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# Guidance on Industry Standard for API 682 Pump Shaft Seal Systems

GIS 34-704

**BP GROUP**  
**ENGINEERING TECHNICAL PRACTICES**

## Foreword

This is the first issue of Engineering Technical Practice (ETP) BP GIS 34-704. This Guidance on Industry Standard (GIS) is based on parts of heritage documents from the merged BP companies as follows:

### Amoco

A RE-SEAL-682-P      Rotating Equipment—Shaft Sealing—API 682 Pump Systems—  
Procurement Specification.

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## Introduction

- a. Guidance for centrifugal pumps is based on American Petroleum Institute (API) Standard 682, *Pumps–Shaft Sealing Systems for Centrifugal and Rotary Pumps*, second edition, July, 2002.
- b. Guidance statements of this GIS are modifications to API Std 682.
- c. Modifications to API Std 682 are identified as Add, Modify to Read, or Delete.
- d. Paragraph numbers in this GIS correspond to API Std 682.
- e. Paragraphs of API Std 682 that are not revised remain applicable.

## 1 Scope

### 1.1 General

#### Add

Seal-less pump guidance can be found in GIS 34-205.

*API 682 second edition includes applications for ANSI and ISO pumps that were not part of the first edition. Also 682 format follows ISO. In such, Annex A is a starting place for seal selection. The document that precedes Annex A establishes specifics based on the seal selection.*

### 1.2 Seal categories, types and arrangements

*For H<sub>2</sub>S streams (streams with 1 000 ppm or more by weight as defined by BP PSS 3) review BP PSS 3.*

### 1.3 Objectives

*Clause 1.3 states the design basis for the seal system. The referenced EPA Method 21 is the measurement basis for hydrocarbon emission testing, and may not be applicable to chemical streams and/or H<sub>2</sub>S measurements.*

#### 1.3.3) Add

Each location shall specify local requirements for allowable emissions.

*For example in the US, LDAR and MACT requirements may specify allowable leakage and requirements for seal performance as asked in seal selection guidelines of Annex A API 682.*

*Hazop analysis can be assisted by using BP RP 44-6 and the reference to IP 15.*

## 2 Normative references

#### Add

|                   |                                                                      |
|-------------------|----------------------------------------------------------------------|
| GIS 30-051        | Guidance on Industry Standard for Pressure Gauges.                   |
| GIS 34-205        | Guidance on Industry Standard for ISO 15783 Centrifugal Pumps.       |
| <b>GIS 62-XXX</b> | <b>Guidance on Industry Standard for Pressure Relief Devices.</b>    |
| GP 30-05          | Guidance on Practice for Pressure Instruments.                       |
| GP 30-10          | Guidance on Practice for Non-Fiscal Flow Instruments (Class 2 and3). |

