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|  | <p>نگهداشت و افزایش تولید میدان نفتی بینک<br/>سطح الارض و ابنیه تحت الارض</p> <p>عمومی و مشترک</p> |           |           |         |      |          |       |  |      |
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## طرح نگهداشت و افزایش تولید 27 مخزن

### SPECIFICATION FOR PIGS

#### نگهداشت و افزایش تولید میدان نفتی بینک



|      |           |                         |               |             |              |                 |
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IDC: Inter-Discipline Check  
IFC: Issued For Comment  
IFA: Issued For Approval  
AFD: Approved For Design  
AFC: Approved For Construction  
AFP: Approved For Purchase  
AFQ: Approved For Quotation  
IFI: Issued For Information  
AB-R: As-Built for CLIENT Review  
AB-A: As-Built –Approved

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## 1.0 INTRODUCTION

Binak oilfield in Bushehr province is a part of the southern oilfields of Iran, is located 20 km northwest of Genaveh city.

With the aim of increasing production of oil from Binak oilfield, an EPC/EPD Project has been defined by NIOC/NISOC and awarded to Petro Iran Development Company (PEDCO). Also PEDCO (as General Contractor) has assigned the EPC-packages of the Project to "Hirgan Energy - Design and Inspection" JV.

### GENERAL DEFINITION



The following terms shall be used in this document.

|                              |  |
|------------------------------|--|
| CLIENT:                      | National Iranian South Oilfields Company (NISOC)   |
| PROJECT:                     | Binak Oilfield Development – General Facilities  |
| EPD/EPC CONTRACTOR (GC):     | Petro Iran Development Company (PEDCO)   |
| EPC CONTRACTOR:              | Joint Venture of : Hirgan Energy – Design & Inspection(D&I) Companies  |
| VENDOR:                      | The firm or person who will fabricate the equipment or material.   |
| EXECUTOR:                    | Executor is the party which carries out all or part of construction and/or commissioning for the project.          |
| THIRD PARTY INSPECTOR (TPI): | The firm appointed by EPD/EPC CONTRACTOR (GC) and approved by CLIENT (in writing) for the inspection of goods.     |
| SHALL:                       | Is used where a provision is mandatory.  |
| SHOULD:                      | Is used where a provision is advisory only.  |
| WILL:                        | Is normally used in connection with the action by CLIENT rather than by an EPC/EPD CONTRACTOR, supplier or VENDOR. |
| MAY:                         | Is used where a provision is completely discretionary.   |

## 2.0 SCOPE

This document covers the requirements for fabrication of multi-purpose Pipeline Pigs for this project which shall be observed by vendors. This Specification covers the minimum requirements for production and testing of Pipeline Pig from the suitable materials as specified hereunder in this specification.

All requirements of IPS-M-PI-170 shall be considered for all items in this specification.

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Deviations from this specification shall be approved by client. Any omission in these requirements shall not relieve the vendor of his responsibility of requirements specified in the project documentation.

### 3.0 NORMATIVE REFERENCES

#### 3.1 LOCAL CODES AND STANDARDS

- IPS-M-PI-170 Material & Equipment Standard for Pigs
- IPS-E-PI-140 Engineering Standard For Onshore Transportation Pipelines
- IPS-C-PI-370 Construction Standard For Transportation Pipelines (Onshore) Pressure Testing
- IPS-C-PI-140 Construction Standard For Transportation Pipelines (Onshore)

#### 3.2 INTERNATIONAL CODES AND STANDARDS

- ASTM A 194 Standard Specification for Carbon and Alloy Steel Nuts for Bolts
- ASME B 16.9 Wrought Steel Butt – Welding Fittings
- ASME B 31.8 Gas Transmission and Distribution Piping System

#### 3.3 PROJECT DOCUMENTS

- BK-GNRAL-PEDCO-000-PL-SP-0008 Specification For Pipeline Flushing, Cleaning And Hydrostatic Testing



#### 3.4 ENVIRONMENTAL DATA

Refer to "Process Basis of Design; Doc. No.BK-GNRAL-PEDCO-000-PR-DB-0001".

#### 3.5 CONFLICT REQUIREMENT

In case of any conflict between requirements specified herein & the requirements of any other referenced document, this subject shall be reflected to CLIENT and the final decision will be made by CLIENT.

### 4.0 DESIGN MANUFACTURING AND MATERIAL

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#### 4.1 DESIGN

The pig's body shall have an appropriate design to pass through pipeline bend having a minimum radius of curvature of 3 times the diameter. The cups for the pigs shall have an ample design and flexibility to cope with each pipeline internal diameter variation.

Gauging plates diameter shall be 95% of the minimum bore of the specified pipe.

Recommended gauging plate thickness is 4mm and shall be placed between first and second cups.

The pigs shall have proper design to be used for hydrostatic filling, dewatering/drying and cleaning and commissioning activities.

The number of cups to be implemented in the design of pig body shall be 4 numbers and the pig could be equipped with gauging aluminium plate and brushing components.

The pig could be equipment with an electronic pig location system that will locate pigs wherever they go through pipeline.

The pig tracker system consists of cylindrical transmitter which travels with the pig, and a hand held pick-up wand and receiver that receive the signals and inform the operator of the transmitter/pig's location.

#### 4.2 MATERIAL

The Min. travelling distance for the pig shall be assumed as 200 km. (according to experience of similar projects) therefore the cups shall be made from high strength tear resistance and resilient material to withstand such travelling length without considerable tear and wear.



### 5.0 MANUFACTURER'S MARKING AND CONTRACT TAGGING

#### 5.1 MANUFACTURER'S MARKING

Each pig shall be marked in accordance with manufacturer's standard.

#### 5.2 CONTRACT TAGGING

- Each metallic pig shall be fitted with a rust-resistant metal tag securely attached to it with sufficient twist of stainless steel wire.
- Tags shall not be attached through bolt holes of pig flanges.

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- Non-metallic pigs should be marked with an identification number and tag shall be stamped on the appropriate storage box with same identification number.
- The minimum dimension for tags and wires are as follows:
  - a) Size of tag
    - Round 40 mm (1½ inches)
    - Rectangular 12 × 70 mm (½ × 2¾ inches)
  - b) Thickness of tag
    - 16 B & S Gage (1.3 mm) minimum
  - c) Lettering height
    - 6 mm (¼ inches) minimum
  - d) Wire diameter
    - 16 B & S Gage (1.3 mm) minimum