

NEMMCO

**Review of system restart
ancillary service arrangements
& pricing during market suspension –
proposed Rules changes**

AEMC Hearing: 15 September 2005



SRAS review



- **Provide context to the proposed Rules**
 - will discuss the consistency of proposed Rules with recommendations
 - not proposing to revisit rationale behind the recommendations
- **Identify the key elements (technical and administrative) of the proposed Rules and explain how they fit into the process of implementing the recommendations of the review**
- **Provide additional detail on areas where proposed Rules vary from Final report recommendations**
- **Note that:**
 - existing Rules focus largely on generic Rules for *non-market ancillary services (NMAS)*, with relatively little formal distinction between *NCAS* and *SRAS*
 - proposed Rules have many *SRAS* specific clauses – changes made to *NCAS* provisions only where necessary

Review of system restart ancillary service (SRAS) arrangements

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- **Final report incorporating comprehensive recommendations was published in July 2004**
- **Code changes in support of Final report recommendations submitted to NECA in April 2005**
- **Many of the recommendations require the support of Code/Rules changes before they could be implemented – some aspects of recommendations incorporated in recent *SRAS* tender**
- **Not practical, or appropriate, for all recommendations to be reflected in detailed Rules drafting – a degree of flexibility in procedures and guidelines must be retained**

Key elements of proposed Rules – technical elements

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- Establishment of outcomes-based *system restart service standard*
- *Black start condition vs major supply disruption*
- Service description, procurement and assessment guidelines
- Clear criteria for determination of *electrical sub-networks*
- Separate *SRAS expression of interest* and *NMAS tender* phases
- Clarification of responsibilities for restart plans and procedures and incorporation of *customer specific energy support* arrangements
- Clarification of power system restoration expectations

Key elements of proposed Rules – administrative elements

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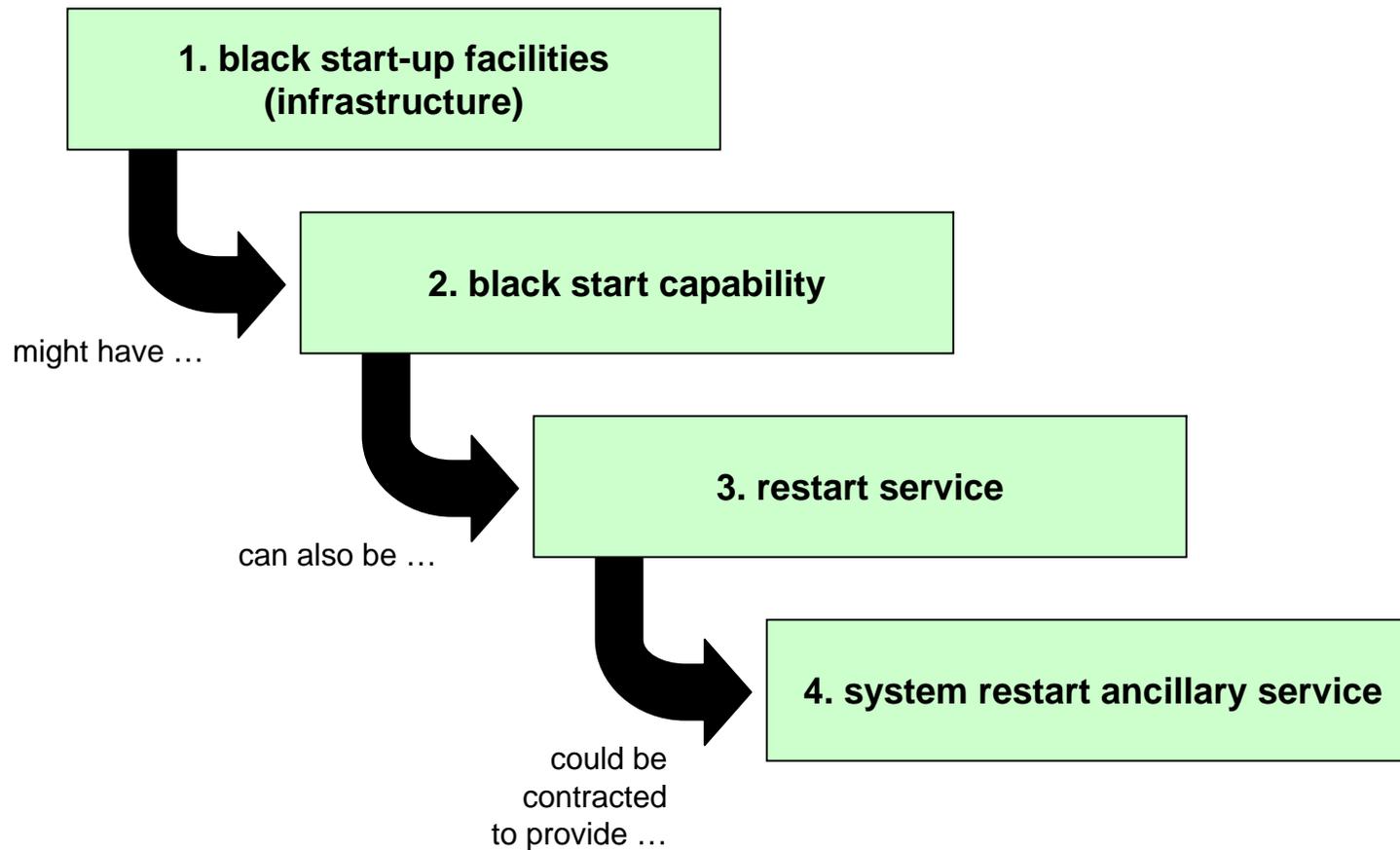
- **Clarification of “reasonable” and “appropriately remunerate”**
- **Execution of agreements**
- **Dispute provisions**
- **Contractual requirements**
- ***Primary service premium and additional secondary service allowance***
- **Tendering for specific services where standard cannot be met**
- **Regional recovery of SRAS costs**



