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MANAGER**

**AUTHORISATION DATE**

**ORIGINATOR**

**SHIFT MANAGER**

**APPROVED BY**

**ACTING: PSM MANAGER**

<b>TITLE</b>
SHIFT HANDOVER

<b>PURPOSE</b>
The purpose of this Procedure is to ensure an official and uniform shift handover system for shift workers employed at the GTL&R operating facilities.

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<b>ROUTING SLIP FOR LAST REVISION NUMBER</b>			
ROLE	NAME	POSITION	REVIEW DATE
REVIEWER 1		<b>Shift Supervisor Air and Gas Separation</b>	
REVIEWER 2		<b>Shift Supervisor Offsites</b>	
REVIEWER 3		<b>Shift Supervisor Refinery West</b>	
REVIEWER 4		<b>Shift Supervisor Air and Gas Separation</b>	
REVIEWER 5		<b>Shift Supervisor Refinery East</b>	
REVIEWER 6		<b>Process Safety</b>	
REVIEWER 7		<b>Area Production Manager: Syngas</b>	
REVIEWER 8		<b>Acting Area Production Manager: Synthol</b>	
REVIEWER 9		<b>Area Production Manager: O &amp; U</b>	
REVIEWER 10		<b>Area Production Manager: B &amp; S</b>	
REVIEWER 11		<b>Acting Area Production Manager: Refinery</b>	
REGULATORY SECTION		<b>Procedure Specialist</b>	
QUALITY		<b>Quality Leader</b>	
LEGAL			
INTERNAL AUDIT			

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## 1. BACKGROUND

The shift handover from the “outgoing” to “incoming” shift shall be carried out in a formal and consistent manner and include all safety critical and relevant details to ensure operating integrity and the safe, continuous and effective operation of the GTL&R operating facilities.

Analysis of accidents have repeatedly cited lack of effective communication as a major contributory factor and particularly where breaks in work continuity occur, as can be the case where a shift change takes place.

Shift handover logs that are not supported by clear and concise “verbal” communication often lead to misunderstanding as to the “true status” being conveyed. Misinterpretation of the shift handover logs may result because each individual’s information needs are different.

To address the above, all shift workers personnel shall conduct a formal shift handover with both written and verbal actions.

## 2. PURPOSE AND SCOPE

The purpose of this Procedure is to ensure an official and uniform shift handover system for shift workers employed at the GTL&R operating facilities. The requirement of shift handover will be a written shift handover log supplemented by verbal communication to ensure accurate transfer of information with sufficient clarity to avoid ambiguities.

## 3. OBJECTIVES

The objectives of this Procedure are:

1. To ensure safe and continuous operation of all units in GTL&R.
2. Documented flow of information between shifts and units ensuring all operations personnel are aware of plant conditions and interface operations between units.
3. Documented trail of shift handover for future reference.

## 4. REFERENCES

NO.	DOC NO.	TITLE
1	HLT/SD/GTL/010	MANDATORY CODE OF PRACTICE FOR THE PREVENTION, MITIGATION AND MANAGEMENT OF THE COVID 19 OUTBREAK - GTL REFINERY (MINE 1858)
2	Marsh Engineering Position Paper-07	SHIFT HANDOVER

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## **5. DEFINITIONS**

### **5.1 LPC**

Lead Process Controller

### **5.2 SPC**

Senior Process Controller

### **5.3 APC**

Advanced Process Controller

### **5.4 TPC**

Trainee Process Controller

### **5.5 CCR**

Central Control Room

### **5.6 APM**

Area Production Manager

## **6. RESPONSIBILITIES**

### **6.1 Shift Manager**

6.1.1 Control that shift handover meetings take place as stipulated in this procedure.

6.1.2 Be the chairperson and arrange for a team meeting of all shift supervisors, at the shift handover meetings, to discuss safety, operating exceptions, utility availabilities, plant interface operating parameters and production planning for the shift.

### **6.2 Shift Supervisor**

6.2.1 Will not leave his/her area of responsibility before completion of the shift handover meeting.

6.2.2 Ensure that the shift handover log is updated and provides the incoming Shift Supervisor with a sound overview of current and proposed operations and work within the area.

