

**HINDUSTAN PETROLEUM CORPORATION LIMITED  
VISAKHA -VIJAYAWADA-SECUNDERABAD PIPELINE**

**RBS OPERATIONS MANUAL**



**INTEGRATED MANAGEMENT SYSTEMS  
(ISO 9001:2015, ISO 14001:2015, ISO 45001:2018)**

	<b>HINDUSTAN PETROLEUM CORPORATION LIMITED</b> VISAKHA-VIJAYAWADA-SECUNDERABAD PIPELINE VISAKHAPATNAM ANDHRA PRADESH	ISSUE NO: 2 REVISION NO.: 0 EFFECTIVE DATE: 01/01/2018 SHEET: 1 OF 1
<b>INTEGRATED MANAGEMENT PROCEDURES</b>		<b>DOCUMENT NO.: IMP/ORJ</b>
<b>TITLE</b>	<b>INDEX</b>	

S.No	Description
1	List of documents (IM Procedures/IM Instructions)
2	Amendment record Sheet
3	IM Procedures
4	List of Forms
5	IM Forms

Approved By	Issued By
	
OPERATIONS INCHARGE	IMS COORDINATOR

IMF/DCL/02  
Rev: 00

**HINDUSTAN PETROLEUM CORPORATION LIMITED**  
**VISAKHA-VIJAYAWADA-SECUNDERABAD PIPE LINE**

**LIST OF DOCUMENTS**

(IM Procedures & IM Instructions)

Department/Section : Operations - Rajahmundry

SI No	IMP/IMI Title	IMP / IMI No.	Rev. No. / Amendment No.	Effective Date
1	RAJAHMUNDRY CONTROL ROOM ACTIVITIES	IMP/ORJ/01	00	01/01/2018
2	SHUTDOWN TO RAJAHMUNDRY BOOSTER STATION	IMP/ORJ/02	00	01/01/2018
3	<b>PRODUCT SAMPLING AND LABORATORY TEST REPORTS</b>	<b>IMP/ORJ/03</b>	00	01/01/2018
4	CHECKS FOR TANKS TAKING OVER	IMI/ORJ/01	00	01/01/2018
5	LINE UP AND SWICH OVER OF RAJAHMUNDRY TANKS	IMI/ORJ/02	00	01/01/2018
6	LINE UP OF STATION, START OF RECEIPT AND LINE PUSHING	IMI/ORJ/03	00	01/01/2018
7	INTERFACE TRACKING AND RECEIPT OPERATION	IMI/ORJ/04	00	01/01/2018
8	DEDICATED RECEIPT OPERATION	IMI/ORJ/05	00	01/01/2018
9	MAIN LINE PUMP OPERATIONS	IMI/ORJ/06	00	01/01/2018
10	PIG RECEIVING AND LAUNCHING	IMI/ORJ/07	00	01/01/2018
11	SUMP TANK OPERATION	IMI/ORJ/08	00	01/01/2018
12	TO ISSUE WORK PERMITS TO MAINTENANCE OFFICER FOR CARRYING OUT M & R JOBS	IMI/ORJ/09	00	01/01/2018
	<b>COMMON OPERATIONAL PROCEDURES</b>		00	
1	START UP PROCEDURES FOR VVSPL	IMP/OPN/01	00	01/01/2018
2	SHUT DOWN PROCEDURES FOR VVSPL	IMP/OPN/02	00	01/01/2018
3	PROCEDURE FOR EMERGENCY SHUT DOWN OF VVSPL	IMP/OPN/03	00	01/01/2018
4	CALIBRATION OF THERMOMETER	IMI/OPN/01	00	01/01/2018
5	CALIBRATION OF HYDROMETER	IMI/OPN/02	00	01/01/2018

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Signature of Department Head

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	<b>HINDUSTAN PETROLEUM CORPORATION LIMITED</b> VISAKHA- VIJAYAWADA- SECUNDERABAD PIPELINE VISAKHAPATNAM ANDHRA PRADESH	ISSUE NO: 2 REVISION NO.:00 EFFECTIVE DATE: 01/01/2018 SHEET: 1 OF 1
<b>INTEGRATED MANAGEMENT PROCEDURE</b>		DOCUMENT NO.: IMP/ORJ
TITLE		AMENDMENT RECORD SHEET

IMP/IMI/IMF No	Amendment/ Revision No	Effective Date	Brief Description of Changes

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OPERATIONS INCHARGE	IMS COORDINATOR

	<b>HINDUSTAN PETROLEUM CORPORATION LIMITED</b> VISAKHA- VIJAYAWADA- SECUNDERABAD PIPELINE VISAKHAPATNAM ANDHRA PRADESH	ISSUE NO: 2 REVISION NO.: 00 EFFECTIVE DATE: 01/01/2018 SHEET: 1 OF 11
<b>INTEGRATED MANAGEMENT PROCEDURE</b>		DOCUMENT NO.: IMP/ORJ/01
TITLE		RAJAHMUNDY CONTROL ROOM ACTIVITIES

## 1.0 PURPOSE

To lay down the activities involved in operation of Rajahmundry Booster Station for receipt of products and pumping operations.

## 2.0 SCOPE

This is applicable to the operations (Heart cut and pumping) of Rajahmundry control room facilities as per the pumping schedule in coordination with the following departments.

- (i) Vizag Control Room
- (ii) Rajahmundry Terminal
- (iii) Vijayawada Booster Station
- (iv) Suryapet Booster Station
- (v) Secunderabad Receiving Stations

## 3.0 REFERENCES

IM/MR/7.5  
IM Instructions: IMI/ORJ/01/ to IMI/ORJ/09

## 4.0 RESPONSIBILITY

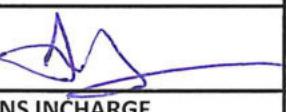
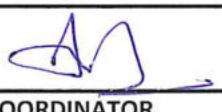
Shift In charge/Shift Engineer

## 5.0 PROCEDURE

To ensure safe operations, the activities listed below are to be followed.

### 5.1 Responsibilities of Rajahmundry Pipeline Shift In charge:

- 5.1.1 To take the detailed pumping program from Vizag control room shift In-charge.
- 5.1.2 To ensure safe operation of Rajahmundry Control Room facilities by closely monitoring and maintaining all 'Operating Parameters and recording the relevant parameters in operation log book (IMF/ORJ/01).
- 5.1.3 To line up required manpower for product receipt and pumping.
- 5.1.4 To coordinate with Rajahmundry Terminal for nominating and gauging the tank.
- 5.1.5 To line up the tank upto the product manifold as per IMI/ORJ/01.

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<b>INTEGRATED MANAGEMENT PROCEDURE</b>		DOCUMENT NO.: IMP/ORJ/01
TITLE	RAJAHMUNDY CONTROL ROOM ACTIVITIES	

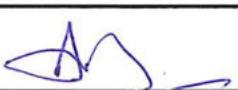
- 5.1.6 To line up receipt line up to the manifold as per IMI/ORJ/02.
- 5.1.7 To start the line pushing/receipt in coordination with Vizag and other control rooms.
- 5.1.8 To line up Rajahmundry Station as per IMI/ORJ/03.
- 5.1.9 To operate Rajahmundry Booster Pumps in coordination with Vizag, Vijayawada and Secunderabad Control Room as per IMI/ORJ/06.
- 5.1.10 To provide hourly receipt figures to Vizag and other Control rooms.
- 5.1.11 To book in ERP the quantity received in the Tanks after handing over the Tank to Terminal upon completion of receipt.
- 5.1.12 To handle the line operational parameters in coordination with Visakh and other control rooms within safe limits as per Annexure - I and Annexure - II.
- 5.1.13 To carryout sampling of product being received as per Industry Quality Control Manual and to follow up with terminal for batch formation test. To enter the details of sample in IMF/ORJ/02 (Quality Control Register)
- 5.1.14. To receive status/reports from line walkers report and security guards and to log such information in IMF/ROW/01 and IMF/ROW/02 and coordinate with the ROW In-charge and Location-In-Charge in case of any abnormality.

**5.1.15 General Inspection Guidelines**

The Shift Officers carries out at least one General Inspection round during the shift and checks at least two areas. The inspection covers but not confined to below guidelines:

**Checks for Sub Standard Conditions**

1. Common for All areas
  - Sufficient Illumination
  - Housekeeping
  - Condition in structures
  - Condition of Buildings

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<b>INTEGRATED MANAGEMENT PROCEDURE</b>		<b>DOCUMENT NO.: IMP/ORJ/01</b>
<b>TITLE</b>	<b>RAJAHMUNDY CONTROL ROOM ACTIVITIES</b>	

2. Mainline Pump House& Piping

- Abnormal Noises
- Any Leaks through Pump's Mechanical Seal, body, Valves, piping, PTs, TTs etc.
- Visually inspect HOT crane
- Condition of Emergency Shower
- Condition of Control Valves (FCVs & PCVs)
- Condition of Surge Relief Valve or Rupture Discs
- Condition of Pipe Supports
- Condition & Status of critical Valves

3. Manifold Area

- Any leaks through Valves
- Condition of NRVs
- Status of Actuators & Valves
- Condition of Culvert

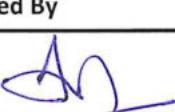
4. Sub Station

- Any alarms in panels & status of relays.
- Condition of Exhaust Fans
- Any spillages in Battery Bank
- Any Vapors in Battery Bank
- Condition of eyewash unit of battery bank
- Any alarms in VFD panel
- Condition of ACs in VFD room
- Cleanliness in substation & cellar
- Abnormal Noise from transformers

Any leak through transformer oil tank

5. Sample Room

- Condition of Exhaust fan
- Any spillages
- Proper stacking of Samples

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<b>INTEGRATED MANAGEMENT PROCEDURE</b>		<b>DOCUMENT NO.: IMP/ORJ/01</b>
<b>TITLE</b>	<b>RAJAHMUNDY CONTROL ROOM ACTIVITIES</b>	

6. Scrapper Area

- If Scrapper barrel is pressurized
- Condition of valve pits
- Any leakages
- Any vapors

7. Field Piping Area

- Any Leakages through flanges, Valves, FCVs, PCVs, Sample Points, PTs, TTs etc.
- Abnormal Sounds from PCV & FCV
- Condition of Walkovers

8. Tank Farm

- Traces of Oil in the dyke
- Any leakages from the tank
- Condition of Tank Body valves & hammer blinds

9. In and Around C/R Building

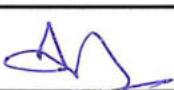
- Any spillages in CI storage shed
- DG oil level & fuel tank condition
- Any abnormality in C/R building, DG Room, CI storage shed, Scrap yard, Worker's amenities Room & Car Parking area
- Condition of Roads & Drains
- Condition of Worker's amenities Room
- Condition of PLC & SCADA Software & Hardware
- Whether Spark arrestors installed to vehicles

10. Examples of Above Standard Conditions:

- All exhaust fans found in working condition
- In Day time illumination is switched off wherever not required
- No Wild growth in the field is found
- Workers are using PPE even during idle time

The observations or findings during the above checks are recorded in shift log book (IMF/OPN/01) and the Location In charge reviews the log on daily basis and thereby assesses the condition of the plant.

Any reported substandard condition is brought to notice of concerned departmental head through maintenance log book (IMF/OPN/02), which is reviewed by Location In charge at least once in a month and the departmental heads are advised in written for early rectification.

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<b>INTEGRATED MANAGEMENT PROCEDURE</b>		<b>DOCUMENT NO.: IMP/ORJ/01</b>
<b>TITLE</b>		<b>RAJAHMUNDY CONTROL ROOM ACTIVITIES</b>

Any event observed during the inspection is recorded in Event Register kept in control room and dealt as per Event Management System.

Any substandard condition recorded more than once is treated as repetitive and necessary remedial actions are initiated to eliminate the root cause.

For any recorded above standard condition positive recognition is given verbally/e-mail on as and when required basis.

- 5.1.16 To do sump pushing as and when needed as per IMI/ORJ/08.
- 5.1.17 To issue Cold Work permit, Electrical Isolation permit and Working at Heights permit for pipeline area, along pipeline ROU and at CP stations. To issue the Hot Work permit in coordination with Terminal (IMI/ORJ/09)
- 5.1.18 To handle Pigging Operations at Rajahmundry Booster Station as per IMI/ORJ/07.
- 5.1.19 To record, at the end of the shift, all the relevant events occurred during the shift requiring the attention of the next shift incharge by preparing Handing over Note (HON) in IMF/OPN/01 and discuss briefly about the same.
- 5.1.20 To acknowledge the HON prepared by the previous shift incharge and discuss briefly about the same.

#### **5.2 Responsibilities of Rajahmundry Pipeline Shift Engineer/officer:**

- 5.2.1 To assist Shift In-charge in handling the responsibilities from 5.1.1 to 5.1.18

#### **5.3 The Coordination with Visakha Control Room involves the following:**

- 5.3.1 To inform the Vizag control room about the stock / ullage / off take of Rajahmundry Terminal at the start of first shift everyday morning.
- 5.3.2 To obtain the detailed pumping program.
- 5.3.3 To obtain the Laboratory test report of products being received at Rajahmundry.

