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GNI – Transmission Asset Management

Incident Investigation Summary

Responsible Manager: Tony Jackson **Incident Reference No: 3632/10/NG**
Person Responsible for National Implementation: Stuart Kennedy / Russell Wilcock

Flange Leak at Ipsden Offtake

What Happened
There was a release of gas from Valve 203630 – the NTS offtake valve supplying gas from feeder 7 to the Ipsden Offtake regulator streams. The leak caused minor erosion to the flange face.

The immediate cause was failure of the bolted flange on the downstream end of the NTS offtake valve to seal properly resulting in escape of gas through the flange protector.

The underlying cause of the gas escape was that the flange bolts were not correctly torque-tightened at the time of commissioning the valve.

Why Did This Happen?
On excavation, a number of bolts, mainly on the lower circumference of the downstream end of the flange, were found to be loose (i.e. not correctly torque tightened).
The valve was installed as part of construction work in 2002, the leak only became evident during the 2009 winter when personnel visiting site saw evidence of a leak and promptly reported the incident.

Equipment Affected:
The soft iron ring, separating the flange faces and acting effectively as a gas seal, was damaged. This has since been replaced.

Learning Points:

- Distribution Network Staff observed evidence of a gas leak during a routine visit to the site and promptly reported this to National Grid Staff, who then attended the incident and took action to manage the gas escape and repair the fault. This is a demonstration of taking ownership and "doing the right thing".

- This is a reminder to all Project Managers shall ensure requirements of T/PM/PT/1 are followed
  Action - Project Managers (Construction & MDG) to ensure T/PM/PT/1 requirements detailed below are applied:
  10.9 Bolted Joints – Post Hydrostatic Pressure Test
  10.9.1 *Following completion of the emptying procedure and the replacement of equipment, all bolted joints registered under clause 10.2.5 shall be tightened to the appropriate torque rating specified in T/SP/E/55, and visually inspected during the final pneumatic pressure test (see Clause 11.3) .*
  Where a final pneumatic pressure test is not specified as a requirement by National Grid, and the pipework is to be commissioned to gas, gas leak checks shall be carried out on the joints at regular intervals during pressurisation.
  Details of the torque ratings applied to each joint and acceptance of the visual inspections carried out shall be recorded in the joint register specified under clause 10.2.5. This register shall form part of the as-built records.

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For further information regarding this bulletin please contact your Line Manager or the Responsible Manager detailed above.