SRAS review: key technical elements



Restart hierarchy



- **As soon as practicable, the Reliability Panel must determine a *system restart service standard* [clause 8.8.3(a)(1a)]**
- **The purpose of the standard is to provide a benchmark against which adequacy of procurement options can be assessed [clause 8.8.3(aa)]**
 - **must be able to guide the procurement process**
 - **must be capable of being applied to *electrical sub-networks***
 - **required to be expressed in terms of restoring a given percentage of supply within a given time frame**

“Black system” vs “major supply disruption”

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- ***Black system*** condition to be a more severe form of ***major supply disruption*** [Chapter 10, Glossary]
- ***SRAS*** to be used to assist in response to ***major supply disruption*** – does not have to be ***black system*** condition before relevant procedures are invoked [clauses 4.3.1(p) and 4.8.14; Chapter 10, Glossary]

Service description, procurement and assessment guidelines (1)

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- **NEMMCO must develop detailed technical description and capabilities of types of *restart service* (primary and secondary) – Rules consultation procedures would apply [clause 3.11.4A(b)]**
- **NEMMCO must develop:**
 - **guidelines for desktop and physical assessment of offered *restart services* sufficient to demonstrate capability of delivering *restart services***
 - **guidelines for establishing type, number and location of restart services to be procured for each *electrical sub-networks* – includes use of *secondary service allowance***

Rules consultation procedures would apply [clause 3.11.4A(c)]

Service description, procurement and assessment guidelines (2)

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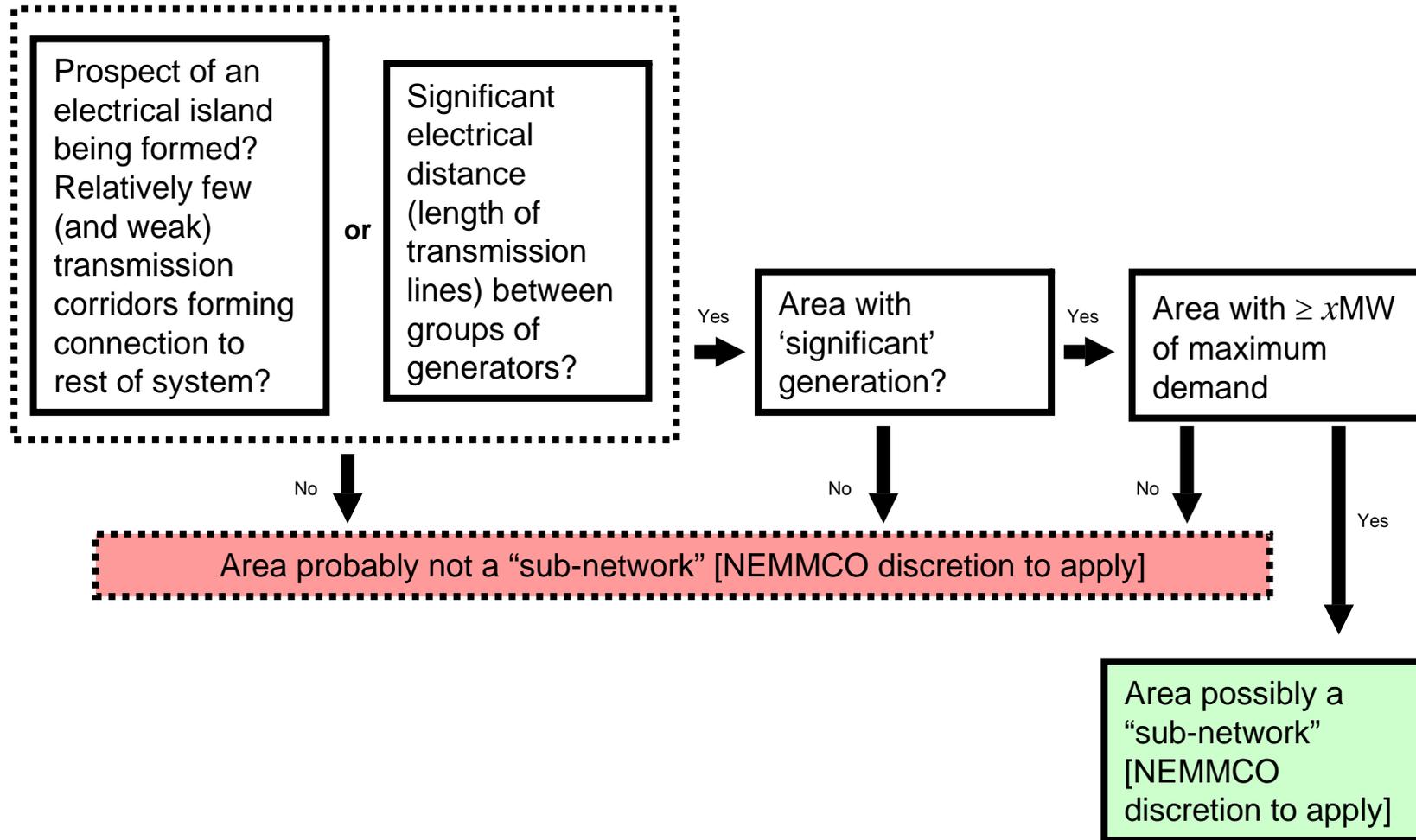
➤ **Objectives of the assessment guidelines:**

