

1 Purpose

This document provides guidance that supports the business in developing an aspects and impacts register, which is a requirement of the Network Rail *Environment and Social Management Systems (ESMS)*.

1.1 Definitions

Active Risk Manager (ARM): Network Rail's corporate risk management tool, used to store and manage; High level strategic risks, business risks and project risks.

Environmental aspect: An element of an organisation's activities, products, or services that can or does interact with the environment. These interactions and their effects may be continuous in nature, periodic, or associated only with events, such as emergencies.

Environmental impact: Any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organisation's activities, products, or services (environmental aspects).

Environmental risk: The actual or potential threat of any adverse changes to the environment, wholly or partially resulting from an organisation's activities, products, or services (environmental aspects).

Environmental opportunity: The actual or potential opportunity to make beneficial changes to the environment, wholly or partially resulting from an organisation's activities, products, or services (environmental aspects).

Normal operating condition: The aspect occurs during day to day activities or as part of the process e.g. waste production, raw materials use, normal weather, regular prices (for materials), trains running, etc.

Abnormal operating condition: The aspect may occur periodically or irregularly as part of activities associated with the main process. Network Rail still has some control or influence over abnormal operating conditions. This is not to be used to risk score aspects when operational controls fail.

Emergency operating condition: The aspect is not expected to occur except as a result of an accident or random event over which Network Rail has no control or influence e.g. fire, flood, earthquake, bomb, etc.

Social aspect: An element of an organisation's activities, products, or services that can or does interact with society or communities. These interactions and their effects may be continuous in nature, periodic, or associated only with events, such as emergencies.

Social impact: The effect of an activity on the social fabric of the community and well-being of the individuals and families which can be both positive and negative.

Social risk: The actual or potential threat of any adverse changes to the environment, wholly or partially resulting from an organisation's activities, products or services (social aspect).

Social opportunity: The actual or potential opportunity to make beneficial changes to society, wholly or partially resulting from an organisation’s activities, products, or services (social aspects).

1.2 Aspects and impacts identification and classification

In order to determine any significant risks and opportunities, the environmental and social aspects and associated impacts must first be identified. Each Network Rail function should take into account their full range of activities, including but not limited to:

<u>Function</u>	<u>Activity</u>
Infrastructure Projects (IP)	<ul style="list-style-type: none"> • Project works (Design and Construction), • IP Offices • Environmental Management and Leadership Support (e.g Exec leadership direction, resources, objectives and targets)
Route Businesses	<ul style="list-style-type: none"> • Depots • Managed Stations • Works Delivery (Design and Construction) • Maintenance • Environmental Management and Leadership Support
Route Services	<ul style="list-style-type: none"> • Material Handling Depots (MHDs) • Aggregate Handling Depots (AHDs) • Road Fleet • Rail Fleet • Railway Materials and Supplies • Environmental Management and Leadership Support
Property	<ul style="list-style-type: none"> • Workplaces • Project works (Design and Construction) • Tenant Activity • Maintenance • Acquisitions and Disposals of Property
Other Corporate Functions (including: Human Resources; Corporate Communications; Safety, Technical and Engineering, System Operator; Finance; Group Transformation and Efficiency; Digital Railway).	<ul style="list-style-type: none"> • Office Activity

Environmental and Social aspects should be identified from all functional activities and they should be categorised into one of the main Environment and Social themes as given below:

<u>Environment Theme</u>	<u>Social Theme</u>
Contaminated land	Being a caring neighbour
Biodiversity	Connecting communities with the environment
Emissions to air	Creating engaged employees
Operational carbon	Creating positive industry partnerships
Sustainable procurement	Inspiring tomorrow's workforce
Waste	Keeping communities safe
Pollution of land/water	Making rail a great experience
Sustainable travel	Making travel accessible
Water	Respecting cultural history and rail heritage
Weather resilience & climate change adaptation	Supporting Britain's development
Capital carbon	

For more information on each of the themes, refer to the Environment and Sustainable Development pages on [Safety Central](#).

