WORK PROGRAMME FOR 2020-23

SECURITY AND RELIABILITY COUNCIL

This paper presents the first draft of the SRC's multi-year work programme covering the period from 2020 to 2023.

Note: This paper has been prepared for the purpose of the Security and Reliability Council (SRC). Content should not be interpreted as representing the views or policy of the Electricity Authority.

Contents

Work Programme 2020-23

1.   Purpose and background

1.1   At its 8 August 2019 meeting, the SRC received a paper about the inputs to, and methodology for, developing a multi-year work programme.[1] This paper takes the SRC's feedback on that paper and presents the first draft of a work programme for the period 2020-23.

1.2   The purpose of this paper is to inform the SRC of the multi-year work programme and improve it with SRC feedback.

1.3   The objective of the work programme is to:

   a)   focus the SRC's attention using a risk-based method

   b)   better coordinate the SRC's workload

   c)   improve planning and budgeting for the secretariat to fulfil the SRC's workload.

1.4   The first draft SRC work programme for 2020-23 is set out in Table 1 below, with some preceding commentary in section 2.

1.5   The associated input information is set out in Appendix A.

   a)   Table 2 is, with a few small changes, the same as the version presented at the 8 August 2019 SRC meeting.

   b)   Table 3 describes the changes made to Table 2 as a result of the SRC's discussion at the 8 August meeting.

2.   The multi-year work programme 2020-23

2.1   The work programme for 2020-23 is derived from the risk controls identified and prioritised in Table 2. The following comments describe some of the key decisions the secretariat made to convert prioritised risks into a work programme.

2.2   The work programme records the specific organisations that would be requested to present information to the SRC. As discussed in the 8 August 2019 paper, a size-based threshold has been applied to select four generators and five distributors. Information providers are colour-coded:

   a)   green for distribution,

   b)   yellow for transmission,

   c)   light blue for the secretariat,

   d)   dark blue for generators,

   e)   orange for regulators or industry bodies

   f)   grey for other businesses (such as metering providers).

---

[1]   Available from https://www.ea.govt.nz/dmsdocument/25637-src-work-programme-planning. That was in turn based on earlier work from meetings on 20 June 2019 (Link), 28 March 2019 (Link), and 28 March 2017 (Link).

2.3   Different items from the same information providers have usually been spread out over time, to smooth the resourcing demands on their time. In a few cases, the secretariat has bundled items that are likely to involve the same personnel.

2.4   Items with a risk rating of 15 or greater in Table 2 and that had not been reviewed in the past five years have been scheduled for review in the first half of 2020.

2.5   Items pertaining to cyber security and have a review cycle greater than every two years have been clustered together in the second half of 2020.

    a)   This is because cybersecurity is a broad subject that is considered, internationally, as critical to the security and reliability of energy supply and few cybersecurity reviews have been completed.

    b)   Grouping these meetings together also enables the SRC to focus on a particular subject and for independent experts (if requested by the SRC) to assist the SRC providing high-quality advice.

2.6   Items pertaining to regulatory arrangements have, in general, been given priority over items relating to assets and events. This is because the former have traditionally received less attention than the latter.

Table 1: Multi-year work programme

ID	Information provider	Information to be provided	2020				2021				2022				2023			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
20	Transpower (GO and SO)	Cyber-security management													DUE			
6	Vector	Cyber-security management		DUE														
6	Powerco	Cyber-security management		DUE														
6	Orion	Cyber-security management			DUE													
6	Wellington Electricity	Cyber-security management			DUE													
6	Unison	Cyber-security management			DUE													
17	Contact Energy	Cyber-security management				DUE												
17	Genesis Energy	Cyber-security management				DUE												
17	Mercury Energy	Cyber-security management					DUE											
17	Meridian Energy	Cyber-security management					DUE											
18	Advanced metering services	Cyber-security management										DUE						
18	Intellihub	Cyber-security management										DUE						
8	National Cyber Security Centre	Overall cyber-security management of the electricity industry		DUE												DUE		
33	System operator	Annual self-review of performance				DUE				DUE				DUE				DUE
4	System operator	Ancillary services (frequency keeping, instantaneous reserves, over-frequency reserve, voltage support, but excluding black start).			DUE													

