

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

BOGARAM BOOSTER STATION

OPERATIONS MANUAL



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



HINDUSTAN PETROLEUM CORPORATION LIMITED
VISAKHA-VIJAYAWADA-SECUNDERABAD PIPELINE
VISAKHAPATNAM
ANDHRA PRADESH

ISSUE NO: 1
REVISION NO.: 0
EFFECTIVE DATE: 24/10/2020
SHEET: 1 OF 1

INTEGRATED MANAGEMENT PROCEDURES

DOCUMENT NO.: IMP/OBG

TITLE

INDEX

S.No	Description
1	List of documents (IMS Procedures/IMS Instructions)
2	Amendment record Sheet
3	IMS Procedures
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LOCATION INCHARGE	MAINTENANCE INCHARGE	IMS COORDINATOR

HINDUSTAN PETROLEUM CORPORATION LIMITED
VISAKHA-VIJAYAWADA-SECUNDERABAD PIPE LINE

LIST OF DOCUMENTS
(IMS Procedures & IMS Instructions)
DEPARTMENT/SECTION: OPERATIONS - BOGARAM

SI No	IMP/IMI Title	IMP / IMI No.	Rev. No./ Amendment No.	Effective Date
1	BBS CONTROL ROOM ACTIVITIES	IMP/OBG/01	00	24/10/2020
2	PRODUCT SAMPLING, STORAGE AND DISPOSAL	IMP/OBG/02	00	24/10/2020
3	STANDARD CHECKS FOR SMOOTH OPERATIONS	IMI/OBG/01	00	24/10/2020
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8	OPERATION OF BOGARAM STATION UNDER EMERGENCY CONDITION	IMI/OBG/06	00	24/10/2020
9	SUMP TANK OPERATION	IMI/OBG/07	00	24/10/2020
10	ISSUE OF HOT/ COLD/ HEIGHT/ ELECTRICAL ISOLATION WORK PERMITS	IMI/OBG/08	00	24/10/2020

Signature of Department Head

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AMENDMENT RECORD SHEET

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

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LOCATION INCHARGE	MAINTENANCE INCHARGE	IMS COORDINATOR

	HINDUSTAN PETROLEUM CORPORATION LIMITED VISAKHA- VIJAYAWADA- SECUNDERABAD PIPELINE VISAKHAPATNAM ANDHRA PRADESH	ISSUE NO: 1 REVISION NO.:00 EFFECTIVE DATE: 24/10/2020 SHEET: 1 OF 8
INTEGRATED MANAGEMENT PROCEDURE		DOCUMENT NO: IMP/OBG/01
TITLE	BBS CONTROL ROOM ACTIVITIES	

1.0 PURPOSE

To lay down the activities in operation of Bogaram booster station control room to ensure safe operations and to obtain the results of planned activities.

2.0 SCOPE

This is applicable to operations of Bogaram booster station facilities on a continuous basis in coordination with the control rooms of following stations.

Vizag Dispatch Station/Mallu Bhupala Patnam Booster station/ Rajahmundry Booster Station/ Jeela Karra Gudem Booster Station/Vijayawada Booster Station/Suryapet Booster Station/ Secunderabad Receiving Station.

3.0 REFERENCES

IMS/MR/7

4.0 RESPONSIBILITY

4.1 MANAGER OPERATIONS

- 4.1.1 To Coordinate with DGM- Operations / Vizag Control Room regarding the pumping program.
- 4.1.2 To review the Control Room operations on a regular basis and to initiate & implement the corrective action as and when required.
- 4.1.3 Overall responsibility of the station.

4.2 SHIFT-IN-CHARGE

- 4.2.1 Implementation of the finalized pumping programme, involving coordination with, Vizag Dispatch Station, Rajahmundry Booster station, Vijayawada Booster station, Suryapet Booster Station, Secunderabad Receiving Station and IPS-1 & 2.
 - 4.2.2 To ensure safe operation of Bogaram control room facilities by closely monitoring / maintaining all 'Operating Parameters (Annexure I)'
- To coordinate for the safe operations at Mallu Bhupala Patnam, Rajahmundry, Jeela Karra Gudem, Vijayawada, Suryapet, Secunderabad.

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BOGARAM CONTROL ROOM ACTIVITIES

- 4.2.3 To coordinate with maintenance department for availability of the facilities.
- 4.2.4 To monitor pipeline integrity by monitoring and analyzing the LDS alarms in coordination with maintenance department.
- 4.2.5 To issue cold / hot / working at height permit for work inside premises.
- 4.2.6 To monitor the report of security guards and bring it to the notice of relevant officer for attending any issue.
- 4.2.7 Carryout weekly inspection of fire siren equipment & PAGA system in co-ordination with F&S Officer.
- 4.2.8 Surprise checks to be carried out to ensure alertness of Security Guards, activities of valve operators & electricians and identification/correction of any abnormality in station. Findings to be recorded in the shift log book of C/R.
- 4.2.9 To record, at the end of the shift, all the relevant events occurred during the shift requiring the attention of the next shift in charge by preparing Handing over Note (HON) in IMF/OPN/01 and discuss briefly about the same.
- 4.2.10 To acknowledge the HON prepared by the previous shift in charge and discuss briefly about the same.
- 4.2.11 To carry out the roles and responsibilities as per the ERDMP.

4.3 SHIFT ENGINEERS

- 4.3.1 To assist the Shift in-charge in carrying out the activities as listed in 4.2.

5.0 PROCEDURE

- 5.1 To ensure safe operations, the activities as detailed in the following integrated management instructions are carried out:

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DOCUMENT NO: IMP/OBG/01

TITLE

BOGARAM CONTROL ROOM ACTIVITIES

TITLE OF IMS INSTRUCTION	IMS INSTRUCTION No.
STANDARD CHECKS FOR SMOOTH OPERATIONS	IMI/OBG/01
LINING UP OF BOGARAM STATION	IMI/OBG/02
OPERATION OF MAINLINE PUMPS AT BBS	IMI/OBG/03
SWITCH OVER OF PUMPS AT BOGARAM STATION	IMI/OBG/04
SHUT DOWN OF BOGARAM STATION	IMP/OBG/05
OPERATION OF BOGARAM STATION UNDER EMERGENCY CONDITION	IMP/OBG/06
SUMP TANK OPERATION	IMI/OBG/07
ISSUE OF HOT/ COLD/ HEIGHT/ ELECTRICAL ISOLATION WORK PERMITS	IMI/OBG/08

5.2 The co-ordination with BOGARAM Maintenance group involves the following:

- 5.2.1 The shift personnel (except during any emergency as deemed fit by shift-in-charge) take at least one General Inspection round during the shift.

5.2.2 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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BOGARAM CONTROL ROOM ACTIVITIES

2. Mainline Pump House& Piping

- Abnormal Noises
- Any Leaks through Pump's Mechanical Seal, body, Valves, piping, PTs, TTs etc.
- Visually inspect EOT crane
- Condition of Emergency Shower
- Condition of Control Valve (PCV)
- Condition of Pipe Supports
- Condition & Status of critical Valves
- Level of Pumps' lube oil, seal plan
- Differential pressure across the Pump Suction and inform M&R (Mech) to clean the filter element when pressure drop exceeds 0.2 Kg / cm².

3. 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

4. Sample Room

- Operation of Exhaust System
- Any spillages
- Proper stacking of Samples

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TITLE	BOGARAM CONTROL ROOM ACTIVITIES	

5. Field Piping Area

- Any Leakages through flanges, Valves, PCV, Sample Points, PTs, TTs etc.
- Abnormal Sounds from PCV
- Condition of Walkovers
- Differential pressure in the Basket filter 101A and 101B and inform M&R (Mech) to clean the filter element when pressure drop exceeds 0.2 Kg / cm2.

6. Fire water Tank Farm

- Any leakages from the tank
- Condition of Tank Body & other valves
- Position of all HOVs should be as per requirement

7. Fire Water Pump House& Piping

- Abnormal Noises
- Any Leaks through Main/Jockey Pump's, body, Valves, piping, PGs etc.
- Visually inspect Battery condition
- General Housekeeping
- Fuel level/Oil level

8. In and Around C/R Building

- Any abnormality in C/R building, Worker's amenities Room
- Condition of Roads & Drains
- Condition of Worker's amenities Room
- Condition of PLC & SCADA Software & Hardware
- Working of PAGA System
- Whether Spark arrestors installed to vehicles

9. 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

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BOGARAM CONTROL ROOM ACTIVITIES

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.

