

The background features a large, semi-transparent white arrow pointing from the left towards the center. The background itself is a composite image with a blue-toned left side showing a perspective view of a modern building or industrial structure, and a right side showing a close-up of a gas burner with a blue flame. The overall aesthetic is clean and professional.

Gas Transmission Reliability and Safety workshop

11 October 2010

Agenda

- Reliability - primary outputs
- Reliability - secondary deliverables
- Safety – primary outputs and secondary deliverables

Primary outputs (restrictions to operating pressure or entry/exit flows)

- At the 25 August 2010 working group, it was suggested that 'entry & exit point buyback' could be used as a primary output. It was suggested that the primary output needs to be more customer-focused. A primary output of 'gas not supplied' or 'curtailment of capacity (both exit and entry)' was suggested.
- NGG was tasked with providing a proposal on primary outputs which are customer-focused and measureable, potentially through the use of 'gas not supplied' or curtailment of capacity (both exit and entry).
- NGG provided a proposal on these issues.
- Issue: is current market mechanism sufficient or are further incentives required?

Network Flexibility Requirements

- Changing requirement placed on the NTS to meet different flow patterns to those originally designed for means that maintenance of reliability of the individual assets will not necessarily equate to good performance against the primary output measure.
- Development of a secondary deliverable in this area is not simple.
- Measurement of the changing requirements of the NTS is possible but is still under development.

Network risk (NOMs secondary deliverables)

- NGG currently report under NOMs. Assets are divided into primary and secondary assets. The five primary assets (Pipelines, Entry Point, Exit Point, Multi Junction, Compressors) are items that are not allowed to fail. Secondary assets are the assets which protect the primary asset (or to put it another way, monitoring of secondary assets prevents failure of primary assets)
- NGG reports on the asset health of the 47 secondary asset types grouped into each of the five primary asset types.
- We asked NGG to consider how to develop a profile of NOMs to present a picture of health of the NTS assets.

Network risk (NOMS secondary deliverables)

- NGG developed proposal following our last working group meeting.
- NGG proposal is based on the following:
 - Amalgamates NOM ratings of network risk from 5 primary asset types into one table.
 - Each secondary asset is given a green, amber or red rating based on the Network Risk measure.
 - Recommends against distilling this detail into a single metric as would lose much of the meaning.
- We consider that this framework requires further development.

Network risk (continued)

- Our preference is for an overall reliability assessment/risk metric to be pursued in the long-term. However, we acknowledge this may not be achievable in TPCR5. A pragmatic approach is for TOs to have a framework for describing how risk management processes are incorporated with NOMs when making asset management decisions.
- Framework should:
 - Build on DPCR5
 - Be established up front
 - Incorporate a measure of criticality
 - Include how the TOs will articulate the case for spending a marginal pound across asset categories. In the case of GT this will need to involve how this is done for both primary and secondary assets.

Network risk – Issues

- **Asset condition:**
 - Should be described through an asset health index (DPCR5). We need to understand how TO has made this assessment of condition.
- **Asset criticality:**
 - Need a measure that ranks the criticality of assets
 - All secondary assets within a class (e.g. cladding, metering) are currently assigned the same level of consequence.
 - Does the criticality ranking differ across primary assets.
 - How does NGG articulate prioritising expenditure across assets groups?

Risk/Criticality Matrix

Health Index	Description
HI1	New or as new
HI2	Good or serviceable condition
HI3	Deterioration requires assessment and monitoring
HI4	Material deterioration, intervention requires consideration
HI5	End of serviceable life, intervention required

Criticality Index	Description
CI1	Low
CI2	Medium
CI3	High
CI4	Very high

Risk Index	Description
RI1	Very low risk
RI2	Low risk
RI3	Medium risk
RI4	High risk
RI5	Very high risk

DPCR5

Develop matrix for 50 secondary asset types (take account of materiality where possible)

	CI4	CI3	CI2	CI1
HI5	RI5	RI4	RI3	RI3
HI4	RI4	RI3	RI2	RI2
HI3	RI2	RI2	RI2	RI1
HI2	RI1	RI1	RI1	RI1
HI1	RI1	RI1	RI1	RI1

Electricity Transmission NOMs (TPCR5)