- **must satisfy the *system restart service standard***
- **each service to be assigned to at least one *electrical sub-network***
- **maximum geographical diversity and strategic location**
- **achievement of economically efficient outcomes**

[clause 3.11.4A(d)]

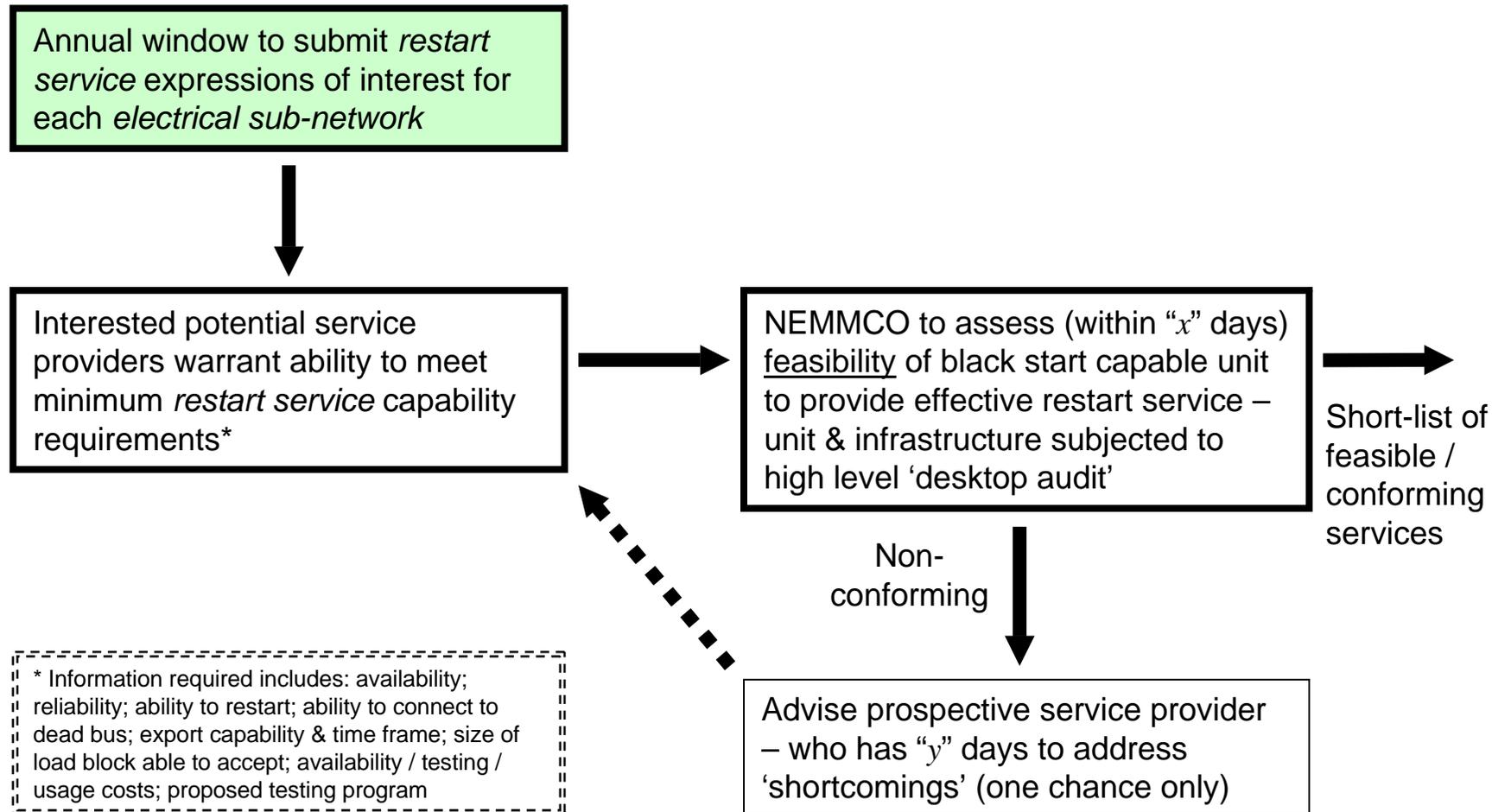
- ***Electrical sub-networks*** are to be determined by NEMMCO in consultation with Jurisdictional Coordinators and TNSPs, taking account of, but not limited to:
 - the number and strength of transmission corridors
 - the electrical distance between generation centres
 - the amount of generation in each part of the power system
 - the amount of load in each part of the power system

