Network Asset Risk Metric (NARM) Methodology

ISSUE 1

REVISION 2

VERSION CONTROL

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1. PURPOSE AND SCOPE

1.1. BACKGROUND

Britain's electricity onshore transmission network transmits high-voltage electricity from where it is produced to where it is needed throughout the country. It broadly comprises circuits, see figure 1, operating at 400, 275 and 132kV, owned and maintained by three transmission companies:

- National Grid Electricity Transmission plc (NGET) for England and Wales
    - Over 14,100 km of overhead line and 650 km of underground transmission cable routes interconnecting 311 substations.
- Scottish Power Transmission Limited (SPT)for southern Scotland
    - 4,300 circuit km of overhead line and cable interconnecting 156 substations
- Scottish Hydro Electric Transmission plc (SSEN Transmission) for northern Scotland and the Scottish islands groups.
    - Over 5,100 circuit km of overhead line and cable interconnecting 138 substations

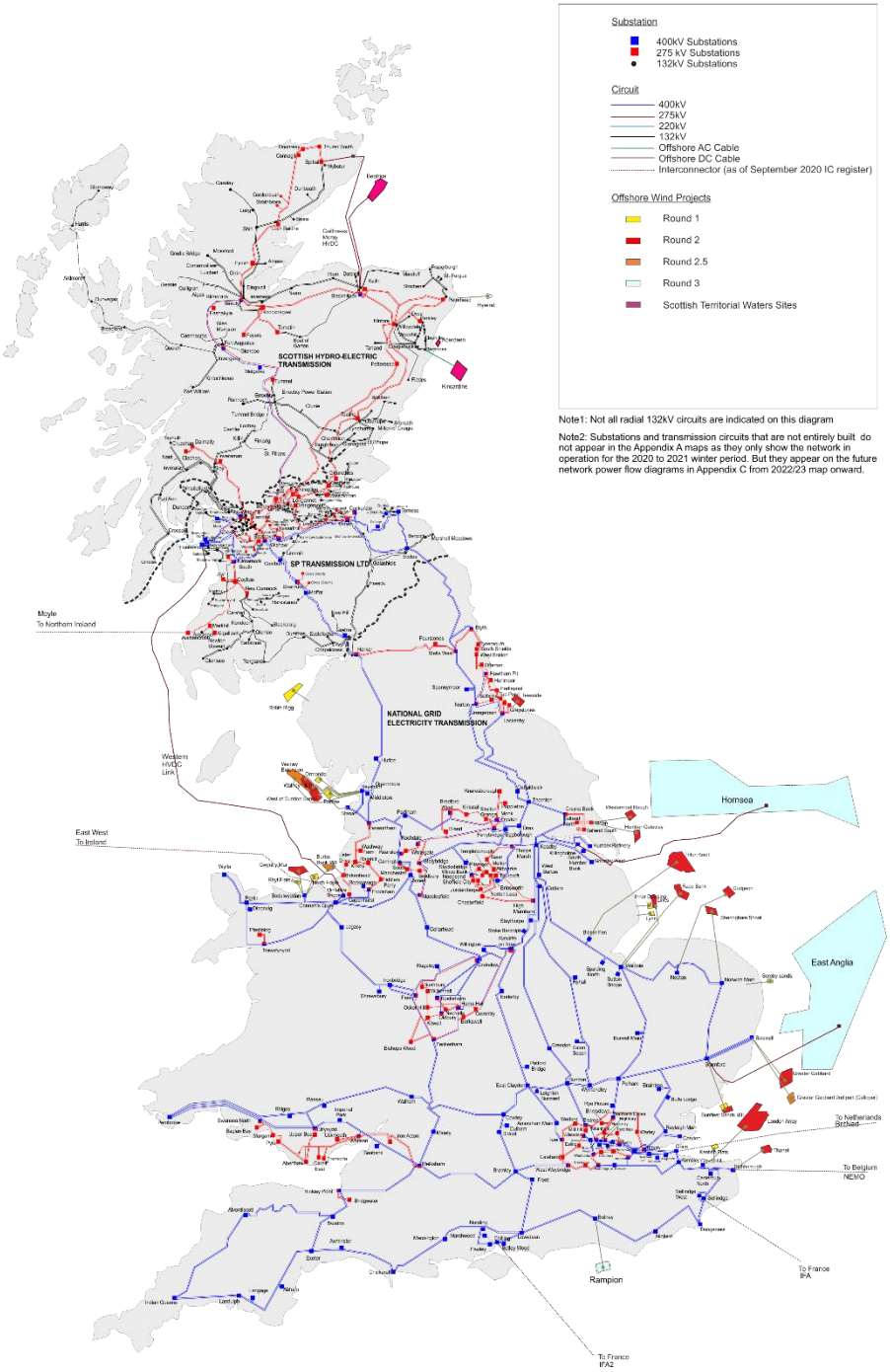

Figure 1 Map of GB Electrcity Transmission Network

The RIIO (Revenue = Incentives + Innovation + Outputs) regulatory framework places emphasis on incentives and outputs to drive the innovation that is needed to deliver a sustainable energy network to consumers.

