

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

SRS OPERATIONS MANUAL



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

HINDUSTAN PETROLEUM CORPORATION LIMITED
VISAKHA-VIJAYAWADA-SECUNDERABAD PIPE LINE

LIST OF DOCUMENTS
(IM Procedures & IM Instructions)

Department/Section : OPERATIONS - SECUNDERABAD

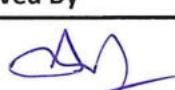
SI No	IMP/IMI Title	IMP / IMI No.	Rev./Amend-ment No.	Effective Date
1	CONTROL ROOM ACTIVITIES OF SECUNDERABAD RECEIVING STATION	IMP/OSD/01	03	01/01/2018
2	START-UP & SHUT DOWN AT SECUNDERABAD RECEIVING STATION	IMP/OSD/02	01	01/01/2018
3	PRODUCT SAMPLING AND LABORATORY TEST REPORTS	IMP/OSD/03	00	01/01/2018
4	CHECKS BEFORE OPERATIONS	IMI/OSD/01	01	01/01/2018
5	LINE UP AND SWITCHOVER OF SECUNDERABAD TANKS	IMI/OSD/02	01	01/01/2018
6	LINE UP OF STATION AND STARTING	IMI/OSD/03	01	01/01/2018
7	INTERFACE CUTTING	IMI/OSD/04	02	01/01/2018
8	SUMP TANK OPERATION	IMI/OSD/05	01	01/01/2018
9	SLOP TANK OPERATION	IMI/OSD/06	00	01/01/2018
10	PIG RECEIVING	IMI/OSD/07	00	01/01/2018
11	OPERATION OF SULPHUR ANALYZER EQUIPMENT	IMI/OSD/09	00	01/01/2018
12	ISSUE HOT/COLD/HEIGHT/ELECTRICAL ISOLATION WORK PERMITS	IMI/OSD/10	00	01/01/2018
13	LINE UP OF IPS-3 BYPASS VALVE DURING PIGGING IN SBS-SRS SECTION	IMI/OSD/11	00	08/07/2019
COMMON OPERATIONAL PROCEDURES				
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

Signature of Department Head

Approved By	Issued By
OPERATIONS INCHARGE	IMS COORDINATOR

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

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

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INTEGRATED MANAGEMENT PROCEDURES		DOCUMENT NO.: IMP/OSD
TITLE	AMENDMENT RECORD SHEET	

IMP/IMI/IMF No	Amendment / Revision No	Effective Date	Brief Description of Changes
IMI/OSD/11	Rev:00	08.07.2019	Addition of new instructions for "SOP towards lineup of IPS3 mainline bypass valve during Pigging activity in SBS-SRS section" in IMI/OSD/11.

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OPERATIONS INCHARGE IMS COORDINATOR

Process: Control Room Activities of Secunderabad Receiving Station (SRS)

Process Owner (Roles & Responsibilities): SRS Control Room Officers

Process Means/Equipment

- Pumping Operation from either SBS/VBS
- Process monitoring Systems like SCADA, PLC, LDS, RMS
- Pumping Plan from VDS
- Stable Communication System.

Process Participants:

- Vizag Despatch Station(VDS)
- Rajamundry Booster Station(RBS)
- Vijayawada Booster Station(VBS)
- Secunderabad Receiving Station(SRS)

Inputs:

- Availability of Product at VR/NWOT.
- Pumping Plan prepared by VDS

VDS To Pump Product as per Pumping Plan

RBS,VBS, SBS to Operate as per Pumping Plan

Receive Product at SRS as planned

Hand over product to Terminal

Methods & Practices:

- Work Instructions : IMP/OSD/01
- Reference : IM/MMR/7.5
- Documentation : IMF/OPN/01, IMF/OPN/02, IMI/OSD/02&03

Performance Indicators:

- Incident Free receipt of Pumped product
- Trained Manpower of locations

Process Criteria:

- Sampling to be carried out in a systematic Process

Previous Process: Pumping Operation from Suryapet Booster Station

Process Risks: Improper monitoring leads to damage of Pipeline & Equipment and results in

Emergency Situation

Opportunities : Proper Monitoring results in identification of better ways of Managing the system.

Succeeding Process: Safe Receipt of Pumped Product

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TITLE	CONTROL ROOM ACTIVITIES OF SECUNDERABAD RECEIVING STATION	

1.0 PURPOSE

To lay down activities involved in operation of Secunderabad Control room involved in receipt of POL products.

2.0 SCOPE

This is applicable to operation of Secunderabad Control room facilities as per the pumping schedule in co-ordination with the following depts.

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

3.0 REFERENCES

IM/MR/7.5

4.0 RESPONSIBILITY

Shift In-charge

4.1 STATION IN – CHARGE

- 4.1.1 To Coordinate with Vizag Control Room regarding the pumping program.
- 4.1.2 To Coordinate with Secunderabad Terminal regarding stock and availability of tankage.
- 4.1.3 Overall responsibility of the station.

4.2 SHIFT IN-CHARGE

- 4.2.1 To implement the pumping program in coordination with Vizag Control Room and Secunderabad Terminal.

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- 4.2.2 To monitor the operations and station parameters (Annexure-I) in co-ordination with VDS, RBS, VBS, SBS control rooms. Record the relevant parameters in operation log book (IMF/OSD/01)
- 4.2.3 To carryout regular operational activities namely Interface cutting, lining up of tanks starting up of the station in coordination with VDS and subsequently with RBS,VBS,SBS and taking shutdown (both planned and emergency).
- 4.2.4 To carry out sampling and critical tests of product being received as per category 'A' of Industry Quality control Manual.
- 4.2.5 To receive the Security Guards (IMF/ROW/1) and line walkers reports (IMF/ROW/02) and inform to ROW/ Station - In-charge. Format available in ROW Manual.

4.2.6 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
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

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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

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

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- 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.

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.

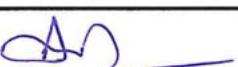
For any recorded above standard condition positive recognition is given verbally/e-mail on as and when required basis.

4.2.7 To issue Cold work permits (IMF/OPN/03).

4.2.8 To co ordinate with Terminal-In-Charge for issuing hot work permits (IMF/OPN/04)

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.

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5.0 PROCEDURE

- 5.1 To ensure safe operations of below mentioned activities, the details of activities are documented in respective IM Instructions.

TITLE OF IM INSTRUCTION	IM INSTRUCTION No.
Checks before operation	IMI/OSD/01
Line up and Switchover of Secunderabad tanks	IMI/OSD/02
Line up of station and starting	
Interface cutting	IMI/OSD/03
Sump tank operations	IMI/OSD/04
Slop tank operation	IMI/OSD/05
PIG Receiving	IMI/OSD/06
	IMI/OSD/07

5.2 Co-ordination with VDS Control Room Involves the following

- 5.2.1 To inform the Vizag Control Room about the stock / ullage / off take.
- 5.2.2 To obtain the detailed pumping program and (having sr.no.) from VDS through VDS website/ e mail and preserve in file marked as "Pumping Program".
- 5.2.3 To obtain the Laboratory test report of product being pumped at Vizag.
- 5.2.4 To exchange the quantity of product being received in Secunderabad tanks vis-à-vis quantity of product being pumped from Vizag and quantity of product received by other Stations on hourly basis and compare for any variation (IMF/OSD/01).
- 5.2.5 Any abnormal variation is to be investigated in coordination with VDS and Secunderabad Terminal.
- 5.2.6 To pass on the interface details to VDS and any abnormality in the product specifications is to be investigated and proper follow up action is to be taken. Secunderabad officer should take the batch densities from VDS control room & VBS which will act as a reference for them during cutting of interface.

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- 5.2.7 Any other information or development regarding operation is to be intimated to VDS Control Room immediately.
- 5.2.8 To receive line walkers report and security guards report and coordinate with the Managers and Station In-charge in case of any abnormality. To record details in Row Formats.
- 5.2.9 To obtain line fill quantity at the starting of 1st Shift.
- 5.3 Co-ordination with Secunderabad Terminal involves the following**
- 5.3.1 To obtain the stock / ullage / off take from Secunderabad Terminal.
 - 5.3.2 To plan and finalize the receipt program in line with pumping schedule and Terminal requirements.
 - 5.3.3 To arrange for Gauging and lining up of nominated tanks and record in (IMF/OSD/03).
 - 5.3.4 To investigate any abnormal stock loss / gain with the help of Secunderabad Terminal.
 - 5.3.5 To obtain the Laboratory test Report of the product being received at Secunderabad and batch number to be written in the report. Investigate deviation if any with respect to the VR lab report, with the help of VDS Control Room.
 - 5.3.6 To ensure the safety and security of the station with the help of Secunderabad Terminal.
 - 5.3.7 To co ordinate with Secunderabad Terminal for carrying out batch formation tests as per Appendix 15 of Industry Quality Control Manual to establish the batch
 - 5.3.8 To procure HSD & Lube Oil for own use from Secunderabad Terminal.
 - 5.3.9 To coordinate with Secunderabad Terminal for starting the D. G. set during power failure.
 - 5.3.10 Any other assistance required for the smooth operation being provided by Secunderabad Terminal.
 - 5.3.11 To carryout generation of sales order/purchase order in ERP system and book the receipt quantities in Terminal Tanks. Also pass on the booked quantities to VDS for batch reconciliation.

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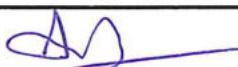
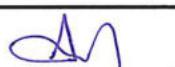
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5.4 SRS Co-ordination with RBS,VBS,SBS involves the following

- 5.4.1 The booster station will inform SRS about starting and Tripping of pumps so that the station parameters at SRS could be adjusted.
- 5.4.2 To obtain hourly flow rate and quantities of RBS,VBS,SBS and pass on the hourly flow rate and total batch receipt to them.
- 5.4.3 If VSPL section is on shutdown only pressures of VBS (SBS side), SBS and SV-16 thru SV-21 to be maintained.
- 5.4.4 To obtain the information regarding planned shutdown of APSEB in VDS or RBS,VBS,SBS.

