



TS 04982:1.0

T MU MD 20002 ST

Standard

TfNSW Risk Criteria for External Organisations

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Document history

Revision	Effective date	Summary of changes
1.0	21/12/2016	First issue as T MU MD 20002 ST
2.0	16/12/2020	Second issue as T MU MD 20002 ST
1.0	23/08/2024	First issue as TS 04982. Changes from T MU MD 20002 ST include adopting the risk criteria set out in CPSt20000.1, with updates to the following information: risk consequence criteria table; risk likelihood criteria table; risk matrix table; risk tolerance and response table.

Preface

This Standard is the first issue as TS 04982 and supersedes T MU MD 20002 ST, *Risk Criteria for Use by Organisations Providing Engineering Services*, version 2.0.

This document specifies TfNSW risk criteria for external organisations to use when assuring TfNSW assets or assessing risks for which TfNSW will be the owner or part owner.

Changes from T MU MD 20002 ST include adopting the risk criteria set out in CPSt20000.1, with updates to the following information:

- risk consequence criteria table
- risk likelihood criteria table
- risk matrix table
- risk tolerance and response table.

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SUPERSEDED

1 Scope

This Standard outlines TfNSW risk criteria for TAOs and other organisations to use when assuring TfNSW assets. This includes assessing risks for which TfNSW is or will be the owner or part owner.

TS 04981 on the other hand sets out system safety requirements for assuring new and altered assets on behalf of TfNSW.

2 Application

This document is intended for use by TAOs and other organisations who conduct risk assessments for TfNSW. They will apply these requirements either as part of the asset assurance process or as required by other TfNSW standards.

3 Referenced documents

The following documents are cited in the text. For dated references, only the cited edition applies. For undated references, the latest edition of the referenced document applies.

Transport for NSW standards

TS 04981 (T MU MD 20001 ST) *System Safety Standard for New or Altered Assets*

CPSt20000.1 *Enterprise Risk Management Standard* (This document is not publicly available.

To obtain access email standards@transport.nsw.gov.au)

Legislation

Work Health and Safety Act 2011 (NSW)

4 Terms, definitions and abbreviations

The following terms, definitions and abbreviations apply in this document.

Capex capital expenditure

RAMS reliability, availability, maintainability and safety

TAO technically assured organisation

TfNSW Transport for NSW

transport mode the means by which people and freight move from place to place. Falls into one of three basic types: land (bus, car, truck, motorbike, train, walking and cycling), sea (ship and ferry) and air.

5 General requirements

This document sets out risk criteria external organisations shall use to report risks to TfNSW. These criteria represent the minimum requirements for all risk assessments. This does not exclude the use of additional requirements or more rigorous risk assessment processes by external organisations. Where any additional assessment processes are used they shall be able to map or demonstrate the alignment to the TfNSW criteria set out in this standard to enable consistent risk reporting to TfNSW.

TAOs or other organisations providing services may have their own processes for the management of risk. However, they shall apply the risk criteria in this document in all the following situations:

- When delivering assurance to TfNSW on new or altered TfNSW assets. This includes all aspects of that assurance including, RAMS, human factors, and operability.
- When carrying out risk assessments required by other TfNSW standards.
- When assessing risks fully or partly owned by TfNSW.

Additional risk criteria may be agreed to in a specific contract for delivery of new or altered assets to TfNSW.

6 Risk criteria

The tables in this section include the criteria organisations shall use while conducting risk assessment for TfNSW in line with the requirements in this document.

Table 1 includes the risk consequence criteria.

