

# نرکت تور تردایا<sup>ن</sup> HIRGAN ENERGY

#### عمومی و مشترک

شماره پیمان:

053 - 073 - 9184

SPEC	SPECIFICATION FOR PLANT PIPING SYSTEMS PRESSURE TESTING									
پروژه	بسته کاری	صادر کننده	تسهيلات	رشته	نوع مدرك	سريال	نسخه			
BK	GNRAL	PEDCO	000	PI	SP	0010	D01			

شماره صفحه: 1 از 8

## طرح نگهداشت و افزایش تولید 27 مخزن

## SPECIFICATION FOR PLANT PIPING SYSTEMS PRESSURE TESTING

نگهداشت و افزایش تولید میدان نفتی بینک

D01	DEC. 2022	AFD	M.Noori	M.Fakharian	M.Mehrshad	
D00	AUG. 2021	IFC	M.Asgharnejad	M.Fakharian	Sh.Ghalikar	
Rev.	Date	Purpose of Issue/Status	Prepared by:	Checked by:	Approved by:	CLIENTApproval
Class:2		CLIENT Doc. Number: 'F0	Z-707140			

#### Status:

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



## عمومی و مشترک



شماره پیمان:

SPECIFICATION FOR PLANT PIPING SYSTEMS PRESSURE TESTING

053 - 073 - 9184

پروژه	بسته کاری	صادر کننده	تسهيلات	رشته	نوع مدرك	سريال	نسخه
BK	GNRAL	PEDCO	000	PI	SP	0010	D01

شماره صفحه: 2 از 8

#### **REVISION RECORD SHEET**

				F	REVISI
PAGE	D00	D01	D02	D03	D04
1	Х	Χ			
2	X X X	Х			
3	X				
4	X				
5	X	Y			
6 7		X X X			
8		X			
9					
10					
11					
12					
13					
14					
15 16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27 28					
29					
30					
31					
32					
33					
34					
35					
36					
37					
38 39					
40					
41					
42					
43					
44					
45					
46					
47	-				
48	1				
49 50					
51					
52					
53					
54					
55					
56					
57					
<u>58</u>					
<u>59</u>					
60 61	1				
62					
63					
64					
65					

PAGE	D00	D01	D02	D03	D04
66					
67 68					
69					
70					
71 72					
73					
74					
<u>75</u>					
<u>76</u> 77					
78					
79					
80					
81 82					
83					
84					
85			-		
86 87			<del>                                     </del>		
88					
89					
90					
91 92					
93					
94					
95					
96					
97 98					
99					
100					
101 102					
103					
104					
105					
106 107					
107					
109					
110			1		
111 112			<del>                                     </del>		
113					
114					
115			1		
116 117			-		
118			<u> </u>		
119					
120			<u> </u>	1	
121 122			<del>                                     </del>		
123			<u> </u>		
124					
125			-		
126 127			<del>                                     </del>		
127			<u> </u>		
129					
130			<u> </u>		





## عمومی و مشترک

شماره پیمان:

053 - 073 - 9184

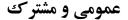
SPEC	SPECIFICATION FOR PLANT PIPING SYSTEMS PRESSURE TESTING								
پروژه	بسته کاری	صادر کننده	تسهيلات	رشته	نوع مدرك	سريال	نسخه		
BK	GNRAL	PEDCO	000	PI	SP	0010	D01		

شماره صفحه: 3 از 8

#### **CONTENTS**

0.0	INTRODUCTION	4
1.0	SCOPE	4
2.0	NORMATIVE REFERENCES	5
3.0	DEFINITIONS AND TERMINOLOGY	5
4.0	UNITS	6
5.0	GENERAL REQUIREMENTS (MOD.)	6
6.0	HYDROSTATIC PRESSURE TESTING	6
7.0	PNEUMATIC PRESSURE TESTING	
8.0	REPAIRS	7
9.0	MANUFACTURING CERTIFICATE FOR PREFABRICATED PIPING	7
10.0	DOCUMENTATION REQUIREMENTS	7







شماره پیمان:

053 - 073 - 9184

SPEC	SPECIFICATION FOR PLANT PIPING STSTEMS PRESSURE TESTING							
پروژه	بسته کاری	صادر کننده	تسهيلات	رشته	نوع مدرك	سريال	نسخه	
BK	GNRAL	PEDCO	000	PI	SP	0010	D01	

شماره صفحه: 4 از 8

#### 0.0 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: 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 EPC CONTRACTOR and

approved by GC & COMPANY (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

COMPANY rather than by an EPC/EPD

CONTRACTOR, supplier or VENDOR.

MAY: Is used where a provision is completely discretionary.

#### 1.0 SCOPE

This specification gives amendment and supplement to IPS-C-PI-350(2), "Construction Standard for Plan t Piping Systems Pressure Testing "for hydrostatic and pneumatic pressure tests in the piping construction works for this project.







شماره پیمان:

053 - 073 - 9184

SPEC	SPECIFICATION FOR PLANT PIPING SYSTEMS PRESSURE TESTING								
پروژه	بسته کاری	صادر کننده	تسهيلات	رشته	نوع مدرك	سريال	نسخه		
BK	GNRAL	PEDCO	000	PI	SP	0010	D01		

شماره صفحه: 5 از 8

It shall be used in conjunction with data/requisition sheets for present document subject.

