

DEP SPECIFICATION

GLOBAL TECHNICAL STANDARDS INDEX

DEP 00.00.05.05-Gen.

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DESIGN AND ENGINEERING PRACTICE



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PREFACE

DEP (Design and Engineering Practice) publications reflect the views, at the time of publication, of Shell Global Solutions International B.V. (Shell GSI) and, in some cases, of other Shell Companies.

These views are based on the experience acquired during involvement with the design, construction, operation and maintenance of processing units and facilities. Where deemed appropriate DEPs are based on, or reference international, regional, national and industry standards.

The objective is to set the standard for good design and engineering practice to be applied by Shell companies in oil and gas production, oil refining, gas handling, gasification, chemical processing, or any other such facility, and thereby to help achieve maximum technical and economic benefit from standardization.

The information set forth in these publications is provided to Shell companies for their consideration and decision to implement. This is of particular importance where DEPs may not cover every requirement or diversity of condition at each locality. The system of DEPs is expected to be sufficiently flexible to allow individual Operating Units to adapt the information set forth in DEPs to their own environment and requirements.

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All administrative queries should be directed to the DEP Administrator in Shell GSI.

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PART I INTRODUCTION**1.1 SCOPE**

This index lists the global technical standards in circulation on the date of issue.

In Part II, the current set of standards is listed, organized by engineering discipline. In Part III, the standards are listed in numerical order. Part III also shows standards that have been withdrawn or made inactive

In addition to DEPs, this index includes other types of global technical standards administered by the Technical Standards Group; see (Part I, 1.2).

Standard drawings, standard forms and standard requisitions are not covered in this index, as they are covered in separate indices; see (Part I, 1.3).

This index replaces the previous index dated February 2016; see (Part I, 1.10) regarding the main changes.

1.2 DEPS AND OTHER TYPES OF TECHNICAL STANDARDS

The DEPs and other technical standards administered by the Technical Standards Group are classified as follows:

Classification	Type	Purpose/Comment
DEP-Gen.	DEP-Specification ⁽¹⁾	For project use in engineering, procurement and construction. Provides a basis for understanding between the Principal, Contractor and Manufacturer/Supplier, specifying requirements for a product, process or service
	DEP-Informative ⁽²⁾	A companion document to the DEP Specification of the same number. Explains the reasons for certain requirements in the DEP Specification and contains background information. For Shell use – not intended to be given to Engineering Contractor or Manufacturers/Suppliers.
DWS-Gen.	Deepwater Standard ⁽³⁾	Restricted access within Shell only. Provides a basis for understanding between the Principal, Contractor and Manufacturer/Supplier, specifying requirements for a product, material or process specifically for deepwater installations.
RMP-Gen.	Run and Maintain Practice ⁽⁴⁾	Most "Run and Maintain Practices" (RMPs) have been withdrawn because they are no longer current. These are available for historical reference in the Technical Standards Archive. Certain key process safety topics continue to be developed into new RMPs, to be adopted and mandated as relevant by the appropriate Operating organisation. These new RMPs will be duly published and will be available on the Process Safety website.
GFS-Gen.	General Functional Standard ⁽²⁾	A GFS defines the functional and technical specification for an equipment package that is not vendor-specific. It provides a basis for understanding between the Principal, Contractor and Manufacturer/Supplier, specifying requirements for Packaged Equipment Solutions.
SPEP-Gen.	Shell Pre-Engineered Product ⁽²⁾	A SPEP is made up of pre-engineered validated options and custom features as agreed by Shell and the Vendor. This product is conditioned to comply with Shell requirements with no further engineering by the Contractor except for interfaces and project definitions

- NOTES:
1. Distributed via "Shell DEPs Online". Distributed under license agreement to authorised Customers and, where necessary, to Shell nominated Contractors and Manufacturers/Suppliers.
 2. Distributed for use within Shell and to authorised, select Customers via "Shell DEPs Online".
 3. Restricted access within Shell via the Technical Standards Portal.
 4. Access within Shell via the Technical Standards Portal.

Wells Standards have been withdrawn from the DEP system and are no longer administered by the Technical Standards Group. In Shell, information on Wells Standards is provided through the following web site:

http://www.shell.com/pt/business_units/wells/technical_assurance_standards/TA.html

1.3 STANDARD DRAWINGS, STANDARD FORMS AND REQUISITIONS

Standard Drawings are indexed in DEP 00.00.06.06-Gen.

Standard Forms are indexed in DEP 00.00.10.05-Gen.

Requisition sheets are indexed in DEP 30.10.01.10-Gen.

1.4 PACKAGED EQUIPMENT SOLUTIONS

General Functional Specifications and Shell Pre-Engineered Packages are indexed in PES 00.00.05.06-Gen.

1.5 DISTRIBUTION OF DEPS

Shell companies are provided access to the DEPs through "Shell DEPs Online" at <https://www.shelldeps.com>.

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NOTE: DEP Informatives are for internal use and are not to be distributed outside of Shell, except under license agreement to authorised select Customers only.

In the past, each version of the DEPs has been released on a separate DVD-ROM. The distribution via DVD-ROM has been discontinued. Current and future releases of the DEPs will be distributed exclusively using the Shell DEPs Online system.

1.6 DISTRIBUTION OF OTHER GLOBAL TECHNICAL STANDARDS

Global Technical Standards other than DEPs, as described in (Part I, 1.2), are made available via the Technical Standards web portal at www.shell.com/standards. Updates to these documents generally coincide with the distribution of the DEPs as described in (Part I, 1.6).

Standard Drawings, Standard Forms and Requisitions are distributed via "Shell DEPs Online" in the same manner as DEPs.

1.7 AMENDMENTS

For revisions up until DEP version 36 (February 2013), between formal revisions, if an amendment was required to a standard, an Amendment was issued. These Amendments were numbered A0x, where "x" is a sequential number of the amendments for the particular document.

Amended standards are indicated in the 2nd column of Part III of this index.

1.9 SUMMARY OF MAIN CHANGES

This index is a full revision of the index of the same number dated February 2016.

In Part III, changes are indicated by a vertical line (|) in the left margin of the index. The specific changes are shown in red text. DEP Custodians are no longer listed in this index.

1.10 COMMENTS ON THIS DEP

Comments on this DEP may be submitted to the Administrator using one of the following options:

Shell DEPs Online (Users with access to Shell DEPs Online)	Enter the Shell DEPs Online system at https://www.shelldeps.com Select a DEP and then go to the details screen for that DEP. Click on the "Give feedback" link, fill in the online form and submit.
DEP Feedback System (Users with access to Shell Wide Web)	Enter comments directly in the DEP Feedback System which is accessible from the Technical Standards Portal http://swwww.shell.com/standards . Select "Submit DEP Feedback", fill in the online form and submit.
DEP Standard Form (Other users)	Use DEP Standard Form 00.00.05.80-Gen. to record feedback and email the form to the Administrator at standards@shell.com .

Feedback that has been registered in the DEP Feedback System by using one of the above options will be reviewed by the DEP Custodian for potential improvements to the DEP.

PART II CURRENT STANDARDS LISTED BY ENGINEERING DISCIPLINE**1. ADMINISTRATIVE (INDICES)**

DEP Number	Title
DEP 00.00.05.05-Gen.	Global technical standards index
DEP 00.00.06.06-Gen.	Standard drawings index
DEP 00.00.10.05-Gen.	Standard forms index
DEP 30.10.01.10-Gen.	Requisitions index

2. ADMINISTRATIVE (TECHNICAL STANDARDS TEAM)

DEP 00.00.00.30-Gen.	Procedure for global technical standards publications
DEP 00.00.07.30-Gen.	Application of a functional specification (endorsement of ISO 13879, ISO 13880 and ISO/TR 13881)
DEP 00.00.20.10-Gen.	The use of SI quantities and units (endorsement of ISO/IEC 80000)

3. ANALYTICAL

DEP 34.17.10.31-Gen.	Laboratories
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4. CIVIL, STRUCTURAL & OFFSHORE

DEP 30.46.00.31-Gen.	Thermal insulation
DEP 30.48.60.12-Gen.	Design and installation of chemical-resistant protection systems for concrete surfaces (based on EN 14879-Parts 1, 3, 5 and 6)
DEP 34.00.01.10-Gen.	Earthquake design for onshore facilities - Seismic hazard assessment
DEP 34.00.01.30-Gen.	Structural design and engineering of onshore structures
DEP 34.11.00.10-Gen.	Onshore and nearshore site investigations
DEP 34.11.00.11-Gen.	Site preparation and earthworks including tank foundations and tank farms
DEP 34.11.00.12-Gen.	Geotechnical and foundation engineering – onshore
DEP 34.13.20.31-Gen.	Roads, paving, surfacing, cable trenches, slope protection and fencing
DEP 34.14.20.31-Gen.	Drainage systems and primary treatment facilities
DEP 34.17.00.31-Gen.	Enabling infrastructure works
DEP 34.17.10.32-Gen.	Design of buildings – onshore
DEP 34.17.10.33-Gen.	Portable blast resistant modules
DEP 34.19.20.11-Gen.	Passive fire protection for onshore facilities
DEP 34.19.20.31-Gen.	Onshore concrete design and construction
DEP 34.28.00.31-Gen.	Onshore steel structures
DEP 34.28.00.33-Gen.	Onshore ancillary steel structures
DEP 34.28.00.34-Gen.	Onshore flare derrick structures
DEP 34.51.01.38-Gen.	Process safety requirements for refrigerated LNG/LPG tanks
DEP 35.00.00.10-Gen.	Vessel Integrity, Marine Systems - Requirements for Selection and Operation of Vessels (Endorsement of DNV RP-H104)
DEP 35.00.10.10-Gen.	Design of jetty facilities (amendments/supplements to BS 6349-1, 1.1/ 1.3/ 1.4, BS 6349-2 and BS 6349-4)

DEP 37.00.10.10-Gen.	Meteorological and oceanographic design and operating considerations offshore, coastal and onshore (amendments/supplement to ISO 19901-1:2015)
DEP 37.01.10.11-Gen.	Design of offshore topsides facilities against fire and blast loading (amendments/supplements to API RP 2FB)
DEP 37.11.00.10-Gen.	Marine soil investigation
DEP 37.11.00.30-Gen.	Site specific assessment of mobile offshore jack-up units (amendments/supplements to ISO 19905-1)
DEP 37.17.10.10-Gen.	Design of offshore living quarters
DEP 37.17.10.11-Gen.	Design of offshore temporary refuges
DEP 37.19.00.10-Gen.	Offshore structures - General requirements (endorsement of ISO 19900)
DEP 37.19.00.12-Gen.	Offshore topsides structures (amendments/supplements to ISO 19901-3:2010)
DEP 37.19.00.14-Gen.	Seismic design procedures and criteria - offshore (amendments/supplements to ISO 19901-2)
DEP 37.19.00.30-Gen.	Fixed steel offshore structures (amendments/supplements to ISO 19902:2007/AMD 1:2013)
DEP 37.19.10.30-Gen.	Weldable structural steels for fixed offshore structures (amendments/supplements to EN 10225 and EN 10025)
DWS 37.19.20.11-Gen.	Weight management plan for floating platforms (amendments/supplements to ISO 19901-5)
DEP 37.81.10.10-Gen.	Generic design and analysis for steel catenary risers and catenary umbilical systems for offshore structures
DWS 37.81.10.11-Gen.	Design and analysis of top tension risers for deepwater offshore floating structures (based on API RP 2RD/ISO WD 13628-12)
DEP 37.81.10.16-Gen.	Geotechnical design of foundations for deepwater subsea systems
DEP 37.81.10.17-Gen.	Design of piles for subsea pipeline initiation and anchoring
DWS 37.81.10.18-Gen.	Design specification for deepwater tension leg platform, semisubmersible and spar hull (based on API RP 2T and API RP 2FPS)
DEP 37.81.10.19-Gen.	Marine operations requirements - Loadout, transportation and installation of offshore structures (amendments/supplements to ISO 19901-6)
DEP 37.81.10.31-Gen.	Structural steel design of small deepwater offshore skids, facility packages, and subsea sleds and manifolds
DEP 37.81.10.32-Gen.	Structural steel fabrication of small deepwater offshore skids, facility packages, and subsea sleds and manifolds (based on AISC steel construction manual ASD, API RP 2A-WSD and AWS D1.1)
DEP 37.81.10.33-Gen.	Structural welding and inspection of deepwater floating production systems (amendments/supplements to AWS D1.1/D1.1M:2008)
DEP 37.81.10.34-Gen.	Structural fabrication of deepwater floating production systems
DWS 37.81.10.36-Gen.	Structural steel design of deepwater offshore topsides decks for floating systems
DWS 37.81.20.35-Gen.	Technical specification for elastomeric flexible joints for use in deepwater offshore dynamic riser applications
DEP 37.81.21.34-Gen.	Thermal-sprayed ceramic coating requirements
DEP 37.81.21.35-Gen.	General requirements for top tensioned riser tendon and mooring equipment for deepwater floating production systems
DEP 37.90.10.30-Gen.	General requirements for large customized FPSOs
DEP 37.90.10.32-Gen.	Selection and operation of dynamically positioned (DP) vessels
DEP 37.90.10.34-Gen.	Selection and application of synthetic rope for wet towing of large offshore structures
DEP 37.91.10.10-Gen.	Single point mooring (SPM) systems
DEP 37.91.10.11-Gen.	Mobile mooring systems (amendments/supplements to API RP 2SK, API RP 2SM and API RP 2I)

DEP 37.91.20.30-Gen.	Oil loading and discharge hoses for offshore mooring installations (amendments/supplements to OCIMF guide to manufacturing and purchasing hoses for offshore moorings (GMPHOM 2009))
DEP 37.92.10.30-Gen.	Offshore pedestal-mounted cranes (amendments/supplements to API SPEC 2C)
DEP 40.10.01.12-Gen.	Polyester rope for deepwater mooring (amendments/supplements to abs guidance notes on the application of fiber rope for offshore mooring)
DEP 80.00.10.11-Gen.	Layout of onshore facilities
DEP 80.00.10.12-Gen.	Layout of offshore facilities
DEP 80.80.00.10-Gen.	Lifeboats and rescue boats (amendments/supplements to SOLAS, LSA and DNV-OS-E406)
DEP 80.80.00.14-Gen.	Offshore facilities life-saving appliance requirements

5. ELECTRICAL

DEP 33.64.10.10-Gen.	Electrical engineering design
DEP 33.64.10.17-Gen.	Application of protective functions for electrical systems for global application
DEP 33.64.10.33-Gen.	Electromagnetic compatibility (EMC)
DEP 33.64.20.10-Gen.	Electrical engineering design for North American application
DEP 33.64.30.30-Gen.	Electrical requirements for vendor supplied skid units for North American application
DEP 33.65.11.31-Gen.	Synchronous AC machines (amendments/supplements to IEC 60034-1 and IEC 60034-14)
DEP 33.65.11.34-Gen.	Synchronous AC machines for North American application (amendments/supplements to API 546)
DEP 33.65.40.31-Gen.	Power transformers (amendments/supplements to IEC 60076-1 and IEC 60076-11)
DEP 33.65.40.32-Gen.	Liquid-immersed transformers for North American application
DEP 33.65.50.31-Gen.	Static uninterruptible power supply unit (static UPS unit)
DEP 33.65.50.33-Gen.	Design and fabrication of uninterruptible power supplies for North American applications
DEP 33.65.60.30-Gen.	Solar power systems
DEP 33.66.05.31-Gen.	Electrical machines - Cage-induction types (amendments/supplements to IEC 60034-1 and IEC 60034-14)
DEP 33.66.05.33-Gen.	A.C. electrical variable speed drive systems
DEP 33.66.05.35-Gen.	LV induction motors for North American application (amendments/supplements to IEEE Std 841)
DEP 33.66.05.36-Gen.	MV induction motors for North American application (amendments/supplements to API STD 541)
DEP 33.66.05.37-Gen.	General-purpose form-wound squirrel cage induction motors – 250 horsepower and larger for North American application (amendments/supplements to API 547)
DEP 33.66.05.38-Gen.	Design and fabrication of MV motor control centres for North American application (amendments to UL 347/CAS C22.2 No. 253-09)
DEP 33.66.05.39-Gen.	Design and fabrication of low voltage motor control centres for North American application (amendments/supplements to UL 845/CSA C22.2 NO. 254-05)
DEP 33.67.01.31-Gen.	Low voltage switchgear and controlgear assemblies (amendments/supplements to IEC 61439)
DEP 33.67.01.32-Gen.	Design and fabrication of LV switchgear for North American applications (amendments/supplements to IEEE C37.10.1)
DEP 33.67.40.30-Gen.	Design and fabrication of MV switchgear for North American applications (amendments/supplements to IEEE C37.20.2)

