

Meeting Date: 25 February 2021

## FORWARD WORK PROGRAMME

# SECURITY AND RELIABILITY COUNCIL

This paper presents the proposed SRC's multi-year work programme.

**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.

# Work Programme

## 1. Purpose and background

- 1.1 This paper presents the SRC's work programme for the period 2021-23 as at the 22 October 2020 SRC meeting.
- 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 meeting themes are set out in Table 1 and the overarching themes in Figure 1. The SRC work programme for 2021-23 is set out in Table 2.
- 1.5 The associated input information is set out in Appendix A.

## 2. Changes to the multi-year work programme

- 2.1 Some changes have been made to the format of the work programme:
  - a) new column with changes made to current IDs
  - b) inclusion of the overarching themes. These will be further refined.
- 2.2 Two new items are on the work programme:
  - c) item no 41: annual cyber-security survey. This item replaces several individual presentations from participants (which are shown with ~~strike through~~)
  - d) item no 42: system operator annual assessment of security of supply. This is a report provided to the SRC annually but has never been included on the work programme.

**Table 1: Meeting themes proposed**

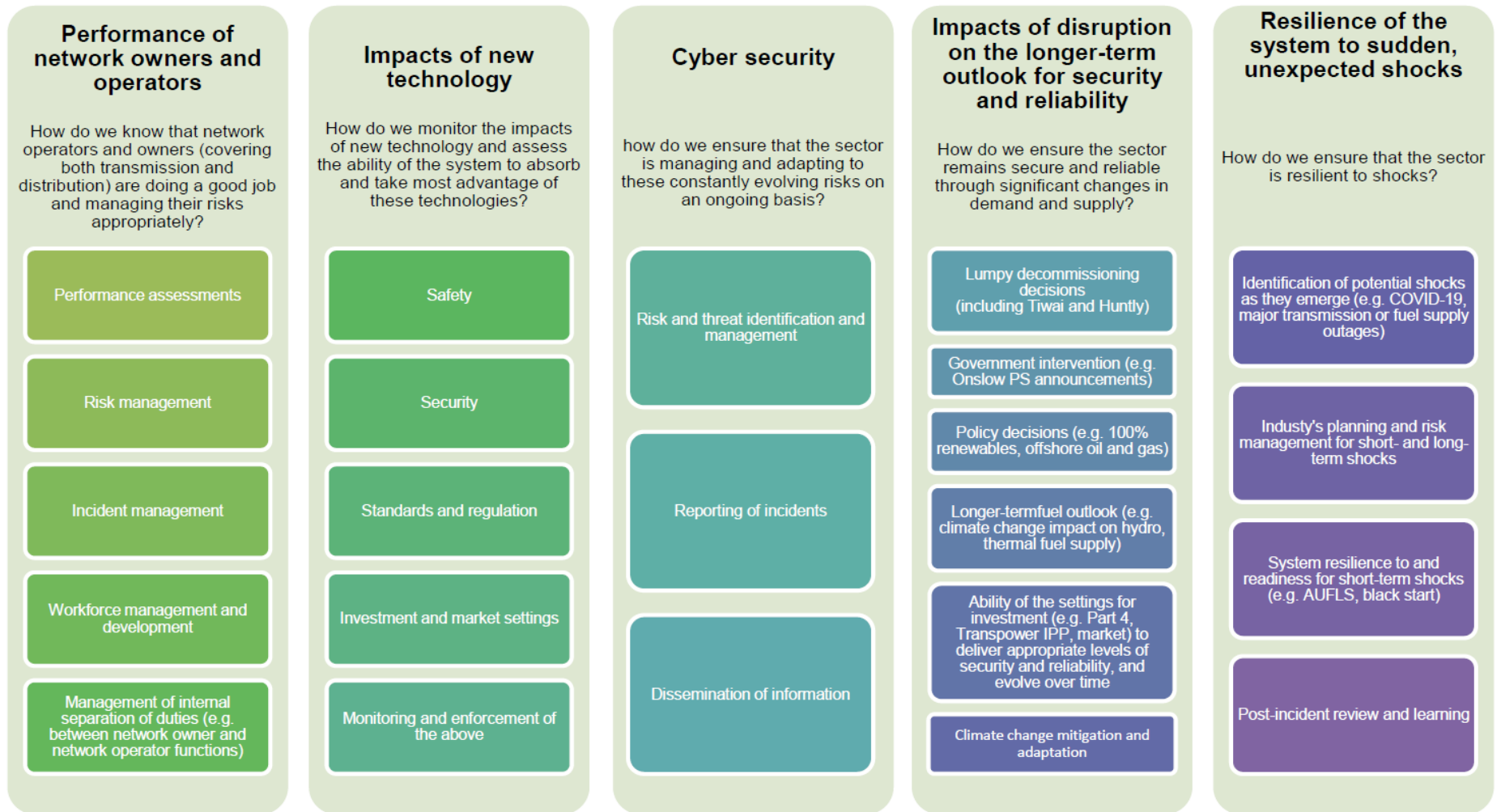
Meeting		Theme/(s)	Related IDs in Table 2	Notes
Year	Quarter			
2020	Q4	Cyber-security	5,11,27,32,33,34,40	Repeats in Q2 2023
2021	Q1	System operator functions	4,5,11,21,32,34,40	
	Q2	Fit-for-purpose reviews of regulation and monitoring	2,10,16,25,27,32,36,37,38,40,42	
	Q3	Strategy (morning) and understanding consumers	12,22,32,35,40	
	Q4	Emergency preparedness	3,7,13,14,23,26,32,33,34,40,41	
2022	Q1	Risk and asset management	15,21,24,34,40	Nine presenters involved
	Q2	Transmission	19,28,29,30,40,42	
	Q3	Strategy	12,22,35,39,40	
	Q4	Gas industry reliability and resilience	9,33,34,40	Involves at least four different presenters. When this topic was last covered, the SRC also received a presentation from John Kidd of Woodward Partners.
2023	Q1		1,21,34,40	
	Q2	Cyber-security	8,10,20,40,41,42	
	Q3		12,22,35,40	
	Q4		11,33,34,37,40	

