



**NEMMCO:  
Governance arrangements  
Final Report**

**Firecone Ventures Pty Ltd**

**December 2006**

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## EXECUTIVE SUMMARY

The Energy Reform Implementation Group (ERIG) has set out principles for governance, and identified possible problems with the current governance arrangements in the NEM. ERIG has sought additional advice on NEMMCO governance. The advice is to cover the appropriate governance arrangements for NEMMCO, given its current and possible future role and functions.

### *Current governance arrangements*

NEMMCO is a company limited by guarantee incorporated under the Corporations Act. Section 50 of the National Electricity Law requires that the company recovers its costs but does not make a profit.

NEMMCO is owned by the six jurisdictions who are members of the NEM. The governance arrangements are established in a Members Agreement between the jurisdictions. This document is not in the public domain. However, NEMMCO's Articles of Association can be obtained from ASIC.

Each jurisdiction appoints a Director on the Board. The jurisdictions collectively appoint a Chair. The Board can appoint up to two additional Directors. The Board also appoints a CEO. The CEO may be a Board member, but need not be.

The company is self-funding, and has an ability to recover its costs from participant fees. Initial capital contributions, and contributions on winding up, are set out in the Members Agreement.

The Board prepares an annual Statement of Corporate Intent and an annual budget. These are submitted to the Members. NEMMCO must consider any comments, and then deliver final versions. The Statement of Corporate Intent may also be modified by written agreement of three quarters of the Members. NEMMCO must use reasonable endeavours to comply with the Statement of Corporate Intent and the budget.

In the time available to undertake this assignment, we have not been able to assess the performance of NEMMCO under these governance arrangements. However, we note that:

- the government ownership of NEMMCO and control of the Board appointment appears unusual in comparison with international practice. This is briefly summarised below.
- appointment of Board members by individual jurisdictions risks creating a perception that these members are in some way accountable to State Governments.
- participant fees have been a sensitive issue, and that there is a continuing need for effective cost control, and
- effective power system operations is of great importance for both Governments and market participants.

*Role and functions*

NEMMCO undertakes two principal roles:

- Power systems operations and planning covers short and long term planning, generator dispatch and system operations, pricing, and the management of power system security.
- Market operations and development covers metering and settlement, the settlement residue auctions, and prudential management. It also includes market development in areas such as metrology, full retail competition and wind generation.

NEMMCO principally undertakes these tasks in-house. Two divisions undertake the tasks described above. They are supported by a significant IT division, and a corporate services division.

Several changes have been proposed to the role and functions. One is to extend system and market operations to include gas. However, there is no consensus on the appropriate balance between industry development and regulatory oversight of gas market rules. The gas industry has also expressed concern about NEMMCO's governance model.

We have made no assumption about whether NEMMCO should develop new functions in gas. If it were to do so, these would be similar in nature to the functions it already undertakes. The governance arrangements proposed could be extended to include gas if this increase in NEMMCO's functions is agreed.

Another change proposed is for NEMMCO to play a greater role in transmission planning, and possibly transmission procurement. A planning role is largely consistent with current arrangements. However, a role in transmission procurement would significantly alter the skills required in the Board and the organisation. It would also increase the risk of conflicts in NEMMCO's role.

A number of proposals have been discussed to extend or reduce NEMMCO's role and functions in financial markets. These would not affect the appropriate governance arrangements.

The Energy Markets (Parer) Review recommended that NEMMCO play a major market development role. NEMMCO currently undertakes a good deal of work which could be considered 'market development'. We understand that NEMMCO's market development role will be subject to AEMC review. The boundary between 'Rules' which require AEMC determination, and more detailed guidelines and Codes which do not, is yet to be determined. However, the principle that Rule development lies with the AEMC appears clear.

As a result, we have not considered NEMMCO as a body which sets policy or Rules. If NEMMCO took on a substantial policy role, it is likely that this would alter the appropriate governance framework.

*Other governance models*

We have reviewed governance arrangements for bodies which undertake power systems operation and market operation in other electricity markets. This is a major and complex topic, and only a brief overview can be given in the time available. We have considered the arrangements in Great Britain, New Zealand, Nord Pool covering Scandinavia, the New York Independent System Operator (NYISO), PJM Interconnection, and the California Independent System Operator (CAISO).

The review identifies no single, well-established governance model. Rather, tailored arrangements in each jurisdiction allow for industry participation and control, while retaining Government checks and balances. Despite this, a number of generalisations can be made on governance arrangements elsewhere.

There is generally no role for government in the governance of wholesale power exchanges that make markets in financial instruments (futures and options), or in forward markets conducted bilaterally or through brokerages. Like other commodity or financial exchanges their governance is determined by their owners, which in some cases can be the exchange's members or investors.

Where the operation of forward and futures exchanges is combined with spot markets governments or their agencies have a role in governance in some cases:

- In Nord Pool, governments have no role in Board selection or appointment. However, the owners of Nord Pool are government-owned transmission companies, enabling some indirect control.
- In PJM Interconnection and the New York ISO, government has no role in the selection of Board members. However, the State Public Service Commission is required to approve the Board selection process for the NYISO.
- The government is not represented on the Board of the California ISO. However, the State Governor appoints Board members from industry stakeholder-based nominees.

Where spot markets for physical settlement exist separately from financial markets –as in New Zealand and Britain - governments or regulatory authorities do play a role in governance. In Britain, industry nominates the greatest number of BSC Co directors and BSC Panel members, but the Chairman is appointed by Ofgem. In New Zealand, the Electricity Commission, a crown entity, runs the electricity market, and procures a variety of market operation services under contract. In Singapore, the Government appointed Energy Market Authority owns 51% of the Energy Market Company, which is responsible for spot market operations.

The entities being compared vary considerably in the scope of their operations. However market participants play a significant role in the governance of all electricity markets that we have reviewed, other than in New Zealand.

This does not mean that governments are excluded from the governance of market operators. Governments influence governance in various ways, including approving Board appointment processes, making key Board appointments, or appointing all Board members from a pool of industry nominees.

Two main models exist for the organisation of power system operations and of spot markets for physical settlement:

- Power system operation and spot markets are organisationally separate in Scandinavia, New Zealand, the UK and frequently in continental Europe, and
- Power system operation and spot markets are usually integrated in those parts of the United States that have created ISOs/RTOs.

Where power system operation has been separated from spot market operation, it is usually undertaken by a transmission service provider. Examples include Transpower in New Zealand, National Grid Company (NGC) in Britain, Statnett in Norway, Statkraft in Sweden and RTE in France.

In these cases, the governance of power system operation can not be considered separately from the governance of the transmission service provider. Typically transmission service providers are subject to a high degree of government oversight. Government control of such businesses is also often exerted directly through ownership.

### *Conclusions*

NEMMCO's establishment as a company limited by guarantee under the Corporations Act provides a strong governance framework. In general, company Directors should be expected to advance the interests of the company. However, this provides little guidance to Board decisions when the company is a not-for-profit entity that is able to recover its costs from participant fees.

The Code previously included objectives for NEMMCO which could guide Board decisions. It would be desirable to establish transparent objectives in the Rules or in legislation. These could establish that the Board is responsible for ensuring that NEMMCO undertakes its functions in the way which best meets the NEM objective, or alternatively set out more specific NEMMCO objectives, as previously done.

The public policy objectives of Australian governments are principally achieved through the appointment of the AEMC, to determine the market Rules, and of the AER to enforce them and to conduct the regulation of natural monopolies. The current governance arrangements for NEMMCO entail a high degree of government control, both in relation to what is needed to meet public policy objectives and in comparison with other markets.