Electrical sub-networks



- ***SRAS expressions of interest*** intended to facilitate short-listing of offers via high level assessment of service feasibility
- Process must be consistent with assessment guidelines and determined *electrical sub-networks*
- Prospective respondents encouraged to engage in discussions with relevant NSPs where NSP facilities may be involved in delivery of *restart services*
- NSPs must negotiate in good faith with prospective respondents to resolve issues (where reasonable and practicable) that may affect the viability or physical testing of a *restart service*

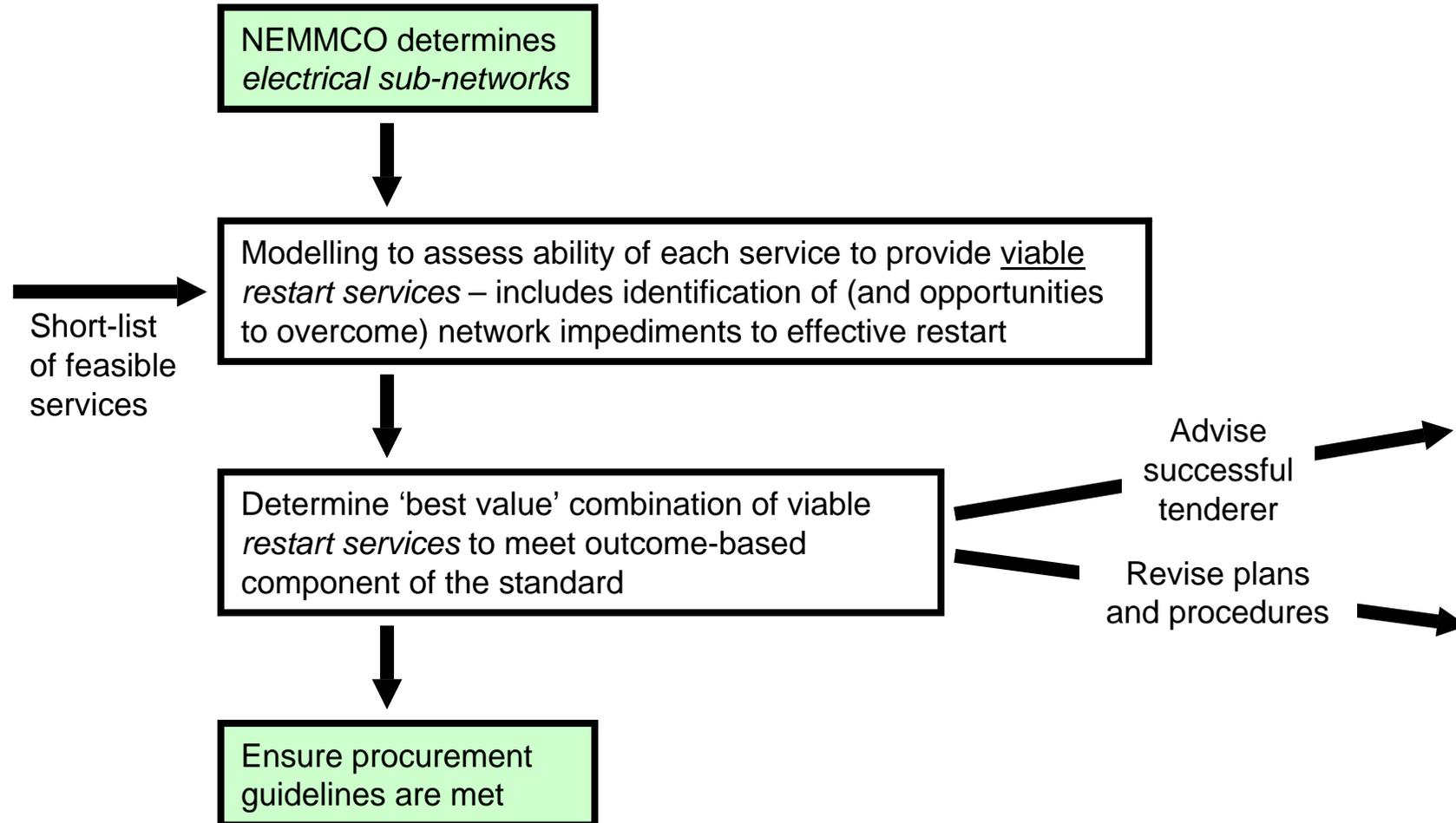
Expressions of interest



Tenders and detailed assessment [3.11.5B]

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- Offers short-listed in EoI process may proceed to formal tender and more comprehensive assessment to determine service viability
- Terms and condition of tender process to be determined by NEMMCO – must comply with guidelines established under clause 3.11.4A(c)
- Expectation that parties will negotiate in good faith



Restart plans and procedures

[4.8.12A]

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- **NEMMCO must prepare a (confidential) *system restart plan* that is consistent with achievement of the *system restart service standard***
