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Guidance on Practice for In Service Inspection and Testing of Mechanical Protective Devices

GP 32-47

BP GROUP
ENGINEERING TECHNICAL PRACTICES

Foreword

This is the first issue of Engineering Technical Practice (ETP) BP GP 32-47.

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1. Scope

- a. This Guidance on Practice (GP) provides specific guidance for in service inspection and testing of mechanical protective devices.
- b. This GP should be read and interpreted in conjunction with GP 32-30 and GP 32-40.
- c. Mechanical protective devices within scope of this GP include:
 1. Pressure relief valves.
 2. Low pressure relief and vacuum breaker valves.
 3. Bursting (rupture) discs.
 4. Rupture pin (buckling pin) relief valves.
 5. Machinery overspeed devices.

In this GP, no distinction is made between relief valves, safety relief valves, pressure relief valves, and pressure safety valves as defined in API RP 520.
- d. Outside scope of this GP are instrumented protective devices and systems (refer to GP 30-81).

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.

BP

GP 30-81	Guidance on Practice for Safety Instrumented Systems (SIS) - Operations and Maintenance.
GP 32-30	Guidance on Practice for In Service Inspection and Testing of Equipment - Management Principles.
GP 32-40	Guidance on Practice for In Service Inspection and Testing of Equipment - Common Requirements.
GP 44-70	Guidance on Practice for Over-pressure Protection Systems.

American Petroleum Institute (API)

API Std 527	Seat Tightness of Pressure Relief Valves.
API RP 576	Inspection of Pressure Relieving Devices.

3. Terms and definitions

For the purposes of this GP, the following terms and definitions apply:

Authorised Person

A suitably trained individual authorised to conduct inspection, testing and maintenance on protective devices in accordance with Site procedures.



Defaulter

Valve with unsatisfactory pre overhaul test result.

4. Symbols and abbreviations

For the purpose of this GP, the following symbols and abbreviations apply:

IA Site Inspection Authority.

MOC Management of change.

RBI Risk based inspection.

5. Technical data and records

- a. Adequate records shall be maintained for equipment within scope of this GP.
- b. Records shall:
 1. Contain sufficient details to ensure:
 - a) Essential characteristics of device are defined as per datasheets.
 - b) Replacement components can be identified.
 2. Comply with documentation requirements in GP 44-70.
- c. Records shall include the following:
 1. Unique item reference and operating location.
 2. Data registration sheets, including equipment specification and application duty.
 3. Reason for protective device (i.e., event that device protects against).
 4. Protective settings, set points.
 5. Potential alternate locations.
Alternative locations for protective devices require approval via the Site MOC process.
 6. Changes to original specifications (e.g., materials, set points) that have been approved through the MOC process.
 7. Design philosophy and sizing calculations.
 8. Discharge location (e.g., closed flare, atmosphere, etc.)
- d. Records may be hard copy, electronic, or both.

6. Site Technical Practices and inspection and testing procedures**6.1. Site Technical Practices**

- a. This GP shall be adopted, modified or supplemented by Sites into a Site Technical Practice (STP).
- b. The STP shall be approved by the Site Engineering Authority and form the basis for the development of equipment specific inspection and testing procedures.

6.2. Inspection and testing procedures

- a. Site inspection and testing procedures and for mechanical protective devices shall:

