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Electricity Policy Document 215

Issue 6 April 2023

Asset Management Policy

Amendment Summary

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Contents

1 Introduction

This Electricity Policy Document (EPD) applies to the network assets of Electricity North West. It sets down the policy for managing the assets comprising the electricity distribution network. It describes how other Electricity North West policies, Codes of Practice (CP) and procedures are to be considered and integrated in order to optimise the whole life management of the constituent parts of the network, to produce a holistic approach to meeting business needs.

It is intended that the policy shall be, out of necessity, dynamic. It is to be used to construct the dynamic strategic plans required by the company in order to meet changing business needs, on a year-on-year basis.

Throughout, the following fundamental principles should be borne in mind. The network exists to transport electrical energy from the National Grid and locally connected generators to consumers. It shall be designed and constructed using whole life cost principles to ensure that electricity distribution is achieved with the appropriate level of safety, quality, security and availability. These levels are expected to change over time in accordance with our customers' increasing expectations for improved levels of service. All the associated policies shall be applied and integrated as appropriate to achieve this.

2 Scope

This EPD applies the whole life approach to the management of Electricity North West's network assets. This whole life period is divided into the following stages:

(a) Network design

(b) Installation

(c) In service operation

(d) Maintenance

(e) Refurbishment

(f) Removal

(g) Replacement

3 Principles of Asset Management

The principles set out below are to be applied within the framework of the legal, regulatory and statutory obligations with which Electricity North West is required to comply and in accordance with the principles set out in ISO55001:2014, Asset Management.

Bearing in mind that the network exists to transport electricity, the principles of its management are:

- The network shall be efficiently operated to ensure that the risk to the network operators and to the general public is properly managed.
- The service to customers shall be modified or improved in order to meet customers' needs and expectations which, as a minimum, will meet the requirements of the regulatory regime.
- Within the constraint of the above two requirements, the network shall be designed, constructed, operated, maintained and dismantled in a manner consistent with minimising its whole life cost.
- Decisions will be informed by the best available asset data held within the corporate systems, and risk assessments undertaken in line with the company's risk assessment procedures.
- The application of the principles above will result in an asset management strategy for each major asset type and the resulting intervention plans will be incorporated in the Company Business Plan (CBP) which is reviewed on an annual basis.

The application of these principles shall be undertaken at all stages of the network life cycle but may carry different weightings to suit the point on the life cycle of individual or groups of assets, the customer needs and the business needs. Electricity North West is committed to applying a process of continual improvement to these asset management principles.

4 Quantification of the Principles

4.1 Risk to Operators and the General Public

Risk shall be assessed using Electricity North West's standard risk assessment procedures. Risk identification shall cover all areas which generate potential risk because activities are undertaken, and products employed. The assessments shall consider those undertaking the activities and third parties and have due regard for the environmental impact of the products and processes employed. Risk assessments describing acceptable levels of risk against which in-service changes can be benchmarked shall be produced as follows:

- Assessments covering changes to the network design policy and asset replacement policy shall be undertaken by the Planning Policy Manager.
- Assessments covering extensions to the network using approved network designs shall be undertaken by network designers. The Head of Market Regulation and Compliance shall be responsible for assessing the risks associated with the adoption of networks, designed and constructed by Electricity North West and Independent Connection Providers (ICP).
- Assessments covering construction work shall be undertaken by the construction project managers undertaking work on the Electricity North West network.

- Assessments covering network operations policy shall be produced by the Systems Operations Section.
- Assessments covering the introduction of new equipment and processes shall be undertaken, as appropriate, by the Plant Policy Manager, the Policy Manager (Cables and Overhead Lines) and the Civil Policy Manager.
- Assessments covering the policy on the inspection and maintenance of the existing network equipment and the re-use of refurbished equipment shall be undertaken by the appropriate policy manager.

Assessments of required medium-term asset serviceability, including asset fault rates, health indices, risk indices and load indices shall be undertaken by the Asset Investment Managers and Strategic Planning Manager as appropriate. Where such assessments are undertaken they shall be in accordance with the current regulatory requirements as specified in the relevant Regulatory Instructions and Guidance (RIGs).

4.2 Customer Service

Customer service shall be defined using the following parameters:

- The minimum standard of security to be achieved shall be the standard set by Ofgem, as stipulated in Electricity North West's Distribution Licence (not less than ENA ER P2/7).
- The internal Company targets for Customer Interruptions (CIs), Customer Minutes Lost (CMLs) and other quality of supply outputs, which may be the same as the Ofgem targets or different targets set by the Company to fulfil business needs.
- The Company targets for network risk, as agreed with Ofgem
- The Company targets for customer service as measured through the Broad Measure of Customer Satisfaction.

Measurement of achievement shall be by comparison of actual achievement against Company targets.

4.3 Cost

The aim is to minimise the whole life cost of the network including, where appropriate, consideration of the income that assets may generate over their lifetime, for example, through their ability to generate incentive income whilst ensuring that network outputs, including risk targets, are achieved. The scope of this policy is to look at the remaining life period of all of the existing assets and the whole life period of all new assets.

