> <p>Thirdly, under the STTM process, AEMO has no role in the final decision to load shed – this remains with the distribution network operator which has been granted the power by government to involuntarily load shed a consumer without reference to the consumer’s commercial rights. As AEMO will have responsibility as operator of the gas STTM, then AEMO should have a much larger say as to whether the distribution network can or should unilaterally exercise its powers to load shed. As a bare</p>

	<p>minimum, the network operator should be required to confer with AEMO prior to being allowed to exercise its load shedding powers with impunity from litigation.</p> <p>The MEU would recommend that AEMO puts into practice at least an annual contingency planning exercise.</p> <p>The issue of consumer involvement in the development and implementation of load shedding schedules cannot be over-stressed. Consumers are the parties who suffer most in the event of a lack of energy supplies, yet consumers are almost ignored when developing the approach to managing an energy shortage.</p> <p>There are a number of improvements to the current emergency arrangements that can be implemented.</p> <ul style="list-style-type: none"> • NGERAC should be retained in its current form, and have its role expanded to include the impact of gas supply issues on the electricity market. • AEMO should provide information and advice to NGERAC that it requires to carry out its functions. • AEMO should provide information and advice to jurisdictional energy ministers when a gas shortage is confined to one jurisdiction. • AEMO should develop a consultative process for development of load shedding schedules for all gas markets where it is the operator. The outcome of this process should over-ride the current load shedding schedules used by each jurisdiction. • Networks must consult with AEMO prior to being allowed to implementing involuntary load shedding if it wishes to retain its impunity from litigation.
Origin	<p>Given the VENCORP and GML will be incorporate into AEMO and that AEMO's functions will include the operation of the Bulletin Board, Short Term Trading market and the publication of the Gas Statement of Opportunities, Origin considers it practical that AEMO assumes a leadership role in the functions of NGERAC. ... Origin believes that going forward NGERAC should be dissolved into a national committee set up similar to the Victorian Gas Emergency Management Consultative Forum. This new committee should be chaired by AEMO with representatives from DRET, jurisdictions, customers and industry. It is very important to continue with a representative format to ensure that the views of all stakeholders are considered prior to implementing the required actions to manage major multi jurisdictional gas emergencies.</p> <p>Once AEMO is more established there may be opportunities for AEMO to extend its gas emergency management coordination and information sharing functions into other jurisdictions as is currently done by VENCORP in Victoria. As a national retailer Origin would be supportive of any process that improves consistency in how these matters are management in all NEM jurisdictions.</p>

RESPONDENT	Key points of response
	<p>5.0 Communication of Pre-Emergency Information and the Interaction of Gas and Electricity</p> <ul style="list-style-type: none"> • What could AEMO do to ensure cross electricity and gas issues are well assessed and communicated to stakeholders?
Jemena	<p>The introduction of AEMO provides the opportunity to co-ordinate planned outages of both Electric and Gas Transmission network elements and mitigate risks of interdependencies. This is particularly relevant for Gas supplied Generation during peak electric or gas demand periods, and particularly acute in the Southern states.</p>
MEU	<p>A number of MEU suggestions regarding this issue are addressed in the foregoing sections, and reference should be made to these. Additionally MEU would comment as follows:</p> <ol style="list-style-type: none"> 1. In the development of the gas bulletin board, a key issue was the development of visual signals as to the expected future status of the supply of gas. This approach allows consumers to see ahead of time if there is likely to be a potential shortage of gas in the next few days. A similar visual signal for electricity would be beneficial. 2. Gas is expected to be more used for power generation in the future. Therefore, AEMO should monitor daily the impact of gas supplies on electricity supplies and communicate this data (again in the form of a readily identifiable visual signal) of potential shortages in supply.

	<p>3. NEMMCo provides information about expected outages of transmission assets, both timing and duration. This information is buried in the NEMMCo website. A visual signal such as used on the gas BB would be of assistance to consumers to manage their exposure to possible electricity shortages of supply.</p>
Origin	<p>The introduction of the Carbon Pollution Reduction Scheme (CPRS) and expanded RET is anticipated to increase the volume of gas fired generation (GFG) in the electricity market as the economics of gas plant improve relative to coal generators. This will result in increased inter-connectedness between the electricity and gas markets and a greater likelihood of emergencies in one market having a material impact on the other. It is therefore imperative that there is greater coordination in energy security and emergency management between markets. Whilst Origin agrees that AEMO will be well placed to carry out this function, we do have some concerns, particularly in light of AEMO's and NEMMCO's recent submissions to the AEMC review of energy market arrangements in light of the introduction of climate change policies (the Review).</p> <p>The AEMC asserted in its 1st Interim Report of the Review, that the establishment of AEMO would significantly reduce the risks associated with greater reliance on GFG to address supply side emergency events. However, both AEMO and NEMMCO expressed some scepticism in their submissions to the Interim Report, citing uncertainty as to whether AEMO will be adequately empowered to respond to emergencies in both markets in a coordinated manner.</p> <p>This concern stems from the current legislative framework which is specific to a particular market (i.e. gas or electricity) and does not necessarily allow for the intervention in one market to resolve an emergency issue in another. Therefore, if AEMO is to be effective in coordinating emergency management across energy markets, the legislative framework may need to be amended to facilitate such action. It is our understanding the AEMC will be looking at this issue further under its Review, but we also urge the ESWG to carry out its own investigations on this important issue.</p>
Transend	<p>The formation of AEMO is an opportunity to ensure coordination between the gas and electricity sectors in the event that there is an emergency in either sector which may impact on the other.</p>

RESPONDENT	Key points of response
	<p>6.0 AEMO's Interface with Liquid Fuel Emergency Arrangements</p> <ul style="list-style-type: none"> Are additional mechanisms needed for interfacing an electricity and/or gas emergency response with NOSEC?
Jemena	<p>The main issues at the transmission levels of gas and electric networks are primarily focussed on Generators (including backup generators and Compressor in the Gas transmission networks).</p>
MEU	<p>The MEU notes that there are a number of oil fired power stations operating in the NEM, as well as a number of power stations that can operate on oil as well as gas.</p> <p>As the MEU has little experience with NOSEC and its operations, it is difficult for MEU to respond to the aspect of the Discussion Paper.</p> <p>Notwithstanding this, the MEU does recognise that security of the power system is dependent on both the supply of gas and of oil. Additionally, the ability of some consumers to respond to shortages of gas and electricity can be dependent on their ability to change between the normal supply arrangements and a conversion to oil. If oil is in short supply then the ability of some consumers to support the gas and electricity security arrangements by load shedding could well be compromised.</p> <p>Therefore, the MEU would comment that AEMO should have regard to the supply issues facing the oil industry as much as it does in relation to the gas industry</p>
Transend	<p>As a TNSP our business relies on liquid fuels for transport and this is particularly important during power system events when we need to mobilise field response staff to ensure public safety and restoration of supply.</p>

Appendix 3 – NEMMCO and NGERAC Emergency Arrangements

EMERGENCY FUNCTION	BODY / PERSON RESPONSIBLE FOR EMERGENCY FUNCTION	INSTRUMENTS AND PROCEDURES	WILL THIS FUNCTION BE AFFECTED BY AEMO?	COMMENTS
ELECTRICITY - NEMMCO				
<p>Responsibility for Communicating / Liaising with State Emergency Service (NEMMCO)</p> <ul style="list-style-type: none"> Incident management is carried out from control centres with Transmission Network Service Providers (TNSP) and National Electricity Market (NEM) Participants. Notification to market by way of Market Notices. Initiating and receiving operational emergency communications to and from the jurisdictional Responsible Officer (RO) for system emergencies at the level 3, 4 and 5. The jurisdictional RO is responsible for communicating with the relevant jurisdiction in accordance with that jurisdiction's requirements. Communication to media and government media advisors. Where NEMMCO requests a jurisdiction to consider using its emergency powers or where a jurisdiction determines to use its emergency powers that communication would be via the ROs. 	-NEMMCO	<ul style="list-style-type: none"> -National Electricity Law (NEL) -National Electricity Rules (NER) -MOU on Emergency Powers -Emergency Protocol -Power System Emergency Management Plan -Power System Emergency Communications Plan 	Yes	
<p>Curtailement / Load Shedding Arrangements (NEMMCO)</p> <ul style="list-style-type: none"> Initial power system management will be via control centre instructions or directions to NEM participants including TNSPs for the purpose of required loadshedding. NEMMCO to advise the jurisdictional RO of the expected duration and extent of any supply shortfalls. Where a jurisdiction determines to use its emergency powers to address those shortfalls, rather than loadshedding as directed by NEMMCO, the megawatt (MW) reductions as a result of any jurisdiction's mandatory restrictions must be communicated to NEMMCO by the Jurisdictional System Security coordinator (JSSC). This is to enable NEMMCO to invoke the market process to accommodate the mandatory restriction offer process under the NEM Rules. As a standing arrangement the JSSC is responsible for advising NEMMCO of any sensitive loads and load shedding priorities in that jurisdiction. These requirements are then incorporated into NEMMCO's operating guidelines. 	-NEMMCO	<ul style="list-style-type: none"> -National Electricity Law (NEL) -National Electricity Rules (NER) -MOU on Emergency Powers -Emergency Protocol -Power System Emergency Management Plan 	Yes	
GAS - National Gas Emergency Response Advisory Committee (NGERAC)				
<p>Concept / Principle of Operation in Relation to Emergencies (overall strategy/approach) (NGERAC)</p> <ul style="list-style-type: none"> NGERAC is a jurisdictional/industry representative committee, established under the National Gas Emergency Response Protocol. Its functions include: <ul style="list-style-type: none"> Advising jurisdictions on efficient and effective responses in the event of a major natural gas supply shortage; Assessing and reporting to the Ministerial Council on Energy (MCE) and jurisdictions on the gas supply and demand balance over a reasonable period, having regard to seasonal peaks in demand, and on the likely risks and impacts of major shortages of supply; Developing detailed protocols for communication of information and decisions between the MCE, jurisdictions and industry (including users) ; and Conducting simulation exercises to test cross-border emergency response and management procedures. The National Gas Emergency Response Protocol (the Protocol) includes guiding principles which state that “commercial arrangements will be allowed to operate as far as possible to balance supply and demand, and maintain system integrity” and “government intervention in the market would occur as a last resort”. The Protocol can only be amended with the agreement of all MCE jurisdictional Ministers. In some cases this would also require the approval of the individual jurisdictions’ Cabinets. NGERAC’s functions are to complement but not replace or override jurisdictional emergency management powers or arrangements. 	-NGERAC (Jurisdictional Representatives with advice from stakeholder observers) - currently facilitated by the Commonwealth (which Chairs and provides secretariat).	- Memorandum of Understanding (MOU) between the Commonwealth and all States and Territories -National Gas Emergency Response Protocol.	To the extent agreed by MCE Ministers in an amended Protocol	<p>NGERAC will continue to carry out these functions until the Protocol is amended or cancelled by the MCE.</p> <p>Currently, NEMMCO, as national electricity market operator, and VENCORP, representing gas market operators, are members of NGERAC.</p> <p>As the national energy market operator, with full time expert resources and a 24 hours a day operational capability, it would appear logical for the Australian Energy Market Operator (AEMO) to assume the administrative support functions from Commonwealth.</p>

EMERGENCY FUNCTION	BODY / PERSON RESPONSIBLE FOR EMERGENCY FUNCTION	INSTRUMENTS AND PROCEDURES	WILL THIS FUNCTION BE AFFECTED BY AEMO?	COMMENTS
<p>Preparation of Emergency Management Plans (NGERAC)</p> <ul style="list-style-type: none"> NGERAC has developed a national gas emergency procedures manual that sets out guidelines and procedures to be followed by NGERAC in the event of a major gas supply shortage or incident. NGERAC has arranged for modelling of the interconnected gas transmission pipeline system to develop annual assessments of the impacts of, and potential responses to credible contingency outages of major supply sources or pipelines. NGERAC has conducted two emergency simulation exercises (in 2007 and 2008) to test effectiveness of NGERAC procedures. 	<p>-Analytical support, involving modelling to produce the annual contingency report and facilitation of the emergency exercises, has been provided jointly by VENCORP and GMC under contract funded by the MCE.</p>	<p>-National Gas Emergency Response Protocol</p>	<p>To the extent agreed by MCE Ministers in an amended Protocol</p>	<p>The provision of analytical support to NGERAC by VENCORP and GMC is an interim arrangement pending the establishment of AEMO.</p> <p>It has been envisaged that AEMO will perform these support functions for NGERAC, which would be consistent with its gas and electricity market operations functions, its production of the gas and electricity statements of opportunities and its other gas and electricity planning functions.</p> <p>NGERAC will remain responsible for these functions to the MCE under the Protocol unless amended.</p>
<p>Agencies Involved in Managing Emergencies (NGERAC)</p> <ul style="list-style-type: none"> NGERAC comprises representatives of governments and all sectors of the gas industry and gas users. NGERAC's role is to provide advice to jurisdictions rather than actual management of an emergency. Emergency management in each jurisdiction is as set out in the individual jurisdictional arrangements. 	<p>-NGERAC Jurisdictional Representatives with advice from stakeholder observers.</p>	<p>-Individual jurisdictional arrangements for relevant instruments and procedures in each jurisdiction.</p> <p>-National Gas Emergency Response Protocol</p>	<p>To some extent – see comment</p>	<p>Generally, jurisdictional arrangements will continue to apply.</p> <p>In Victoria, VENCORP has various emergency powers and functions, which will be assumed by AEMO.</p> <p>In NSW, operation of the Gas Continuity Scheme will be assumed by AEMO (unless replaced by the Short Term Trading Market (STTM), which will also be operated by AEMO). This is a market failure response and is not triggered when the shortage is due to an infrastructure failure.</p>
<p>Event Notification / Declaration (NGERAC)</p> <p>Under NGERAC's Communications Protocols there are three broad categories of "Advisable Incident" triggering notification of NGERAC members or, at the discretion of the NGERAC Chair or request of a jurisdiction, NGERAC being activated:</p> <ul style="list-style-type: none"> Level 1: it is expected that it will be possible to supply all gas demand but there are limited gas reserves, such that any further deterioration in the situation will likely require material load shedding; Level 2: gas supplies are expected to be inadequate to meet demand and material load shedding is, or is likely to be, required (even if load shedding is expected to be contained within a jurisdiction); Level 3: the incident has the potential to become a major natural gas supply shortage, threatening system security or essential services, requiring load shedding, curtailment and/or a multi-jurisdictional response. 	<p>-The Jurisdictional Officer in the jurisdiction in which an incident occurs is responsible for initiating the notification process.</p> <p>-The NGERAC Chair is responsible for convening NGERAC if required or requested by a jurisdiction.</p>	<p>-NGERAC Procedures.</p>	<p>No</p>	<p>Establishment of AEMO would at least prompt a review of the NGERAC procedures and Communications Protocols. Given that AEMO will have a 24 x 7 operational response capability, it is possible AEMO could assume the role of initiating notifications and communicating technical information, as required.</p>
<p>Ministerial Powers (NGERAC)</p> <ul style="list-style-type: none"> State and territory jurisdictions (other than the Australian Government) have legislation that confers emergency powers which may be exercised in natural gas emergency situations. 	<p>-Relevant Minister</p>	<p>-See jurisdictional arrangements and the Protocol.</p>	<p>No</p>	<p>The Protocol requires Ministers to consult prior to enacting jurisdictional emergency powers. NGERAC provides advice on this matter to Ministers via the jurisdictional representatives.</p>
<p>Agency Powers (NGERAC)</p> <ul style="list-style-type: none"> As per jurisdictional emergency arrangements. 	<p>-Relevant agency based on jurisdictional arrangements</p>	<p>-See jurisdictional arrangements</p>	<p>Yes</p>	<p>In some jurisdictions specific agencies have specific powers and obligations. E.g. VENCORP in VIC for the gas system operation and GMC in NSW for the Gas Supply Continuity Scheme. These will be assumed by AEMO.</p>
<p>Other Entity Powers (NGERAC)</p> <ul style="list-style-type: none"> As per jurisdictional emergency arrangements. 	<p>-Relevant Jurisdictional entity</p>	<p>-See jurisdictional arrangements</p>	<p>Yes</p>	<p>In some jurisdictions, infrastructure operators have specific powers for activities such as load shedding and curtailment. AEMO will assume the Victorian curtailment powers.</p>