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ANDHRA PRADESH

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REVISION NO.: 00  
EFFECTIVE DATE:01/01/2018  
SHEET: 6 OF 11

<b>INTEGRATED MANAGEMENT PROCEDURE</b>		<b>DOCUMENT NO.: IMP/ORJ/01</b>
<b>TITLE</b>	<b>RAJAHMUNDY CONTROL ROOM ACTIVITIES</b>	

- 5.3.4 To exchange the quantity of product being received in Rajahmundry tanks vis – a – vis quantity of product being pumped from Visakhapatnam on hourly basis and compare the pumped and the received Quantity for any discrepancy.
- 5.3.5 To pass on the interface details to Vizag Control Room and any abnormality in the product specifications is to be investigated.
- 5.3.6 Any other information or developments regarding operation are to be intimated to Visakh Control Room immediately.

#### **5.4 The Co-ordination with Rajahmundry Terminal involves the following**

- 5.4.1 To obtain the stock / ullage / off take position from Rajahmundry Terminal on daily basis.
- 5.4.2 To plan and finalise the receipt program in line with pumping schedule and Terminal requirements.
- 5.4.3 To arrange for Gauging and lining up of nominated Tanks.
- 5.4.4 To inform the terminal as and when the quantities are booked in ERP for verification.
- 5.4.5 To obtain the Lab Test Report of the product being received at Rajahmundry and investigate in case Terminal informs any abnormal deviation.
- 5.4.6 To ensure the safety and security of the station with the help of Rajahmundry Terminal.
- 5.4.7 To coordinate with Rajahmundry Terminal for starting the D. G. set during power failure.
- 5.4.8 To coordinate with Rajahmundry terminal for carrying out batch formation test as per Industry Quality Control Manual to establish the batch.
- 5.4.9 Any other assistance required for smooth operation of Rajahmundry Booster Station.

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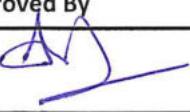
	<b>HINDUSTAN PETROLEUM CORPORATION LIMITED</b> VISAKHA- VIJAYAWADA- SECUNDERABAD PIPELINE VISAKHAPATNAM ANDHRA PRADESH	ISSUE NO: 2 REVISION NO.: 00 EFFECTIVE DATE:01/01/2018 SHEET: 7 OF 11
<b>INTEGRATED MANAGEMENT PROCEDURE</b>		DOCUMENT NO.: IMP/ORJ/01
TITLE	RAJAHMUNDY CONTROL ROOM ACTIVITIES	

**5.5 The Co-ordination with VBS/SBS/SRS involves following:**

- 5.5.1 RBS will inform VBS/SBS about starting and Tripping of pumps so that their station parameters could be adjusted. VBS / SBS also inform RBS.
- 5.5.2 RBS will inform VBS/SBS about starting and stopping of heart cut so that their station parameters could be adjusted. VBS / SBS also inform RBS.
- 5.5.3 To provide hourly receipt details & other parameters as per requirement.

**6.0 RELEVANT RECORDS**

S. No	Format Title	Format No.	Location	Responsibility
1	Shift log book	IMF/OPN/01	Control Room	Shift-in-Charge(Shift Engineer)
2	Critical behavior check list for PPE observation	IMF/OPN/12	Control room	Shift incharge(Shift Engineer)
3	Operation log book	IMF/ORJ/01	- Do-	- Do-
4	Daily line walkers report	IMF/ROW/01	- Do-	- Do-
5	Daily Security Guards report	IMF/ROW/02	- Do-	- Do-
6	Tank gauge cum checklist	IMF/ORJ/03	- Do-	- Do-
7	Maintenance Log book	IMF/OPN/02	- Do-	- Do-
8	Cold Work Permit	IMF/OPN/03	- Do-	- Do-
9	Hot Work Permit	IMF/OPN/04	- Do-	- Do-
10	Pigging report	IMF/OPN/08	- Do-	- Do-
11	Working at Heights	IMF/OPN/09	- Do-	- Do-
12	Electrical Isolation & energization Permit	IMF/OPN/10	- Do-	- Do-
13	Quality Control Register	IMF/ORJ/02	- Do-	- Do-
14	Interface Log Sheet	IMF/ORJ/05	- Do-	- Do-

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<b>INTEGRATED MANAGEMENT PROCEDURE</b>	<b>DOCUMENT NO.: IMP/ORJ/01</b>
<b>TITLE</b>	<b>RAJAHMUNDY CONTROL ROOM ACTIVITIES</b>

Title of IM Instruction	IM Instruction Number
Checks for tanks taking over	IMI / ORJ / 01
Line up and Switch over of Rajahmundry Tanks	IMI / ORJ / 02
Line up of Station, Start of Receipt & Line pushing	IMI / ORJ / 03
Interface Tracking & Receipt Operation	IMI / ORJ / 04
Dedicated Receipt Operation	IMI / ORJ / 05
Mainline pump Operation	IMI / ORJ / 06
Pig Receiving & Launching	IMI / ORJ / 07
Sump Tank Operation	IMI / ORJ / 08
To issue of work permits to Maintenance Officer for carrying out M & R jobs	IMI / ORJ / 09

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**VISAKHA- VIJAYAWADA- SECUNDERABAD PIPELINE**  
**VISAKHAPATNAM**  
**ANDHRA PRADESH**

ISSUE NO: 2  
REVISION NO.: 00  
EFFECTIVE DATE: 01/01/2018  
SHEET:9 OF 11

**INTEGRATED MANAGEMENT PROCEDURE**      **DOCUMENT NO.: IMP/ORJ/01**

**TITLE**

**RAJAHMUNDY CONTROL ROOM ACTIVITIES**

Annexure - I

**RAJAHMUNDY CONTROL ROOM KEY PARAMETERS**

SI No	Parameters	Key Parameters		Action
		Display at Control Panel	Set Point	
1	Low Low Pressure Suction Header	PSLL - 1301	1.06 Kg/Cm <sup>2</sup>	Tripping
2	Pump Low Suction Pressure	PSL - 1303, 04, 05	1.30 Kg/Cm <sup>2</sup>	Tripping
3	Pump Low Suction Pressure	PSL - 1315, 16 , 17	2.5 Kg/Cm <sup>2</sup>	Tripping
4	Pump High Discharge Pressure	PSH - 1303, 04, 05	66.0 Kg/Cm <sup>2</sup>	Tripping
5	Pump High Discharge Pressure	PSH - 1320, 21 , 22	75.0 Kg/Cm <sup>2</sup>	Tripping
6	High Pressure Discharge Line	PAH - 1308	82.0 Kg/Cm <sup>2</sup>	Alarm
7	High High pressure Discharge Line	PSHH - 1301,1303,1304	84.0 Kg/Cm <sup>2</sup>	Tripping
8	High Pressure Mainifold Header	PAH - 1307	3.0 Kg/Cm <sup>2</sup>	Alarm
9	High High Pressure Manifold Header	PSHH - 1302	5.0 Kg/Cm <sup>2</sup>	MOV 1304 Closes
10	Low Lovel Sump Tank	LAL - 1301	30.0 cm	Alarm & Sump Pump Tripping
11	High Level Sump Tank	LAH - 1301	150.0 cm	Alarm
1	Low Low Pressure Suction Header	PSLL - 1301	1.06 Kg/Cm <sup>2</sup>	Tripping
2	Pump Low Suction Pressure	PSL - 1303, 04, 05	1.30 Kg/Cm <sup>2</sup>	Tripping
3	Pump Low Suction Pressure	PSL - 1315, 16 , 17	2.5 Kg/Cm <sup>2</sup>	Tripping

**IN SERIES MODE OPERATION :**

12	Pump Low Suction Pressure	PSL - 1315, 16, 17	2.5 Kg/cm <sup>2</sup>	Tripping
13	Pump High Disdharge Pressure	PSH - 1320, 21, 22	88.00 Kg/cm <sup>2</sup>	Tripping

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ISSUE NO: 2  
 REVISION NO.: 00  
 EFFECTIVE DATE: 01/01/2018  
 SHEET:11 OF 11

**INTEGRATED MANAGEMENT PROCEDURE**

**DOCUMENT NO.: IMP/ORJ/01**

**TITLE**

**RAJAHMUNDY CONTROL ROOM ACTIVITIES**

**PUMP PARAMETERS**

SI No	Parameters	Key Parameters	Old Pumps	Key Parameters New Pumps		Action
				Instrument	Set Point	
1	Full Load Current-HT Motors		59 Amps		82 Amps	Pumping Flow to be reduced
2	Thrust Bearing Temp.(PNDE)		75 deg C 80 deg C		80 deg C 90 deg C	Alarm Tripping
3	Bearing Temp.(PNDE)		75 deg C 80 deg C		80 deg C 90 deg C	Alarm Tripping
4	Bearing Temp. (PDE)		75 deg C 80 deg C		80 deg C 90 deg C	Alarm Tripping
5	Pump Casing Temp.		45 deg C 50 deg C		45deg C 50 deg C	Alarm Tripping
6	Bearing Temp.(MDE)		75 deg C 80 deg C		80 deg C 90 deg C	Alarm Tripping
7	Bearing Temp.(MNDE)		75 deg C 80 deg C		80 deg C 90 deg C	Alarm Tripping
8	Motor Winding Temperature		-		110 deg C 120 deg C	Alarm Tripping
9	Pump Velometer ( Vibration)		-	-	7mm 9mm	Alarm Tripping

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ISSUE NO: 2  
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SHEET:11 OF 11

**INTEGRATED MANAGEMENT PROCEDURE**      **DOCUMENT NO.: IMP/ORJ/01**

**TITLE**

**RAJAHMUNDY CONTROL ROOM ACTIVITIES**

**Annexure - II**

**RAJAHMUNDY TERMINAL TANK PARAMETERS**

<b>Product</b>	<b>Tank No.</b>	<b>Safe Ht. (ems)</b>	<b>Gross Capacity (KL)</b>	<b>Dead Stock (KL)</b>	<b>Reference Height (Cm)</b>
MS	1A	800	1600	260	1198.9
	1B	800	1600	260	1198.3
	1C	750	1600	260	1196.8
	3C	750	5850	940	1247.3
HSD	3A	850	5900	990	1245.5
	3B	850	5850	940	1247.8
	6A	850	10000	1650	1254.4
	6B	850	10000	1650	1257.5
SKO	2A	890	2815	500	1198.7
	2B	890	2825	500	1191.1

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	<b>INTEGRATED MANAGEMENT PROCEDURE</b>	<b>DOCUMENT NO.: IMP/ORJ/02</b>
<b>TITLE</b>	<b>SHUT DOWN OF RAJAHMUNDY BOOSTER STATION</b>	

## **1.0 PURPOSE**

To describe the method of shutdown to be taken at Rajahmundry due to operational/Maintenance necessity at Vizag, Rajahmundry, Vijayawada, Suryapet or Secunderabad.

## 2.0 SCOPE

The activity involves the following:

- (a) Planned shut down
  - (b) Emergency shut down

### 3.0 REFERENCES

IM/MR/7.5.1  
IMP/OPN/02 and IMP/OPN/03

## 4.0 RESPONSIBILITY

#### Shift in-charge

## **5.0 PROCEDURE**

#### Planned shutdown:

- 5.1 Rajahmundry stops the Heart cut and Pumps as per VDS advice and informs VDS/VBS/SBS (Refer IMP/OPN/02)

#### **EMERGENCY SHUT DOWN:**

- ## 5.2 When Vizag main line pump trips:

- 5.2.1 Vizag informs about the pump/s tripping and advises Rajahmundry to close the receipt, if any and stop pump/s, if running.
  - 5.2.2 After closing the receipt and stopping the pump/s, Rajahmundry confirms back to Vizag and informs to VBS, SBS.
  - 5.2.3 If VDS is able to restart the pump/s immediately, line shut down may not be required. Line shut down to be initiated only on VDS advise, if required.

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OPERATIONS INCHARGE	IMS COORDINATOR

	HINDUSTAN PETROLEUM CORPORATION LIMITED VISAKHA- VIJAYAWADA- SECUNDERABAD PIPELINE VISAKHAPATNAM ANDHRA PRADESH	ISSUE NO: 2 REVISION NO.: 00 EFFECTIVE DATE: 01/01/2018 SHEET: 2 OF 2
<b>INTEGRATED MANAGEMENT PROCEDURE</b>		DOCUMENT NO.: IMP/ORJ/02
<b>TITLE</b>	<b>SHUT DOWN OF RAJAHMUNDY BOOSTER STATION</b>	

5.3 Emergency shut down of RBS:

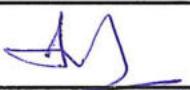
- 5.3.1 Press emergency push button (Through panel's ESD button or at behind Pump house) in case of only extreme emergency, if time is not available to take a planned shutdown.
- 5.3.2 On activation of ESD button at RBS, following sequence of events occur.
  - 5.3.2.1 Station bypass valve, MOV 1314 will open.
  - 5.3.2.2 All running pumps at RBS will stop.
  - 5.3.2.3 Suction and discharge MOVs of pumps will close.
  - 5.3.2.4 Receipt MOV 1304 will close.
  - 5.3.2.5 Manifold MOV of the product under receipt will close.
  - 5.3.2.6 Station inlet MOV-1303 and station outlet MOV-1311 will close.

Precautions:

- 5.4.1 In case of shut down of longer duration close station limit valves, tank inlet valves and Manifold valves.
- 5.4.2 The subject receipt tank can be handed over back to the Terminal.
- 5.4.3 If there is any abnormal fall in the station pressure during shutdown period, carryout investigation for any valve failure or leakage.
- 5.5.4 Monitor sump tank level in each shift.