DEP 33.67.51.31-Gen.	High-voltage switchgear and control gear assemblies for rated voltages between 1 kV and 52 kV (amendments/supplements to IEC 62271-200)
DEP 33.67.51.32-Gen.	Gas-insulated, metal-enclosed switchgear and controlgear for rated voltages above 52 kV (amendments/supplements to IEC 62271-203)
DEP 33.68.30.32-Gen.	Electrical trace heating
DEP 33.68.30.33-Gen.	Electrical process heaters
DEP 33.68.30.34-Gen.	Electrical trace heating for North American application
DEP 33.80.00.30-Gen.	Navigational aids for offshore structures for global application
DEP 34.17.10.37-Gen.	Design and fabrication of modular electrical power centers for North American application
DEP 63.10.08.11-Gen.	Field commissioning of electrical installations and equipment for global application
DEP 63.20.08.10-Gen.	Electrical installation for North American application
DEP 80.00.10.13-Gen.	Area classification and electrical equipment spacing for North American application (amendments/supplements to API RP505/ API RP500)
DEP 80.64.10.11-Gen.	Static electricity

6. HEALTH

DEP 30.00.60.10-Gen.	Human factors engineering in projects
DEP 30.00.60.15-Gen.	Human factors engineering - control room design
DEP 30.00.60.16-Gen.	Human factors engineering - Human machine interface design for situation awareness
DEP 30.00.60.18-Gen.	Human factors engineering - Design and procurement of skid-packaged units
DEP 30.00.60.19-Gen.	Human factors engineering – Design for human reliability
DEP 30.00.60.20-Gen.	Human factors engineering – Physical workspace design
DEP 30.00.60.21-Gen.	Human factors engineering – labelling of facilities, equipment and piping

7. MARITIME OPERATIONS

DEP 35.00.00.11-Gen.	Wet towing of mobile offshore (drilling) units
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8. MECHANICAL, MATERIALS & INTEGRITY

DEP 02.00.00.10-Gen.	Preparation of technical drawings
DEP 30.10.02.11-Gen.	Metallic materials – Selected standards
DEP 30.10.02.13-Gen.	Non-metallic materials - selection and application
DEP 30.10.02.14-Gen.	Carbon steel corrosion engineering manual for upstream facilities
DEP 30.10.02.16-Gen.	Evaluation of pipeline and pressure vessel steels for resistance to hydrogen-induced cracking (amendments/supplements to NACE TM0284)
DEP 30.10.02.17-Gen.	Wet H ₂ S requirements for downstream process equipment and piping
DEP 30.10.02.31-Gen.	Metallic materials - prevention of brittle fracture in new assets
DEP 30.10.02.32-Gen.	Materials and fabrication requirements for 2¼Cr-1Mo, 2¼Cr-1Mo-¼V, 3Cr-1Mo & 3Cr-1Mo-¼V heavy wall pressure vessels (amendments/supplements to API RP 934-A)
DEP 30.10.02.34-Gen.	Casting requirements for pressure retaining and rotating equipment components
DEP 30.10.02.35-Gen.	Technical requirements for the supply of components in 6Mo austenitic, 22Cr duplex and 25Cr super duplex stainless steel

