ofgem Promoting choice and value for all gas and electricity customers

TPCR5 reliability and safety outputs working group

30 September 2010

Overview

- Safety (10:05 – 11:00)
- Reliability – Electricity Secondary Deliverables(11:00-12:30)
- Lunch (12:30-13:00)
- Reliability – Electricity Primary Outputs (13:00-13:45)
- Approach to aged based modelling (13:45-14:00)
- Constraints (14:00-14:45)

TO safety strawman (Electricity)

Key Driver	Measurement	Proposal
Public Safety	ESQCR Regulation 31 incidents.	Already reported to DECC / HSE.
Asset Condition	Asset health indices.	Information already provided under other TO output measures (i.e. Reliability output secondary indicators).
TO Staff Safety during Network Activities	TO's Key Performance Indicator(s) for safety	Use company specific measures which sufficiently reflect safety performance.

Public safety

ESQCR Regulation 31

- Event attributable to carrying energy up to supply terminals which has caused; Deaths or injuries (excl. employee/contractors), Fire, Explosion/Implosion.
- Event attributable to presence of energy on consumer side resulting in death of any person.
- Event causing OHL to be lower than regulation height.
- Damage to cables.
- Any other event likely to cause death or injury.

Questions

- How do we access the ESQCR incidents in a usable form?
- Reporting at Group level – Separating out Generators, TOs, SO, DNOs, Gas?

Staff & Contractor safety

RIDDOR

- Reportable deaths & major injuries.
- Reportable over-3-day injuries.
- Reportable Dangerous Occurrences.

SAFELEC (per 100,000 workers)

- Working days lost due to work-related injury.
- Incidence rate of fatal and major injury accidents.
- Rate of major injuries caused by falls from heights.
- Rate of reportable injuries caused by falls from heights.
- Rate of major injuries caused by slips, trips and falls.
- Incidence of work-related musculo-skeletal disorders.

Questions

- Will the SAFELEC metrics continue to be reported under 'Powering Improvement'?
- Separate reporting of employees and contractors?
- Reporting at Group level – Separating out Generators, TOs, SO, DNOs, Gas?

