|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **طرح نگهداشت و افزایش تولید 27 مخزن** | | | | | | | |
| **MATERIAL CONTROL PROCEDURE**  **نگهداشت و افزایش تولید میدان نفتی بینک** | | | | | | | |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| G00 | Aug. 2022 | IFC | M.Torabi | M.Fakharian | M.Mehrshad |  |
| **Rev.** | **Date** | **Purpose of Issue/Status** | **Prepared by:** | **Checked by:** | **Approved by:** | **CLIENT Approval** |
| **Class: 2** | | **CLIENT Doc. Number:** **F0Z-707065** | | | | |
| **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** | | | | | |

**REVISION RECORD SHEET**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **PAGE** | **G00** | **G01** | **G02** | **G03** | **G04** |  | **PAGE** | **G00** | **G01** | **G02** | **G03** | **G04** |
| **1** | X |  |  |  |  | **66** |  |  |  |  |  |
| **2** | X |  |  |  |  | **67** |  |  |  |  |  |
| **3** | X |  |  |  |  | **68** |  |  |  |  |  |
| **4** | X |  |  |  |  | **69** |  |  |  |  |  |
| **5** | X |  |  |  |  | **70** |  |  |  |  |  |
| **6** | X |  |  |  |  | **71** |  |  |  |  |  |
| **7** | X |  |  |  |  | **72** |  |  |  |  |  |
| **8** | X |  |  |  |  | **73** |  |  |  |  |  |
| **9** | X |  |  |  |  | **74** |  |  |  |  |  |
| **10** | X |  |  |  |  | **75** |  |  |  |  |  |
| **11** | X |  |  |  |  | **76** |  |  |  |  |  |
| **12** |  |  |  |  |  | **77** |  |  |  |  |  |
| **13** |  |  |  |  |  | **78** |  |  |  |  |  |
| **14** |  |  |  |  |  | **79** |  |  |  |  |  |
| **15** |  |  |  |  |  | **80** |  |  |  |  |  |
| **16** |  |  |  |  |  | **81** |  |  |  |  |  |
| **17** |  |  |  |  |  | **82** |  |  |  |  |  |
| **18** |  |  |  |  |  | **83** |  |  |  |  |  |
| **19** |  |  |  |  |  | **84** |  |  |  |  |  |
| **20** |  |  |  |  |  | **85** |  |  |  |  |  |
| **21** |  |  |  |  |  | **86** |  |  |  |  |  |
| **22** |  |  |  |  |  | **87** |  |  |  |  |  |
| **23** |  |  |  |  |  | **88** |  |  |  |  |  |
| **24** |  |  |  |  |  | **89** |  |  |  |  |  |
| **25** |  |  |  |  |  | **90** |  |  |  |  |  |
| **26** |  |  |  |  |  | **91** |  |  |  |  |  |
| **27** |  |  |  |  |  | **92** |  |  |  |  |  |
| **28** |  |  |  |  |  | **93** |  |  |  |  |  |
| **29** |  |  |  |  |  | **94** |  |  |  |  |  |
| **30** |  |  |  |  |  | **95** |  |  |  |  |  |
| **31** |  |  |  |  |  | **96** |  |  |  |  |  |
| **32** |  |  |  |  |  | **97** |  |  |  |  |  |
| **33** |  |  |  |  |  | **98** |  |  |  |  |  |
| **34** |  |  |  |  |  | **99** |  |  |  |  |  |
| **35** |  |  |  |  |  | **100** |  |  |  |  |  |
| **36** |  |  |  |  |  | **101** |  |  |  |  |  |
| **37** |  |  |  |  |  | **102** |  |  |  |  |  |
| **38** |  |  |  |  |  | **103** |  |  |  |  |  |
| **39** |  |  |  |  |  | **104** |  |  |  |  |  |
| **40** |  |  |  |  |  | **105** |  |  |  |  |  |
| **41** |  |  |  |  |  | **106** |  |  |  |  |  |
| **42** |  |  |  |  |  | **107** |  |  |  |  |  |
| **43** |  |  |  |  |  | **108** |  |  |  |  |  |
| **44** |  |  |  |  |  | **109** |  |  |  |  |  |
| **45** |  |  |  |  |  | **110** |  |  |  |  |  |
| **46** |  |  |  |  |  | **111** |  |  |  |  |  |
| **47** |  |  |  |  |  | **112** |  |  |  |  |  |
| **48** |  |  |  |  |  | **113** |  |  |  |  |  |
| **49** |  |  |  |  |  | **114** |  |  |  |  |  |
| **50** |  |  |  |  |  | **115** |  |  |  |  |  |
| **51** |  |  |  |  |  | **116** |  |  |  |  |  |
| **52** |  |  |  |  |  | **117** |  |  |  |  |  |
| **53** |  |  |  |  |  | **118** |  |  |  |  |  |
| **54** |  |  |  |  |  | **119** |  |  |  |  |  |
| **55** |  |  |  |  |  | **120** |  |  |  |  |  |
| **56** |  |  |  |  |  | **121** |  |  |  |  |  |
| **57** |  |  |  |  |  | **122** |  |  |  |  |  |
| **58** |  |  |  |  |  | **123** |  |  |  |  |  |
| **59** |  |  |  |  |  | **124** |  |  |  |  |  |
| **60** |  |  |  |  |  | **125** |  |  |  |  |  |
| **61** |  |  |  |  |  | **126** |  |  |  |  |  |
| **62** |  |  |  |  |  | **127** |  |  |  |  |  |
| **63** |  |  |  |  |  | **128** |  |  |  |  |  |
| **64** |  |  |  |  |  | **129** |  |  |  |  |  |
| **65** |  |  |  |  |  | **130** |  |  |  |  |  |

**CONTENTS**

[1.0 INTRODUCTION 4](#_Toc111626768)

[2.0 SCOPE 5](#_Toc111626769)

[3.0 rEFERENCE 5](#_Toc111626770)

[4.0 Order of Precedence 5](#_Toc111626771)

[5.0 Health AND Safety 6](#_Toc111626772)

[6.0 PROCEDURES 6](#_Toc111626773)

## 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/GC) 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. |
| Coating Material | Material used for coating of pipes |
| Capital Equipment | Machinery or equipment that generate income for the company during its useful life, e.g. conveyor system, electric motor, compressor, etc. |
| Technical Item | Spare parts, instruments, tools and gauges etc. for machine upkeep and process quality control, |
| Component | Part to be installed onto steel pipe during coating operation e.g. anodes, buckle arrestors, end caps, etc, |
| Consumables | Is divided into two categories |
| Direct Consumables | Consumables items that are issued for production use or for activities related to the production process |
| Indirect Consumables | Shop suppliers/consumables that are issued other than for production usage e.g. maintenance work, renewal, office use etc |

## SCOPE

The purpose of this procedure is the description of the methods to be followed in all Procurement activities & services contracting required to ensure that Equipment and Materials are purchase to meet the project requirements and specification, and are supplied in time to meet the project schedule requirements.

## rEFERENCE

* ISO 9001
* Procurement & Services Contracting Procedure (BK-GNRAL-HD-000-PM-PR-0009)
* Quality Control Plan (BK-GNRAL-PEDCO-000-QC-PR-0002)
* Inspection Test Plans (ITPs)
* Vendor’s Quality System Procedures

## Order of Precedence

In case of any conflict between the contents of this document or any discrepancy between this document and other project documents or reference standards, this issue must be reported to the CLIENT. The final decision in this situation will be made by CLIENT.

## Health AND Safety

* 5.1 Personnel are to participate site specific safety introduction
* 5.2 Wearing of personnel protective equipment is required at all times in the fabrication facilities.
* 5.3 Factory and localized safety legislation will be observed at all times.
* 5.4 General Health and Safety arrangements and responsibilities will be identified in Subcontractors Health and Safety Plan including DKT safety policies.
* 5.5 Special precautions required for the handling and disposal of hazardous material during discharge of this procedure will be identified and unique safety courses will be presented.

## PROCEDURES

# Receiving of Material

6.1.1 Production team must control and check the material in accordance with the packing list, purchase order, & certificate.

6.1.2 Production team shall direct the delivery to project stores if the delivery condition is on the material certificate & purchase order.

6.1.3 Prior to off-loading, a visual inspection shall be carried out to determine any obvious damages or discrepancies that shall be reported immediately to project team by store keepers with quality control, if required.

6.1.4 The yard rigging section shall arrange and supervise the off-loading and transportation of consignments to project store when off-loading is outside of stores.

6.1.5 After off-loading of material in the assigned lay down area, the items shall be inspected carefully to ensure that the supply is in conformity with purchase order specifications and certificate requirements.

6.1.6 A detailed physical data (Dimensions, Heat No.) shall be collected from structural and piping materials and records on the material inspection report. A check list and check guide lines assist the professional as well as to guide and train store keeper and inspector in their receipt and checking activities.