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 Officer)
2	Maintenance log book	IMF/OPN/02	- Do -	- Do -
3	Cold work permit	IMF/OPN/03	- Do -	- Do -
4	Hot work permit	IMF/OPN/04	- Do -	- Do -
5	Critical behavior check list for PPE observation	IMF/OPN/12	-do-	-do-
6	Daily operations log sheet	IMF/OSD/01	- Do -	- Do -
7	Tank gauge cum checklist	IMF/OSD/03	- Do -	- Do -

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TITLE	CONTROL ROOM ACTIVITIES OF SECUNDERABAD RECEIVING STATION	
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ANNEXURE - I

SECUNDERABAD CONTROL ROOM OPERATION KEY PARAMETERS

Product	Tank No.	Safe Filling Height (in CMS)	Safe Filling Capacity (in KLS)	Inaccurate Zone on Lower legs (CM)
E IV MS	1B	1640	28114	97 to 124
	3C	1600	10603	157.5 to 185.5
E III MS	1A	1640	28112	97 to 124
	1C	1400	5338	157.5 to 187.5
SKO	2A	1340	5342	108 to 138
	2B	1340	5341	108 to 138
	1D	1400	5333	157.5 to 187.5
E IV HSD	3B	1640	34529	93 to 118
	4A	1425	5936	108 to 138
E III HSD	3A	1640	34532	93 to 118
	4B	1425	5936	108 to 138
SLOP	5A	891.6	1188	

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TITLE **CONTROL ROOM ACTIVITIES OF SECUNDERABAD RECEIVING STATION**

ANNEXURE - II

CRITICAL PARAMETERS

1	BACK PRESSURE OF THE STATION	1KG/SQ.CM TO 6 KG/ SQ.CM
2	SET PRESSURE PSH-1701 (CONNECTED TO PIC-1703 FOR ALARM)	6 KG/SQ.CM
3	SET PRESSURE PSHH-1701	8 KG/SQ.CM
4	SRV NITROGEN LOW SUPPLY PRESSURE	18 KG/SQ.CM
5	SRV SET PRESSURE	11.6 KG/SQ.CM
6	SRV HIGH JACKET PRESSURE	12.7 KG/SQ.CM
7	SRV LOW JACKET PRESSURE	10.5 KG/SQ.CM
8	SUMP TANK LEVEL	40 CM TO 160 CM

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Process: Start-Up & Shut Down at Secunderabad Receiving Station (SRS)

Process Owner (Roles & Responsibilities): SRS Control Room Officers

Process Means/Equipment

- Pumping Operation from either SBS/VBS
- Process monitoring Systems like SCADA, PLC, LDS, RMS
- Pumping Plan from VDS
- Stable Communication System.

Process Participants:

- Vizag Despatch Station(VDS)
- Rajamundry Booster Station(RBS)
- Vijayawada Booster Station(VBS)
- Suryapet Booster Station(SBS)
- Secunderabad Receiving Station(SRS)

Inputs:

- Planned Shutdown
- Emergency Shutdown
- Start up

VDS, VBS, SBS

Carryout Instruction
s IMI/
OSD/02 for
Startup &
IMP/OPN/
02 for
shutdown
Plan

Incase
of Long
Shutdo
wn all
SV
Station
s to be
closed

Record
the
activity

Previous Process: Pipeline is Under operation Or is Under Shutdown .

Methods & Practices:

- Work Instructions : IMP/OSD/02
- Reference : TW/MR/7.51
- Documentation : IMF/OPN/01
- IMF/OSD/03

Resources

- Trained Manpower of locations

-Carryout Control Room Operations in safe manner

Performance Indicators:

- Incident Free receipt of pumped products

Process Risks: Improper Lineup, Starting, Shutdown of Pipeline & Equipment results in Damage of equipment and can result in Emergency Situation.

Opportunities : Following of SOPs , review of results will lead to identification of better ways of Managing the system.

Succeeding Process: Incident Free Shutdown or Starting of SRS Station

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INTEGRATED MANAGEMENT PROCEDURE		DOCUMENT NO.: IMP/OSD/02
TITLE		START-UP & SHUT DOWN AT SECUNDERABAD RECEIVING STATION

1.0 PURPOSE

To describe the method of start-up & shut down taken at SRS due to operational and/or maintenance necessity at VDS, RBS, VBS, & SBS.

2.0 SCOPE

The activity involves the following:

- a) Planned shutdown
- b) Emergency shutdown
- c) Start up

3.0 REFERENCES

IM/MR/7.5.1

4.0 RESPONSIBILITY

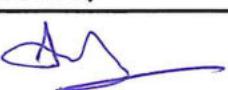
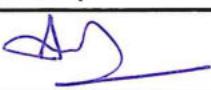
Shift In-charge

5.0 PROCEDURE

- 5.1 Refer Flow charts 2a & 2b in INTEGRATED MANAGEMENT instructions IMI/OSD/02 and IMP/OPN/02.

5.2 Precautions

- 5.2.1 In case of shutdown of longer duration close station limit valves, tank inlet valves and manifold valves. As per the advice of VDS/VBS the Sectionalising valves (SV 16 to SV21) are closed.
- 5.2.2 The subject receipt tank can be handed back to the Terminal.
- 5.2.3 If there is any abnormal fall in the station pressure during shutdown period, carry out investigation for any valve failure or leakage.
- 5.2.4 Ensured that the sampling points are fully closed during shutdown period and locked/sealed.
- 5.2.5 Keep all TSVs open during shutdown.

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TITLE	START-UP & SHUT DOWN AT SECUNDERABAD RECEIVING STATION	

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 Officer)
2	Tank gauge cum checklist	IMF/OSD/03	Control Room	Shift In charge (Shift Officer)

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Process: Product Sampling and Laboratory Test Reports

Process Owner (Roles & Responsibilities): SRS Control Room Officers

Process Means/Equipment

- Sampling Equipments
- Thermometer.
- Sample Collection Bottles
- Sample Labels
- Sample Seals

Process Participants:

- Ghatkesar Receiving Station
- Secunderabad Terminal
- Secunderabad Lab

Inputs:

- Product tanks after completion of pipeline
- Receipt

TMB
Sample
is
collected

Samples
are
labelled
and
sealed

QC
Certified
Product

Lab
Tests
and
Issues
Report

Process Risks:

Previous Process: Receipt of Product into Terminal
Tanks thru Pipeline

Methods & Practices:

- Work Instructions
- Reference
- ASTM & QC Manuals for Non-aviation products.
- Documentation
- IMF/OSD/03
- IMF/MR/8.2.4
- IMF/OSD/05
- IMF/OSD/02

Process Criteria:

- Systematic Sampling Process

Performance Indicators:

- No change in the lab results irrespective of the person drawing the sample

Resources

- Trained Manpower of locations

Process Risks: Improper Lineup, Starting, Shutdown of Pipeline & Equipment results in Damage of equipment and can result in Emergency Situation.

Opportunities : Following of SOPs, review of results will lead to identification of better ways of Managing the system.

Successing Process: Handing over of QC Certified Products to Secunderabad Terminal

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INTEGRATED MANAGEMENT INSTRUCTION		DOCUMENT NO.:IMP/OSD/03
TITLE	PRODUCT SAMPLING AND LABORATORY TEST REPORTS	

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 Ghatkesar 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:

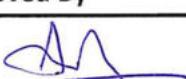
5.1.1 Take over the tank at least 4 hrs after last withdrawal from tank.

5.1.2 Before a pipeline receipt is affected 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.

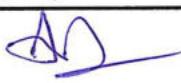
5.1.4 Precautions to be taken for sampling:

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.

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TITLE	PRODUCT SAMPLING AND LABORATORY TEST REPORTS	

- 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.
- 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/OSD/02).
- 5.1.7 Sample Collection : In addition to the samples taken from the tanks, one liters of front, one liter of middle and one liters 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/OSD/05).
- 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 is 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:

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TITLE		PRODUCT SAMPLING AND LABORATORY TEST REPORTS

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.

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. as applicable**

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 is any plastic funnel used for pouring. Details of sample disposed are entered in Quality Control register (IMF/OSD/05).

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

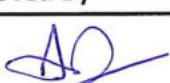
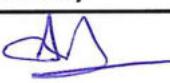
5.2 Laboratory Test Reports:

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 .

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6. RELEVANT RECORDS

S. No	Format Title	Format No.	Location	Responsibility
1	Quality Control Register	IMF/OSD/05	Control Room	Shift In-charge
2	Sample label	IMF/OSD/02	- Do -	- Do -

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OPERATIONS INCHARGE	IMS COORDINATOR

Process: Checks before Operation

Process Owner (Roles & Responsibilities): SRS Control Room Officers

Process Means/Equipment

- Terminal Tanks
- DIP Tape
- Thermometer

Process Participants:

- Terminal Representative
- SRS Pipeline Representative

Previous Process: Tanks are under control of Terminal

Inputs:

- Tanks are under control of Terminal

Tank Gagging is completed

TMB Samples Are drawn

Tank is taken over from terminal

Process is recorded

Methods & Practices:

- Work Instructions : IMI/OSD/01
- Reference : IMP/OSD/01
- Documentation : IMF/OPN/01
- IMF/OSD/03

Performance Indicators:

- No change in the dip level irrespective of the person taking over tank

Resources

- Trained Manpower of locations

Process Criteria:

- Systematic, repeatable Process of tank take over

Process Risks: Improper take over of terminal tanks leads to faulty stock accounting and faulty lineup

there by leading chance of occurrence of an incident.

Opportunities : Following of SOPs, review of results will lead to identification of better ways of Managing the system.

Succeeding Process: Tank Take over from terminal

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INTEGRATED MANAGEMENT INSTRUCTION		DOCUMENT NO.: IMI/OSD/01
TITLE	CHECKS BEFORE OPERATIONS	

1.0 PURPOSE

To provide guidelines for checks to be carried out for taking over of tank in terminal.

2.0 REFERENCES

IM Procedure: IMP/OSD/01

3.0 RESPONSIBILITY

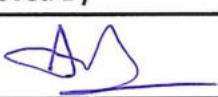
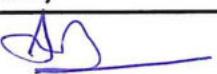
Shift In-charge

4.0 INSTRUCTIONS

Flowchart .01

5.0 RELEVANT RECORDS

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

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INTEGRATED MANAGEMENT INSTRUCTION **DOCUMENT NO.: IMI/OSD/01**

TITLE

CHECKS BEFORE OPERATIONS

FLOW CHART 01

Decide the next tank to be taken for receipt in consultation with Terminal



Joint Gauging of tank to be done



Check the following:

- a) Oil and water level
- b) Tank Temperature
- c) Sample Temperature and density
- d) Collect UML composite sample per Industry Quality Control Manual



Retention sample for future reference



Check the following:

- a) Any leaks from valves
- b) Roof Conditions
- c) Roof central drain condition (visual any product leak)
- d) Tank Dip in inaccurate Zone
- e) Leg position (Long or short)
- f) Delivery line isolated and locked
- g) Water draw off line close
- h) Roof grain valves are open/close
- i) TSVs of tank inlet and delivery line are open
- j) TSVs of tank inlet, outlet pipe to be kept open
- k) Check any abnormality in tank gauge cum check list.