6.0 **RELEVANT RECORDS:**

S. No	Format Title	Format No.	Location	Responsibility
1	Shift log book	IMF/OPN/01	Control Room	Shift In-charge
2	Daily Operations Log Book	IMF/ORJ/01	- Do-	- Do-

Approved By	Issued By
	
OPERATIONS INCHARGE	IMS COORDINATOR

	<b>HINDUSTAN PETROLEUM CORPORATION LIMITED</b> VISAKHA- VIJAYAWADA- SECUNDERABAD PIPELINE VISAKHAPATNAM ANDHRA PRADESH	ISSUE NO: 2 REVISION NO.: 00 EFFECTIVE DATE: 01/01/2018 SHEET: 1 OF 3
<b>INTEGRATED MANAGEMENT INSTRUCTIONS</b>		DOCUMENT NO.: IMP/ORJ/03
<b>TITLE</b>	<b>PRODUCT SAMPLING AND LABORATORY TEST REPORTS</b>	

#### 1.0 PURPOSE

Documentation of laboratory test reports to ensure that only approved product conforming to specifications is received at Suryapet.

#### 2.0 SCOPE

This is applicable to all petroleum products received at Suryapet Terminal Tanks.

#### 3.0 REFERENCES

- i) IM/MR/8.2.4
- ii) ASTM & QC Manuals for Non-aviation products.

#### 4.0 RESPONSIBILITY

Shift in-charge assisted by Shift Engineer.

#### 5.0 PROCEDURE

##### 5.1 PRODUCT SAMPLING:

5.1.1 Take over the tank at least 4 hrs. after last withdrawal from tank.

5.1.2 Before a pipeline receipt is effected through a multi-product pipeline, a composite sample from the tank nominated for transfer is jointly taken and retained till the batch has been established by the receiving location.

5.1.3 Sampling Apparatus and Containers are used separately product wise.

##### 5.1.4 Precautions to be taken for sampling:

5.1.4.1 When samples are required from various levels in a tank, the order of sampling should be from the top downwards so that each sample is obtained before the liquid at that level is disturbed.

5.1.4.2 Careless pouring and splashing will cause loss of light fractions and the sample must be poured from the sampling can into the sample containers by making use of special funnels.

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<b>INTEGRATED MANAGEMENT PROCEDURE</b>		DOCUMENT NO.: IMP/ORJ/03
<b>TITLE</b>	<b>PRODUCT SAMPLING AND LABORATORY TEST REPORTS</b>	

5.1.4.3 The sample should always be poured gently down the side of a funnel and never in a stream at the center.

5.1.4.4 The sample containers shall be closed immediately after the sample has been taken (within one minute of drawing).

5.1.4.5 The apparatus should be rinsed with the material to be sampled at least twice (or adequately) and allowed to drain before drawing sample.

5.1.4.6 Safety precautions as stated in SAFETY Manual should be strictly observed while sampling.

5.1.5 Sample Containers: The sample container should never be a clear glass bottle, as the clean glass may permit the sun rays to change the composition of certain components particularly those found in MS and LAN, which may render the sample unsatisfactory for any future analysis. The recommended sample container is a metal can with a screw cap.

5.1.6 Sample labelling: Sample container is labeled immediately after a sample is obtained. Gummed labels shall be used on aluminum and glass sample bottles only (IMF/ORJ/04).

5.1.7 Sample Collection: In addition to the samples taken from the tanks, one liter of front, one liter of middle and one liter of rear samples are also be taken during the receipt of a batch. These samples are collected from sampling point of the pipeline. Sample are properly labeled and retained till the pumping batch is established in the receiving locations. Details of sample collection are recorded in QC Register (IMF/ORJ/02).

5.1.8 Sample Retention: For retaining the sample following steps are adopted.

5.1.8.1 Sample of materials which may be affected by light or heat are stored in a cool, dark place. Periodical examination is made for leakage.

5.1.8.2 Sample of product is kept in a separate chamber in order to prevent them from being misused. Adequate ventilation is provided in the chamber.

5.1.9 Sample disposal:

5.1.9.1 Hourly density figures are recorded by the receiving locations while receipt is on and any variations from the density range are investigated by the receiving location in coordination with the pumping location.

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OPERATIONS INCHARGE	IMS COORDINATOR

	<b>HINDUSTAN PETROLEUM CORPORATION LIMITED</b> VISAKHA-VIJAYAWADA-SECUNDERABAD PIPELINE VISAKHAPATNAM ANDHRA PRADESH	ISSUE NO: 2 REVISION NO.: 00 EFFECTIVE DATE: 01/01/2018 SHEET: 3 OF 3
<b>INTEGRATED MANAGEMENT PROCEDURE</b>		<b>DOCUMENT NO.: IMP/ORJ/03</b>
<b>TITLE</b>	<b>PRODUCT SAMPLING AND LABORATORY TEST REPORTS</b>	

5.1.9.2 Once the product is received in the storage tanks of the receiving location, the receiving location carries out batch formation test as per Appendix 15 of Industry Quality control manual and then the product is reware-housed under specific batch No.

5.1.9.3 Any variation beyond the limits in receiving location test reports is investigated with help of pumping location. The sample retained is sent to the refinery or marketing laboratory for further investigations.

5.1.9.4 After ascertaining the above, the product sample is disposed off under the supervision of the shift in-charge. The sample thus collected is poured back into the respective sump tanks as applicable. While pouring the product back into the tank care is taken not to splash the product nor any plastic funnel is used for pouring. Details of sample disposed are entered in Quality Control register (IMF/ORJ/02).

5.1.9.5 The empty sample containers are cleaned and kept for future sampling.

## 5.2 Laboratory Test Reports:

5.2.1 Laboratory test reports are collected from VDS and Terminal

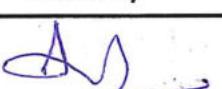
5.2.2 It is ensured by shift in-charge that test reports of products are available in control room. Specification of product is in line with Industry and ISI standards.

PRODUCT	IS SPECIFICATIONS
M. S.	IS - 2796 - 2014
S. K. O.	IS - 1459 – 1974 (Re-affirmed 2006)
H. S. D.	IS - 1460 - 2005
L.A.N.	As per customer requirements for his usage
ATF	IS - 1571 -2008

5.2.3 Tests such as flash point, pour point etc, which are susceptible for change depending upon the crude and production pattern are subject to review and deviation on Industry basis.

## 6. RELEVANT RECORDS

S. No	Format Title	Format No.	Location	Responsibility
1	Quality Control Register	IMF/ORJ/02	Control Room	Shift In-charge
2	Sample label	IMF/ORJ/04	- Do -	- Do -

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OPERATIONS INCHARGE	IMS COORDINATOR

	<b>HINDUSTAN PETROLEUM CORPORATION LIMITED</b> VISAKHA- VIJAYAWADA- SECUNDERABAD PIPELINE VISAKHAPATNAM ANDHRA PRADESH	ISSUE NO: 2 REVISION NO.:00 EFFECTIVE DATE:01/01/2018 SHEET: 2 OF 2
<b>INTEGRATED MANAGEMENT INSTRUCTIONS</b>		DOCUMENT NO.: IMI/ORJ/01
TITLE	CHECKS FOR TANKS TAKING OVER	

## 1.0 PURPOSE

To provide guidelines for checks to be carried out for taking over of tank from Terminal.

## 2.0 REFERENCES

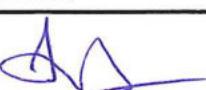
IM Procedure: IMP/ORJ/01.

## 3.0 RESPONSIBILITY

Shift-in-Charge

## 4.0 INSTRUCTIONS

- 4.1 Decide the tank to be taken for receipt in consultation with Terminal.
- 4.2 Arrange joint gauging of the tank with Terminal and check the following
  - 4.2.1 Check the Oil & Water level.
  - 4.2.2 Check the sample density and temperature.
  - 4.2.3 Check the product tank temperature. Draw UML composite sample from tank. Retain sample for future inspections till the Batch is cleared.
  - 4.2.4 Check the roof condition of the tank.
  - 4.2.5 Carryout visual inspection of the tank site for any leak etc. Any leak observed should be reported to the Terminal. Close the inlet valves of other tanks of the same product.
  - 4.2.6 Record details of gauging in Tank gauge cum check list (IMF/ORJ/03)
- 4.3 Do not take over the Tank when it is in Semi float condition as it will be difficult to ascertain the exact quantity.
- 4.4 Ensure that the Tank delivery line is positively isolated.
- 4.5 Ensure that water draw off valves are closed and the roof drain valve is opened.
- 4.6 Ensure that the Tanks of the same product should be positively isolated until desired.

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OPERATIONS INCHARGE	IMS COORDINATOR

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<b>INTEGRATED MANAGEMENT INSTRUCTIONS</b>		<b>DOCUMENT NO.: IMI/ORJ/01</b>
<b>TITLE</b>	<b>CHECKS FOR TANKS TAKING OVER</b>	

- 4.7 Line up the Tank as per the instructions given in IM instructions IMI/ORJ/02.
- 4.8 In case of abnormality in the Tank site, inform to Terminal and record in shift log book (IMF/OPN/01)

#### 5.0 RELEVANT RECORDS

Shift Log Book	IMF/OPN/01
Tank gauge cum check list	IMF/ORJ/03

Approved By	Issued By
	
OPERATIONS INCHARGE	IMS COORDINATOR

	<b>HINDUSTAN PETROLEUM CORPORATION LIMITED</b> VISAKHA- VIJAYAWADA- SECUNDERABAD PIPELINE VISAKHAPATNAM ANDHRA PRADESH	ISSUE NO: 2 REVISION NO.: 00 EFFECTIVE DATE:01/01/2018 SHEET: 1 OF 2
<b>INTEGRATED MANAGEMENT INSTRUCTIONS</b>		<b>DOCUMENT NO.: IMI/ORJ/02</b>
<b>TITLE</b>	<b>LINE UP AND SWITCH OVER OF RAJAHMUNDY TANKS</b>	

## 1.0 PURPOSE

To provide guidelines for line up and switch over of Rajahmundry tanks.

## 2.0 REFERENCES

IM Procedure: IMP/ORJ/01

## 3.0 RESPONSIBILITY

Shift-in-Charge

## 4.0 INSTRUCTIONS

### 4.1 Line up

- 4.1.1 Ensure that the tank is gauged properly and samples are taken as per requirement.
- 4.1.2 Ensure that inlet valves of other tanks of the same product are closed.
- 4.1.3 Ensure that the delivery and the PLT transfer valves of the tank are closed.
- 4.1.4 Provide an online request in PLC for taking over. After the Tank is taken over then put the tank in receipt mode.
- 4.1.5 Open the tank inlet MOV and ROSOV and ensure that the tank is lined up to the respective product manifold.
- 4.1.6 Close and seal any bleeding point enroute (if any).

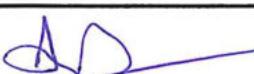
### 4.2. Tank switch over:

#### 4.2.1 Switch over tank in following cases:

- a) The tank under receipt is topped up and there is further receipt for the product.
- b) As per terminal requirement.

#### 4.2.2 Follow below mentioned guide lines for switching over of tank:

Open inlet MOV of the succeeding tank and then close the inlet MOV of the preceding tank. Before closing MOV of preceding tank, at least 50% of succeeding tank valve opening should be confirmed from field.

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OPERATIONS INCHARGE	IMS COORDINATOR

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<b>INTEGRATED MANAGEMENT INSTRUCTIONS</b>		<b>DOCUMENT NO.: IMI/ORJ/02</b>
<b>TITLE</b>	<b>LINE UP AND SWITCH OVER OF RAJAHMUNDY TANKS</b>	

4.2.3 The heart cut flowrate may also be reduced to have better control of the switch over.

4.2.4 The switching over of tanks shall be done either online or alternatively by stopping the heart cut and restarting as the case may be.

#### 4.3 Table

Refer the following table regarding various valves to be operated sequentially for starting the receipt or during tanks switchover of any particular tank.

Tank to be Lined up	Product Name	Various Valves to be Operated Sequentially		
		HOV near Tank →	MOV near Tank →	Manifold MOV RBS
3A	E4 HSD	ROSOV 3A	DBBV 3A	MOV 1103
3B	E4 HSD	ROSOV 3B	DBBV 3B	MOV 1103
6A	E4 HSD	ROSOV 6A	DBBV 6A	MOV 1335
6B	E4 HSD	ROSOV 6B	DBBV 6B	MOV 1335
1A	E4 MS	ROSOV 1A	DBBV 1A	MOV 1101
1B	E4 MS	ROSOV 1B	DBBV 1B	MOV 1101
1C	E4 MS	ROSOV 1C	DBBV 1C	MOV 1101
3C	E4 MS	ROSOV 3C	DBBV 3C	MOV 1101
2A	SKO	ROSOV 2A	DBBV 2A	MOV 1102
2B	SKO	ROSOV 2B	DBBV 2B	MOV 1102
3A	E4 HSD	ROSOV 3A	DBBV 3A	MOV 1103

#### 5.0 RELEVANT RECORDS

Shift Log Book

IMF/OPN/01

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OPERATIONS INCHARGE	IMS COORDINATOR

	<b>HINDUSTAN PETROLEUM CORPORATION LIMITED</b> VISAKHA- VIJAYAWADA- SECUNDERABAD PIPELINE VISAKHAPATNAM ANDHRA PRADESH	ISSUE NO: 2 REVISION NO.:00 EFFECTIVE DATE:01/01/2018 SHEET: 1 OF 3
<b>INTEGRATED MANAGEMENT INSTRUCTIONS</b>		<b>DOCUMENT NO.: IMI/ORJ/03</b>
<b>TITLE</b>	<b>LINE UP OF STATION, START OF RECEIPT &amp; LINE PUSHING</b>	

## 1.0 PURPOSE

Provide guidelines for lineup of station, receipt starting and line pushing.

