

Changes shown by ↗

| PRACTICE                               | TITLE                                                                                       |
|----------------------------------------|---------------------------------------------------------------------------------------------|
| <b>DESIGN, LAYOUT, AND ARRANGEMENT</b> |                                                                                             |
|                                        | <b>Piping Systems</b>                                                                       |
| ↗ IP 3-2-1                             | Sewer Systems                                                                               |
| ↗ IP 3-2-2                             | Foam System for Storage Tanks                                                               |
| ↗ IP 3-2-3                             | Firewater Systems                                                                           |
| ↗ IP 3-2-4                             | Pressure Relieving Systems                                                                  |
| • IP 3-2-7                             | Manual Sampling Systems                                                                     |
|                                        | <b>Piping for Machinery</b>                                                                 |
| ↗ IP 3-3-2                             | Suction and Discharge Piping for Centrifugal Pumps                                          |
| ↗ IP 3-3-3                             | Flushing and Drain Piping for Centrifugal and Rotary Gas Compressors                        |
| ↗ IP 3-3-5                             | Suction, Discharge, and Interstage Piping for Reciprocating Compressors                     |
| ↗ IP 3-3-6                             | Closed Cooling Waters Systems for Internal Combustion Engines and Reciprocating Compressors |
| ↗ IP 3-3-7                             | Inlet and Exhaust Piping for Steam Turbines                                                 |
| ↗ IP 3-3-8                             | Washing Systems for Steam Turbines                                                          |
| ↗ IP 3-3-10                            | Strainers for Mechanical Equipment                                                          |
| • IP 3-3-12                            | Oil Mist Lubrication Systems                                                                |
|                                        | <b>Piping for Fired Heaters and Boilers</b>                                                 |
| ↗ IP 3-4-1                             | Piping for Fired Equipment                                                                  |
|                                        | <b>Piping for Storage Tanks and Vessels</b>                                                 |
| ↗ IP 3-5-1                             | Fill and Discharge Lines, and Auxiliary Piping for Storage Tanks and Vessels                |
|                                        | <b>Piping Arrangements</b>                                                                  |
| ↗ IP 3-6-1                             | Piping for Instruments                                                                      |
| ↗ IP 3-6-2                             | Piping at Control and Protective System Valve Stations                                      |
| ↗ IP 3-6-3                             | Utility Connections to Piping and Equipment                                                 |
| ↗ IP 3-6-4                             | Vents and Drains, Flushing and Cleaning Connections                                         |
|                                        | <b>Piping Mechanical Design and Layout</b>                                                  |
| ↗ IP 3-7-1                             | Piping Layout, Supports, and Flexibility                                                    |
| • IP 3-8-1                             | Expansion Joints                                                                            |
|                                        | <b>Winterizing</b>                                                                          |
| ↗ IP 3-9-1                             | Winterizing and Protection Against Ambient Temperatures                                     |
|                                        | <b>MATERIAL SELECTION, AND SPECIFICATIONS</b>                                               |
| ↗ IP 3-10-1                            | Piping Selection and Design Criteria                                                        |
| • IP 3-10-3                            | Cement Lined Pipe and Fittings                                                              |
| • IP 3-10-4                            | Plastic and Plastic-lined Piping                                                            |
| • IP 3-11-1                            | Marine Cargo Transfer Hose                                                                  |
| • IP 3-11-2                            | Marine Loading Arms                                                                         |
| • IP 3-12-1                            | Valve Selection                                                                             |
| • IP 3-12-8                            | Block Valve Packing Systems                                                                 |
| • IP 3-12-9                            | General Requirements for Valves                                                             |
| • IP 3-15-1                            | Pressure Relief Valves                                                                      |
| ↗ IP 3-16-1                            | Flanged Joints, Gaskets, and Bolting                                                        |
| ↗ IP 3-16-3                            | Heat/Weather Shields for Flanges and Flangeless Valves                                      |
|                                        | <b>FABRICATION, ERECTION, AND TESTING</b>                                                   |
| • IP 3-18-1                            | Piping Fabrication Shop or Field                                                            |
| • IP 3-19-1                            | Piping Erection, Testing, Flushing and Cleaning                                             |

- This vendor-oriented practice is appropriate for attachment to Inquiry or Purchase document.

|                 |            |                                                                                                                                                          |                                                                         |
|-----------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| <b>IP 3-0-0</b> |            | <div><div>Piping</div><div>Section Table of Contents</div><div>(This practice is appropriate for attachment to Inquiry or Purchase Document)</div></div> | <div><div><div>EXXON</div><div>INTERNATIONAL PRACTICE</div></div></div> |
| Page 2 of 3     |            |                                                                                                                                                          |                                                                         |
| Rev. 5          | March 1998 |                                                                                                                                                          |                                                                         |

#### Revision Memo

|       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6/70  | Revision 1 - Added BP 3-2-5, BP 3-12-6.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 1/71  | Revision 2 - Added BP 3-11-2, Revised title BP 3-10-1 (Formerly Pipe Selection Criteria).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 6/71  | Revision 3 - Deleted BP 3-1-1 (Drawings and Records).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 1/72  | Revision 4 - Added BP 3-12-7, BP 3-14-2, BP 3-14-3. Deleted BP 3-6-5 (Block and Bleed Valves).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 6/72  | Revision 5 - Added BP 3-3-12, Revised title BP 3-14-1 (Formerly Soft Seated Ball Valves).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 1/73  | Revision 6 - Added BP 3-9-2.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 6/73  | Revision 7 - Revised title BP 3-3-1 (Formerly Cooling Water Piping for Centrifugal Pumps).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 1/75  | Revision 8 - Added BP 3-16-2 (Formerly numbered BP 17-4-1). Revised title BP 3-12-4 (Formerly Flanged Nodular Iron Gate Valves).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 1/75  | Revision 9 - Revised title of BP 3-7-1 (Formerly Piping Flexibility Supports and Layout). Added BP 3-7-4. Revised title of BP 3-14-1 (Formerly Soft-seated Ball Valves, "Fire-Safe" Type), Deleted BP 3-17-1 (Orifice Flanges).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 1/77  | Revision 10 - Revised title of BP 3-2-1 (Formerly Sanitary and Industrial Sewer Systems).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 1/79  | Revision 11 - Added BP 3-10-4.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 6/79  | Revision 12 - Revised title of BP 3-12-5 (Formerly Threaded and Socket Welding Steel Gate and Globe Valves). Revised title of BP 3-12-7 (Formerly Steel Globe Valves). Added BP 3-12-8.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 1/80  | Revision 13 - Revised title of BP 3-10-2 (Formerly Asbestos Cement Pipe and Fittings).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 6/80  | Revision 14 - Revised status of BP 3-3-5 (Formerly "Vendor Oriented" BP). Added BP 3-1-4.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 1/81  | Revision 15 - Revised title of BP 3-4-1 (Formerly Piping for Furnaces and Boilers).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 1/82  | Revision 16 - Added BP 3-2-6.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 6/82  | Revision 17 - Revised title of BP 3-6-2 (Formerly Piping at Control Valve Stations). Added BP 3-16-3.