Governments, market participants and major consumers all have a legitimate concern with ensuring effective discharge of NEMMCO functions. A possible response would be for industry [and major users] to play a role in appointing Directors of NEMMCO.

The report discusses possible ways of implementing this. Options considered included government appointment following consultation with industry; industry nomination and government appointment; and a mix of industry and government-appointed board members.

Our preferred approach is that all Directors should be jointly appointed by a government and industry panel. This approach is likely to be more effective at ensuring an appropriate mix of skills across the Board; provides defined rights for industry; and avoids a perception

that any Board member is ‘representing’ either a specific government, or a section of industry.

A possible mechanism to achieve this would be for the government and industry to jointly establish a panel to select Board members for NEMMCO. The Governments would appoint two members of the panel. We assume this would be done through the MCE. Industry would also appoint two members. Where more than two are nominated, they would be selected by voting, with one vote for each registered market participant. The Governments would also appoint a Chair, with a casting vote.

This approach to appointing Board members could be achieved through amendment to section 4 of the Members Agreement, which deals with Board appointment. This document is similar to a contract between the Members, and so would give enforceable rights to the Members, by binding them to a process. It would not however give enforceable rights to industry. It might be desirable in the longer term to consider changes to the ownership of NEMMCO which did give industry stronger rights.

This approach leaves government with significant control over NEMMCO’s overall performance. However, NEMMCO’s market operations function seems suitable for a greater level of industry control. The government interest lies in the Rules for the market, rather than the procurement of the services to operate it. The market participants have a substantial exposure to the effective delivery of market operations, and a common interest in ensuring effective and efficient conduct of the market operation role.

A possible response would be to establish a ‘Market Operations Panel’ which oversaw the market operation services, and considered how best to procure these services from NEMMCO, other service providers, or a combination. The Panel would be drawn from industry, on a representative basis. The report sets out possible options for representation.

The main NEMMCO Board would need to retain responsibility for ensuring that NEMMCO met its obligations under the NEL. This could be achieved through the main Board appointing the Chair of the Panel, and an ability of the NEMMCO Board to accept or reject the recommendations of the Panel. Rejection would lead to continuation of the existing arrangements.

An approach of this kind might also be consistent with different arrangements in different sectors. For example, if some gas market operators already had outsourced market operations, a structure of this kind might provide reassurance that these arrangements would continue if judged to be cost effective.

Any changes to the governance arrangements for NEMMCO are likely to be sensitive, given the strong interest by both Governments and market participants in ensuring that the functions established for NEMMCO under the NEL are undertaken effectively and efficiently. An appropriate next step would be to consult more broadly on the possible changes to the governance arrangements set out in this report.

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# 1 Introduction

## 1.1 Background

The Energy Reform Implementation Group (ERIG) was established by COAG to recommend further reforms to the Australian energy sector. ERIG issued discussion papers in November 2006, and has sought stakeholder comment.

ERIG has established principles which it believes should apply to the governance arrangements. It has also assessed the current governance framework against those principles. One of the conclusions ERIG draws is that:

*“Having NEMMCO operate under a Board structure which includes members appointed by the industry and customers it serves could improve its focus on operating the market efficiently. In the case of its functions to provide information, including planning analysis to the market, there should be benefits both to having a greater service culture in meeting the market’s needs and through a degree of independence which should provide greater impartiality in the decision making and analysis.*

*Addressing these issues would have a significant impact on the assessment of NEMMCO’s ability to take on further roles in the planning and broader energy market operation areas which are discussed in the Transmission Discussion Paper and the Financial Markets Discussion Paper”*

ERIG has sought stakeholder comments on these issues.

ERIG has also suggested that a good working example of the appropriate relationship and assignment of roles and responsibilities is that between the Commonwealth government and the Reserve Bank of Australia (RBA).

In addition to these comments on governance, ERIG has raised a number of possible changes in NEMMCO’s role and functions, relating to gas market operations; transmission planning; and financial markets. A number of other parties have also suggested changes to role and functions. These are discussed more fully later in this report.

## 1.2 Scope of work

ERIG has sought additional advice on the governance arrangements for NEMMCO. The full terms of reference are at attachment 1. The consultants are required to report on:

- A description of NEMMCO’s current role and functions;
- A summary of possible options for change to NEMMCO's role and functions, drawing on the ERIG discussion paper and issues arising from the work of the Gas Market Leaders Group and the VENCORP review;
- A description of NEMMCO's current governance arrangements and a brief review of their effectiveness and likely effectiveness in the future, in light of the possible changes to role and functions;

- A limited review of the functions and governance arrangements for similar entities in other, comparable markets;
- Consideration of governance options, with a view to the existing work on governance principles and the views of market participants; and
- Their recommendations on the preferred role and governance arrangements for NEMMCO.

In undertaking this assignment we have consulted with NEMMCO, the AER, the AEMC, and a number of Governments and market participants. We have also conducted a limited review of governance arrangements in other electricity markets. However, we would point out that due to time pressures the assignment is a short one for the significance of the issue being addressed. As a result, it is necessarily tentative on the design of the optimal future arrangements.

### ***1.3 Structure of the report***

The report addresses the governance arrangements for NEMMCO. Section 0 describes the current governance arrangements, our assessment criteria, and our assessment of current arrangements.

The appropriate governance arrangements are affected by the nature of NEMMCO's role and functions. Section 3 describes the current role and functions. It also considers possible changes arising from work undertaken by ERIG, the gas market leaders group, and earlier recommendations in the Parer report.

For each major change in role, we have considered what it might imply for governance arrangements. We have also considered the implications for the resourcing and capability of NEMMCO. In some cases, a change could be implemented without impacting the governance arrangements for NEMMCO, but would have substantial implications for its resourcing and for the skill sets required within the organisation.

Section 4 briefly summarises a number of alternative governance models for similar organisations in the power sector in other countries.

Section 5 sets out our conclusions and recommendations.

## 2 Current governance arrangements

### 2.1 Nature of Governance

Governance can broadly be considered as determining what decisions are made, who makes them, how decisions are enforced and how disputes are resolved<sup>1</sup>. We have addressed the issue of what decisions are made through our discussion in Section 3 on the role and functions of NEMMCO. That section also discusses the nature of the decisions made by NEMMCO, and in particular the level of judgement and discretion associated with different functions.

The issue of how decisions are enforced, and how disputes are resolved, primarily lies with the Rules. This section therefore focuses on who makes decisions. In common with other companies, decisions in NEMMCO are ultimately the responsibility of the Board.

### 2.2 Current Governance Arrangements

The current governance arrangements for NEMMCO are summarised in Table 1.

**Table 1: NEMMCO Governance Arrangements**

<b><i>Corporate form</i></b>	NEMMCO is a company limited by guarantee, incorporated under Corporations Act. Section 50 of the National Electricity Law requires that NEMMCO perform its functions efficiently and on a full cost recovery but not for profit basis.
<b><i>Ownership</i></b>	NEMMCO is owned by the six jurisdictions who are members of the NEM. The NEMMCO Members Agreement, summarised below, sets out the agreement between the owners.
<b><i>Board</i></b>	<p>Each Member may nominate one Director. The Members must nominate a Chair of the Board in accordance with the Articles.</p> <p>The Members are required to consult together to achieve an appropriate mix of skills and experience and a staggering of the terms of appointment.</p> <p>The Board may appoint an additional two Directors. The Board must appoint a Chief Executive Officer. The CEO may be appointed a Director, in accordance with the Articles, but need not be.</p>

The NEMMCO Members' Agreement is dated 9 May 1996. This agreement is not publicly available.