## 2.0 REFERENCES

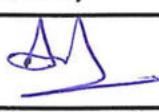
IM Procedure: IMP/ORJ/01

## 3.0 RESPONSIBILITY

Shift-in-Charge

## 4.0 STATION LINE UP INSTRUCTIONS:

- 4.1 Take the tentative time of starting of pumping at Vizag. Get Clearance from Vizag for line up of Rajahmundry Booster Station.
- 4.2 Line up the Station Limit Valve MOV - 1301, Station Inlet Valve MOV-1303 . Ensure that the line between MOV 1303 and MOV 1304 is stabilised. (The 1" bypass valve of MOV 1303 shall be opened for this).
- 4.3 Line up anyone filter (either basket filter or cartridge filter or both depending on incoming flow rates).
- 4.4 Ensure that the Suction PCV is online (the HOV's on both sides of the PCV are opened and the By pass Valve is closed) . Open the Suction PCV ( PCV -1302 ).
- 4.5 Line up the required Flow Turbine Meter (FT 1303 or FT 1304). Ensure that MOV's on both sides of the Turbine Flow Meter are open. Ensure that the by pass line for turbine flowmeter is closed.
- 4.6 Open the Discharge PCV (PCV -1301) . Ensure that the HOV's on both sides of the PCV are opened and the Bypass Valve is closed.

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OPERATIONS INCHARGE	IMS COORDINATOR

	<b>HINDUSTAN PETROLEUM CORPORATION LIMITED</b> VISAKHA- VIJAYAWADA- SECUNDERABAD PIPELINE VISAKHAPATNAM ANDHRA PRADESH	ISSUE NO: 2 REVISION NO.:00 EFFECTIVE DATE:01/01/2018 SHEET: 2 OF 3
<b>INTEGRATED MANAGEMENT INSTRUCTIONS</b>		<b>DOCUMENT NO.: IMI/ORJ/03</b>
<b>TITLE</b>	<b>LINE UP OF STATION, START OF RECEIPT &amp; LINE PUSHING</b>	

- 4.7 Line up the Station Outlet Valve 1311 and Station Limit Valve 1313.
- 4.8 Ensure that the breakers of the Pressure / Flow Control Valves are switched on.
- 4.9 Check the lineup fully to ensure good product quality.
- 4.10 Give clearance to VDS to start pumping.
- 4.11 Co-ordinate with Vizag shift officer for operating the sation.

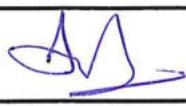
#### **5. LINE PUSHING INSTRUCTIONS:**

- 5.1 Line pushing of the product has to be done to clear the receipt line from the Previous product and fill it with SKO.
- 5.2 Keep in mind the allowable contamination level.  
  
1% of SKO in MS  
2% of SKO into HSD/LAN tanks.
- 5.3 Distribute the line quantity into various tanks depending upon the requirement.  
Depending on the quantity received in MS, preferably take the line fill in two MS tanks or one MS and one HSD tank or any other distribution to maintain the Product Quality.
- 5.4 Approximately 22 KL of the product need to be pushed to keep the line filled with SKO.

For Guidelines the following are the approximate linefill quantities. :

From MOV 1304 to manifold Sampling Point	:	15 KL
From Sampling Point to common Manifold head	:	5 KL

- 5.5 The line pushing shall be done at approximate flow rate of 100 KL/Hr.
- 5.6 Follow instructions from 6.1 to 6.7 as mentioned below (similiar to receipt starting)
- 5.7 Inform Line Pushing details to other stations.

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<b>OPERATIONS INCHARGE</b>	<b>IMS COORDINATOR</b>

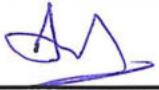
	<b>HINDUSTAN PETROLEUM CORPORATION LIMITED</b> VISAKHA- VIJAYAWADA- SECUNDERABAD PIPELINE VISAKHAPATNAM ANDHRA PRADESH	ISSUE NO: 2 REVISION NO.:00 EFFECTIVE DATE:01/01/2018 SHEET: 3 OF 3
<b>INTEGRATED MANAGEMENT INSTRUCTIONS</b>		<b>DOCUMENT NO.: IMI/ORJ/03</b>
<b>TITLE</b>	<b>LINE UP OF STATION, START OF RECEIPT &amp; LINE PUSHING</b>	

#### **6. RECEIPT STARTING INSTRUCTIONS:**

- 6.1 Guage the nominated tank and properly line up by opening all the valves upto the manifold and including the manifold valve as per tank lining up instructions IMI/ORJ/02 and record details in IMF/ORJ/03.
- 6.2 Line up the Flow Turbine Meter (FT 1301 / FT 1302). Either of the two or both the Flow Turbine meters shall be lined up as per Flow requirement. Ensure that HOV's on either side of the Turbine Flow Meter are open and the bypass line for turbine flowmeter is closed.
- 6.3 Make any one Flow Control Valve online (Main / Bypass). Both shall be made online in case of dedicated receipt. Ensure that HOV's on either side of the FCV are open.
- 6.4 Take clearance from VDS for starting the receipt in RBS.
- 6.5 Open the 1" Bypass Valve of MOV 1304 first to balance the pressure.
- 6.6 Once the pressure is balanced then open the FCV to 20% and open the Receipt MOV-1304.
- 6.7 Once normalcy is observed close the 1" bypass valve. FCV shall be adjusted to get the required flow rate.
- 6.8 Inform the starting of receipt to other stations.

#### **7.0 RELEVANT RECORDS**

Tank gauge cum checklist                   IMF/ORJ/03  
Shift log book                               IMF/OPN/01

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OPERATIONS INCHARGE	IMS COORDINATOR

	<b>HINDUSTAN PETROLEUM CORPORATION LIMITED</b> VISAKHA- VIJAYAWADA- SECUNDERABAD PIPELINE VISAKHAPATNAM ANDHRA PRADESH	ISSUE NO: 2 REVISION NO.: 00 EFFECTIVE DATE:01/01/2018 SHEET:1 OF 2
<b>INTEGRATED MANAGEMENT INSTRUCTIONS</b>		DOCUMENT NO.: IMI/ORJ/04
<b>TITLE</b>	<b>INTERFACE TRACKING &amp; RECEIPT OPERATION</b>	

## 1.0 PURPOSE

To provide guide lines for interface tracking and receipt operations at Rajahmundry Booster Station.

## 2.0 REFERENCES

IM Procedure: IMP/ORJ/01

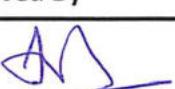
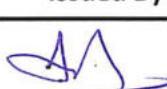
## 3.0 RESPONSIBILITY

Shift-in-Charge

## 4.0 INSTRUCTIONS

### 4.1 INTERFACE TRACKING:

- 4.1.1 Calculate the expected arrival of Interface at Rajahmundry.
- 4.1.2 Start taking samples an hour before from the mainline sampling point from the expected time of Interface arrival & check the density, colour & smell of the product.
- 4.1.3 When density of the product changes in the desired direction, this indicates the arrival of Interface. The Change Over Densities at Vizag may also be taken for reference.
- 4.1.4 Check the density indicator also for change in density. Start recording the details of each sample.
- 4.1.5 If the change in density is coupled with the change in the colour & odour, assume it as the beginning of the Interface.
- 4.1.6 When the density finally stabilizes or nearly matches the density provided by VDS, Interface deemed to have ended.
- 4.1.7 Samples to be collected as per instructions of Shift-Incharge at appropriate time & retained till the batch is cleared for delivery by the receiving terminals.
- 4.1.8 Once Interface is completed, continue the sampling till half-an-hour.

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OPERATIONS INCHARGE	IMS COORDINATOR

	<b>HINDUSTAN PETROLEUM CORPORATION LIMITED</b> VISAKHA- VIJAYAWADA- SECUNDERABAD PIPELINE VISAKHAPATNAM ANDHRA PRADESH	ISSUE NO: 2 REVISION NO.: 00 EFFECTIVE DATE:01/01/2018 SHEET:2 OF 2
<b>INTEGRATED MANAGEMENT INSTRUCTIONS</b>		<b>DOCUMENT NO.: IMI/ORJ/04</b>
<b>TITLE</b>	<b>INTERFACE TRACKING &amp; RECEIPT OPERATION</b>	

- 4.1.9 Record the details in format IMF/ORJ/05 (Interface Log Sheet) and communicate the Interface details to VDS & downward stations.
- 4.1.10 Sample container is labeled immediately after a sample is obtained. Gummed labels shall be used on aluminum and glass sample bottles only (IMF/ORJ/04).
- 4.1.11 While ATF H/C is not taken, SKO/ATF interface tracking and work instruction in line with IMI/OPN/04 to be followed at RBS.

#### **4.2 RECEIPT OPERATION:**

- 4.2.1 Plan the Heart Cut keeping in mind the following:
- \* RBS to receive only pure Products.
  - \* RBS to Complete the Planned Receipt before the Interface arrival
  - \* RBS not to receive any interface without VDS advice.
- 4.2.2 Generally the Receipt shall be planned ten minutes after & before Interface crossing at Rajahmundry.
- 4.2.12 During receipt collect three line samples, one in the beginning, one in middle & one before end of receipt and retain them till Batch Formation Test is done by the Terminal and Lab Test reports are received at C/R. Record details of sample collection in Quality Control Register (IMF/ORJ/02).

#### **5.0 RELEVANT RECORDS**

Shift Log Book	IMF/OPN/01
Quality Control Register	IMF/ORJ/02
Interface Log Sheet	IMF/ORJ/05
Sample label	IMF/ORJ/04
ATF Checklist	IMF/OPN/11

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OPERATIONS INCHARGE	IMS COORDINATOR

	<b>HINDUSTAN PETROLEUM CORPORATION LIMITED</b> VISAKHA- VIJAYAWADA- SECUNDERABAD PIPELINE VISAKHAPATNAM ANDHRA PRADESH	ISSUE NO: 2 REVISION NO.:00 EFFECTIVE DATE:01/01/2018 SHEET: 1 OF 3
<b>INTEGRATED MANAGEMENT INSTRUCTIONS</b>		DOCUMENT NO.: IMI/ORJ/05
TITLE	DEDICATED RECEIPT OPERATION	

## 1.0 PURPOSE

To provide guide lines for dedicated LAN receipt operations at Rajahmundry Booster Station.

## 2.0 REFERENCES

IM Procedure: IMP/ORJ/01

## 3.0 RESPONSIBILITY

Shift-in-Charge

## 4.0 INSTRUCTIONS

RBS normally receives HSD/MS as dedicated receipt. Special care need to be taken when RBS is taking dedicated receipt as

- Interface may need to be cut and received into the Rajahmundry terminal tanks
- Suitable surge relief mechanism shall be made on line viz. slop tank

### 4.1 GENERAL INSTRUCTIONS

4.1.1 Before the start of dedicated receipt, gauge the required product tanks and also the Slop Tank. Ensure ullage availability in slop tank. Retain TMB (Top, middle & Bottom) Sample of Slop tank also.

4.1.2 Ensure that Supply is given to the required tank inlets & manifold MOV's.

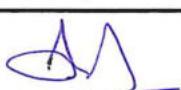
4.1.2 Line Shutdown shall be taken as advised by VDS.

4.1.3 After taking VVPL S/D, Close Station outlet MOV -1311 and then Close VBS side SLV MOV- 1313, close PCV PC V -1302. Simultaneously line up the Rupture Disk line up to Slop tank

4.1.4 The receipt operation is similar to the heart cut operation.

### 4.2 SKO / LAN INTERFACE & LAN RECEIPT:

4.2.1 Line Shutdown shall be taken as advised by VDS. Normally it is taken when SKO is inline at RBS station.

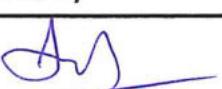
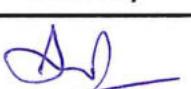
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OPERATIONS INCHARGE	IMS COORDINATOR

	<b>HINDUSTAN PETROLEUM CORPORATION LIMITED</b> VISAKHA- VIJAYAWADA- SECUNDERABAD PIPELINE VISAKHAPATNAM ANDHRA PRADESH	ISSUE NO: 2 REVISION NO.:00 EFFECTIVE DATE:01/01/2018 SHEET:2 OF 3
<b>INTEGRATED MANAGEMENT INSTRUCTIONS</b>		DOCUMENT NO.: IMI/ORJ/05
TITLE	DEDICATED RECEIPT OPERATION	

- 4.2.2 After taking VVPL S/D, Close Station outlet MOV -1311 and then Close VBS side SLV MOV- 1313, close SCV PC V -1302. Simultaneously line up the Rupture Disk line up to Slop tank
- 4.2.3 Close FT-1303 and 1304 Upstream HOVs and Line up SKO Tank for receipt except SCV PCV- 1302.
- 4.2.4 Switch over Station Load to DG set from APSEB supply.
- 4.2.5 Open FCV -1302 and Gradually Open SCV PCV-1302 and start depressurization with flow rate of 150 to200 KI/Hr.
- 4.2.6 When VDS side pressure reaches 14 Kg/cm2 ask VDS to start one pump and maintain VDS Line Pressure to 30 Kg/ cm2.
- 4.2.7 As soon as VDS side Pressure starts increasing, Open SCV PCV -1302 & adjust the FCV's to maintain the Inlet Pressure at around 16 Kg/cm2.
- 4.2.8 Allow the line to stabilize and gradually Open FCV 1301 & Start receiving SKO heart cut. Adjust both the FCV's to receive the receipt at the planned flow rate. Ensure that the Station Inlet Pressure does not fall below 6 Kg/cm2. Keep close watch on the Slop tank level.
- 4.2.9 After noticing fall in the Product Density at Main Line Density Meter and Mainline Sample Point, immediately start opening LAN Manifold MOV and start Closing SKO Manifold MOV. ensure that LAN MOV is fully OPENED and SKO MOV fully closed. The SKO manifold MOV shall be kept at LOCAL mode before switchover of Product.
- 4.2.10 After stabilization of flow, switch over the station load to APSEB supply from DG set.