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.

5.2.3 In case of above mentioned abnormalities, if any corrective actions other than the maintenance activity are required, the same is initiated by the shift in-charge on advise by the concerned Manager. This advice can also be accepted telephonically with a corresponding note in the maintenance log book (IMF/OPN/02).

5.2.4 The impugned facility is isolated and the same is accepted back only on advise of the concerned Manager with the corresponding note on the maintenance log book. (IMF/OPN/02).

5.3 The coordination with Vizag/Mallu Bhupala Patnam/Rajahmundry/ Jeela Karra Gudem/ Vijayawada /Suryapet / Bogaram/ Secunderabad Control Rooms involves the following activities:

5.3.1 Coordination regarding the starting and stopping of the pumps as per Pumping plan and in emergency/system failure cases.

5.3.2 To advise the other locations' control room about the various operating parameters when the pumping is 'ON' and also to exchange the pumping figures on hourly basis. To record relevant details in IMF/OBG/03.

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TITLE

BOGARAM CONTROL ROOM ACTIVITIES

6.0

RELEVANT RECORDS

Sl. No	Format Title	Format No.	Location	Responsibility
1	Shift log book	IMF/OPN/01	Control Room	Shift In-charge
2	Maintenance log book	IMF/OPN/02	Control Room	Shift In-charge
3	Cold work permit	IMF/OPN/03	Control Room	Shift In-charge
4	Hot work permit	IMF/OPN/04	Control Room	Shift In-charge
5	Certificate for Thermometer calibration	IMF/OPN/05	Control Room	Shift In-charge
6	Certificate for Hydrometer calibration	IMF/OPN/06	Control Room	Shift In-charge
7	PLC & Safety by-pass register	IMF/OPN/07	Control Room	Shift In-charge
8	Working at heights permit	IMF/OPN/09	Control Room	Shift In-charge
9	Electrical isolation & energization permit	IMF/OPN/10	Control Room	Shift In-charge
10	Operation log book	IMF/OBG/01	Control Room	Shift In-charge
11	Quality Control Register	IMF/OBG/02	Control Room	Shift In-charge
12	Product sample label - BBS	IMF/OBG/03	Control Room	Shift In-charge

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TITLE	BOGARAM CONTROL ROOM ACTIVITIES	

BOGARAM CONTROL ROOM OPERATION KEY PARAMETERS - ANNEXURE -1

PARAMETERS	VALUES	STATUS
Low Suction Pressure Mainline Pump	1.7 Kg/Sq.cm	Alarm
Low Suction Pressure Mainline Pump	1.2 Kg/Sq.cm	Tripping
Low-Low Pressure Suction Header	1.2 Kg/Sq.cm	Tripping
High Pressure Discharge Header	55.0Kg/Sq.cm	Alarm
High Pressure Discharge Header	58.0Kg/Sq.cm	Tripping
High-High Pressure Discharge Line	58.0 Kg/Sq.cm	Tripping
Pump casing Temperature	85 deg c	Alarm
Pump casing Temperature	90 deg c	Tripping
Pump Bearing DE Temperature	85 deg c	Alarm
Pump Bearing DE Temperature	90 deg c	Tripping
Pump Bearing NDE Temperature	85 deg c	Alarm
Pump Bearing NDE Temperature	90 deg c	Tripping
Pump Thrust Bearing Temperature	85 deg c	Alarm
Pump Thrust Bearing Temperature	90 deg c	Tripping
Motor Bearing DE Temperature	95 deg c	Alarm
Motor Bearing DE Temperature	105 deg c	Tripping
Motor Bearing NDE Temperature	95 deg c	Alarm
Motor Bearing NDE Temperature	105 deg c	Tripping
Motor winding -R	145 deg c	Alarm
Motor winding -R	155 deg c	Tripping
Motor winding -Y	145 deg c	Alarm
Motor winding -Y	155 deg c	Tripping
Motor winding -B	145 deg c	Alarm
Motor winding -B	155 deg c	Tripping
Pump Radial Vibration	3 MILS	Alarm
Pump Radial Vibration	4 MILS	Tripping
Pump Axial Vibration	+/- 0.45 mm	Alarm
Pump Axial Vibration	+/- 0.50 mm	Tripping
Motor Radial Vibration	3 MILS	Alarm
Motor Radial Vibration	4 MILS	Tripping
Low Level Sump Tank	300.0 mm	Alarm
Low Low Level Sump Tank	150.0 mm	Trip sump Pump
High Level Sump Tank	1600.0 mm	Alarm
High High Level Sump Tank	1800.0 mm	Trigger Station ESD

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INTEGRATED MANAGEMENT PROCEDURE

DOCUMENT NO: IMP/OBG/02

TITLE

PRODUCT SAMPLING, STORAGE AND DISPOSAL

1.0 PURPOSE

To provide guidelines for product sampling, storage and disposal while product is being pumped through Bogaram Station.

2.0 SCOPE

This is applicable to all petroleum products pumped to Secunderabad through Bogaram Station.

3.0 REFERENCES

- i) IMS/MR/7.5, IMS/MR/8.2.4
- ii) ASTM & QC Manuals for Non-aviation products.

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4.0 RESPONSIBILITY

Shift in-charge assisted by Shift Engineer.

5.0 PROCEDURE

5.1 PRODUCT SAMPLING:

- 5.1.1 Product sampling to be done every two hours and Test A to be performed for checking Appearance, Density @ 15°C, Color -Visual on minimum quantity of 500 ml. Any abnormality to be informed to VDS & SRS. Sample may be retained as advised by VDS/SRS.
- 5.1.2 Sampling frequency may be increased as advised by VDS, when the product pumped requires close monitoring of the quality and alerting respective locations for taking necessary measures. And such samples may be retained as per requirement/as advised by VDS.
- 5.1.3 Sample needs to be drawn and test A to be performed before transferring sump tank contents into mainline.

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DOCUMENT NO: IMP/OBG/02

TITLE PRODUCT SAMPLING, STORAGE AND DISPOSAL

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 funnels.

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. Sampling Apparatus and Containers are used separately product wise.

5.1.5 Sample Containers: The recommended sample container is a metal can with a screw cap.

5.1.6 Sample labelling: Sample container is labelled immediately after a sample is obtained. Gummed labels shall be used on aluminum and glass sample bottles only (IMF/OBG/03).

5.1.8 Sample Collection: In addition to the samples taken from the tanks, samples are to be collected as per the Latest Industry quality control manual. Samples are properly labelled and retained till the pumping batch is established in the receiving locations. Details of sample collection are recorded in QC Register (IMF/OBG/02).

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

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

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TITLE

PRODUCT SAMPLING, STORAGE AND DISPOSAL

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

5.1.10 Sample disposal:

5.1.10.1 Critical tests are carried out by the receiving locations as per test category 'A' of Industry Quality Control manual while receipt is on and any variations from the mother sample, specifications are investigated by the receiving location in coordination with the pumping location.

5.1.10.2 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 re-warehoused under specific batch No.

5.1.10.3 Any variation beyond the limits with the mother sample vis-à-vis is investigated by the pumping location. The sample retained is sent to the refinery or marketing laboratory for further investigations.

5.1.10.4 After ascertaining the above, the product sample is disposed of under the supervision of the shift in-charge. The sample thus collected is poured back in the sump tank through sample point. 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/OBG/02).

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

5.1.10.6 Sample collected from sump tank for sump operation shall be disposed only after the batch into which the product pumped is established at the receiving location.

6.0 RELEVANT RECORDS

Quality Control Register IMF/OBG/02
Sample Label IMF/OBG/03

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INTEGRATED MANAGEMENT INSTRUCTIONS

DOCUMENT NO: IMI/OBG/01

TITLE

STANDARD CHECKS FOR SMOOTH OPERATIONS

1.0 PURPOSE

To provide instructions for Standard Checks for Smooth Operation of Bogaram Station.

2.0 REFERENCES

IMS Procedure: IMP/OBG/01

3.0 RESPONSIBILITY

Shift In-charge

4.0 INSTRUCTIONS

4.1 ELECTRICAL:

- 4.1.1 Incoming Voltage level to be monitored and adjusted using OLTC by keeping it in Auto/Manual Mode.
- 4.1.2 Transformer HVWS system line up to be checked and pressure to be monitored in each shift.
- 4.1.3 DG to be kept in Auto mode whenever pumping is going on.

4.2 OPERATIONAL:

- 4.2.1 Check the differential pressure across the basket filter under operation in each shift and inform M&R (Mech) to clean the filter element when pressure drop exceeds 0.2 Kg / cm².
- 4.2.2 Check the differential pressure across the Strainer of the Pump under operation in each shift and inform M&R (Mech) to clean the same when pressure drop exceeds 0.3 Kg / cm².

4.3 SAFETY:

- 4.3.1 Ensure Jockey Pumps and Fire water pumps are kept in Auto Mode.
- 4.3.2 Fire Water tank level to be monitored and recorded in Operation log book at the beginning in each shift.
- 4.3.3 Fire Hydrant line Pressure to be monitored and recorded in Operation log book at the beginning in each shift.
- 4.3.4 Carryout monthly inspection of fire siren equipment & PAGA in co-ordination with F&S Officer.

5.0 RELEVANT RECORDS

Shift log book IMF/OPN/01
Operation log book IMF/OBG/01

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INTEGRATED MANAGEMENT INSTRUCTIONS

DOCUMENT NO: IMI/OBG/02

TITLE

LINING UP OF BOGARAM STATION

1.0 PURPOSE

To provide instructions for lining up of Bogaram Station.

2.0 REFERENCES

IMS Procedure: IMP/OBG/01

3.0 RESPONSIBILITY

Shift In-charge

4.0 INSTRUCTIONS

4.4 AT SUBSTATION:

- 4.4.1 Ensure selection/line up of appropriate DOL/VFD breaker.
- 4.4.2 Check the voltages at 33 KV and 6.6 KV breaker and 440 V incoming breaker are within ($\pm 10\%$) limit.
- 4.4.3 Ensure that PCV breaker is switched on.
- 4.4.4 Put Motor breaker of selected pumps in service position and ensure DC supply is ON.
- 4.4.5 Check the readiness of respective breakers/feeders/drives either in VFD mode or DOL mode.
- 4.4.6 Make sure all the relays are reset in the breaker.
- 4.4.7 Ensure 6.6 KV capacitor feeder is in service position with DC supply on and close the breaker (for DOL operation).
- 4.4.8 Ensure that the selected pumps suction and discharge MOVs are in remote and feeder is ON.

4.3 LINEUP OF BOGARAM STATION:

- 4.3.1 Lining up of the station to be done taking the product quality into consideration. Alternate equipment (when redundancy is available) with appropriate product quality to be made online, wherever required.
- 4.3.2 Open the MOV-8023(Pump by pass valve).
- 4.3.3 Ensure either side HOVs of PCVs are open and PCV bypass Globe Valve is closed. PCV bypass valve may be used if PCV is under maintenance or for the reasons deemed fit by Shift In-charge.
- 4.3.4 Keep the stop switch of PCV in released position and reset the PCV.
- 4.3.5 Line up the Flow meter (FT-8001 or FT-8002). Open MOVs on either side of selected Flow meter.
 - a. Open MOV-8005 and MOV-8006 for lining up FT-8001

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- b. Open MOV-8007 and MOV-8008 for lining up FT-8002
- 4.3.1 Line up the Basket filters (101A or 101B or both) by opening either side MOV.
- Open MOV-8001 and MOV-8002 for lining up BK-101A
 - Open MOV-8003 and MOV-8004 for lining up BK-101B
- 4.3.2 Open Bogaram Station Limit MOVs 8021 & 8020
- 4.3.3 Open MOV-1017 & MOV-8025, if not open and Pipeline was under shutdown.
- 4.3.4 Close MOV-8024 & MOV-8022.
- 4.4 Make sure priming of mainline pumps before starting.
- 4.5 Inform Vizag, Vijayawada, Suryapet and Secunderabad before starting pumping operation.
- 4.6 Make sure the pipeline is made through upto Secunderabad Receiving Station.
- 4.7 Take clearance from VDS, VBS, SBS & SRS before start-up of pumps of BBS.
- 4.8 As deemed fit by the shift in-charge, some set alarms may be temporarily bypassed in PLC Input if suspected to be malfunctioning. This will be done strictly based on urgent requirements and the same to be logged in PLC Bypass Register (IMF/OPN/07) for the intimation of the concerned maintenance officer. Shift in-charge to modify set pressures, if required, keeping the same within station parameters and the same to be entered in Shift log book.

5.0 RELEVANT RECORDS

Shift log book	IMF/OPN/01
PLC & Safety By-pass register	IMF/OPN/07

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HINDUSTAN PETROLEUM CORPORATION LIMITED
VISAKHA- VIJAYAWADA- SECUNDERABAD PIPELINE

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INTEGRATED MANAGEMENT INSTRUCTION

DOCUMENT NO.: IMI/OBG/03

TITLE

OPERATION OF MAINLINE PUMPS AT BBS

1.0 PURPOSE

To provide guide lines for operation of Mainline pumps at Bogaram station.

2.0 REFERENCES

IMS Procedure: IMP/OBG/01.

3.0 RESPONSIBILITY

Shift In-charge

4.0 INSTRUCTIONS

4.1 Carryout out following checks 4.2 to 4.5 to start pumping operation.

4.2 AT SUBSTATION:

4.2.1 Check the voltages at 33 KV and 6.6 KV breaker and 440 V incoming breaker are within ($\pm 10\%$) limit.

4.2.2 Ensure selection/line up of appropriate DOL/VFD breaker.

4.2.3 Make VFD and HVAC ready if pump will be operated in VFD mode.

4.2.4 Ensure that PCV breaker is switched on.

4.2.5 Put Motor breaker of selected pumps in service position and ensure DC supply is ON.

4.2.6 Ensure 6.6 KV capacitor feeder is in service position with DC supply on and close the breaker (for DOL operation).

4.2.7 Ensure that the selected pumps suction and discharge MOVs are in remote and feeder is ON.

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TITLE

OPERATION OF MAINLINE PUMPS AT BBS

4.3 AT THE PUMP HOUSE:

- 4.3.1 Selected pump lube oil level to be checked. It should be greater than 60%.
- 4.3.2 Release Local STOP button.
- 4.3.3 Open the suction MOVs of the pump to be operated and prime the pump by proper venting.

4.4 IN THE CONTROL ROOM:

- 4.4.1 Select DOL/VFD mode of operation appropriately.
- 4.4.2 Reset the batch in the flow computer/ PLC, if necessary.
- 4.4.3 Select the PCV in MANUAL mode.
- 4.4.4 Check Drain Valves from Pump Permissive ZSL-8800,8801,8802,8803,8808 should be closed. Pump Permissive all conditions to be Healthy. Pump Interlocks conditions to be Healthy.
- 4.4.5 Select Manual Selection from Pump Train and from PLC start Pump auxiliaries namely DE seal fan (A OR C), NDE Seal fan (B or D), Cooler fan (A or B) and Auxiliary oil pump (AOP).
- 4.4.6 When the sequence completes and UCP Pump permissive & interlocks are Ok, Pump ready to Start indication will become green in PLC Pump control screen.

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TITLE

OPERATION OF MAINLINE PUMPS AT BBS

4.5 START PUMPS AS PER FOLLOWING GUIDELINES:

- 4.5.1 Confirm flow rates to be pumped from Vizag/Vijayawada/Suryapet.
- 4.5.2 Take clearance from the Shift In-charge at Vizag Control Room and inform Shift engineers at Suryapet & Secunderabad Control Room.
- 4.5.3 Open PCV 10% manually in case of DOL (In case of VFD, PCV will be opened fully).
- 4.5.4 Give START command to selected pump (If the pump is in Manual mode after following the sequence of activities as per 4.4.5 to 4.4.6.).
- 4.5.5 In case of DOL operation, operate PCV suitably to control flow, line pressure, and suction pressure and discharge header pressure as specified in KEY PARAMETERS.
- 4.5.6 In case of VFD operation, enter the required flow rate in VFD control system, if VFD PID is in Auto Mode or Enter %Speed, if VFD is manual mode.
- 4.6.6 Monitor Pump and Motor parameters from UCP regularly.

5.0 Documents to be maintained

1. Shift Log Book (IMF/OPN/01)
2. Operations Log Book (IMF/OBG/01)

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INTEGRATED MANAGEMENT PROCEDURES

DOCUMENT NO.: IMI/OBG/04

TITLE

SWITCHOVER OF PUMPS AT BOGRAM STATION

1.0 PURPOSE

To provide guide lines for switching over of pumps at Bogaram station.

2.0 REFERENCES

IMS Procedure: IMP/OBG/01.

3.0 RESPONSIBILITY

Shift In-charge

4 INSTRUCTIONS

4.1 Take clearance from Vizag Control room for pump switch over.

4.2 Idle pump is kept ready for operation by proper venting and other precautions before starting as displayed in PLC before Switch Over and suction MOV should be kept open.

4.3 Running pump is tripped.

4.4 Idle pump is started immediately as per instructions mentioned in IMI/OBG/03.

4.5 Set the flow rate as per requirement and inform Vizag, Suryapet & Secunderabad C/R about the pump S/O.

4.6 Record the events in shift log book.

Note: Check whether the product in idle pump is same as the running pump before switch over. Idle pump shall be started only if it contains same product or HPCK. In case of different products pump shall be drained and charged with similar product.

5.0 Documents to be maintained

1. Shift Log Book (IMF/OPN/01)
2. Operations Log Book (IMF/OBG/01)

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DOCUMENT NO: IMI/OBG/05

TITLE

SHUT DOWN OF BOGARAM BOOSTER STATION

1.0 PURPOSE

To provide guide lines for taking Shutdown of pumps at Bogaram (Planned Shutdown).

2.0 REFERENCES

IMS/MR/7.5

3.0 RESPONSIBILITY

Shift In-charge

4.0 INSTRUCTIONS

- 4.1 Take clearance from VDS for shutdown of Bogaram Station as per Pumping plan or as instructed by VDS.
- 4.2 Stop the pump running by giving stop command from PLC. Stop all auxiliaries one by one if pump stopped in manual mode.
- 4.3 If pumping towards SRS is ON, Open MOV-8022(Station Bypass Valve). Else after taking VSPL shutdown as per QMP/OPN/02, close MOV-1017 and MOV-8025.
- 4.4 Then follow sequence mentioned below for shutting down the station.
 - 4.4.1 close MOV-8020.
 - 4.4.3 Close MOV-8021.

5.0 RELEVANT RECORDS

Operations log book IMF/OBG/01
Shift log book IMF/OPN/01

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INTEGRATED MANAGEMENT INSTRUCTIONS

DOCUMENT NO: IMI/OBG/06

TITLE

OPERATION OF BOGARM STATION UNDER EMERGENCY CONDITIONS

1.0 PURPOSE

To provide guidelines for operation of Bogaram station under emergency conditions.

2.0 REFERENCES

IMS Procedures: IMP/OBG/01

3.0 RESPONSIBILITY

Shift In-charge

4.0 INSTRUCTIONS

4.1 In case of power failure while pumping is 'ON' follow below guidelines:

- 4.1.1 Inform Vizag, Vijayawada/Suryapet and Secunderabad.
- 4.1.2 Start DG Set (If not started in Auto mode).
- 4.1.3 Through power from DG close both Suction and Discharge MOVs of mainline pumps.
- 4.1.4 Once supply resumes, start operations after intimating Vizag, Suryapet and Secunderabad.

4.2 In case of pipeline failure, follow below guidelines:

- 4.2.1 Any leakage in the pipeline can be detected by comparison of (i) flow rate of dispatch station and receipt station in respective Volume Balance Section (ii) increase in flow and drop in pressure and (iii)LDS/PIDS alarms. This may be reconfirmed by site report.
- 4.2.2 Inform VDS for actuating ESD through SCADA. Inform LIC and all location C/R along with VDS. Ensure closure of SVs on the both sides of the leak location both from SCADA as well as Security Guard of concerned SV/IP station.
- 4.2.3 Follow procedure of Emergency Control Plan (OFF SITE/ON SITE) as the case may be.
- 4.2.4 Clear the spillage.

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INTEGRATED MANAGEMENT INSTRUCTIONS

DOCUMENT NO: IMI/OBG/06

TITLE

OPERATION OF BOGARAM STATION UNDER EMERGENCY CONDITIONS

4.2.5 Arrange for the repairs.

4.3 In case of Major Spillage in Booster Station, follow below guidelines:

It may be due to Joint Failure or gasket failure.

4.3.1 Take shutdown of the system by informing the other stations, or activate the 'ESD' button depending upon the gravity of the situation.

4.3.2 Inform Head-Operations and Head – Maintenance and LIC.

4.3.3 Co-ordinate with Maintenance group for attending the job.

4.3.4 Follow procedure of Emergency Control Plan (OFF SITE/ON SITE) as the case may be.

4.3.5 Record report of operation under emergency conditions in Shift log book (IMF/OPN/01), Maintenance log book (IMF/OPN/02) and Operation log book (IMF/OBG/01) as applicable.

5.0 RELEVANT RECORDS

Shift log book	IMF/OPN/01
Maintenance log book	IMF/OPN/02
Operations log book	IMF/OBG/01

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DOCUMENT NO: IMI/OBG/07

TITLE

SUMP TANK OPERATION

1.0 PURPOSE

To provide instructions for operation of Sump tank.

2.0 REFERENCES

IMS Procedure: IMP/OBG/01

3.0 RESPONSIBILITY

Shift In-charge

4.0 INSTRUCTIONS

4.1 Two sump tanks (No.1 for HSD & SKO, No.2 for MS) are provided to accommodate product coming out of priming and Draining of pumps, TRVs, leakages, Basket filter operation and sample disposal.

4.2 Sump tank level to be brought down to 15 cm. as and when it reaches 120 cm or it should be evacuated as and when required depending on the product being pumped and O & M requirements like before cleaning of basket filters etc.

4.3 Monitor Sump tanks level at the start of each shift.

If there is any abnormal increase in the level, investigate the reason and empty out tank. Care is to be taken that sump tank no.1 is emptied out only when HSD pumping is on and sump tank no.2 when MS pumping is on.

4.4 Sample to be collected before emptying out the tank. Test A to be performed on the sample collected and accordingly quantity to be emptied out to be determined. Sample details to be recorded in the shift log book.

4.4 High level sump tank alarm is set at 160 cm.

4.5 High- High level sump tank alarm is set at 180 cm.

4.6 Record details of operation of sump tank in the Shift log book (IMF/OPN/01).

5.0 RELEVANT RECORDS

Shift log book IMF/OPN/01

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INTEGRATED MANAGEMENT INSTRUCTIONS

DOCUMENT NO: IMI/OBG/08

TITLE

ISSUE OF HOT/ COLD/ Height/ Electrical Isolation WORK PERMITS

1.0 PURPOSE

To provide guidelines for issue of Cold work, Hot work, work in confined spaces & Working at Height, Electrical Isolation and Energization Permit to carry out M & R jobs in station

2.0 REFERENCES

IMS Procedure: IMP/OBG/01, OISD-STD-105, Process Hazard Identification and Risk Assessment Procedure

3.0 RESPONSIBILITY

For Cold Work Permit: (Station)

Receiver - Job Engineer
Issuer - Shift - In-Charge

For Hot Work/Work in Confined space/Working at Heights Permit

Receiver - Job Engineer
Issuer - Location-In-Charge

Electrical Isolation and Energization Permit

Receiver - Job Engineer
Issuer - Electrical-In-Charge

4.0 INSTRUCTIONS

4.1 Generally Online work permit system shall be adopted for issuing/receiving of work permits.

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DOCUMENT NO: IMI/OBG/08

TITLE TO ISSUE WORK PERMITS TO MAINTENANCE OFFICER FOR CARRYING OUT M&R JOBS

4.2 The job engineers responsible for carrying out jobs apart from regular activities initiates the work permit and approaches the Shift In-charge for his concurrence (IMF/OPN/03, IMF/OPN/04, IMF/OPN/09).