Work programme 2020-23

3	System operator	Emergency preparedness and business continuity planning.																	DUE
5	System operator	Preparedness for rolling outages		DUE															
7	System operator	Power system restoration arrangements including black start										DUE						
11	System operator	Credible Event Reviews				DUE													DUE
21	System operator	Generation capacity security (NZ Generation Balance)	DUE				DUE				DUE				DUE			
22	System operator	Generation energy security (Security of supply updates)		DUE				DUE				DUE				DUE		
40	Secretariat	Industry Understanding of Risks	DUE	DUE	DUE	DUE	DUE	DUE	DUE	DUE	DUE	DUE	DUE	DUE	DUE	DUE	DUE	DUE
35	Secretariat	Risk and strategy environment scan		DUE				DUE				DUE				DUE		
36	Secretariat	Understanding consumer behaviour and expectations						DUE										
37	Secretariat	Understanding Demand for Electricity				DUE													DUE
38	Secretariat	Understanding the value of electricity to consumers			DUE													
39	Secretariat	Understanding the impacts of climate change										DUE						
23	Contact Energy	Emergency preparedness, including fuel supply availability in a post-emergency situation						DUE											DUE
23	Genesis Energy	Emergency preparedness, including fuel supply availability in a post-emergency situation				DUE												

Work programme 2020-23

#	Organisation	Topic						
23	Mercury Energy	Emergency preparedness, including fuel supply availability in a post-emergency situation					DUE	
23	Meridian Energy	Emergency preparedness, including fuel supply availability in a post-emergency situation			DUE			
24	Contact Energy	Risk and asset management						DUE
24	Genesis Energy	Risk and asset management		DUE				
24	Mercury Energy	Risk and asset management					DUE	
24	Meridian Energy	Risk and asset management.			DUE			
9	Gas Industry Company	Reliability and resilience of the gas industry.				DUE		
9	First Gas	Reliability and resilience of the gas industry.				DUE		
9	OMV	Reliability and resilience of the gas industry.				DUE		
9	Todd Energy	Reliability and resilience of the gas industry.				DUE		
31	Electricity Networks Association	Improving reporting of 'Various measures of reliability'	DUE					
1	Electricity Authority and system operator	Automatic under-frequency load shedding (extended reserve)	DUE				DUE	

Work programme 2020-23

#	Organisation	Task								
27	Electricity Authority and system operator	Regulatory arrangements for official conservation campaign and security of supply forecasting and information policy (SOSFIP) regulatory development.					DUE			
30	Electricity Authority and Commerce Commission	Regulatory arrangements for transmission investment.								DUE
34	Electricity Authority	Annual review of system operator performance	DUE	DUE	DUE	DUE	DUE	DUE	DUE	DUE
12	Electricity Authority	Various measures of reliability	DUE		DUE		DUE		DUE	
25	Electricity Authority	Whether regulation and compliance monitoring of consumer-premise equipment is adequate, is keeping up with technology and is fit for purpose.					DUE			
26	Electricity Authority	Business continuity and disaster recovery of market operation service providers other than the system operator				DUE				
32	Electricity Authority	Security/resilience papers arising from Electricity Price Review request	DUE	DUE	DUE	DUE	DUE	DUE		
15	Vector	Risk and asset management.			DUE					
15	Powerco	Risk and asset management.				DUE				
15	Orion	Risk and asset management.					DUE			
15	Wellington Electricity	Risk and asset management.							DUE	
15	Unison	Risk and asset management.								DUE

Work programme 2020-23

#	Agency	Description				
2	Commerce Commission	Whether regulation and compliance monitoring of **Transpower** is adequate, is keeping up with technology and is fit for purpose.	DUE		DUE	
10	Commerce Commission	Whether regulation and compliance monitoring of **distributors** is adequate, is keeping up with technology and is fit for purpose.		DUE		DUE
16	Electricity Authority	Whether regulation and compliance monitoring relating to the failure of **generation** equipment is adequate, is keeping up with technology and is fit for purpose.		DUE		
13	Transpower and the Electricity Authority	The communications plans and preparedness strategies of key agencies for supply emergencies.	DUE			
14	Ministry of Civil Defence & Emergency Management	Emergency preparedness of the electricity industry				DUE
19	Grid owner	Risk & asset mgmt. planning			DUE	
29	Grid owner	Transmission capacity planning			DUE	
28	Grid owner	Transmission outage management (scheduling, reduced security)			DUE	

3.   Questions for the SRC to consider

3.1   The SRC may wish to consider the following questions.

Q1.   Does the SRC's prioritisation of risks match the work programme schedule?