- **Each generator and NSP must prepare *local black system procedures (LBSPs)* consistent with guidelines for those procedures established by NEMMCO – *LBSPs* must:**
 - be consistent with any ancillary services agreement
 - provide sufficient information to NEMMCO to enable it to understand likely condition and capabilities of plant following *major supply disruption*
 - appropriately incorporate any *customer specific energy support arrangement*
- ***LBSPs* subject to approval by NEMMCO**
- **NEMMCO and NSPs must establish communication protocols to facilitate implementation of the *system restart plan***

Restart plans and procedures

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System restart plan

Prepared and coordinated by NEMMCO – aligned with [Reliability Panel established] *system restart service standard*



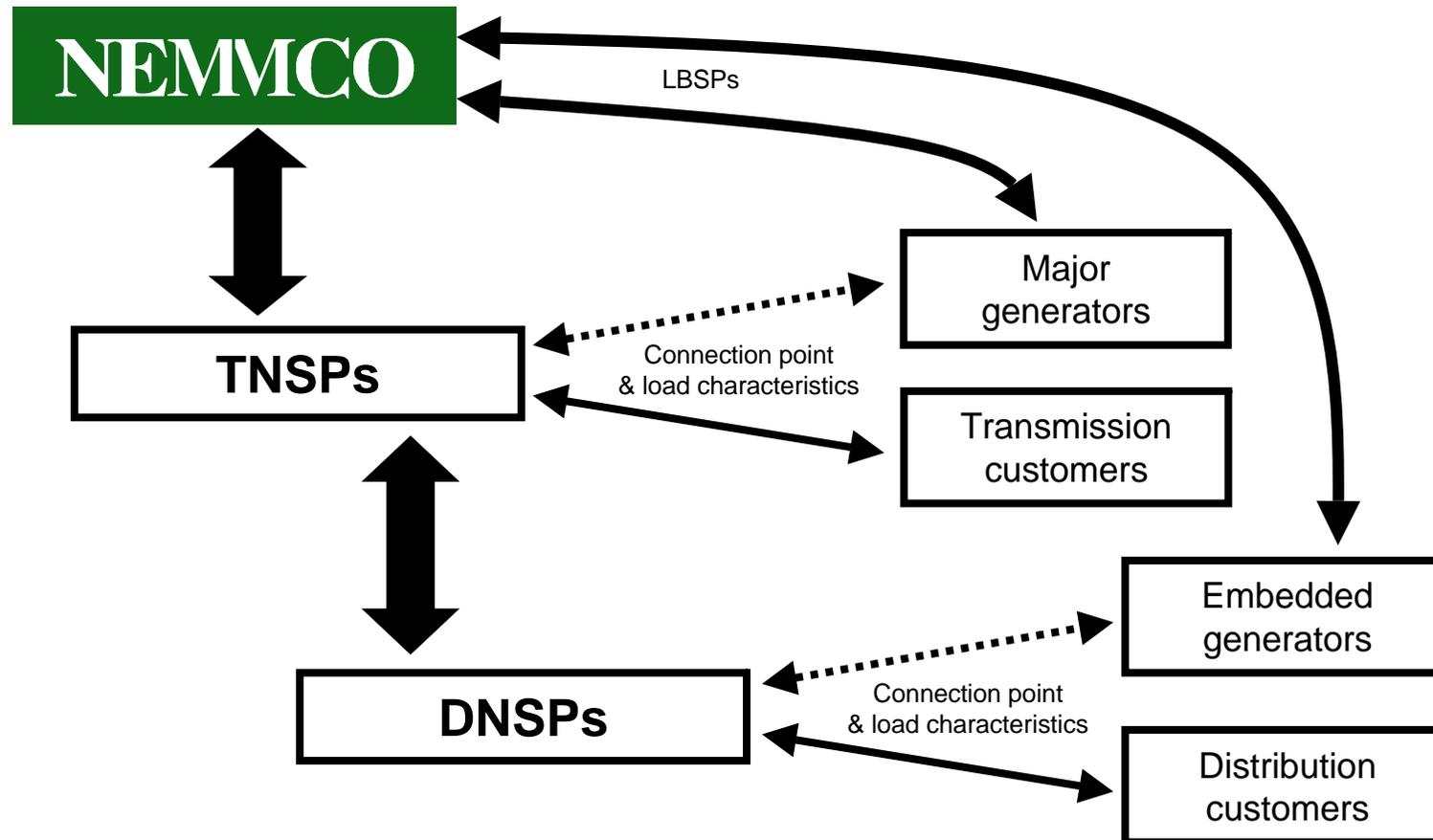
* *Local black system procedure* for each TNSPs to incorporate strategies for managing communication with DNSPs and integration of embedded generation within NEMMCO's *system restart plan*. Rules establish obligation for NEMMCO to develop guidelines for matters to be included in *local black system procedures*.