Table 1 – Risk consequence criteria

Rating/Description	C6 Insignificant	C5 Minor	C4 Moderate	C3 Major	C2 Severe	C1 Catastrophic
Safety (Worker/ Contractor)	<p>An injury/illness requiring no treatment or first aid</p> <p>No absence from the workplace, worker/contractor was able to return to substantive position</p>	<p>An injury/illness requiring medical treatment by a qualified medical practitioner</p> <p>Minimal absence from workplace during shift to receive treatment but was able to return to substantive position that day or the following day</p> <p>0 to less than 5 shifts lost (minor claim)</p>	<p>An injury/illness requiring treatment by a qualified medical practitioner resulting in worker not able to work/substantive position on the next rostered shift after the injury (LTI)</p> <p>Greater than 5 shifts lost (standard claim)</p>	<p>Serious injury/illness* resulting in permanent disability</p> <p>Greater than 250 days absent from the workplace</p>	<p>A single fatality of a worker/contractor</p> <p>10–20 workers/contractors serious injuries*/illnesses*</p>	<p>Multiple worker/contractor fatalities</p> <p>> 20 workers/contractors serious injuries*/illnesses* (single event or over a period)</p>

Rating/Description	C6 Insignificant	C5 Minor	C4 Moderate	C3 Major	C2 Severe	C1 Catastrophic
Safety (Customer & Community Member)	An injury/illness where first aid treatment is administered to a customer/community member at the incident scene/location	An injury/illness treated by a qualified medical practitioner resulting in a customer/community member not requiring hospitalisation	An injury/illness treated by a qualified medical practitioner resulting in a customer/community member requiring local area hospitalisation	An injury/illness resulting in a customer/community member requiring high degree of care in hospital (e.g. ICU) or resulting in a permanent disability	A single fatality of a customer/community member 10–20 customer injuries/illnesses requiring high degree of care in hospital (e.g. ICU) or resulting in a permanent disability	Multiple customer/community member fatalities in a single event > 20 customer injuries/illnesses (single incident or over a period)
Customer Service & Experience	Isolated written complaints No impact to overall customer satisfaction ratings	Continuous written complaints > 3 months Minor (< 2%) reduction in core drivers for customer satisfaction ratings for any transport modes Potential Ministerial or Ombudsman complaints	A stream of continuous complaints at an increased volume and severity for > 1 year Moderate (2%–5%) reduction in core drivers for overall customer satisfaction ratings for any major transport modes Limited number of Ministerial and/or Ombudsman complaints with limited local media coverage	A substantial and sustained increase in the rate of customer complaints (per 100,000 boardings) Repeated complaints associated with a failure to respond in a timely manner Major (5%–7%) reduction in core drivers for overall customer satisfaction ratings for any major transport modes Multiple Ministerial and/or Ombudsman complaints with ongoing local media coverage	Increased customer complaints for up to 6 months, with normal background rates for the mode or service increasing by a factor of 3 or more, and a persistent backlog in responses Significant (7%–10%) reduction in core drivers for overall customer satisfaction ratings for any transport modes Significant increase in number of Ministerial and Ombudsman complaints, accompanied by	A prolonged increase in customer complaints for greater than 6 months, with normal background rates for the mode or service increasing by a factor of 10 or more, and a persistent backlog in responses – allowing for typical seasonal variations in complaints volume throughout the year A prolonged material reduction (10% or more) in core drivers for overall customer satisfaction ratings for any transport modes