In RIIO-T1, the cost allowances were tied, where possible, to the delivery of the Network Output Measures (NOMs) that reflected the levels of network risk remaining that network companies should achieve. The way the asset risk is measured and incorporated into network companies' asset management decision-making was developed through RIIO-1 into a common methodology. In RIIO-2, this methodology has evolved in the Network Asset Risk Metric (NARM) that is used as the primary measure for setting the output targets and allowances associated with asset risk. The Network Risk Outputs are defined using a relative measure of the monetised risk

benefit achieved through work delivered during RIIO-T2. The Network Risk Outputs are used to establish a measure of the long-term benefit of the work that companies are funded to deliver during RIIO-T2, by estimating the value of future benefit.

1.2. SCOPE

This document outlines the role of Monetised Risk in the context of providing a quantified, consistent and measured approach to network investment. The use of Monetised Risk has implications for the measurement of the Output elements of the RIIO-T2 framework. This document also captures certain key assumptions concerning the use of the Monetised Risk framework.

The Onshore Transmission Owner (TO's), namely NGET, SSEN Transmission and SPT in the context of this document, own and maintain a range of assets making up their respective networks. Broadly, these assets are grouped together by function, as follows:

- Substation Assets - Used to increase or decrease voltage/current or interrupt current flows to regulate transmitted power
    - Transformers
    - Reactors
    - Circuit Breakers
- Circuit Assets - Assets which are used to transmit power across a distance via a circuit
    - Cables
        - Solid
        - Underground
        - Subsea
    - Overhead Lines
        - Steel Tower
        - Conductors
        - Fittings

The calculation methodologies of Monetised Risk for NARM Assets and the Network Risk Outputs for the relevant asset interventions are further described in the relevant Network Asset Risk Annex. Note that different licensees have different reporting requirements. There are also differences in which assets are, or are not included for the purposes of the assessment of Monetised Risk.

The Network Asset Risk Metric is designed to demonstrate that the TOs are targeting investment in the right areas to manage network risk effectively, ensuring that the TO will continue to deliver primary outputs and a network that is fit for purpose in the future.

As network investment takes place over the longer term, there would be a time lag before any under-investment in the assets would impact the primary outputs (reliability and delivery of power). For example, if an asset is not replaced when required, it may be some time until the asset fails and impacts network reliability. Using NARM, the Licensees can identify and prioritise interventions to maintain a safe and reliable network.

For the RIIO-T2 price control period which covers the five years from 1 April 2021 to 31 March 2026, Special Condition 9.2 sets out the requirements of the licensee in respect of the NARM Methodology. It also sets out the process for modifying the NARM Methodology during the RIIO-T2 price control period.

The NARM Objectives are:

(a) to provide transparent, logical links between:

- the Asset Data that the licensee collects through inspections, maintenance, and other asset management activities;
- the data that the licensee inputs into its Asset Management Systems;

- the licensee's asset management decisions; and
- where relevant, the licensee's whole system investment decisions;

(b) to enable the Authority to establish the licensee's Baseline Network Risk Outputs and to undertake an objective assessment of the licensee's Baseline Network Risk Outputs delivery;

(c) to enable the robust estimation of Current Monetised Risk, Forecast Monetised Risk, Single-year Monetised Risk, and Long-term Monetised Risk for:
- each NARM Asset Category;
- individual NARM Assets within each NARM Asset Category; and
- the licensee's Transmission System;

(d) to enable the robust estimation of the Current Monetised Risk and Long-term Monetised Risk benefits delivered, or expected to be delivered, through interventions on specific assets or groups of assets;

(e) to provide inputs to help explain and justify, through Cost-Benefit Analysis:
- the licensee's investment plans for managing and renewing its NARM Assets; and
- the licensee's outturn delivery of investment options;

(f) to enable the identification and quantification of drivers leading to changes in Monetised Risk over time;

(g) to enable the comparative analysis of Monetised Risk between:
- different NARM Asset Categories and between individual NARM Assets on the licensee's Transmission System;
- geographic areas of, and NARM Assets within, the licensee's Transmission System;
- the licensee's Transmission System and other networks within the same sector;
- the licensee's Transmission System and networks outside Great Britain with similar assets should similar approaches as set out in the NARM Methodology be applied to estimate Monetised Risk for those networks; and
- the Transmission Systems and Distribution Systems within Great Britain; and

(h) to enable the communication to the Authority and other interested parties of relevant information about the licensee's Transmission System in an accessible and transparent manner.

2. METHODOLOGY DEVELOPMENT

2.1 ONGOING REVIEW AND CONTINOUS IMPROVEMENT

Part C of Special Condition 9.2 requires that each licensee must, at least once every year, review the NARM Methodology. The objective of this review is that of continuous improvement, and better facilitating the achievement of NARM Objectives.