EMERGENCY FUNCTION	BODY / PERSON RESPONSIBLE FOR EMERGENCY FUNCTION	INSTRUMENTS AND PROCEDURES	WILL THIS FUNCTION BE AFFECTED BY AEMO?	COMMENTS
<p>Curtailement / Load Shedding Arrangements (NGERAC)</p> <ul style="list-style-type: none"> NGERAC is to provide advice to MCE and affected jurisdictions with regard to the sharing of available gas supplies between jurisdictions, if required, to maintain supply to essential services. 	-NGERAC Chair	-National Gas Emergency Response Protocol (NGERAC Terms of Reference)	See comment	<p>NGERAC's role will be limited to advice related to Ministers' emergency powers and how they should be used to share available gas if enacted. It is expected this will occur after other entities conduct load shedding / curtailment as per above.</p> <p>It is envisaged that AEMO will provide analytical support and technical advice. The relevant infrastructure operators will provide operation advice. AEMO may do this for the Victorian gas system and in relation to gas requirements for electricity generation.</p>
<p>Force Majeure (NGERAC)</p> <ul style="list-style-type: none"> Not Applicable – this is a matter for contracted parties, and/or (in the case of the Victorian PTS) the Market and System Operations Rules. 				
<p>Communication Responsibilities (NGERAC)</p> <ul style="list-style-type: none"> The responsibility for the dissemination of public information is as per the arrangements in each individual jurisdiction. In addition, the gas market Bulletin Board (BB) (www.gasbb.com.au) has an emergency page, which is accessible by authorised industry and government users. It is also available to jurisdictions and NGERAC for the posting of agreed updates that are accessible by the public. 	<p>-See jurisdictional arrangements.</p> <p>-BB emergency page activated by NGERAC Chair or at request of affected jurisdiction.</p>	-NGERAC procedures	See comment	It would be useful to use the National Gas Market Bulletin Board emergency page for posting status updates on gas supply emergencies. This is a role that could be performed by AEMO as Bulletin Board operator and facilitator/secretariat for NGERAC.
<p>Responsibility for Communicating / Liaising with State Emergency Services (NGERAC)</p> <ul style="list-style-type: none"> The responsibility for the dissemination of public information belongs to the affected jurisdiction. 	-Jurisdictional Representatives	-See jurisdictional arrangements	Yes	In Victoria, VENCORP has various emergency powers and functions, which will be assumed by AEMO. This includes communication with State Emergency Services.

Appendix 4 – Gas Emergency Arrangements

EMERGENCY FUNCTION	BODY / PERSON RESPONSIBLE FOR EMERGENCY FUNCTION	INSTRUMENTS AND PROCEDURES	WILL THIS FUNCTION BE AFFECTED BY AEMO?	COMMENTS
GAS - ACT				
<p>Concept / Principle of Operation in Relation to Emergencies (overall strategy/approach of jurisdiction) (ACT)</p> <ul style="list-style-type: none"> The ACT concept and principle of operation align with those in NSW up to the point where the emergency has a major impact on the whole community and provisions under the <i>Emergencies Act 2004</i> invoked. Provide for market solutions to address gas supply risks before triggering Government intervention in emergency processes. Therefore, where a gas supply shortfall arises from infrastructure failure, industry participants (with Government observers involved) liaise to find market/contractual solutions to maintain adequate supply. This will generally include NSW, ACT, SA and Vic participants reflecting the supply interconnectivity. Unlike NSW, there is no Gas Supply Continuity Scheme in the ACT. If gas demand is not met, a network operator may introduce voluntary load shedding. If this is not effective in ensuring gas supplies for priority services and to maintain the safety and integrity of the gas distribution network, the government can initiate gas rationing via regulation. 	<ul style="list-style-type: none"> -Gas Distribution Network Operator -Emergency Services -Department of Environment, Climate Change, Energy and Water 	<ul style="list-style-type: none"> -Utility Emergency Plan under the Gas Safety Act 2000 -Emergencies Act 2004 -Utilities Act 2000 -Utilities (Electricity Restrictions) Regulations 2004 	No	
<p>Preparation of Emergency Management Plans (ACT)</p> <ul style="list-style-type: none"> Emergency management plans to implement emergency procedures and proposals arising from gas market supply shortages are prepared by the licensed gas distribution network operator in the ACT and the Emergency Management Agency. 	<ul style="list-style-type: none"> -Gas Distribution Network Operator -Emergency Services 	<ul style="list-style-type: none"> -Utilities Act 2000 -Utilities Licence Conditions -Utility Emergency Plan under the Gas Safety Act 2000 -Emergency Plan under the Emergencies Act 2004 	No	
<p>Agencies Involved in Managing Emergencies (ACT)</p> <ul style="list-style-type: none"> Agencies involved in managing an emergency situation depend on the nature and extent of the emergency. Incidents are classified by the local gas distribution network operator or transmission pipeline operator in conjunction with the emergency services. The severity of an event trigger is assessed to affect the wider ACT community an emergency may be declared. 	<ul style="list-style-type: none"> -Gas Distribution Network Operator -Government Agencies -Chief Minister -Emergency Services -Government Agencies 	<ul style="list-style-type: none"> -Utility Emergency Plan -Utilities Act 2000 -Utilities (Electricity Restrictions) Regulations 2004 -Emergencies Act 2004 -Emergencies Act 2004 -Emergencies Act 2004 -Emergency Plan under the Emergencies Act 2004 -Utilities Act 2000 -Utilities (Gas Restrictions) Regulations 2004 	No	

<p>Event Notification / Declaration (ACT)</p> <ul style="list-style-type: none"> • Notification • Emergency declaration 	<ul style="list-style-type: none"> -Gas Transmission Pipeline Operator -Gas Distribution Network Operator -Third Parties -Chief Minister 	<ul style="list-style-type: none"> -Gas Safety Act 2000 -Emergencies Act 2004 	No	
<p>Ministerial Powers (ACT)</p> <ul style="list-style-type: none"> • The Chief Minister can appoint a Territory Controller. 	<ul style="list-style-type: none"> -Chief Minister 	<ul style="list-style-type: none"> -Emergencies Act 2004 	No	
<p>Agency Powers (ACT)</p> <ul style="list-style-type: none"> • For the management of the declared state of emergency, the Territory Controller among other things may maintain, restore or prevent disruption of essential services. 	<ul style="list-style-type: none"> -Territory Controller 	<ul style="list-style-type: none"> -Emergencies Act 2004 Section 163 (2)(g) 	No	
<p>Other Entity Powers (ACT)</p> <ul style="list-style-type: none"> • Local electricity distribution network operator. 	<ul style="list-style-type: none"> -Gas Distribution Network Operator 	<ul style="list-style-type: none"> -Utilities Act 2000 	No	
<p>Curtailment / Load Shedding Arrangements (ACT)</p> <ul style="list-style-type: none"> • Curtailment and voluntary loadshedding. • Mandatory loadshedding. 	<ul style="list-style-type: none"> -Gas Distribution Network Operator -Minister 	<ul style="list-style-type: none"> -Utility Emergency Plan -Utilities Electricity Restrictions Regulations 2004 	Most likely not	
<p>Force Majeure (ACT)</p> <ul style="list-style-type: none"> • Force Majeure issues are between contracting parties for the supply or delivery of gas. 	<ul style="list-style-type: none"> -Contracted Parties 	<ul style="list-style-type: none"> -Commercial Contracts 	No	
<p>Communication Responsibilities (ACT)</p> <ul style="list-style-type: none"> • Local gas distribution network operator. • Emergency Services. 	<ul style="list-style-type: none"> -Liaison Officer -Liaison Officer 	<ul style="list-style-type: none"> -Utility Emergency Plan -Emergency Plan under the Emergencies Act 2004 	No	
<p>Responsibility for Communicating / Liaising with State Emergency Services (ACT)</p> <ul style="list-style-type: none"> • Local gas distribution network operator. 	<ul style="list-style-type: none"> -Liaison Officer 	<ul style="list-style-type: none"> -Utility Emergency Plan 	No	
<p>Recovery (ACT)</p> <ul style="list-style-type: none"> • Infrastructure operators are responsible for restoring their infrastructure following a non-supply incident. • Network operators are responsible for restoring supply to customers affected by load shedding, or curtailment under the Utilities (Gas Restrictions) Regulations 2004, including re-lighting the customer services. 	<ul style="list-style-type: none"> -Gas Distribution Network Operator -Emergency Services 	<ul style="list-style-type: none"> -Utility Emergency Plan (recovery Phase) 	No	

EMERGENCY FUNCTION	BODY / PERSON RESPONSIBLE FOR EMERGENCY FUNCTION	INSTRUMENTS AND PROCEDURES	WILL THIS FUNCTION BE AFFECTED BY AEMO?	COMMENTS
GAS - NSW				
<p>Concept / Principle of Operation in Relation to Emergencies (overall strategy/approach of jurisdiction) (NSW)</p> <ul style="list-style-type: none"> Provide for market solutions to address gas supply risks before triggering Government intervention in emergency processes. Therefore, where a gas supply shortfall threatens, the following market based processes will initially apply if possible: <ul style="list-style-type: none"> If infrastructure failure: Industry participants (with government observers involved) liaise to find market/contractual solutions to maintain adequate supply. This will generally include NSW, ACT, SA and Vic participants reflecting the supply interconnectivity. If NO infrastructure failure: Gas Supply Continuity Scheme applies. Scheme Operator (Gas Market Company - GMC) will supply gas or demand side management from standing contracts procured through annual tender process. If this is not sufficient, the Scheme has curtailment processes. The Shippers who failed to supply adequate gas are liable for any Scheme gas costs and to carry out curtailment. Where the two processes above fail to meet consumer gas demand, network operator load shedding may come into effect to ensure safety and integrity of the gas network. If any of the above are not effective in ensuring gas supplies for priority services, the government can initiate gas rationing via statutory-based intervention. Government intervention is a last resort measure – generally if gas supplies drop below around 15 per cent of normal for an extended period. In the event of a non-supply gas emergency (e.g. natural or other disaster), arrangements under the State Disaster Plan developed by the State Emergency Management Committee (SEMC) may be used under the direction of the State Emergency Operations Controller (SEOCN) or designated District Emergency Operations Controller (DEOCN) for localised incidents. 	<ul style="list-style-type: none"> -Network Operators -Gas Retailers -Transmission Pipeline Operators -Gas Shippers -Major Users -Scheme Operator -Minister / Industry and Investment NSW -State Emergency Management Committee 	<ul style="list-style-type: none"> -Gas Supply Act 1996 establishes Gas Supply Continuity Scheme and Network Operator Access Arrangements (establishes load shedding) -Pipelines Act 1967 -Energy and Utilities Administration Act 1987 -State Emergency Rescue Management Act 1989 	<p>Only to the extent that AEMO may take on the functions under the NSW Gas Supply Act of Continuity Scheme Operator</p>	<p>The NSW Gas Supply Continuity Scheme is considered a market mechanism. It is based on market rules developed by market participants and implemented by the NSW gas market operator, the Gas Market Company.</p> <p>While the NSW Government required the rules be established and the NSW Energy Minister approves the Rules, initiation of the Scheme is not considered Government intervention as no emergency powers are proclaimed.</p>
<p>Preparation of Emergency Management Plans (NSW)</p> <ul style="list-style-type: none"> Responses to infrastructure failures are managed by the relevant infrastructure operator, and regulations require infrastructure operators to have in place emergency management plans for their infrastructure. The <i>State Emergency Rescue Management Act</i> requires the functional area coordinator to make, maintain and review emergency plans, including for supply-based emergencies. Network operators develop plans for management of their load shedding arrangements. These are linked to state-level emergency arrangements. State level emergency plans are linked to the national emergency plan developed by the National Gas Emergency Response Advisory Committee (NGERAC). All plans are required to be exercised on a regular basis, with appropriate updates/modifications based on lessons learned from exercises. 	<ul style="list-style-type: none"> -Energy and Utility Services Functional Area Coordinator (EUSFAC) -Industry and Investment NSW -Network Operators -Pipeline Operators -NGERAC 	<ul style="list-style-type: none"> -Gas Supply Act and Regulations -Pipelines Act and Regulations -State Emergency Rescue Management Act -National Gas Emergency Protocol 	<p>No</p>	<p>Primary responsibility for ensuring appropriate preparation and planning is undertaken by all parties resides with Industry and Investment NSW through either EUSFAC or the Department's role as technical regulator for energy infrastructure in NSW.</p>
<p>Agencies Involved in Managing Emergencies (NSW)</p> <ul style="list-style-type: none"> The agencies involved in managing an emergency situation depend on the nature and extent of the emergency. Small, localised incidents are managed by the infrastructure operator and, if necessary, the DEOCN. As the significance of an event increases, the Energy and Utilities Services Functional Area Coordinator (EUSFAC) will monitor, and if necessary assist with the coordination of, industry actions and responses. If industry actions and responses are not capable of managing the incident then the EUSFAC will coordinate event response, which can include activation of Ministerial powers. The EUSFAC can utilise the powers of SEOCN to provide additional resources as required to manage the event. If the event is a critical non-supply incident, SEOCN may require EUSFAC to coordinate gas industry responses. 	<ul style="list-style-type: none"> -Network Operators -Gas Retailers -Transmission Pipeline Operators -Gas Shippers -Major Users -Scheme Operator -Minister / Industry and Investment NSW -EUSFAC -State Emergency Operations Controller (SEOCN) - DEOCN 	<ul style="list-style-type: none"> -Gas Supply Act -Energy and Utilities Administration Act 1987 -State Emergency Rescue Management Act 1989 	<p>Only to the extent that AEMO may take on the functions of the Continuity Scheme Operator under the NSW Gas Supply Act.</p>	<p>For very small incidents, infrastructure operators will liaise directly with police and emergency services to address the issue. These type of incidents normally only affect a small area and a small number of customers for a few hours. They are normally more significant in terms of the threat to life and property than to the supply of gas.</p>