Rating/Description	C6 Insignificant	C5 Minor	C4 Moderate	C3 Major	C2 Severe	C1 Catastrophic
					persistently state and national media coverage	Substantial backlog of Ministerial and Ombudsman complaints accompanied by national and international media coverage
Everyday Service Delivery	No infrastructure or asset damage. Insignificant change to services	No permanent infrastructure or asset damage. Some minor restoration work required Localised and short service disruption Minor need for new/modified ancillary equipment	Limited infrastructure/asset damage with damage recoverable by maintenance and minor repair Frequent and major service disruption at one or a few locations	Major infrastructure or asset damage at multiple locations. Damage recoverable by uplift in maintenance and major repairs at multiple locations Major service disruption at multiple locations	Extensive network-wide infrastructure damage requiring major repairs and recovery activities Network-wide service disruption	Significant permanent damage and/or complete loss of the infrastructure and the service Loss of infrastructure support and translocation of service to other sites
Financial Management	Capital Expenditure over project budget by less than 1% Operating Expenditure (including accounting adjustments) over project/initiative budget by less than 1% Revenue (including fines, penalties, compensation etc.)	Capital Expenditure over project budget by 1%–2%. Operating Expenditure (including accounting adjustments) over project/initiative budget by 1%–2% Revenue (including fines, penalties, compensation etc) under	Capital Expenditure over project budget by 2%–3% Operating Expenditure (including accounting adjustments) over project/initiative budget by 2%–3% Revenue (including fines, penalties, compensation etc) under	Capital Expenditure over project budget by 3%–5% Operating Expenditure (including accounting adjustments) over project/initiative budget by 3%–5% Revenue (including fines, penalties, compensation etc) under	Capital Expenditure over project budget by 5%–8% Operating Expenditure (including accounting adjustments) over project/initiative budget by 5%–8% Revenue (including fines, penalties, compensation etc.)	Capital Expenditure over project budget by more than 8% Operating Expenditure (including accounting adjustments) over project/initiative budget by more than 8% Revenue (including fines, penalties, compensation etc.)

Rating/Description	C6 Insignificant	C5 Minor	C4 Moderate	C3 Major	C2 Severe	C1 Catastrophic
	under project/initiative budget by less than 1%	project/initiative budget by 1%–2%	project/initiative budget by 2%–3%	project/initiative budget by 3%–5%	under project/initiative budget by 5%–8%	under project/initiative budget by more than 8%
People	<p>No impact to employee health or safety</p> <p>Engagement and morale not impacted</p> <p>Employee performance and delivery not impacted</p> <p>No industrial impact</p>	<p>Employee health and safety impacted in a small work group. Minimal impact to the delivery of services</p> <p>Engagement and morale in state of decline in a small work group. Some employees becoming disengaged</p> <p>Employee performance and delivery impacted in a small work group. Minimal impact to delivery of services</p> <p>Industrial impacts for a small work group with</p>	<p>Employee health and safety in state of decline across larger business units or across a number of workgroups with some impacts to services</p> <p>Engagement and morale in state of decline affecting larger business units or a number of workgroups. Some employees disengaged and looking to leave, degree of absenteeism.</p> <p>Employee performance and delivery impacted in a larger business units or number of</p>	<p>Employee health and safety in state of decline in over half the organisation with impacts to the delivery of services and access to work sites</p> <p>Engagement and morale in state of decline affecting over half of the organisation. Many staff disengaged and looking to leave, increasing rates of absenteeism</p> <p>Employee performance and delivery impacted across half of the organisation with</p>	<p>Employee health and safety impacted across most of the organisation with high rates of leave, stress and turnover affecting delivery of many services and access to work sites</p> <p>Engagement and morale affected in most sections of the organisation. Widespread turnover and high volumes of frustrated employees. High rates of absenteeism</p> <p>Employee performance and delivery impacted across most sections of</p>	<p>Employee health and safety impacts over a prolonged period of time with high rates of burn-out, illness, stress and fatigue, loss of life/lives. Affecting delivery of all services and access to work sites</p> <p>Engagement and morale low across the entire organisation resulting in work impacts, prolonged absenteeism, stoppages and high turnover</p> <p>Employee performance and delivery impacted across the entire</p>