The methodology is jointly reviewed by all TOs. The TOs regularly discuss the methodology as well as the development of the NARM. The terms of reference for these review meetings are:

- the TOs will meet to discuss the appropriateness of the current NARM in addressing the requirements of Special Licence Condition 9.2;
- share information to ensure consistency and calibration across the TOs; and
- discuss and resolve common issues with the implementation of NARM

Outside of the annual review, if a TO determines that a modification is needed to the NARM methodology that TO will call for a joint review with the other TOs.

When it is agreed that changes should be made to better facilitate the achievement of the objectives, the TOs will follow the process for modification as set out in the licence as outlined in Part C of Special Condition 9.2 This document supersedes the previous version of the NARM Methodology, namely the document 'Electricity Transmission Network Output Measures (NOMs) Methodology Issue 18' which became the NARM Methodology on the 1st of April 2021 as per Special Licence Condition 9.2.4.

2.2 UNCERTAINTY

The modelling of asset deterioration and failure involves a degree of uncertainty. This is especially the case with transmission assets, which are inherently very reliable and do not always produce clear indication of degradation or incipient failure. It is therefore essential to identify the sources of uncertainty and take the necessary actions to reduce it as possible.

The sources of uncertainty in the application of the methodology are generally:

- Asset information and condition input data. Statistical uncertainty accounts for random fluctuations in measurement, or imperfections in the methods used to make measurements. Random fluctuations follow a normal distribution, and the standard deviation can be used to describe the uncertainty within the distribution i.e. the range either side of the mean. The statistical uncertainty analysis has been performed at a lead asset level, consistent with the methodology so each lead asset has its own standard deviation. Figure 2 demonstrates where the uncertainty shall be included within the network risk calculation.
- Failure modes definition. The failure modes are defined and grouped by considering the severity or consequences of failure so the actual failure rates can be used for the calibration of the methodology. The failure modes are defined at system level and directly link to the failure effects. Some of the failure modes will be detected when an outage occurs while others will be detected during an inspection or maintenance. Only failure modes with measurable effects on the specified requirement and function

required for the asset are considered. This technique of summarising consequences according to severity of each failure mode has two advantages in relation to uncertainty:

- Only those failure modes with material defects are included avoiding any unnecessary analysis of failure modes with no material effect.
- Direct alignment with the failure severity classification reduces any uncertainty in the mapping of failure effect and failure severity.

The detection methods should be aligned with the asset data collected for the determination of the asset condition. As new technologies emerge and TOs get more experience operating different assets, the methodology will remain under continuous review to introduce new condition points as required upon identification of new failure modes.

- Methodology calibration. The failure modes considered in this methodology, along with their effects and failure rates, have been designed to be completely flexible so they can be reviewed using the actual failure data. A calibration review would be relevant after identification of new failure modes and/or after a significant period of time since the previous calibration if and when enough relevant data captured in a suitable and consistent format is available.

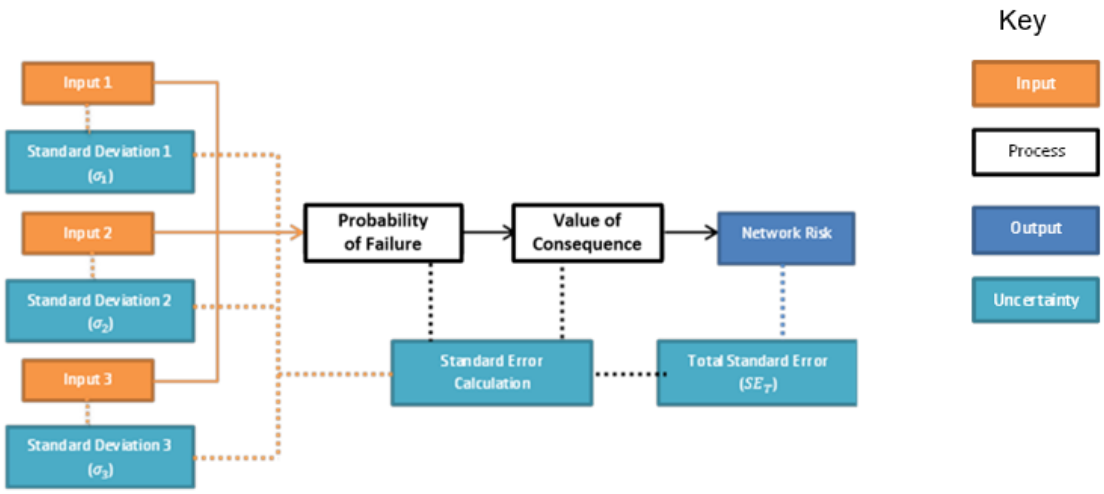

Figure 2

2.3 CALIBRATION, TESTING AND VALIDATION

While implementing the NARM Methodology, the TOs conducted detailed Calibration, Testing and Validation (CTV) to ensure achievement of the NARM Methodology Objectives, as set out in the License.