DEP 30.10.02.36-Gen.	Materials and fabrication requirements for 1¼Cr-½Mo pressure vessels (amendments/supplements to API RP 934-C and API RP 934-E)
DEP 30.10.05.11-Gen.	Plant 3D CAD model build and design review
DEP 30.10.60.18-Gen.	Welding of metals (additional to API RP 582)
DEP 30.10.60.30-Gen.	Welding on pressurized pipes (amendments/supplements to API Standard 1104)
DEP 30.10.60.32-Gen.	Welding of metals, based on ISO standards
DEP 30.10.73.10-Gen.	Cathodic protection design, installation, and commissioning (amendments and supplements to ISO 15589 1:2003)
DEP 30.10.73.32-Gen.	Cathodic Protection Systems for Subsea Pipelines and Hardware (Amendments/Supplements to ANSI/NACE SP0607-2007/ISO 15589-2)
DEP 30.48.00.31-Gen.	Protective coatings for onshore and offshore facilities
DEP 30.48.40.31-Gen.	Thermal spray coatings of aluminum
DEP 30.55.03.30-Gen.	Validation of NDE for fabrication inspection
DEP 30.55.03.31-Gen.	NDT vendor capability assessment for fabrication inspection
DEP 31.01.10.10-Gen.	Chemical injection systems for upstream production facilities
DEP 31.10.00.10-Gen.	Material control and verification
DEP 31.10.00.31-Gen.	Noise control (amendments/supplements to ISO 15664)
DEP 31.22.00.12-Gen.	UT in lieu of RT for code construction of pressure equipment
DEP 31.22.00.30-Gen.	Equipment criticality in pressure vessel design
DEP 31.22.00.31-Gen.	Unfired pressure vessels
DEP 31.36.10.30-Gen.	Hydraulic systems for the operation of on/off valves in protective functions
DEP 31.38.01.10-Gen.	Piping class - Basis of design
DEP 31.38.01.11-Gen.	Piping - General requirements
DEP 31.38.01.12-Gen.	Piping classes - Refining and chemicals
DEP 31.38.01.15-Gen.	Piping classes - Exploration and production
DEP 31.38.01.19-Gen.	Water injection in downstream hydroprocessing units for corrosion control
DEP 31.38.01.20-Gen.	Design of injection points, injection systems, and mix points
DEP 31.38.01.23-Gen.	Piping classes - CSA Z662
DEP 31.38.01.29-Gen.	Pipe supports
DEP 31.38.01.31-Gen.	Shop and field fabrication of piping
DEP 31.38.30.11-Gen.	Protective heating of piping systems (non-electrical)
DEP 31.40.10.19-Gen.	Glass-fibre reinforced plastic pipeline and piping systems
DEP 31.40.10.20-Gen.	Spoolable fibre-reinforced plastic pipes
DEP 31.40.20.33-Gen.	Linepipe induction bends (amendments/supplements to ISO 15590-1)
DEP 31.40.20.34-Gen.	Welded and seamless duplex and super duplex stainless steel line pipe (amendments/supplements to API Spec 5LC)
DEP 31.40.20.36-Gen.	Weldable martensitic stainless steel line pipe for use in oil and gas operations (amendments/supplements to API SPEC 5LC)
DEP 31.40.20.37-Gen.	Line pipe for critical service (amendments/supplements to ISO 3183:2012 and API SPEC 5L 45th edition)
DEP 31.40.20.38-Gen.	Selection and design of thermoplastic and composite pipeline materials for onshore use
DEP 31.40.20.39-Gen.	High density polyethylene pipelines and piping systems for oilfield applications
DEP 31.40.30.31-Gen.	Pipeline external coatings (amendments/supplements to ISO 21809-1:2011 and ISO 21809-2:2014)
DEP 31.40.30.34-Gen.	Thermoplastic lined pipelines for onshore use

DEP 31.40.30.35-Gen.	Internal coating of line pipe for non-corrosive gas transmission service (amendments/supplements to ISO 15741)
DEP 31.40.30.37-Gen.	External field joint and rehabilitation coating systems for line pipe (amendments/supplements to ISO 21809-3:2008)
DEP 31.40.30.39-Gen.	Internal fusion-bonded epoxy powder coating for water injection line pipe
DEP 31.76.10.10-Gen.	Heating, ventilation and air conditioning for plant buildings
DEP 34.51.01.31-Gen.	Vertical steel storage tanks – Selection design and construction (amendments/supplements to EN 14015)
DEP 34.51.01.33-Gen.	Field erected aboveground vertical storage tanks (amendments/supplements to API Standard 650)
DEP 34.51.01.35-Gen.	Shop welded vertical tanks for storage of production liquids (amendments/supplements to API 12F)
DEP 34.51.01.36-Gen.	Shop fabricated vertical storage tanks (amendments/supplements to API STD 650 – Annex J)
DEP 34.51.11.30-Gen.	Mounded horizontal cylindrical vessels for pressurised storage of LPG at ambient temperatures (amendments/supplements to EEMUA 190)
DEP 37.76.10.10-Gen.	HVAC for offshore installations (amendments/supplements to ISO 15138)
DEP 37.81.40.30-Gen.	Syntactic foam insulation for flowlines
DEP 37.81.40.34-Gen.	Insulation for pipe-in-pipe (PIP) flowlines
DEP 37.81.40.39-Gen.	Welding of subsea hardware and tie-in components (amendments/supplements to ASME Boiler and Pressure Vessel Code Section IX)
DEP 37.81.41.36-Gen.	Deepwater syntactic foam insulation for subsea structures
DEP 37.81.41.37-Gen.	Qualification of insulation for deepwater applications
DEP 39.01.10.11-Gen.	Selection of materials for life cycle performance (upstream facilities) - Materials selection and corrosion management
DEP 39.01.10.12-Gen.	Selection of materials for life cycle performance (upstream equipment) including H2S-containing environments (amendments and supplements to ISO 15156:2009)
DEP 39.01.10.32-Gen.	Specification for age-hardened nickel-based alloys for oil and gas drilling and production equipment (amendments/supplements to API STD 6 ACRA)
DEP 44.24.32.30-Gen.	Unshaped refractory materials for monolithic refractory linings
DEP 61.10.08.11-Gen.	Field inspection prior to commissioning of mechanical equipment
DEP 61.40.20.30-Gen.	Welding of pipelines and related facilities
DEP 70.10.70.11-Gen.	Preservation of new and old equipment standing idle
DEP 74.00.10.10-Gen.	Shop and field pressure testing of piping systems
DEP 80.36.00.30-Gen.	Relief devices – selection, sizing and specification (amendments/supplements to API STD 520 Part I:2014)
DEP 80.45.10.10-Gen.	Design of pressure relief, flare and vent systems (amendments/supplements to API RP 520 Part II and API STD 521 Chapter 5)
DEP 80.46.30.11-Gen.	Interlocking systems for pressure relief valves