EMERGENCY FUNCTION	BODY / PERSON RESPONSIBLE FOR EMERGENCY FUNCTION	INSTRUMENTS AND PROCEDURES	WILL THIS FUNCTION BE AFFECTED BY AEMO?	COMMENTS
Event Notification / Declaration (NSW) <ul style="list-style-type: none"> Responsibility for notification resides with the body that is first aware of the incident. This will usually, but not always, be the infrastructure operator. For the NSW Gas Supply Continuity Scheme, declaration of a scheme event and notification of any curtailment is the responsibility of the Scheme Operator. For network operator load shedding, declaration of load shedding is the responsibility of the network operator. For government intervention (of any type), declaration is by the applicable Minister or Governor. 	-Network Operators -Transmission Pipeline Operators -Scheme Operator -Minister / Governor	-Network and Pipeline Operator Emergency Plans -NSW Gas Supply Disruption Response Plan -Energy and Utilities Administration Act 1987 -State Emergency Rescue Management Act 1989	Only to the extent that AEMO may take on the functions of the Continuity Scheme Operator under the NSW Gas Supply Act.	Infrastructure operators includes all stages of the supply chain especially those with access to telemetry / SCADA information that identifies an incident has occurred.
Ministerial Powers (NSW) <ul style="list-style-type: none"> The NSW Minister for Energy (or delegate) has extensive powers if an emergency Regulation is proclaimed under Part 6 of the <i>Energy and Utilities Administration Act</i>. These powers relate to controlling, directing, restricting or prohibiting the sale, supply, use or consumption of the proclaimed form of energy, whether generally or for any purpose or purposes specified in the Regulation. The Regulation can be made whenever it appears to the Governor that from any cause the available supply of any form of energy or energy resources is or is likely to become less than is sufficient for the reasonable requirements of the community. Under the National Gas Emergency Protocol, the proclamation of the Regulation can only occur after consultation with other jurisdictional energy ministers, usually via NGERAC. In the event of an industrial relations issue that has the potential or is affecting energy supplies to the community, the Minister for Industrial Relations can invoke powers under the <i>Essential Services Act</i>. 	-Governor/Minister	-Part 6, Energy and Utilities Administration Act 1987 -National Gas Emergency Protocol -Essential Services Act 1988	Only to the extent that AEMO may Provide information to NGERAC to assist in its deliberations.	NEMMCO is a member of NGERAC. VENCORP and the Gas Market Company provide technical support to the Committee. The information provided assists NGERAC jurisdictional members with development of advice to relevant ministers on the need for and use of ministerial emergency powers in relation to gas supply disruption affecting multiple jurisdictions. However, sole discretion on what advice is provided to the Ministers resides with the relevant jurisdiction. Ministers may also act as they believe appropriate to deal with any gas emergency.
Agency Powers (NSW) <ul style="list-style-type: none"> Industry and Investment NSW and the EUSFAC do not have any legislative powers, except if delegated under a Regulation in force under Part 6 of the <i>Energy and Utilities Administration Act 1987</i> or the <i>State Emergency Rescue Management Act 1989</i>. 	-N/A	-N/A	No	
Other Entity Powers (NSW) <ul style="list-style-type: none"> Network operators can undertake load shedding in accordance with their network access arrangements. The NSW Gas Continuity Scheme Operator can direct curtailment in accordance with the Scheme Rules. SEOCN/DEOCN has powers under the <i>State Emergency Rescue Management Act 1898</i>. 	-Network Operators -Gas Continuity Scheme Operator -SEOCN/DEOCN	-Network Access Arrangements -NSW Gas Continuity Scheme Rules -State Emergency Rescue Management Act	Only to the extent that AEMO may take on the functions of the Continuity Scheme Operator under the NSW Gas Supply Act.	
Curtailment / Load Shedding Arrangements (NSW) <ul style="list-style-type: none"> See above in respect of ministerial and other agency powers, and NSW principles. 	-See above	-See above	See above	
Force Majeure (NSW) <ul style="list-style-type: none"> Force Majeure issues are between contracting parties for the supply or delivery of gas. 	-Parties to contracts	-Contracts	No	
Communication Responsibilities (NSW) <ul style="list-style-type: none"> Responsibility for communication in the event of an action lies with the party in control of the action, e.g. network operators for load shedding, the Gas Continuity Scheme Operator for activation of the Scheme and any curtailment and the Government for relevant Government intervention. The NSW jurisdictional coordinator (Industry and Investment NSW officer) has responsibilities for communicating with NGERAC and EUSFAC. EUSFAC has responsibilities for high level communication with the NSW Government and Minister. 	-Infrastructure operators -Gas Continuity Scheme Operator -Energy and Utility Services Functional Area Coordinator -Industry and Investment NSW	-Infrastructure operator emergency response plans -NSW Gas Supply Disruption Response Plan -NSW Gas Continuity Scheme Rules	Only to the extent that AEMO may take on the functions under the NSW Gas Supply Act of Continuity Scheme Operator.	Communication responsibilities for some parties include notification to the National Gas Market Bulletin Board which provides data to interested participants in the gas market. AEMO may have a role in communicating to the gas industry in the event an electricity supply issue has the potential to affect gas-fired generation, e.g. additional gas-fired generation may be required to offset reduction in other generation types.

EMERGENCY FUNCTION	BODY / PERSON RESPONSIBLE FOR EMERGENCY FUNCTION	INSTRUMENTS AND PROCEDURES	WILL THIS FUNCTION BE AFFECTED BY AEMO?	COMMENTS
Responsibility for Communicating with State Emergency Services (NSW) <ul style="list-style-type: none"> • Infrastructure operators communicate with emergency services at a local and district level. • The EUSFAC undertakes high level communication with the SEOCON and the SEMC. 	-Infrastructure Operators -Energy and Utility Services Functional Area Coordinator (Industry and Investment NSW)	-Infrastructure operator emergency response plans -NSW Gas Supply Disruption Response Plan -State Emergency Rescue Management Act 1989	No	
Recovery (NSW) <ul style="list-style-type: none"> • Infrastructure operators are responsible for restoring their infrastructure following a non-supply incident. • Network operators are responsible for restoring supply to customers affected by load shedding, or curtailment under the Gas Continuity Scheme, including re-lighting the customer service. • The Minister (or delegate) may issue directions in relation to restoration of supplies under any regulation in force. • The SEOCON / EUSFAC are responsible for coordinating recovery in the event of a wide scale incident. 	-Infrastructure Operators -Network Operators -Minister -SEOCON -EUSFAC	-Network and Pipeline Operator Emergency Plans -NSW Gas Supply Disruption Response Plan -Energy and Utilities Administration Act 1987 -State Emergency Rescue Management Act 1989	No	

EMERGENCY FUNCTION	BODY / PERSON RESPONSIBLE FOR EMERGENCY FUNCTION	INSTRUMENTS AND PROCEDURES	WILL THIS FUNCTION BE AFFECTED BY AEMO?	COMMENTS
GAS - QUEENSLAND				
Concept / Principle of Operation in Relation to Emergencies (overall strategy/approach of jurisdiction) (Qld) <ul style="list-style-type: none"> Queensland Mines and Energy (QME) will be advised of emergencies as level 1 through 3 with only level 3 emergencies, which may affect essential users, potentially requiring QME action on request from gas companies. 	-Gas industry -Chief Inspector Petroleum and Gas -Queensland NGERAC representative.	-Gas industry emergency plans -QME Gas Insufficiency of Supply Contingency Plan	Not directly	AEMO likely to be included in communication protocols
Preparation of Emergency Management Plans (Qld) <ul style="list-style-type: none"> A draft Gas Insufficiency of Supply Contingency Plan has been prepared. Copies of the draft have been circulated to the NGERAC Chair and eastern State NGERAC representatives (not industry) for comment. 	-Queensland NGERAC representative.	-QME Gas Insufficiency of Supply Contingency Plan	No	
Agencies Involved in Managing Emergencies (Qld) <ul style="list-style-type: none"> All aspects of gas safety and supply emergencies are managed by QME. 	-The gas industry and QME	-QME Gas Insufficiency of Supply Contingency Plan	No	
Event Notification / Declaration (Qld) <ul style="list-style-type: none"> If a level 3 emergency occurs and the gas industry can manage contracts adequately but requires assistance with media statements for voluntary demand restraint or disuse of gas to allow repairs to be made, QME may issue the media statements to the affected community without declaring a gas emergency. If the gas industry is unable to manage contracts to ensure the continued supply of gas to essential customers, QME may request the Energy Minister make an insufficiency declaration under the <i>Gas Supply Act 2003</i>. 	-The gas industry and QME	-QME Gas Insufficiency of Supply Contingency Plan	Not directly	AEMO likely to be included in communication protocols
Ministerial Powers (Qld) <ul style="list-style-type: none"> Under the <i>Gas Supply Act 2003</i>, the Energy Minister may give directions: for example, on the supply of gas to the gas industry. 	- Energy Minister	-Gas Supply Act 2003	See comments	AEMO is named as a person the Minister may direct to do or not do something to ensure the safe supply of gas.
Agency Powers (Qld) <ul style="list-style-type: none"> As above. 			No	
Other Entity Powers (Qld) <ul style="list-style-type: none"> For safety issues, QME has an Inspector Petroleum and Gas, who can close down pipelines and other gas industry assets if safety is compromised. 	-QME	- Petroleum and Gas (Production and Safety) Act 2004	No	
Curtailment / Load Shedding Arrangements (Qld) <ul style="list-style-type: none"> QME relies on the gas industry to manage the disruption event with their contracts to ensure the least disruption occurs to gas users and to maintain supplies to essential users as long as possible. 	-The gas industry and QME as a last resort	-QME Gas Insufficiency of Supply Contingency Plan	Not directly	AEMO likely to be included in communication protocols
Force Majeure (Qld) <ul style="list-style-type: none"> If the gas industry is unable to provide the best outcome for essential users due to contractual obligations with other customers, directions given by the Minister while an insufficiency of supply declaration is in force prevail over contracts. 	-The gas industry and Energy Minister	-Gas Supply Act 2003	Not directly	AEMO likely to be included in communication protocols

Communication Responsibilities (Qld) <ul style="list-style-type: none"> The gas industry must notify the Inspector, Petroleum and Gas of all incidents. The Inspector will advise other areas of QME of supply disruption events for activation of the Gas Supply Insufficiency Contingency Plan. Industry participant must notify the Regulator (D-G, QME) of significant disruption to supply. 	-The gas industry and QME	- Petroleum and Gas (Production and Safety) Act 2004 - Gas Supply Act 2003 - QME Gas Insufficiency of Supply Contingency Plan	Not directly	AEMO likely to be included in communication protocols
Responsibility for Communicating / Liaising with State Emergency Services (Qld) <ul style="list-style-type: none"> First responders to gas industry asset emergencies will be called by the gas industry. If QME involvement is required for a level 3 event, all relevant State agencies will be advised by QME. 	-The gas industry and QME		Not directly	AEMO likely to be included in communication protocols

EMERGENCY FUNCTION	BODY / PERSON RESPONSIBLE FOR EMERGENCY FUNCTION	INSTRUMENTS AND PROCEDURES	WILL THIS FUNCTION BE AFFECTED BY AEMO?	COMMENTS
GAS – South Australia				
Concept / Principle of Operation in Relation to Emergencies (overall strategy/approach of jurisdiction) (SA) <ul style="list-style-type: none"> The Office of the Technical Regulator (part of the Energy Division of the Department of Transport Energy and Infrastructure (DTEI)) manages gas supply incidents and distribution system incidents. The Petroleum Division of the Department of Primary Industry and Resources South Australia (PIRSA) manages gas production plant, storage and transmission pipeline incidents. There is good communication between the two Divisions. The Office of the Technical Regulator (OTR) organises industry/government teleconferences if industry does not take this lead whenever an incident occurs. REMCo operates the retail gas market including the swing gas market. This is performed independently of the OTR. 	-Technical Regulator -Petroleum Division of the PIRSA -REMCo	-Gas Act 1997 Section 26 (B)	Yes	
Preparation of Emergency Management Plans (SA) <ul style="list-style-type: none"> OTR prepares SA Gas Supply Emergency Procedures manual. 	-OTR		No	
Agencies Involved in Managing Emergencies (SA) <ul style="list-style-type: none"> OTR for gas supply through the distribution network and through transmission pipelines and the physical status of the distribution network. The Petroleum Division of the PIRSA manages gas supply plant and the physical status of transmission pipelines. 	-Technical Regulator -Petroleum Division of the PIRSA		No	
Event Notification / Declaration (SA) <ul style="list-style-type: none"> Industry handles an emergency as part of its normal business. It normally informs the Technical Regulator if there is a possibility of a supply shortfall. This is normally done earlier rather later as industry participants may want directions issued by the Minister. <ul style="list-style-type: none"> -Any death from an accident on the distribution system (including supply transmission pipelines) must be reported to the Technical Regulator immediately. -Any damage that is being reported by the media is normally reported immediately to the Technical Regulator (by agreement). -Any damage to transmission pipeline or gas supply plant must be reported to PIRSA immediately. -Once the Technical Regulator has been informed, and if it appears the emergency could affect other jurisdictions, then the jurisdictional National Gas Emergency Response Advisory Committee (NGERAC) representative informs the NGERAC Chair and affected jurisdictions. 	-Technical Regulator -Petroleum Division of the PIRSA	-Gas Regulation 15 -Petroleum Act 2000 Section 85 -NGERAC Protocol	No	
Powers of the Minister for Energy (SA) <ul style="list-style-type: none"> The Minister for Energy may: <ul style="list-style-type: none"> -give directions to ensure the most efficient and appropriate use of available gas if there is or is likely to be insufficient gas; -issue directions with regard to the quality of the gas; -require a person to provide information with regard to gas supply; and -may delegate his powers. 	-Minister for Energy	-Gas Act 1997 Section 37	No	

Agency Powers (SA) The Technical Regulator has limited powers with regard to gas supply. The regulator may require rectification if the gas infrastructure is unsafe and disconnection of supply while the rectification work is being carried out.	-Technical Regulator	-Gas Act 1997 Section 57	No	
Other Entity Powers (SA) A gas entity (distributor or retailer) may disconnect supply to avert danger.	-Gas Entities	-Gas Act 1997 Section 53	No	
Force Majeure (SA) <ul style="list-style-type: none"> • Most contracts regard government directions as affecting force majeure • The Minister for Energy may issue directions to market participants to reduce or to cease gas consumption or supply. The OTR organises the issuing of such directions. • The distribution swing gas market switches to an alternative settlement period as soon as practicable and participants notified once an incident has reached level 2 in the Technical Regulator's Gas Supply Emergency Procedures. 	-Technical Regulator -Minister for Energy -REMCo	-Gas Act 1997 Section 37 -REMCo Procedures Part 5.12 (B)	Yes	
Communication Responsibilities (SA) <ul style="list-style-type: none"> • Minister for Energy. Recently the Communication section of DTEI has started to assist with this process. 	-Minister for Energy, DTEI		No	
Responsibility for Communicating / Liaising with State Emergency Services (SA) <ul style="list-style-type: none"> • Energy Division, DTEI Corporate Communications. • Office of the Technical Regulator through Engineering Functional Services at the State Emergency Centre and through the SA Police. 	-Energy Division -Office of the Technical Regulator -DTEI Corporate Communications -SA Police		No	