The NARM Methodology has been designed to enable certain parameters to be easily adjusted to reflect the results of the CTV exercises. The CTV exercises included scenarios and tests, and defined criteria are was set out prior to the test and the results are were compared against these criteria.

Calibration

The purpose of calibration was to:

- Ensure that each TO produces credible CoF, EoL modifiers and PoF values that are representative of the impacts of actual asset failures.

- Ensure that each TO's input values and assumptions are consistent and comparable.

Testing

The purpose of testing was to:

- Ensure that each TO has implemented correctly in-line with the NARM Methodology.
- That the each TO's implementation of the NARM Methodology works across a suitable range of credible scenarios.

Validation

The purpose of validation was to:

- Ensure that each TO's implementation of the NARM Methodology produces comparable results.
- Ensure that the NARM Methodology produces realistic and credible values.

Delivery of CTV

Whilst implementing the NARM Methodology the TOs worked both separately and collaboratively to undertake CTV.

Two documents were produced one by NGET and the other SPT and SSENT. These were submitted to Ofgem for review and consisted of the following:

- Detail of the work carried out and the data sources used.
- List any calibration that has been applied as a result of the CTV.
- Demonstrate the comparability across TOs.

Whilst these documents are not publicly available, CTV is an iterative process and the most important outputs are the updates to the Methodology or calibration values. These updates facilitate achieving the NARM objectives and are captured in the relevant sections of the NARA or LSA documents.

CTV may need to be performed again in the future if the changes to the Methodology are significant.

2.4 INNOVATION AND FUTURE METHODOLOGY DEVELOPMENT

There have been significant development milestones achieved over the past decade, from the introduction of monetised risk, the rebasing of RIIO-1 NOMs targets, through to the evolution from NOMs to NARM.

There are three groups of development for NARM to form an action plan, which was established through a review jointly conducted by Ofgem and Transmission Licensees early in 2022. The first of these is for short term enhancement of NARM documentation for the RIIO-2 regulatory period to improve the approachability, readability, and transparency of methodologies common across all licensees and also licensee specific content.

The second category is for the continuous improvement of the NARM methodology, identifying priority areas to develop in preparation for the next price control period. Finally, the third category is for the longer-term development of NARM methodology for the next price control period and beyond.

NARM development is not restricted to development within the action plan, new innovation can be introduced through the NARM change process. Innovation activities that may eventually lead to further NARM development mostly lie in the field of improvements to condition assessment. All Transmission Operators continue to monitor this sector and sponsor research where opportunities present themselves.

2.5 CHANGE CONTROL PROCESS

The implementation of NARM is dependent upon Licensees and the Authority acting on any of the Methodology documents; the Common Methodology, Network Asset Risk Annexes (NARAs) and/or Licensee Specific Appendices (LSAs).

The NARM methodology should be reviewed at least once every year as per License Special Condition 9.2 Part C in order to identify modifications that would better facilitate the achievement of the NARM Objectives. As part of the modification process, the Licensees will consult other Network Licensees and any other interested parties who would be invited to make representations to the proposed modifications. In the stakeholder section, we outline the approach to engaging with stakeholders and how their feedback will be used.

Particular consideration should be made to the impact of methodology modification on the Baseline Network Risk Outputswhich would be captured by a Rebasing exercise as established in the License. Additionally, since the methodology is under continuous development and the modification process can be lengthy, there may be instances where those activities happen simultaneously with the annual NARM Regulatory Reporting Pack preparation and the investment planning of future price controls. The Authority should direct which version of the Methodology should be applicable in the annual NARM Regulatory Reporting Pack and/or any other related NARM activities including future Price Control Business Plan submissions.

2.6 STAKEHOLDER ENGAGEMENT

We engage with our stakeholders to effectively understand and reflect the priorities of our stakeholders in our asset intervention assessments, using NARM, which feeds into our network planning, development, and operations. We consider a stakeholder in line with AccountAbility's[1] definition of 'any individual, group of individuals, or organisations that affect and/or could be affected by our activities, products or services, and/or associated performance'.

Our stakeholder groups include:

- Enablers such as the regulator, government departments, National Grid ESO.
- Members of the public.
- Specialist influencer such as industry partners, local authorities, network owners.
- Communities both local and regional.
- Infrastructure and emergency response.
- Customers such as electricity generators, distribution network owners, large demand customers.

We would seek to engage with our stakeholders when changes to the NARM methodology are proposed or being developed. When engaging on the NARM methodology, we carry out a mapping exercise to identify the relevant stakeholders, and those who are best placed to provide insight on the proposed methodology updates. Understanding the stakeholders' knowledge level, of the content, allows us to tailor our engagement, to get the best responses. Stakeholder feedback is collected, and presented in a report that is submitted to the Authority. The feedback is then used to shape the methodology, with the documentation and methodology revised where necessary.