Asset Condition

Asset Health Indices

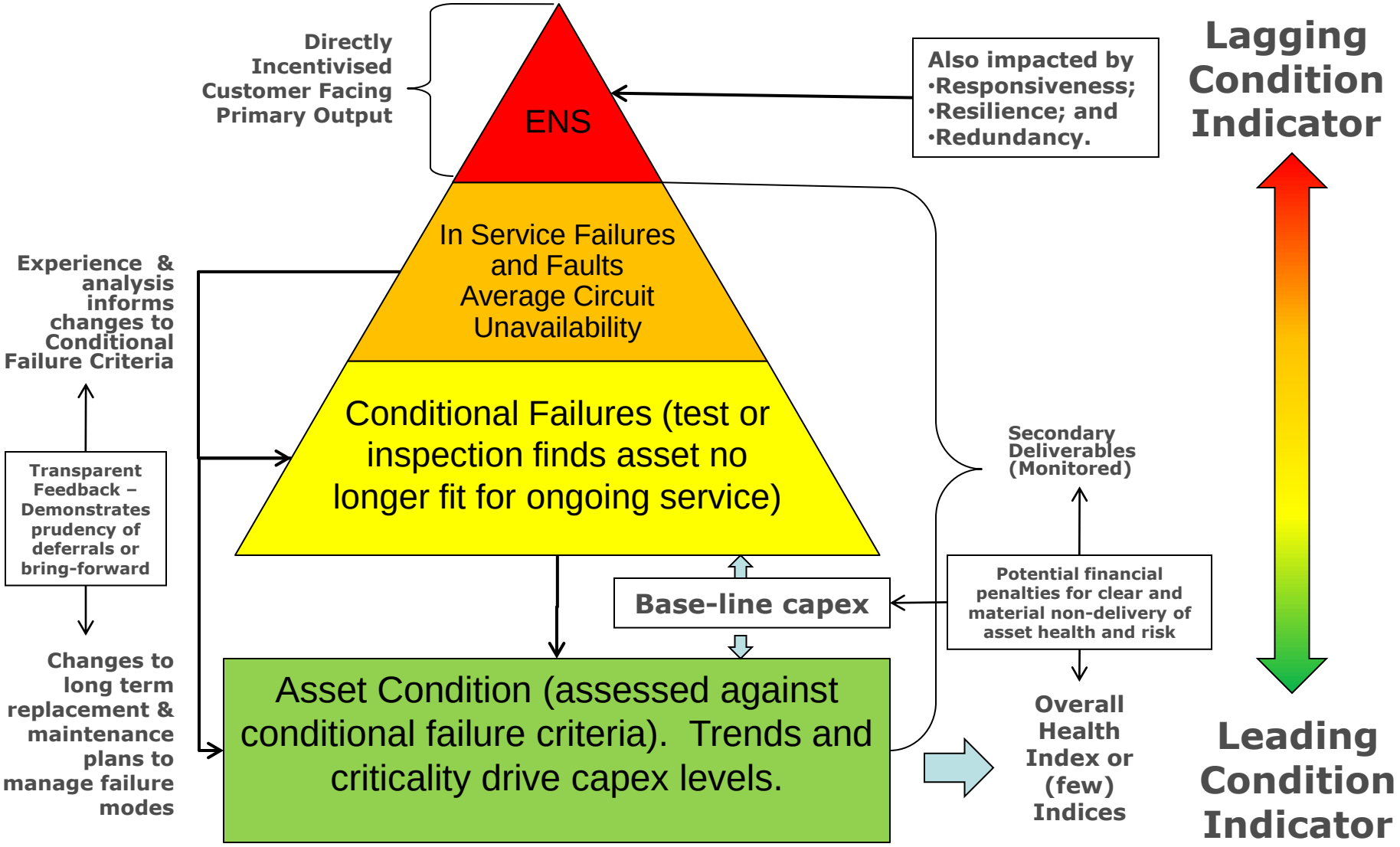
- Secondary measure of risk from Assets
- Asset Management Framework & Replacement decisions consider risks to persons

In Service Failures

- Possibly a more objective measure of risk from a safety perspective than Energy Not Supplied?

Reliability Electricity Secondary Deliverables

- At 10 September meeting, the working group discussed the use of TPCR4 Network Output Measures (NOMs) as secondary deliverables.
- Key issues for discussion:
  - How can criticality measures be captured in an overall measure of network risk?
  - To what extent have criticality measures been aligned and how are used to make risk trade-offs between plant types?
  - How do the TOs make risk trade-offs when preparing forecasts as well as during the price control?
  - What is the best way for the TOs to communicate any changes from their original work plan to Ofgem and customers?


Directly Incentivised Customer Facing Primary Output
ENS
Also impacted by
•Responsiveness;
•Resilience; and
•Redundancy.
Lagging Condition Indicator
In Service Failures and Faults Average Circuit Unavailability
Experience & analysis informs changes to Conditional Failure Criteria
Conditional Failures (test or inspection finds asset no longer fit for ongoing service)
Secondary Deliverables (Monitored)
Transparent Feedback – Demonstrates prudency of deferrals or bring-forward
Base-line capex
Potential financial penalties for clear and material non-delivery of asset health and risk
Changes to long term replacement & maintenance plans to manage failure modes
Asset Condition (assessed against conditional failure criteria). Trends and criticality drive capex levels.
Overall Health Index or (few) Indices
Leading Condition Indicator

Reliability Electricity Primary Outputs

- TOs provided a response to Ofgem's questions on the methodology. Issues for discussion:
  - 3 or less directly connected parties: 10 lower standard connections on NGET, SPTL and SHETL to advise.
  - 3rd party damage and emergency de-energisation to comply with ESQCR: number of incidents (SPTL and SHETL), criteria for preventative and mitigating actions, use of materiality thresholds
  - Planned and unplanned outages: taking into account planned outages when setting baseline levels of performance
  - Events triggered on an adjacent system: how to share incentives.