Local black system procedures

Required to be prepared by all generators, MNSPs and TNSPs* and to be subject to conformance with NEMMCO guidelines. Subject to 'approval' by NEMMCO as consistent with the *system restart plan*

Communication protocols

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Power system restoration [4.8.14]

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- If NEMMCO advises of a *major supply disruption*, each generator and NSP must comply with requirements of *LBSPs* as quickly as it is reasonably able to
- Implementation of *system restart plan* may be varied as necessary in accordance with actual power system conditions
- If there is a *major supply disruption* a generator or NSP must comply with NEMMCO's instructions regarding restoration of the power system



SRAS review: key administrative elements



Key elements of proposed Rules – administrative elements

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- Clarification of “reasonable” and “appropriately remunerate”
- Execution of agreements
- Dispute provisions
- Contractual requirements
- *Primary service premium and additional secondary service allowance*
- Tendering for specific services where standard cannot be met
- Regional recovery of **SRAS** costs

Reasonable terms and conditions

[3.11.5C]

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- **Proposed clause applies to both *SRAS* and *NCAS* – existing provisions [clause 3.11.5(d1) and (d2)] fail to provide any guidance regarding “reasonable” and “appropriately remunerate”**
- **Clear guidance provided regarding reasonable terms and conditions:**
 - remuneration reflects efficiently incurred long-run incremental costs
 - remuneration must be sufficient to encourage efficient investment and innovation in service provision
 - remuneration must provide a return on capital adjusted for risk that is equal, or close to equal of the opportunity cost of the capital employed
- **NEMMCO may seek to clarify the reasonableness of aspects of a tender – formal *NMAS notice of clarification* issued**
- **Tenderer must provide relevant clarifying information (on a confidential basis) within 5 business days**

Notice of intention to contract / execution of agreement [3.11.5D]

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- **Proposed clause applies to both SRAS and NCAS**
- **Tenderers to have at least 30 business days from commencement of tender process to walk away if they are uncomfortable with the assessment process – minor variation from recommendations**
- **After business 30 days, NEMMCO may:**
 - **execute a contract and subsequently advise tenderer – contract could be executed earlier if both NEMMCO and service provider agree**
 - **issue a *NMAS notice of intention to contract* – locking in both NEMMCO and service provider**

- **Proposed clause applies to both SRAS and NCAS**
- **Adviser referral notice may be issued by NEMMCO if:**
 - **at least 20 business days has elapsed since issue of *NMAS notice of clarification***
- AND**
 - **a *NMAS notice of intention to contract* has been issued – which cannot be done unless at least 30 business days of tender process has elapsed**
- **In resolving a dispute, the level of remuneration should closely approximate the outcome that would be observed in a competitive market and, to the extent practicable:**
 - **remuneration reflects efficiently incurred long-run incremental costs**
 - **remuneration must be sufficient to encourage efficient investment and innovation in service provision**
 - **remuneration must provide a return on capital adjusted for risk that is equal, or close to equal of the opportunity cost of the capital employed**