[1] AA1000 Stakeholder Engagement Standard (AccountAbility, 2015) available at: https://www.accountability.org/wp-content/uploads/2016/10/AA1000SES_2015.pdf

3. NETWORK ASSET RISK METRIC

The Network Asset Risk Metric (NARM) is an evolution from RIIO-1 Network Output Measures and relates to the relative reduction of long-term monetised network asset risk. It is derived from the probabilities and expected consequences of asset failure. TOs use the metric to ensure that risk to consumers is maintained within reasonable bounds.

The NARM is used by onshore Transmission Owners to enhance current asset management processes and understanding of business drivers. This is especially in relation to the development, maintenance and operation of the networks and in assessing future network expenditure. They also enable the setting of the longer-term objective for Monetised Risk and the calculation of the benefits of the proposed intervention options in a cost benefit analysis.

In addition to this common methodology statement, there are two different methodologies, one for the Scottish TOs and one for NGET which are specified in respective Network Asset Risk Annex (NARA) documents as well as company specific documents, namely Licensee Specific Appendices (LSAs), which describe in more detail how they derive the condition and Monetised Risk of each NARM Asset as well as the details of the calculation of the Long-term Monetised Risk Benefit of asset interventions within their respective businesses. The LSAs are not publicly available as each TO's assets and operations remain confidential. However, they have been submitted individually to Ofgem for review and approval.

Under RIIO-T2, the TOs have each developed integrated business plans which are supported by a suite of mechanisms designed to help manage the uncertainty that the electricity industry faces in the coming years. These plans forecast the capital and operational works which will be carried out; much of which is focused on maintaining a safe and reliable network through asset interventions focused on replacement, refurbishment and maintenance. These activities impact on the present and future asset health and therefore on Network Risk.

The TOs' business plans are designed to manage the ongoing safety, reliability and environmental performance of our networks. The potential customer impact associated with the deteriorating performance of assets towards the end of their useful life continues to drive a programme of interventions on our transmission network assets.

The TOs manage interventions on the equipment to ensure that:

a. The number, severity and criticality of equipment failures are acceptable to the TOs and our stakeholders
b. Long term replacement plans can be achieved without having an unacceptable impact on reliability, availability, quality of supply, health, safety and environmental performance, and transmission constraints
c. Long term cost forecasts are within acceptable levels for efficient deliverability, procurement and financing requirements

The available interventions for managing the performance of assets range from routine maintenance to full replacement. At the highest level, there are four options for intervention for each lead plant type which have the following definitions:

- Repair – Activities to restore the asset's functionality
- Maintenance – Activities to achieve asset life and ensure asset performance. Maintenance would not be expected to extend asset life
- Refurbishment – Activities that change asset condition and/or extend asset life

- Replacement – Replace in its entirety an asset that is in a state requiring replacement.

Not all asset interventions have an impact on Monetised Risk. The interventions impacting on Monetised Risk include maintenance, asset replacement and refurbishment interventions where the primary driver is to reduce asset risk, but also other types of interventions such as new connections and reinforcement.

Table 1 summarises the documents that make up the framework for calculating and applying monetised risk.

Table 1: NARM Associated Documents

Document Title	Document Description
NARM Common Methodology	This overarching methodology document provides an overview of the NARM Methodology.
Network Asset Risk Annexs (NARAs)	These documents describe the details of the calculation methodologies to derive the Network Asset Risk Metrics. There are two different NARA documents, one for the Scottish TOs and another one for NGET. These documents form part of the NARM Methodology.
Licensee Specific Appendices (LSAs)	The LSAs contain TO specific parameters used in the calculations, each TO has its own LSA document. These are not publicly available and remain confidential. They have been submitted individually to Ofgem for review and approval. These documents form part of the NARM Methodology.
NARM Handbook	This document sets out the methodology for calculating relevant funding adjustments and penalties under NARM Funding Adjustment and Penalty mechanism. It also provides guidance on the provision of justification for over-delivery and under-delivery; and the treatment of Non-intervention Risk Changes.
Network Asset Risk Workbook (NARW)	This document sets out the Network Risk Outputs – Baseline Network Risk Outputs (BNRO) as well as the associated baseline Unit Cost of Risk (UCR) for each Risk Sub-category for each TO to deliver during RIIO-2 based on the schemes/projects approved by Ofgem as part of RIIO-2 Final Determinations.

3.1. ASSET AND NETWORK RISK

Modelling the deterioration of the condition of components or the entire asset is used to identify failure modes that may cause a material failure of the asset. These failure modes can lead to a reduction of the reliability of the Transmission System which the TOs strive to minimise by quantifying the risks of these failure modes as a Monetised Risk value.

As shown in **Error! Reference source not found.**, the Monetised Risk is the sum of the expected values of each consequence associated with that asset and a function of the probability of each failure mode occurring.

This methodology is based on conditional risk due to factors within the asset such as corrosion, defects, etc. It does not consider non-condition Risks, weather related events for example.

For reasons of economic efficiency, TOs do not consider every possible failure mode and consequence, only those which are materially significant and based on condition risk. TOs' assessment of material significance is based upon their experience and consequential information set. TOs have different information sets and therefore have made different decisions, within the same overall methodology, about what should be measured or calculated from first principles and what must be estimated. More information can be found in the respective company's NARA.