Line up the tank -> Reference IMI/OSD/02

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INTEGRATED MANAGEMENT INSTRUCTION		DOCUMENT NO.: IMI/OSD/02
TITLE	LINE UP AND SWITCHOVER OF SECUNDERABAD TANKS	

1.0 PURPOSE

To provide guidelines for lineup and switch over of Secunderabad tanks.

2.0 REFERENCES

IM Procedure: IMP/OSD/01.

3.0 RESPONSIBILITY

Shift In-charge

4.0 INSTRUCTIONS

Flowchart.2a & 2b

4.1 The following precautions are to be taken in each case:

4.1.1 Monitor Line / meter pressure build up or flow reduction during the switchover.

4.1.2 In case of building up of pressure or reduction in flow, take necessary corrective actions as detailed below:

a) In case of same product switch over, revert back to the original tank after informing Terminal shift in charge and station – in – charge. If the preceding tank is topped up, ask VDS control room to take emergency shutdown.

b) Incase of product to product switchover, inform VDS for taking emergency shutdown.

5.0 RELEVANT RECORDS

Shift log book IMF/OPN/01

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INTEGRATED MANAGEMENT INSTRUCTION

DOCUMENT NO.: IMI/OSD/02

TITLE

LINE UP AND SWITCHOVER OF SECUNDERABAD TANKS

LINE UP OF STATION & STARTING

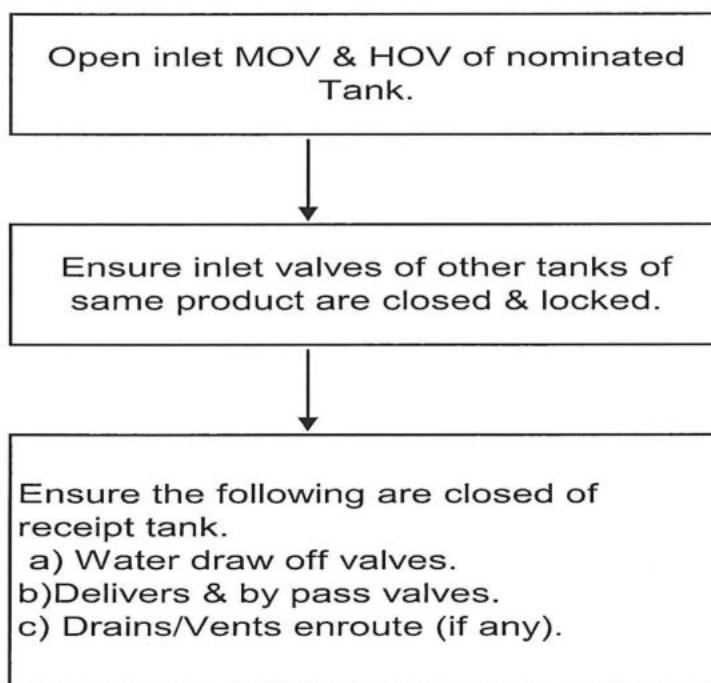


CHART 2A - LINE UP OF STATION AND STARTING

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TITLE

LINE UP AND SWITCHOVER OF SECUNDERABAD TANKS

FLOW CHART.2B

Page 02 of 03

TANK SWITCH OVER

A) SAME PRODUCT TANKS

Guage the tank nominated for switch over and do other checks as per QMI/OSD/01

TANK SWITCH OVER

B) DIFFERENT PRODUCT TANKS

Guage the tank nominated for switch over and do other checks as per QMI/OSD/01

Keep the HOV open of the tank nominated for switch over.

Keep the MOV &HOV open of the tank nominated for switch over.

Open the MOV of the succeeding tank and then close the MOV of the preceding tank thru PLC.

In case of switch over from one product to another open the manifold of the succeeding product. Interlock provided will automatically close the preceeding product manifold valve.

Carry out product grade switch over in the following cases:

- 1)SKO-MS III 2)SKO-MS IV 3)MS III-SKO 4)MSIV-SKO 5)SKO-HSD III
- 6)SKO-HSD IV 7)HSDIII-SKO 8)HSDIV-SKO 9)HSD-SKO 10) HSDIII-HSDIV
- 11)HSDIV-HSDIII 12)MSIII-MSIV 13)MSIV-MSIII

CHART 2B - TANK SWITCH OVER

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OPERATIONS INCHARGE	IMS COORDINATOR

Process: Line up of Station and Starting

Process Owner (Roles & Responsibilities): SRS Control Room Officers

Process Means/Equipment

- Line up to be done as per check list
- IMF/OSD/08
- Manifold Valve as per the product present in the pipeline at the time of shutdown to be opened

Process Participants:

- SRS Shift Incharge
- Trained Technical Manpower

Inputs:

- VDS/VBS/SBS advises for lineup of the station

Lineup
as per
IMF/OS
D/08

Open
Relevant
Manifold
Valve

Check if
all SV
Station
s are
open

Record
all the
Actions

Methods & Practices:

- Work Instructions
- Reference
- Documentation

IMI/OSD/03
IMP/OSD/01
IMF/OSD/03
IMF/OSD/08
IMF/OPN/01

Performance Indicators:

- Incident free commencement of Receipt Operation

Resources

- Trained Manpower of locations

Previous Process: Station in under Shutdown

- Process Criteria :
- Stations line up as per a check list avoids any mistakes

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Succeeding Process: Commencement of Incident free receipt operation.

Process Risks: Improper line up and starting of receipt operations leads to faulty lineup thereby giving a chance for occurrence of an incident.

Opportunities : Following of SOPs, review of results will lead to identification of better ways of Managing the system.

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INTEGRATED MANAGEMENT INSTRUCTION		DOCUMENT NO.: IMI/OSD/03
TITLE	LINE UP OF STATION AND STARTING	

1.0 PURPOSE

To provide guidelines for lineup of station and starting.

2.0 REFERENCES

IM Procedure: IMP/OSD/01.

3.0 RESPONSIBILITY

Shift In-charge

4.0 INSTRUCTIONS

Flow chart.03

- 4.1** Check lining up of the station keeping product quality into consideration as per IMF/OSD/08

5.0 RELEVANT RECORDS

Tank gauge cum checklist	IMF/OSD/03
Shift log book	IMF/OPN/01
Checks before receipt	IMF/OSD/08

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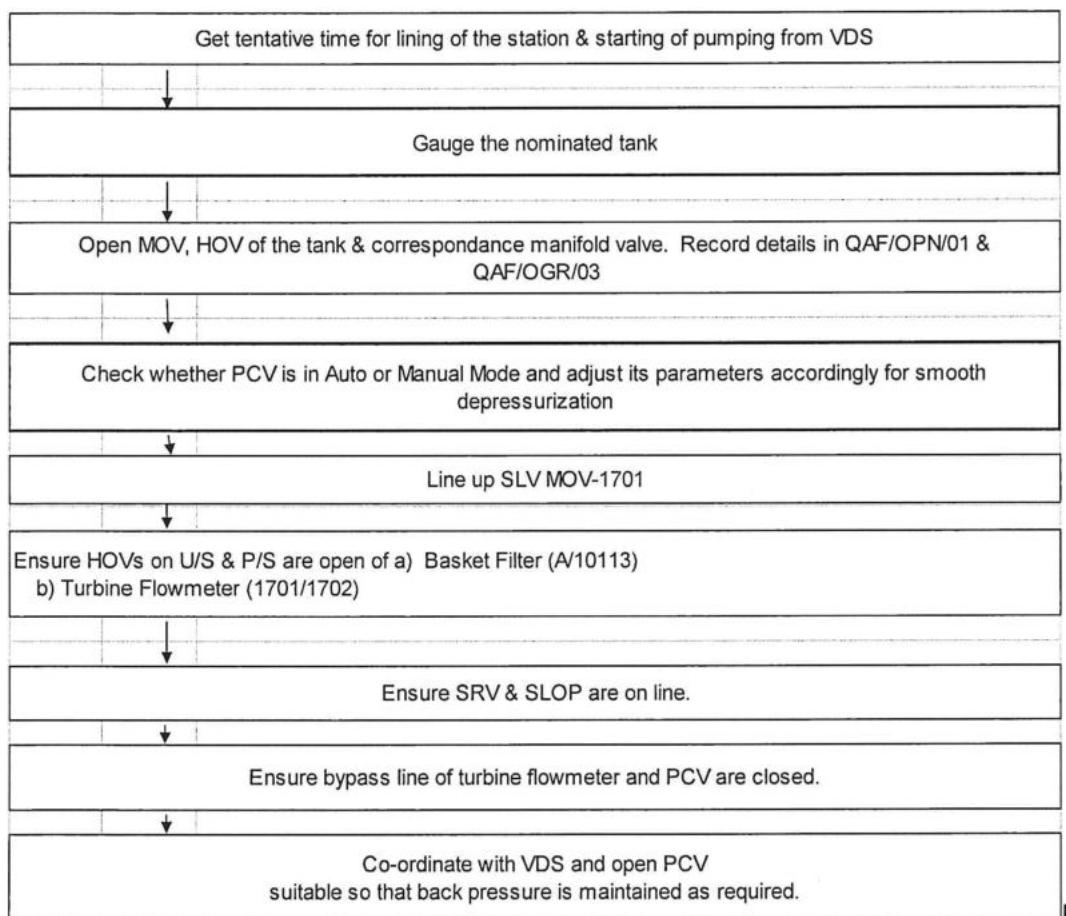
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INTEGRATED MANAGEMENT INSTRUCTION **DOCUMENT NO.: IMI/OSD/03**

TITLE

LINE UP OF STATION AND STARTING



FL

OW CHART 03

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OPERATIONS INCHARGE	IMS COORDINATOR

Process: Interface Cutting

Process Owner (Roles & Responsibilities): SRS Control Room Officers

Process Means/Equipment

- Lab Report of VDS for current batch being pumped and succeeding batch
Hydrometer, Thermometer at Sample Point
Line up of terminal tank for succeeding product up to manifold

Process Participants:

- SRS Shift Incharge
- Trained Technical Manpower

Inputs:

- Interface Arrival time at SBS and tracking data is taken and arrival time at SRS is calculated

Density is checked continuously

Samples
as per
QC
collected

Receipt
change
d-
Clause
4.10.4.1
1.4.11b

Record
all the
Actions

Methods & Practices:

- | | |
|--|--|
| Work Instructions
Reference
Documentation | M/OSD/M
M/POS/D
IMF/OSD
IMF/OPN
IMF/OSD/ |
| Process Criteria :
Receipt tank changed by open valve at Manifold | |

Performance Indicators:
-No failure of Product during QC Testing

Succeeding Process: After Interface Succeeding product is received into different terminal tank

Process Risks: Improper Interface cutting will result in failure of product in QC Parameters.