- **Successful physical tests must be completed prior to contract payments being made**
- **Liquidated damages would apply if contracted service not ready as promised**
- **Provision made for separate payments relating to:**
 - **service availability**
 - **service testing**
 - **service usage**
 - **any applicable *primary service premium***

Primary service premiums and secondary service allowance [3.11.5G]

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- Purpose of the *primary service premium* is to:
 - encourage competition for highly dependable services
 - provide incentive to strive for status a *primary restart service*
- AEMC to determine amount or methodology for establishing the *primary service premium* – a judgement of the social value of more dependable services
- *Additional secondary service allowance* for services over and above the number required to meet the *system restart service standard*
- AEMC to determine *additional secondary service allowance* for each *electrical sub-network* – a judgement of the social value of more services than strictly required
- AEMC must consult Ministers in determining the relevant premiums or allowances

Tendering for specific services [3.11.5H]

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- **If NEMMCO has been unsuccessful in attracting suitable offers for required *restart services*, following consultation with relevant Ministers, a tender for a specific service may be invited**

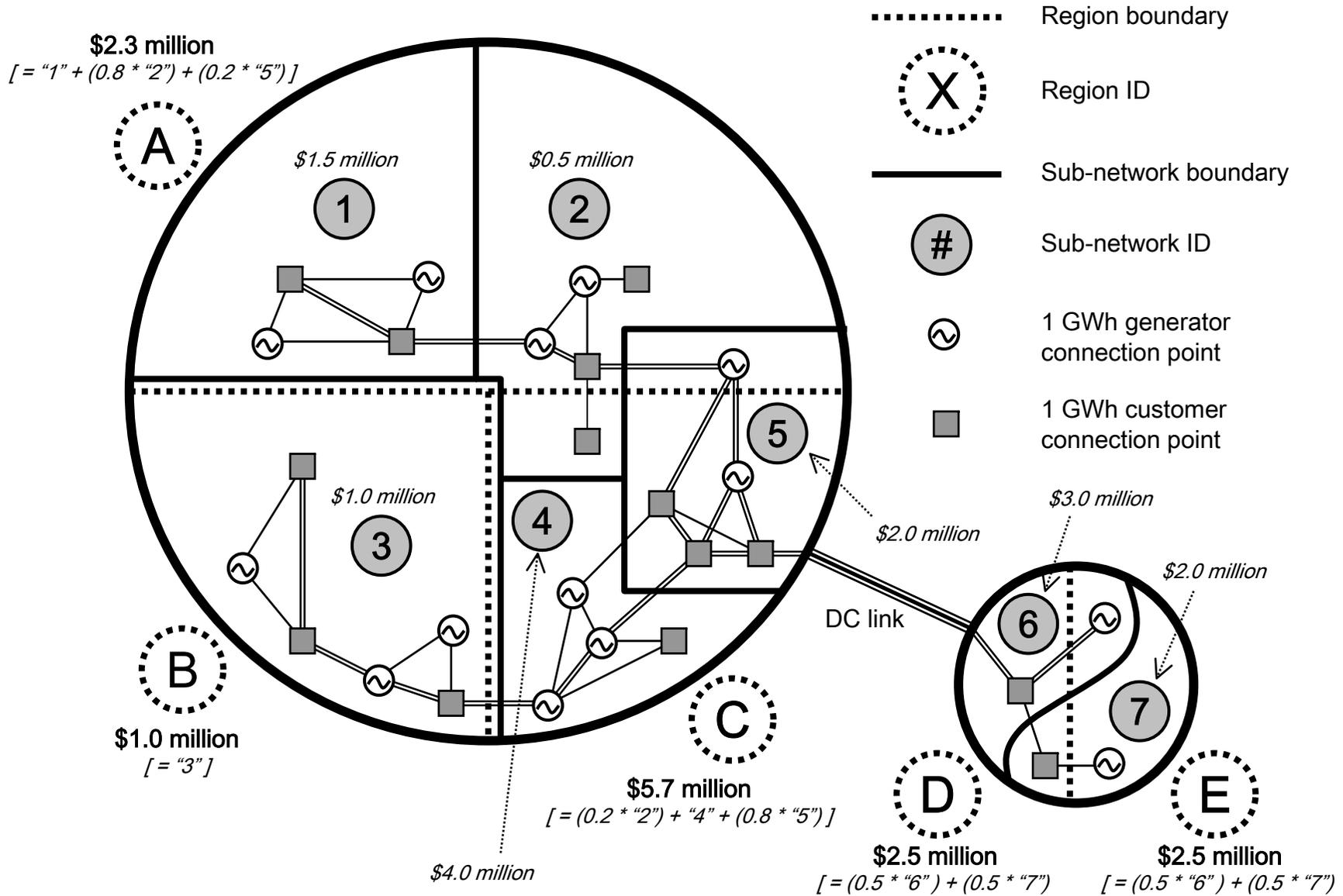
➤ Variation from recommendations

- allows for variation in restoration standards between regions
- only limited prospect that service procured for one *electrical sub-network* could on its own assist with restoration of an *electrical sub-network* for which it was not assigned
- financial equity concerns can arise where the costs of delivering acceptable restoration outcomes differ substantially between *electrical sub-networks*