EMERGENCY FUNCTION	BODY / PERSON RESPONSIBLE FOR EMERGENCY FUNCTION	INSTRUMENTS AND PROCEDURES	WILL THIS FUNCTION BE AFFECTED BY AEMO?	COMMENTS
GAS - TASMANIA				
<p>Concept / Principle of Operation in Relation to Emergencies (overall strategy/approach of jurisdiction) (Tas)</p> <ul style="list-style-type: none"> Provide for market solutions to address gas supply risks before triggering Government intervention in emergency processes. Should Government intervention be necessary, the principles for prioritising the allocation of the limited supply are: <ol style="list-style-type: none"> protect the health, safety and property of the community; minimise broad community disruption; and minimise economic impact. Details are provided in the Tasmania Gas Supply Emergency Coordination Plan (TGSECP) – it includes details on the: <ul style="list-style-type: none"> -coordination of Tasmanian gas supply industry emergency management plans and processes; -the linkage to the national gas supply emergency response planning; and -process for providing advice to the Minister for Energy in respect of his responsibilities in relation to gas supply emergencies under the <i>Gas Act 2000</i>. 	<ul style="list-style-type: none"> -Network Operators -Director of Gas Safety -Department of Infrastructure, Energy and Resources (DIER) -State Emergency Management Committee (SEMC) 	<ul style="list-style-type: none"> -Tasmanian Gas Act 2000 -Emergency Management Act 2006 	No	
<p>Preparation of Emergency Management Plans (Tas)</p> <ul style="list-style-type: none"> Industry emergency response plans (transmission, distribution and retail entities) required under the <i>Tasmanian Gas Act 2000</i> and <i>Gas Pipelines Act 2000</i> and associated regulations. The Director of Gas Safety is required to review and approve these Emergency Response Plans. Tasmania Gas Supply Emergency Coordination Plan (TGSECP) is maintained by DIER and reviewed by the State Emergency Management Committee. 	<ul style="list-style-type: none"> -DIER, Director of Gas Safety and industry entities 	<ul style="list-style-type: none"> -Tasmanian Gas Act 2000 -Gas Pipelines Act 2000 -Emergency Management Act 2006 	No	
<p>Agencies Involved in Managing Emergencies (Tas)</p> <ul style="list-style-type: none"> The emphasis of the TGEMCP is on emergencies that impact, or have the potential to impact, the supply of gas to consumers. The plan does not cover arrangements for managing emergencies that have gas safety implications, but are not likely to impact consumer supply. Such arrangements are included in entity emergency response plans, which require endorsement by the Director of Gas Safety. It is presumed gas entities will interact with Police, Fire, SES and Workplace Standards. 	<ul style="list-style-type: none"> -DIER -Workplace Standards -Tas Fire -SES 	<ul style="list-style-type: none"> -Tasmanian Gas Act 2000 -Emergency Management Act 2006 	No	By an <u>instrument of delegation</u> the Regulator has delegated all his functions as Regulator arising under the <u>Electricity Industry Safety and Administration Act 1997</u> to the relevant officer of Workplace Standards Tasmania; and by a second <u>instrument of delegation</u> , has delegated several of his functions as Director of Gas, arising under the <u>Gas Act 2000</u> , to the Director of Gas Safety and the Manager Gas Safety of Workplace Standards Tasmania.
<p>Event Notification / Declaration (Tas)</p> <ul style="list-style-type: none"> For a national incident NGERAC procedures come into force. DIER would be informed by NGERAC. DIER would then inform relevant participants as outlined in the Tasmania Gas Supply Emergency Coordination Plan. When a local incident occurs it must be reported by the affected industry participant to the Director of Gas Safety. 	<ul style="list-style-type: none"> -Network Operators -Director of Gas Safety 	<ul style="list-style-type: none"> -Tasmanian Gas Act 2000 Section 45 -Gas Pipelines Act 2000 	Yes – if AEMO takes on some of NGERAC’s role otherwise - no.	
<p>Ministerial Powers (Tas)</p> <ul style="list-style-type: none"> The principal legislative instruments governing the gas industry in Tasmania are the <i>Gas Act 2000</i>, <i>Gas Pipelines Act 2000</i> and associated regulations. Both acts are assigned to the Minister for Energy for the most part, and to the Minister for Justice and Workplace Relations in so far as they relate to the appointment, functions, powers and duties of the Director of Gas Safety. DIER provides for support for the Minister of Energy, and Workplace Standards (a part of the Department of Justice) provides support for the Minister of Justice. Minister for Energy has powers to direct how gas is used (see <i>Gas Act</i> Section 45). Minister for Energy has to appoint a Director of Gas who administers the licensing system. Minister for Planning and Workplace Relations has to appoint a Director of Gas Safety who is to monitor and regulate safety and technical standards in the gas supply industry. 	<ul style="list-style-type: none"> -Minister for Energy 	<ul style="list-style-type: none"> -Tasmanian Gas Act 2000 -Gas Pipelines Act 2000 -Gas Pipelines Regulations 2002 -Gas Pipelines Access (Tasmania) Act 2000 	No	
<p>Agency Powers (Tas)</p> <ul style="list-style-type: none"> Director of Gas Safety has a requirement to audit safety and operating plans. 	<ul style="list-style-type: none"> -Director of Gas Safety 	<ul style="list-style-type: none"> -Gas Pipelines Act 2000 	No	
<p>Other Entity Powers (Tas)</p> <ul style="list-style-type: none"> Network operators have power to disconnect gas for safety reasons. 	<ul style="list-style-type: none"> -Network operators 	<ul style="list-style-type: none"> -Tasmanian Gas Act 2000 	No	

<p>Curtailement / Load Shedding Arrangements (Tas)</p> <ul style="list-style-type: none"> Gas curtailment arrangements are provided for in the distribution entities emergency response plan for distribution-connected consumers. Tasmania Gas Supply Emergency Coordination Plan (TGSECP) will provide overall policy direction for determining priorities in load shedding and restoration. The Minister may direct customers not to draw gas from the system – <i>Gas Act 2000</i> Section 45. 	-Minister for Energy	-Gas Act 2000 - provides that the Minister may direct entities and consumers on the supply and use of gas in the event of a supply shortfall.	No	
<p>Force Majeure (Tas)</p> <ul style="list-style-type: none"> Most contracts regard government intervention as being 'Force Majeure'. 	-Gas entities		No	
<p>Communication Responsibilities (Tas)</p> <ul style="list-style-type: none"> It is required that each industry or government entity will have internal procedures for their own internal notification requirements, and for ensuring that advisable incidents (as defined by the TGSECP) are brought to the attention of the entity contact officer (as defined by the TGSECP) in a timely manner. The DIER contact officer will be responsible for ensuring the Minister and members of his staff are appropriately advised in the event of an advisable incident. TGSECP which includes a state communications protocol for emergency situations, a process for advising the Minister in respect of his responsibilities and a linkage to national gas emergency response planning. The Tasmanian jurisdictional coordinator has responsibilities for communicating with NGERAC and SES. 	-Network Operators -DIER	-Tasmania Gas Industry Communications Protocol (Section 5 of the TGSECP)	Yes – if AEMO takes on some of NGERAC's role otherwise - no.	
<p>Responsibility for Communicating / Liaising with State Emergency Services (Tas)</p> <ul style="list-style-type: none"> For gas supply emergencies, DIER and industry entities will have the responsibility for communicating/liaising with State Emergency Services (SES). For gas safety emergencies, the Director of Gas Safety and industry entities will have the responsibility for communicating/liaising with SES. 	-DIER -Workplace Standards Tasmania (WST) -Industry entities	-Tasmania Gas Industry Communications Protocol (Section 5 of the TGSECP)	No	

EMERGENCY FUNCTION	BODY / PERSON RESPONSIBLE FOR EMERGENCY FUNCTION	INSTRUMENTS AND PROCEDURES	WILL THIS FUNCTION BE AFFECTED BY AEMO?	COMMENTS
GAS - Victoria				
<p>Note: VENCORP is the gas system operator for the Victorian principal gas transmission system as defined in the Gas Industry Act (GIA) 2001. This system provides the natural gas supply for all but a few of Victorian gas customers. VENCORP has no operational responsibility for the SEAGAS, Tasmanian or Eastern Gas Pipelines (EGP) pipelines. The roles, responsibilities and powers described below for the Department of Primary Industries (DPI) and Energy Safe Victoria (ESV) do, however, apply to all natural gas pipelines in Victoria. The SEAGAS and Tasmanian pipelines do not currently supply customers in Victoria. The EGP currently supplies approximately 1200 Victorian customers via the Bairnsdale distribution network. Emergencies on these pipelines are likely to have greater significance for interstate gas supplies.</p>				
<p>Concept / Principle of Operation in Relation to Emergencies (overall strategy/approach of jurisdiction) (Vic)</p> <ul style="list-style-type: none"> The principal policy and planning documentation for emergency management in Victoria is set out in the “Emergency Management Manual Victoria”, issued by the Coordinator in Chief of Emergency Management, the Minister for Police and Emergency Services. Part 7 of the Emergency Management Manual Victoria identifies the control agencies and key support agencies for incident response. For disruptions to natural gas supplies, the control agency is identified as the Department of Primary Industries, Energy and Earth Resources Policy division. Key support agencies include VENCORP, DPI Minerals and Petroleum, Energy Safe Victoria (ESV), and gas distribution businesses. 	<ul style="list-style-type: none"> -The Coordinator in Chief of Emergency Management -The Minister for Police and Emergency Services 	<ul style="list-style-type: none"> -Emergency Management Manual Victoria, issued pursuant to the Emergency Management Act 1986. 	<ul style="list-style-type: none"> Not significantly (see comments) 	<ul style="list-style-type: none"> Changes to the manual will be required to reflect AEMO assuming roles/responsibilities until now assigned to VENCORP.
<p>Preparation of Emergency Management Plans (Vic)</p> <ul style="list-style-type: none"> All relevant gas companies (including gas transmission companies, gas distribution companies, gas retailers) are required to prepare, and submit to ESV, safety cases in accordance with the <i>Gas Safety Act 1997</i>. In respect of the gas transmission system, VENCORP is required to consult with the Minister, ESV and participants to prepare and review, from time to time, emergency procedures in respect of the gas transmission system. These procedures are to be followed by VENCORP and participants to prepare for, avoid, mitigate or manage emergencies. The procedures cover the declaration of emergencies, communication, notification and direction protocols, sharing of resources, load curtailment, and supply restoration and recovery. The procedures also categorise emergency incidents, escalating from level 1, being a localised site issue, to level 5, being an incident potentially affecting system security or safety. VENCORP is the only entity that can declare a level 5 emergency under these procedures. In addition to VENCORP, APA GasNet, with respect to the gas transmission system, operators of the SEAGAS, EGP and TGP pipelines also submit safety cases to ESV (see above), which incorporate their emergency management plans. 	<ul style="list-style-type: none"> -Gas companies -VENCORP -Pipeline owners/operators 	<ul style="list-style-type: none"> -Section 37 Gas Safety Act 1997 -Section 6.2.2 of Market and System Operations Rules (MSOR) -Section 37 Gas Safety Act 1997 	<ul style="list-style-type: none"> No Yes No 	<ul style="list-style-type: none"> VENCORP role to be assumed by AEMO. Relevant provisions of the Victorian Gas Industry Act 2001 and the MSO Rules to be transferred to National Gas Law, National Gas Rules.
<p>Agencies Involved in Managing Emergencies (Vic)</p> <ul style="list-style-type: none"> Department of Primary Industries VENCORP Energy Safe Victoria Gas Pipeline owners/operators (APA GasNet, SEAGAS, Jemena (Eastern Gas Pipeline), gas distribution businesses) 		<ul style="list-style-type: none"> -Gas Industry Act 2001 - MSOR -Gas Safety Act 1997 	<ul style="list-style-type: none"> No Yes No No 	<ul style="list-style-type: none"> VENCORP role to be assumed by AEMO Relevant provisions of the Victorian Gas Industry Act 2001 and the MSO Rules to be transferred to National Gas Law, National Gas Rules.
<p>Event Notification / Declaration (Vic)</p> <ul style="list-style-type: none"> In the event of an actual or potential threat to the security of the gas transmission system, VENCORP can declare a “threat to system security”, under Section 6.6 of the MSOR, or an “emergency”, under Section 6.2.1 of the MSOR. A threat to system security is advised to participants by way of a “system wide notice” issued by SMS and via the Market Information Bulletin Board. VENCORP will also advise DPI and ESV of the threat before issuing the declaration, if possible, or as soon as possible thereafter. VENCORP can also declare a level 5 emergency in accordance with the emergency procedures developed under section 6.2.2 of the MSOR. Wherever possible, this action would be taken after consultation with ESV and DPI. The declaration is made by way of a pro-forma declaration signed by an authorised officer of VENCORP, which is then forwarded to all participants via e-mail or fax. Verbal notification is also provided by phone. If the supply of gas is considered to be, or likely to be, less than sufficient to meet the reasonable requirements of the community, an emergency can also be declared by the Governor in Council issuing a proclamation that Part 9 of the GIA applies. 	<ul style="list-style-type: none"> -VENCORP -VENCORP -DPI 	<ul style="list-style-type: none"> -Section 6.2.1 MSOR -Section 6.2.1 MSOR, and Emergency Procedures produced under Section 6.2.2 MSOR. -Part 9, Gas Industry Act 2001 -Section 106, Section 107 Gas 	<ul style="list-style-type: none"> Yes No No 	<ul style="list-style-type: none"> VENCORP role to be assumed by AEMO Relevant provisions of the Victorian Gas Industry Act 2001 and the MSO Rules to be transferred to National Gas Law, National Gas Rules.

EMERGENCY FUNCTION	BODY / PERSON RESPONSIBLE FOR EMERGENCY FUNCTION	INSTRUMENTS AND PROCEDURES	WILL THIS FUNCTION BE AFFECTED BY AEMO?	COMMENTS
GAS - Victoria				
<ul style="list-style-type: none"> The Director of Energy Safe Victoria can issue directions, in respect of any transmission or distribution pipeline in Victoria, under Section 106 or Section 107 of the <i>Gas Safety Act 1997</i>. 	-ESV	Safety Act 1997		
Ministerial Powers (Vic) <ul style="list-style-type: none"> Following proclamation of Part 9 of the GIA by the Governor in Council, the Minister has broad powers to issue directions to ensure the safe, secure supply of gas and/or regulate the use of the available supply of gas. 	-Minister for Energy, and Resources with DPI as the Control Agency	-Gas Industry Act 2001	No	AEMO will replace VENCORP as source of direct system/market advice or information to DPI.
Agency Powers (Vic) <ul style="list-style-type: none"> VENCORP's functions include: <ul style="list-style-type: none"> to specify security standards for the Victorian gas transmission system; to control the security of the Victorian gas transmission system; to control the operation of the Victorian gas transmission system; and to coordinate the interaction of gas production, gas storage, transmission pipelines and gas distribution and supply facilities for the purpose of ensuring a secure and efficient gas transmission system VENCORP may give directions to participants to facilitate the reliability and security of the gas transmission or distribution system, or in the interests of public safety. The Director of Energy Safe Victoria (ESV) may give directions to any person for safety reasons. 	-VENCORP -VENCORP -ESV	-Section 160 Gas Industry Act -Section 186 Gas Industry Act; Section 6.6.4 MSOR -Sections 106 & 107, Gas Safety Act 1997	Yes Yes No	VENCORP role to be assumed by AEMO Relevant provisions of the Victorian Gas Industry Act 2001 and the MSO Rules to be transferred to National Gas Law (NGL) and National Gas Rules (NGR).
Other Entity Powers (Vic) <ul style="list-style-type: none"> None 				
Curtailed / Load Shedding Arrangements (Vic) In respect of customers supplied from the gas transmission system : <ul style="list-style-type: none"> Section 6.4.3 of the MSOR requires VENCORP to prepare an emergency curtailment list. VENCORP fulfils this obligation through the development, in consultation with DPI, and publication on its website of the "Gas Load Curtailment and Gas Rationing and Recovery Guidelines". There is a standing direction from the Minister to VENCORP to use these guidelines to implement curtailment if VENCORP believes it necessary to maintain system security. Based on the "Gas Load Curtailment and Gas Rationing and Recovery Guidelines" and customer information provided to VENCORP by distribution businesses and transmission customers under Sections 6.4.1 and 6.4.2 of the MSOR, VENCORP produces emergency curtailment tables that set out categories of customers and the curtailment order in an emergency. In the event of a threat to system security or an emergency, VENCORP may issue directions under Section 186 of the GIA to curtail customer load in accordance with the emergency curtailment tables. 	-VENCORP	-Section 6.4 MSOR -Section 186 Gas Industry Act -Standing direction from Minister to VENCORP.	Yes	VENCORP role to be assumed by AEMO. Powers currently conferred on VENCORP under the MSOR and GIA will need to transfer to the NGL and NGR.
Force Majeure (Vic) <ul style="list-style-type: none"> The conditions under which VENCORP may declare a "system force majeure event" on the gas transmission system are set out in Section 6.7.2 of the MSOR. If VENCORP declares a system force majeure event, it must notify all market participants and declare an administered price period in the Victorian gas spot market. 	-VENCORP	-Section 6.7.2 MSOR	Yes	VENCORP role to be assumed by AEMO Relevant provisions of the Victorian Gas Industry Act 2001 and the MSO Rules to be transferred to NGL, NGR.
Communication Responsibilities (Vic) <ul style="list-style-type: none"> VENCORP communicates information regarding emergency situations and consequences to government, government agencies (DPI and ESV) and industry. VENCORP also provides information to the community through the media depending on the nature of the incident and consequences. VENCORP focuses on issues of gas supply and public safety. If an emergency situation is declared a level 5 emergency VENCORP's responsibilities expand to include the communication of any applicable gas usage restrictions. These restrictions must be communicated to all relevant parties as well as the community through the news media and newspaper advertisements. VENCORP uses a variety of tools to perform this role with a secure web based facility which assists industry to monitor 	-VENCORP	-Communications Protocols	Yes	VENCORP roles to be assumed by AEMO