Opportunities : Following of SOPs, review of results will lead to identification of better ways of Managing the system.

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INTEGRATED MANAGEMENT INSTRUCTION		DOCUMENT NO.: IMI/OSD/04
TITLE	INTERFACE CUTTING	

1.0 PURPOSE

Interface cutting is done to receive a new batch of product by ensuring minimum down gradation within permissible limit, so that the both preceding & succeeding batch products received meets the specification.

2.0 REFERENCES

IM Procedure: IMP/OSD/01.

3.0 RESPONSIBILITY

Shift In-charge

4.0 INSTRUCTIONS

- 4.1 Calculate expected time of Interface using the balance batch quantity in the line and current flow rate / expected flow rate.
- 4.2 Collect relevant details like rear density of the preceding product and front density of the succeeding product from VDS, VBS. Note any other characteristic of the following product like unusually high/ low density, unusual color (especially yellowish SKO or light colored MS) to avoid false alarms and ensure accurate interface cutting in such cases.
- 4.2b For BS III/BS IV or BSIV/BSIII interfaces, Collect Sulphur content and densities of the preceding product and succeeding product from VDS lab reports.
- 4.3 Check Density indicator for proper limit setting. If not proper, setting is done afresh.
- 4.4 Line up the tank assigned for receipt up to the manifold one hour before the expected time of interface.
- 4.5 Two hours before the expected time, start periodic sampling of the line product and test for, density on each sample. Colour & smell of product (visual clarity) also to be observed as an additional reference, frequency of sampling is gradually increased as the interface approaches.

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TITLE INTERFACE CUTTING		

- 4.5b In case of Two hours before the expected time, start periodic sampling of the line product and test for sulphur value online using sulphur analysing equipment operated as per IMI/OSD/09 or obtaining reports from Secunderabad terminal lab on each sample. Density also to be observed as an additional reference, frequency of sampling is gradually increased as the interface approaches.
- 4.6 When the density of the product changes in the desired direction, 'Interface' alarm is annunciated on the PLC. This indicates the arrival of interface. Check the density indicator for actual change in density and then start continuous sampling with recording of the details of each sample.
- 4.6b Sulphur content decreases for BSIII/ BS IV interface and increases for BSIV/BSIII interface. Sulphur content for BS III MS is 150ppm (Max) and for BSIII HSD it is 350ppm (Max). For both BS IV MS and HSD, Sulphur should be 50ppm (Max).
- 4.7 If the change in density is coupled with change in color and odour, assume it as the beginning of the interface.
- 4.7b For BSIII/BS IV or BSIV/BSIII grade interfaces for MS and HSD products, Arrival of interface is coupled with change in sulphur content. (Any density variation is taken as additional precaution for tracking interface.)
- 4.8 All through the interface cutting, carry out continuous sampling as mentioned above. When density finally stabilizes and matches that provided by VDS, VBS density of the previous batch of same product (left over as line fill between tanks and manifold at VDS) whichever is applicable, interface is deemed to have ended.
- 4.8b All through the interface for BSIII/BS IV or BSIV/BSIII grade interfaces for MS and HSD products, carry out continuous sampling as mentioned. Sulphur content is to be obtained for the samples along with density monitoring. When sulphur content stabilizes and matches with VDS lab report interface is deemed to have ended.

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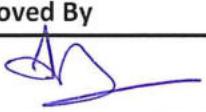
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TITLE		INTERFACE CUTTING

4.9 Following minimum samples are collected during interface:

- a) Preceding batch clear sample.
- b) Beginning of I/F.
- c) Middle of I/F.
- d) Towards end of I/F.
- e) Succeeding batch clear sample.

Record details in format IMF/OSD/05 (QC Register)

- 4.10 Switchover from one dedicated receipt line to another from the manifold as soon as interface begins in case of (i), SKO – MS, (ii) SKO – HSD interface and at the end of interface for (iii) HSD – SKO and (iv) MS-SKO.
- 4.11 Take interface for all (i) & (ii) into respective MS/HSD tanks and for (iii) & (iv) take the interface in to HSD/MS tank.
- 4.11b For BSIII/BSIV or BSIV/BSIII products Interface to be taken as per quality manual.
- 4.12 For switching over first the manifold, open MOV of the following product and when this valve is 25% open, close MOV of the preceding product. However in interlock logic system it is automatically taken care of. Immediately after the switchover flow computer is reset for the fresh batch confirms the same from field.
- 4.13 Advise details of interface (time of starting, time of ending, duration, approximate quantity, tank no. in which interface was taken) to VDS and record the details in format IMF/OSD/07 (Interface Log Sheet).
- 4.14 Note:
- 4.14.1 HSD-SKO interface i.e SKO follows HSD
- 4.14.2 SKO-HSD interface i.e HSD follows SKO
- 4.14.3 MS-SKO interface i.e SKO follows MS
- 4.14.4 SKO-MS interface i.e MS follows SKO
- 4.14.5 BSIII MS-BSIV MS interface i.e BSIVMS follows BSIIIMS

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	HINDUSTAN PETROLEUM CORPORATION LIMITED VISAKHA-VIJAYAWADA-SECUNDERABAD PIPELINE VISAKHAPATNAM ANDHRA PRADESH	ISSUE NO: 2 REVISION NO.: 00 EFFECTIVE DATE:01/01/2018 SHEET: 4 OF 4
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TITLE	INTERFACE CUTTING	

4.14.6 BSIIIHSD-BSIVHSD interface i.e BSIV HSD follows BSIIIHSD

4.14.7 BSIV MS –BSIII MSI.e BSIII MS follows BSIV MS

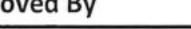
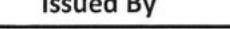
4.14.8 BSIV HSD –BSIIIHSD i.e BSIII HSD follows BSIV HSD

4.14.9 Operate the station on DG set during Interface cutting for avoiding unforeseen power failure during manifold switchover time.

4.14.10 Take part of the interface into slop tank as per the decision taken by LIC.

5.0 RELEVANT RECORDS

Interface log sheet	IMF/OSD/07
Shift log book	IMF/OPN/01
QC Register	IMF/OSD/05

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INTEGRATED MANAGEMENT INSTRUCTION		DOCUMENT NO.:IMI/OSD/05
TITLE	SUMP TANK OPERATION	

1.0 PURPOSE

To provide guidelines for operating sump tanks.

2.0 REFERENCES

IM Procedure: IMP/OSD/01

3.0 RESPONSIBILITY

Shift In-charge

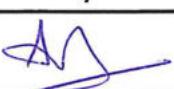
4.0 INSTRUCTIONS

Lining up of Sump tank: Flow chart No.04

Emptying of Sump tank: Flow chart No.05

5.0 RELEVANT RECORDS

Shift log book	IMF/OPN/01
Operations log sheet	IMF/OSD/01

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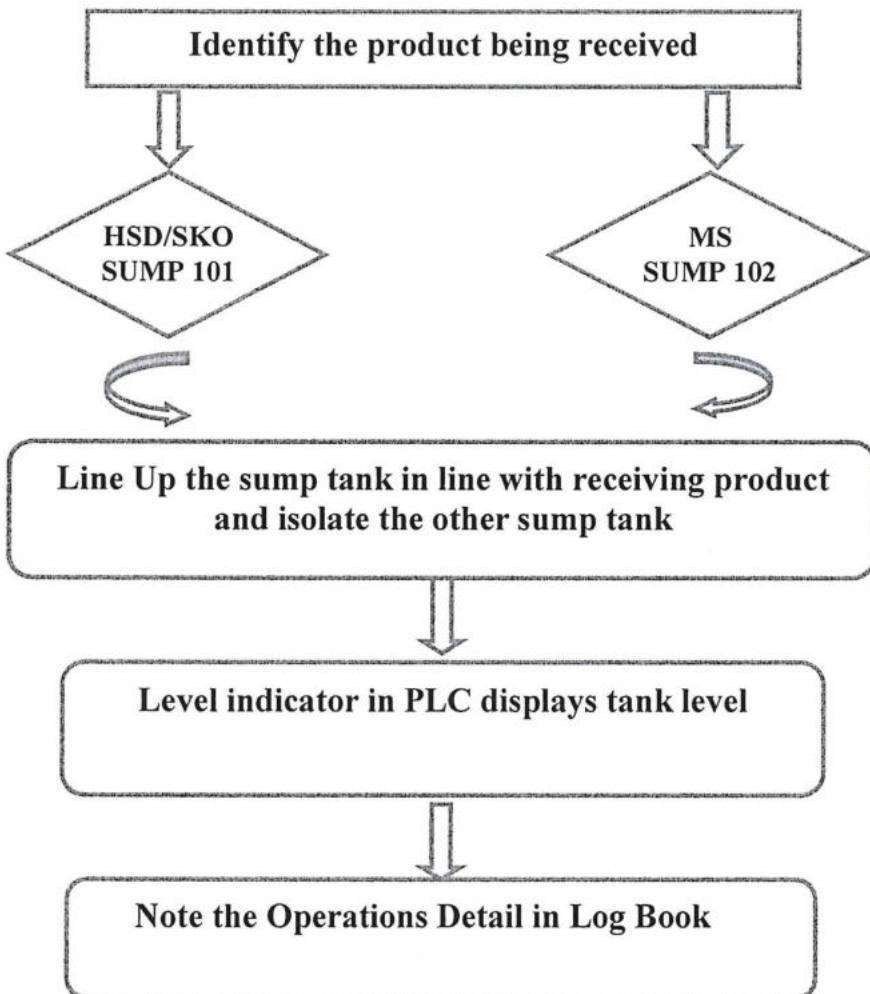
INTEGRATED MANAGEMENT INSTRUCTION