#### **4.3 LAN/ SKO INTERFACE & SKO RECEIPT :**

- 4.3.1 Switch over station load to DG set 30 min. before the expected time of LAN/SKO interface.
- 4.3.2 Line up SKO tanks.

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<b>INTEGRATED MANAGEMENT INSTRUCTIONS</b>		<b>DOCUMENT NO.: IMI/ORJ/05</b>
<b>TITLE</b>	<b>DEDICATED RECEIPT OPERATION</b>	

- 4.3.3 After stabilisation of SKO density and visual inspection of product for purity at M/F sample point, Allow 5 KL product in the LAN tank.
- 4.3.4 Open SKO Manifold MOV and start closing LAN Manifold MOV. Ensure that SKO Manifold MOV is fully open and LAN MOV fully closed. Continue dedicated Receipt in SKO as per pumping plan given by Vizag.
- 4.3.5 Once the required receipt is completed advice VDS to Stop Pump and close SCV PCV -1302 and MOV 1304 until mainline pressure comes around 16 to 18 Kg/cm<sup>2</sup>.
- 4.3.6 Inform other stations about dedicated receipt completion.
- 4.3.7 After taking clearance from VDS for opening the Vijayawada section, Open FT-1303/ 1304 Upstream HOVs. Also open VBS side SLV 1313 and MOV 1311.
- 4.3.8 Give clearance to VDS for starting Pumps & inform other stations accordingly.

#### **4.4 IF RBS POWER SUPPLY FAILS:**

- 4.4.1 Up on failure of APSEB power the FCV 1301 will start closing and FCV 1302 will remain open. (FCV 1301 kept in FAIL CLOSE and FCV 1302 kept in FAIL SAFE mode)
- 4.4.2 Start the DG & operate FCV 1301 to maintain the flowrate and pressure as before.

#### **4.5 IF VDS PUMP TRIPS:**

- 4.5.1 RBS to close MOV 1304.

#### **4.6 TO RESTART PUMPING:**

- 4.6.1 Depressurization of the line to be done till Inlet pressure is around 16 Kg/Cm<sup>2</sup> and then open MOV 1304 and continue receipt as before.

#### **5.0 RELEVANT RECORDS**

Shift Log Book	IMF/OPN/01
Quality Control Register	IMF/ORJ/02

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<b>INTEGRATED MANAGEMENT INSTRUCTIONS</b>		<b>DOCUMENT NO.: IMI/ORJ/06</b>
<b>TITLE</b>	<b>MAIN LINE PUMP OPERATIONS</b>	

## 1.0 PURPOSE

To provide guidelines for operation Pumps and switch over of pumps.

## 2.0 REFERENCES

IM Procedure: IMP/ORJ/01

Standard operating procedure for pumps, supplied by M/s. Rockwell Automation.

## 3.0 RESPONSIBILITY

Shift-in-Charge

## 4.0 INSTRUCTIONS

After ensuring that the station is properly lined up, the station shall be made ready for operating the pumps. Carry out the following checks 4.1 to 4.3 before starting the pumping.

### 4.1. AT SUBSTATION / ELECTRICAL ROOM:

4.1.1 Check the readiness of respective breakers/feeders/drives/other equipments at sub-station, as per standard operating procedure supplied by M/s. Rockwell Automation, either in VFD mode or DOL mode.

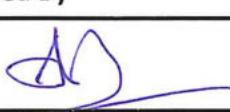
4.1.2 Ensure the PCV-1301 opwer supply is ON.

4.1.3 Ensure that the motor breaker of selected pumps is in service position.

4.1.4 Ensure that the selected pumps suction and discharge MOVs supply are ON.

### 4.2 AT PUMP HOUSE

4.2.1 Check the bearing oil levels in the Oil baths of selected pumps and if low, arrange to top up.

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<b>INTEGRATED MANAGEMENT INSTRUCTIONS</b>		<b>DOCUMENT NO.: IMI/ORJ/06</b>
<b>TITLE</b>	<b>MAIN LINE PUMP OPERATIONS</b>	

- 4.2.2 Release the local stop button of the selected pumps.
- 4.2.3 Ensure that Suction MOVs of the selected pumps are open & discharge MOVs of the selected pumps are in remote mode and closed.
- 4.2.4 Do the priming of the pumps by proper venting.
- 4.2.5 Ensure the compatibility of product to be pumped with that already existing in the suction and discharge header of the pumps.
- 4.2.6 Draining of the pump shall be done if the product in the pump is other than the product in the mainline. However, care should be taken that proper quality is maintained always.
- 4.2.7 Ensure the pressure switches are available.

#### **4.3 AT CONTROL ROOM**

- 4.3.1 Ensure the readiness of the system at control room, as per standard operating procedure Supplied by M/s. Rockwell Automation, either in VFD mode or DOL mode.
- 4.3.2 Ensure "RBY" phase sequence status.
- 4.3.3 Reset the pumped quantity batch in PLC, if necessary.
- 4.3.4 At unit control panel for selected pumps, turn the rotary switch to 'AUTO' mode, for pumps operation thru PLC, and reset all the alarms.
- 4.3.5 For operation in DOL mode, the selection switches of both the drives ( in Display Panel) should be selected in DOL mode.
- 4.3.6 For 1 +1 Series option the selector switch on the panel to be turned to 1 +1 series mode and also the selection in PLC.
- 4.3.7 For 2 +2 Series option the selector switch on the panel to be turned to 2 +2 series mode and also the selection in PLC.
- 4.3.8 For Three New Pump mode the selection has to be done in PLC.
- 4.3.9 For 3 +2 Mode of operation the selection has to be done in PLC.

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<b>INTEGRATED MANAGEMENT INSTRUCTIONS</b>		DOCUMENT NO.: IMI/ORJ/06
<b>TITLE</b>	<b>MAIN LINE PUMP OPERATIONS</b>	

4.3.10 The Main line pumps 1,5,6 are in connected and operated from MV-Drive2.

4.3.11 The Main line pumps 4,2,3 are in connected and operated from MV-Drive1.

4.3.12 The appropriate key selection for the particular set of pumps has to be made in the control room.

#### **4.4 PUMPS OPERATIONS - DOL MODE**

4.4.1 Ensure the readiness of VBS/SBS and take clearance from VDS for pump start up.

4.4.2 If the Suction Header pressure is High, throttle the Suction PCV to reduce the pressure.

4.4.3 Keep the Discharge PCV to 25% open.

4.4.4 Ensure DOL is selected and pumps are ready.

4.4.5 Start the first pump.

4.4.6 Once the Discharge Pressure / Starting current comes down start the second pump if needed (normally this drops in 10 to 15 sec).

4.4.7 Adjust the Discharge PCV to get the required flow rate.

4.4.8 Inform about the starting of pumps to other stations.

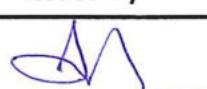
#### **4.5 PUMPS OPERATIONS - VFD MODE**

4.5.1 Ensure the readiness of VBS/SBS and take clearance from VDS for pump start up.

4.5.2 Ensure suction header pressure sufficiently high, so that immediately on starting the pump, Suction pressure should not fall to the pump tripping limit. If not, regulate the receipt flow rate suitably, when receipt is going on. When receipt is not going on, wait to reach the suction header pressure sufficiently high.

4.5.3 Ensure PCV-1301 is completely open.

4.5.4 Ensure that the required pumps are available in VFD mode at PLC mimic.

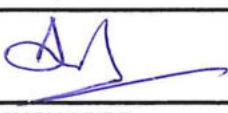
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<b>INTEGRATED MANAGEMENT INSTRUCTIONS</b>		DOCUMENT NO.: IMI/ORJ/06
TITLE	MAIN LINE PUMP OPERATIONS	

- 4.5.5 Set the minimum flow rate in PLC monitor.
- 4.5.6 Give start command to first pump and ensure that same has been started.
- 4.5.7 Once the Discharge MOV is fully opened, then give start command to the second pump.
- 4.5.8 If the start command is given to a different set of pump on the next drive then the pump will start in VFD mode. Then both the pumps will be in VFD mode.
- 4.5.9 If the second pump command is given on a pump in the same drive, then the first pumps will automatically go in to DOL mode and the second pump will take few seconds to start.
- 4.5.10 Set the required Flow rate as per VDS advice once the second pump is started successfully.
- 4.5.11 Monitor the running motors/pumps drive end bearing temperatures every hour and record the same as per IMF/ORJ/01.
- 4.5.12 As per Shift Incharge decision and approval from LIC some set alarms / interlocks may be temporarily bypassed in PLC, if suspected to be malfunctioning. This will be done strictly based on urgent requirement and the same to be logged in PLC bypass register.

#### **4.6 GROUP-1 STANDALONE OPERATION:**

- 4.6.1 The selector switches in control panel to be changed to group-1 mode.
- 4.6.2 The pump selection will be displayed in PLC as Group-1 Standalone active.
- 4.6.3 The Main line pumps 1 2 3 will be ready for starting in this mode. There will be display on the PLC that MP1,2,3 ready.
- 4.6.4 In this mode only two pumps on the old set of pumps can be started.
- 4.6.5 Two old pumps can be run in both VFD mode by running MP1 and Mp2 or MP1 and MP3.
- 4.6.6 Two old pumps can be run in VFD and DOL mode based on the selection and the availability of the pumps and MV Drives.

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<b>INTEGRATED MANAGEMENT INSTRUCTIONS</b>		<b>DOCUMENT NO.: IMI/ORJ/06</b>
<b>TITLE</b>	<b>MAIN LINE PUMP OPERATIONS</b>	

4.6.7 For starting the pumps in VFD/DOL mode follow instructions as per 4.4 and 4.5.

**4.7 GROUP-2 STANDALONE OPERATION:**

4.7.1 The selector switches in control panel to be changed to group-2 mode.

4.7.2 The pump selection will be displayed in PLC as Group-2 Standalone active.

4.7.3 The Main line pumps 4 5 6 will be ready for starting in this mode. There will be display on the PLC that MP 4,5,6 ready.

4.7.4 In this mode only two pumps on the new set of pumps can be started.

4.7.5 Two new pumps can be run in both VFD mode by running MP4 and Mp5 or MP4 and MP6.

4.7.6 Two new pumps can be run in VFD and DOL mode based on the selection and the availability of the pumps and MV Drives.

4.7.7 For starting the pumps in VFD/DOL mode follow instructions as per 4.4 and 4.5.

**4.8 GROUP-2 THREE NEW PUMPS OPERATION:**

4.8.1 The selection for three new pumps to be selected in PLC.

4.8.2 The pump selection will be displayed in PLC as Three New Pumps active.

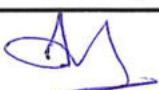
4.8.3 The Main line pumps 4 5 6 will be ready for starting in this mode. There will be display on the PLC that MP 4,5,6 ready.

4.8.4 In this mode all the three pumps on the new set of pumps can be started.

4.8.5 The Three pumps can be started in DOL/VFD mode based on the selection.

4.8.6 The pumps to be started in VFD mode and shifted to DOL mode by SINT transfer logic in PLC.

4.8.7 Two pumps can be started as per the Group-2 standalone logic. The third pump to be started by having sufficient suction pressure of minimum 8-10 kg/cm<sup>2</sup> at pump end and throttle the PCV if needed.

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<b>INTEGRATED MANAGEMENT INSTRUCTIONS</b>		<b>DOCUMENT NO.: IMI/ORJ/06</b>
<b>TITLE</b>	<b>MAIN LINE PUMP OPERATIONS</b>	

4.8.8 Three new pumps can be run in VFD and DOL mode based on the selection and the availability of the pumps and MV Drives.

4.8.9 For starting the pumps in VFD/DOL mode follow instructions as per 4.4 and 4.5.

#### **4.9 1+1 SERIES OPERATION:**

4.9.1 The selector switches in control panel to be changed to 1+1 series mode. And the selection in PLC to 1+1 series mode.

4.9.2 The pump selection will be displayed in PLC as 1+1 series mode active.

4.9.3 The Main line pumps 1 2 3 will be ready for starting in this mode. There will be display on the PLC that MP1,2,3 ready. After any one pump in old set starts then new pumps MP 4 5 6 will be ready for starting.

4.9.4 In this mode only two pumps with one pump on the old set of pumps and one pump on the new set of pumps can be started.

4.9.5 The old pump to be started in VFD/DOL mode. After the discharge is open reduce the set point on the PID to minimum and give start command to any one of the new pumps.

4.9.6 The new pump to be started in VFD mode preferably and the discharge pressure to be throttled with PCV if needed and the rpm of the VFD to be adjusted based on the pressure.

4.9.7 The old pumps and new pumps can be run in VFD and DOL mode based on the selection and the availability of the pumps and MV Drives.