➤ *Electrical sub-network* boundaries may not coincide with regional boundaries

“Regional recovery of SRAS costs – illustrative example” is attached. Example aligns with the maths and explanation in Attachment 2 of the package on AEMC’s website.

Regional recovery of SRAS costs – illustrative example



Regions	Generators (GWh sent out)	Customers (GWh consumed)	Aggregate energy	Restart service cost (\$m)	Fully smeared (status quo)			Regional recovery		
					Generators' allocation (\$m)	Customers' allocation (\$m)	Regional total	Cost allocated to region	Generators' allocation (\$m)	Customers' allocation (\$m)
A	5	4	9		2.500	2.000	4.500	2.300	1.278	1.022
B	3	3	6		1.500	1.500	3.000	1.000	0.500	0.500
C	4	5	9		2.000	2.500	4.500	5.700	2.533	3.167
D	0	2	2		0.000	1.000	1.000	2.500	0.000	2.500
E	2	0	2		1.000	0.000	1.000	2.500	2.500	0.000
	14	14	28		7.000	7.000	14.000	14.000	6.811	7.189

Sub-networks	Generators	Customers	Aggregate energy	Restart service cost (\$m)	Generators' allocation (\$m)	Customers' allocation (\$m)
<i>Sub-networks (large area - LHS)</i>						
1	2	2	4	1.500	1.000	1.000
2	2	3	5	0.500	1.000	1.500
3	3	3	6	1.000	1.500	1.500
4	3	1	4	4.000	1.500	0.500
5	2	3	5	2.000	1.000	1.500
Total (LHS)	12	12	24	9.000	6.000	6.000
<i>Sub-networks (small area - RHS)</i>						
6	1	1	2	3.000	0.500	0.500
7	1	1	2	2.000	0.500	0.500
Total (RHS)	2	2	4	5.000	1.000	1.000
Total (RHS + LHS)	14	14	28	14.000	7.000	7.000

Total (generators + customers)		Restart service cost (\$m)	Generators' allocation (\$m)	Customers' allocation (\$m)
		14.000	7.000	7.000

No. of 1 GWh customer connection pts from figure

No. of 1 GWh generator connection pts from figure

Regional costs from figure

Allocation based on generator/customer aggregate energy share in each region

Sub-network costs from figure



Pricing during market suspension



- **Provide context to the proposed Rule**
- **Identify the key elements of the proposed Rule**

➤ **Summarised under the following – *schedule of pricing methodologies***

(Extracted from clause 3.14.5)

- **If the market can be dispatched and priced in accordance with clauses 3.8 and 3.9, then the resulting market prices pertain; else**
- **If the suspended region is connected to a non-suspended region by an unconstrained interconnector, then the price from that unsuspended region is translated into the suspended region (via the inter-regional loss factor); else**
- **If there is a current pre-dispatch schedule for the suspended region, then these pre-dispatch prices pertain; else**
- **The relevant price from the market suspension default pricing schedule pertains.**

➤ **NER clause 3.14.5(b)**

The *spot price* and the *ancillary service price* during a *trading interval* for which *NEMMCO* has declared the *spot market* to be suspended is to be determined by *NEMMCO* in accordance with this clause 3.14.5

➤ **NEMMCO interpretation**

The full test through the schedule of pricing methodologies must be undertaken for each trading interval discretely for a market suspension event.

- **Lack of certainty in the pricing methodology to apply for each trading interval for that particular market suspension event**
- **Extremely difficult for a participant to manage financial risk**
- **Extreme case of a VoLL pricing outcome and subsequent severe financial implications for participants – significant winners and losers**
- **Benefit of the *cumulative price threshold* not likely to be timely for participants**
- **NEMMCO required to assess if current method of pricing is valid, and if not, perform a ‘what-if’ analysis to determine the appropriate method of pricing for each *trading interval* – deemed to be a very onerous requirement**

Proposed Rule change

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- **The *schedule of pricing methodologies* listed previously still pertained, however, once a particular level within the schedule had been reached, then pricing could not revert back to a higher level methodology during that particular market suspension event**
- **NEMMCO firmly believes that the proposed Rule change addresses the identified issues and will be beneficial to the entire market**

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