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 1/83  | Revision 18 - Added BP 3-2-7.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 6/83  | Revision 19 - Revised titles: BP 3-3-3 (Formerly Flushing and Drain Piping for Centrifugal Gas Compressors); BP 3-3-6 (Formerly Closed Cooling Water System for Internal Combustion Engines); BP 3-12-5 (Formerly Threaded and Socket Welding Steel Gate Valves); BP 3-12-8 (Formerly Threaded and Socket Welding Steel Globe Valves).                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 1/84  | Revision 20 - Deleted BP 3-3-9 (Flushing and Sealing of Mechanical Equipment).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 6/86  | Revision 21 - Deleted BP 3-10-2 (Asbestos-cement Pipe and Fittings for Water Service).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 9/88  | Revision 22 - Revised title BP 3-2-5 (Formerly Air Foam System for Floating Roof Storage Tanks).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 3/90  | Revision 23 - Revised title BP 3-2-2 (Formerly Air Foam System for Fixed Roof Storage Tanks).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 12/91 | Revision 24 - Deleted BP 3-12-8 (Compact and Extended Body Steel Globe Valves) and included it within BP 3-12-5. Added BP 3-12-9 and BP 3-14-5.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 12/92 | Revision 25 - Revised title BP 3-11-1 (Formerly Oil Cargo Hose).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 6/93  | Revision 26 - Revised title of BP 3-4-1 (Formerly Piping for Fired Heaters and Boilers).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 12/93 | Revision 27 - Revised title of BP 3-16-3 (Formerly Heat/Weather Shields for Flangeless Valves). Deleted BP 3-14-5 (Fire Test Requirements for Soft-Sealed Quarter-Turn Valves); Subject now covered in BP 3-12-1.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 6/94  | Revision 0 - Original Issue of International Practice<br>Added IP 3-12-8.<br>Deleted BP 3-3-11 Auxiliary Piping for Machinery.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 12/94 | Revision 1<br>BP 3-3-8 changed to IP 3-3-8.<br>BP 3-3-12 changed to IP 3-3-12.<br>BP 3-10-3 changed to IP 3-10-3.<br>BP 3-10-4 changed to IP 3-10-4.<br>BP 3-12-2 changed to IP 3-12-2 and title change (formally Piping Fabrication).<br>BP 3-12-4 changed to IP 3-12-4.<br>BP 3-12-5 changed to IP 3-12-5.<br>BP 3-12-9 changed to IP 3-12-9 and title changed from <i>Additional</i> to <i>General</i> .<br>BP 3-13-1 changed to IP 3-13-1.<br>BP 3-14-2 changed to IP 3-14-2.<br>BP 3-19-1 changed to IP 3-19-1 and title change (formally Piping Erection Testing).<br>Deleted BP 3-12-3 Flanged Cast Iron Gate Valves.<br>Deleted BP 3-12-6 Nickel Alloy Gate Valves.<br>Deleted BP 3-12-7 Steel Globe, Valves, Flanged or Buttwelding Ends.                            |
| 6/95  | Revision 2<br>BP 3-2-3 changed to IP 3-2-3.<br>BP 3-2-4 changed to IP 3-2-4.<br>BP 3-2-5 changed to IP 3-2-5.<br>BP 3-18-1 changed to IP 3-18-1, and title change (formerly Piping Fabrication).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 6/96  | Revision 3<br>BP 3-2-1 changed to IP 3-2-1.<br>BP 3-2-2 changed to IP 3-2-2.<br>BP 3-3-2 changed to IP 3-3-2.<br>BP 3-5-1 changed to IP 3-5-1.<br>BP 3-7-1 changed to IP 3-7-1.<br>BP 3-8-1 changed to IP 3-8-1.<br>BP 3-10-1 changed to IP 3-10-1, and title change (formerly Piping Selection Criteria).<br>BP 3-11-1 changed to IP 3-11-1.<br>BP 3-11-2 changed to IP 3-11-2.<br>BP 3-16-1 changed to IP 3-16-1, and title change (formerly Flanges, Gaskets, Bolting and Fittings).<br>BP 3-16-2 (SAFETY SHIELDS FOR PIPING AND EQUIPMENT) relocated to Section 17, Renumbered as IP 17-4-1.<br>Deleted BP 3-3-4 Flushing Piping for Reciprocating Gas Compressors.<br>Deleted BP 3-7-4 (Piping Layout) included in IP 3-7-1.<br>Deleted BP 3-9-2 External Steam Tracing. |