4.3 In case of Electrical Isolation and Energization work permit (IMF/OPN/10) OIC-Electrical approaches the Maintenance In-charge for his concurrence.

4.4 A careful job safety analysis should be made of the potential hazards and operations to be performed to determine the appropriate safeguards and required personnel protective equipment prior to starting work, wherever required.

4.4 The work permit for Working at Heights is applicable to all the jobs to be carried out at any elevation more than 3 mts.

4.5 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: Job Engineer)

4.6 Make an inspection of the site and if satisfied with the arrangement made by the Job engineer, issue the permit for a specified duration on a particular working day at a particular work location inside Bogaram station. Also verify required PPEs, FF equipment 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"

(Responsibility : Permit Issuer) .

4.7 All permits location file copy to be maintained in Control Room before starting the actual job.

[Responsibility: Shift In-charge/ OIC]

4.8 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 enclosed & log observations of the visit in respective work permits and/or critical behavioral check list (IMF/OPN/12).

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TITLE	TO ISSUE WORK PERMITS TO MAINTENANCE OFFICER FOR CARRYING OUT M&R JOBS
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4.9 On completion of job, receiver of the permit shall approach the issuer for closure of the permit and hard copy of closed permit shall be submitted to shift-in-charge for records.

5.0

RELEVANT RECORDS

- o Cold Work Permit IMF/OPN/03
- o Hot Work Permit IMF/OPN/04
- o Working at Height Permit IMF/OPN/09
- o Electrical Isolation & Energization Permit IMF/OPN/10
- o PPE Matrix Annexure-I
- o Critical Behavioral check list IMF/OPN/12

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Annexure A

Sr.No.	Activity	Personal Protective Equipment's (PPE'S) to be used in operating area									
		Helmet	Safety Shoes	Goggles	Hand Gloves Cot.	Hand Gloves PVC	Hand Gloves ASB	Ear Plug s	Canister Apparatus	B. Gas Mask	Dust Mask
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	--	--	--	--
7	Grinding	Yes	Yes	Yes	Yes	--	Yes	--	--	Yes	--
8	Working at Height - Painting, crane maint. & b.filter	Yes	Yes	Yes	Yes	--	--	Yes	--	--	Yes
9	Chemicals Handling - Battery maint. & CI handling	Yes	Yes	Yes	Yes	--	Yes	--	--	--	Yes
10	Electrical & Instrumentation Jobs	Yes	Yes	--	--	Yes	--	--	--	Yes	--
11	Working in shed/stores	Yes	Yes	Yes	Yes	--	--	--	--	--	--
12	Confined Space	Yes	Yes	Yes	Yes	--	--	--	Yes	--	--

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HINDUSTAN PETROLEUM CORPORATION LIMITED
VISAKHA-VIJAYAWADA-SECUNDERABAD PIPE LINE

LIST OF FORMS

Dept/Section: OPERATIONS BOGARAM

Sl. No.	Form No.	Form Title	Reference IMP/IMI No.	Retention Period
1	IMF/OPN/01	Shift log book	IMP/OBG/01	3 years
2	IMF/OPN/02	Maintenance log book	IMP/OBG/01	1 year
3	IMF/OPN/03	Cold work permit	IMI/OBG/08	1 year
4	IMF/OPN/04	Hot work permit	IMI/OBG/08	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 & Safety by-pass register	IMI/OBG/02	1 year
8	IMF/OPN/09	Working at heights permit	IMI/OBG/08	1 year
9	IMF/OPN/10	Electrical Isolation & Energization Permit	IMI/OBG/08	1 year
10	IMF/OPN/12	Critical Behavior Checklist	IMP/OBG/01	1 year
11	IMF/OBG/01	Operations log book	IMP/OBG/01	2 years
12	IMF/OBG/02	Quality Control Register	IMP/OBG/02	1 year
13	IMF/OBG/03	Sample label	IMP/OBG/02	Till batch clearance at receiving locations/As advised by VDS

Signature of
Department Head



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**हिन्दुस्तान पेट्रोलियम कार्पोरेशन लिमिटेड
विशाख विजयवाडा सिकंदराबाद पाईपलाईन विशाखापटनम
HINDUSTAN PETROLEUM CORPORATION LIMITED
VISAKHA-VIJAYAWADA-SECUNDERABAD PIPELINE**

अनुरक्षण लाग पुस्तिका/MAINTENANCE LOG BOOK

Reviewed By	Approved By	Issued By
<i>Grt</i>	<i>Sneha</i>	<i>Abdullah</i>
LOCATION INCHARGE	MAINTENANCE INCHARGE	IMS COORDINATOR



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विशाख विजयवाडा सिकंदराबाद पाईपलाईन विशाखापटनम
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अनुरक्षण लाग पुस्तिका/MAINTENANCE LOG BOOK

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कार्यस्थल/LOCATION:

क्रम संख्या/Sl. No. _____

शीत कार्य अनुज्ञाप्ति/ COLD WORK PERMIT

कार्यानुज्ञाप्ति/WORK CLEARANCE दिनांक के/ of date _____ समय से/FROM hrs _____ दिनांक के/ of date _____ समय
 तक/T0 hrs. (पाली के लिए वैध यदि पुनः नुतनीकृत न किया जाए /valid for the shift unless renewed)
 (विभाग/शास्त्र/ठेकेदार) के किटु जारी/ ISSUED TO : DEPARTMENT/SECTION/CONTRACTOR) : _____
 कार्य का सही स्थान(क्षेत्र/इकाई/उपकरण संख्या)/EXACT LOCATION OF WORK (AREA/UNIT/EQUIPMENT NO. etc): _____

कार्य-विवरण/DESCRIPTION OF WORK:
 अनुज्ञाप्ति देने से पूर्व निम्नलिखित मर्दाँ की जूँच सुनिश्चित करें/THE FOLLOWING ITEMS SHALL BE CHECKED BEFORE ISSUING THE PERMIT
 उचित खाना में सही (✓) का निशान लगाए. (*) निशान प्राप्तकर्ता सुनिश्चित करें/(Tick (✓) mark in the appropriate box.
 Checklist items marked with asterisk (*) shall be complied by receiver)

क्रम संख्या/Sl. No.	मर्द/Item	किया / Done	आवश्यक नहीं/Not Reqd.
1	उपकरण/कार्यक्षेत्र का निरीक्षण किया /Equipment / work Area Inspected		
2	आसपास की जगह जांची, साफ की और इक दिया /Surrounding area checked, cleaned and covered		
3	उपकरण ढका/बिचोड़ित/वेद/ पृथकीकृत / छड़ किया हुआ है./ Equipment / blinded/ disconnected / closed / isolated/wedge opened.		
4	उपकरण को भलिभौतिरूप से निर्मित/ दबावमुक्त किया/ Equipment properly drained and depressurized		
5	उपकरण को विद्युत विचोड़ित किया गया/ Equipment electrically isolated तथा परमिट संख्या _____ द्वारा टैग किया गया /and tagged vide permit No.....		