The Agreement sets out the objectives of NEMMCO. Members to the Agreement will have equal voting rights. The Agreement, which predated the incorporation of NEMMCO, records the intention to effect the incorporation and to become a member of NEMMCO.

<sup>1</sup> See for example "Governance and Regulation of Power Pools and System Operators", World Bank, 1997

The Agreement sets out the Board appointment procedures summarised above. Section 5.2 of the Agreement sets out decisions which require approval of three quarters (in numbers) of the members. These include amendments to the National Electricity Code with respect to NEMMCO's functions, and disposal, formation or acquisition of businesses or major shareholdings.

The company is to be self-funding and not-for-profit. This point is also reinforced by Section 50 of the National Electricity Law. The Members Agreement sets out the initial capital contributions and the share of contributions by each Member on winding up, up to a cap.

The Board is required to prepare and submit to the Members a draft Statement of Corporate Intent, to consider comments on it by the Members, and to deliver the completed Statement. This must be done within defined timelines. The contents of the Statement of Corporate Intent are defined. The Board must also submit a draft budget.

NEMMCO must use reasonable endeavours to comply with the Statement of Corporate Intent and the Budget. The Agreement also sets out obligations to provide quarterly and annual reports, and arrangements for audit.

The Agreement covers agreements with TransGrid and VPX, and the deemed contribution to funding as a result of those agreements. The Agreement also covers agreements to provide NEMMCO with access to the services provided by each State control centre on reasonable terms and conditions.

Section 11 of the Members Agreement sets out the Members' Obligations. Section 12 states that only States or Territories of the Commonwealth of Australia are entitled to become Members of NEMMCO. It also defines procedures for new membership (in clauses 12.4 and 12.5) and termination of membership.

A Deed of Assumption in December 2001, allowed for Tasmania to become a Member in accordance with clause 12.5 of the Members Agreement.

### 3 Role and functions of NEMMCO

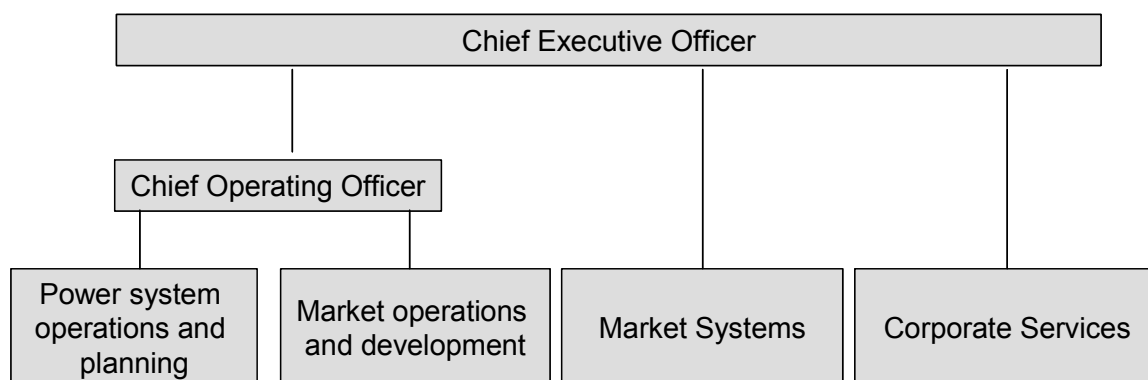
#### 3.1 NEMMCO's existing role and functions

NEMMCO's functions are set out in Section 49 of the National Electricity Law. These are, amongst others, to:

- operate and administer the wholesale power exchange
- promote the development and improve the effectiveness of the operation and administration of the wholesale power exchange
- maintain and improve power system security
- co-ordinate the planning of transmission augmentations in the NEM

NEMMCO's organisational structure is summarised in Figure 1. This section describes the activities of its two operating divisions (power system operations and planning, and market operations and development) and two support divisions (market systems and corporate services).

Figure 1: NEMMCO organisational structure



##### 3.1.1 Power system operations and planning

The Power systems operations and planning division employs 94 staff or 37% of NEMMCO's total staff. The core capabilities in this division are electrical power system operation and analysis.

The division is responsible for operating network control centres in Brisbane and Sydney. These control centres dispatch (control) all transmission-connected generating units in the NEM, through automatic generator control systems, and back-up manual systems if these automatic systems fail. These control centres also interact with network control centres operated by transmission network service providers in each NEM region, to switch the transmission network elements.

The other day-day activities of the power system operations division involve forecasting demand, scheduling and co-ordinating transmission and generation outages, operating the NEM Dispatch Engine (NEMDE) to determine the constrained optimised dispatch based on generator offers and system conditions, and then dispatching generating units in accordance with NEMDE output as far as possible.

The planning branch of the power systems operations and planning division is responsible for the development NEMMCO's power system operation capability and for analysing the development of the power system in the medium and long term. This development activity covers a diverse range of activities such as:

- Expressing the physical limitations of the power system in constraint equations
- Determining transmission loss factors to apply to generators to adjust for transmission losses
- Determining the level of ancillary services needed to ensure that the power system and electricity market operate as intended

Some of the information and analysis produced in this division is used in the publication of projected assessments of system adequacy (PASA), the annual Statement of Opportunities and the Annual National Transmission Statement.

Table 2 summarises the main decisions that this division makes.

**Table 2: Decisions made by the power system operations and planning division.**

Functional area	What decisions are made?
Generation dispatch	<ul style="list-style-type: none"> <li>• Accreditation and management of metering data providers</li> <li>• Demand forecasts</li> <li>• The output of individual grid-connected generating units, based on NEMDE output and reflecting generator offers, demand and transmission system constraints.</li> </ul>
Power system characteristics	<ul style="list-style-type: none"> <li>• Formulation of constraint equations</li> <li>• Definition of critical contingencies.</li> </ul>
Power system security	<ul style="list-style-type: none"> <li>• Notices and publication of information on generation reserves.</li> <li>• Contracts to provide reserve generation capacity.</li> <li>• Black start procurement and cost recovery.</li> <li>• Frequency response ancillary services procurement and cost recovery.</li> <li>• Reactive power and network control ancillary services procurement from market participants and possibly TNSPs.</li> <li>• Outage scheduling.</li> </ul>
Prices	<ul style="list-style-type: none"> <li>• Prices at Regional Reference Nodes.</li> <li>• Dynamic intra-regional loss factors and static inter-regional loss factors</li> <li>• "What/if" ex-post pricing under specific circumstances.</li> </ul>
Projected assessment of system adequacy (PASA), Statement of Opportunities & Annual National Transmission Statement	<p>Publishes data and analysis on:</p> <ul style="list-style-type: none"> <li>• Demand/supply balance.</li> <li>• Expected network and generation developments.</li> <li>• Network projects on national transmission flow paths that in NEMMCO's view have benefits that exceed costs.</li> </ul>

### 3.1.2 Market operations and development

The market operations and development division employs 46 staff or 18% of NEMMCO's total staff.

The wholesale market operations division involves metering, billing and financial settlement of wholesale trade in the NEM. The wholesale market development part of this division focuses on interaction with regulators and market participants to ensure that NEMMCO's processes, and the rules that apply to NEMMCO, are appropriate. Issues currently being handled in this area include changes to market and system operation needed to accommodate increasing wind generation, prudential arrangements, changes to the MT PASA process, and examining operational issues arising from possible future developments arising from nuclear generation, emissions trading and demand side management.

Retail market development involves a co-ordination and development role in retail market billing and metering procedures. NEMMCO provides secretariat and programme manager services to the Retail Market Executive Committee (RMEC) and Information Exchange Committee (IEC), and to the reference groups that advise these committees. NEMMCO is also involved in the development of procedures, processes and systems reflecting the decisions of the RMEC and IEC.