EMERGENCY FUNCTION	BODY / PERSON RESPONSIBLE FOR EMERGENCY FUNCTION	INSTRUMENTS AND PROCEDURES	WILL THIS FUNCTION BE AFFECTED BY AEMO?	COMMENTS
GAS - Victoria				
and manage emergency events.				
Responsibility for Communicating / Liaising with State Emergency Services (Vic) <ul style="list-style-type: none"> VENCorp communicates incidents and potential incidents to the State's Emergency Services. VENCorp does this through the Victoria Police State Emergency Co-ordination Centre (SERCC). The SERCC then liaises with all other relevant emergency agencies. 	-VENCorp	-Communications Protocols	Yes	VENCorp roles to be assumed by AEMO

EMERGENCY FUNCTION	BODY / PERSON RESPONSIBLE FOR EMERGENCY FUNCTION	INSTRUMENTS AND PROCEDURES	WILL THIS FUNCTION BE AFFECTED BY AEMO?	COMMENTS
GAS – WESTERN AUSTRALIA				
Concept / Principle of Operation in Relation to Emergencies (overall strategy/approach of jurisdiction) (WA) <ul style="list-style-type: none"> Standing market arrangements should be allowed to continue so far as possible. Intervention should be limited to that required to ensure priority needs are met. Principles of priority allocation for limited supply are: <ol style="list-style-type: none"> protect the health, safety and property of the community; minimise broad community disruption; and minimise economic impact. 	-Office of Energy in consultation with Government and industry.	-Energy Operators (Powers) Act 1979 -Energy Coordination Act 1994 -Fuel Energy and Power Resources Act 1972	No	
Preparation of Emergency Management Plans (WA) <ul style="list-style-type: none"> Emergency coordination plans prepared by the Office of Energy, including the invocation of emergency powers. Individual plans prepared by production facilities, pipelines and networks. 	-Office of Energy and operating organisations		No	
Agencies Involved in Managing Emergencies (WA) <ul style="list-style-type: none"> Production facilities, pipelines and networks are each responsible to manage emergencies within their scope of operations. No dedicated central management, but the Office of Energy facilitates coordination of emergency management activities. In severe events government takes the lead. 	-Operating organisations -Office of Energy -Government as appropriate			
Event Notification / Declaration (WA) <ul style="list-style-type: none"> Various notification requirements under contracts. Energy operators must advise the Minister for Energy of an emergency. No formal declaration arrangements except where emergency powers are to be used. Office of Energy facilitates coordination and notification as required. 	-Operating organisations -Office of Energy -Government as appropriate	-Energy Coordination Act 1994 -Energy Operators (Powers) Act 1979	No	
Ministerial Powers (WA) <ul style="list-style-type: none"> The Minister for Energy has emergency powers to direct and restrict supply. The <i>Fuel Energy and Power Resources Act 1972</i> first requires declaration of an emergency by the Governor. 	-Minister for Energy	Emergency powers under : -Energy Operators (Powers) Act 1979; -Energy Coordination Act 1994; -Fuel Energy and Power Resources Act 1972	No	
Agency Powers (WA) <ul style="list-style-type: none"> Through the Coordinator of Energy the Office of Energy has the power to gather information which, among other things, could support the management of an emergency. 	-Office of Energy	-Energy Coordination Act 1994	No	

<p>Other Entity Powers (WA)</p> <ul style="list-style-type: none"> • Network operators have the powers to take immediate measures to avoid or mitigate an emergency. 	<p>-Network operators</p>	<p>-Energy Coordination Act 1994 -Energy Operators (Powers) Act 1979</p>	<p>No</p>	
<p>Curtailment / Load Shedding Arrangements (WA)</p> <ul style="list-style-type: none"> • Under pipeline contracts shippers can only take gas if their supplier has input gas. • Under the Dampier to Bunbury Pipeline Regulations 1998 the DBNGP operator is restricted in its ability to curtail supply to the gas network below 40TJper day. • Network operators have prepared provisional curtailment schedules to be used in the event that an emergency order is required. • Otherwise there are no standing curtailment arrangements – curtailment would be tailored to suit the needs of the circumstance. • The supporting allocation schedule is: <ul style="list-style-type: none"> - Energy infrastructure is to be given top priority to maintain the State’s capability to supply gas and electricity to users. - Essential Services are defined as those critical services that have the potential to seriously impact on the health and safety of the community and include essential public transport and communications. - Essential Supply to Residential Customers will minimise the potential for health impacts and disruption to the community. Consumers are encouraged to reduce energy consumption. - Industries providing essential goods and services to the WA community will have a higher priority in the allocation of energy than those that do not. This is to minimise disruption to the community and recognise the important services that these industries provide. - For all other industries, every effort will be made to maximise the availability of supply, recognising their importance to the State and National economy. 	<p>-Pipeliners -Shippers -Energy Operators -Minister for Energy (on advice from operators and Office of Energy)</p>	<p>-Dampier to Bunbury Pipeline Regulations 1998 Emergency powers under : -Energy Operators (Powers) Act 1979; -Energy Coordination Act 1994; and -Fuel Energy and Power Resources Act 1972</p>	<p>No</p>	
<p>Force Majeure (WA)</p> <ul style="list-style-type: none"> • Force majeure only relevant within contract arrangements. 	<p>-Pipeliners -Shippers -Energy Operators -Customers</p>	<p>-Contracts</p>	<p>No</p>	
<p>Communication Responsibilities (WA)</p> <ul style="list-style-type: none"> • Various notification requirements under contracts. • Energy operators must advise the Minister for Energy of an emergency. • Office of Energy facilitates coordination and notification as required. • Public communication arrangements tailored to the event – major events being coordinated through the Government Media Office. 	<p>-Operating organisations, Office of Energy and Government as appropriate</p>	<p>-Energy Operators (Powers) Act 1979; -Energy Coordination Act 1994; and</p>	<p>No</p>	
<p>Responsibility for Communicating / Liaising with State Emergency Services (WA)</p> <ul style="list-style-type: none"> • Primarily addressed as a operating situation demands – parties would liaise with the State Emergency Services to the extent and in the circumstance where the nature of the situation required emergency services involvement. 	<p>-Operating organisations, Office of Energy and Government as appropriate</p>	<p>-Emergency Management Act 2005</p>	<p>No</p>	

Appendix 5 – Electricity Emergency Arrangements

EMERGENCY FUNCTION	BODY / PERSON RESPONSIBLE FOR EMERGENCY FUNCTION	INSTRUMENTS AND PROCEDURES	WILL THIS FUNCTION BE AFFECTED BY AEMO?	COMMENTS
ELECTRICITY - ACT				
<p>Concept / Principle of Operation in Relation to Emergencies (overall strategy/approach of jurisdiction) (ACT)</p> <ul style="list-style-type: none"> • Provide for market solutions to address electricity supply risks before triggering Government intervention in emergency processes. • Where an electricity supply shortfall within the ACT and / or in the wider NSW National Electricity Market (NEM) Region occurs, or is likely, the following processes apply: <ul style="list-style-type: none"> - In relation to the distribution network, the network operator manages the incident. - In relation to the transmission network, the network operator and NEMMCO will manage the incident depending on the nature and extent of the incident. Distribution network operator(s) may also be required to manage supply shortfalls at the local level. - In relation to generation, NEMMCO will manage the incident in consultation with the transmission network operator, with some delegation to local distributors. • The above process may include load shedding or calls for voluntary restraint. • If any of the above are not effective in ensuring electricity supplies for priority services, the Government can initiate mandatory electricity restrictions. 	<ul style="list-style-type: none"> -Electricity Transmission Network Operator -Electricity Distribution Network Operator -Emergency Services -Department of Environment, Climate Change, Energy and Water 	<ul style="list-style-type: none"> -National Electricity Law -National Electricity Law Utilities Act 2000 -Emergency Plan Utilities Code -Utilities Licence Conditions -Electricity Safety Act 1971 -Emergency Plan under the Emergencies Act 2004 -National Electricity Law Utilities Act 2000 -Utilities (Electricity Restrictions) Regulations 2004 	No	
<p>Preparation of Emergency Management Plans (ACT)</p> <ul style="list-style-type: none"> • Emergency plans to respond to electricity supply shortages or interruptions. 	<ul style="list-style-type: none"> -NEMMCO -Electricity Transmission Network Operator -NEMMCO -Electricity Distribution Network Operator -Emergency Services Agency 	<ul style="list-style-type: none"> -National Electricity Law -National Electricity Law Emergency Plan Utilities Code -Emergencies Act 2004 	Possibly Possibly	

EMERGENCY FUNCTION	BODY / PERSON RESPONSIBLE FOR EMERGENCY FUNCTION	INSTRUMENTS AND PROCEDURES	WILL THIS FUNCTION BE AFFECTED BY AEMO?	COMMENTS
<p>Agencies Involved in Managing Emergencies (ACT)</p> <ul style="list-style-type: none"> Agencies involved in managing an emergency situation depend on the nature and extent of the emergency. Incidents are classified by the local electricity distribution network operator or electricity transmission network operator in conjunction with the emergency services. <ul style="list-style-type: none"> The severity of an event trigger is assessed as to its ability to affect the wider ACT community and an emergency may be declared. 	<ul style="list-style-type: none"> -NEMMCO -Electricity Transmission Network Operator -Electricity Distribution Network Operator -Department of Environment, Climate Change, Energy and Water -Chief Minister -Emergency Services -Department of Environment, Climate Change, Energy and Water 	<ul style="list-style-type: none"> -National Electricity Law -National Electricity Law -National Electricity Law Utilities Act 2000 -Emergency Plan Utilities Code -Utilities Licence Conditions -Electricity Safety Act 1971 -National Electricity Law -Utilities Act 2000 -Utilities (Electricity Restrictions) Regulations 2004 -Emergencies Act 2004 -Emergencies Act 2004 -Emergency Plan under the Emergencies Act 2004 -Utilities Act 2000 -Utilities (Electricity Restrictions) Regulations 2004 	<ul style="list-style-type: none"> Possibly Possibly Possibly Possibly No No No 	
<p>Event Notification / Declaration (ACT)</p> <ul style="list-style-type: none"> Notification <ul style="list-style-type: none"> Emergency declaration 	<ul style="list-style-type: none"> -NEMMCO -Electricity Transmission Network Operator -Electricity Distribution Network Operator -Third Parties (including emergency services) -Chief Minister 	<ul style="list-style-type: none"> -National Electricity Law -National Electricity Law -Emergency Plan Utilities Code -Emergencies Act 2004 	<ul style="list-style-type: none"> Possibly Possibly No No 	
<p>Ministerial Powers (ACT)</p> <ul style="list-style-type: none"> The Minister can appoint a Territory Controller. 	<ul style="list-style-type: none"> -Chief Minister 	<ul style="list-style-type: none"> -Emergencies Act 2004 	<ul style="list-style-type: none"> No 	
<p>Agency Powers (ACT)</p> <ul style="list-style-type: none"> For the management of the declared state of emergency, the Territory Controller among other things may maintain, restore or prevent disruption of essential services. 	<ul style="list-style-type: none"> -Territory Controller 	<ul style="list-style-type: none"> -Emergencies Act 2004 Section 163 (2)(g) 	<ul style="list-style-type: none"> No 	

EMERGENCY FUNCTION	BODY / PERSON RESPONSIBLE FOR EMERGENCY FUNCTION	INSTRUMENTS AND PROCEDURES	WILL THIS FUNCTION BE AFFECTED BY AEMO?	COMMENTS
Other Entity Powers (ACT) <ul style="list-style-type: none"> Local electricity distribution network operator. 	-Electricity Distribution Network Operator	-Utilities Act 2000	No	
Curtailment / Load Shedding Arrangements (ACT) <ul style="list-style-type: none"> Curtailment and voluntary loadshedding. Mandatory loadshedding. 	-Electricity Distribution Network Operator -Minister	-Utility Emergency Plan -Utilities Electricity Restrictions Regulations 2004	No No	
Force Majeure (ACT) <ul style="list-style-type: none"> Force majeure issues are between contracting parties for the supply or delivery of electricity. 	-Contracted Parties	-Commercial Contracts	No	
Communication Responsibilities (ACT) <ul style="list-style-type: none"> Local electricity distribution network operator. Emergency Services. 	-Liaison Officer -Liaison Officer	-Utility Emergency Plan -Emergency Plan under the Emergencies Act 2004	No	
Responsibility for Communicating / Liaising with State Emergency Services (ACT) <ul style="list-style-type: none"> Local electricity distribution network operator. 	-Liaison Officer	-Utility Emergency Plan	No	
Recovery (ACT) <ul style="list-style-type: none"> Infrastructure operators are responsible for restoring their infrastructure following a non-supply incident. 	-Electricity Distribution Network Operator -Emergency Services	-Utility Emergency Plan (recovery Phase)	No	