Q2.   What further information, if any, does the SRC wish to have provided to it by the secretariat?

Q3.   What advice, if any, does the SRC wish to provide to the Authority?

Appendix A: Changes to dashboard of risk controls

Table 2: Prioritised dashboard of risk controls

ID	Area of interest	Information provider	Information to be provided	Control criticality	Control ineffectiveness	Risk rating	Relates to system operator performance	Review cycle	Last provided to SRC
1	System operations	Electricity Authority and system operator	Automatic under-frequency load shedding (and extended reserve) arrangements.	5	4	20	Yes	3-yearly	Never or >5 years ago
2	System failure	Commerce Commission	Whether regulation and compliance monitoring of Transpower is adequate, is keeping up with technology and is fit for purpose.	5	3	15	No	2-yearly	In last 5 years
38	Understanding the value of electricity to consumers	Secretariat	Transpower- Studies on VoLL. The figures currently used are from 15 years ago	3	5	15	No	4-yearly	Never or >5 years ago
39	Understanding the impacts of climate change	Secretariat	Reliant on climate models from NIWA, Metservice and others. Additional information needed to understand and quantify the impacts.	3	5	15	No	2-yearly	Never or >5 years ago
9	Capacity and energy security	Gas sector representatives	Reliability and resilience of the gas industry (with implications for electricity generation capacity and energy security).	**5**	3	15	No	3-yearly	20/06/2019
4	System operations	System operator	Ancillary services (frequency keeping, instantaneous reserves, over-frequency reserve, voltage support, but excluding black start).	4	3	12	Yes	4-yearly	Never or >5 years ago

ID	Area of interest	Information provider	Information to be provided	Control criticality	Control ineffectiveness	Risk rating	Relates to system operator performance	Review cycle	Last provided to SRC
5	Capacity and energy security	System operator	Preparedness for rolling outages	3	4	12	Yes	4-yearly	Never or >5 years ago
6	System failure	Distributors	Cyber-security management	3	4	12	No	4-yearly	Never or >5 years ago
7	System operations	System operator	Power system restoration arrangements including black start	4	3	12	Yes	4-yearly	In last 5 years
8	System failure and social impact	National Cyber Security Centre	Overall cyber-security management of the electricity industry	3	4	12	No	3-yearly	In last 5 years
10	System failure	Commerce Commission	Whether regulation and compliance monitoring of distributors is adequate, is keeping up with technology and is fit for purpose.	4	3	12	No	Annual	In last 5 years
11	System operations	System operator	Credible Event Reviews (that determine whether, and how, power system risks managed).	5	2	10	Yes	3-yearly	Never or >5 years ago
12	Various	Electricity Authority	Various measures of reliability	2	5	10	No	Annual	22/06/2018
13	Social impact	Transpower and the Electricity Authority	The communications plans and preparedness strategies of key agencies for supply emergencies.	3	3	9	Yes	5-yearly	Never or >5 years ago
14	Social impact	Ministry of Civil Defence & Emergency Mgmt	Emergency preparedness of the electricity industry	3	3	9	No	5-yearly	20/06/2019