DOCUMENT NO.:IMI/OSD/05

TITLE

SUMP TANK OPERATION

5.1 Lining Up Sump tank (Flow Chart No. 04)



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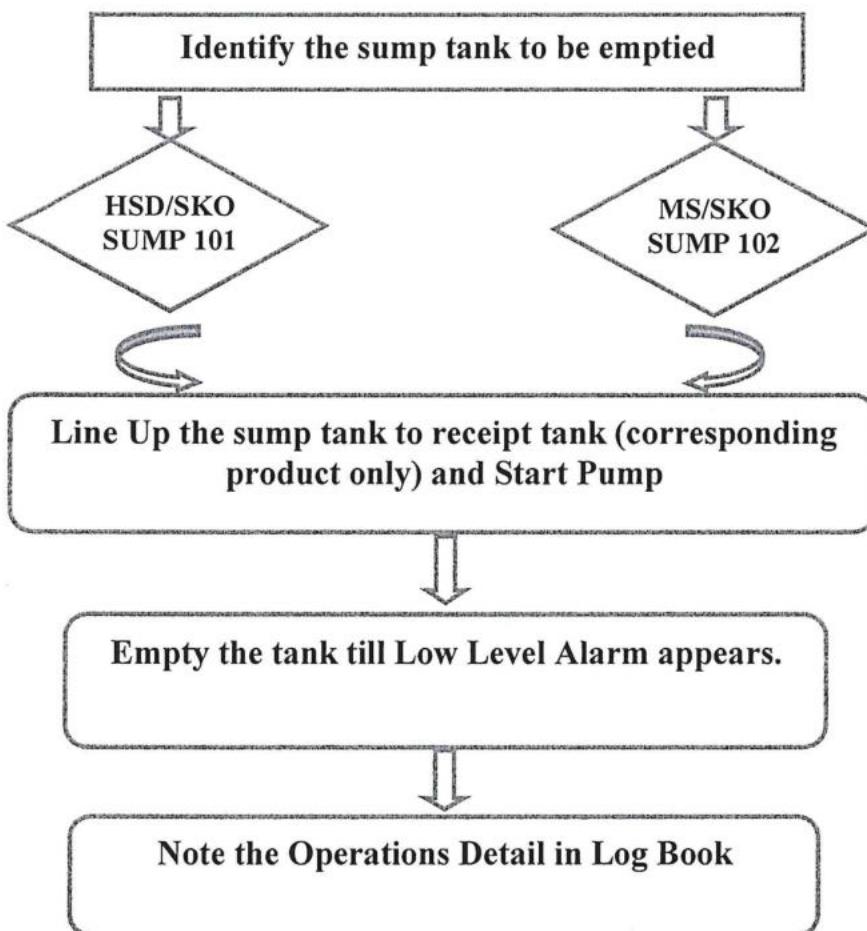
INTEGRATED MANAGEMENT INSTRUCTION

DOCUMENT NO.: IMI/OSD/05

TITLE

SUMP TANK OPERATION

5.2 Emptying of Sump tank (Flow Chart No.05)



Notes: (1) Low level of sump tank: 40CM (2) High level of sump tank: 160 CM
3) Investigate if any reasons for abnormal increase in product level in sump tanks and take corrective and preventive action.

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INTEGRATED MANAGEMENT INSTRUCTION		DOCUMENT NO.: IMI/OSD/06
TITLE	SLOP TANK OPERATION	

1.0 PURPOSE

To provide guide lines for operation of slop tank.

2.0 REFERENCES

IM Procedure: IMP/OSD/01

3.0 RESPONSIBILITY

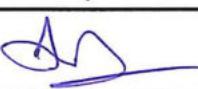
Shift In-charge

4.0 INSTRUCTIONS

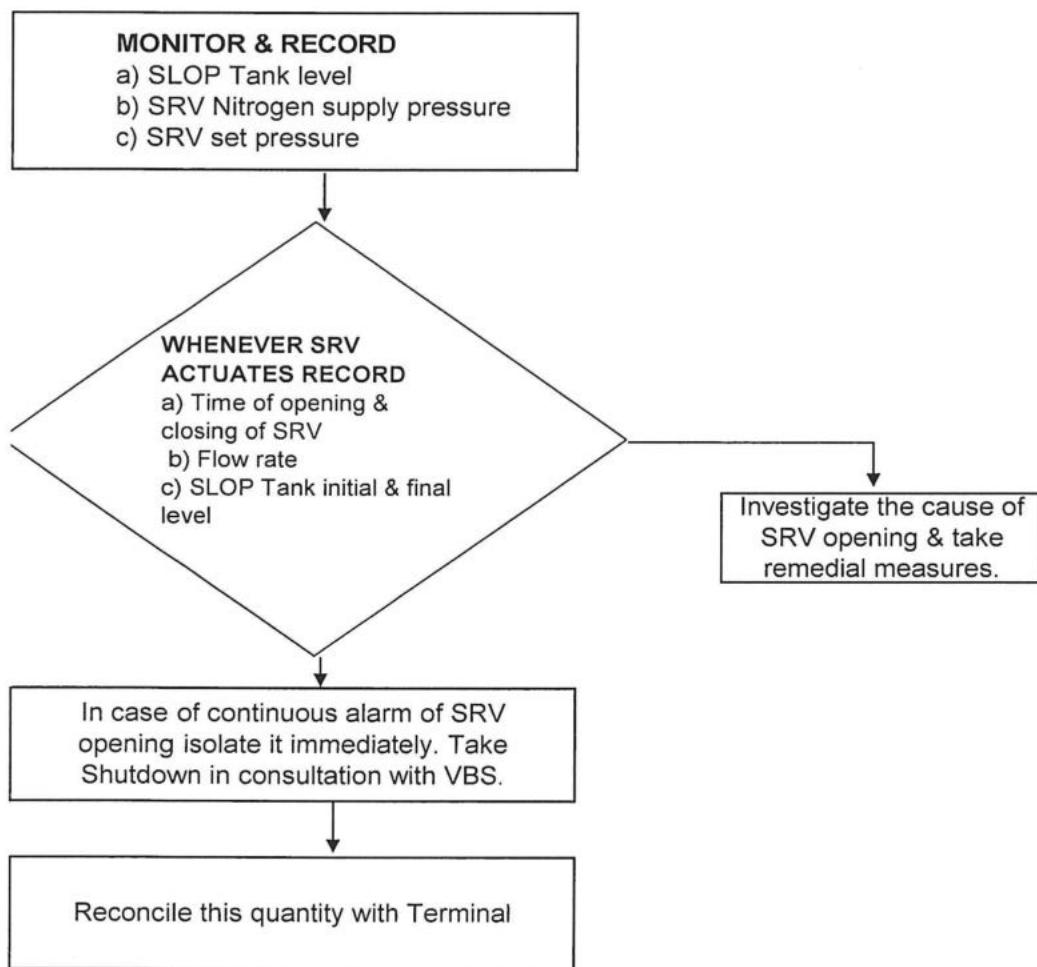
Flow Chart No.05

5.0 RELEVANT RECORDS

Shift log book	IMF/OPN/01
Operations Log book	IMF/OSD/01

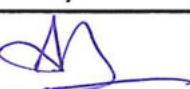
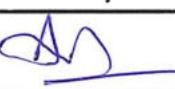
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INTEGRATED MANAGEMENT INSTRUCTION		DOCUMENT NO.: IMI/OSD/06
TITLE	SLOP TANK OPERATION	



Note: Always keep SRV online in normal operation.

FLOW CHART 05

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INTEGRATED MANAGEMENT INSTRUCTION		DOCUMENT NO.: IMI/OSD/07
TITLE	PIG RECEIVING	

1.0 PURPOSE

To provide guidelines for Pig receiving.

2.0 REFERENCES

IM Procedure: IMP/OSD/01

3.0 RESPONSIBILITY

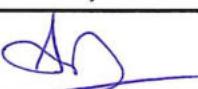
Shift In-charge

4.0 INSTRUCTIONS

Flow-Chart No.06

5.0 RELEVANT RECORDS

Shift log book	IMF/OPN/01
Pigging report	IMF/OPN/08
Operations Log book	IMF/OSD/01

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OPERATIONS INCHARGE	IMS COORDINATOR

Process: PIG Receiving

Process Owner (Roles & Responsibilities): SRS Control Room Officers

Process Means/Equipment

- PIG Tracker at SV Stations SV-16 to SV-21
- Recording of Arrival Times at all the bench marked points
- Predicting the arrival time of succeeding points

Process Participants:

- SRS Shift Incharge
- Trained Technical Manpower

Inputs:

- PIG Launched by SBS

PIG
Tracked
at SV-

14, 15 &
advised
by SBS

PIG
Tracked
at SV16-
21

Line for
PIG
Receipt
change
dat

SRS

All the
process
recorded

Methods & Practices:

- Work Instructions : IMI/OSD/07
- Reference : IMFO/OPN/08
- Documentation :

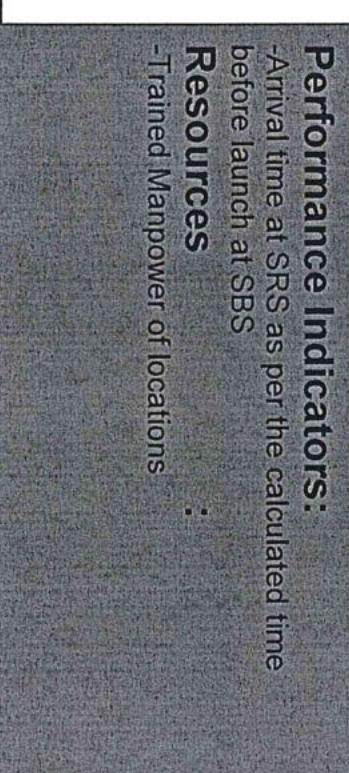
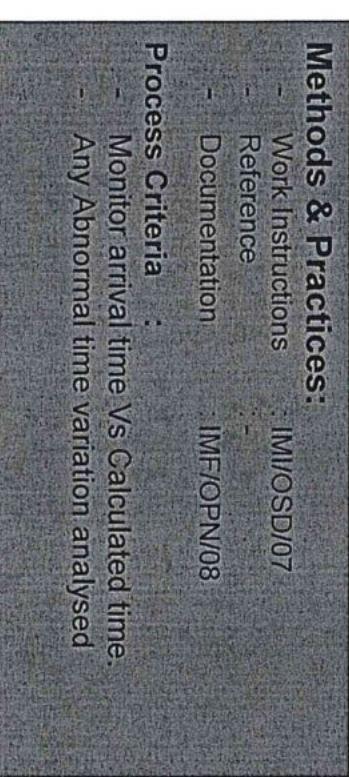
Performance Indicators:

- Arrival time at SRS as per the calculated time before launch at SBS

Resources :

- Trained Manpower of locations

Previous Process: Pigging plan advised by VDS



Succeeding Process: Incident Free receipt of PIG at SRS

Process Risks: Improper PIG Monitoring will lead non location of PIG.