(IPS-C-PI-350(2) covers the minimum requirements of pressure test to be carried out on plant piping systems. Upon completion of piping systems and before commissioning, it shall be pressure tested in order to prove the strength of the system, its tightness (absence of leaks) and the integrity of weldments and materials.

#### 2.0 NORMATIVE REFERENCES

#### INTERNATIONAL CODES AND STANDARDS

#### ASME (AMERICAN SOCIETY OF MECHANICAL ENGINEERES)

ASME B 31.3 Process Piping

ASME B 16.5
 Pipe Flanges and Flanged Fittings

ASME Section V Non-Destructive Examination

ASME PCC-2 Repair of Pressure Equipment and Piping

#### **LOCAL CODES AND STANDARDS**

#### **IPS (IRANIAN PETROLEUM STANDARD)**

IPS-C-PI-350 (1)
 PLANT Piping system Pressure testing

IPS-C-IN-100 General Instrumentation

IPS-E-GN-100 Units

• IPS-C-PI-370 Construction Standard for Transportation Pipelines

(Onshore) Pressure Testing

#### THE PROJECT DOCUMENTS

BK-GNRAL-PEDCO-000-PI-DC-0001 Piping Design Criteria
 BK-GNRAL-PEDCO-000-PR-DB-0001 Process Basis of Design

#### **ENVIRONMENTAL DATA**

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

#### 3.0 DEFINITIONS AND TERMINOLOGY

No amendments or supplements are to state.



053 - 073 - 9184

#### نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض

## المنتوريون المنتوريون المنتوريون المنتوريون المنتوريون المنتوريون المنتوريون المنتوريون المنتوريون المنتوريون

#### عمومی و مشترک

شماره پیمان:

SPECIFICATION FOR PLANT PIPING SYSTEMS PRESSURE TESTING

 نسخه
 سریال
 نوع مدرک
 رشته
 تسهیلات
 صادرکننده
 بسته کاری
 پروژه

 BK
 GNRAL
 PEDCO
 000
 PI
 SP
 0010
 D01

شماره صفحه: 6 از 8

#### 4.0 UNITS

No amendments or supplements are to state.

#### 5.0 GENERAL REQUIREMENTS (MOD.)

5.1 before commencing pressure test, the executor shall prepare and submit for the engineer approval a detailed test procedure and test package together with the pressure test flow sheets, P&IDs and hydro test diagram. (mod.)

#### 6.0 HYDROSTATIC PRESSURE TESTING

- 6.1 TEST PRESSURE (MOD.)
  - 6.5.2 REFRIGERATION SERVICE TEST PRESSURE (DEL.)
  - 6.5.3 VACUUM SERVICES TEST PRESSURE (DEL.)
  - 6.5.5 JACKETED LINES TEST PRESSURE (DEL.)



6.7.23 (ADD)

Before injecting water into the pipeline, the suspended particles in the water should be brought below the permissible level using a filter or other possible methods.

#### 6.9.7 (ADD)

In case, after the static water pressure test, the piping system is not put into service for a significant period of time, it is necessary to consider the necessary measures such as use of nitrogen gas with a positive pressure of at least 5 psi.

#### 6.9.8 (ADD)

In case of using anti-corrosion materials, it is necessary to consider the instructions for neutralization at the time of water discharge from the Department of Safety, Health and Environment .If potable or industrial water is used and the storage time inside the pipe is limited to the test time, it will not be necessary to inject multi-purpose corrosion inhibitors.

#### 6.9.9 (ADD)

In order to dry the pipe, hot air blowing should be continued until it reaches below the dew point. The relative humidity inside the pipe shall be same as before the static test. At the same time, the air coming out of the compressor should also be free of any contaminants such as oil. The presence of COMPANY's representatives of is mandatory in all stages of the above





### عمومي و مشترك

شماره پیمان:

053 - 073 - 9184

SPECIFICATION FOR PLANT PIPING SYSTEMS PRESSURE TESTING								
پروژه	بسته کاری	صادر کننده	تسهيلات	رشته	نوع مدرك	سريال	نسخه	
BK	GNRAL	PEDCO	000	PI	SP	0010	D01	

شماره صفحه: 7 از 8

operation.

#### 7.0 PNEUMATIC PRESSURE TESTING

No amendments or supplements are to state.

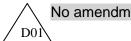
#### 8.0 REPAIRS

No amendments or supplements are to state.

#### 9.0 MANUFACTURING CERTIFICATE FOR PREFABRICATED PIPING

No amendments or supplements are to state.

#### 10.0 DOCUMENTATION REQUIREMENTS



No amendments or supplements are to state.





#### عمومي و مشترك

شماره پیمان:

053 - 073 - 9184

;	SPECIFICATI	ON FOR PLAN	NT PIPING	SYSTEM	S PRESSURE	TESTING	
پروژه	بسته کاری	صادر کننده	تسهيلات	رشته	نوع مدرك	سريال	نسخه
RK	GNRAI	PEDCO	000	PI	SP	0010	DOO

شماره صفحه: 8 از 8



#### **ANNEX 1 - HYDROSTATIC TEST RECORD LOG**

#### HYDROSTATIC TEST RECORD LOG 5. 1.SERIAL 2.TEST 4.TEST 6. TEST 7. TEST 8. T/O 3.DESCRIPTION **EXAMINATION** 9.REMARK NO. **PRESSURE START** NO. COMPLETED **DATE** PRESSURE