For any given asset, a measure of the risk associated with it is the Asset Risk (AR), given by:

$$AR = \sum_{j=1}^{n} PoF_j \times CoF_j$$

Equation 1

where:

PoF_j = Probability of Failure *j* occurring during a given time period

CoF_j = the monetised Consequence of Failure *j*

n = the number of Failures associated with Asset

For the network, a measure of the risk associated with it is the Network Risk (NR), given by:

$$NR = \sum_{k=1}^{n} AR_k$$

Equation 2

where:

AR_k = the Asset Risk associated with Asset, k.

n = the number of Assets on the Network

Consequence is the monetised value for each of the underlying Financial, Safety, System and Environmental components of a particular consequence. A Consequence can be caused by one or more Failure Modes.

The descriptions of both Failure mode and Consequence are elaborated further in the NARAs.

All TOs use broadly the same methodologies for calculation of the Consequence of Failure (CoF). There are some differences for the specific nature of each network. Full details of each TO's implementation are provided in their respective NARA and confidential Licensee Specific Appendix (LSA).

3.2. LONG-TERM MONETISED RISK BENEFIT

The Long-term Monetised Risk Benefit (LTRB) is the relative measure of Monetised Risk reduction achieved through asset interventions and measured over a defined period of time as illustrated in figure 3 below. The calculation of LTRB has a few assumptions built into it that are common across all TOs namely:

1. The benefit is considered for a defined set of years into the future, the value used for the T2 submission was relative to lifetime of the intervention.

2. For this calculation, the intervention is assumed to be carried out at the end of T2 Price Control (2026) as a common reference for the T2 Price Control.
3. A discount rate is applied to future values of the Monetised Risk Benefit to derive a net present value (NPV) at the end of the T2 Price Control.

Although the core methodologies may be different between TOs they all share the idea of "survival risk" or as commonly referred to "adjusted risk". This concept supports the scenario that if an intervention is delayed now, the asset will eventually fail (on a long enough time frame, the Probability of survival = 0). The total LTRB is the sum of the difference between an intervention and a "No Intervention scenario."

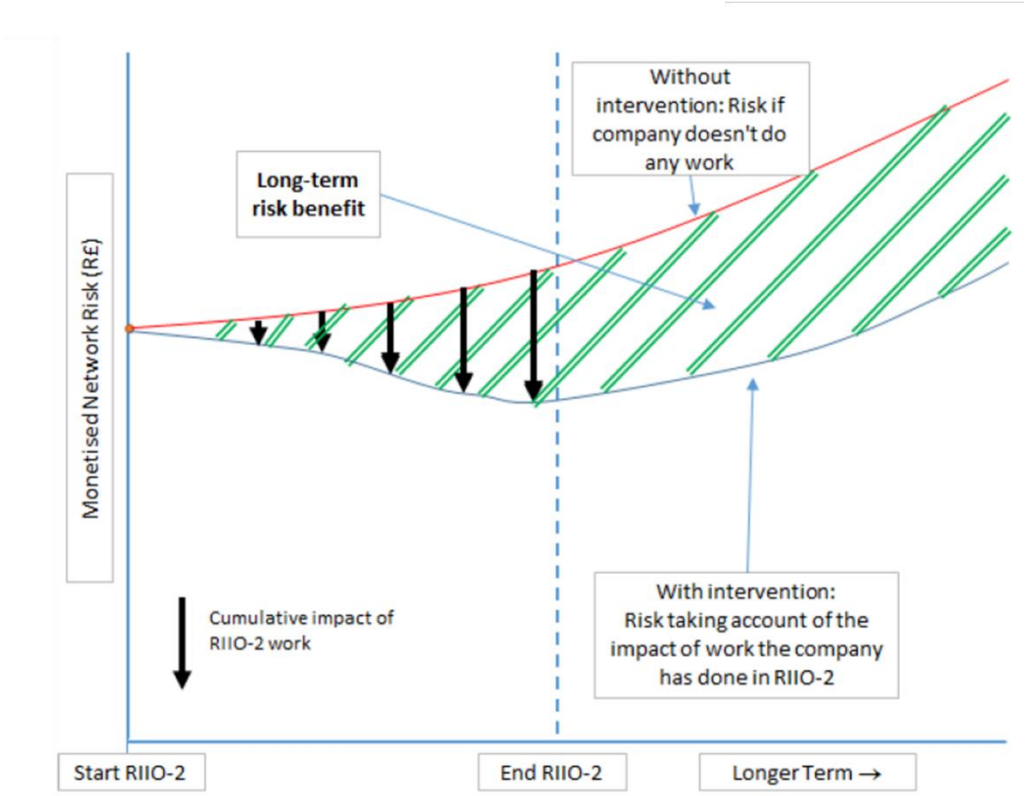

Figure 3 Methodoloy for Calculation of Long Term Risk Benefit

The TOs have developed Network Asset Risk Annexes (NARAs) as well as Licensee Specific Appendices (LSAs) which describe in more detail the methodology for the calculation of the Long-term Monetised Risk Benefit of asset interventions within their respective businesses.