Opportunities : Following of SOPs, review of results will lead to identification of better ways of Managing the system.



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INTEGRATED MANAGEMENT INSTRUCTION

DOCUMENT NO.: IMI/OSD/07

TITLE

PIG RECEIVING

Obtain hourly flow rate from VDS.
calculate location of PIG

Open MOV-1702 & 8" by pass line
of scapper barrel, two hours before
expected arrival time of PIG

Close MOV-1703
After feed back of above operation

As the PIG is received scapper
detected XXIS1701 & XXIS1702
alarm appears. Acknowledge.

Open MOV-1703

Close MOV-1702 & bypass Valve

Drain the product from barrel through
4" line into sump tank & close the
valve.

Take out the PIG. Inspect visually for
any dents, scratches & cup condition

Collect PIG residue for lab testing.

FLOW CHART 06

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OPERATIONS INCHARGE	IMS COORDINATOR

Process: Issue of Permit

Process Owner (Roles & Responsibilities): SRS Control Room Officers

Process Means/Equipment

- Visit area of work
- Estimate the possible hazards and prepare Job Safety Analysis
- Deploy relevant Safety equipment at work site

Process Participants:

- SRS Shift Incharge
- Trained Technical Manpower

Previous Process: Any Work to be started in Hazardous Area

Inputs:

- Obtain Relevant Permit

Arrange
for
contract
ors
manpow
er

Start the
work to
be
carried
out

Comple
te the
work
and
clear
the area

Record
the
Observations

Methods & Practices:

- Work Instructions : IMIOSD/08
- Reference : IMP/OSD/01
- Documentation : IMF/OPN/03
- Documentation : IMF/OPN/04

Performance Indicators:

- Incident Free execution of jobs carried out in Hazardous Area
- Trained Manpower of locations

Process Criteria :

- Close Monitoring of All Works carried out in Hazardous Area

Process Risks: Improper Job Safety Analysis can lead to an incident

Opportunities : Following of SOPs, review of results will lead to identification of better ways of Managing the system.

Succeeding Process: Incident Free Completion of work in hazardous area in SRS

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INTEGRATED MANAGEMENT INSTRUCTION		DOCUMENT NO.: IMI/OSD/09
TITLE Operation of Sulphur Analyzer Equipment		

1.0 PURPOSE

To describe the method of start-up & shut down of Sulphur Analyzer at SRS.

2.0 SCOPE

The activity involves the following:

- a) Start up
- b) Shut down
- c) Do's and Don'ts

3.0 REFERENCES

IM/MR/7.5.1

4.0 RESPONSIBILITY

Shift In-charge

5.0 PROCEDURE

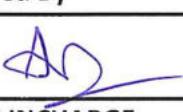
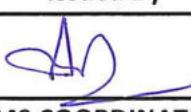
5.1 Start Up.

5.1.1 Ensure switch Fuse Unit (SFU) of MCC for Sulphur Analyzer UPS is ON

5.1.2 Ensure 415V/230V power supply of UPS is ON

5.1.3 Check availability of Power Supply at Power Distribution Panel(PDP) located at sulphur analyzer shed, R, Y, B Lamps should glow

5.1.4 Switch ON power supply of Heatless Dryer from PDP

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TITLE	Operation of Sulphur Analyzer Equipment	

- 5.1.5 Switch ON compressor from 415V PDP, Close the valve of compressor tan till it reaches 8 Kg/Sq.Cm pressure and compressor stops automatically.
- 5.1.6 Open the valve of compressor tank
- 5.1.7 While switching ON for the first time, drain water from compressor tank and both filters of heatless dryer.
- 5.1.8 Ensure valves of oxygen & Nitrogen cylinders are open. Outlet pressure of Oxygen and Nitrogen should be 4Kg/ Sq.Cm.
- 5.1.9 Sulphur Analyzer switches ON automatically once air flow from compressor is released
- 5.1.10 By double clicking on the shortcut icon on the desk top of screen, main menu opens.
- 5.1.11 Go to Settings and select Mass flow Controller sub menu and observe the set and actual values, if found OK, exit this menu.
- 5.1.12 Again go to Settings and select Temperature sub menu and observe the temperature of furnace and detector. When Temperature of Furnace Reaches 1050 Deg. C, Exit this menu.
- 5.1.13 Go to Status menu and select Alarm Status sub menu. Reset all alarms by clicking on Reset. Once all the indicators turn green, exit this menu.
- 5.1.14 Open the receipt valve at main line tap off for sulphur Analyzer and ensure the return valve is also in open condition.
- 5.1.15 Switch On power supply of sample pump from 415V PDP and start the pump and observe the product flow in the sample handling system gauge
- 5.1.16 Go to Operate on Analyzer Screen and select Analyze, Analyzer Chart opens on the screen.

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INTEGRATED MANAGEMENT INSTRUCTION		DOCUMENT NO.: IMI/OSD/09
TITLE	Operation of Sulphur Analyzer Equipment	

- 5.1.17 Go to Charts on the screen and open live chart to see the response of sulphur analyzer. Sulphur content in PPM will be displayed. Same will be available on the PLC screen in the control room.
- 5.1.18 Sulphur Analyzer will be logging all the data date wise in side the system. For accessing Go to Logs on the screen and click daily log and select the date to find the data.

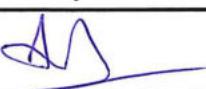
5.2 Shut down

- 5.2.1 On the Analyzer screen, close the Live charts and go to Operate sub menu, click on Stand by mode , Analyzer will to the Stand by Mode .
- 5.2.2 Switch off power supply to sample pump and close the valve at the main line tap off point.
- 5.2.3 Go to Start menu and close the main menu on the analyzer screen and turn off the on board PC of Analyzer. Analyzer will get off.
- 5.2.4 Close the Valve of compressor Tank and switch off power supply of compressor.
- 5.2.5 Switch Off power supply of Heatless Dryer.
- 5.2.6 Switch Off Mains Power Supply on PDP in the sulphur Analyzer shed.

5.3 Do's and Don't's

5.3.1 Do's

- 5.3.1.1 Drain the Water from compressor tank twice daily
- 5.3.1.2 Drain Pre & After Filter twice daily
- 5.3.1.3 Clean both the suction filters of compressor once in a month
- 5.3.1.4 Grease the Compressor crank once in Two months
- 5.3.1.5 Regenerate the silica gel when color turns to pink.

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INTEGRATED MANAGEMENT INSTRUCTION

DOCUMENT NO.: IMI/OSD/09

TITLE

Operation of Sulphur Analyzer Equipment

5.3.1.6 Clean Sample line strainer once in a Month

5.3.1.7 Drain the slow loop return sample once in a week

5.3.2 Don'ts

5.3.2.1 Do not switch off the analyzer without turning off the on Board PC

5.3.2.2 Do not start the pump when the valve at main line tap off & Return valves are in closed condition.

5.3.2.3 Do not run analyzer when SKO is in line, please close the sample inlet & return valves after shutting off the pump and take the analyzer in stand by mode until SKO is out of Line.

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Process: Issue of Permit

Process Owner (Roles & Responsibilities): SRS Control Room Officers

Process Means/Equipment

- Visit area of work
- Estimate the possible hazards and prepare Job Safety Analysis
- Deploy relevant Safety equipment at work site

Process Participants:

- SRS Shift Incharge
- Trained Technical Manpower

Inputs:

- Obtain Relevant Permit

Arrange
for
contract
ors
manpow
er

Start &
Monitor
work to
be carried
out

Comple
te the
work
and
clear
the area

Record
the
Observations

Methods & Practices:

- Work Instructions : IMF/OSD/08,10
- Reference : IMP/OSD/01&OISD105
- Documentation : IMF/OPN/03, IMF/OPN/09, IMF/OPN/04, IMF/OPN/10

Process Criteria :

- Close Monitoring of All Works carried out in Hazardous Area

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Previous Process: Any Work to be started in Hazardous Area

Succeeding Process: Incident Free Completion of work in hazardous area in SRS

Process Risks: Improper Job Safety Analysis can lead to an incident
Opportunities : Following of SOPs, review of results will lead to identification of better ways of Managing the system.

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INTEGRATED MANAGEMENT INSTRUCTION		DOCUMENT NO.: IMI/OSD/10
TITLE ISSUE HOT/COLD/HEIGHT/ELECTRICAL ISOLATION WORK PERMITS		

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/OSD/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 Energisation 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 incase 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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SHEET:2 OF 2

INTEGRATED MANAGEMENT INSTRUCTION

DOCUMENT NO.: IMI/OSD/10

TITLE	ISSUE HOT/COLD/HEIGHT/ELECTRICAL ISOLATION WORK PERMITS
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(Responsibility: Pipeline Shift In-charge for COLD/HEIGHT WORK PERMITS, Shift Incharge/Officer In charge - Electrical in case of Electrical Isolation and Energisation 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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ISSUE:1
REVISION NO:00
EFFECTIVE DATE:01.01.2018
SHEET:1 OF 2

INTEGRATED MANAGEMENT INSTRUCTION

DOCUMENT NO:IMI/OSD/11

TITLE

LINE UP OF IPS-3 BYPASS VALVE DURING PIGGING IN SBS-SRS SECTION

1.0 PURPOSE:

To provide guidelines for Lineup of IPS-3 bypass valve during Pigging in SBS-SRS section.

2.0 REFERENCES:

IM Procedure: IMP/OSD/01, Schematic Flow diagram (Case1,2,3) attached along with this SOP (IMI/OSD/11).

3.0 RESPONSIBILITY

Shift In-charge.

4.0 INSTRUCTIONS:

4.1 Ensure SV17 MOV & MOV 8025 shall always be in Open condition only during VSPL Pipeline receipt.

4.2 CASE 1: Flow through IPS3 station lineup without station bypass (Normal Pumping Operation)

- Open MOV 8020
- Open MOV 8021
- Close MOV 8022 & 8024 (If open)

Product receipt taken into IPS3 pumps from mainline.