4.9.10 For starting the pumps in VFD/DOL mode follow instructions as per 4.4 and 4.5.

#### **4.10 2+2 SERIES OPERATION:**

4.10.1 The selector switches in control panel to be changed to 2+2 series mode. And the selection in PLC to 2+2 series mode.

4.10.2 The pump selection will be displayed in PLC as 2+2 series mode active.

4.10.3 The Main line pumps 1 2 3 will be ready for starting in this mode. There will be display on the PLC that MP1,2,3 ready. After any two pumps in old set starts then new pumps MP 4 5 6 will be ready for starting.

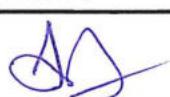
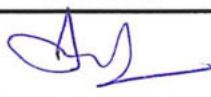
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<b>INTEGRATED MANAGEMENT INSTRUCTIONS</b>		<b>DOCUMENT NO.: IMI/ORJ/06</b>
<b>TITLE</b>	<b>MAIN LINE PUMP OPERATIONS</b>	

- 4.10.4 In this mode only four pumps with two pumps on the old set of pumps and two pumps on the new set of pumps can be started.
- 4.10.5 The old pumps to be started in VFD mode one by one. Then the pumps needed to be shifted to DOL mode by SINT transfer logic. After the discharge is open reduce the set point on the PID to minimum and give start command to any two of the new pumps.
- 4.10.6 The new pump to be started in VFD mode preferably and the discharge pressure to be throttled with PCV if needed and the rpm of the VFD to be adjusted based on the pressure.
- 4.10.7 The old pumps and new pumps can be run in VFD and DOL mode based on the selection and the availability of the pumps and MV Drives.
- 4.10.10 For starting the pumps in VFD/DOL mode follow instructions as per 4.4 and 4.5.

#### **4.11 3+2 SERIES OPERATION:**

- 4.11.1 The selection for 3+2 series operation to be selected in PLC.
- 4.10.2 The pump selection will be displayed in PLC as 3+2 series mode active.
- 4.10.3 The Main line pumps 1 2 3 will be ready for starting in this mode. There will be display on the PLC that MP1,2,3 ready. After all the three pumps in old set starts then new pumps MP 4 5 6 will be ready for starting.
- 4.10.4 In this mode only five pumps with three pumps on the old set of pumps and two pumps on the new set of pumps can be started.
- 4.10.5 The old pumps to be started in VFD mode one by one. Then the pumps needed to be shifted to DOL mode by SINT transfer logic. After the discharge is open reduce the set point on the PID to minimum and give start command to any two of the new pumps.
- 4.10.6 The new pump to be started in VFD mode preferably and the discharge pressure to be throttled with PCV if needed and the rpm of the VFD to be adjusted based on the pressure.

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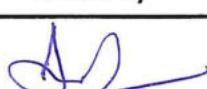
	<b>HINDUSTAN PETROLEUM CORPORATION LIMITED</b> VISAKHA- VIJAYAWADA- SECUNDERABAD PIPELINE VISAKHAPATNAM ANDHRA PRADESH	ISSUE NO: 2 REVISION NO.: 00 EFFECTIVE DATE:01/01/2018 SHEET: 8 OF 8
<b>INTEGRATED MANAGEMENT INSTRUCTIONS</b>		<b>DOCUMENT NO.: IMI/ORJ/06</b>
<b>TITLE</b>	<b>MAIN LINE PUMP OPERATIONS</b>	

4.10.7 The old pumps and new pumps can be run in VFD and DOL mode based on the selection and the availability of the pumps and MV Drives.

4.10.10 For starting the pumps in VFD/DOL mode follow instructions as per 4.4 and 4.5.

## 5.0 RELEVANT RECORDS

Shift log book	(IMF/OPN/01)
Operations Log Book	(IMF/ORJ/01)
PLC Bypass Register	(IMF/OPN/07)

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<b>INTEGRATED MANAGEMENT INSTRUCTIONS</b>		DOCUMENT NO.: IMI/ORJ/07
TITLE	PIG RECEIVING AND LAUNCHING	

## 1.0 PURPOSE

To provide guidelines for pig receiving and launching.

## 2.0 REFERENCES

IM Procedure: IMP/ORJ/01

## 3.0 RESPONSIBILITY

Shift-in-Charge

## 4.0 INSTRUCTIONS

### 4.1 Follow below instructions for Pig Receiving:

- 4.1.1 Co-ordinate with Vizag Control Room for obtaining hourly flow and pig tracking team, from which the location of the PIG will be calculated.
- 4.1.2 Charge the Scrapper barrel by opening the 1" pressure balancing valve of 10" HOV(H-1002).
- 4.1.3 Open 10" HOV (H-1002). Open MOV 1302 and close MOV-1303, sufficient time before the expected arrival time of the PIG.
- 4.1.4 Ensure that the flaps of the PIG indicator mounted on the scrapper barrel be in horizontal position as the pig is received alarm for scrapper detected XXIS-1301 & received XXIS-1302 actuates in panel.
- 4.1.5 Once the PIG is received, open MOV-1303 and close MOV-1302 and 10" bypass line.
- 4.1.6 Drain the scraper barrel by opening the 4" drain valve.
- 4.1.7 Take out the PIG and inspect visually for any dents or scratches and cups condition.

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<b>INTEGRATED MANAGEMENT INSTRUCTIONS</b>		DOCUMENT NO.: IMI/ORJ/07
<b>TITLE</b>	<b>PIG RECEIVING AND LAUNCHING</b>	

- 4.1.8 Collect Pig residue and retain for lab test.
- 4.1.9 Record the findings in Pigging Report.
- 4.2 Follow below guidelines of Pig launching:
- 4.2.1 After inserting the PIG in the launcher and ensuring closing of the barrel door properly. Charge the Scrapper Barrel by opening 1" valve of 10" HOV 10 01.
- 4.2.2 Open 10" Kick off Valve HOV (H-1001) of the launcher.
- 4.2.3 Open MOV-1312 fully.
- 4.2.4 Close MOV-1311
- 4.2.5 After conforming that pig has launched (XXIS-1303 activates), open MOV-1311.
- 4.2.6 Close barrel isolation MOV-1312 and 10" kick off HOV (H-1001).
- 4.2.7 Depressurize / drain the launcher as decided by maintenance in-charge.
- 4.2.8 Inform Vizag and Pig tracking team. Record the details in Pigging Report.

4.3 List of tools required for Pigging:

- (a) Tool box with 36" ring / spanner.
- (b) O-ring for band lock (QOC) 22" & 24".
- (C) CAF Gaskets.
- (D) Grease tin.
- (e) Small rods / pipes.
- (f) Wooden sleeper (small)
- (g) Half cut drum.

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OPERATIONS INCHARGE	IMS COORDINATOR

	<b>HINDUSTAN PETROLEUM CORPORATION LIMITED</b> VISAKHA- VIJAYAWADA- SECUNDERABAD PIPELINE VISAKHAPATNAM ANDHRA PRADESH	ISSUE NO: 2 REVISION NO.:00 EFFECTIVE DATE:01/01/2018 SHEET: 3 OF 3
<b>INTEGRATED MANAGEMENT INSTRUCTIONS</b>		<b>DOCUMENT NO.: IMI/ORJ/07</b>
<b>TITLE</b>	<b>PIG RECEIVING AND LAUNCHING</b>	

(h) Hammer.

- (i) Torch light with spare batteries.
- (j) Pig hook.
- (k) Scapper Pig.
- (l) Cotton waste.
- (m) F-rods.
- (n) Pig Tracking Equipment.

## 5.0 RELEVANT RECORDS

Shift Log Book IMF/OPN/01  
 Pigging report IMF/OPN/08

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OPERATIONS INCHARGE	IMS COORDINATOR

	<b>HINDUSTAN PETROLEUM CORPORATION LIMITED</b> VISAKHA- VIJAYAWADA- SECUNDERABAD PIPELINE VISAKHAPATNAM ANDHRA PRADESH	ISSUE NO: 2 REVISION NO.:00 EFFECTIVE DATE:01/01/2018 SHEET: 1 OF 2
<b>INTEGRATED MANAGEMENT INSTRUCTIONS</b>		<b>DOCUMENT NO.: IMI/ORJ/08</b>
<b>TITLE</b>	<b>SUMP TANK OPERATION</b>	

## 1.0 PURPOSE

To provide guidelines for operating Sump Tank

## 2.0 REFERENCES

IM Procedure: IMP/ORJ/01

## 3.0 RESPONSIBILITY

Shift-in-Charge

## 4.0 INSTRUCTIONS

- 4.1 Monitor and note Sump tank level in each shift & also whenever any maintenance work is taken up. If there is any abnormal increase in the level., investigate the result and empty it out.
- 4.2 Always keep the HSD sump tank online during HSD/SKO in mainline. The MS sump Tank to be made online during MS in mainline.
- 4.3 The respective Sump tanks are to be emptied out only in Terminal HSD/MS tanks. This can also be emptied out in suction line of mainline pumps when HSD/MS pumping is in progress. Clearance should be taken from Vizag in case it is pumped in to suction line.
- 4.4 High level sump tank Alarm is set at 150 Cms and low level at 30 Cms.
- 4.5 For emptying out the HSD sump tank the HSD Terminal tank has to be lined up for receipt and the density of the product should be between 820 to 845 Kg/m<sup>3</sup>.
- 4.6 For emptying out the MS sump tank the MS Terminal tank has to be lined up for receipt and the density of the product should be between 720 to 770 Kg/m<sup>3</sup>
- 4.7 The operator has to select the volume which needs to be emptied out before starting the sump pumps. The sump pumps will automatically stop once the particular volume of sump product is emptied out.

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<b>INTEGRATED MANAGEMENT INSTRUCTIONS</b>		<b>DOCUMENT NO.: IMI/ORJ/08</b>
<b>TITLE</b>	<b>SUMP TANK OPERATION</b>	

- 4.8 Note the details of the sump tank operation in the Operations log book & Shift Log book.

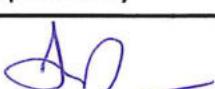
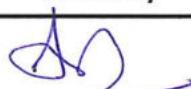
#### 5.0 RELEVANT RECORDS

Shift Log Book IMF/OPN/01  
 Operations Log Book IMF/ORJ/01

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OPERATIONS INCHARGE	IMS COORDINATOR

	<b>HINDUSTAN PETROLEUM CORPORATION LIMITED</b> VISAKHA-VIJAYAWADA-SECUNDERABAD PIPELINE VISAKHAPATNAM ANDHRA PRADESH	ISSUE NO: 2 REVISION NO.: 00 EFFECTIVE DATE: 01/01/2018 SHEET: 1 OF 2
<b>INTEGRATED MANAGEMENT INSTRUCTION</b>		<b>DOCUMENT NO.: IMI/ORJ/09</b>
<b>TITLE</b>	<b>ISSUE HOT/COLD/HEIGHT/ELECTRICAL ISOLATION WORK PERMITS</b>	

- 1.0 PURPOSES: To provide guidelines for issue of hot, cold, Height & electrical isolation work permits to carry out M & R jobs of equipment.
- 2.0 REFERENCES : IM Procedure: IMP/ORJ/01 & OISD 105
- 3.0 RESPONSIBILITY:
- (a) Shift In-charge & Officer In charge- Maintenance in case of Cold Work, Working at Height.
  - (b) Shift In-charge/Officer In charge - Electrical in- case of Electrical Isolation and Energization Permit.
  - (c) Officer In-Charge-Maintenance / Location Incharge-VVSPL Booster or receiving station / Terminal Incahrge in case of Hot work.
- 4.0 INSTRUCTIONS :
- 4.1 The Maintenance officer responsible for carrying out M&R job prepares the COLD/Working at Height work permits and approaches the Shift In-charge (Terminal Incharge in case of hot work permit) for his concurrence (IMF/OPN/03, IMF/OPN/04, IMF/OPN/09). In case of Electrical Isolation and Energization work permit (IMF/OPN/10) OIC-Electrical approaches the Shift In-charge for his concurrence. The work permit for Working at Heights is applicable to all the jobs to be carried out at any elevation more than 3 mts.
- 4.2 Ensure the proper shielding of the work site, degassing of the equipment, isolating the equipment and other necessary activities as detailed in the permits. Ensure that fire hydrant line and fire extinguishers are available at the site as detailed in respective work permits.  
(Responsibility: Maintenance Officer In-charge)
- 4.3 Make an inspection of the site and if satisfied with the arrangement made by the Maintenance Officer In-charge, issue the work permit for a specified duration on a particular shift at a particular work location inside the station. Also verify required PPEs, FF equipments as detailed in respective work permits and PPE matrix as given below are compiled in totality before issuing the permit. Informal personal risk assessments prior to authorizing to undertake tasks is performed and logged in the respective permits, if any. Based on a practical approach "STAR - Stop, Think, Act, Review". All the permit details after issue shall be entered in Shift log book.

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<b>OPERATIONS INCHARGE</b>	<b>IMS COORDINATOR</b>

	<b>HINDUSTAN PETROLEUM CORPORATION LIMITED</b> VISAKHA-VIJAYAWADA-SECUNDERABAD PIPELINE VISAKHAPATNAM ANDHRA PRADESH	ISSUE NO: 2 REVISION NO.: 00 EFFECTIVE DATE: 01/01/2018 SHEET: 2 OF 2
<b>INTEGRATED MANAGEMENT INSTRUCTION</b>		<b>DOCUMENT NO.: IMI/OSP/09</b>
<b>TITLE</b>	<b>ISSUE HOT/COLD/HEIGHT/ELECTRICAL ISOLATION WORK PERMITS</b>	

(Responsibility: Pipeline Shift In-charge for COLD/HEIGHT WORK PERMITS, Shift Incharge/Officer In charge - Electrical in case of Electrical Isolation and Energization Permit & LIC/Terminal In charge for HOT work permits respectively).

- 4.4 After receiving the HOT work permit, inform over telephone to Fire & Safety Officer of Terminal about the location and duration of the HOT WORK being carried out at VVSPL station. (Responsibility: Shift In-charge & OIC).
- 4.5 During the course of execution of the job, shift officer to make at least one round of the job location per shift and verify for compliance status of the requirements for PPE and FFE (Fire Fighting Equipment) as given in work permit and PPE matrix as per Annexure A & log observations of the visit in respective work permits and/or critical behavioral check list, IMF/ OPN/12.

#### 5.0 RELEVANT RECORDS :

- ❖ Cold work permit IMF/OPN/03
- ❖ Hot work permit IMF/OPN/04
- ❖ Working at Height Permit IMF/OPN/09
- ❖ Electrical Isolation & Energization Permit IMF/OPN/10
- ❖ Process Hazard Identification and Risk Assessment procedure.

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OPERATIONS INCHARGE	IMS COORDINATOR

Sr.No.	Activity	Personal Protective Equipments (PPE'S) to be used in operating area											
		Helmet	Safety Shoes	Gogoles	Hand Gloves Cot.	Hand Gloves PVC	Hand Gloves ASB	Ear Plugs	Canister	B. Apparatus	Gas Mask	Dust Mask	Safety Belt
1	Visitors / Employees in Plant Area	Yes	Yes	--	--	--	--	--	--	--	--	--	--
2	Taking Sample in Plant	Yes	Yes	Yes	Yes	--	--	--	--	--	--	--	--
3	Tank gauging	Yes	Yes	Yes	Yes	--	--	--	--	--	--	--	--
4	Mechanical /FAS jobs- Pigging/ valve maint/pump maint./FE maint.	Yes	Yes	--	Yes	--	--	--	--	--	--	--	--
5	Noisy Area - pump /DG shed	Yes	Yes	Yes	Yes	--	--	Yes	--	--	--	--	--
6	Welding	Yes	Yes	Yes	Yes	--	Yes	--	--	--	Yes	--	--
7	Grinding	Yes	Yes	Yes	Yes	--	--	Yes	--	--	--	Yes	--
8	Working at Height - Painting, crane maint. & b.filter	Yes	Yes	Yes	Yes	--	--	--	--	--	--	--	Yes
9	Chemicals Handling - Battery maint. & CI handling	Yes	Yes	Yes	--	Yes	--	--	--	--	Yes	--	--
10	Electrical & Instrumentation Jobs	Yes	Yes	--	--	Yes	--	--	--	--	--	--	--
11	Working in shed/stores	Yes	Yes	Yes	Yes	--	--	--	--	--	--	--	--
12	Confined Space	Yes	Yes	Yes	Yes	--	--	--	--	Yes	--	--	--

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OPERATIONS INCHARGE	IMS COORDINATOR

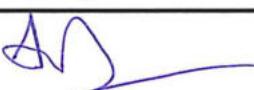
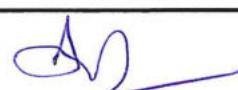
**HINDUSTAN PETROLEUM CORPORATION LIMITED  
VISAKHA-VIJAYAWADA-SECUNDERABAD PIPELINE**

**LIST OF FORMS**

Department/Section : Operations - Rajahmundry

SI No	Form No.	Form Title	IMP / IMI No.	Retention Period
1	IMF/OPN/01	Shift log book	IMP/ORJ/01	2 years
2	IMF/OPN/02	Maintenance log book	IMP/ORJ/01 IMP/ORJ/02	1 year
3	IMF/OPN/03	Cold work permit	IMP/ORJ/01	1 year
4	IMF/OPN/04	Hot work permit	IMP/ORJ/01	1 year
5	IMF/OPN/05	Certificate for Thermometer calibration	IMI/OPN/01	1 year
6	IMF/OPN/06	Certificate for Hydrometer calibration	IMI/OPN/02	1 year
7	IMF/OPN/07	PLC by-pass register	IMI/ORJ/02	1 year
8	IMF/OPN/08	Pigging report	IMI/ORJ/07	3 years
9	IMF/OPN/09	Working at Heights Permit	IMP/ORJ/01	1 year
10	IMF/OPN/10	Electrical Isolation & Energization Permit	IMP/ORJ/01	1 year
11	IMF/OPN/11	ATF Check list	IMP/OPN/11	1 year
11	IMF/ORJ/01	Operations log book-RBS	IMP/ORJ/01	2 years
12	IMF/ORJ/02	Quality control register	IMI/ORJ/01 IMI/ORJ/04	1 year
13	IMF/ORJ/03	Tank gauge cum check list	IMI/ORJ/05	1 year
14	IMF/ORJ/04	Sample Label	IMP/ORJ/03	Till Batch Formation
15	IMF/ORJ/05	Interface Log Sheet	IMI/ORJ/04	3 year
16	IMF/ROW/01	Daily line walkers' report	IMP/ORJ/01	1 year
17	IMF/ROW/02	Daily security guards' report	IMP/ORJ/01	1 year

Signature of Department Head

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OPERATIONS INCHARGE	IMS COORDINATOR

HINDUSTAN PETROLEUM CORPORATION LIMITED

/VSPL - RAJAHMUNDY BOOSTER STATION

OPERATIONS LOG BOOK

QMP/ORJ/01  
Rev: 00  
Page 01 of 03

FROM 07:00 HRS OF

TO 7:00 HRS OF

TIME	MAIN LINE PRESSURE IN KG/Cm <sup>2</sup>				VISHAKHAPATNAM			RAJAHMUNDY RECEIPT DETAILS					RGS PUMPING DETAILS					
	VGS	SV2	SV3	SV4	PRODUCT CYCLE & BATCH	QUANTITY	FLOW RATE	TANK NO.	PRODUCT	CYCLE & BATCH	DIP IN CM	TANK RECEIPT	AS PER DIP	AS PER FC	FLOW RATE	PUMP NO.	QUANTITY PUMPED	FLOW RATE
07:00																		
08:00																		
09:00																		
10:00																		
11:00																		
12:00																		
13:00																		
14:00																		
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03:00																		
04:00																		
05:00																		
06:00																		
07:00																		

**PUMP SHUTDOWN DETAILS**

HF COMMUNICATION

FREQUENCY	REMARKS
DAY	-
NIGHT	-

QMP/ORJ/01  
Rev: 00  
Page 02 of 03

STOCK AND ULLAGE REPORT AS OF 07:00 Hrs

STOCK AND ULLAGE REPORT AS OF 07:00 Hrs														
DETAILS	HSD			TOTAL	SKD		TOTAL	MS				TOTAL	LNG	TOTAL
	1A	1B	1C		2A	2B		1A	1B	1C	2C			
PASSENGER STOCK (L)														
ULLAGE(L)														
CURRENT(L)														
STALE														
REMARKS/INFO														

ABOVE DETAILS PASSED TO : BY :

**TOTAL PUMPING HOURS**

TOTAL PUMPING HOURS							
BUT							SUPER PUMP
SHFTS	MPS	MPS	MPS	MPS	MPS	MPS	
I	-	-	-	-	-	-	
II	-	-	-	-	-	-	
III	-	-	-	-	-	-	
TOTAL	-	-	-	-	-	-	

#### **PRODUCT DETAILS IN MAIN LINE AND PUMPS**

AD

1

HPCL - VVSPL  
RAJARMUNDRY BOOSTER STATION

QMP/ORJ/01  
Rev: 00  
Page 03 of 03

shift

#### PUMP AND MOTOR BEARING TEMPERATURES IN °C

SHIFT INCHARGE



IMF/ORJ/02  
Rev: 00

हिन्दुस्तान पेट्रोलियम कॉर्पोरेशन लिमिटेड/ HINDUSTAN PETROLEUM CORPORATION LIMITED  
विशाख विजयवाडा सिकंदराबाद पाईपलाईन विशाखापटनम/VISAKHA-VIJAYAWADA-SECUNDERABAD PIPELINE  
गुणवत्ता नियंत्रण पुस्तिका/QUALITY CONTROL REGISTER

### **कार्यस्थल/Location:**

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OPERATIONS INCHARGE	IMS COORDINATOR



हिन्दुस्तान पेट्रोलियम कार्पोरेशन लिमिटेड  
विशाख विजयवाडा सिकंदराबाद पाईपलाईन विशाखापटनम  
HINDUSTAN PETROLEUM CORPORATION LIMITED  
VISAKHA-VIJAYAWADA-SECUNDERABAD PIPELINE  
टैक गेज एवम् जाँच सूचि/TANK GAUGE CUM CHECKLIST

Rajahmundry Booster Station:

टैक संख्या/ TANK NO:	उत्पाद/PRODUCT :	बैच/BATCH:	
	आरंभ/OPENING	समापन/CLOSING	
सीपीइल्यूडी की ऊचाई /CPWD Height			
आर एच ओ/R.H.O.			
संशोधन /Correction			
प्राप्त इनेज/Innage Obtained			
सकल इनेज/Total Innage			
प्राप्त बीएस एवम् जल/BS & W Obtained			
संशोधन /Correction			
सकल बीएस एवम् जल/Total BS & W			
टैक तापमान/Tank Temperature			
नमुना तापमान/Sample Temperature			
घनत्व @ 15 C°/Density @ 15 C, if settling time >24 hrs			
घनत्व @ 15 C°/Density @ 15 C, if settling time <24 hrs			
Upper =                            Middle=			
Lower=			
Bottom=			
दिनांक/Date			
समय/Time			
विविएसपीएल का प्रतिनिधि/VVSPL Rep.			
साइट एवम् वाल्वो का निरीक्षण/ Inspection of Site and Valves			
Tank inlet and delivery valve isolated			
Whether Inlet DBBV/MOV and ROSOV of other tanks in the same manifold isolated or Not?			
Water drain valve in closed position			
Roof water drain valve in open position			
Whether tank inlet ROSOV working?			
Air pressure at Tank inlet ROSOV			
टैक घनत्व/Tank Density in TAS			
प्राप्त मात्रा/ Receipt Quantity	Qty. Details	JDE details	
Ambient QTY		XL No.:	
Standard QTY		YL No.:	
Weight (KG)		OV No.:	
पाली प्रभारी/Shift Officer			
वीवीएसपीएल/ VVSPL		वीवीएसपीएल / VVSPL	टेर्मिनल /Terminal

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हिन्दस्तान पेट्रोलियम कार्पोरेशन लिमिटेड

IMF/ORJ/05

Rev:

HINDUSTAN PETROLEUM CORPORATION LIMITED  
विशाख विजयवाडा सिकन्दराबाद पाईप लाईन  
VISAKHA-VIJAYAWADA-SECUNDERABAD PIPE LINE

## इंटरफेस लॉग शीट/INTERFACE LOG SHEET

दिनांक / DATE:

I/F TAKEN IN TANK

### कार्यस्थल/Location:

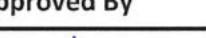
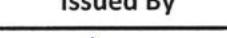
NO:

	उत्पाद Product	चक्र/बैच : : Cycle / Batch	घनत्व : Density @ 15°	टैंक संख्या/Tank No.
अगला/Preceding				
पीछा/Following				
डीजी शुरू D.G. Started at :			डीजी बन्द D.G. Stopped at :	

इंटरफेस शुरू समय I/F STARTED AT ..... HRS अंतराल DURATION AT ..... MN  
समाप्ति समय OVER AT ..... HRS अनुमानित मात्रा APPX. QTY ..... KL @ .....  
KL/HR

## CHARGE

### प्रभारी अधिकारी /OFFICER-IN-

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OPERATIONS INCHARGE	IMS COORDINATOR

क्युएमएफ/ओआरजे/04::IMF/ORJ/04  
संसोधन/:REV.00



नमुना पत्र : Sample Label  
विविएसपीएल/VVSPL

कार्यस्थल/Location:

उत्पाद/PRODUCT \_\_\_\_\_ नमुना संख्या/SAMPLE No. \_\_\_\_\_

दिनांक / DATE \_\_\_\_\_ समय/TIME (HRS.) \_\_\_\_\_

साइकल/बैच संख्या/:CYCLE/BATCH No. \_\_\_\_\_

श्रोत: Source: \_\_\_\_\_

बैच का अग्र/मध्य/अंत/ FRONT/MIDDLE-END OF BATCH/

टैंक संख्या/TANK No. \_\_\_\_\_

अन्य/Any

other: \_\_\_\_\_

घनत्व/Density @15 Degree C= \_\_\_\_\_

पाली अधिकारी (विविएसपीएल) /SHIFT IN-CHARGE (VVSPL)

पाली अधिकारी (एटीपी/ टेर्मिनल) /SHIFTIN-CHARGE (ATP/Terminal)  
\_\_\_\_\_

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एटीएफ बैच संख्या / ATF Batch Number : पार्सल का आकार / Parcel size :

बीडीएस में पर्पिंग की तिथि व समय/ Date & time pumping started at VDS:

बीवीएस में रेसिएट समाप्त की तिथि व समय/ Date & time receipt completed at VBS:

अ) अंतिम पिगिंग की यथास्थिति / Status of Last pigging done

पिगिंग का प्रकार/ Type of pigging : पिगिंग की तिथि / Date of pigging : अभियुक्तिः Remarks