Current areas of focus include NEM-wide metrology, B2B, and Business and Data procedures/systems. The costs of NEMMCO's retail market development activities are recovered separately from retail market participants. NEMMCO's obligations in this area are prescribed, often in detail, in Chapter 7 of the National Electricity Rules summarises the main decisions that this division makes.

**Table 3: Market operations and development decisions**

Functional area	What decisions are made?
Metering & Settlement	<ul style="list-style-type: none"> <li>• Load Profiles</li> <li>• Design and operation of settlements processes</li> <li>• Design and operation of Metering and Settlement Transfer Solution.</li> <li>• Prudential requirements</li> </ul>
Development and certification of NEMDE	<ul style="list-style-type: none"> <li>• The detailed design of NEMDE</li> </ul>
Auctions for Inter-Regional Settlement Residues	<ul style="list-style-type: none"> <li>• Design and operation of settlement residue auctions.</li> </ul>
Market development: Current issues include wind generation management; metrology harmonisation; business-to-business data exchange; facilitating retail competition and gas market development in Queensland	<ul style="list-style-type: none"> <li>• NEM metrology procedures</li> <li>• B2B procedures</li> <li>• Processes to manage wind generation</li> <li>• Processes and systems to facilitate retail competition</li> </ul>

### 3.1.3 Market systems division

The Market Systems division employs 86 staff or 35% of NEMMCO's total staff. This division provides information system support to NEMMCO. The core capabilities in this division are the design, development and procurement of information systems ranging from desk top computers to high powered information and communication systems needed to support the power system control centres. Generally key systems development and design skills are retained in-house, but contractors are used from time to time.

### 3.1.4 Corporate Services division

The Corporate Services division employs 23 staff or 9% of NEMMCO's total staff. The division employs functional specialists in finance, law, human resources, communications and regulatory affairs, who provide business support services to NEMMCO.

## 3.2 Possible changes to NEMMCO's role and functions

### 3.2.1 Impact of Gas Market Leader's Group recommendations

The Gas Market Leader's Group recommended the establishment of a national gas market operator. Their recommendation is that this operator should have control over both physical gas system operation as well as the operation and development of the national gas market. Their proposed operator would subsume the market operations of the Gas Market Company in New South Wales, REMCo in South Australia and Western Australia, and VENCORP's gas functions in Victoria.

However the recommendation was that the gas market operator should not be combined with NEMMCO. The main reason for this appears to be concern that the gas market operator should be accountable to industry, rather than a jurisdictionally-appointed Board. If the gas market operator was established separately to NEMMCO, there would nevertheless still be interaction between both organisations particularly in the field of emergency response management.

### 3.2.2 Impact of ERIG discussion paper options

The ERIG discussion paper discussed changes that could affect NEMMCO's role and functions, in a number of areas. summarises the non-transmission changes and discusses the implications of these changes for NEMMCO.

**Table 4: Non-transmission changes discussed by ERIG that may impact NEMMCO**

Issues raised by ERIG	Implications for NEMMCO's role and functions
The reconfiguration of SRAs needs to be driven commercially as a business (though with a public policy objective) and it is arguable this is not an appropriate role for NEMMCO.	Relieving NEMMCO of the management of settlement residues would result in a relatively insignificant reduction in administrative capacity by NEMMCO. It might affect NEMMCO's dispatch decisions – for example the need to manage negative inter-regional settlement residues may no longer be a concern if NEMMCO is not responsible for underwriting such residues. However, the impact of negative settlement residues is substantially reduced following a recent AEMC decision.
Comment is sought on the ... prospect of separating NEMMCO's settlement role from its operational role.	This would lead to a change in NEMMCO's role, but only have a minor impact on resourcing.
A national settlements and clearing facility	The integration of spot market and forward

Issues raised by ERIG	Implications for NEMMCO's role and functions
<p>could be introduced to handle both forward and spot market settlement and clearance in the NEM ... This model does not necessarily require the establishment of a new institution or the expansion of NEMMCO's current functions ... NEMMCO's functions could be expanded to take on the national settlements and clearing role. This may be a significant task, requiring, inter alia, appropriate ASIC accreditation, capital provision and expertise.</p>	<p>market settlements under NEMMCO is unlikely to be a significant change to NEMMCO's settlement role. Compulsory centralised settlement of OTC contracts and forward markets would however entail a significant expansion of NEMMCO's role.</p>
<p>A short term forward market trial along the lines proposed by NEMMCO ... could be a useful initiative to progress if the costs of establishing such a market are not substantial and there is substantial industry support. A trial could provide the necessary evidence to support or dismiss claims made by parties regarding the value of such a market.</p> <p>If there were substantial support for a trial, the party to run it would be critical to obtaining industry support. We would suggest that any identified credible party e.g. ASX, financial intermediaries, or NEMMCO should be offered the opportunity to compete to run the trial on an equitable basis.</p>	<p>If NEMMCO is asked to run a short term forward market, this would increase the scope of its market operations activities, however the impact is unlikely to be significant.</p>

In transmission, ERIG discussed three possible options. The implications of these for NEMMCO's role and functions are discussed below. In the case of Option 1, NEMMCO is the obvious entity to take on this role. In the case of Options 2 and 3, for the purposes of this analysis it is assumed that NEMMCO would take on the role of the strategic national planner (option 2) or the national procurer (option 3). Obviously the analysis in this table would not apply if NEMMCO was not appointed as the national planner/national procurer.

**Table 5: Transmission options discussed by ERIG that would affect NEMMCO**

<b>Options identified by ERIG</b>	<b>Implications for NEMMCO's role and functions</b>
<b>Option 1: Modified status quo</b> – involving the establishment of a transparent and independent national planner to disseminate information	The implementation of this option is likely to result in a strengthening of the existing annual national transmission reporting process undertaken by NEMMCO. However, this is unlikely to significantly alter NEMMCO's existing role.
<b>Option 2: Strategic national planner and co-ordinator</b> – a national planner to disseminate information, deliver strong and well informed independent advice on the efficient longer term development of the national transmission grid through transparent, independent and consultative processes	<p>The implication of this option for NEMMCO depends on how vigorously it is implemented.</p> <p>If the focus of the strategic national planner is the development of ten year “strategic plans” for investments on national transmission flow paths, then it is likely that the implications of this option for NEMMCO will be similar to Option 1 discussed above.</p> <p>If, however, the strategic national plans are highly detailed and are reflected in revenue cap decisions implemented by the AER, then it is likely that this option could have significant implications for NEMMCO's role and functions. NEMMCO will need to significantly increase its network planning capacity to ensure that it is able to plan and cost transmission investment throughout the NEM. It will also need to develop capacity to provide on-going support to the AER in its revenue control decisions.</p>
<b>Option 3: National procurer</b> - the establishment of a NEM-wide, not-for-profit corporate entity responsible for making decisions on transmission augmentations	This option is likely to result in a significant change to NEMMCO's role and functions. In addition to developing detailed network planning capacity, NEMMCO would need to develop the commercial capacity to let contracts for new transmission investments that are likely to cost around \$0.7bn annually. This would be a very significant shift in NEMMCO's role and functions, and would require reconsideration of the governance arrangements. Our discussion below assumes that NEMMCO does not take on this role.

### **3.3 Assessment of NEMMCO's role in the NEM**

#### **3.3.1 Existing functions**

A simple description of the market might state that the AEMC develops Rules; the AER enforces them; and NEMMCO operates within them. The governance role might then simply be to ensure compliance with the Rules, and to minimise costs.