6.2.3 Will discuss safety, operating exceptions, utility availabilities, plant interface operating parameters and production planning for the shift with his team.

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- 6.2.4 He/she to obtain all other relevant documentation such as subordinates handover reports, log sheets, logbooks, memos, reports etc.
- 6.2.5 Shift handover logs will be kept for filing electronically under unit specific G-drive. The filing will be done in date sequence for future reference.

### **6.3 Operating Personnel Outside Positions (TPC TO LPC LEVELS)**

- 6.3.1 Outgoing Shift must be fully dressed in PPE to respond to plant emergencies until handover is complete. The on coming shift to be fully dressed as well.
- 6.3.2 Will not leave his/her area of responsibility before completion of the shift handover meeting.
- 6.3.3 Will report all plant operating conditions and deviations in his/her shift handover log under his/ her shift operating area of responsibility.
- 6.3.4 Will have a meeting with his/her relief and give a full account of plant conditions to incoming party.

### **6.4 Control Room Senior Process Controller**

- 6.4.1 The Control Room Process Controller will hand over shift at the main control panel.
- 6.4.2 He/she will make notes of the shift handover exceptions log and discuss necessary actions with the Shift Supervisor. His/her handover log will also record major activities completed or ongoing and provide look-a-head actions.
- 6.4.3 The Control Room Process Controller has the responsibility to monitor the progress on exceptions noted and keep his/her Shift Supervisor updated.

### **6.5 Area Production manager**

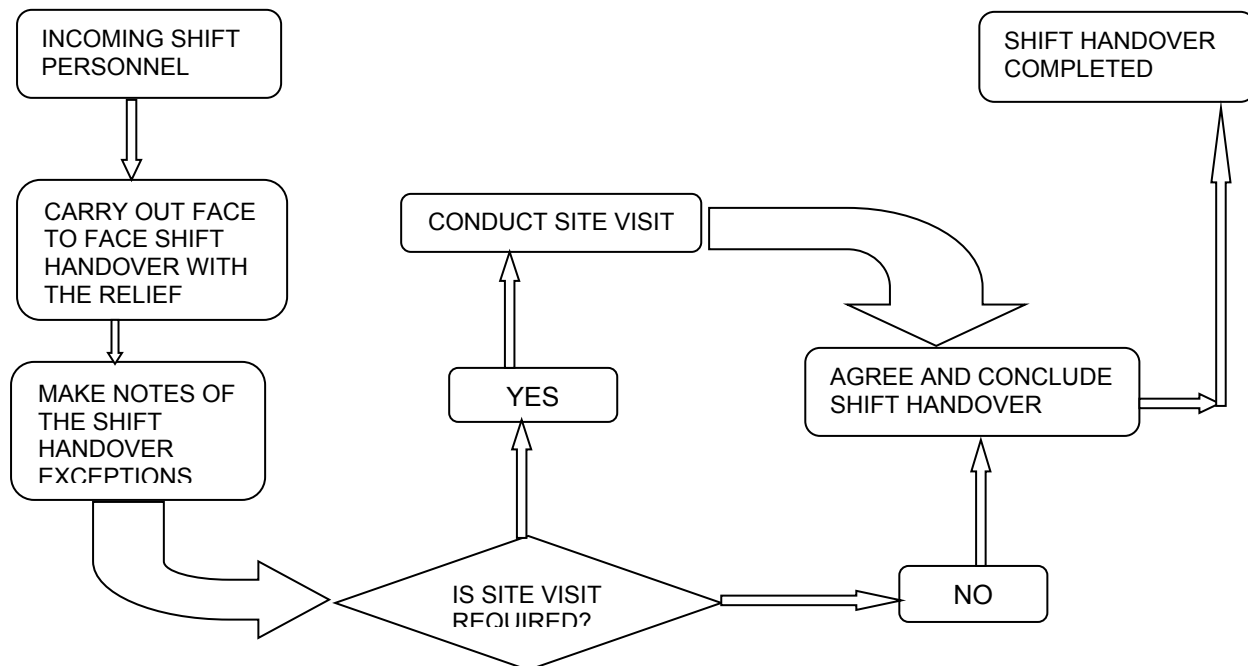
- 6.5.1 The Area Production Manager will every morning read the plant shift handover logs and discuss the day's production planning and corrective actions noted in shift handover logs with the Shift Supervisor.
- 6.5.2 The APM will report all critical exceptions to the GTL&R Operations Manager and discuss the actions to correct the exceptions with the Shift Manager.