4.3 CASE 2: Flow through IPS3 station Bypass Valve (IPS3 Pumps not running, station bypass condition)

- Open MOV 8022 Station bypass valve
- Close Inlet valve MOV 8020
- Close outlet valve MOV 8021
- MOV 8024 Kept closed

Product receipt taken into IPS3 piping from mainline

4.4 CASE 3: Lineup during Pigging activity (No flow to enter into IPS3 station)

- Pigging to be done only when HSD is in mainline

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ISSUE:1
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INTEGRATED MANAGEMENT INSTRUCTION

DOCUMENT NO:IMI/OSD/11

TITLE

LINE UP OF IPS-3 BYPASS VALVE DURING PIGGING IN SBS-SRS SECTION

- During pigging activity of SBS-SRS section, SBS to alert SRS before pig launch
- Ensure IPS3 station piping with HSD only before closing the IPS3 station valves
- Open MOV 8024
- Close MOV 8022 (If CASE 2 – Flow through IPS3 station)
- Stop IPS3 pumps, Close MOV 8020 & MOV 8021 (If CASE 1 – IPS3 pumps running)

4.5 After pig crossing IPS3

- Open Station bypass valve MOV8022 (If CASE 2 – Flow through IPS3 station)
- Open MOV 8020 & MOV 8021 for lineup of IPS3 pumps (If CASE 1 – IPS3 pumps running)
- Close Mainline Bypass valve MOV 8024

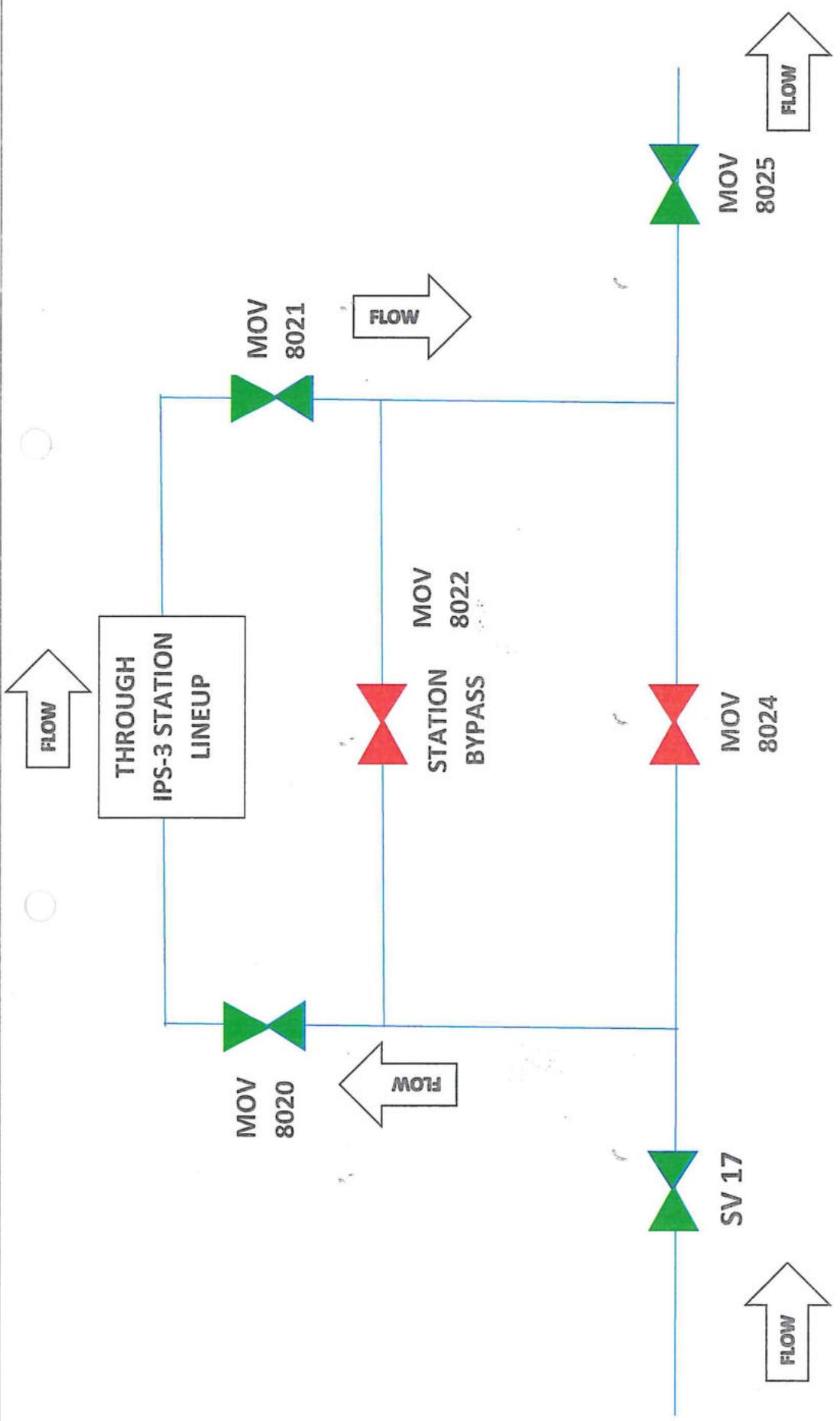
Receipt taken into IPS3 piping from mainline

4.7 Confirm the valves status of IPS3 valves to SRS and SBS.

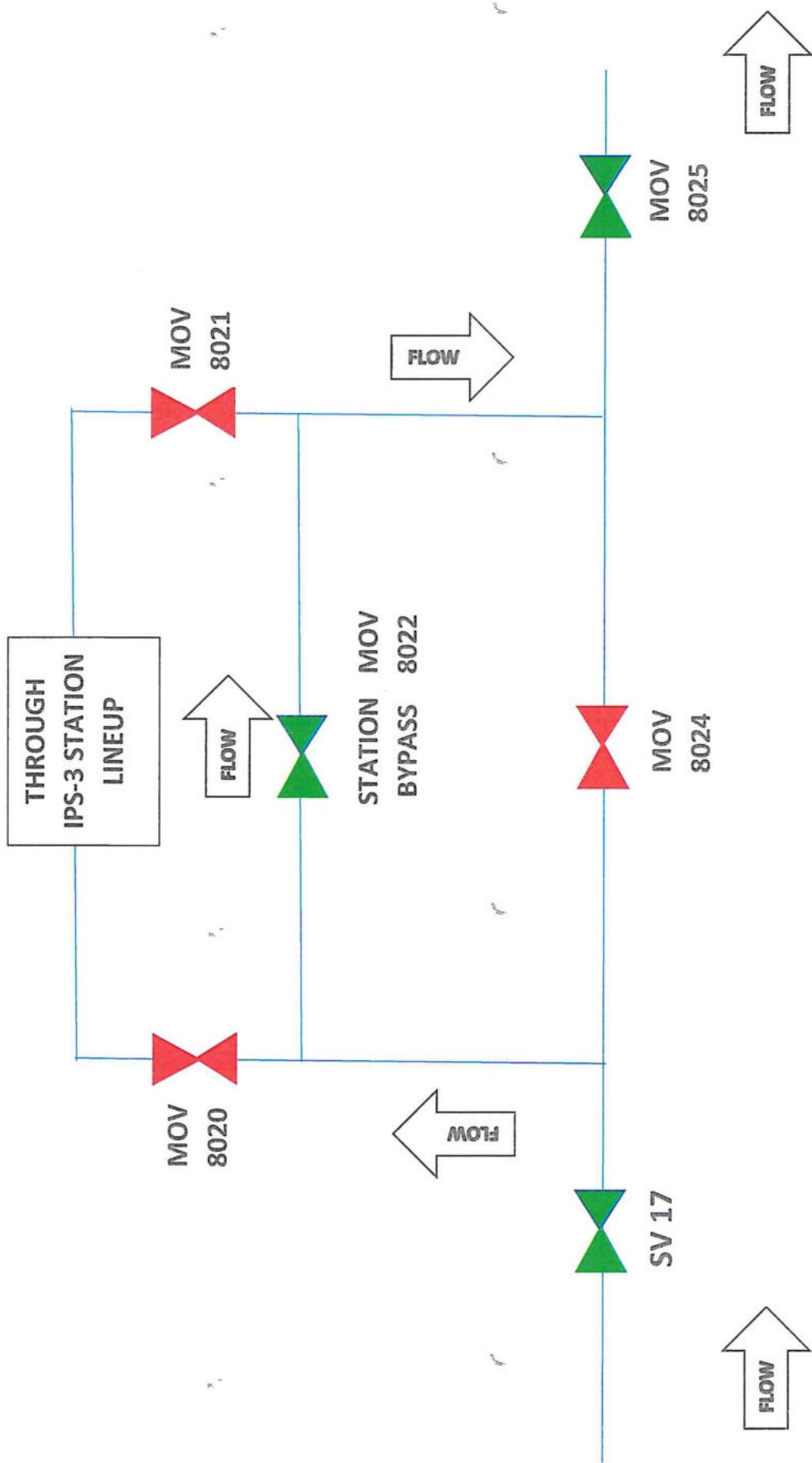
5.0 RELEVANT RECORDS:

NOTE:NA

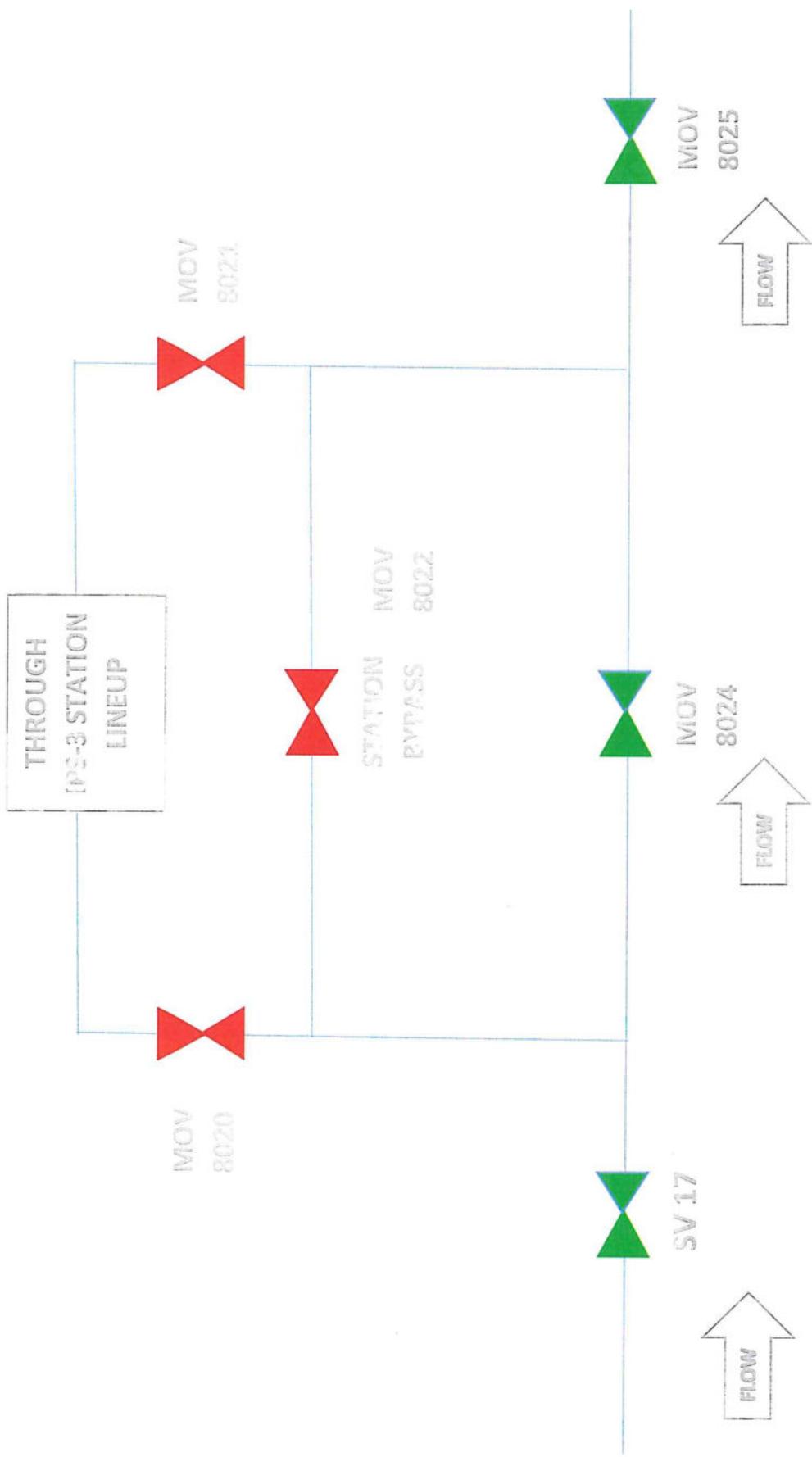
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**CASE 1: - FLOW THROUGH IPS 3 STATION LINE UP WITHOUT STATION BY-PASS
(NORMAL OPERATION)**



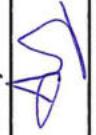
CASE 2: - FLOW THROUGH IPS 3 STATION BY-PASS VALVE



CASE 3: - LINEUP DURING PIGGING ACTIVITY (NO FLOW TO ENTER IPS-3)

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 Plug s	Canister er	B. Appar atus	Gas Mask	Dust Mask
1	Visitors / Employees in Plant Area	Yes	Yes	--	--	--	--	--	--	--	--	--
2	Taking Sample in Plant	Yes	Yes	Yes	--	--	--	--	--	--	--	--
3	Tank gauging	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	--	--	--	--	--
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
9	Chemicals Handling - Battery maint. & Cl 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	--	--	--

Annexure-A

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OPERATIONS INCHARGE	IMS COORDINATOR

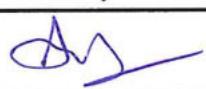
HINDUSTAN PETROLEUM CORPORATION LIMITED
VISAKHA-VIJAYAWADA-SECUNDERABAD PIPE LINE

LIST OF FORMS

Department/Section: Operations - Secunderabad

Sl No	Form No.	Form Title	IMP / IMI No.	Retention Period
1	IMF/OPN/01	Shift log book	IMP/OSD/01	2 years
2	IMF/OPN/02	Maintenance log book	IMP/OSD/01 IMP/OSD/02	1 year
3	IMF/OPN/03	Cold work permit	IMP/OSD/08	1 year
4	IMF/OPN/04	Hot work permit	IMP/OSD/08	1 year
5	IMF/OPN/05	Certificate for Thermometer calibration	IMP/OSD/01	1 year
6	IMF/OPN/06	Certificate for Hydrometer calibration	IMP/OSD/01	1 year
7	IMF/OPN/07	PLC by-pass register	IMI/OSD/02	1 year
8	IMF/OPN/08	Pigging report	IMI/OSD/07	3 years
9	IMF/OPN/09	Working at heights permit	IMP/OSD/08	1 year
10	IMF/OPN/10	Electrical isolation & energization permit	IMP/OSD/08	1 year
11	IMF/OPN/12	Critical behavior check list for PPE observation	IMI/OSD/10	1 year
12	IMF/OSD/01	Operations log book	IMP/OSD/01	2 years
13	IMF/OSD/02	Sample Label	IMP/OSD/03	1 Year
14	IMF/OSD/03	Tank cum gauge cum check list	IMI/OSD/01 IMI/OSD/03	1 year
15	IMF/OSD/05	Quality control register	IMI/OSD/01	1 year
16	IMF/OSD/07	Interface cutting data sheet	IMI/OSD/04	1 year
17	IMF/OSD/08	Checks before receipt at SRS	IMI/OSD/03	6 months
18	IMF/ROW/01	Daily line walkers' report	IMP/OSD/01	1 year
19	IMF/ROW/02	Daily security guards' report	IMP/OSD/01	1 year

Signature of Department Head
01/01/2018

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HINDUSTAN PETROLEUM CORPORATION LIMITED
भारतीय धनेश्वर कंपनी लिमिटेड
MANAKA, HAUZKUSA - २९३०६४, DELHI-११००१६
PHONE - PREMEX - REGISTRATION NUMBER
CHARTERED ACCOUNTANT & AUDITOR
OPERATIONS LOG BOOK
JANUARY 2011

प्राचीन विद्या	विद्यालय	कालांक	संस्कृत	ग्रन्थालय
प्राचीन विद्या	विद्यालय	कालांक	संस्कृत	ग्रन्थालय
प्राचीन विद्या	विद्यालय	कालांक	संस्कृत	ग्रन्थालय
प्राचीन विद्या	विद्यालय	कालांक	संस्कृत	ग्रन्थालय
प्राचीन विद्या	विद्यालय	कालांक	संस्कृत	ग्रन्थालय

二三

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		OPERATIONS INCHARGE

आईएमएफ/ओएसडी/02::IMF/OSD/02
संसोधन/:REV.00



नमुना पत्र : Sample Label

विविएसपीएल/VVSPL

कार्यस्थल/Location:

उत्पाद/PRODUCT _____

नमुना संख्या/SAMPLE No. _____

दिनांक / DATE _____

समय/TIME (HRS.) _____

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

श्रेत: 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/टर्मिन) /SHIFTIN-CHARGE (ATP/Terminal) _____

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IMF/OSD/05

हिन्दुस्तान पेट्रोलियम कॉर्पोरेशन लिमिटेड / HINDUSTAN PETROLEUM CORPORATION LIMITED
विशाख विजयवाडा सिंकंडरबाद पाईपलाइन विशाखापट्टनम/VISAKHA-VIJAYAWADA-SECUNDERABAD PIPELINE
गणवत्ता नियंत्रण प्रणिका/QUALITY CONTROL REGISTER

कार्यस्थल/Location:

Approved By		OPERATIONS INCHARGE
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IMF/OSD/03
REV. 00

हिन्दुस्तानपेट्रोलियम कार्पोरेशन लिमिटेड
विशाखा विजयवाडा सिंकंदराबाद पाइपलाईन विशाखापटनम
HINDUSTAN PETROLEUM CORPORATION LIMITED
VISAKHA-VIJAYAWADA-SECUNDERABAD PIPELINE
टैक गेज एवम् जाँच सूचि/TANK GAUGE CUM CHECKLIST

Secunderabad Receiving Station:

टैक संख्या/ TANK NO:	उत्पाद/PRODUCT :	बैच/BATCH:		
	आरंभ/OPENING	समापन/CLOSING		
सीपीडब्ल्यूडी की ऊच्चाई /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	टेर्मिनल//Terminal	वीवीएसपीएल / VVSPL	टेर्मिनल /Terminal

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IMF/OSD/07

Rev: 00

हिन्दुस्तान पेट्रोलियम कार्पोरेशन लिमिटेड
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 NO:

कार्यस्थल/Location:

	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

प्रभारी अधिकारी /OFFICER-IN-CHARGE

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 OPERATIONS INCHARGE	 IMS COORDINATOR

HINDUSTAN PETROLEUM CORPORATION LIMITED
VISAKHA-VIJAYAWADA-SECUNDERABAD PIPE LINE

CHECKS BEFORE RECEIPT AT SRS

(To be filled on station line change up)

Date:

Shift: I / II / III

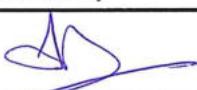
1. a) Product in Mainline : E III HSD / EIV HSD / SKO /
E III MS / E IVMS
 - b) Product in Station : E III HSD / EIV HSD / SKO /
E III MS / E IVMS
 - c) Tank lined up : E III HSD / EIV HSD / SKO /
E III MS / E IVMS
 - d) Tank valve, manifold valve, filter, FT line, FCV,
SRV and SIV are online : Yes / No.
2. Product inside selected Basket filters : E III HSD / EIV HSD / SKO /
E III MS / E IVMS
 - a) Filter in service : 101 A/101 B
 - b) Venting done : Yes / No
 - c) Draining done : Yes / No
3. Clearance for receipt taken from (VDS) after all checks.
 4. Information of receipt passed on to(VDS), (SBS), (VBS).
 5. Preventive measures taken to avoid MS / HSD mixing with SKO or MS mixing with HSD:
..... N. B.: (i) When SKO pumping is 'ON', station line change up to be avoided.
(ii) Sump tank to be emptied out as follows:-
(a) Before arrival of any SKO / MS cycle -- into HSD.

Checked:

Shift Incharge (SRS)

Reviewed:

OIC-Operations

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