However, this would be an over-simplification. Chapter 3 of the Electricity Rules covers power system operations and aspects of market operations. The chapter establishes the first market design principle, to “minimise NEMMCO decision making to allow market participants the greatest amount of commercial freedom to decide how they will operate in the market”. The remaining 158 pages of the Chapter then sets out the architecture of the electricity market covering details such as the definition of regions, price intervals, the treatment of losses, settlement residues and so on.

Despite the intention to minimise decision making, the Rules only establish high level objectives for some critical functions. For example the Rules instruct NEMMCO to establish a spot market to “maximise the value of spot market trading on the basis of dispatch offers and dispatch bids”.

The tool that NEMMCO has developed to implement this objective is the NEM Dispatch Engine, NEMDE. NEMDE requires decisions on variables such as the formulation and parameterisation of constraint equations, which describe the physical operating limits of the power system. If constraints described in these equations are binding, they result in different market prices and different generation dispatch decisions from those that would arise if the constraints are not binding.

This means that the formulation of constraint equations can have significant commercial value to market participants. Other areas of NEMMCO’s activities that require it to exercise judgement include:

- forecasting demand;
- the scheduling and co-ordination of transmission planned outages;
- the management of ancillary services (such as frequency control, voltage support) needed to ensure that the power system operates within its physical limits;
- generation dispatch to manage negative inter-regional settlement residues and at times of system emergencies.

Our conclusion is that there is substantial scope for the exercise of discretion in system operations. Over time, progressively higher levels of prescription may diminish the need for operator judgement. However, the power system is complex and needs to be operated within narrow bounds. It seems likely that NEMMCO’s judgement in these areas will continue to be significant for the foreseeable future. At times, the exercise of this judgement can have a significant impact on market outcomes.

While this is the case for system operations, it appears less true for market operations. NEMMCO’s role in wholesale and retail metering and settlement is defined with a relatively high degree of prescription in Chapters 3 and 7 of the Rules.

The implication of this is that there may be some difference in the appropriate governance arrangements for power system operations and market operations. Power system operations entails a reasonable degree of discretion. The Board may play a role in ensuring effective management processes for that exercise of discretion, and so both Governments and industry have an interest in ensuring suitably qualified and capable Board directors. Market operations may entail a lower degree of discretion, with the main focus being on the cost-effective delivery of relatively prescribed functions.

We return to the implications of this possible difference in the conclusions.

### 3.3.2 Possible additional functions

The focus of this report is on the governance arrangements for NEMMCO. The appropriate governance arrangements are dependent on the functions undertaken by NEMMCO. We have therefore considered how far the proposed changes outlined above would entail a significant change to the nature of the functions that NEMMCO undertakes.

One option is to extend system and market operations to include gas. However, there is no consensus on the appropriate balance between industry development and regulatory oversight of gas market rules. The gas industry has also expressed concern about NEMMCO's governance model.

If NEMMCO does undertake new functions in gas, these would be similar in nature to the functions it already undertakes. The main focus would be on market operations. Any role in system operations is likely to be slight, as this role is frequently undertaken by pipeline owners.

This would not entail a major change in the nature of the functions undertaken by NEMMCO. As a result, the governance arrangements outlined in this report could be extended to include gas if this increase in NEMMCO's functions was agreed. An additional role in gas would however affect the companies who would participate in the governance arrangements, and would affect the skills required by NEMMCO.

Another change proposed is for NEMMCO to play a greater role in transmission planning. Options 1 and 2 would entail an increase in the planning role currently undertaken by NEMMCO. This would be largely consistent with NEMMCO's current role and functions, and so would not affect the appropriate governance arrangements.

If Option 3 was adopted, and this role was undertaken by NEMMCO, then the company would need to manage a very major program of transmission procurement. This would significantly alter the scale of the commercial task being managed by NEMMCO, and so the skills required in the Board and the organisation.

Table 4 summarises non-transmission related changes to NEMMCO's role discussed by ERIG. NEMMCO already plays a role in financial markets, through its management of the settlement residue auctions. These possible changes would alter the scale of NEMMCO's role in financial markets, but would not be radically different from its current involvement. As a result, we conclude that they would not have a major effect on the appropriate governance arrangements.

The Parer review recommended that NEMMCO play a major market development role. As summarised above, the market operations division currently undertakes a good deal of work in retail market development. However, we understand that AEMC anticipates that NEMMCO's market development role will be subject to AEMC review. NEMMCO may therefore play a role in analysing, developing and co-ordinating consultation on market development, but not the final determination of policy and Rules.

The boundary between ‘Rules’ which require AEMC determination, and more detailed guidelines and Codes which do not, is yet to be determined. It may well be that NEMMCO will play a significant role in developing the detail that applies to Rules developed by the AEMC. However, the principle that Rule development lies with the AEMC appears clear.

As a result, we have not considered NEMMCO as a body which sets policy or Rules. If NEMMCO took on a substantial policy role, it is likely that this would alter the appropriate governance framework.

## 4 International comparisons

### 4.1 *PJM Interconnection*

PJM Interconnection is a regional transmission organisation providing co-ordinated power system operation, and a wholesale market covering Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia and the District of Columbia.

PJM has more than 400 members and runs markets that transact electricity worth around US\$23bn p.a. or around six times larger than the NEM. PJM provides a diverse range of services including collecting transmission revenue, co-ordinating transmission planning, operating the power system, running physical markets in spot energy, reactive supply, operating reserve and black start. PJM also runs financial markets including in Financial Transmission Rights. It has an annual budget of around US\$300m - about 5 times greater than NEMMCO.

PJM Interconnection is a Limited Liability Company and seeks to recover its cost from its 400+ members. Membership of PJM involves agreement to an over-arching Operating Agreement.

PJM is governed by a Board of Directors comprising nine directors plus a non-voting president who serve three year terms. There are two stages to the selection of Board Members:

- A stakeholder-representative Nominating Committee elects nominees for Board seats.
- A Members Committee representing all parties to the Operating Agreement votes to elect Board Members from amongst the individuals proposed by the Nominating Committee.

Board members must satisfy skills requirements including senior management experience, knowledge of regulation, finance, transmission operations, commercial markets, trading and risk management. Four Board seats are reserve for those with senior corporate experience, and three are reserved for individuals with experience in transmission operations, commercial markets and trading, and transmission planning.

### 4.2 *New York Independent System Operator (NYISO)*

The New York ISO is the operator of the power systems serving New York State. NYISO also operates a spot market and day-ahead market. Together these markets transact around 50% of the total electricity traded in New York State (the remaining 50% is transacted through bilateral contracts). The simultaneous peak demand in New York State is roughly equivalent to the peak demand in the NEM.

NYISO is governed by a 10 person Board of Directors, with the chairman elected by Directors. The ISO Board is self-perpetuating. The initial Board was formed by an 18-member stakeholder selection committee. Like the PJM Board, directors are required to have specific experience (utility management, regulation, corporate finance, public policy, consumer advocacy etc.) At least three Directors must have relevant electricity industry

experience, and the President must have extensive experience in the operation of electric power systems. Board members are required to be unaffiliated.

Unlike other ISOs in the US, the NYISO governance structure also encompasses three standing committees - a Management Committee and two subsidiary committees – an Operating Committee and a Business Issues Committee. The Management Committee reports to the Board of Directors. Membership of the Management Committee is struck on sectoral lines with five sectors (Generator Owners, Transmission Owners, End Use Customers, Other Suppliers and Public Power/Environmental) each having roughly 20% representation.

The Management Committee may assist the Board in filling vacancies by recommending candidates.