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## 7. Shift Handover Flow Diagram



## 8. Shift Handover Log Format

The shift handover log ensures that all critical information is captured and documented in a format that is easily understood by the incoming shift. The log report is an integral part of the handover process to ensure the incoming shift is made aware of changes or activities, which could have an immediate impact upon the safe operation of processes and equipment within their area of responsibility.

### 8.1 Shift Handover Log Entry

#### 8.1.1 Shift Attendance

This section is used to enter shift administration details communicating the strength of the shift. Included here should be:

- Shift rotation cycle and date
- Names of shift personnel on duty
- Records of personnel on absence leave and coverage

#### 8.1.2 Health Safety and Environment

This section is used to enter safety critical information relating to safety systems which are operationally affected through isolations, breakdowns or unavailability. Included here should be:

- Fire & Gas alarm systems
- ESD systems

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- HSE threats
- Active Safety Overrides
- Safety and relief systems
- Incident related to personnel / plant / equipment / environmental protection systems
- PSM KPI's listed as safety overrides, hydrocarbon leaks, furmanite clamps, operation deviation, critical equipment out of service and passing valves.

### **8.1.3 Operations**

This section is used to enter the detailed status of the plant at the start and at the end of the shift, changes and activities that took place during the course of the shift. Included here should be:

- Changes in equipment integrity
- Changes in operating conditions and parameters
- Operating instructions issued
- Records of any routine tests and checks such as status of rotating equipment change over
- Any issue that affects the operating process conditions or performance
- Exception operating conditions that have immediate impact upon the safe operation of processes and equipment

### **8.1.4 Maintenance Work**

This section is used to enter any maintenance work being planned or in progress where isolations are still in place and require to be monitored. Included here should be:

- PTW still active
- Equipment that are still being worked on
- Equipment that are mechanical and electrically isolated for repairs
- Equipment to be prepared for isolation for maintenance repairs
- Equipment defects submitted

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Shift Attendance:	SS	DCS	Unit 18	Unit 58	Unit 73	Unit 40	Unit 41	Total
Present Name	1 Lawrence	1 Louw	1 Atta	1 Ben T	1 Siya	1 Thando	1 Jnr	7
Leave	Annual	Sick	Study	Marternity	Parternity	Compassionate	Other	Total
Overtime	1							1
Booked Off for incoming shift:	2							Reason: Lawrence Ngesi booked off sick, E Muller will cover and B McCarthy is on annual leave, no cover required. Other info: D Langman will be late, woke up late.

Health Safety and Environment	
Injuries	No injuries reported for the shift.
Incidents	18PC104B motor down to earth. Incident Number 49773 loaded by last shift.
Threats	Unit 86 compressor used for Air Pump fuel level low.
PSM KPI #.MOC's	2x open MOC's. 2x U40 - Flare pilot flame detection system/alarms.
Overrides	18LXS1011 override to ensure pump does not trip due to low level, tank to be drained down to empty for RBI inspection.
Leaks	No new leaks for the shift. Leak on Phosphoric acid dosing pump repaired and Leak Register updated.
Clamps	No new clamps for the Shift. Number of clamps still 12.
Oper Dev	58TK103A/B level - LI1022 & LI1023 operating without level indicators.
Critical Equip O/C	No transfer pums at unit 86. Compressor and Air pump used instead.
V/V's Passing	18LCV1014 not closed fully. No replacement at stores. Bypass used to control level.