Reliability Electricity Primary Outputs

- We also asked the TOs to provide comment on an ENS incentive framework including value of lost load (VOLL), revenue neutral dead-bands and the use of caps and collars.
- One further area we'd like the TOs to provide comment on is the cost implications of minor improvements and reductions around baseline levels.

Ofgem's approach to Age Based Modelling

- Ofgem will be using age based modelling as a high level tool to help inform our review of asset replacement
- Will be using standard survivor model (implemented in excel)
  - Propose to work with companies to develop simple and consistent Excel model
- Consistent with our approach in TPCR4 and DPCR5 we will "tune" asset lives based on the actual volume of assets replaced
- To do this we need a consistent data set (i.e. using the same asset categories)

  - Age profiles for TP3 ,TP4 and now
  - Volume of additions and disposals for same period (split LRE and NLRE)
- Propose a replacement modelling workshop to
  - Develop model
  - Develop the required input data – like to issue data request ASAP

Constraints

A way forward

Background

- This working group has made good progress with:
  - clearly articulating primary outputs and secondary deliverables for reliability and safety;
  - Setting a reliability incentive framework around primary outputs; and
  - Developing a methodology and framework for asset health.

However:

- The working group has had difficulty progressing the development of a long term congestion primary output and the related incentive framework for investment

Challenges to using constraints

- Key challenges included:
  - Ability to forecast constraints over the price control period;
  - Uncertainty about future demand and generation background;
  - Impact of connect and manage and SQSS review;
  - SO interaction (relative incentive strength, duration and party impacted);
  - Interaction with TIRG and Enhanced Transmission Investment
    - Direct Funding vs. constraint 'incentive mechanism'

Way forward – split into three key areas

- Wider Works (core capacity)
- Enabling Works (local connections)
- SO/TO Interactions (network management)

Wider Works

- Previous price control used:
  - Ex-ante allowances plus
  - Volume drivers linked to:
    - changes in net generation/demand in each zone for Grid;
    - threshold deep reinforcement triggers for Scots.
- Anticipatory Investment previously dealt with through:
  - TIRG ex-ante allowance linked to secondary deliverables; and
  - Enhance Transmission Investment Incentives linked to secondary deliverables
- The option of SQSS self derogation means changes to the volume drivers are required;
- Ofgem welcomes your views on potential alternative volume drivers going forward and the extent of their application.

Enabling Works

- Previously dealt with in Price Controls through:
  - TPCR4 - baseline ex-ante allowance flexed up or down through a volumes driver based on generation connected
- Current Issues
  - Definition of 'Enabling Works' vs. 'Connection Works'
  - Timely delivery incentives for enabling works
  - Strong interaction with Transmit project
- Further issues for TPCR5:
  - Assess need for and, if necessary, design uncertainty mechanisms relating to enabling works
- Ofgem notes the views previously submitted to the Transmission Access Review*
- Ofgem welcomes your further views on the need for uncertainty mechanisms going forward, their possible nature and the extent of their application.

* http://www.ofgem.gov.uk/Networks/Trans/ElecTransPolicy/TAR/Pages/Traccrw.aspx

SO/TO Interaction

- Framework to incentivise the efficient management of the 'as is' network:
  - Cancellation costs to TO's
  - Outage costs to SO's
  - Maximising capacity of existing assets – e.g. dynamic line ratings
- Investigate equalisation of SO management and TO investment incentives;
- For NG, more transparency between trade-off between SO and TO
- Implementation may be through both the SO and TO price controls;
- Ofgem welcomes your further views on the possible nature and the extent of a revised approach to SO/TO interaction

Agreed actions and next meeting date

- Agreed actions
- Next meeting date 1 November 2010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