9. OPERATIONS EXCELLENCE & ASSET MANAGEMENT

DEP 01.00.09.10-Gen.	Operational tagging requirements
DEP 70.10.90.11-Gen.	Spare parts
DEP 82.00.10.30-Gen.	Engineering information specification (EIS)

10. PETROLEUM ENGINEERING

DEP 25.80.10.10-Gen.	Formation pore pressure, fracture gradient (PP/FG) and borehole stability prediction for exploration, appraisal and development wells, well entries, and abandonments
DEP 25.80.10.11-Gen.	Formation tops, fault intersections, and fluid fill prediction for exploration, appraisal, and development wells
DEP 25.80.10.12-Gen.	Prepare and maintain data in support of well emergencies - New wells and new activities on existing wells
DEP 25.80.10.13-Gen.	Geohazards assessment for offshore exploration, appraisal and development operations
DEP 25.80.10.15-Gen.	Design a logging program
DEP 25.80.10.16-Gen.	Compaction and subsidence prediction
DEP 25.80.10.18-Gen.	Prediction of hydrogen sulphide content in overburden fluids and produced reservoir fluids for new and existing wells
DEP 25.80.10.19-Gen.	Sand failure assessment for wells to be completed and produced
DEP 25.80.10.20-Gen.	Planning and design of geophysical surveys
DEP 25.80.10.21-Gen.	Well stimulation
DEP 25.80.10.22-Gen.	Top-seal integrity assessment for primary recovery, waterflood, EOR and CO2 storage

11. PIPELINES, FLOW ASSURANCE SYSTEMS & SUBSEA

DEP 30.46.20.32-Gen.	Insulation systems for onshore pipelines
DEP 31.36.00.30-Gen.	Pipeline transportation systems - pipeline valves (amendments/supplements to API SPEC 6D)
DEP 31.38.60.10-Gen.	Hot-tapping on pipelines, piping and equipment
DEP 31.40.00.10-Gen.	Pipeline engineering (amendments/supplements to ISO 13623)
DEP 31.40.00.11-Gen.	Pipeline and subsea integrity - Design and construction
DEP 31.40.10.10-Gen.	Riser design
DEP 31.40.10.12-Gen.	Design of multiple-pipe slug catchers
DEP 31.40.10.13-Gen.	Design of pipeline pig trap systems
DEP 31.40.10.15-Gen.	Analysis of spans for submerged pipelines
DEP 31.40.10.16-Gen.	Upheaval buckling of pipelines
DEP 31.40.10.18-Gen.	Pipeline engineering - Reliability-based limit states methods (amendments/supplements to ISO 16708)
DEP 31.40.11.32-Gen.	Survey technical standards for offshore pipeline, flowline and umbilical riser projects and positioning services
DEP 31.40.21.31-Gen.	Pipeline monolithic Isolating joints (amendments/supplements to ISO 15590-2: 2003)
DEP 31.40.21.33-Gen.	Pig signallers - intrusive type
DEP 31.40.21.37-Gen.	Corrosion resistant alloy overlay subsea pipe and fittings excluding line pipe
DEP 31.40.30.30-Gen.	Concrete coating of linepipe (amendments/supplements to ISO 21809-5)
DEP 31.40.40.38-Gen.	Hydrostatic pressure testing of new pipelines
DEP 31.40.50.30-Gen.	Precommissioning of pipelines
DEP 37.80.00.35-Gen.	Subsea pipeline valves (amendments/supplements to ISO 14723)
DEP 37.80.00.38-Gen.	Deepwater jumper design, measurement, fabrication and testing
DEP 37.80.01.30-Gen.	High pressure subsea valves (amendments/supplements to section 7.10 of ISO 13628-4/API 17D)

DEP 37.80.02.32-Gen.	Seam welded super duplex tubing manufacturing specification for umbilicals and subsea distribution hardware
DEP 37.81.10.15-Gen.	Pipe-soil interaction on a soft clay seabed
DEP 37.81.40.31-Gen.	Welding of deepwater pipelines, flowlines and steel catenary risers (amendments and supplements to API 1104)
DEP 37.81.40.35-Gen.	Deepwater collet type connector systems
DEP 37.81.41.30-Gen.	Onshore fabrication of deepwater pipelines, flowlines, risers and their appurtenances
DEP 37.81.41.33-Gen.	Offshore construction specification for deepwater pipelines, flowlines and risers
DEP 37.81.41.35-Gen.	Offshore pipeline and umbilical/cable crossings
DEP 37.81.42.30-Gen.	Unbonded flexible pipe for offshore applications (amendments/supplements to API SPEC 17J; API RP 17B; API SPEC 17L1 and endorsement of API RP 17L2)
DEP 37.81.42.31-Gen.	Deepwater pipeline end terminations and midline sleds