क्रम संख्या/Sl. No.	मर्द/Item	किया / Done	आवश्यक नहीं/Not Reqd.
6	उपकरण पानी से साफ किया / Equipment water flushed		
7	उपकरण को वाष्प से भलिभौति साफ किया /Equipment properly steamed/ purged		
8	हवा एवम प्रकाश की उचित व्यवस्था की /Proper ventilation and lighting provided		
9	क्षेत्र हडबंदी की तथा सावधानी बोर्ड लगाए गए/Area cordoned off & caution boards / tags provided		
10	गैस टेस्ट: Gas test : HCs/Toxic etc. हाइड्रोकार्बन HCs = %एलईएल/LEL जहरिली गैस Toxic gas = पीपीएम/ ppm		

अभियुक्तियाँ/Remarks:

- गतिविधि से निविलिक अवमिहायक खतरा आपेक्षित हैं.(उपयुक्त मर्द पर निशान लगाएं): आक्सिजन की कमी/एच2एस, विद्युती गैस/ज्वलनशील गैस/पेरोफेरिक लौह/क्षपकारी रसायन/वाष्प संक्षेपण/कोई अन्य/The activity has the following expected residual hazards [Tick the relevant items] Lack of Oxygen / H2S, Toxic Gases / Combustible gases/ pyro-phoric Iron / Corrosive Chemicals / Steam – condensate / Others
- सामान्य संरक्षी उपकरण के अतिरिक्त निम्नलिखित अतिरिक्त स्वयम सुरक्षा उपकरणों का उपयोग करें(सुरक्षा टोपी/ सुरक्षा बूट /दस्ताने/ब्वाईलर सुटचेहरे का कवच/एपरन/धूप- चम्मी/मुत्त से वचाव के लिए श्वास पंच/शुद्ध हवा मुख्वर/जीवन रेखा/ सुरक्षा पेटी/हवा की लाईन/ कर्ण गुलबन्द इत्यादी)/ Following additional PPE to be used in addition to standards PPE (Helmet, Safety Shoes, Hand gloves, Boiler suit) Face shield / Apron / Goggles / Dust Respirator / Fresh Air Mask / Life line / Safety Belt / Airline / Earmuff etc.
- विद्युत बोर्ड अतिरिक्त सावधानी /Additional precaution if any:
- सामान्य निर्देश निविलिक हैं/General Instructions are overleaf

परमिट देने वाले का नाम तथा पदनाम Issuer Name & Designation	परमिट देने वाले के हस्ताक्षर Issuer Signature	प्राप्तकर्ता का नाम तथा पदनाम Receiver Name & Designation	प्राप्तकर्ता के हस्ताक्षर Receiver's Signature

प्राप्तकर्ता/कार्यस्थल प्रति/RECEIVER COPY / LOCATION COPY
 (After Completion of job please return the permit to the issuer)

नुतनीकृत अनुज्ञाप्ति/CLEARANCE RENEW

Reviewed By	Approved By	Issued By
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>
LOCATION INCHARGE	MAINTENANCE INCHARGE	IMS COORDINATOR

सामान्य निर्देश / General Instructions

1) वर्क परमिट सारांश देखना पूर्वक सही सही साफ अंकोरों में भरते हुए सुनिश्चित करते हुए कि सभी शाखा/प्रशासनों को संपूर्ण जानकारियाँ दें दी गयी हैं। ज़्राहाँ आवश्यक हो खाकाचित्र भी मुद्रित कराएँ। The work permit shall be filled up carefully and accurately in clear handwriting ensuring that complete information is provided in all the sections/ subsections. Sketches should be provided wherever possible to avoid miscommunication.

2) कार्य शुरू करने से पूर्व संरक्षीय उपकरणों का निरधारण, कि ए जाने वाले परिचालन एवं उनसे संबंधित दुर्घटनाओं को ध्यान में रखकर समुचित सावधानी एवं ध्यानपूर्वक विस्तृत अपेक्षाकृति के साथ उपकरणों का प्रयोग करना। Appropriate safe guards and required personnel protective equipment (PPEs) shall be determined by a careful analysis of the potential hazards and the operations to be performed prior to starting the work.

3) पारंपरिक वित्तीय सुरक्षा विनाशकों के लिए अतिरिक्त कम्पनियां से अतिरिक्त कम्पनियां का अवधारणात्मक उपलब्धता में दृष्टि कर/Requirement of standby personnel from process / maintenance / Contractor / Fire / Safety etc if any shall be mentioned in the additional requirement.

4) अग्नि संकेत मिलते ही सभी कार्य रोक दिए जाए / In case of fire alarm / siren, all work must immediately be stopped.

५) अनुमति पात्र का सुनाविष्ट करें। यारा कठीन सुनाविष्ट कर कर पारास्परियतपा कावय यारा रखन के लिए सत्तापनक ह। याद पारास्परिया वदला बुइ ह तो नया अनुमति/माजुदा अनुसारे सुधार करें। For renewal of work clearance, the issuer shall ensure that the conditions are satisfactory for the work to continue. If the conditions have changed, it may be necessary to issue a new permit or amend the existing permit.

6) इस अनुमति का मुद्रानकरण विवर सहित आधिक से आधिक / दिनों तक कर सकत है।/The clearance on the same permit can be renewed / extended up to a maximum of seven calendar days.

7) यह अनुज्ञाप्त काय स्थल पर सदूच उपलब्ध रहना चाहेए/This permit must be available at work site at all times.

8) कार्य पुण होने पर अनुशासि को बद करें/On completion of the work, the permit shall be closed.

कार्य अनुज्ञाप्ति को समाप्त करना/Closing of the Work Permit:

प्राप्तकर्ता: कार्य पूर्ण किया/ रोक दिया/स्थल साफ किया/Receiver: Certified that the subject work has been completed / stopped and area cleared		जारीकर्ता: संतुष्टापत्। किया। कार्य पूर्ण। किया। रोक दिया। तथा स्थल साफ और दुर्घटनाराहित है। Issuer: Verified that the job has been completed and area cleared and is safe from any hazard.			
दिनांक व समय Date & Time	नाम व पदनाम Name & Designation	हस्ताक्षर Signature	दिनांक व समय Date & Time	नाम व पदनाम Name & Designation	हस्ताक्षर Signature

(कृपया अनुज्ञप्ति जारीकर्ता को वापस करें/PLEASE RETURN PERMIT TO ISSUER)

Reviewed By	Approved By	Issued By
		
LOCATION INCHARGE	MAINTENANCE INCHARGE	IMS COORDINATOR

IMF/OPN/04
ISSUE 2 ;Rev: 00

HINDUSTAN PETROLEUM CORPORATION LIMITED
VISAKHA VIJAYAWADA SECUNDERABAD PIPELINES

LOCATION:

WORK PERMIT

Sl. No. _____

FOR

HOT WORK / ENTRY TO CONFINED SPACE

WORK CLEARANCE FROM _____ hrs of date _____ TO _____ hrs of date _____ (valid for the shift unless renewed)

ISSUED TO : (DEPARTMENT/SECTION/CONTRACTOR) : _____

EXACT LOCATION OF WORK (AREA/UNIT/EQUIPMENT NO., etc) _____

DESCRIPTION OF WORK _____

THE FOLLOWING ITEMS SHALL BE CHECKED BEFORE ISSUING THE PERMIT
(Tick mark in the appropriate box. Checklist items marked with asterisk (*) shall be complied by receiver)

Sl. No.	Item	Done	Not Reqd.
A.	General Points		
1	Equipment / work Area Inspected		
2	Surrounding area checked, cleaned and covered		
	Sewers, manholes, CBD etc and hot surfaces nearby covered		
3	Considered hazard from other operations and concerned persons alerted.		
4	Equipment /blinded/disconnected/closed/isolated/wedge opened		
5	Equipment properly drained and depressurized		
6	Equipment properly steamed / purged		
7	Equipment water flushed		
8	Iron sulfide removed / kept wet		
9	Equipment electrically isolated and tagged vide permit No.....		
10	Gas test : HCs = % LEL Toxic gas = ppm, O2 = %		
11	Running water hose / Fire extinguisher provided Fire Water system available		
12*	Area cordoned off and precautionary tags / boards provided		

Sl. No.	Item	Done	Not Reqd.
B	For Hot work / Entry to confined Space		
1	Proper ventilation and lighting provided		
2	Proper means of exit / escape provided		
3	Standby personnel provided from process/maint/contractor/Fire/Safety dept.		
4	Checked fro oil and Gas trapped behind the lining in equipment		
5*	Shield provided against spark		
6*	Portable equipment/nozzles properly grounded		
7*	Standby persons provided for entry to confined space		
C	For vehicle Entry		
1	Spark Arrestor on the mobile equipment/vehicle provided		
D	For Excavation works		
1	Clearance obtained for excavation / road cutting/Dyke cutting from concerned depart.		