An impact description should then be provided for each aspect, which considers Environment, Health and Safety, Performance, Finance, Asset Management and Reputation. Finally before assessing the risk or opportunity, it should be stated whether the impact is a normal, abnormal or emergency occurrence.

The below example shows what the first part of the register should look like:

Ref	Applicability	SD Topic	Aspect	Main Theme (Most applicable)	Impact description	Condition
9	GRIP 1-5 Design	Environment	Little consideration for energy efficiency during operational asset life cycle	Energy Efficiency & Operational Carbon	Depletion of natural resources, contribution to greenhouse emissions during asset life Financial impacts due to rising energy costs and CCL (Climate change levy) changes Potential negative stakeholder perception	Normal

1.3 Assessment of risks and opportunities

Environmental and social risks should be using the Network Rail Corporate Risk Assessment Matrix (Appendix A), which uses the "Impact Score + Likelihood" risk scoring approach, as adapted throughout Network Rail. The highest scoring impact (when considering Environment, Health and Safety, Performance, Finance, Asset Management and Reputation) should be used to calculate the Gross (unmitigated) Risk score. Environmental and Social opportunities should be scored using the Opportunities Matrix (Appendix B) which uses the same "Impact Score + Likelihood" scoring approach.

The Gross Risk/Opportunity score is used for assessing the significance of a risk or opportunity when there are no operational controls in place. Any operational controls are then captured in the next column.

The Net Risk/Opportunity Score should then be calculated, which assesses the significance of a risk or opportunity with the operational controls in place. For a negative risk, the net score must be less than or equal to the gross risk score. For an opportunity, the net score must be more than or equal to the gross opportunity score.

Where a net risk is scored higher than 7, a lower target risk should be defined and the risk added to Active Risk Manager (ARM) where an action plan should be put in place and progress against this tracked.

Below is an example of what the second part of the register should like:

Impact							Likelihood	Gross Risk	Current controls	Net Risk			Target Risk	ARM ID	Comments
Environment	Health	Safety	Performance	Finance	Asset management	Satisfaction & reputation				Impact	Likelihood	Total			
3	1	n/a	n/a	3	1	2	5	8	GRIP, GRIP4 Track, Contract Requirements - environment	3	4	7	5	IP-SD-009	To be moved to ARM register where action plan will be detailed.

