









CLIENT:  NISOC	Development Plan of 28 Reservoirs / BIBI HAKIMEH Oilfield (EPC)								CONTRACTOR  	
Project No.: 053-073-9189	Document Title PMI PROCEDURE FOR INTERNAL									Page No. : 1 of 7
	Vendor Document	Project Code	Work Package	Vendor Abbreviation	Facility	Discipline	Type	Sequence Number	Rev.	
	VD	BH	00	KG	000	PI	PR	2014	02	

PMI PROCEDURE FOR INTERNAL

Rev.	Date	Document Status	Prepared by:	Checked by:	Approved by:	Client Approval
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02	15-3-2025	FI	H.B.	H.B.	H.B.	-

Class: R	
Status: <p>IFC: Issued For Comment</p> <p>IFI: Issue for Information</p> <p>IFA: Issue for Approval</p> <p>AB-R: As-Built for COMPANY Review</p> <p>FI: Final Issue</p> <p>AB-A: As-Built –Approved</p>	

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Tabulation of Revised Pages

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	00	01	02							00							
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2	X	X	X						52								
3	X	X	X						53								
4	X	X	X						54								
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6	X	X	X						56								
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1. INTRODUCTION

National Iranian South Oil Company (NISOC) plans to conduct an integrated project includes several sub-projects to preserve and increase production of Gachsaran oil fields located in south of Iran Khuzestan and Bushehr provinces as follow:

- 1) Revamping of Production and Desalting Units of Bibi Hakimeh 1&2
- 2) Fabrication & Installation a Preheater, Stripping Column and Related Equipment for Nargesi Production Unit

The purposes of first sub-project are equipping and extension of Bibihakime-2 desalting unit to achieve 110,000 SBPD desalted crude oil, and necessary modifications in Bibihakime-2 desalting & production units and Bibihakime-1 production unit so that the new plants will be able to process crude oil with 22% water cut and transfer waste water from Bibihakime-1 production unit to waste water treatment facilities in Bibihakime-1 desalting unit via installation of a none-metal pipe. Therefore, National Iranian South Oil Company (NISOC) has announced this project.

The purpose of second sub-project is crude oil sweetening in Nargesi plant by new design and necessary modifications in existing facilities. National Iranian South Oil Company (NISOC), on behalf of the National Iranian Oil Company (NIOC) is responsible to exploit oil and gas from onshore fields in the south district of Iran. According to management of planning & international affairs of National Iranian Oil Company (NIOC) pronouncement, H2S content and RVP specification of exported oil shall be in the specified allowable range; Accordingly, NISOC has decided to fulfil a project, investigating and probing required equipment and operational conditions to meet the desired crude oil specifications of sulphur content and RVP for Nargesi production units.





2. SCOPE

Revamping of Production and Desalting Units of Bibi Hakimeh 1&2 and Fabrication & Installation a Preheater, Stripping Column and Related Equipment for Nargesi Production Unit sub-projects.

3. DEFINITIONS

Within the context of this document, the following definitions are applicable

Owner/Client	: National Iranian south oil company (NISOC)
Title	: Development Plan of 28 Reservoirs/ BIBI HAKIMEH Oilfield (EPC)
Contractor	: Mashin Sazi Arak/ Sealand Engineering and Well Services JV
Consultant	: Tehran Raymand Consulting Engineers

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- Will: Is normally used in connection with the action by the “Company” rather than by a contractor, supplier or vendor.
- May: Is used where a provision is completely discretionary
- Should: Is used where a provision is advisory only.
- Shall: Is used where a provision is mandatory.

4. CODES AND STANDARDS

- Material specifications such as ASTM A240, ...
- Customer Requirements, Specification for Welding Rod, electrodes & filler metals, ASME Sec

II REFERENCE DOCUMENTS

5. REFERENCE DOCUMENTS

- Specification for positive material identification: AZAS235-00-DS-000-MW-SP-0006-D03

6. QUALIFICATION






- Inspection of PMI shall be performed by the qualified person or QC inspector
- PMI operator shall be qualified by this procedure and QC instruction
- Operator shall be trained as follows:
 - Use of Instrument
 - Material Specifications
 - Method of Calibration and measurement
 - Training records of PMI operator shall be recorded

GENERAL NOTES:

- 1- PMI shall not be considered as a substitute for required material test reports, and material test reports shall not be considered as acceptable PMI.
- 2- PMI shall be performed at the point of application at a time which ensures that proper materials have been used in the fabrication of an identifiable assembly. All tests and stages of PMI shall be subject to further witness by the Purchaser's inspector.

7. PREPARATION

The surface of the materials for test should be clean, dry & free from any condition which may affect results such as oil or grease.

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8. CALIBRATION

- Calibration of instrument shall be performed every day before use
- Calibration of instrument shall be performed by using standardized reference blocks.
- After calibration of instrument, if measured values are out of the reference range PMI Operator shall be handled as described in accordance with Nonconformance Control Procedure.

9. PROCEDURE

- The PMI tester must be contacted vertically horizontal on the materials for the test.
- PMI shall be performed 5% for Alloy steel and Stainless steel parts of gaskets.
- PMI shall be applied separate base metal and weld metal, if materials were included welded part, both inside and outside weld surfaces shall be tested.
- The acceptance criteria are as bellows:
 - a. Base metal of element amount specified in ASTM code for each element (see table 1)
 - b. Weld metal of element amount specified in ASME Sec IIC for each element.
- If the PMI testing results fall outside the acceptable range, sample cut out from the pieces and chemical analysis perform at laboratory.
- Materials were rejected by PMI marked with letter "X" on the items and the rejected items shall be handled as described in accordance with Nonconformance Control Procedure.
- The rejected items shall be replaced.

10. MARKING

When materials are accepted by test, the materials shall be marked with letter "AV" by using a low stress metal stamp or stencil onto the adjacent to the manufacturer's marking.





11. REPORT

The PMI test results shall be recorded on "PMI test Report" shown on Attachment 1.

Table1- Ferrous Materials

Material	Acceptable measured range			
	Cr	Ni	Mo	Notes
304L	17-21	7.5- 11		1
316L	15.5-18.5	9.5- 14.5	1.75- 3.25	1

When specifications require that the carbon content of the base metal be determined so that "L" (Low Carbon) or "H" (High Carbon) grades may be distinguished, chemical analysis for carbon shall be conducted in accordance with ASTM E1086.

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Attachment 1.-POSITIVE MATERIAL IDENTIFICATION REPORT

EQUIPMENT NAME : _____ Date of Inspection : _____

Report No : _____ Project Name : _____

Serial Number : _____ Type : _____

Fabricator : _____

1. STANDARD CHEMICAL CONTENT, WEIGHT PERCENT (%)

Material code	Components					Marker
	Max					
	Min					
	Max					
	Min					

1. PMI RESULTS

oN	ITEM.	Material	CHEMICAL CONTENT, WEIGHT PERCENT (%)			Heat code num.	Qty.	RESULT
			Ni	Cr	Mo			

	QC Inspector	Purchaser	PIT
Signature			