Remarks:

- The activity has the following expected residual hazards (Tick the relevant items)Lack of Oxygen / H2S, Toxic Gases / Combustible gases / pyrophoric Iron / Corrosive Chemicals / Steam – condensate / Others
- Following PPE to be used in addition to standards PPE (Helmet, Safety Shoes, Hand gloves, Boiler suit)Face shield / Apron / Goggles / Dust Respirator / Fresh Air Mask / Life line / Safety Belt / Airline / Earmuff etc.
- Additional precaution if any: _____
- General Instructions are overleaf

Issuer Name & Designation	Issuer Signature	Concurred by Name & Designation	Signature	Receiver Name & Designation	Receiver Signature

Reviewed By	Approved By	Issued By
LOCATION INCHARGE	MAINTENANCE INCHARGE	IMS COORDINATOR

RECEIVER COPY / FIRE SECTION COPY / SAFETY COPY / LOCATION COPY

CLEARANCE RENEWAL

Date	Time		Gas Test Values for HC's Toxic, O2 etc.	Additional Precautions if any, Otherwise mention "NIL"	Issuer's Name, Designation & Signature	Concurred by Name, Designation & Signature	Receiver's Name, Designation & Signature
	From	To					

General Instructions:

1. The work permit shall be filled up carefully and accurately in clear handwriting ensuring that complete information is provided in all the sections/ subsections and none of column is left blank. Sketches should be provided wherever possible to avoid miscommunication.
2. Appropriate safe guards and required personnel protective equipment (PPEs) shall be determined by a careful analysis of the potential hazards and the operations to be performed prior to starting the work.
3. In case of fire alarm / siren, all work must immediately be stopped.
4. Only certified vehicle / engines and permitted type of electrical equipment and tools are allowed in operating areas.
5. Welding machines should be located in non-hazardous and ventilated areas.
6. No hot work should be permitted unless the explosive meter reading is zero.
7. When a person is entering confined space, the receiver must keep minimum two standby – designated persons at the manhole or entry point.
8. Before box up of any vessel manhole cover, ensure that no men / materials are inside the vessel.
9. For renewal of work clearance, the issuer shall ensure that the conditions are satisfactory for the work to continue. If the conditions have changed, it may be necessary to issue a new permit or amend the existing permit.
10. This clearance on the same permit can be renewed/extended upto a maximum of seven calendar days.
11. This permit must be available at work site at all times.

12. On completion of the work, the permit must be closed and kept as record.

Closing of the Permit:

Receiver: Certified that the subject work has been completed / stopped and area cleared		

Concurred By		

Date & Time	Name & Designation	Signature
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Date & Time	Name & Designation	Signature
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Issuer: Verified that the job has been completed and area cleared and is safe from any hazard.		

Date & Time	Name & Designation	Signature
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Reviewed By	Approved By	Issued By
LOCATION INCHARGE	MAINTENANCE INCHARGE	IMS COORDINATOR

IMF/OPN/05
ISSUE 2; REV.00



हिन्दुस्तान पेट्रोलियम कापोरेशन लिमिटेड
विशाख विजयवाडा सिंकंदराबाद पाईपलाईन विशाखापटनम
HINDUSTAN PETROLEUM CORPORATION LIMITED
VISAKHA-VIJAYAWADA-SECUNDERABAD PIPELINE

थर्ममीटर का कैलिब्रेशन सर्टिफिकेट/ CERTIFICATE FOR THERMOMETER CALIBRATION
कार्य स्थल/Location :

क्रम सं ख्या Sl. No	मास्टर थर्ममीटर की रिडिंग Master Thermometer Reading	कैलिब्रेशन किए जारहे थर्ममीटर की रिडिंग Thermometer Reading Under Calibration	अंतर Difference	अभियुक्ति (सुधारक) Remarks (Correction to be applied)

वर्दि सुधारक $+/- 1^{\circ}\text{C}$ से अधिक हो तो सेवा से निष्कासित करें

If correction is $+/- 1^{\circ}\text{C}$, same to be discarded.

1. सर्टिफिकेट संख्या/CERTIFICATE NO. : _____
2. थर्ममीटर की पहचान संख्या/THERMOMETER IDENTIFICATION NO. : _____
3. थर्ममीटर की बनावट/THERMOMETER MAKE : _____
4. परिसीमा/RANGE : _____
5. सुधारक/.CORRECTION TO BE APPLIED : _____

नोट: उपर्युक्त थर्ममीटर को _____ के कैलिब्रेट किए हुए थर्ममीटर संख्या _____ जो _____ बनावट का है, के साथ तुलना किया गया, जिसको नेशनल स्टेंडर्ड से अनुरेखण एवम् कैलिब्रेशन की वैधता दिनांक _____ से _____ तक प्राप्त है। उपर्युक्त थर्ममीटर उपयोग के लिए सही पाया गया।

NOTE: The above thermometer has been compared with calibrated thermometer No. _____
of _____ make received from _____ having traceability to National Standards
with calibration validity from _____ to _____. Above thermometer is found fit for use.

अगले कैलिब्रेशन की तिथि/Next Calibration due on : _____

दिनांक/Date:

पाली अधिकारी/Shift In-charge

Reviewed By	Approved By	Issued By
<i>Gh</i>	<i>Ashu</i>	<i>ABJ.</i>
LOCATION INCHARGE	MAINTENANCE INCHARGE	IMS COORDINATOR

IMF/OPN/06
ISSUE 2; REV.00



हिन्दुस्तान पेट्रोलियम कार्पोरेशन लिमिटेड
विशाख विजयवाडा सिकंदराबाद पाईपलाईन विशाखापटनम
HINDUSTAN PETROLEUM CORPORATION LIMITED
VISAKHA-VIJAYAWADA-SECUNDERABAD PIPELINE

हाईड्रोमीटर का कैलिब्रेशन सर्टिफिकेट / CERTIFICATE FOR HYDROMETER CALIBRATION
कार्य स्थल / Location :

क्रम संख्या Sl. No	मास्टर हाईड्रोमीटर की रिडिंग Master Hydrometer Reading	कैलिब्रेशन किए जारहे हाईड्रोमीटर की रिडिंग Hydrometer Reading under Calibration	अंतर Difference	अभियुक्ति (सुधारक) Remarks (Correction to be applied)

वर्दि सुधारक +/- 0.001 ग्राम/मीली. से अधिक हो तो सेवा से निष्कासित करें

If correction is > +/-0.001 gm/ml, same to be discarded.

1. सर्टिफिकेट संख्या/CERTIFICATE NO. :
2. हाईड्रोमीटर की पहचान संख्या/ HYDROMETER IDENTIFICATION NO. :
3. हाईड्रोमीटर का बनावट /HYDROMETER MAKE :
4. परिसीमा /RANGE :
5. सुधारक /CORRECTION TO BE APPLIED :

नोट: उपर्युक्त हाईड्रोमीटर को _____ के कैलिब्रेट किए हुए हाईड्रोमीटर संख्या _____ जो _____ बनावट का है के साथ तुलना किया गया, जिसको नेशनल स्टैंडर्ड से अनुरेखण एवम कैलिब्रेशन की वैधता दिनांक _____ से _____ तक प्राप्त है. उपर्युक्त हाईड्रोमीटर उपयोग के लिए सही पाया गया.

NOTE : The above hydrometer has been compared with calibrated hydrometer No. _____ of _____ make received from _____ having traceability to National Standards with calibration validity from _____ to _____. Above hydrometer is found fit for use.

अगले कैलिब्रेशन की तिथि/ Next Calibration due on:
दिनांक/Date:

पाली अधिकारी/Shift In-charge

Reviewed By	Approved By	Issued By
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>
LOCATION INCHARGE	MAINTENANCE INCHARGE	IMS COORDINATOR

हिन्दुस्तान पेट्रोलियम कारपोरेशन लिमिटेड
विशाख विजवाडा सिंकंटराबाद पाईपलाईन विशाखाप
HINDUSTAN PETROLEUM CORPORATION LTD.
VISAKHA-VIJAYAWADA-SECUNDERABAD PIPELINE

कार्यस्थल/LOCATION:

Reviewed By	Approved By	Issued By
g.	J.	B.
LOCATION INCHARGE	Maintenance INCHARGE	IMS COORDINATOR

Format No: IMF/OPN/09
ISSUE 2; Rev: 00

HINDUSTAN PETROLEUM CORPORATION LIMITED
PERMIT FOR WORKING AT HEIGHT Sl. No. _____

LOCATION:

VALID FROM _____ TO _____

PERMISSION IS GRANTED TO : SECTION / CONTRACTOR _____ NAME _____

NATURE OF WORK _____

LOCATION OF WORK _____

IF HOT WORK IN CONFINED SPACE IS AT ELEVATION A SEPARATE HOT WORK PERMIT SHOULD BE ISSUED FOR IT ALONG WITH THIS PERMIT. THE FOLLOWING ITEMS SHALL BE CHECKED BEFORE ISSUING THIS PERMIT.