Year 0/Year 8 with Investment/Year 8 no Investment

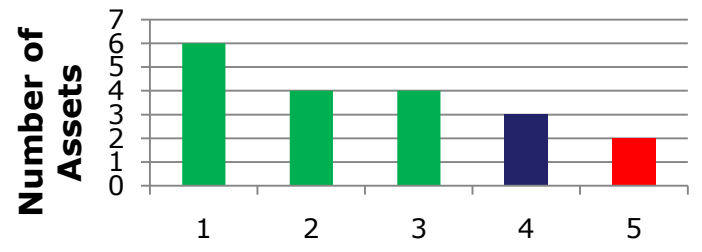
	Asset Health (HI)					Criticality (HI)				Risk (RI)				
	HI1	HI2	HI3	HI4	HI5	CI1	CI2	CI3	CI4	RI1	RI2	RI3	RI4	RI5
Remote Isolation Valve 1	1					1				1				
Remote Isolation Valve 2	1						1			1				
Remote Isolation Valve 3	1							1		1				
Remote Isolation Valve 4	1								1	1				
Remote Isolation Valve 5	1					1				1				
Remote Isolation Valve 6	1						1			1				
Remote Isolation Valve 7		1						1		1				
Remote Isolation Valve 8		1							1	1				
Remote Isolation Valve 9		1				1				1				
Remote Isolation Valve 10		1					1			1				
Remote Isolation Valve 11			1					1			1			
Remote Isolation Valve 12			1						1		1			
Remote Isolation Valve 13			1			1				1				
Remote Isolation Valve 14			1				1				1			
Remote Isolation Valve 15				1				1				1		
Remote Isolation Valve 16				1					1				1	
Remote Isolation Valve 17				1		1					1			
Remote Isolation Valve 18							1					1		
Remote Isolation Valve 19					1			1					1	
Remote Isolation Valve 20					1				1					1
Total	6	4	4	3	2	5	5	5	5	11	4	2	2	1



Promoting choice and value
for all gas and electricity customers

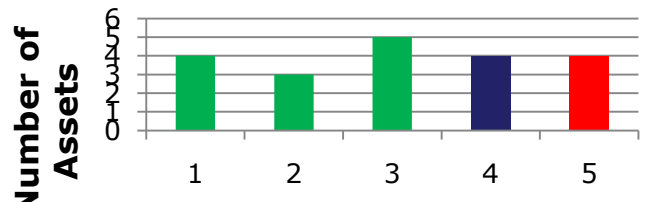
DPCR5

Year 0 Health Index



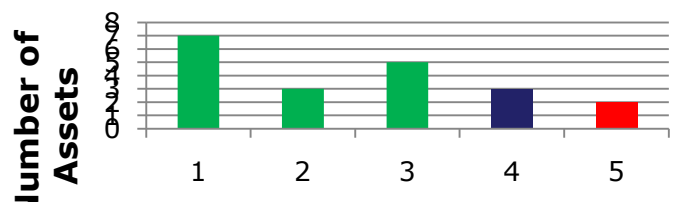
Heath Index

Year 8 Health Index - No Investment



Heath Index

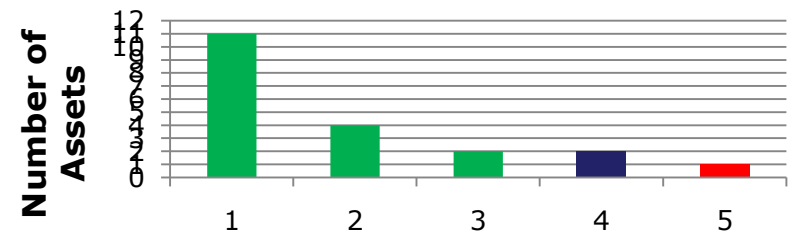
Year 8 Health Index - With Investment



Heath Index

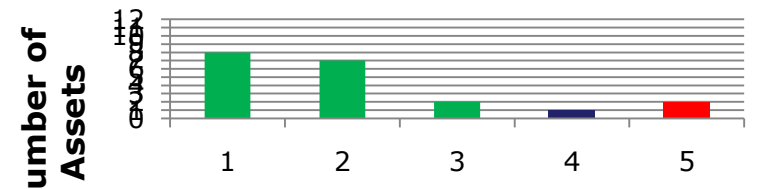
TPCR5 objective

Year 0 Risk Index



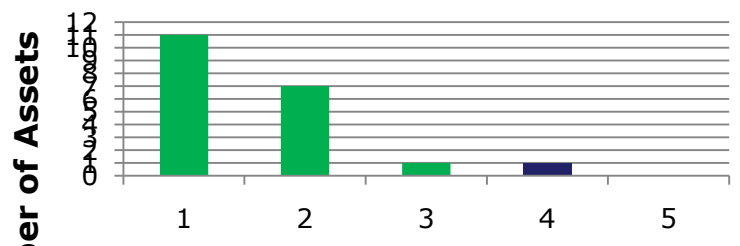
Risk Index

Year 8 Risk Index - No Investment



Risk Index

Year 8 Risk Index - With Investment



Risk Index

Current

Forecast degradation

Forecast price control package

Safety – Frontier Recommendations

- Frontier Economics recommended 3 outputs for gas transmission safety:
 - Compliance with legal safety requirements (incl. Gas Safety Case, Control of Major Accident Hazard (COMAH) and pipeline safety regulations.)
 - Performance against HSEs Major Hazards Safety Performance Indicators (SPIs)
 - Emergency testing (HSE oversees industry emergency exercises aimed at testing responses to supply emergencies.)
- The last two outputs are covered within the gas safety case therefore not required as stand-alone outputs.
- Secondary deliverables not required except in the case for NOMs.

Ofgem Proposal

- Primary output
 - Compliance with safety requirements including, but not limited to, Gas Safety Case & HSE regulations.
- Secondary outputs
 - NOMs
 - Network risk

The background of the slide is a composite image. On the left, there are rows of solar panels under a bright sun. On the right, a hand is shown holding a white document. In the bottom left corner, a blue gas burner is visible. The overall theme is energy and customer service.

ofgem

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for all gas and electricity customers