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Guidance on Practice for Depressurisation and Repressurisation of Pipeline Systems

GP 43-54

BP GROUP
ENGINEERING TECHNICAL PRACTICES

Foreword

This is the first issue of Engineering Technical Practice (ETP) BP GP 43-54. This Guidance on Practice (GP) is based on parts of heritage documents from the merged BP companies as follows:

British Petroleum

RP 43-1	Onshore Transmission Pipelines to BS 8010.
RP 43-3	Subsea Isolation Systems.

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1. Scope

1.1. General

- a. This document addresses the principles and guidelines associated with the depressurization and/or re-pressurization of pipelines. Although the primary focus is on gas or compressible fluid pipelines, specific differences that pertain to liquid and multi-phase pipeline systems are covered as well.
- b. For gas or gas dominated systems, it covers the start-up (pressurization or line-fill operations), the controlled depressurization of whole systems or isolated sections of pipeline for maintenance or in emergencies, and the subsequent re-pressurization of the sections that had been depressurized for both sweet and sour gas pipeline systems. The document covers the design and configuration for new pipeline systems as well as guidelines to be followed for existing systems that may not have the configuration to adequately facilitate the de- or re-pressurization of the subject pipeline.
- c. This document does not cover those portions of pipelines that are affected by plant or facility depressurization, but does cover pipelines that are subject to a controlled depressurization, commonly called “blowdown”. For those segments of pipelines that cannot be isolated from the facilities to which they are attached, the reader is directed to consult with the process plant or facility counterpart of this pipeline document. This document contains brief descriptions of pipeline depressuring issues. The reader is urged to refer to the relevant sections of the [BP Multiphase Design Manual](#) as well.

1.2. Description of the subject area

- a. This document describes the key aspects of depressuring pipeline systems, as distinct from those sections of a pipeline whose depressuring is regarded as part of facilities pressure relief from a regulatory perspective.
- b. The issues addressed below are critical to ensuring that the pipeline system delivers its intended fluids safely and efficiently throughout its design lifetime.

1.3. Business significance of the subject area

- a. BP is investing billion of dollars in developing assets around the world in extremely demanding environments. Pipeline systems are critical to the commercial success of these ventures whether they are the prime mover for fluid export e.g. the BTC pipeline or a key component in bringing wellhead fluids to the point of processing and export e.g. subsea flowlines in Deepwater Gulf of Mexico and Angola.
- b. The safe depressuring of these pipelines is an issue that must be addressed in the early design and handled throughout the lifetime of the pipeline system.

2. Normative references

The following normative documents contain requirements that, through reference in this text, constitute requirements of this technical practice. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this technical practice are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies.

American Petroleum Institute (API)

API Spec 6D

Pipeline Valves (Gate, Plug, Ball, and Check Valves).

