



SGN/SEB/977

Anchorage Requirements on Non-Routine Operations (NRO)

Managers, Operatives and Contractors Involved with Safe Control of Operations

Introduction

It is a requirement of SCO/PM/SCO/4 - Management Procedure for Safe Control of Operations - Non-Routine Gas Supply Operations, to detail any temporary or permanent anchorage calculations and anchorage arrangements. The anchorage procedures and calculator (available on DigitalHub) shown below are to be used to work out these calculations and arrangements.

- **SGN/PM/ANC/4.2** - Management Procedure for Anchorage on Systems Operating up to and Including 7 bar (≤ 160 kN).
- **SGN/PM/ANC/4.2** - Management Procedure for Anchorage on Systems Operating up to and Including 7 bar (≤ 160 kN).
- **SGN/WI/ANC/4.2.2** - Work Instruction for Anchorage on Systems up to and Including 7 bar (≤ 60 kN) – Operatives.
- **SGN Anchorage Calculator**

It is the Authorising Engineers (AE) responsibility to ensure that these calculations and anchorage arrangements are detailed within the NRO.

Anchorage Considerations Within the NRO

Section 3a: Hazards and Risk: The initiator of the NRO must consider the risk and hazards associated with the operation. It specifies that control measures have been taken and that the Authorising Engineer has been informed. It specifically mentions the hazards of non-end loading fittings and the need for additional control measures to be provided regarding adequate temporary or permanent anchorage arrangements. It also requires the procedure that must detail how this will be achieved by showing calculations and dimensions of the thrust restraint to be used.

Section 10: Enclosures, Sketches & Drawings of Work: This requires the initiator Anchorage calculations to be included within this section.

The NRO must only be authorised by the AE once all appropriate approval signatories have had the opportunity to provide feedback and any subsequent amendments have been carried out and all copies of calculations relating to flow, pressure, purging, and **anchorage** are attached to the NRO.

Monitoring of Anchorage

Where excavations remain open, the team leader on site is responsible for undertaking visual inspections of anchorage at frequent intervals to confirm that all anchorages, thrust, and other restraints are secure and that no hazard exists. As a minimum, inspections should be made at the start and end of operations each day or when any activity has been carried out which may affect the anchorage system. In some cases, it may be appropriate to maintain a presence on site to minimise the impact of failure of these systems. In all cases the Operational Manager will advise on the inspection requirement on the Site-Specific Risk Assessment.

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Engineering ALERT