Remaining life cost studies shall use the best estimate of actual remaining life of individual assets. The analysis shall include the prospective replacement cost for individual types of assets as well as for families/groups and for circuits and networks. The analysis should also include, where applicable, future incentive revenues and costs external to the company such as carbon costs. Whole life cost studies shall use the design lives of assets which are defined in EPD204. However, the actual life of any individual item of equipment shall be determined from a condition-based assessment.

4.4 Data

Data to support the asset management policy will be captured and held as appropriate in corporate systems in accordance with the principles in EPD050.

5 Investment Patterns

Future plans and programmes of work will be developed through the application of the asset management policy, and its associated targets, to the current asset base to ensure consistency between asset management objectives and the plans put in place to achieve those objectives.

Where appropriate, replacement and refurbishment activity shall be determined through the application of risk based techniques as described in CP151, to assess the current and expected future risk of the assets and to design appropriate interventions consistent with achieving the overall asset management objectives. For assets where the use of risk based techniques is not appropriate, techniques such as performance modelling and trend analysis will be used.

Where applicable, additional programmes of work will be identified in response to specific legislative and other external drivers. In all cases, evaluation of different options will be undertaken using appropriate cost benefit tools. Such plans that result will be formally issued in the form of the CBP and set in the context of longer-term projections.

Design of the capital investment programme assesses the whole life cost of the interventions using Cost Benefit Analysis (CBA) techniques. The investment in ongoing network maintenance has generally been made on a more regularised basis however, the balance between capital investment and maintenance may be altered year-on-year to meet the needs of the business.

This shall be achieved by making best use of the appropriate resources available over any given time period, for example, by deferring operating expenditure in order to concentrate on capital investment, which may be required to remove a large number of high risk, low reliability assets from the network.

Such variations may affect the application of a whole life management policy. Therefore, the effects of such changes should be evaluated by those involved in reviewing budgetary re-alignment when developing the asset management plan.

6 Formulation of Policies Covering Each of the Periods of Lifetime

In order that policies may be fully developed such that they provide clear direction on how to meet the business needs, make best use of the available technology and are practical and usable by the practitioners of the policy, their formulation shall be undertaken under the control and direction of the Policy Approval Panel (PAP). The process for the approval, including the review by all interested sections of the business, of all documents setting out the policies, practices and specifications to be used by Electricity North West shall be as described in EPD001.

7 Asset Management Systems

Effective asset management requires the use of systems in which the assets can be registered and within which the condition information gathered during commissioning, inspections and diagnostic tests can be lodged. These systems shall be able to function as tools which will assist in the processing of the condition information held and, wherever possible, in the determination of the inspection and maintenance regimes. The systems shall be able to produce condition reports based on the information held and contain condition triggers which shall prompt the review of the equipment group for consideration of refurbishment, replacement or removal. The systems shall be capable of producing inspection, maintenance and refurbishment schedules.

The systems shall be further developed to allow assessment of performance of the network thus allowing reviews of the effectiveness of investment decisions. Such IT improvements as are identified shall be fed into the ongoing IT strategy, subject to the appropriate cost benefit analysis.

8 Asset Risk Modelling

As noted in Section 5 in managing our electrical network assets and associated buildings and structures we will endeavour to do so by the application of risk-based techniques.

Electrical network assets will be selected for replacement or refurbishment based on the level of risk they present. This may be due to the asset health or other factors such as health and safety or environmental issues. Where an appropriate model exists within the Common Network Asset Indices Methodology (CNAIM) then this model shall be used to assess asset risk. Where a CNAIM model does not exist, an alternative risk model shall be used. Alternative models shall assess risk based on a combination of asset age, condition and situation factors, and the consequence of asset failure.

Where it is not feasible to employ a risk model, then non-risk techniques may be used as approved by the Head of Asset Management.

Asset intervention may also be driven by policy decisions which do not directly align with the risk assessment framework such as domain-specific asset replacement policies[1], obsolescence management or asset-specific safety risks. Where possible these issues will be managed through the modelling suite and the use of reliability factors. Where this is not possible then the manner of management shall be agreed with the Asset Manager.

All asset risk models are owned and administered by the Head of Asset Management and are subject to change control as detailed in EPD 050.

[1] For example, CP420 Part 1, defines asset replacement policy for woodpoles

9 Documents Referenced

DOCUMENTS REFERENCED	
Electricity North West Distribution Licence	
ISO 55001:2014	International standard for asset management
ENA ER P2/7	Security of Supply
EPD001	Documentation Standards and Technical Library Service
EPD050 **EPD204**	Principles of Data Management Distribution Network Equipment Asset Lives
CP151 **CP420 Part 1**	Application of Condition-Based Risk Management Woodpoles

10 Keywords

Asset; CBRM; CNAIM; Construction; Health Indices; Load Indices; Maintenance; Operation; Planning; Refurbishment; Risk Indices