The ISO Board has the authority to overrule a decision of the Management Committee but all revisions to ISO tariffs and agreements require the concurrence of the Management Committee and Board.

Finally, the regulatory agency, the New York State Public Service Commission is involved to some degree in Board selection in as much as the process for Director selection is subject to Commission approval.

### ***4.3 Electricity market (New Zealand)***

Since September 2003, the New Zealand Electricity Commission, a crown corporation whose commissioners are appointed by the Minister of Energy, has been responsible for running the voluntary New Zealand electricity market.

The day-day activities needed to operate this market are outsourced to service providers. In total eight different services (clearing manager, information systems, market administrator, pricing manager, reconciliation manager, registry, system operator) are identified and the Commission is currently going through a process to re-tender for these services, other than for the right to operate the power system. Power system operation – currently undertaken by Transpower – will be competitively tendered from 2009 – this service is subject to 24 months notice and such notice can only be served from March 2007.

The New Zealand arrangement is unique. We are not aware of other examples where a government-appointed Commission controls the operation and development of the wholesale electricity market where market participants trade.

### ***4.4 Nord Pool***

Nord Pool ASA is a power exchange operator providing electricity wholesale market services in Norway, Sweden, Finland and Denmark and also a small area in the north of Germany. Its main services involve the operation of a futures exchange trading a wide variety of futures and forward instruments, the provision of clearing services for exchange-traded instruments as well as Over the Counter (OTC) traded contracts, and the operation of a voluntary day-ahead and intra-day balancing market through its subsidiary, Elspot.

The Elspot (day-ahead) market had a turnover of 161 TWh in 2005 - roughly the same as the NEM – which accounted for around half of all electricity consumed in the Nord Pool

area. The forward markets operated by Nord Pool are very liquid with annual traded volume around twice the total electricity supplied.

Nord Pool ASA is owned equally by the transmission operators in Norway and Sweden and Board Directorship is determined accordingly. Nord Pool Spot, its spot market and balancing market subsidiary is owned 20% by Nord Pool ASA and the remaining 80% is divided equally between the transmission system operators in Norway, Sweden, Denmark and Finland. Nord Pool Spot has five directors with one each representing its five shareholders.

Nord Pool ASA is essentially a power exchange making a market in financial instruments to trade electricity through various forms of forward, futures and options, and provides clearing services included for non-exchanged traded contracts. There are now numerous examples internationally of such businesses. The governance of such is no more relevant to NEMMCO than is the governance of exchanges of other commodities and stocks.

However, like the Balancing and Settlement mechanism in the UK (discussed later) and the New Zealand electricity market (discussed earlier) Nord Pool operates the balancing market which, although it only accounts for a very small portion of total traded electricity, provides a critical role in ensuring market-based trade in electricity needed to allow the transmission system operators to manage the power system. In this respect, Nord Pool carries out activities comparable to NEMMCO's wholesale market operation activities.

#### ***4.5 Californian Independent System Operator (CAISO)***

The CAISO is a not-for-profit corporation responsible for power system operation and operating balancing markets and ancillary services markets. It also operates a day-ahead market. Electricity trade on the ISO accounts for around 10% of the total volume of electricity sold in California.

CAISO is governed by a five member Board. Board members serve a one year term but can be reappointed indefinitely. Board members are appointed by the State Governor and confirmed by the Senate. The California Electricity Oversight Board (the regulator) appoints the chairperson of the Board. Board members must satisfy specific skills requirements including senior management experience, knowledge of utility law and regulation, finance, transmission operations, commercial markets, trading and risk management. All potential candidates must be unaffiliated to actual or potential market participants.

The selection process for Board membership is as follows:

- An independent executive search firm identifies at least four potential candidates for every open position on the Board.
- Six stakeholder-based groups (transmission owners, end-users and retail energy providers, public interest groups, alternate energy providers, transmission dependent utilities, and generators) each nominate 6 members to a Board Nominee Review Committee. This Committee then ranks candidates in descending order and sends the ranked list to the Governor for consideration.

The governance of the CAISO is unusual in that appointments are made by the government and not by industry participants, although participants nominate and rank candidates for the Governor's decision. This represents a considerable change from the arrangements applicable up to January 2001 when the CAISO Board represented stakeholders participating in the electricity industry.

#### ***4.6 Balancing and Settlement Code Company and Panel (UK)***

In the British electricity market, the administration of the wholesale market (known as the Balancing Mechanism) is undertaken by the Balancing and Settlement Code Company (BSCco). The National Grid Company operates the power system. NGC is a for-profit business and its system operation and balancing market activities are regulated by Ofgem (the industry regulator).

The rules and governance framework for the balancing and settlement arrangements in Great Britain are set out in the Balancing and Settlement Code. The Balancing and Settlement Code covers activities that include inter alia, what is described in Chapters 2, 3 and 7 of the NEM National Electricity Rules, and guidelines and procedures pursuant to those chapters.

The Balancing and Settlement Code Company (Elexon) is the Code administrator. Its task is to procure, manage and operate the services and systems which enable the balancing and imbalance settlement of the wholesale electricity market and retail competition in electricity supply. To a reasonable degree, Elexon's operating activities can be compared to NEMMCO's market operations activities, and Elexon's Code administration activities can be compared to NEMMCO's wholesale and retail market development activities plus some of the Rule change activities undertaken by the AEMC.

Elexon is a not-for-profit company, wholly owned by NGC, but NGC's shares are transferable at Ofgem's request. Its 2006 budget is around \$90m.

The Board of Elexon has five members, a full-time chairman and four non-executive directors. Two of the non-executive directors are nominated by industry participants. While Elexon is responsible for the administration of the Code, the Balancing and Settlement Code Panel is responsible for overseeing aspects of Elexon's activities and also for a range of other issues including:

- establishing arrangements for the resolution of Trading Disputes arising under the BSC
- deciding on the suspension of specific rights of any Defaulting BSC Party
- overseeing the changes to the BSC through the Modification process and making recommendations to the Authority on whether Modification Proposals should be approved
- acting as an appeal body in some instances, e.g. Trading Dispute Referrals
- providing reports and other information to Ofgem
- setting the terms of reference for the BSC Auditor and considering the BSC Audit Report
- approving the Business Strategy prepared by ELEXON for each BSC Year.

There are 11 Panel members. The Chairman (who is also the chairman of Elexon) is appointed by Ofgem. The chairman appoints two further independent directors. Consumer

representatives appoint two members, industry members appoint five members and NGC appoints 1 member. Panel members are not meant to represent the interests of any one party or class of parties.

#### ***4.7 The Energy Market Company (Singapore)***

The New Electricity Market was established under the Electricity Act. The Energy Market Authority (EMA), a Singapore Government agency, was responsible for establishing the wholesale market rules and for issuing licences to electricity market participants. The EMA is intended to be self-funding from licence fees.

Power system operations is undertaken by the Power System Operation division of the EMA. The Energy Market Company (EMC) is licensed to operate the wholesale market. EMC is responsible for operating the wholesale electricity market. It also plays an important role in rule making, compliance and dispute resolution.

EMC is responsible for monitoring the efficiency and fairness of market operations and enforcing the market rules. It also ensures that disputes are resolved in a fair and cost-effective manner. Some of the other functions of EMC include:

- settlement of accounts for market participants
- facilitate the planning of the transmission system
- prepare schedules for generating units, loads and transmission system
- provide information to facilitate investment decisions in the electricity market
- exercise the powers and duties assigned to it under the Electricity Act

The EMC is a for-profit company jointly owned by the EMA (with a 51% shareholding) and M-Co Singapore with 49%. The details of the governance arrangement are in the Shareholders Agreement, which is not in the public domain. We understand that board appointments are designed to ensure economic, legal, trading and engineering skills. The budget is established in consultation with industry, and following review by the Rule Change panel. After an initial trial period, the budget is now being reset at three yearly intervals. The EMC can retain cost savings which are due to management efficiency

The Market Surveillance and Compliance Panel (MSCP) has five members on its panel appointed by EMC board. The role of MSCP is to monitor and investigate activities in the wholesale market and the conduct of market participants. MSCP also provides assistance to the regulator the Energy Market Authority (EMA) in prohibiting anti-competitive agreements.