ब) शुन्य एसकेओ-एटीएफ-शुन्य एसकेओ चक्र की अनुसुचित मात्रा:

/ Quantity scheduled for ZeroSKO-ATF-ZeroSKO cycle :

॥ बीडीएस / आरबीएस में पर्पिंग परिचालन / Pumping Operations at VDS

	पाईपलाईन / Pipe line	Remark
1	बैच संख्या / Batch No : तिथि / Date : मात्रा / Qty:	
2	इस एटीएफ बैच को पम्प करने से पूर्व के पम्प किए गए एमएस (बैच की बैच लम्बाई , बैच संख्या व पर्पिंग तिथि दर्शाएँ) Before Pumping this batch of ATF, previous batches of MS have been pumped (Batch No., Date of pumping and Batch length to be indicated)	हाँ/ Yes नहीं/No
3	0-रेटेड एसकेओ/ पदावनित एटीफ के पर्पिंग के दौरान निम्न उपकरणों को प्रचलित किया गया- सभी बुस्टर पम्प, कार्ट्रिज/ बास्केट फिल्टर, गार सेपरेटर, सभी फलो टरबाइंस, घनत्व मीटर, दोनों पुराने व नए मेनलाईन पम्प, पिंग लांचर, सभी वेंट्स, ड्रेन, टीएसवीस , पीजी/ डीपीजी, कोई अन्य बाइपास लाईन - जहाँ भी संभव हो (उपलब्ध स्तर की गुणवत्ता एवम मात्रा को अलग रेकार्ड करें तथा स्तर के नमुने को संभालकर रखें). During pumping of 'O' rating SKO/Down graded ATF the following station facilities were flushed: All Booster Pumps,Cartridge/Basket filters,Filter separator, All Flow turbines,Densitymeter,Mainline pumps both Old set and New set, Scrapper launcher, All possible vents, Drains, TSVs, PG/DPG, any other bypass lines-where ever possible.(The quality & quantity of sludges, if available are to be recorded separately for each point.The sludge sample to be preserved.)	हाँ/ Yes नहीं/No
4	0-रेटेड एसकेओ/ पदावनित (डाउनग्रेडेड) एटीफ के पर्पिंग के दौरान किसी भी स्लाप/ सम्प टैंक या सीआई का पाईपलाईन स्थानक से अंतःक्षेपण नहीं किया गया .During pumping of ATF and 'O' rating SKO, no slop/CI/DRA/Sump Tank injection was done at the pipeline station	हाँ/ Yes नहीं/No
5	एटीफ पर्पिंग शुरू करने से पूर्व, निर्धारित एटीफ टैंक के ड्रेन तथा ऊपरी/ मध्य / नीचे स्तरों को एकत्रित कर सुरक्षित रखा गया Drain & TMB samples of nominated ATF tank were collected and preserved before introduction of ATF.	हाँ/ Yes/No
6	एटीफ पर्पिंग शुरू करने से पूर्व, निर्धारित एटीफ टैंक के ड्रेन तथा ऊपरी/ मध्य / नीचे स्तरों को एकत्रित कर सुरक्षित रखा गया During pumping ATF, for first half an hour, for every 10 minutes interval water draining from water separator and at interval of every 1 hour after that. Mention quantity of water in liter.	Yes/ No If yes, Quantity =
7	0-रेटेड एसकेओ के दोनों अग्र व अंतिम बैच के कम से कम 3 लाईन नमुने (प्रत्येक नमुना 2 ली. का) तथा एटीफ के 5 लाईन नमुने (प्रत्येक 2 ली. के) सामान्य अंतराल पर साफ किए गए तथा भूतभौति प्रचलित मानक लिंब्बो/ रेंगिन बोतलों में पाईपलाईन स्थानक से एकत्रित किया तथा सुरक्षित रखा गया. Atleast 3 Line samples (every sample of 2 ltrs) each of front and rear batch of 'O' rating SKO and 5 Line samples (2 ltrs each) of ATF was collected at regular intervals in standard clean and properly rinsed cans / colour bottles from pipeline station and preserved.	हाँ/ Yes नहीं/No
8	अ) एटीफ पर्पिंग के दौरान मैन या बुस्टर स्टेशन पर कोई शट डाउन नहीं था तथा पुर्णतया स्थायी बहाव सुनिश्चित किया गया During ATF movement there was no S/D of main/booster station and steady flow maintained throughout.	हाँ/ Yes नहीं/No
9	ब) यदि अपरिहार्य करणों से कोई शट डाउन था (कारण, अवधि रिकार्ड करें) There was S/D which could not be avoided (Reason, duration should be recorded).	
	Monitoring test of idle line ATF between Tank & Manifold and should be OK by QC.	हाँ/ Yes, नहीं/No Test Certificate Number (If Applicable)

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	पाईपलाईन / Pipe line	Remark
1	0-रेटेड एसकेओ / पदावनित एटीफ के पंपिंग के दौरान निम्न उपकरणों को प्रचलित किया गया - सभी बुस्टर पम्प, कार्टिज / वास्केट फिल्टर, वाटर सेपरेटर, सभी फ्लो ट्रवाईस, घनत्व मीटर, दोनों पुराने व नए मेनलाईन पम्प, पिंग लांचर, सभी वेंट्स, ड्रेन, टीएसवीस, पीजी/डीपीजी, कोई अन्य वाईपास लाईन - जहाँ भी संभव हो (उपलब्ध स्लज की गुणवत्ता एवं मात्रा को अलग रेकार्ड करें तथा स्लज के नमुने को संभालकर रखें। During pumping of 'O' rating SKO/Down graded ATF the following station facilities were flushed: All Booster Pumps,Cartridge/Basket filters,Filter separator, All Flow turbines,Densitymeter, All Mainline pumps, Scraper launcher, All possible vents, Drains, TSV's, PG/DPG, any other bypass lines-where ever possible.(The quality & quantity of sludges, if available are to be recorded separately for each point.The sludge sample to be preserved.)	हाँ/ Yes  नहीं/No
2	0-रेटेड एसकेओ / पदावनित (डाउनग्रेडेड) एटीफ के पंपिंग के दौरान किसी भी स्लाप / सम्प टैक या सीआई का पाईपलाईन स्थानक से अंतःक्षेपण नहीं किया गया। During pumping of ATF and 'O' rating SKO, no slop/CI/DRA/Sump Tank injection was done at the pipeline station	हाँ/ Yes  नहीं/No
3	0-रेटेड एसकेओ के दोनों अग्र व अंतिम बैच के कमसे कम 3 लाईन नमुने (प्रत्येक नमुना 2 ली. का) तथा एटीफ के 5 लाईन नमुने (प्रत्येक 2 ली. के) सामान्य अंतराल पर साफ किए गए तथा भविभावित प्रचलित मानक डिव्हो / रंगिन बोतलों में पाईपलाईन स्थानक से एकत्रित किया तथा सुरक्षित रखा गया। Atleast 3 Line samples (every sample of 2 ltrs) each of front and rear batch of 'O' rating SKO and 5 Line samples (2 ltrs each) of ATF was collected at regular intervals in standard clean and properly rinsed cans/ colour bottles from pipeline station and preserved.	हाँ/ Yes  नहीं/No

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III. वाबाएस म रासए (प्राप्त) क लए/ For receipt at VBS/SRS

Page 3

		पाईपलाईन / Pipe line	विपणन / Marketing.	Remark
10	0-रेटेड एसकेओ/ एटीफ के रेसिट के दौरान वीबीएस के निम्न उपकरणों को प्रचलित किया गया - कार्टिज/ बास्केट फिल्टर, रेसिट फ्लो टरबाइन्, घनत्व मीटर, एफसीवी और वाईपास स्केपर रिसिवर . सभी वैट्स, ड्रेन टीएसवीज़, पीजी/ डीपीजी, कोई अन्य वाईपास लाईन - जहाँ भी संभव हो (उपलब्ध स्लज की गुणवत्ता एवम मात्रा को अलग रेकार्ड करे तथा स्लज के नमुने को संभालकर रखें). During 'O' rated SKO/ATF receipt VBS side following station facilities were flushed : Cartridge/Basket filters, Receipt Flow turbines, Densitymeter, FCV and bypass, Scrapperreceiver, All possible vents, Drains, TSVs, PG/DPG , Any other bypass lines-where ever possible. (The quality and quantity of sludges if available are to be recorded separately for each point to be preserved)	हाँ/ Yes  नहीं/No		
11	0-रेटेड एसकेओ/ पदावनित (डाउनग्रेडेड) एटीफ के प्राप्ति के दौरान किसी भी स्लाप/ सम्प टैक या सीआई का पाईपलाईन स्थानक से अंत:क्षेपण नहीं किया गया .During pumping of ATF and 'O' rating SKO, no slop/CI/DRA/Sump Tank injection was done at the pipeline station	हाँ/ Yes  नहीं/No		
12	एटीफ टैक के निकास लाईन को पृथक किया / ATF tank outlet line was isolated & locked.	हाँ/ Yes  नहीं/No		
13	एटीफ रेसिट (प्राप्ति)शुरू करने से पुर्व, निर्धारित एटीफ टैक के इन तथा ऊपरी/ मध्य / नीचते नमुनों को एकत्रित कर सुरक्षित रखा गया Drain & TMB samples of nominated ATF tank were drawn, tested for water and sediment prior to just before receipt of ATF.	हाँ/ Yes  नहीं/No	हाँ/ Yes  नहीं/No	
14	0-एसकेओ/ एटीफके घनत्वअंतरके आधारपर शुद्ध एटीफ पदअवनित (डाउनग्रेड)मात्रास्थापित किया जाना चाहिए, तथापि पदअवनित (डाउनग्रेड)मात्रा 150 किली से अधिक नहीं होना चाहिए .Basis density difference between 'O' SKO/ATF, quantity of ATF to be downgraded as SKO to be established. However the same shall not exceed 150 KL.	पदअवनित (डाउनग्रेड)मात्रा:  Quantity Downgraded:		
15	एटीफ प्राप्त करनेवाले टैक के प्रवेश लाईन काएचओवी (टैक के प्रवेश एमओवीसे तुरंत पहले) एटीफ प्राप्ति से कुछ पुर्व ही खोला गया .The HOV in the inlet line of ATF receiving tank (just before inlet MOV of the tank) was opened just before the receiving of ATF in the tank.	हाँ/ Yes  नहीं/No	हाँ/ Yes  नहीं/No	
16	एटीफ को निर्धारित टैक या जिस टैक में स्पेक एटीफ था मैं प्राप्ति (रिसीट) किया गया (टैक संख्या , टैक सफाई की आखरी तिथि दर्शाइए)ATF was received into the scheduled cleaned tank or in the tank having on spec. ATF (Tank No. and last date of cleaning of the tank to be indicated).	पुर्व बैच संख्या /  Previous Batch No:मात्रा / Quantity:	Tank No:  Date Of Cleaning:	
17	एटीफ/ 0-एसकेओके घनत्वअंतरके आधारपर शुद्ध एटीफ पदअवनित (डाउनग्रेड)मात्रास्थापित किया जाना चाहिए, तथापि पदअवनित (डाउनग्रेड)मात्रा 150 किली से अधिक नहीं होना चाहिए .Basis density difference between ATF/O' SKO quantity of ATF to be downgraded as SKO to be established. However the same shall not exceed 150 KL.	पदअवनित (डाउनग्रेड)मात्रा:  Quantity Downgraded:		
18	एटीफ प्राप्ति से पुर्व, निर्धारित एटीफ टैक के इन तथा ऊपरी/ मध्य / नीचते नमुनों को एकत्रित कर सुरक्षित रखा गया Drain & TMB samples of nominated ATF tank were collected and preserved before Receipt of ATF.	हाँ/ Yes  नहीं/ No		
19	During pumping ATF, for first half an hour, for every 10 mints interval and at interval of every 1 hour after that. Observe for Test "H" of AQCM	Yes/ No		
20	0-रेटेड एसकेओ/ पदावनित (डाउनग्रेडेड) एटीफ की प्राप्ति के दौरान किसी भी स्लाप/ सम्प टैक या सीआई का अंत:क्षेपण नहीं किया गया .Injection of slop tank/ sump tank product was not done during receiving of 'O' rating SKO and ATF.	हाँ/ Yes  नहीं/No		
21	0-रेटेड एसकेओ के दोनों अंग व पार्श्व बैच से कमसे कम 3 लाईन नमुने (प्रत्येक नमुना 2 ली. का) तथा एटीफ के 5 लाईन नमुने (प्रत्येक 2 ली. के) सामान्य अंतराल पर साफ किए गए तथा भलिभौति प्रचलित मानक डिब्बो/ रंगिन बोतलों में पाईपलाईन स्थानक से एकत्रित किया तथा सुरक्षित रखा गया At least 3 Line samples (2 ltrs each) of front and rear batches of 'O' rating SKO and 5 Line samples (2 ltrs each) of ATF were collected at regular intervals in standard clean and properly rinsed cans/bottles and preserved.	हाँ/ Yes  नहीं/No		
22	रेसीट समापन के पश्चात संवधित टैक से, बैच फोर्मेशन टेस्ट हेतु सामुहिक (संयुक्त) एटीफ नमुना लिया गया .Joint ATF samples from the tank to be taken after the receipt is over for batch formation test.	हाँ/ Yes  नहीं/No	हाँ/ Yes  नहीं/No	
23	Monitoring test of idle line ATF between Tank & Manifold and should be OK by QC.	हाँ/ Yes, नहीं/No  Certificate Number:		

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