12. PROCESS AUTOMATION, CONTROL, AND OPTIMIZATION

DEP 32.01.20.12-Gen.	Process Control Domain - Enterprise industrial automation information technology and security
DEP 32.01.40.31-Gen.	Requirements for real-time production operations and production-critical real time data
DEP 32.10.03.10-Gen.	Instrumentation symbols and identification on process engineering flow schemes
DEP 32.30.20.11-Gen.	Fire, gas and smoke detection systems
DEP 32.30.20.12-Gen.	Process automation system (PAS) architecture design specification
DEP 32.30.20.13-Gen.	Intelligent field devices – Design and configuration
DEP 32.30.20.14-Gen.	Instrument asset management
DEP 32.30.20.15-Gen.	DCS basic application standards
DEP 32.30.20.16-Gen.	Baselayer control applications
DEP 32.30.20.17-Gen.	Integration of motor controls into BPCs for global application
DEP 32.31.00.32-Gen.	Instruments for measurement and control
DEP 32.31.00.34-Gen.	Instrumentation documents and drawings
DEP 32.31.09.31-Gen.	Instrumentation for packaged equipment
DEP 32.31.50.10-Gen.	On-line process analysers
DEP 32.31.50.13-Gen.	Analyser housing
DEP 32.32.00.11-Gen.	Custody transfer measurement systems for liquids and gases and vapours
DEP 32.36.01.17-Gen.	Control valves - Selection, sizing, and specification
DEP 32.36.01.18-Gen.	Selection and procurement of actuators for on-off valves
DEP 32.37.10.11-Gen.	Installation of on-line instruments
DEP 32.37.20.10-Gen.	Instrument signal lines
DEP 32.45.10.10-Gen.	Instrumentation of depressuring systems
DEP 32.80.10.10-Gen.	Safety instrumented systems
DEP 32.80.10.14-Gen.	Alarm management
DEP 62.10.08.11-Gen.	Inspection and functional testing of instruments

13. PROCESS ENGINEERING

DEP 01.00.01.30-Gen.	Definition of temperature, pressure and toxicity levels
DEP 01.00.02.11-Gen.	Preparation of process flow schemes and process engineering flow schemes
DEP 01.00.02.12-Gen.	Preparation of safeguarding memoranda and process safeguarding flow schemes
DEP 10.02.51.11-Gen.	Steam injection systems for safeguarding thermal cracking units
DEP 20.01.10.10-Gen.	Selection of chemicals to treat upstream processes and for construction and treatment of wells
DEP 20.04.10.11-Gen.	Bulk separation and oil treatment facilities
DEP 30.06.10.11-Gen.	Equipment in LPG processing installations
DEP 30.06.10.12-Gen.	Pressurised bulk LPG storage installations at processing facilities
DEP 30.06.10.13-Gen.	LPG bulk road, rail and pipeline transportation
DEP 30.06.10.20-Gen.	ESD systems for loading and discharging liquefied gas carriers
DEP 30.06.10.30-Gen.	LPG storage and vehicle fuelling installations at retail sites
DEP 30.06.10.31-Gen.	CNG vehicle fueling installations
DEP 30.06.10.32-Gen.	LNG storage and fuelling installations at retail and commercial sites
DEP 31.06.11.11-Gen.	Loading facilities for bulk road vehicles
DEP 31.20.20.31-Gen.	Internals for columns
DEP 31.22.05.12-Gen.	Gas/liquid, liquid/liquid and gas/liquid/liquid separators – type selection and design rules
DEP 31.22.50.31-Gen.	Design and installation of the bottom support structure for molecular sieve units
DEP 39.01.40.30-Gen.	Seawater injection facilities
DEP 39.01.40.31-Gen.	Produced water treatment and injection facilities

14. PROJECT SERVICES

N/A

15. QUALITY ASSURANCE

N/A

16. ROTATING EQUIPMENT

DEP 31.25.00.10-Gen.	Hoisting facilities and weather protection for rotating equipment
DEP 31.29.00.10-Gen.	Installation of rotating equipment (amendments/supplements to API RP 686)
DEP 31.29.00.11-Gen.	Condition monitoring of rotating equipment
DEP 31.29.00.33-Gen.	Shaft sealing systems for centrifugal and rotary pumps (amendments/supplements to API 682)
DEP 31.29.00.34-Gen.	Dry gas seal for rotating equipment
DEP 31.29.02.11-Gen.	Pumps - selection, testing and installation
DEP 31.29.02.30-Gen.	Centrifugal pumps (amendments/supplements to ISO 13709)
DEP 31.29.06.30-Gen.	Centrifugal submerged motor pumps and electro submersible hydraulic turbines