The Rule Change Panel (RCP) has 12 industry representatives. The CEO of the EMC chairs the panel. All proposed modifications to the market rules are reviewed by the rules change panel and recommended to EMC Board. Rule changes are submitted to Energy Market Authority for endorsement.

The RCP also has a Technical Working Group (TWG) to assist it in its responsibilities to oversee changes to market rules. The TWG consists of seven members. Four members are nominated experts from market participants, one person is nominated by the Power System Operator, one market clearing engine expert nominated by EMC and a chairperson nominated by the EMC. All the members of TWG are appointed for a two year term.

### **Disputes Resolution Counsellor and Dispute Resolution Panel**

It is an independent body appointed by the EMC Board. It is responsible for managing the dispute resolution process and for facilitating individual disputes.

## **4.8 Observations on international comparisons**

The brief review of electricity market operation and power system operation in various countries, suggests that there are several ways of organising electricity market and power system control activities, and different ways of governing them through boards of directors, panels or commissions. This subsection draws out observations on the governance of electricity markets, and the governance of power system operation.

### **4.8.1 Governance of wholesale electricity markets**

The following observations on the governance of different wholesale market structures can be made:

- There is no particular role for government in the governance of wholesale power exchanges that make markets in financial instruments (futures and options), or in forward markets conducted bilaterally or through brokerages. Like other commodity or financial exchanges their governance is determined by their owners, which in some cases can be the exchange's members or investors.
- Where the operation of forward and futures exchanges is combined with spot markets such as Nord Pool or some US ISOs/RTOs, governments or their agencies do have a role in governance in some cases. In Nord Pool, while governments have no role in Board selection or appointment the owners of Nord Pool are themselves government-owned transmission system operators and so governments would be able to exercise some form of control through this ownership. In the US, the model varies. In the case of PJM Interconnection and the New York ISO, government has no role on their Boards, or in the selection of Board members. However, in the case of New York, the State Public Service Commission is required to approve the Board selection process. In the case of the California ISO, although government is not represented on the Board, the State Governor appoints Board members from industry stakeholder-based nominees.
- Where spot markets for physical settlement exist separately from financial markets – such as in New Zealand, Britain and Singapore - governments or regulatory authorities do play a role in governance. For example in Britain, although industry nominates the greatest number of BSC Co directors or BSC Panel members, the Chairman of the Balancing and Settlement Company and Balancing and Settlement Panel is appointed by Ofgem. In New Zealand, the Electricity Commission, a crown entity, runs the electricity market. In Singapore the government owns 51% of the market operator.

The ability to draw conclusions from this brief analysis is limited by the fact that the entities being compared vary considerably in the scope of their operations. However with the exception of New Zealand, it is possible to conclude that market participants play a significant role in the governance of electricity markets.

This does not mean that governments have excluded themselves from the governance of market operators entirely. Governments are able to influence governance in various ways, other than by directly owning the market operator, or controlling market operators through Board representation. This ranges from approving Board appointment processes, to making key Board appointments, or appointing all Board members from a pool of industry nominees.

#### 4.8.2 Governance of power system operation

In the organisation of power systems and spot markets for physical settlement, two main models can be distinguished:

- Power system operation and spot markets are organisationally separated: This is the model that has been adopted in Scandinavia, New Zealand, the UK and frequently in continental Europe.
- Integrated spot markets and power system operation: This is the model common in those parts of the United States that have created ISOs/RTOs.

Where system operation has been separated from spot market operation, the system operation activity is usually incorporated as part of a transmission service provider whose dominant activity is the ownership, operation and development of the network. Examples of this include Transpower in New Zealand, National Grid Company (NGC) in Britain, Statnett in Norway, Statkraft in Sweden and RTE in France. In these cases, the governance of power system operation can not be considered separately from the governance of the rest of the organisation.

Typically transmission service providers, whether or not they also operate the spot market, are subject to a high degree of government oversight, which may be exercised by government departments and/or regulatory authorities and implemented through economic and technical regulations. For example in Britain, NGC's power system operation activity has been subject to regulatory financial incentives since 1995. Similarly the power system operating standards that NGC is required to adhere to are set out in its licence conditions. Government control of such businesses is also often exerted directly through ownership.

## 5 Conclusions

NEMMCO plays a key role in power system and market operations. Its governance arrangements are a matter of great importance for governments, who are ultimately politically accountable for the success of market arrangements in delivering a reliable power supply, and for market participants.

It will be important to involve governments, market participants and NEMMCO itself in consultation on the desired future changes to governance arrangements. This section sets out three possible areas for that consultation. These are:

- The possible establishment of NEMMCO's objectives
- Mechanisms for greater industry involvement in appointment of the NEMMCO Board, and
- Possible arrangements for a higher level of industry involvement over NEMMCO's market operations function than its other functions.

In some cases we have provided some detail on a possible way forward. The intent is to enable debate, rather than to pre-empt discussion on the best way forward.

### 5.1 *NEMMCO Objectives*

Transparency and predictability requires that it is clear how the Board should take decisions.

NEMMCO is a company limited by guarantee incorporated under the Corporations Act. Board Directors should therefore take their decisions in the best interests of the company. However, the implications of this general principle are unclear. NEMMCO is a not-for-profit company. Decisions that alter its costs, or that affect the efficiency with which services are procured for the market, will not affect the profitability of the company, which often serves as a measure of its interests.

In some cases the market operator is a for-profit company. For example, in Singapore the Energy Market Company is a regulated business which has profit incentives to improve its efficiency and reduce costs. However, we do not consider that a shift of this magnitude would be justified.

In the absence of a rationale for taking decisions on basis of their impact on company profitability, an alternative might be to seek to minimise the risks faced by the company. However, it is not clear that this would always be in the wider interests of the market.

The NEL and the Rules provide some guidance. For example, Section 50 of the NEL requires that NEMMCO undertakes its functions efficiently. Section 3.8.1 (b) of the Rules requires NEMMCO to operate a central dispatch process which aims to maximise the value of spot market trading.

However, these (and other references in the Rules) still provide limited transparency on the objectives to be addressed by the NEMMCO board. Objectives for NEMMCO were previously set out in Clause 1.6.2 of the Code. These were:

*“To establish and conduct the national electricity market efficiency in accordance with the Code on a self funding/ break even basis*

*To promote the ongoing development of, and changes to, the national electricity market with the objective of continually improving its efficiency; and*

*To undertake responsibility for coordination of power system planning in relation to the national electricity market as specified in Chapter 5 of the Code.”*

It is not clear that these would continue to be the current objectives. However, it may be desirable to establish transparent objectives in the Rules or in legislation. These could establish that the Board is responsible for ensuring that NEMMCO undertakes its functions in the way which best meets the NEM objective, or alternatively set out more specific NEMMCO objectives, as previously done.

***Consideration should be given to establishing objectives for NEMMCO, in the Rules or in legislation, which could give greater transparency and predictability to the basis for Board decisions.***

## **5.2 Board appointment**

The NEMMCO Board is principally appointed by State and territory governments. The Board can itself appoint up to two additional members.