6.1.7 Production team shall prepare the material receiving and inspection (MRIR) upon receipt of material and after checking completely.

6.1.8 For completion of MRIR, the following items shall be checked and reviewed.

6.1.9 Receipt of documentation upon the material arrival.

6.1.10 Material Receiving and Inspection Report (MRIR)

MRIR should have information such as Material description, size, Grade, Certificate No, Heat No, Quantity, Vendor, P.O No, shipment No.

6.1.11 upon notification of material receipt, QC shall inspect the goods along with the parties who mentioned in Inspection Test Plan (ITP) according to material certificate, purchase order, project specification and approve the material receiving and inspection reports (MRIR).

6.1.12 If discrepancies found, Non-conformance report and/or Punch List will be issued and controlled, in order to achieve quality and technical requirements of the Client.

# Identification

6.2.1 After off-loading and MRIR Issuance, all materials shall be identified with unique store number by storekeeper.

6.2.2 For newly received material, new stock card shall be created and the quantities which are mentioned to the MRIR and packing list shall be entered. Item for which stock cards already exist, the received quantity will be entered and the balance updated.

6.2.3 In view of material identification, each pieces received by project stores shall be marked.

6.2.4 The piece number may be the project engineering procurement code or assigned by storekeeper.

6.2.5 The original manufacture marking on each piece shall be kept up to its issuance.

6.2.6 The marking may be provided with a tag on the container, shelf and etc.

The storekeeper is responsible in receiving and visual inspecting the material delivered. The materials shall be visually inspected to ensure that they are in good condition.

For materials delivered whereby the unit measurement is by weight – the lorries carrying the materials shall be controlled and if necessary weighed on entering and leaving the premises. Suppliers shall be informed if any large discrepancy on the weight is recorded upon verification with the Delivery Order (where applicable). The Storekeeper shall accept the load based on the actual weight as printed by the weighing scale otherwise a discrepancy of +/- 0. 10% weight per truck load from the delivery order is allowed.

For materials delivered in rolls and drums - they shall be counted and verified against the delivery order. The suppliers shall be notified of any shortage in the number of units delivered. One or two drums is taken as a sample and checked to ensure that the volume is the same as what is written on the drum.

When quality checks are required, the necessary inspection and test shall be carried out.

Materials that are defective and do not conform to the Purchase Order shall be marked and segregated. The materials shall be returned to the supplier, if possible, otherwise they shall be disposed of.

When incoming materials are urgently required for production purposes, the products may be released provided they are positively identified and recorded. The release of the materials shall be based on the quality trend of the products and shall be approved by the Plant Superintendent.

# Receiving of Capital Expenditure and Technical Items

* + 1. The items shall be visually inspected to ensure that there are no damages.
    2. The items shall be counted and verified against the Delivery Order and Purchase Order.
    3. For those items, which require functional checks, the technical personnel to ensure that they conform to the specifications shall carry them out. The technical personnel shall sign the Delivery Order to confirm acceptance.
    4. Non-conforming items shall be marked clearly and stored separately. They shall be returned to the suppliers or disposed of depending on the circumstances.

# Receiving of Appurtenances

* + 1. Visual inspections shall be carried out to ensure that the items do not exhibit any damages and are in good conditions.
    2. They shall be counted and verified against the Delivery Order and Purchase Order.
    3. The components shall undergo further fitness test to ensure that there are no damages that are detrimental to their performance.
    4. Components found to be reject able after re-inspection shall be marked “Reject” and stored separately.

# Receiving of Consumables

* + 1. The items shall be visually inspected for any damages.
    2. They shall be counted and verified against the Delivery Order and Purchase Order.

# Storage and Preservation

* + 1. All items shall be stored accordingly to the Storage Plan.
    2. All categories of item, other than coating material of frequent use, are stored on specially designated racks in the store.
    3. All coating materials with some requiring special storage condition are stored in designated space provided in the plant area.
       1. The Primers of Paints shall be stored in a cool, dry and shaded areas.
       2. The inner wrap and outer wrap shall be stacked on suitable floors.
       3. The Enamel will be stored on clean concrete floors & under shade.

# Store Control

* + 1. The method of stock control in practice is based on the perpetual inventory. This

involve the upkeep of two sets of records.