2 Appendix A - Network Rail Corporate Risk Assessment Matrix

Impact area	1	2	3	4	5
Safety/ Health/ Environment	Event with the potential for less than 20 minor injuries or a single major injury (less than .1 FWI) Minor health effects not affecting work performance or causing disability, treatment applied by First Aider onsite e.g. minor cuts & abrasions Negligible impact to a minimal area of low environmental significance, managed by internal control procedures (e.g. Spills <20 litres; Fly tipping)	Significant event with the potential of a single major injury to five major injuries (between .1 - .5 FWI) Minor health effects causing lost time injury 1-20 days with some impact on local level activities, e.g. MSK – musculoskeletal injury from manual handling with short term health issues Minor or minimal short-term impacts to the environment (e.g. Minor spill of >20 litres; dust/odour; Disturbance to locally protected Biodiversity Action Plan (BAP) species or its habitat)	Significant event with the potential of between five major injuries and two fatalities (between .5 and 2 FWI) Major health effects causing lost time injury 20+ days and/or redeployment, e.g. MSK with long term health issues, hand/arm vibration syndrome Significant impact to the wider environment, where short term (< 6 months) restoration works are needed (e.g. Confirmed spread of an invasive species; Disturbance to a statutorily protected site or a European/nationally protected species or habitat; Damage to a Site of Special Scientific Interest (SSSI); destroying the habitat of a protected species)	Catastrophic event with the potential of between two and 10 fatalities (between 2-10 FWI) Irreversible damage causing serious disability and more than 6 months off work or fatalities e.g. respirable crystalline silica (RCS) from ballast dust and asbestos from buildings to renewals Major, persistent and/or extensive impact to the environment where longer term remediation is required (> 6 months) e.g. Long term pollution involving toxic, hazardous or infectious materials/waste; Use of resources under threat of depletion; Damage to a statutorily protected site or a European / nationally protected species or habitat; Unlicensed killing of a small population of a European/ nationally protected species)	Catastrophic event with the potential of over 10 fatalities (10 FWI) Catastrophic health effects causing multiple fatalities from long term exposure in the work place e.g. silica and asbestos or effect of ill health on work e.g. sudden incapacity for a Lookout or Train Driver Catastrophic and irreversible environmental damage (e.g. Irreparable damage to protected sites and/or unlicensed killing of a local/regionally significant protected species population; Direct over-consumption of natural resources causing irreversible depletion of that resource)
Performance	Planned disruption for up to a day on any one route Project <1yr = <=1 week schedule delays Project >1yr = <=2 weeks <52hrs possession; overrun <=15mins 52hrs – week possession; overrun <=1hr 1-4week possession; overrun <= 4hrs	Unplanned disruption (for up to a day) on any one route Project <1yr = 1-2 weeks schedule delays Project >1yr = 2-4 weeks <52hrs possession; overrun 15 - 30 minute 52hrs – week possession; overrun 1-2hrs 1-4week possession; overrun 4-7hrs	Unplanned disruption (for up to a week) on any one route or Up to a day on multiple routes Project <1yr = 2-4weeks schedule delays Project >1yr = 4-8 weeks <52hrs possession; overrun 30min to 1hr 52hrs – week possession; overrun 2-4hrs 1-4week possession; overrun 7-14hrs	Unplanned disruption for over a week on multiple routes and limited access to station facilities Project <1yr = 4-6 weeks schedule delays Project >1yr = 8-12 weeks <52hrs possession; overrun 1 – 2hrs 52hrs – week possession; overrun 4-7hrs 1-4week possession; overrun 14-26hrs	All users experience prolonged and unplanned disruption to key routes. Access to major station facilities likely to be severely restricted Project <1yr = >6 weeks schedule delays Project >1yr = >12 weeks <52hrs possession; overrun >2 hrs 52hrs – week possession; overrun >7hrs 1-4week possession; overrun >26hrs
Finance	£0 - £2m OR Less than 3% of allocated budget Efficiency target 100% deliverable No Breach of cash limits	£2 - 10m OR between 3% - 5% of allocated budget Efficiency target >90% deliverable Minor breach of cash limits	£10 - 50m OR between 5% and 7% of allocated budget Efficiency target 80-90% deliverable Minor to moderate breach of cash limits to create minimum value	£50 - 250m OR between 7% and 10% of allocated budget Efficiency target 60-80% deliverable Moderate breach of cash limits where there is potential to create some value	Over £250m OR Greater than 10% of allocated budget Efficiency target <60% deliverable Significant breach of cash limit or where there is the potential to create significant value