There are disadvantages with this approach. It creates a concern among other market participants, and particularly private businesses, since many of the Governments concerned also own the competitors to these private businesses. It may create a misleading impression that the mechanism for State Governments to ensure that NEMMCO is responsive to their requirements is through influence at Board level.

This level of government control of the market and power system operator is also inconsistent with the approach taken in most other comparable electricity markets.

While the problem is clear, the best design of the alternative arrangements is less so. Most other electricity markets retain some degree of government oversight and/or control over aspects of the governance arrangements for the market and systems operator. The current position of complete government control appears inconsistent with good practice. However, a complete absence of government influence over the governance arrangements would also be inconsistent. The challenge is to design an appropriate arrangement between these two extremes.

The desirable features of such an arrangement are likely to include the following features:

- Industry (and possibly major users) should play a role in appointing directors of NEMMCO,

- Government should also continue to play a role in appointing directors,
- The arrangements should ensure an appropriate mix of skills on the Board, and
- The arrangement should make clear that Board directors are in no sense representing either government or industry interests.

We considered several options for appointment. One option would be for Government to continue to appoint the board members, but to be required to do so in consultation with industry. This option would provide very limited rights to industry, and little clarity.

A further option would be for industry to nominate all board members, and Governments (acting collectively) to appoint the board members, drawing from the list established by industry nomination. However, this has the drawback the Government is unable to play a direct role in nomination, and so may not be confident that its interests are being well protected. It might also result in a large number of nominations, so less industry influence on the final selection. As a result, it might leave both major parties dissatisfied.

Another option for achieving both industry and government appointments would be to have separate arrangements. For example, a number of directors could be appointed by industry, and a number of directors could be appointed by government, with appropriate mechanisms for both appointments. However this approach would perform poorly in ensuring an appropriate mix of skills, since the decisions would be less co-ordinated. It might also result in a misleading perception that some directors reflect industry interest and others government interests.

Our preferred approach would therefore be for all directors to be jointly selected by a government and industry panel. This approach is likely to be more effective at ensuring an appropriate mix of skills across the Board. It gives industry a greater role in board selection than the options outlined above. It also avoids a perception that any Board member is 'representing' either a specific government, or a section of industry.

A possible mechanism to achieve this would be for the government and industry to jointly establish a panel to select Board members for NEMMCO. The governments would appoint two members of the panel. We assume this would be done through the MCE. Industry would also appoint two members. Where more than two are nominated, they would be selected by voting, with one vote for each registered market participant. The governments would also appoint a Chair, with a casting vote. Legal advice may be required on whether this panel could actually appoint board members (that is, the owners could delegate this power to the panel). An alternative would be that the panel would select board members to be appointed by Government.

While this approach requires a five person appointment panel, we consider that this degree of formalisation is desirable to give industry a defined, influential role in selection of the board. Less formalised processes would run the risk that this industry role was eroded.

If member governments act collectively with respect to board appointment, this would remove the need for there to be one board member for each jurisdiction in the NEM. This might enable a modest reduction in the total size of the board. It would also enable higher remuneration for board members, with no increase in cost, if this was judged desirable. We

also anticipate that when any revised board arrangements are implemented consideration could be given to board terms, the number of terms to be served by board members, and appropriate arrangements for removal of board members/protection from dismissal.

We assume that this approach to appointing Board members could be achieved through amendment to section 4 of the Members Agreement, which deals with Board appointment (although this would require legal review). This document is similar to a contract between the Members, and so would give enforceable rights to the Members, by binding them to a process. It would not however give enforceable rights to industry.

As NEMMCO makes no profit and makes no distributions, the key issue appears to be control rather than ownership (in the sense that ownership gives residual rights to the profit stream). However, the discussion above suggests that the current ownership arrangements may limit the ability of industry to obtain an enforceable right to appoint Board directors, rather than one which could be rescinded by subsequent decisions. It may be desirable in the longer term to consider changes to the ownership of NEMMCO which did give industry stronger rights.

***Mechanisms should be developed for both government and industry to play a role in Board appointment. In the longer term, consideration may also be needed to the appropriate ownership arrangements for NEMMCO.***

### **5.3 Market operations**

The two main roles of NEMMCO are power system operations and market operations. These roles differ in their characteristics.

Power system operation is of great public policy interest – in particular at times of any emerging shortage and of high system stress. It entails significant discretion, and appears hard to fully codify. Given these characteristics, a government role in appointment of the Board to ensure effective performance of the function appears desirable.

Market operations requires the management of prudential arrangements and settlement and clearing of the market. The rules governing this function are of importance and may for example affect the ease of entry into the market. However, it appears easier to codify most aspects of market operations. In several jurisdictions they have been largely managed through contract, in some cases awarded through competitive tender.

While the Rules have a substantial public policy concern, this is less true of administration within the Rules. Market participants rather than governments bear the financial risk related to the effective performance of the market operations function. They also bear the costs of undertaking the function, recovered through pool fees.

These characteristics suggest that over time market participants might play a stronger role in governance arrangements for the market operations function undertaken by NEMMCO.

A possible response would be to establish a ‘Market Operations Panel’. This Panel would have oversight of the provision of market operation services. It would in time also determine how best to specify and procure market operation services, including from NEMMCO, other service providers, or a combination. If NEMMCO’s role was expanded

to include gas, the Panel might oversee a variety of different arrangements for the provision of market operation services.

The costs of NEMMCO's market operations role are recovered through participant fees, and are sensitive for market participants. However, it would not be worth implementing a change such as this simply for reasons of cost minimisation. Rather, the focus would be to ensure a responsive, participant-driven service. The quality of service, and the potential for dynamism and innovation, would be the key rationale.

The panel could be drawn from industry, on a representative basis. A possible mechanism for representation would be to group participants into categories such as generators, market customers, transmission and distribution network service providers. Participants in each group could nominate a representative to be on the panel. In the event that more nominations were received than places available, the representative could be selected through a vote. The arrangements for panel representation would need modification if gas market operations were to be included.

Selection could be on the basis of one vote for each registered participant in the relevant group. Alternatively, it could be based on a factor, such as turnover, which acts as a proxy for each participant's exposure to the market operations. Our brief review of approaches elsewhere suggests that the development of these voting rules is likely to be complex, and would require time and consultation with industry.

The main NEMMCO Board would need to retain responsibility for ensuring that NEMMCO met its obligations under the NEL. It might for example appoint the Chair of the Market Operations Panel. However, it would be desirable for the Panel to have some level of control, rather than simply acting as an advisory panel. This might be achieved through an ability of the NEMMCO Board to accept or reject the recommendations of the panel, but not to substitute alternative arrangements. Rejection would lead to continuation of the existing arrangements.

An approach of this kind might also be consistent with different arrangements in different sectors. For example, if some gas market operators already had outsourced market operations, a structure of this kind might provide reassurance that these arrangements would continue if judged to be cost effective.

Implementing this approach would require further work on:

- role and functions. This would require detailed examination of NEMMCO's market operation functions. Functions closer to market development, rather than implementation of agreed rules, should be managed separately;
- Panel appointment. This will be sensitive, and should be developed through industry consultation; and
- the relationship between the panel and the main NEMMCO Board. This is likely to require legal advice.

Any changes to the governance arrangements for NEMMCO are likely to be sensitive, given the strong interest by both Governments and market participants in ensuring that the

functions established for NEMMCO under the NEL are undertaken effectively and efficiently. An appropriate next step would be to consult more broadly on the possible changes to the governance arrangements set out in this report.

***ERIG should consult industry and government on the possible establishment of an industry-representative market operations panel, to oversee the specification and procurement of market operations functions.***