Rating/Description	C6 Insignificant	C5 Minor	C4 Moderate	C3 Major	C2 Severe	C1 Catastrophic
		minimal impact to services	workgroups. Delivery of some services affected. Industrial impacts for a larger business units or a number of workgroups with some impact to services.	delivery of many services affected Industrial impacts for multiple sections of the business occurring with impacts to service delivery	the organisation with services not delivered Industrial impacts for most sections of the organisation, impairing customer services and safety	organisation for a prolonged period of time stopping services and impacting safety Industrial impacts across the entire organisation for a prolonged period stopping services and impacting safety
Reputation and Integrity	Single negative article in local media Limited social media commentary Stakeholder/ community confidence and trust retained Incident contained within Branch	Series of negative articles in local media Series of negative social media commentary Stakeholder/community confidence remains with minor loss of trust recoverable with little effort or cost. Some continuing scrutiny / attention Incident confined to Branch but requiring notification to Division	Extended local media coverage and some broader regional media coverage Extended negative social media coverage Confidence and trust of stakeholder/community is dented but recoverable at modest cost within existing budget and resources TfNSW and/or Minister's department requires update	State media coverage, short-term negative national media coverage Widespread negative social media coverage Stakeholder/community confidence and trust impaired Project/activity credibility under question Regular talk-back programs questioning credibility and capability	Sustained negative state and national media coverage Sustained widespread negative social media coverage Stakeholder and community confidence and trust severely damaged Support withdrawn but recoverable at considerable cost, time and staff effort	Sustained, high profile national and international media coverage Prolonged negative social media coverage Stakeholder/community confidence is non-existent, including active campaigning against TfNSW Material changes in the public perception of the Agency with the potential for government to reverse decision

Rating/Description	C6 Insignificant	C5 Minor	C4 Moderate	C3 Major	C2 Severe	C1 Catastrophic
					Regular updates requested by the Minister	
Project Delivery	<p>Insignificant project delay (< 1 day)</p> <p>Capex over project budget by less than 1%</p> <p>No reduction in functionality/scope</p>	<p>Minor project delay (1 day – < 1 week) with no public impacts</p> <p>Capex over project budget by 1%–2%</p> <p>Scope or functionality partially impaired with no impacts on delivery or quality</p>	<p>Moderate project delay (< 1% to maximum of 1 month) with no public impacts</p> <p>Capex over project budget by 2%–3%</p> <p>< 1% reduction in functionality/scope</p> <p>Benefit realisation partially impaired but still adds value and is economically sound</p>	<p>Major delay (< 10% to maximum of 5 months)</p> <p>Capex over project budget by 3%–5%</p> <p>< than 10% reduction in functionality/scope</p> <p>Cost/benefit analysis may not have supported the program to go ahead</p> <p>Publicly announced portion, milestone or completion date missed</p>	<p>Severe delay (< 15% to maximum of 9 months) project delay</p> <p>Capex over project budget by 5%–8%</p> <p><15% reduction in functionality/scope</p>	<p>Total blow out in time, (> 9 months or > 15%)</p> <p>Capex over project budget by more than 8%.</p> <p>> 15% reduction in functionality/scope.</p> <p>Failure to realise benefits</p> <p>Future funding likely needed to rectify or deliver outcomes</p>

Rating/Description	C6 Insignificant	C5 Minor	C4 Moderate	C3 Major	C2 Severe	C1 Catastrophic
Governance, Legal & Assurance	<p>Some non-compliance with legal, regulatory or government policy requirement or duty.</p> <p>Little or no consequence.</p>	<p>Minor non-compliance with legal, regulatory or government policy requirement or duty.</p> <p>Internal reporting of non-compliance.</p> <p>Small fine.</p>	<p>Moderate non-compliance with legal, regulatory or government policy requirement or duty.</p> <p>Internal reporting and investigation.</p> <p>Moderate fine.</p>	<p>Systemic non-compliance with legal, regulatory or government policy requirement or duty.</p> <p>Notifiable to external regulatory or government authority.</p> <p>Significant fine.</p>	<p>Substantial non-compliance with legal, regulatory or government policy requirement or duty.</p> <p>Notifiable to external regulatory or government authority, with investigation, enforcement, or prosecution action by authority.</p> <p>Substantial fine.</p> <p>Disruption to ability to operate e.g. external authority places conditions on licence or accreditation.</p>	<p>Catastrophic non-compliance with legal, regulatory or government policy requirement or duty.</p> <p>Notifiable to external regulatory or government authority, with investigation, enforcement action, or criminal prosecution by authority.</p> <p>Unprecedented fine.</p> <p>Loss of ability to operate e.g. operating licence or accreditation revoked by external authority.</p>
Environment	<p>No appreciable negative changes to environment</p>	<p>Negative change from existing environment conditions that can be rectified immediately (< 1 day) with available resources</p>	<p>Short-term (< 1 year) and/or well-contained environmental impact</p> <p>Minor remedial actions probably required</p>	<p>Short to medium term (between 1 and < 5 years) environmental impact</p> <p>Considerable remedial actions probably required</p>	<p>Medium term (> 5 years) environmental impact</p> <p>Extensive remedial actions probably required</p>	<p>Long-term (> 10 years) large scale environmental impact</p> <p>Extensive and ongoing remedial actions probably required</p>