DEP 31.29.06.31-Gen.	Seawater lift pumps
DEP 31.29.40.10-Gen.	Compressors - Selection, testing, and installation
DEP 31.29.40.30-Gen.	Axial, centrifugal and expander compressors (amendments/supplements to API STD 617)
DEP 31.29.40.31-Gen.	Reciprocating compressors (amendments/supplements to API 618)
DEP 31.29.40.32-Gen.	Rotary-type positive displacement compressors (amendments/supplements to API 619)
DEP 31.29.40.34-Gen.	Packaged reciprocating gas compressors (amendments/supplements to ISO 13631)
DEP 31.29.60.10-Gen.	Steam turbines - Selection, testing and installation
DEP 31.29.60.31-Gen.	Special-purpose steam turbines (amendments/supplements to API STD 612:2014)
DEP 31.29.60.32-Gen.	Lubrication, shaft-sealing and oil-control systems and auxiliaries (amendments/supplements to ISO 10438)
DEP 31.29.60.33-Gen.	Lubrication, shaft-sealing and oil-control systems – Selection, testing, and installation
DEP 31.29.70.11-Gen.	Combustion gas turbines - selection, design, engineering, testing and installation
DEP 32.29.20.10-Gen.	Safeguarding and instrumented protective functions for rotating equipment
DEP 37.29.01.10-Gen.	Firewater pumps for offshore installations

17. TECHNICAL SAFETY ENGINEERING

DEP 01.00.02.13-Gen.	Process engineering and safeguarding practices (PRENSAP)
DEP 34.17.10.35-Gen.	Siting of onshore occupied portable buildings
DEP 34.17.10.36-Gen.	Inflatable blast resistant shelters
DEP 37.01.10.10-Gen.	Offshore production installations basic surface process safety systems
DEP 39.01.00.10-Gen.	Onshore production installations - Basic process safety systems
DEP 80.00.00.15-Gen.	Hazard and operability (HAZOP) study
DEP 80.00.10.10-Gen.	Area classification for installations handling flammable fluids (amendments/supplements to EI 15 and chapter 3 of EI 1)
DEP 80.45.10.11-Gen.	Overpressure and underpressure – Prevention and protection
DEP 80.45.10.12-Gen.	Emergency depressuring and sectionalizing
DEP 80.47.10.12-Gen.	Fire protection systems for offshore facilities
DEP 80.47.10.30-Gen.	Assessment and design of the fire safety of onshore installations
DEP 80.47.10.31-Gen.	Active fire protection systems and equipment for onshore facilities
DEP 80.47.10.32-Gen.	Fire-fighting agents and portable/mobile fire fighting equipment for onshore applications
DEP 80.47.10.33-Gen.	Standard for automotive fire apparatus (amendments/supplements to NFPA 1901)
DEP 80.80.00.11-Gen.	Control and mitigation of fires and explosions on offshore production installations (amendments/supplements to ISO 13702:1999)
DEP 80.80.00.12-Gen.	Offshore production installations - Requirements and guidelines for emergency response (amendments/supplements to ISO 15544:2000)

18. TELECOMS

DEP 32.71.00.10-Gen.	Telecommunications for onshore facilities
DEP 32.71.00.12-Gen.	Telecommunications for offshore facilities

19. UTILITIES & HEAT TRANSFER

DEP 20.05.50.10-Gen.	Heat transfer fluid systems
DEP 20.05.60.10-Gen.	Fuel systems
DEP 20.21.00.31-Gen.	Fouling margins in tubular heat exchanger design
DEP 30.05.10.30-Gen.	Nitrogen/Oxygen supply and nitrogen distribution systems
DEP 30.73.10.30-Gen.	Safe vapour control for wastewater collection and treatment systems
DEP 30.75.10.10-Gen.	Steam, condensate and boiler feed water systems
DEP 30.75.10.30-Gen.	Water-tube boilers
DEP 31.10.11.31-Gen.	Gaseous oxygen systems
DEP 31.21.01.12-Gen.	Shell and tube heat exchangers; selection and application
DEP 31.21.01.30-Gen.	Shell and tube heat exchangers (amendments/supplements to API STD 660)
DEP 31.21.01.32-Gen.	Plate and frame heat exchangers (amendments/supplements to ISO 15547-1:2005)
DEP 31.21.01.34-Gen.	Brazed aluminium plate-fin heat exchangers (amendments/supplements to ISO 15547-2:2005)
DEP 31.21.01.37-Gen.	Spiral plate heat exchangers (amendments/supplements to ISO 12211:2012)
DEP 31.21.01.38-Gen.	Chilling systems
DEP 31.21.07.30-Gen.	Hairpin-type heat exchangers (amendments/supplements to ISO 12212:2012)
DEP 31.21.20.33-Gen.	Closed circuit cooling systems
DEP 31.21.70.10-Gen.	Air-cooled heat exchangers; Selection and application
DEP 31.21.70.31-Gen.	Air-cooled heat exchangers (amendments/supplements to ISO 13706:2011)
DEP 31.24.00.30-Gen.	Fired heaters (amendments/supplements to API STD 560)
DEP 31.24.67.10-Gen.	Firetube heaters
DEP 31.27.21.30-Gen.	Dry electrostatic precipitators
DEP 31.37.00.11-Gen.	Instrument air supply
DEP 32.24.20.44-Gen.	Instrumentation control and protection for fired equipment
DEP 34.74.00.10-Gen.	Design of cooling tower water system
DEP 37.05.10.10-Gen.	Design of seawater systems for offshore and onshore
DEP 37.05.10.11-Gen.	Diesel oil systems
DEP 37.14.10.10-Gen.	Drain systems for offshore installations
DEP 80.45.11.12-Gen.	Flare details (amendments/supplements to ISO 25457)

20. WELLS ENGINEERING

NOTE: Refer to the Wells Standards Portal. These standards are not maintained by the Technical Standards Team.