Asset Management	Does not <i>directly and adversely</i> affect either railway infrastructure reliability or railway infrastructure condition <i>Or</i> Direct and adverse impact on railway infrastructure reliability or railway infrastructure condition is minimal Failure to achieve annual CRI target Failure to achieve annual contribution to the CSI target	<i>Directly and adversely</i> affects railway infrastructure reliability within the current performance year <i>Or</i> <i>Directly and adversely</i> affects railway infrastructure condition within the current control period Failure to deliver 50% CRI target value in year concerned Failure to achieve annual contribution by such a margin as this threatens CSI outturn for CP5	<i>Directly and adversely</i> affects railway infrastructure reliability over the current and next performance year <i>Or</i> <i>Directly and adversely</i> affects railway infrastructure condition over the current & next control period Failure to improve CRI target value in Control Period (or 5 yr period) Failure to achieve CSI in CP5	<i>Directly and adversely</i> affects railway infrastructure reliability over the next 3-4 performance years <i>Or</i> <i>Directly and adversely</i> affects railway infrastructure condition over the next three control periods (11+ years) Deterioration in CRI between 10% to 49% in Control Period (or 5 yr period) – (against target) Failure by up to 0.5% to deliver CSI in CP5	<i>Directly and adversely</i> affects railway infrastructure reliability over the next 5+ performance years <i>Or</i> <i>Directly and adversely</i> affects railway infrastructure condition over the next four control periods (16+ years) Deterioration in CRI by > 50% in Control Period (or 5 yr period) - (against target) A major shortfall in CSI by >0.5% in CP5
Satisfaction & Reputation	Short-term adverse local stakeholder reaction Short term loss of morale with poor performance of non-critical activities Minor legal issues, non-compliance or breach of regulation. Legal challenge, minor out of court settlement limited to parties involved and expected outcome known No ORR action.	Adverse local media reports over a period. Localised stakeholder concern. Minor disengagement. Effectiveness / Efficiency compromised with service failures in non-critical activities Breach of regulation with investigation or report to authority with prosecution and/or moderate fine possible. Limited to parties involved but outcome uncertain Risk scores a 1 – 2 on the ORR regulatory escalator	Significant local and / or regional reports including social media. National media interest creating public concern. Negative national stakeholder statements from both government departments and/or TOC/FOCs. Some disengagement leading to effectiveness / efficiency compromised in some critical activities. Serious breach of regulation. Major litigation/ Class action/ criminal prosecution/prohibition notice. Local profile and outcomes uncertain. Risk scores a 3 on the ORR regulatory escalator	Extensive prolonged diverse national reporting and public disputes with key stakeholders, e.g. breakdown of a TOC alliance. A major downturn in company-wide engagement leading to service failures within some critical activities. Significant prosecution and fines. Very serious litigation including class actions. National profile, impact on current/future business operations. Risk scores a 4 on the ORR regulatory escalator	Extensive and prolonged negative reporting nationally or public disputes with key stakeholders, including political and/or TOC/FOCs. Escalation to external bodies inevitable & impossible to contain in medium term. Potential for significant changes imposed on NR, its responsibilities and structure A significant downturn in companywide engagement. Serious failings across most services National profile, major impact on current and future business operation. Prosecution likely. Potential prison terms for executives and/or high fines for organisation. Multiple litigations. Risk scores 5 on the ORR regulatory escalator
Likelihood criteria	<5% Very Low likelihood the risk will occur Risk would occur less than once in 25 years	5 – 20% Low likelihood the risk will occur Risk would occur between once in 25 years or up to once in 5 years	21 – 50% Medium likelihood the risk will occur Risk would occur between once in 5 years to just less than once a year	51 – 75% High likelihood the risk will occur Risk would occur between 1 and 5 times a year	>75% Very High likelihood the risk will occur Risk would occur 5 times a year or more

3 Appendix B - Opportunities Matrix

LIKELIHOOD SCORE		IMPACT SCORE				
		Impact 1	Impact 2	Impact 3	Impact 4	Impact 5
		Score (Likelihood + Impact)	Temporary positive impacts to environment or social agenda.	Postive impacts to the environment or social agenda, benefitting an immediate area within NR e.g contributing to project specific environmental or social objectives.	Single positive impacts to the environment or social agenda, benefitting locally and internally to NR.	Multiple positive impacts to the environment or social agenda, benefitting locally within and external to NR.
5	>75% Very High likelihood the opportunity will occur 5 times a year or more	6	7	8	9	10
4	51 – 75% High likelihood the opportunity will occur 1 and 5 times a year	5	6	7	8	9
3	21 – 50% Medium likelihood the opportunity will occur Once in 5 years to just less than once a year	4	5	6	7	8
2	5 – 20% Low likelihood the opportunity will occur Opportunity would occur between once in 25 years or up to once in 5 years	3	4	5	6	7
1	<5% Very Low likelihood the opportunity will occur Opportunity would occur less than once in 25 years	2	3	4	5	6