### 3. Questions for the SRC to consider

3.1 The SRC may wish to consider the following questions:

- Q1. What changes, if any, does the SRC wish to make to the forward work programme?**
- Q2. What advice, if any, does the SRC wish to provide to the Authority?**

**Figure 1: Overarching themes**



**Table 2: Multi-year work programme**

Overarching theme	ID	List of changes	Information Provider	Information to be provided	2021		2022				2023					
					Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Cyber Security	20		Transpower (GO and SO)	Cyber-security management										DUE	-	-
	6	Replaced by 41	Vector	Cyber-security management	-	-	-	-	-	-	-	-	-	DUE	-	-
	6	Replaced by 41	Powerco	Cyber-security management	-	-	-	-	-	-	-	-	-	DUE	-	-
	6	Replaced by 41	Orion	Cyber-security management	-	-	-	-	-	-	-	-	-	DUE	-	-
	6	Replaced by 41	Wellington Electricity	Cyber-security management	-	-	-	-	-	-	-	-	-	DUE	-	-
	6	Replaced by 41	Unison	Cyber-security management	-	-	-	-	-	-	-	-	-	DUE	-	-
	17	Replaced by 41	Contact Energy	Cyber-security management	-	-	-	-	-	-	-	-	-	DUE	-	-
	17	Replaced by 41	Genesis Energy	Cyber-security management	-	-	-	-	-	-	-	-	-	DUE	-	-
	17	Replaced by 41	Mercury Energy	Cyber-security management	-	-	-	-	-	-	-	-	-	DUE	-	-
	17	Replaced by 41	Meridian Energy	Cyber-security management	-	-	-	-	-	-	-	-	-	DUE	-	-
	18	Replaced by 41	Advanced metering services	Cyber-security management	-	-	-	-	-	-	-	-	-	DUE	-	-
	18	Replaced by 41	Intellihub	Cyber-security management	-	-	-	-	-	-	-	-	-	DUE	-	-
	8		National Cyber Security Centre	Overall cyber-security management of the electricity industry										DUE	-	-
	41	New item	Secretariat	Survey into the cyber-security management of participants (follow-up from InPhySec survey in 2020)				DUE						DUE		

Overarching theme	ID	List of changes	Information Provider	Information to be provided	2021				2022				2023			
					Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Impacts of disruption on the longer-term outlook for security and reliability	31		Electricity Networks Association	Improving reporting of 'Various measures of reliability'												
	12		Electricity Authority	Various measures of reliability			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					
	27	Moved to Q2	Electricity Authority and system operator	Regulatory arrangements for official conservation campaign and security of supply forecasting and information policy (SOSFIP) regulatory development.		DUE										
	13		Transpower and the Electricity Authority	The communications plans and preparedness strategies of key agencies for supply emergencies.				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				

Overarching theme	ID	List of changes	Information Provider	Information to be provided	2021				2022				2023			
					Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	32	Added to Q3 and Q4	Electricity Authority	Security/resilience papers arising from Electricity Price Review request	DUE	DUE	DUE	DUE								
Impacts of new technology	25	Moved to Q2	Electricity Authority	Fit-for-purpose review of regulation and monitoring: consumer-premise equipment		DUE										
Performance of network owners and operators	1		Electricity Authority and system operator	Automatic under-frequency load shedding (extended reserve)									DUE			
	33		System operator	Annual self-review of performance				DUE				DUE				DUE
	34		Electricity Authority	Annual review of system operator performance	DUE			DUE	DUE			DUE	DUE			DUE
	2	Moved to Q2	Commerce Commission	Fit-for-purpose review of regulation and monitoring: Transpower.		DUE										
	10	Moved to Q2	Commerce Commission	Fit-for-purpose review of regulation and monitoring: distributors.		DUE								DUE		
	16	Moved to Q2	Electricity Authority	Fit-for-purpose review of regulation and monitoring: generators.		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						
	4		System operator	Ancillary services (frequency keeping, instantaneous reserves, over-frequency reserve, voltage support, but excluding black start).	DUE											