EMERGENCY FUNCTION	BODY / PERSON RESPONSIBLE FOR EMERGENCY FUNCTION	INSTRUMENTS AND PROCEDURES	WILL THIS FUNCTION BE AFFECTED BY AEMO?	COMMENTS
ELECTRICITY - NSW				
<p>Concept / Principle of Operation in Relation to Emergencies (overall strategy/approach of jurisdiction) (NSW)</p> <ul style="list-style-type: none"> • Provide for market solutions to address electricity supply risks before triggering government intervention in emergency processes. • Therefore, where an electricity supply shortfall within NSW occurs, or is likely, the following processes apply: <ul style="list-style-type: none"> - In relation to the distribution network, the network operator manages the incident. - In relation to the transmission network, the network operator and NEMMCO will manage the incident depending on the nature and extent of the incident. Distribution network operator(s) may also be required to manage supply shortfalls at the local level. - In relation to generation, NEMMCO will manage the incident in consultation with the transmission network operator, with some delegation to local distributors. • The above process may include load shedding or calls for voluntary restraint. • If any of the above are not effective in ensuring electricity supplies for priority services, the Government can initiate rationing via statutory-based intervention. • Government intervention is a last resort measure. • In the event of a non-supply emergency (e.g. natural or other disaster), arrangements under the State Disaster Plan developed by the State Emergency Management Committee (SEMC) may be used under the direction of the State Emergency Operations Controller (SEOCON) or designated District Emergency Operations Controller (DEOCON) for localised incidents. 	<ul style="list-style-type: none"> -Network Operators -Major Users -NEMMCO -Minister / Industry and Investment NSW -State Emergency Management Committee 	<ul style="list-style-type: none"> -Electricity Supply Act 1995 -Energy and Utilities Administration Act 1987 -State Emergency Rescue Management Act 1989 	<p>Only as far as AEMO takes over NEMMCO functions</p>	
<p>Preparation of Emergency Management Plans (NSW)</p> <ul style="list-style-type: none"> • Responses to infrastructure failures are managed by the relevant infrastructure operator, and regulations require infrastructure operators to have in place emergency management plans for their infrastructure. • The <i>State Emergency Rescue Management Act</i> requires the functional area coordinator to make, maintain and review emergency plans, including for supply-based emergencies. • The Jurisdictional System Security Coordinator (JSSC) develops load shedding arrangements in consultation with network operators and Industry and Investment NSW, and provides NSW load shedding guidelines to NEMMCO. • State level emergency plans are linked to the national emergency plan developed by NEMMCO. • All plans are required to be exercised on a regular basis, with appropriate updates/modifications based on exercise experiences. 	<ul style="list-style-type: none"> -Energy and Utility Services Functional Area -Coordinator (EUSFAC) -Industry and Investment NSW -Network Operators -NEMMCO -JSSC 	<ul style="list-style-type: none"> -Electricity Supply Act 1995 and Regulations -State Emergency Rescue Management Act 1989 -NSW Load Shedding Guidelines 	<p>Only as far as AEMO takes over NEMMCO functions</p>	
<p>Agencies Involved in Managing Emergencies (NSW)</p> <ul style="list-style-type: none"> • The agencies involved in managing an emergency situation depends on the nature and extent of the emergency. • Small, localised incidents are managed by the network operator and, if necessary, the DEOCON. • As the significance of an event increases, NEMMCO may be required to manage system security in conjunction with the Responsible Officer (TransGrid CEO). • The Energy and Utilities Services Functional Area Coordinator (EUSFAC) will oversee industry actions and responses. • If NEMMCO and industry require further assistance in managing the incident then Ministerial powers may be activated. • The EUSFAC can utilise the powers of SEOCON to provide additional resources as required to manage the event. • If the event is a critical non-supply incident, SEOCON may require EUSFAC to coordinate electricity industry responses. 	<ul style="list-style-type: none"> -Network Operators -Retailers -Major Users -Minister / Industry and Investment NSW -EUSFAC -NEMMCO -Responsible Officer -SEOCON / DEOCON 	<ul style="list-style-type: none"> -Electricity Supply Act 1995 -Energy and Utilities Administration Act 1987 -State Emergency Rescue Management Act 1989 	<p>Only as far as AEMO takes over NEMMCO functions</p>	

EMERGENCY FUNCTION	BODY / PERSON RESPONSIBLE FOR EMERGENCY FUNCTION	INSTRUMENTS AND PROCEDURES	WILL THIS FUNCTION BE AFFECTED BY AEMO?	COMMENTS
Event Notification / Declaration (NSW) <ul style="list-style-type: none"> Responsibility for notification resides with the body that is first aware of the incident. This will usually, but not always, be the infrastructure operator. For market shortage events NEMMCO will declare Lack of Reserve (LOR) conditions and/or the level of emergency (levels 1 to 5). For load shedding, declaration of the need for and the amount of load shedding is the responsibility of NEMMCO. Notification of load shedding to network operators is the responsibility of the Responsible Officer. For government intervention (of any type), declaration is by the applicable Minister or Governor. 	-Network Operators -NEMMCO -Responsible Officer -Minister / Governor	-Network Operator Emergency Plans -NSW Electricity Supply Disruption Response Plan -Energy and Utilities Administration Act 1987 -State Emergency Rescue Management Act 1989	Only as far as AEMO takes over NEMMCO functions	
Ministerial Powers (NSW) <ul style="list-style-type: none"> The NSW Minister for Energy (or delegate) has extensive powers if an emergency regulation is proclaimed, under Part 6 of the <i>Energy and Utilities Administration Act</i>. These powers relate to controlling, directing, restricting or prohibiting the sale, supply, use or consumption of the proclaimed form of energy, whether generally or for any purpose or purposes specified in the regulation. The regulation can be made whenever it appears to the Governor that from any cause the available supply of any form of energy or energy resources is or is likely to become less than is sufficient for the reasonable requirements of the community. In the event of an industrial relations issue that has the potential or is affecting energy supplies to the community, the Minister for Industrial Relations can invoke powers under the <i>Essential Services Act</i>. 	-Governor/Minister	-Part 6, Energy and Utilities Administration Act 1987 -Essential Services Act 1988	No	
Agency Powers (NSW) <ul style="list-style-type: none"> Industry and Investment NSW and the EUSFAC do not have any legislative powers, except if delegated under a regulation in force under Part 6 of the <i>Energy and Utilities Administration Act 1987</i> or the <i>State Emergency Rescue Management Act 1989</i>. 	-Not Applicable	-Not Applicable	No	
Other Entity Powers (NSW) <ul style="list-style-type: none"> Network operators can undertake load shedding in accordance with the network emergency management arrangements (load shedding may occur with little or no notice). NEMMCO can require load shedding in response to a system security incident. The NSW Responsible Officer has the power to direct network operator load shedding in response to a system security incident. SEOCON/DEOCAN have powers under the <i>State Emergency Response Management Act</i>. 	-Network Operators -NEMMCO -Responsible Officer -State Emergency Operations Controller (SEOCAN) -District Emergency Operations Controller (DEOCAN)	-Network Management Arrangements -NEMMCO procedures -NEL and Rules -State Emergency Rescue Management Act 1989	Only to the extent that AEMO may take on the functions of NEMMCO.	
Curtailed / Load Shedding Arrangements (NSW) <ul style="list-style-type: none"> See above in respect of Ministerial and other agency powers, and NSW principles. 				
Force Majeure (NSW) <ul style="list-style-type: none"> Force Majeure issues are managed between contracting parties for the supply or delivery of electricity. 	-Parties to contracts	-Contracts	No	
Communication Responsibilities (NSW) <ul style="list-style-type: none"> Responsibility for communication in the event of an action lies with the party in control of the action, e.g. network operators, NEMMCO, the Government for relevant government intervention. The NSW Responsible Officer has responsibilities for communicating with NEMMCO and the Minister/Industry and Investment NSW. Network operators/Industry and Investment NSW/Minister will communicate with the public according to the event. 	-Network operators -NEMMCO -NSW Responsible Officer -Government (Premier/Minister/Industry and Investment NSW)	-Network operator emergency response plans -NEL and Rules -NEMMCO procedures, e.g. Power System Emergency Management Plan; Communication Plan -NSW Electricity Supply Disruption Response Plan	Only to the extent that AEMO may take on the functions of NEMMCO.	AEMO may have a role in communicating to the electricity industry in the event a gas supply issue has the potential to affect gas-fired generation.
Responsibility for Communicating with State Emergency Services (NSW) <ul style="list-style-type: none"> Network operators communicate with emergency services at a local level. The NSW Jurisdictional Designated Officer (JDO) via the Energy and Utilities Services Functional Area Coordinator undertakes high level communication with SEOCAN and SEMC. 	-Network Operators -JDO and Energy and Utility Services Functional Area Coordinator	-Infrastructure operator emergency response plans -State Emergency Rescue Management Act 1989	No	

EMERGENCY FUNCTION	BODY / PERSON RESPONSIBLE FOR EMERGENCY FUNCTION	INSTRUMENTS AND PROCEDURES	WILL THIS FUNCTION BE AFFECTED BY AEMO?	COMMENTS
Recovery (NSW) <ul style="list-style-type: none"> • Network operators / generators are responsible for restoring their infrastructure following a non-supply incident. • Network operators are responsible for restoring supply to customers affected by load shedding. • The Minister (or delegate) may issue directions in relation to restoration of supplies under any regulation in force. • SEOCON / EUSFAC are responsible for coordinating recovery in the event of a wide scale incident. 	<ul style="list-style-type: none"> -Network Operators -Generators -Minister -SEOCON -EUSFAC 	<ul style="list-style-type: none"> -Network Operator Emergency Plans -NSW Electricity Supply Disruption Response Plan -Energy and Utilities Administration Act 1987 -State Emergency Rescue Management Act 1989 	No	

EMERGENCY FUNCTION	BODY / PERSON RESPONSIBLE FOR EMERGENCY FUNCTION	INSTRUMENTS AND PROCEDURES	WILL THIS FUNCTION BE AFFECTED BY AEMO?	COMMENTS
ELECTRICITY - QLD				
Concept / Principle of Operation in Relation to Emergencies (overall strategy/approach of jurisdiction) (Qld) <ul style="list-style-type: none"> Queensland Mines and Energy (QME)/Minister tends to be only involved in major emergencies, or where the department can contribute by coordinating additional resources for the industry to manage localised emergencies. 	-Queensland Mines and Energy (QME) - Minister	-See below	No	
Preparation of Emergency Management Plans (Qld) <ul style="list-style-type: none"> An Electricity Load Shedding and/or Emergency Rationing Orders Plan has been prepared. Copies of the Plan have been circulated to the Executive Director of Energy Sector Monitoring (ESM) and Deputy Director-General (DDG) (Tech, Expl & Ind Dev). 	-Deputy Director-General (DDG) (Tech, Expl & Ind Dev) -Executive Director of Energy Sector Monitoring (ESM)	-Sections 121 to 129 of the Electricity Act 1994	No	The establishment of AEMO will only mean consulting with, and having contacts within, a different organisation.
Agencies Involved in Managing Emergencies (Qld) <ul style="list-style-type: none"> In an electricity emergency the sequence, duration and nature of emergency responses are dependent on the extent and severity of the incident as well as how rapidly the electricity supply situation deteriorates or recovers. Relatively minor localised distribution incidents are handled by the distribution entity in question. Transmission/generation incidents which affect a single entity with some potential for moderate impact on other electricity industry participants, would be handled by the relevant transmission/generation entity, but NEMMCO may become involved if impact worsens or goes beyond single jurisdiction. NEMMCO deals with incidents that go well beyond a single electricity industry participant or jurisdiction, where overall system safety and integrity are threatened, and the impacts require a coordinated response of multiple industry participants. Major electricity supply shortages by load shedding (managed through transmission and distribution entities) and other market based measures before a jurisdiction considers exercising its emergency powers. Where pre-arranged load shedding is considered inadequate or inappropriate (i.e. it is in the community's interest), the jurisdiction may decide to intervene. Generally, rationing orders issued by the Minister for Mines and Energy are best suited for significant and longer term electricity shortages. When issuing a rationing order, the Minister may involve the Electrical Safety Office (ESO) which provides inspection officers authorised to enter premises to investigate compliance with, and disconnect for contravention of, an rationing order. Depending on the nature or cause of the emergency, other agencies such as the Department of Emergency Services (DES) and Queensland Police (QPS) may become involved to provide field resources. 	-NEMMCO -Powerlink Qld -Distributors (ENERGEX and Ergon Energy) -QME/Energy Minister -Electrical Safety Office (ESO) -Department of Emergency Services (DES) -Queensland Police (QPS)	-NEMMCO Power System Emergency Management Plan -National Electricity Market (NEM) System Restart Plan -Powerlink Corporate Emergency Management Handbook -Distributors' Emergency Plans	No	As above
Event Notification / Declaration (Qld) <ul style="list-style-type: none"> Depending on which agency is managing the emergency (see above). In the case of electricity rationing orders being released, QME/Minister is responsible for notification. 	-NEMMCO -Powerlink Qld -Distributors (ENERGEX and Ergon Energy) -QME/Energy Minister -ESO -DES, QPS and others	-NEMMCO Power System Emergency Management Plan -NEM System Restart Plan -Powerlink Corporate Emergency Management Handbook -Distributors' Emergency Plans	No	As above
Ministerial Powers (Qld) <ul style="list-style-type: none"> The NEM MOU provides that NEMMCO deals with major electricity supply shortages by load shedding and other market based measures before a jurisdiction considers exercising its emergency powers. A jurisdiction considering exercising its emergency powers must inform NEMMCO and all other jurisdictions of that intent and take account of any advice from NEMMCO and the other jurisdictions. The NEM Emergency Protocol sets out in detail the procedures that the jurisdiction should follow when invoking emergency powers. 	-Energy Minister	-Emergency Rationing Orders under Section 124 of the Electricity Act 1994. -NEM Memorandum of Understanding on the Use of Emergency Powers -NEM Emergency Powers Protocol	No	As above