1. Stock Cards: Which shows the physical balance of units in stock at any time.
2. Store Ledger Records: Which shows both the physical balance of units in stock and their valuation.
   * 1. Checks on the stock item shall be carded as follows:
     2. Random check of the stock item twice a month (in the middle and at the end of the month). Reports to be issued.
     3. Complete check in every three months. Reports to be issued. This is to ensure that the physical quantities held are accurately reported both in the Stock-Card and the Store Ledger. Check on materials shall be carried out concurrently to ensure that the materials are still in good conditions and within shelf-life.
     4. Correction of Discrepancies
        1. Clerical errors on the record shall be rectified.
        2. If discrepancies occur, an investigation shall be carried out. For items that need to be adjusted (write-off or surplus), the storekeeper shall first fill-in the stock adjustment form. This form shall be submitted to the Plant Superintendent for approval. Upon approval, any shortage or surplus is adjusted in the records to correspond with the physical stock.
     5. Receipt of Material and Stock Item - Goods Received Notes (G.R.N.) shall be raised for all items received by the store.
     6. Issue of Stock Item - Issue of store items shall only be made against a Material Requisition Note (M.R.N.). This document records the description/quantity of goods issued, the cost center, the project for which the requisition is being made and the project code.
     7. Issue of Material - for materials that are issued to production, the daily consumption shall be reported in the Material Issue to Production Note (M.I.P).
     8. Material Return to Store - Store return Note (S.R.N.) shall be raised when store items are returned to store.
     9. Reject Note - Used for items that are returned to the supplier.
     10. Direct Issue Terms - Items issued directly to the person who raise the purchase requisition for the items. The items shall be recorded in the Direct Issue Log Book.

# Preservation

* + 1. In case of any rust is observed on flange face then it shall be cleaned by wire brush and grease applied on raised faces or ring grooves.
    2. All jack screw holes in flanges shall be protected for ingress of dust and damage to threading by protecting it by plastic cap or tape with PVC or greased.
    3. All hot dip galvanized pipes and fittings have protective coating against corrosion. However, if damage occurs to external coating then damaged area shall be cleaned and one layer of zinc rich primer shall be applied.
    4. All external threads shall be protected by soft PVC tape / grease / plastic end cap.
    5. All paint cans shall be up and down periodically. According to supplier recommendation and storekeeper experience.
    6. All bulk items like Bolts and Nuts shall be kept in vendor supplied crates. If uncoated Nuts / Bolts / Studs are getting rusted on prolonged storage the same shall be mechanically cleaned and dipped in approved oils and shall be stored after drying.
    7. All hexagonal soft iron ring gaskets shall be kept well lubricated and under their vendor supplied wrappers.
    8. All mechanical equipment shall be checked on receipt as per packing list. After inspection, the equipment shall be stored in dry place. Equipment shall be protected from rain / water / dust, etc.
    9. Supplier instruction if mentioned for replacement of seal oil / lube oil / inserted equipment, etc. shall be followed. If manufacturer recommends rotation check of some item, then it shall be checked according to recommendation.
    10. In case vessel is inserted for preservation purpose then a tag shall be put on vessel indicating that “vessel is gas filled” for safety reason against accidental opening of vessel.
    11. In case of damage to painting on exterior surfaces of vessels, then surface shall be cleaned to bare metal by mechanical brushing and touch up paint shall carry out. The procedure for doing so should be according to painting procedure.
    12. In case orifices are supplied along with assembled flanges, the ends of flange assembly shall be capped to prevent damage. If orifice plates are supplied separately then plates shall
    13. be stored to avoid damage to edges / surface finish and corrosion and flanges shall be stored as given earlier.
    14. Protection of equipment installed on platform during fabrication stage. All procedures of material storage, handling, and preservation as applicable to warehouse storage shall also be applicable to equipment installed on platform during fabrication stage.
    15. To protect the equipment from water and possibility of fire due to welding, and incombustible material shall be used to cover the equipment.

# Material Traceability

* + 1. The foremost requirement of this procedure is punching of heat No. Item No/ part No of each item prior to cutting. Whenever every item on the jacket /Deck etc. has the above marking, it becomes traceable. The above marking are to be put on, using low stress stamps prior to cutting the stock item.Low stress stamp shall be used for structural steel and carbon steel line / pipe. Steel tag plate should be for piping. The same shall apply to ship loose items destined for offshore. Functional piping system 300# and above, all line pipe material shall be marked as described above with heat number, stock number, item number etc. as appropriate and all value and related equipments /instruments shall be marked for identification with serial No. or Tag No. etc. Direction of rolling for plate shall be marked and stamped with low stress dies. For Piping
    2. Material, die stamping shall not be used for marking trace ability of ship loose item shall be based on the tag No’s, DWG No and in some cases, heat No and /or stock No.