Notes:

* Under the WHS Act a serious injury or illness requires a person to have:

- a) immediate treatment as an in-patient in a hospital, or
- b) immediate treatment for: amputation; a serious head injury; a serious eye injury; a serious burn; separation of skin from an underlying tissue (such as de-gloving or scalping); a spinal injury; the loss of a bodily function; serious lacerations, or
- c) medical treatment within 48 hours of exposure to a substance.

Table 2 provides the risk likelihood criteria

Table 2 – Risk likelihood criteria

Rating/Description	L6 Almost unprecedented	L5 Very unlikely	L4 Unlikely	L3 Likely	L2 Very likely	L1 Almost certain
Frequency	<ul style="list-style-type: none"> • Consequence will occur once every 50 years 	<ul style="list-style-type: none"> • Consequence will occur at least once every 25 years 	<ul style="list-style-type: none"> • Consequence will occur at least once every 10 years 	<ul style="list-style-type: none"> • Consequence will occur once a year 	<ul style="list-style-type: none"> • Consequence will occur between 2 and 10 times per year 	<ul style="list-style-type: none"> • Consequence will occur more than 10 times per year
Probability	<ul style="list-style-type: none"> • < 10% chance of occurring • Not expected to ever occur 	<ul style="list-style-type: none"> • 10% to 25% chance of occurring • Not expected to occur 	<ul style="list-style-type: none"> • > 25% to 50% chance of occurring • More likely not to occur than occur 	<ul style="list-style-type: none"> • > 50% to 75% chance of occurring • More likely to occur than not occur 	<ul style="list-style-type: none"> • > 75% to 90% chance of occurring • Expected to occur occasionally 	<ul style="list-style-type: none"> • > 90% chance of occurring • Expected to occur frequently

Table 3 represents the risk matrix to estimate the level of risk

Table 3 – Risk matrix – Likelihood and consequence

Likelihood/ Consequence	Insignificant C6	Minor C5	Moderate C4	Major C3	Severe C2	Catastrophic C1
Almost certain L1	D	C	B	A	A	A
Very likely L2	D	C	B	B	A	A
Likely L3	D	C	C	B	B	A
Unlikely L4	D	D	C	C	B	B
Very unlikely L5	D	D	D	C	C	B
Almost unprecedented L6	D	D	D	D	C	C

Table 4 provides guidance on risk levels and the associated tolerance levels and responses

Table 4 – Risk tolerance and responses

Current risk rating	Response
Very high 'A'	<ul style="list-style-type: none"> Generally intolerable Avoid except in extraordinary circumstances Find an alternative solution Reduce level of risk as a priority
High 'B'	<ul style="list-style-type: none"> Almost unacceptable Undesirable Reduce level of risk as a priority Tolerate only if not reasonably practicable to reduce risk level
Medium 'C'	<ul style="list-style-type: none"> Generally tolerable if not reasonably practicable to reduce risk level Seek additional treatment measures unless cost exceeds benefit and/or measure is not recognised as good practice
Low 'D'	<ul style="list-style-type: none"> Broadly acceptable Consider reducing risk level if options exists and costs are proportionate to the benefits