EMERGENCY FUNCTION	BODY / PERSON RESPONSIBLE FOR EMERGENCY FUNCTION	INSTRUMENTS AND PROCEDURES	WILL THIS FUNCTION BE AFFECTED BY AEMO?	COMMENTS
<ul style="list-style-type: none"> In the event of electricity supply restrictions impacting all or parts of both Queensland and New South Wales it is highly desirable to impose similar electricity restrictions on the community in NSW and Queensland and to apply them at the same time. The Qld/NSW Protocol is used in the event of electricity supply restrictions impacting all or parts of both Queensland and New South Wales. It is considered highly desirable to impose similar electricity restrictions on the community in NSW and Queensland and to apply them at the same time. 		-Qld/NSW Interjurisdictional Electricity Emergency Management Protocol		
<p>Other Entity Powers (Qld)</p> <ul style="list-style-type: none"> Governor-in Council, on advice of Energy Minister, may authorise Regulator (D-G, QME) to take over certain operations of an electricity entity. Other agencies such as DES and QPS are governed by their own separate legislation. Certain response measures to electricity supply emergencies can also be taken outside these plans. The basis for such actions may arise from specific circumstances such as natural disasters, acts of terrorism etc. Legislative avenues enabling such responses include the <i>State Counter-Disaster Act 1975</i> and the <i>State Transport Act 1938</i> or <i>Transport Infrastructure Act 1994</i>. A State of Emergency order declared under the <i>State Counter-Disaster Act 1975</i>, also offers an option to request NEMMCO to suspend the market in areas covered by such an order. 	-Various	- Electricity Act 1994 -State Counter-Disaster Act 1975 -State Transport Act 1938 -Transport Infrastructure Act 1994	No	As above
<p>Curtailement / Load Shedding Arrangements (Qld)</p> <ul style="list-style-type: none"> All load shedding is directed by NEMMCO and enabled through the transmission and distribution network providers based on pre-arranged load shedding plans. Powerlink and the electricity distributors manage the lower level arrangements for load shedding (e.g. deciding which suburbs are “switched off” at what times). 	- NEMMCO/Powerlink -Queensland Distributors	-NEMMCO Power System Emergency Management Plan	No	As above
<p>Force Majeure (Qld)</p> <ul style="list-style-type: none"> If the industry is unable to provide electricity due to rationing orders given by the Minister, the rationing order prevails over contracts. 	-Minister and Electricity Industry	-Section 129 of the Electricity Act 1994	No	As above
<p>Communication Responsibilities (Qld)</p> <ul style="list-style-type: none"> Various depending on the level of the emergency. Within Queensland, the two distribution entities (ENERGEX and Ergon Energy) communicate (at any time) directly to a nominated person in the Minister’s Office and a nominated person in the Energy Sector Monitoring Division, QME in the event of: <ul style="list-style-type: none"> electricity outages that affect more than 10,000 customers or have a significant impact (for example, affect the Brisbane CBD) or have an unusually long restoration period; cyclone threat or damage; incidents likely to result in significant enquiries to the Minister; and incidents likely to result in high profile media attention. The Chief Executive Officer of Powerlink informs the Minister’s Office in the case of an emergency likely involving load shedding. Powerlink’s Communication Manager liaises with the Minister’s Office and QME to agree on media releases. The CEO of Powerlink is authorised to speak to the media about the facts of the situation but not policy matters. In such situations, information updates and exchange between Powerlink, the Minister’s Office and QME are ongoing. If the emergency incident requires electricity rationing, the responsible officer in Powerlink, on advice of the Energy Minister, informs NEMMCO and other jurisdictions of the proposal and seeks advice on the proposal (as per MOU and Protocols). QME would also alert industry participants, NEMMCO and other stakeholders in the event the rationing order is going to be released. 	-NEMMCO -Powerlink Qld -Distributors (ENERGEX and Ergon Energy) -QME/Energy Minister	-NEM Memorandum of Understanding on the Use of Emergency Powers -NEM Emergency Powers Protocol -Qld/NSW Interjurisdictional Electricity Emergency Management Protocol -NEMMCO Power System Emergency Management Plan	No	As above
<p>Responsibility for Communicating / Liaising with State Emergency Services (Qld)</p> <ul style="list-style-type: none"> Communication with State Emergency Services is mainly handled by entities involved in responding to emergency on the ground (i.e. industry participants). QME may become involved for management of strategic issues involving the marshalling of extra-ordinary resources. 	-Powerlink -Distributors -QME	-Powerlink Corporate Emergency Management Handbook -Distributors’ emergency plans - Powerlink State Disaster Emergency Management Plan	No	As above

EMERGENCY FUNCTION	BODY / PERSON RESPONSIBLE FOR EMERGENCY FUNCTION	INSTRUMENTS AND PROCEDURES	WILL THIS FUNCTION BE AFFECTED BY AEMO?	COMMENTS
ELECTRICITY – SOUTH AUSTRALIA				
Concept / Principle of Operation in Relation to Emergencies (overall strategy/approach of jurisdiction) (SA) <ul style="list-style-type: none"> Have due regard to NEMMCO's request to exercise an emergency power, and as soon practicable authorise NEMMCO to exercise the emergency power or otherwise. 	-Minister for Energy -Electricity Supply Industry Planning Council (ESIPC)	-National Electricity Market Emergency Protocol, Section 5.3		
Preparation of Emergency Management Plans (SA) <ul style="list-style-type: none"> South Australia has prepared contingency procedures in the event of requiring mandatory restrictions. 	-Attorney-General -Minister for Energy (as delegated)	-Essential Services Act 1981 -Electricity Supply Restrictions Protocols and Procedures	No	
Agencies Involved in Managing Emergencies (SA) <ul style="list-style-type: none"> NEMMCO, Electricity Supply Industry Planning Council (ESIPC), Energy Division, Office of the Technical Regulator (OTR). 	-Energy Division / Office of the Technical Regulator (OTR) -NEMMCO -State Emergency Centre			
Event Notification / Declaration (SA) <ul style="list-style-type: none"> NEMMCO (rotational load shedding). Minister for Energy (restrictions). 	-NEMMCO -Minister for Energy			
Ministerial Powers (SA) <ul style="list-style-type: none"> Ministerial Directions can be exercised pursuant to <i>Essential Services Act 1981</i> as per the Electricity Supply Restrictions Protocols and Procedures. 	-Attorney-General -Minister for Energy (as delegated)		No	
Agency Powers (SA) If the Authorised Officers of the Office of the Technical Regulator consider it necessary to do so for safety reasons, they may direct a person to: <ul style="list-style-type: none"> Disconnect supply of electricity to an electrical installation or cease to use electrical equipment. Doing any other thing or give any direction to make a dangerous situation safe. 	-Office of the Technical Regulator	-Electricity Act 1996, Section 51 Essential Services Act 1981	No	
Other Entity Powers (SA) ESIPC notifies NEMMCO and other jurisdictions if a jurisdiction proposes using an emergency power. This includes: <ul style="list-style-type: none"> Providing the required information to NEMMCO and the other jurisdictions. Provide proposed notices. 	-Electricity Supply Industry Planning Council	-National Electricity Market Emergency Protocol, Section 4		
Curtailment / Load Shedding Arrangements (SA) <ul style="list-style-type: none"> NEMMCO. 	-NEMMCO -ESIPC			
Force Majeure (SA) <ul style="list-style-type: none"> Most contracts regard government directions as effecting force majeure. 			No	
Communication Responsibilities (SA) <ul style="list-style-type: none"> NEMMCO, ESIPC (for load shedding), Minister for Energy, Department for Transport, Energy, and Infrastructure (DTEI), Corporate Communications (for restrictions). 	-NEMMCO -ESIPC -Minister for Energy, -DTEI Corporate Communications			
Responsibility for Communicating / Liaising with State Emergency Services (SA) <ul style="list-style-type: none"> Office of the Technical Regulator through Engineering Functional Services to the State Emergency Centre. 	-Office of the Technical Regulator -South Australian Police (SAPOL)		No	

EMERGENCY FUNCTION	BODY / PERSON RESPONSIBLE FOR EMERGENCY FUNCTION	INSTRUMENTS AND PROCEDURES	WILL THIS FUNCTION BE AFFECTED BY AEMO?	COMMENTS
ELECTRICITY - TASMANIA				
<p>Concept / Principle of Operation in Relation to Emergencies (overall strategy/approach of jurisdiction) (Tas)</p> <ul style="list-style-type: none"> For localised emergencies, the distribution network operator is responsible for managing the incident. For more widespread incidents, the Transmission Network operator and NEMMCO follow their procedures to maintain system security and to minimise the impact of the incident. In both situations, the Jurisdiction's Load Shedding Priorities document should be followed. This document gives a set of Guiding Principles. The Tasmanian Electricity Emergency Management Plan (TEEMP) documents the practices and procedures employed to manage major electricity industry emergencies that impact Tasmania. The plan is to be used by those involved in managing such emergencies to guide their actions and to clarify accountabilities, roles and responsibilities during an emergency. In particular, the plan: <ul style="list-style-type: none"> sets out the national framework for managing major electricity emergencies; describes the roles and responsibilities of those locally involved in managing such emergencies; details the procedures and processes for declaring, managing and revoking an electricity emergency situation; and provides detailed guidance on ensuring effective communication with stakeholders and the public during such emergencies. 	<ul style="list-style-type: none"> -Network Operators -NEMMCO - Department of Infrastructure, Energy and Resource (DIER) -State Emergency Management Committee (SEMC) (if the event escalates) 	<ul style="list-style-type: none"> -National Electricity Law and Rules -Electricity Supply Industry Act 1995 -Memorandum of Understanding (MOU) between the States and NEMMCO on the Use of Emergency Powers 	<p>Yes – in as much as the Plans reflect NEMMCO's processes and AEMO takes over these roles</p>	
<p>Preparation of Emergency Management Plans (Tas)</p> <ul style="list-style-type: none"> Licensed entities are required to develop, maintain and implement an emergency management plan in accordance with any guideline issued by the Jurisdictional System Security Co-ordinator. These plans are reviewed annually by an independent auditor who reports to the Energy Regulator. The Tasmanian Electricity Emergency Management Plan is maintained and reviewed by DIER. The Jurisdictional System Security Coordinator (JSSC) develops load shedding arrangements in consultation with network operators and DIER, and provides Tasmanian load shedding guidelines to NEMMCO. 	<ul style="list-style-type: none"> -Entities, JSSC and Office of the Tasmanian Economic Regulator (OTTER) -DIER 	<ul style="list-style-type: none"> -Licence obligation – licences issued by OTTER -National Electricity Law and Rules (for Load Shedding protocol requirements) 	<p>Only as far as AEMO takes over NEMMCO functions</p>	
<p>Agencies Involved in Managing Emergencies (Tas)</p> <ul style="list-style-type: none"> Transend and Aurora Energy as Network Service Providers (NSP). DIER through the auspices of the Energy Coordination and Advisory Committee (ECAC) – a specific responsibility is to advise the Minister of Energy should drought induce water storages affecting the ability to generate hydro electric power in Tasmania. State Emergency Services will undoubtedly become involved and may exercise powers under the <i>Emergency Management Act 2006</i>. 	<ul style="list-style-type: none"> -Network Service Providers (NSP) -DIER -NEMMCO 	<ul style="list-style-type: none"> -Electricity Supply Industry Act 1995 -Emergency Management Act 2006 -Memorandum of Understanding (MOU) between the States and NEMMCO on the Use of Emergency Powers 	<p>Only as far as AEMO takes over NEMMCO functions</p>	
<p>Event Notification / Declaration (Tas)</p> <ul style="list-style-type: none"> It is expected that NEMMCO will notify the Responsible Officer and JSSC of level 4 or above events. It is hoped that Transend and/or Aurora Energy would advise DIER of level 3 events. 	<ul style="list-style-type: none"> -NEMMCO, JSSC, -NSPs 	<ul style="list-style-type: none"> -MOU between the States and NEMMCO on the Use of Emergency Powers 	<p>Only as far as AEMO takes over NEMMCO functions</p>	
<p>Ministerial Powers (Tas)</p> <ul style="list-style-type: none"> The Minister has powers to call for restrictions on the use of electricity (<i>Energy Supply Industry Act Section 67</i>). 	<ul style="list-style-type: none"> -Minister 	<ul style="list-style-type: none"> -Electricity Supply Industry Act 1995 	<p>No</p>	
<p>Agency Powers (Tas)</p> <ul style="list-style-type: none"> JSSC has powers with regards to sensitive loads. Development of Jurisdictional load shedding guidelines to be used by NEMMCO (and NSPs) during emergencies. Through the Director of Energy, the Office of Energy has the power to gather information which, among other things, could support the management of an emergency. 	<ul style="list-style-type: none"> -DIER 	<ul style="list-style-type: none"> -National Electricity Law -National Electricity Rules 4.3.2 -Energy Coordination and Planning Act 1995 	<p>Only as far as AEMO takes over NEMMCO functions</p>	

EMERGENCY FUNCTION	BODY / PERSON RESPONSIBLE FOR EMERGENCY FUNCTION	INSTRUMENTS AND PROCEDURES	WILL THIS FUNCTION BE AFFECTED BY AEMO?	COMMENTS
Other Entity Powers (Tas) <ul style="list-style-type: none"> NEMMCO have powers to direct generators and initiate Load Shedding. Once a state of emergency is declared the State Emergency Management Committee has wide ranging powers under the <i>Emergency Management Act 2006</i>. 	-NEMMCO -State Emergency Management Committee (SEMC)	-Emergency Management Act 2006	Only as far as AEMO takes over NEMMCO functions	
Curtailement / Load Shedding Arrangements (Tas) <ul style="list-style-type: none"> NEMMCO and NSPs follow the guidelines outlined in the Tasmanian Electricity Emergency Management Plan and Jurisdictional Load Shedding Priorities. 	-NEMMCO -DIER, JSSC	-National Electricity Law -National Electricity Rules 4.3.2	Only as far as AEMO takes over NEMMCO functions	
Force Majeure (Tas) <ul style="list-style-type: none"> Most contracts regard Government intervention as being 'Force Majeure'. 	-NSPs		No	
Communication Responsibilities (Tas) <ul style="list-style-type: none"> The Tasmanian Electricity Emergency Management Plan includes a communication protocol. It is envisaged that DIER will take the lead. The Responsible Officer has responsibilities for communicating with NEMMCO and the Minister. 	-DIER -TNSP	-Tasmanian Electricity Emergency Management Plan	Only as far as AEMO takes over NEMMCO functions	
Responsibility for Communicating / Liaising with State Emergency Services (Tas) <ul style="list-style-type: none"> Transend, Aurora Energy and DIER. 	-NSPs -DIER	-Tasmanian Electricity Emergency Management Plan	No	

EMERGENCY FUNCTION	BODY / PERSON RESPONSIBLE FOR EMERGENCY FUNCTION	INSTRUMENTS AND PROCEDURES	WILL THIS FUNCTION BE AFFECTED BY AEMO?	COMMENTS
ELECTRICITY - Victoria				
<p>Concept / Principle of Operation in Relation to Emergencies (overall strategy/approach of jurisdiction) (Vic)</p> <ul style="list-style-type: none"> The principal policy and planning documentation for emergency management in Victoria is set out in the “Emergency Management Manual Victoria”, issued by the Coordinator in Chief of Emergency Management, the Minister for Police and Emergency Services. Part 7 of the Emergency Management Manual Victoria identifies the control agencies and key support agencies for incident response. For disruptions to electricity supplies, the Control Agency is identified as the Department of Primary Industries (DPI) Energy and Earth Resources Policy division. Key support agencies include VENCORP and NEMMCO, Energy Safe Victoria (ESV), Department of Sustainability and Environment, and electricity distribution businesses. 	<ul style="list-style-type: none"> -The Coordinator in Chief of Emergency Management -The Minister for Police and Emergency Services 	<ul style="list-style-type: none"> -Emergency Management Manual Victoria, issued pursuant to the Emergency Management Act 1986. 	<p>Not significantly (see comments)</p>	<p>Changes to the manual will be required to reflect the Australian Energy Market Operator (AEMO) assuming roles/responsibilities until now assigned to VENCORP or NEMMCO.</p>
<p>The National Electricity Rules define roles of:</p> <ul style="list-style-type: none"> Jurisdictional System Security Co-ordinator (JSSC) who maintains and improves industry emergency preparedness, including providing emergency procedures, conducting exercises, providing load shedding facilities, and issuing priority orders for load shedding and restoration; and Responsible Officer (RO) who represents the Jurisdiction during emergencies and acts as an interface between NEMMCO, the electricity industry, emergency services and Government. <ul style="list-style-type: none"> VENCORP currently provides both positions. VENCORP is a transmission network planner and has no everyday operational role (as opposed to an emergency role). 	<ul style="list-style-type: none"> -The JSSC and RO have been appointed from VENCORP staff. 	<ul style="list-style-type: none"> -Responsible Officer (RO)/ Jurisdictional System Security Co-ordinator (JSSC) Ministerial appointment -National Electricity Rules -National Electricity Law -Electricity Industry Act 2000 (Vic) VENCORP Transmission Licence -Emergency Procedures, including VENCORP Electricity Emergency Procedure CP016. -National Electricity Market (NEM) Memorandum of Understanding -National Electricity (Vic) Act 	<p>Yes</p>	<p>The Victorian Government is considering the Responsible Officer / Jurisdictional System Security Co-ordinator appointments for Victoria as part of the Legal and Regulatory Working Group activity.</p>
<p>Preparation of Emergency Management Plans (Vic)</p> <ul style="list-style-type: none"> Under the National Electricity Rules (NER), <i>Electricity Industry Act 2000</i> and the Victorian Electricity System Code, VENCORP is required to prepare and review emergency procedures for the Victorian transmission network. These procedures are to be followed by VENCORP and participants to prepare for, avoid, mitigate or manage emergencies. Under the Victorian Electricity System Code, VENCORP chairs a consultative group (the Victorian Electricity Emergency Committee presently consisting of the Distributors, SP AusNet, NEMMCO, Vicpower Trading, Victoria Police and Government representatives) to prepare and review emergency procedures for the Victorian transmission network. The procedures cover the declaration of emergencies, communication, notification protocols, voluntary and mandatory restrictions, load shedding and restoration, and system restoration following major incidents. The procedures also categorise emergency incidents, escalating from level 1, being a localised site issue, to level 5, being an incident potentially affecting system security or safety. Under the NER, NEMMCO is responsible for System Restart Procedures, and for procuring System Restart Ancillary Services (SRAS - generators that can start without external supply). However, VENCORP is expected to provide analysis services to determine the viability of the Procedures. 	<ul style="list-style-type: none"> -VENCORP -VENCORP -NEMMCO 	<ul style="list-style-type: none"> -National Electricity Rules -National Electricity Law -Electricity Industry Act 2000 (Vic) VENCORP Transmission Licence -Emergency Procedures, including VENCORP Electricity Emergency Procedure CP016. 	<p>Yes</p>	<p>The Victorian Government is considering the approach to the preparation of emergency management plans for Victoria as part of the Legal and Regulatory Working Group activity.</p>
<p>Agencies Involved in Managing Emergencies (Vic)</p> <ul style="list-style-type: none"> NEMMCO (as the Market Operator). VENCORP, SP AusNet and the Distribution Network Service Providers (electricity industry). Victoria Police and other emergency services (via the State Emergency Response Co-ordination Centre). 	<ul style="list-style-type: none"> -NEMMCO -VENCORP -Department of Primary Industries 	<ul style="list-style-type: none"> -National Electricity Rules -National Electricity Law -Electricity Industry Act 2000 (Vic) VENCORP Transmission Licence 	<p>Yes</p>	