Sl. No.	Item	Done	Not Reqd.
1	Equipment / work area inspected / area kept clear		
2	Surrounding area checked / cleaned up		
3	Sewers, man holes, drains etc and hot surfaces nearby covered		
4	Scaffolds / Ladders checked by concern job supervisors		
5	Ensure all material carried up at elevation are fall protected		
6	ISI marked safety belts & helmets are provided for contractor workers		
7	Contractor certified that his crew is fit for working at height		
8	Instructions are given to workmen to tie the life lines of safety belt properly		
9	Proper illumination provided		
10	Adequate working platform & space is provided		

(PLEASE PUT (V) MARK IN THE APPROPRIATE BOX)

Sl. No.	Item	Done	Not Reqd.
11	Proper means of exit provided		
12	Precautionary tags / boards provided		
13	Portable electrical equipment properly earthed and provided with ELCB switches.		
14	Standby contractor personnel provided for supervision		
15	Workers are trained in use of safety belts		
16	Operations in -charge kept informed		
17	Area cordoned off		
18	Precautions against public traffic taken		
19	Weather conditions are favourable for elevation work		
20	Additional safety measures double life lines safety nets roof ladder / crawlink board (in case working on fragile roof)		

Permit issued by

Permit received by

Permit concurred

by

Name _____

Name _____

Name _____

Signature of issuer _____

Signature of issuer _____

Signature of Receiver _____

Telephone Extn _____

Telephone Extn _____

Telephone Extn _____

(Note: Pink colour – First Copy – Contractor copy, Blue colour – 2 nd copy – Location copy, White Colour – 3rd Copy – Safety inspection copy)

Reviewed By	Approved By	Issued By
LOCATION INCHARGE	MAINTENANCE INCHARGE	IMS COORDINATOR

Section – B Energisation Permit: Sl. No. _____

Request for energisation

Department / Section / Area issuing the permit _____

Equipment number to be energized _____

Name of the equipment / circuit to be energized _____

Work on the above mention equipment / circuit has been completed and all the applicable permits closed. This equipment / circuit may be energized.

Issuer Name Designation Signature

Certificate of Energisation: Date: _____ Time: _____

Certified that Equipment / Circuit no. _____ of _____ plant has been electrically energized and the danger tag removed from the supply panel. This is also recorded in the electrical shift log book.

Name of Authorized person Designation Signature

Reviewed By	Approved By	Issued By
LOCATION INCHARGE	MAINTENANCE INCHARGE	IMS COORDINATOR

IMF/OPN/10
ISSUE 2; Rev: 00

HINDUSTAN PETROLEUM CORPORATION LIMITED
VISAKHA VIJAYAWADA SECUNDERABAD PIPELINES

LOCATION

Sl. No.

Electrical Isolation / Energisation Permit

Section – A : Isolation Permit.

Request for Isolation

Date: _____ Time: _____

Department / Section / Area issuing the permit _____

Equipment number to be isolated : _____

Name of the equipment / circuit to be isolated _____

The above-mentioned equipment / circuit shall be de-energized and isolated from all live conductors to carry out the maintenance work by _____ section / for operational requirement.

Certificate of Isolation: _____ Date: _____ Time _____

Certified that Equipment / Circuit no. _____ of _____ plant has been electrically isolated by switches / isolators / links / fuses (tick as applicable) and the danger tag is put on the supply panel.

Actions in respect of electrical isolation have been recorded in the electrical shift logbook.

RECEIVER'S COPY / LOCATION COPY

.....

Reviewed By	Approved By	Issued By
LOCATION INCHARGE	MAINTENANCE INCHARGE	IMS COORDINATOR

Section - B Energisation Permit: Sl. No. _____

Request for energisation

Department / Section / Area issuing the permit _____

Equipment number to be energized _____

Name of the equipment / circuit to be energized _____

Work on the above mention equipment / circuit has been completed and all the applicable permits closed. This equipment / circuit may be energized.

Issuer Name Designation Signature

Certificate of Energisation: Date: _____ Time: _____

Certified that Equipment / Circuit no. _____ of _____ plant has been electrically energized and the danger tag removed from the supply panel. This is also recorded in the electrical shift log book.

Name of Authorized person Designation Signature

Reviewed By	Approved By	Issued By
LOCATION INCHARGE	MAINTENANCE INCHARGE	IMS COORDINATOR

Critical Behaviour Checklist for Personal Protective Equipment Observation

Reviewed By	Approved By	Issued By
		
LOCATION INCHARGE	Maintenance Incharge	IMS COORDINATOR

HINDUSTAN PETROLEUM CORPORATION LIMITED
VISAMAHA-VIYAWADA-SECUNDERABAD PIPELINE
OPERATIONS LOG BOOK

IMF/05/01
ISSUE 1,REV.00

LOCATION: BOGARAM

DATE:

Station Hours	Batch No.	Bogaram Pump Parameters						Bogaram Operations						SIS Pumped	Bogaram station pressure details			
		Pump Detail	Suction Pressure	Diff/Press Strainer	Discharge Pressure	Power	Lubricating pump pressure	Bearing Temp.	Pumped FC reading	Flow rate	Density Ambient	Temp °C	Density @15 °C	FC Reading	FC reading	Flowrate	Prod Batch	PT-1017A
00:00								NDE	Casting	DE								
01:00																		
02:00																		
03:00																		
04:00																		
05:00																		
06:00																		
07:00																		
08:00																		
09:00																		
10:00																		
11:00																		
12:00																		
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15:00																		
16:00																		
17:00																		
18:00																		
19:00																		
20:00																		
21:00																		
22:00																		
23:00																		

Product in the equipment.

Shift	MP1	MP2	BK-101A	BK-101B	PT-5001	PT-5002	STATION 101 BYPASS LINE(B021)	STATION 02(NIS) PIPING)	BK-101A	BK-101B	TANK-01	TANK-02	PT-511	PT-512	TR-01	TR-02	INWSS SYSTEM PT	SHIFT OFFICER INITIALS
I																		
II																		

Remarks:

Reviewed By	Approved By	Issued By
LOCATION INCHARGE	MAINTENANCE INCHARGE	IMS COORDINATOR



IMF/OBG/02
ISSUE 1; Rev. 06

**हिन्दुस्तान पेट्रोलियम कार्पोरेशन लिमिटेड / HINDUSTAN PETROLEUM CORPORATION LIMITED
विशाख विजयवाडा सिंकंदराबाद पाईपलाईन विशाखापत्नम/VIJAYAWADA-SECUNDERABAD PIPELINE
गुणवत्ता नियंत्रण प्रूफिका/QUALITY CONTROL REGISTER**

कार्यस्थल/Location:

Reviewed By	Approved By	Issued By
		
LOCATION INCHARGE	Maintenance Incharge	IMS COORDINATOR

IMF/OBG/03
ISSUE 1 ;REV.00

नमुना पत्र : Sample Label
विविएसपीएल/VVSPL

कार्यस्थल/Location:Bogaram

उत्पाद/PRODUCT _____ नमुना संख्या/SAMPLE No. _____
दिनांक/ DATE _____ समय/TIME (HRS.) _____

Seal No:.....

साईकल/बैच संख्या/:CYCLE/BATCH No. _____

श्रोत: Source: _____

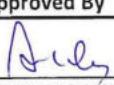
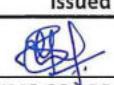
बैच का अग्र/मध्य/अंत/ FRONT/MIDDLE-END OF BATCH/INTERFACE

अन्य/Any

other: _____

घनत्व/Density @15 Degree C= _____

पाली अधिकारी /SHIFT IN-CHARGE _____

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