Operations:	
Plant Stati Beginning	Unit 18: Steady online. Rxn H2O feed from Unit 16 flow = 114m <sup>3</sup> /h and Treated effluent from unit 58 = 130m <sup>3</sup> /h. Exporting 204m <sup>3</sup> /h to unit 43. Unit 40: Steady online. Average flow to flare = 13500nm <sup>3</sup> /h. Unit 41: Steady online. LNG feed from unit 01 = 6545m <sup>3</sup> /h. Exporting 2163m <sup>3</sup> /h LNG and 10300m <sup>3</sup> /h fuel gas. Unit 58: Steady online. Inlet chanel effluent rate = 167m <sup>3</sup> /h. Plant on parallel flow to SHP. NHP pumping out to sea and SHP recycling to unit 18 @ 130m <sup>3</sup> /h. Unit 73: Offline. No slaking in progress. Unit 86: Offline. Balance tank and contact tank levels low. Compressor and air pump on standby.
Activities During Shift:	Unit 18: Supplimentary caustic still dosing to Digester 2. Unit 16 feed stopped momentarily from 16h50 to 18h15. Unit 58: Stopped SHP to sea and start pumping out SSP to sea. Unit 40: Flare flow high due to unit 35 starting up. Unit 86: Plant put online, compressor and air pump started and run for 2hrs to lower levels on balance tank. Same stopped when levels were low.
Changes in Plant settings:	Unit 18: Increased digester flows by 5m <sup>3</sup> /h each. Unit 58: Plant flow changed from parrallel to series and SHP recycling stopped on low level.
Operating Instructions:	No new instructions, keep to the process plan as required.
Plant Stati End of Shi	Unit 18: Steady online. Rxn H2O feed from Unit 16 flow = 140m <sup>3</sup> /h and Treated effluent from unit 58 = 000m <sup>3</sup> /h. Exporting 185m <sup>3</sup> /h to unit 43. Unit 40: Steady online. Average flow to flare = 13500nm <sup>3</sup> /h. Unit 41: Steady online. LNG feed from unit 01 = 6545m <sup>3</sup> /h. Exporting 2163m <sup>3</sup> /h LNG and 10300m <sup>3</sup> /h fuel gas. Unit 58: Steady online. Inlet chanel effluent rate = 150m <sup>3</sup> /h. Plant on parallel flow to NHP. SSP pumping out to sea. No recycling to unit 18. Unit 73: Offline. No slaking in progress. Unit 86: Offline. Balance tank and contact tank levels low. Compressor and air pump on standby.

Maintenance											
Work in progress	No maintenance work during the night.										
Equipment prepare:	Unit 18: 18PC104B pump isolated for removal of motor and removal/resetting of 18PSV 2039 on pump discharge. Unit 58: 58PC107C isolated for cleaning of suction strainers. 58TU102A isolated for Averda to clean oil on surface of water. 40PC101A isolated for removal of motor.										
Open permits, not y	All permits signed off.										
Equipment Electrically Isolated	<table border="1"> <thead> <tr> <th>Unit</th> <th>Equipment</th> <th>Electrical Permit Number</th> <th>Rack</th> <th>Key Number</th> </tr> </thead> <tbody> <tr> <td>Unit 18</td> <td>18PC104B</td> <td>86521</td> <td>12</td> <td>5</td> </tr> </tbody> </table>	Unit	Equipment	Electrical Permit Number	Rack	Key Number	Unit 18	18PC104B	86521	12	5
Unit	Equipment	Electrical Permit Number	Rack	Key Number							
Unit 18	18PC104B	86521	12	5							
New defects submitted	Unit 58: Recycle valve operate difficult, please check handwheel and gearbox. 10389225 Unit 18: Sludge pump 18PC104B V-Belts are broken. 10389225 Unit 18: Unblock 18EP201. 10389210										

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## 9. RECORDS

All shift handover documentation and log sheets will be filed as a handover package in the Shift Supervisor office in date sequence and records will be kept for 1 year. Computerised logs will be filed on the production management and documentation system of a unit specific G-drive. The filing will be done in date sequence for future reference.

Shift handover logs will be audited by PSM department to verify compliance, identify gaps and suggest improvement opportunities where critical plant safety information may be compromised.

<b>Title</b>	<b>Location</b>	<b>Retention Period</b>
Handover logs	Shift Supervisor office	1 Year
Handover logs	Information Technology System backup files	1 Year

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