Overarching theme	ID	List of changes	Information Provider	Information to be provided	2021		2022				2023					
					Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	11		System operator	Credible Event Reviews	DUE											DUE
	21		System operator	Generation capacity security (NZ Generation Balance)	DUE				DUE				DUE			
	22		System operator	Generation energy security (Security of supply updates)			DUE				DUE				DUE	
	30		Electricity Authority and Commerce Commission	Regulatory arrangements for transmission investment.						DUE						
Resilience of the system to sudden, unexpected shocks	40		Secretariat	Industry Understanding of Risks	DUE	DUE	DUE	DUE	DUE	DUE	DUE	DUE	DUE	DUE	DUE	DUE
	35		Secretariat	Risk and strategy environment scan			DUE				DUE				DUE	
	14		Ministry of Civil Defence & Emergency Management	Emergency preparedness of the electricity industry				DUE								
	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								
	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							
	15		Vector	Risk and asset management.					DUE							
	15		Powerco	Risk and asset management.					DUE							
	15		Orion	Risk and asset management.					DUE							



Overarching theme	ID	List of changes	Information Provider	Information to be provided	2021				2022				2023			
					Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	15		Wellington Electricity	Risk and asset management.					DUE							
	15		Unison	Risk and asset management.					DUE							
	23		Contact Energy	Emergency preparedness, including fuel supply availability in a post-emergency situation				DUE								
	23		Genesis Energy	Emergency preparedness, including fuel supply availability in a post-emergency situation				DUE								
	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								
	26		Electricity Authority	Business continuity and disaster recovery of market operation service providers other than the system operator				DUE								
	42	New item	System operator	System operator annual assessment of security of supply		DUE				DUE				DUE		

## Appendix A: Changes to dashboard of risk controls

**Table 3: 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
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
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	June 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
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

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
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	June 2018
1	System operations	Electricity Authority and system operator	Automatic under-frequency load shedding (and extended reserve) arrangements.	5	<u>2</u>	<u>10</u>	Yes	3-yearly	March 2020
38	Understanding the value of electricity to consumers	Secretariat	Transpower- Studies on VoLL. The figures currently used are from 15 years ago, but recent research shows they're indicative for most GXPs.	3	<u>3</u>	<u>9</u>	No	4-yearly	March 2020
14	Social impact	Ministry of Civil Defence & Emergency Mgmt	Emergency preparedness of the electricity industry	3	3	9	No	5-yearly	June 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	March 2020
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	March 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
13	Social impact	Transpower and the Electricity Authority	The communications plans and preparedness strategies of key agencies for supply emergencies.	3	<u>1</u>	<u>3</u>	Yes	5-yearly	March 2020
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	Improving reporting of 'Various measures of reliability'	1	N/A	-	No	Once	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
		supply working group)							
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
33	Various	System operator	Annual self-review of performance	1	N/A	-	Yes	Annual	Feb 2021
34	Various	Electricity Authority	Annual review of system operator performance	1	N/A	-	Yes	Annual	Feb 2021
35	Various	Secretariat	Risk and strategy environment scan	1	N/A	-	No	Annual	June 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	Feb 2021

A.1 There have been no changes to items in the dashboard of work programme items since the last meeting.

**Table 4: Changes to risk assessment since previous SRC meeting**

Reference	Type of change	Description of change
There have been no changes to the risk assessment since the meeting on 22 October 2020.		

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

### The risk rating process for Table 3

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

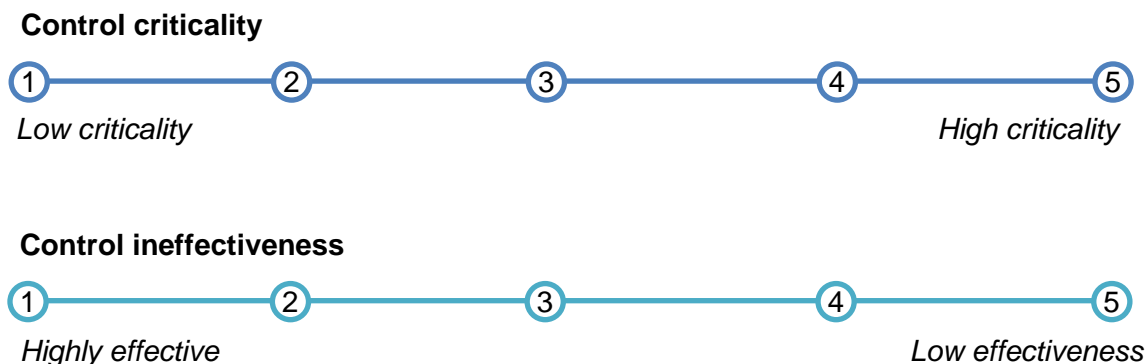
A.4 A score of 1 indicates that the item is not critical, while a score of 5 indicates the highest level of criticality.

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**



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**