EMERGENCY FUNCTION	BODY / PERSON RESPONSIBLE FOR EMERGENCY FUNCTION	INSTRUMENTS AND PROCEDURES	WILL THIS FUNCTION BE AFFECTED BY AEMO?	COMMENTS
ELECTRICITY - Victoria				
<ul style="list-style-type: none"> Department of Primary Industries (DPI), Energy Safe Victoria (ESV) and Department of Human Services (DHS). 	(DPI) -Energy Safe Victoria (ESV) -Department of Human Services (DHS)	-Emergency Procedures, including VENCORP Electricity Emergency Procedure CP016.		
Event Notification / Declaration (Vic) <ul style="list-style-type: none"> NEMMCO operates the network and provides emergency response and related notification. VENCORP co-ordinates industry communications and public information/notification on restrictions. 		-National Electricity Rules -National Electricity Law -Electricity Industry Act 2000 (Vic) VENCORP Transmission Licence -Emergency Procedures, including VENCORP Electricity Emergency Procedure CP016.	Yes	
Ministerial Powers (Vic) <ul style="list-style-type: none"> Governor in Council can enact Part 6 Section 95 of the <i>Electricity Industry Act 2000</i>. Part 6 Section 96 of the <i>Electricity Industry Act 2000 (Vic)</i> outlines the powers of the Minister during emergencies. 	-Minister for Energy and Resources	-Electricity Industry Act 2000 (Vic)	No	
Agency Powers (Vic) VENCORP's electricity emergency functions under the <i>Electricity Industry Act 2000</i> include: <ul style="list-style-type: none"> Calling for Voluntary Restrictions and recommending the declaration of Mandatory Restrictions Declaring Level 5 Emergencies To direct load shedding 	-VENCORP	-National Electricity Rules -National Electricity Law -Electricity Industry Act 2000 (Vic) VENCORP Transmission Licence -VENCORP Electricity Emergency Procedure CP016.	Yes	
Other Entity Powers (Vic) <ul style="list-style-type: none"> Governor in Council can enact Part 6 of the <i>Electricity Industry Act 2000</i>. Minister can direct Mandatory Restrictions. NEMMCO can direct load shedding, declare Level 5 Emergencies and issue Lack of Reserve 3 notices. Director of ESV can direct VENCORP to seek a Level 5 Emergency and invoke load shedding for safety reasons. Reliability Panel determines criteria for speed of restoration of load (e.g. 60% of load restored in 4 hours) after a major system incident. 	-Governor in Council -Minister for Energy and Resources -NEMMCO -ESV -Reliability Panel	-Electricity Industry Act 2000 (Vic) -Electricity Safety Act -National Electricity Rules	No	
Curtailement / Load Shedding Arrangements and restrictions (Vic) <ul style="list-style-type: none"> The Victorian Electricity Emergency Committee (VEEC) is a consultative committee with representatives from NEMMCO, SP AusNet, the Distributors, VENCORP, Vicpower Trading (on behalf of major customer Alcoa), Government agencies, and Victoria Police. Under the NER, the JSSC is responsible for providing load shedding and restoration priorities, and for providing load shedding facilities. The priorities and procedures are reviewed by the JSSC in consultation with the VEEC. Load shedding may occur at transmission level (manually or automatically by tripping feeders ex terminal stations) or distribution level (manually by the Distributors tripping their substation feeders). The RO is responsible for arranging the declaration of voluntary and mandatory restrictions. 	-JSSC -VENCORP	-National Electricity Rules -National Electricity Law -Electricity Industry Act 2000 (Vic) VENCORP Transmission Licence -VENCORP Electricity Emergency Procedure CP016. -Priority order of Manual Load Shedding is rotated at the end of February and August each year in accordance with VENCORP Procedure CP009.	Yes	The Victorian Government is considering the Jurisdictional System Security Co-ordinator appointment for Victoria as part of the Legal and Regulatory Working Group activity.
Force Majeure (Vic) <ul style="list-style-type: none"> 				

EMERGENCY FUNCTION	BODY / PERSON RESPONSIBLE FOR EMERGENCY FUNCTION	INSTRUMENTS AND PROCEDURES	WILL THIS FUNCTION BE AFFECTED BY AEMO?	COMMENTS
ELECTRICITY - Victoria				
<p>Communication Responsibilities (Vic)</p> <ul style="list-style-type: none"> During normal operational conditions and minor incidents, operational communications occurs between: <ul style="list-style-type: none"> NEMMCO and SP AusNet’s Transmission Operations Centre (TOC); TOC and the Distributor Control Rooms; NEMMCO and the Generators. For potential and escalating events (storms, bushfires, industrial action, etc), one or more of NEMMCO, SP AusNet, VENCORP, Distributors, Emergency Services or Government agency may initiate a “Heads Up” or Early Warning through the VENCORP emergency communications process. For major or catastrophic electricity transmission network events, NEMMCO will usually initiate the notification to the electricity industry, and VENCORP’s emergency communications process will provide the links between the industry, government and media. <p>The NEMMCO and VENCORP emergency communications processes are essentially parallel to the operational communications processes and do not replace them.</p>	<ul style="list-style-type: none"> -NEMMCO -VENCORP -SP AusNet -Distributors -Emergency Services 	<ul style="list-style-type: none"> -National Electricity Rules -National Electricity Law -Electricity Industry Act 2000(Vic) VENCORP Transmission Licence -VENCORP Electricity Emergency Procedure CP016. 	Yes	
<p>Responsibility for Communicating / Liaising with State Emergency Services (Vic)</p> <ul style="list-style-type: none"> The VENCORP emergency communications process provides for a two-way communications interface between Victorian Police and other emergency services (via the State Emergency Response Co-ordination Centre (SERCC)). During events such as storms and bushfire, the SERCC can provide early warning to the electricity industry. During electricity transmission events, VENCORP can provide early warning to emergency services, or can advise emergency services in what locations problems are likely to occur (or have occurred). 	<ul style="list-style-type: none"> -VENCORP -State Emergency Response Co-ordination Centre (SERCC) 	<ul style="list-style-type: none"> -National Electricity Rules -National Electricity Law -Electricity Industry Act 2000 (Vic) VENCORP Transmission Licence -VENCORP Electricity Emergency Procedure CP016 	Yes	
<p>Responsibility for Communicating / Liaising with Customers and Generators (Vic)</p> <ul style="list-style-type: none"> NEMMCO is responsible for liaison with generators. However, VENCORP may liaise with NEMMCO and generators when assessing supply/demand balance. Customers are expected to liaise with their distributors and/or retailers during emergencies. The appropriate government agency (Department of Primary Industries (DPI), Department of Health (DOH), Department of Human Services (DHS) etc) would be expected to pass on to important customers any “heads up” or early warning received from VENCORP. 	<ul style="list-style-type: none"> -NEMMCO -VENCORP -Distributors -Government Agencies 	<ul style="list-style-type: none"> -National Electricity Rules -National Electricity Law -Electricity Industry Act 2000 (Vic) VENCORP Transmission Licence -VENCORP Electricity Emergency Procedure CP016 	Yes	

EMERGENCY FUNCTION	BODY / PERSON RESPONSIBLE FOR EMERGENCY FUNCTION	INSTRUMENTS AND PROCEDURES	WILL THIS FUNCTION BE AFFECTED BY AEMO?	COMMENTS
ELECTRICITY – WESTERN AUSTRALIA				
<p>Concept / Principle of Operation in Relation to Emergencies (overall strategy/approach of jurisdiction) (WA)</p> <ul style="list-style-type: none"> Standing market arrangements should be allowed to continue so far as possible. Intervention should be limited to that required to ensure priority needs are met. Principles of priority allocation for limited supply are: <ol style="list-style-type: none"> protect the health, safety and property of the community; minimise broad community disruption; and minimise economic impact. 	-Office of Energy in consultation with Government and industry.	-Emergency powers under : -Energy Operators (Powers) Act 1979 -Energy Coordination Act 1994 -Fuel Energy and Power Resources Act 1972	No	
<p>Preparation of Emergency Management Plans (WA)</p> <ul style="list-style-type: none"> Emergency coordination plans prepared by the Office of Energy including in regard to the invocation of emergency powers. Individual plans prepared by system operator, network and generators. 	-Office of Energy and operating organisations		No	
<p>Agencies Involved in Managing Emergencies (WA)</p> <ul style="list-style-type: none"> System operator, network and generators are each responsible to manage emergencies within their scope of operations. The Independent Market Operator to manage and requested suspension of market rules. No dedicated central management, but the Office of Energy facilitates coordination of emergency management activities. In severe events government takes the lead. 	-Operating organisations -Office of Energy and Government as appropriate			
<p>Event Notification / Declaration (WA)</p> <ul style="list-style-type: none"> Energy operators must advise the Minister for Energy of an emergency. No formal declaration arrangements except where emergency powers are to be used. Office of Energy facilitates coordination and notification as required. 	-Operating organisations -Office of Energy and government as appropriate	-Energy Coordination Act 1994 -Energy Operators (Powers) Act 1979 -Wholesale Electricity Market Rules under the Electricity Industry (Wholesale Electricity Market) Regulations 2004	No	
<p>Ministerial Powers (WA)</p> <ul style="list-style-type: none"> The Minister for Energy has emergency powers to direct and restrict supply (for the <i>Fuel Energy and Power Resources Act 1972</i> this first requires declaration of an emergency and regulations by the Governor). The Minister for Energy can request a suspension of electricity market rules. 	-Minister for Energy	-Emergency powers under : -Energy Operators (Powers) Act 1979 -Fuel Energy and Power Resources Act 1972	No	
<p>Agency Powers (WA)</p> <ul style="list-style-type: none"> Through the Coordinator of Energy the Office of Energy has the power to gather information which, among other things, could support the management of an emergency. 	-Office of Energy	-Energy Coordination Act 1994	No	
<p>Other Entity Powers (WA)</p> <ul style="list-style-type: none"> The Independent Market Operator, on request of the Minister for Energy, can suspend market rules. System Operator can declare an Emergency Operating State. Network operators have the powers to take immediate measures to avoid or mitigate an emergency. 	-Independent Market Operator -Network Operators -System Operator	-Energy Operators (Powers) Act 1979 -Wholesale Electricity Market Rules under the Electricity Industry (Wholesale Electricity Market) Regulations 2004	No	

EMERGENCY FUNCTION	BODY / PERSON RESPONSIBLE FOR EMERGENCY FUNCTION	INSTRUMENTS AND PROCEDURES	WILL THIS FUNCTION BE AFFECTED BY AEMO?	COMMENTS
<p>Curtailment / Load Shedding Arrangements (WA)</p> <ul style="list-style-type: none"> Network operators have prepared provisional curtailment schedules to be used in the event that an emergency order is required. Under frequency load shedding arrangements are approved by the Independent Market Operator. Otherwise there are no standing curtailment arrangements – curtailment would be tailored to suit the needs of the circumstance. <p>The supporting allocation schedule is:</p> <ol style="list-style-type: none"> Energy infrastructure is to be given top priority to maintain the State’s capability to supply gas and electricity to users. Essential Services are defined as those critical services that have the potential to seriously impact on the health and safety of the community and include essential public transport and communications. Essential Supply to Residential Customers will minimise the potential for health impacts and disruption to the community. Consumers are encouraged to reduce energy consumption. Industries providing essential goods and services to the WA community will have a higher priority in the allocation of energy than those that do not. This is to minimise disruption to the community and recognise the important services that these industries provide. For all other industries, every effort will be made to maximise the availability of supply, recognising their importance to the State and National economy. 	<ul style="list-style-type: none"> -Energy Operators; -Minister for Energy (on advice from operators and Office of Energy) -Independent Market Operator 	<ul style="list-style-type: none"> -Energy Operators (Powers) Act 1979; -Fuel Energy and Power Resources Act 1972 ; -Wholesale Electricity Market Rules under the Electricity Industry (Wholesale Electricity Market) Regulations 2004 	No	
<p>Force Majeure (WA)</p> <ul style="list-style-type: none"> Force majeure only relevant within contract arrangements. 	<ul style="list-style-type: none"> -Energy Operators -Customers 	-Contracts	No	
<p>Communication Responsibilities (WA)</p> <ul style="list-style-type: none"> Various notification requirements under contracts. Energy operators must advise the Minister for Energy of an emergency. Office of Energy facilitates coordination and notification as required. Public communication arrangements tailored to the event, major events being coordinated through the Government Media Office. 	<ul style="list-style-type: none"> -Operating organisations, Office of Energy and Government as appropriate 	<ul style="list-style-type: none"> -Energy Operators (Powers) Act 1979 -Energy Coordination Act 1994 	No	
<p>Responsibility for Communicating / Liaising with State Emergency Services (WA)</p> <ul style="list-style-type: none"> Primarily addressed as the operating situation demands. Parties would liaise with the State Emergency Services to the extent, and in the circumstance where the nature of the situation required emergency services involvement. 	<ul style="list-style-type: none"> -Operating organisations, Office of Energy and Government as appropriate 	-Emergency Management Act 2005	No	