ID	Area of interest	Information provider	Information to be provided	Control criticality	Control ineffectiveness	Risk rating	Relates to system operator performance	Review cycle	Last provided to SRC
15	System failure	Distributors	Risk and asset management (e.g. planning, reporting, documentation, emergency management etc.).	3	3	9	No	4-yearly	Never or >5 years ago
16	System failure	Electricity Authority	Whether regulation and compliance monitoring relating to the failure of generation equipment is adequate, is keeping up with technology and is fit for purpose (such as the under-frequency event regime, asset owner performance obligations, dispatch requirements).	3	3	9	No	4-yearly	Never or >5 years ago
17	System failure	Generators	Cyber-security management	3	3	9	No	4-yearly	In last 5 years
3	System operations	System operator	Emergency preparedness and business continuity planning.	4	2	8	Yes	4-yearly	Never or >5 years ago
18	System failure	Metering provider	Cyber-security management	4	2	8	No	4-yearly	In last 5 years
19	System failure	Grid owner	Risk and asset management (planning, reporting, documentation, emergency management etc.).	4	2	8	No	3-yearly	In last 5 years
20	System failure	Transpower	Cyber-security management	4	2	8	No	3-yearly	In last 5 years
21	Capacity security	System operator	Generation capacity security (NZ Generation Balance and the Annual Assessment of Security of Supply).	4	2	8	Yes	Annual	28/03/2019
22	Energy security	System operator	Generation energy security (Security of supply updates and the Annual Assessment of Security of Supply).	4	2	8	Yes	Annual	28/03/2019

ID	Area of interest	Information provider	Information to be provided	Control criticality	Control ineffectiveness	Risk rating	Relates to system operator performance	Review cycle	Last provided to SRC
37	Understanding Demand for Electricity	Secretariat	Information from Transpower, GIC, and other sources on greater electrification of the economy including electrification of process heat and substitution between electricity and gas	**2**	3	6	No	2-yearly	Never or >5 years ago
36	Understanding consumer behaviour and expectations	Secretariat	Aggregating surveys and consumer opinion data from the Authority, EECA and Utilities Disputes, Commerce Commission, Transpower surveys and consumer advisory panel, Federated Farmers, Otago Energy Research Centre, and the Ministry of Business, Innovation and Employment's consumer survey	2	3	6	No	4-yearly	Never or >5 years ago
23	Social impact	Generators	Emergency preparedness, including fuel supply availability in a post-emergency situation	2	3	6	No	4-yearly	Never or >5 years ago
24	System failure	Generators	Risk and asset management (e.g. planning, reporting, documentation, emergency management etc.).	2	3	6	No	4-yearly	Never or >5 years ago
25	System failure	Electricity Authority	Whether regulation and compliance monitoring of consumer-premise equipment is adequate, is keeping up with technology and is fit for purpose (hosting capacity of low voltage networks, frequency and voltage response, standards development, awareness of existence of equipment).	1	5	5	No	3-yearly	In last 5 years

ID	Area of interest	Information provider	Information to be provided	Control criticality	Control ineffectiveness	Risk rating	Relates to system operator performance	Review cycle	Last provided to SRC
26	Social impact	Electricity Authority	Business continuity and disaster recovery of market operation service providers other than the system operator	2	2	4	No	5-yearly	Never or >5 years ago
27	Energy security	Electricity Authority and system operator	Regulatory arrangements for official conservation campaign and security of supply forecasting and information policy (SOSFIP) regulatory development.	2	2	4	Yes	5-yearly	In last 5 years
28	Capacity security	Grid owner	Transmission outage management (scheduling, reduced security)	2	2	4	No	4-yearly	Never or >5 years ago
29	Capacity security	Grid owner	Transmission capacity planning (Transmission tomorrow, asset management documentation, demand forecasting, transmission alternatives, demand response etc.).	3	1	3	No	4-yearly	Never or >5 years ago
30	Capacity security	Commerce Commission and Electricity Authority	Regulatory arrangements for transmission investment (grid reliability standards, estimating value of lost load, investment analysis and approval).	3	1	3	No	4-yearly	Never or >5 years ago
31	Various	Electricity Networks Association (Quality of supply working group)	Improving reporting of 'Various measures of reliability'	1	N/A	-	No	Once	In last 5 years
32	Various	Electricity Authority	Security/resilience papers arising from Electricity Price Review request	2	N/A	-	Yes	One-off series of papers	Never or >5 years ago

ID	Area of interest	Information provider	Information to be provided	Control criticality	Control ineffectiveness	Risk rating	Relates to system operator performance	Review cycle	Last provided to SRC
33	Various	System operator	Annual self-review of performance	1	N/A	-	Yes	Annual	24/10/2018
34	Various	Electricity Authority	Annual review of system operator performance	1	N/A	-	Yes	Annual	24/10/2018
35	Various	Secretariat	Risk and strategy environment scan	1	N/A	-	No	Annual	20/06/2019
40	Industry Understanding of Risks	Secretariat	Content of this list to be vetted against a pool of 5 to 10 industry organisations - rotating between the largest generators and distributors	1	N/A	-	No	Every Meeting TBD	Never or >5 years ago

A.1   Changes have been made to items in the dashboard of work programme items since the last meeting.