The LTRB is a useful measure of consumer benefit in a cost benefit analysis and can be used to compare the efficiency of different asset interventions options over a defined assessment period.

3.3. DECISION MAKING

Interventions are undertaken to ensure the longevity and performance of the electricity transmission networks. Without effective management of these activities, and understanding the related interactions between them, the TOs would, in time, experience degradation of network assets which would have a significant detrimental impact on the capability of the network.

Figure 4 shows how the process by which elements of NARM feed into a non-load related investment plan. Asset Information (asset data, observed and measured condition) is turned into a Probability of Failure (PoF) value which represents the asset condition. The PoFs are combined with the consequences of failure to derive

Monetised Risk value for each NARM asset at the present day. The NARM also allows the Monetised Risk value to be predicted in the future assuming an expected deterioration. The TOs can define their work plans using the assets health and risk indicators combined with wider considerations such as interaction with other programmes of work, outage plan, and business strategy. The NARM methodology will enable the derivation of the Network Risk Outputs associated with those.

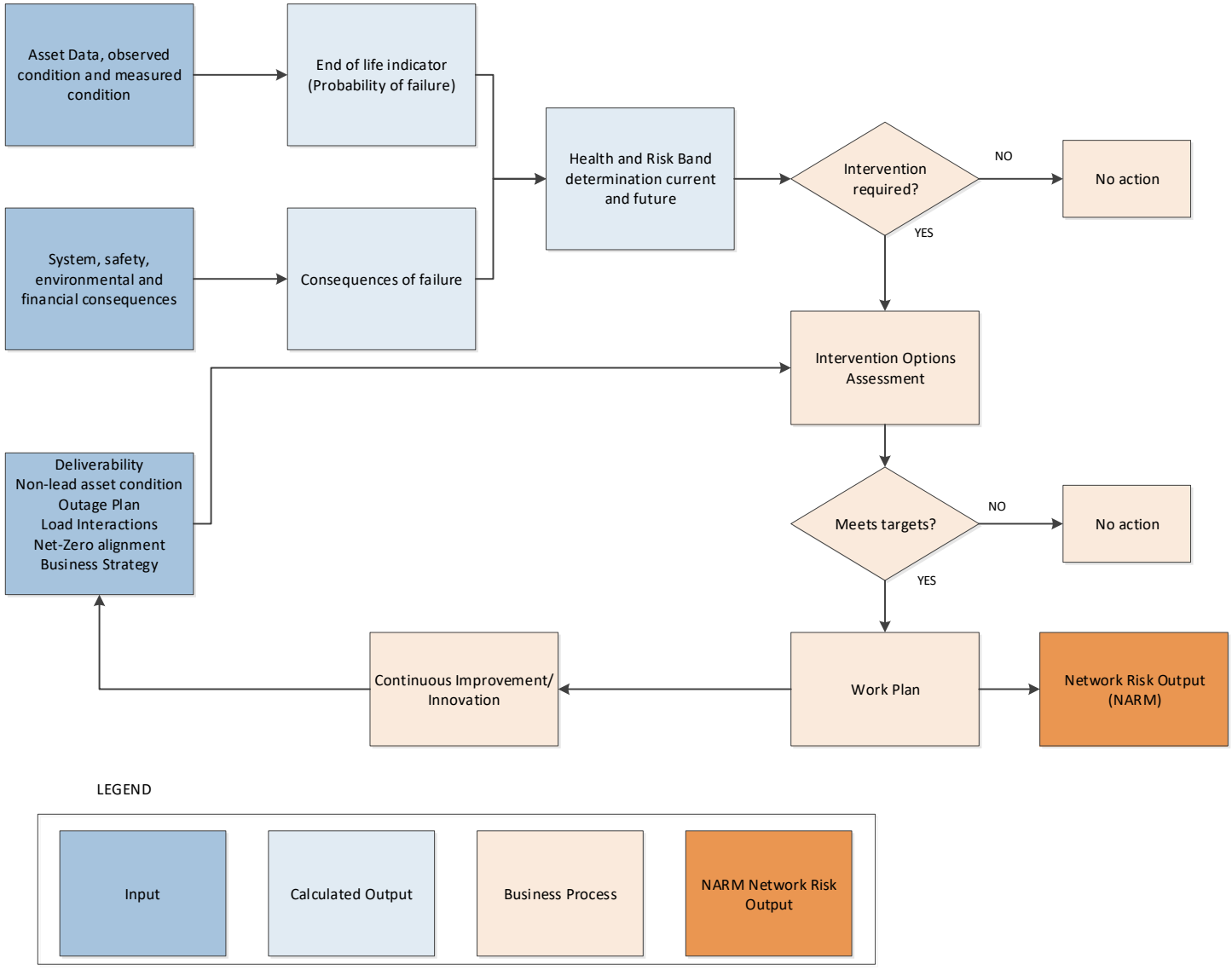

Figure 4 Investment Decision Process Overview

3.4. COMPARATIVE ANALYSIS

The NARM Methodology shall be designed to enable the comparative analysis of Monetised Risk between:

- different NARM Asset Categories and between individual NARM Assets on the licensee's Transmission System;
- geographic areas of, and NARM Assets within, the licensee's Transmission System;
- the licensee's Transmission System and other networks within the same sector;
- the licensee's Transmission System and networks outside Great Britain with similar assets should similar approaches as set out in the NARM Methodology be applied to estimate Monetised Risk for those networks; and
- the Transmission Systems and Distribution Systems within Great Britain.