Table 3: Changes to risk assessment since previous SRC meeting

Reference	Type of change	Description of change
#3	Modified	Control Ineffectiveness was adjusted from 3 to 2 (the control was assessed as more effective)
#13	Modified	The Control Criticality was adjusted from 4 to 5 (the control was assessed as less critical)
#36	Added entry	Added 'Understanding consumer behaviour and expectations' - this will rely on information from the Authority, EECA, Utilities Disputes Ltd, the Commerce Commission, Transpower, Federated Farmers, Otago Energy Research Centre, and the Ministry of Business, Innovation and Employment
#37	Added entry	Added 'Understanding demand for electricity' - this will rely on information from Transpower, the Gas Industry Company and others
#38	Added entry	Added 'Understanding the value of electricity to consumers' - this will rely on information from Transpower
#39	Added entry	Added 'Understanding the impacts of climate change' - information sources yet to be identified, but likely includes the Climate Change Commission
#40	Added entry	Added 'Industry Understanding of Risks' - content of the SRC's risk register to be vetted against a pool of 5-10 industry stakeholders

A.2   The dashboard has been used to inform the multi-year work programme, shown in Table 1.
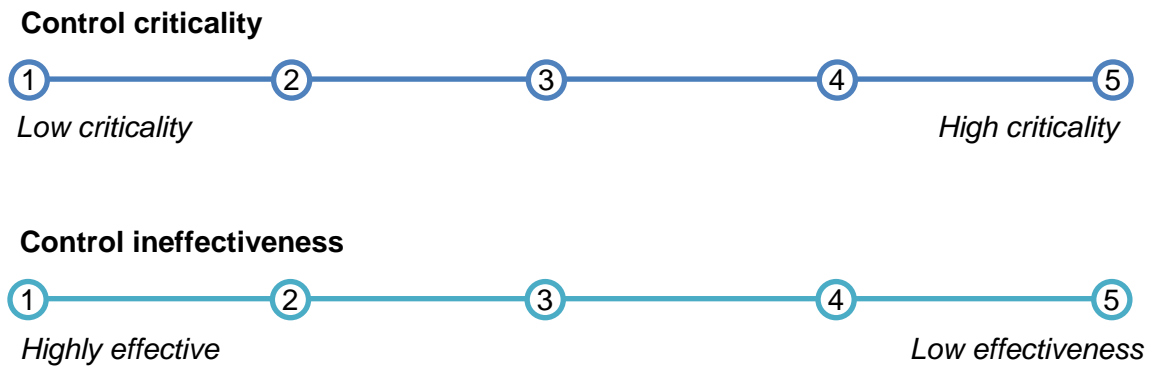
The risk rating process for Table 2

A.3   The criticality and (in)effectiveness of each risk control has been assessed.

A.4   A score of 1 indicates that the item is not critical, while a score of 5 indicates the highest level of criticality.

A.5   The level of effectiveness of each item at controlling for specific risks has also been assessed.

A.6   A score of 1 indicates that the control is highly effective, while a score of 5 indicates the lowest level of effectiveness.

Figure 1: Criticality and Ineffectiveness assessments

Control criticality

①————②————③————④————⑤

Low criticality   *High criticality*

Control ineffectiveness

①————②————③————④————⑤

Highly effective   *Low effectiveness*

A.7   An overall risk rating is then calculated to provide a method of ranking and prioritising the controls. Each control's risk rating is determined by multiplying the criticality score by the effectiveness score. A score of 25 is considered high risk, while a score of 1 is considered very low risk.

Figure 2: Risk rating matrix