The NARM Methodology has been designed to enable comparability of different networks. The constituent elements of Consequence recognise site-specific differences, but are are otherwise the same.

The NARM Methodology has been developed in co-operation between onshore Transmission Licensees. Monetised Risk values for different NARM Asset Categories and individual NARM Assets are produced in the same format to allow comparative analysis across Transmission Licensees.

Due to the inherent differences between the Licensees' and their networks, differences remain in the detailed calculations for Asset and Network Risk. However, by continually sharing information across the Transmission Licensees with the aim of calibrating the Monetised Risk output, this will facilitate comparison across the Transmission Licensees.

The three Transmission Licensees have researched methods used to report similar measures within Great Britain and other countries. Examples of these systems are Condition Based Risk Management, Health Indices and Criticality Indices. Whilst adopting a Methodology used by other Transmission Companies would indicate the outputs will have the same definitions, the evidence collected shows these methodologies are highly configurable so the companies using them can align the measures to their NARM asset base and statutory, regulatory and business requirements.

Throughout the development of the NARM methodology, the Transmission Licensees reviewed the RIIO-ED1 Network Output Measures to determine where consistency in reporting across Transmission and Distribution is viable. Similarly, both Electricity DNOs and Gas Distribution Networks (GDNs) have also been key stakeholders throughout the development of the NARM Methodology.

3.5. DATA ASSURANCE

Standard Condition B23 requires each TO to comply with the provisions of the Data Assurance Guidance undertaking processes and activities for the purpose of reducing the risk, and subsequent impact and consequences, of any inaccurate or incomplete reporting, or any misreporting, of information to the Authority.

4. REPORTING TO THE AUTHORITY

The NARM enables the communication to Ofgem and other interested parties of relevant information about the companies Transmission Networks in an accessible and transparent manner. This information will be specified in the RIGs as required in Standard Condition B15: Regulatory Instructions and Guidance (RIGs).

The TOs will continue to assess the performance of their assets and, through monitoring Network Asset Risk Metric, will use them to develop strategies to manage asset unreliability.

The RIIO-T2 framework includes opportunities for re-opening certain elements of the framework. These may be used to facilitate the continued evolution of the methodology employed.

5. GLOSSARY

The defined terms used in the Transmission license have the same meaning as described here. For avoidance of doubt, in the event of any contradiction or conflict the license definition shall apply.

Network Output Measures (NOMs)	RIIO-1 equivalent of Network Asset Risk Metric (NARM).
Network Asset Risk Metric (NARM)	The Monetised Risk associated with a NARM Asset or the Monetised Risk Benefit associated with a NARM Asset intervention.
Network Risk Output	The risk benefit delivered or expected to be delivered by an asset intervention, and is calculated as the difference between Monetised Risk Values associated with the "without intervention scenario" and the "with intervention scenario", measured over a period equal to the assumed intervention lifetime from the end of the Price Control Period, which can one year or over a longer period of time; which can vary for asset category or specific assets and intervention types.
Monetised Risk	An estimation of Asset Risk as derived in accordance with the NARM Methodology as well as the similarly derived estimated risks associated with aggregated asset groupings, and disaggregated sub-components, as relevant.
NARM Asset	An asset specified within the NARM Methodology where its associated Monetised Risk can be estimated by applying the NARM Methodology.
NARM Asset Category	A group of assets with similar function and design as specified in the NARM Methodology.
Current Monetised Risk	The Monetised Risk of an existing asset or group of assets, based on the most recently gathered or derived Asset Data.
Forecast Monetised Risk	The Monetised Risk of an asset or group of assets expected to be in operation on a network in a given future scenario, based on the forecast view of Asset Data for the given scenario.
Asset Data	The data on the condition, location, operating environment, function, duty, and other relevant characteristics of NARM Assets, which is necessary for the calculation of Monetised Risk.
Single-year Monetised Risk	The Monetised Risk measured over a given one-year time period.
Long-term Monetised Risk	The Monetised Risk measured over a defined period of time greater than one year from a given start date and equal to the cumulative Single-Year Monetised Risk values over the defined period.
Baseline Network Risk Outputs	The cumulative total, for a given risk sub-category, of Network Risk Outputs for all items allocated to 'NARM Funding Category A1' in the licensee's Network Asset Risk Workbook.