

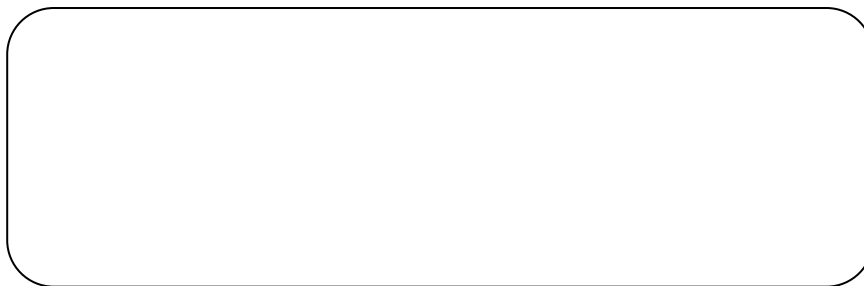


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EVACUATION PLAN & PROCEDURE



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EVACUATION PLAN & PROCEDURE

INDEX

- 1.0 INTRODUCTION**
- 2.0 SCOPE**
- 3.0 AUTHORIZATION & EXTENT OF EVACUATION**
- 4.0 COMMUNICATION**
- 5.0 KEY PARAMETERS**
- 6.0 ROLES AND RESPONSIBILITIES**
- 7.0 EVACUATION PROCEDURE**
 - 7.1 General
 - 7.2 Evacuation Of Process Areas
 - 7.3 Evacuation Of Buildings
 - 7.4 Total Site Evacuation
 - 7.5 Evacuation Of Marine Terminals
- APPENDIX – I HEAD COUNT**
- APPENDIX - II OUTLINE OF SITE EMERGENCY
EVACUATION PLANS (SEEP)**



EVACUATION PLAN AND PROCEDURE

1.0 INTRODUCTION

Adequate control measures are deployed to control any emergency situation that might occur at a site. However, there could be instances when it would be essential to evacuate personnel to safer locations in order to avoid the risk of injury or loss of lives.

Emergency incidents that may require evacuation include but not limited to the following:

Internal Origin

Explosion
Release of toxic gas
Release of flammable gas, oil or other material having potential to cause fire or leading to fire
Fire

Neighboring Industries Origin

Release of toxic or flammable gas

External Origin

Nuclear, Biological or Chemical (NBC) attack

Bomb threat, sabotage, air raid or other hostile act.

A comprehensive and well rehearsed **Evacuation Plan** is necessary to ensure an orderly and safe evacuation of personnel when needed. Non-availability of such plan could result in panic, confusion and danger to human lives during an emergency evacuation.

The overall evacuation plan comprises of:

- Pre-Planning
- Evacuation procedures



2.0 SCOPE

The Evacuation Plans and Procedures covered in this document provide guidelines for actions to be taken while evacuating personnel in case of an emergency at any of the Refineries or the marine oil terminals.

This document is a part of the KNPC Major Incident Procedure Plan (MIPP) and shall be further supplemented by the Site Emergency Evacuation Plans (SEEPs) of the respective sites.

3.0 AUTHORIZATION & EXTENT OF EVACUATION

3.1 Evacuation Necessitated due to an Internal / Neighbouring Industries Incident

Decision to declare evacuation will normally be taken by the Incident Controller. However, in case of a localized emergency, the Shift Supervisor/Group leader can decide to evacuate the area, under his responsibility if there is an imminent and obvious threat to human lives, even before the arrival of Incident Controller, In such cases the ECCC should be informed immediately.

The extent of evacuation will depend on the type, severity and anticipated consequences of the incident and can be any one of the following:

- Evacuation of non-essential personnel from the affected area.
- Evacuation of all personnel from the affected area.
- Total Site Evacuation.

Upon hearing of the Emergency siren or otherwise being informed about the emergency, the visitors, contractors and other personnel who are not essential for operation in affected area, will evacuate immediately and proceed to the nearest **Transfer Point** and wait for further instructions. Personnel in other areas will proceed to/remain at their respective normal work place.

In making decision for evacuation it will be necessary to decide whether it is safe to leave the plant running or to shut down. In certain cases it may be permissible for the key operating personnel to remain in blast resistant control rooms for effective plant control or emergency handling.



3.2 Necessitated due to an External Threat

In case of an national emergency situation it is expected that only the essential operating personnel, fire crews and medical staff shall be at the site. All other non-essential personnel will be staying at their residence or other places and shall follow the local administration guidelines during emergency.

Warning of an external threat would be received through civil defense sirens. On hearing the siren the Refinery Shift Leader would instruct the ECCC and plant control rooms to announce the evacuation on the Public Address / plant paging system.

Upon hearing the instructions for evacuation, all personnel shall immediately proceed to their assigned Evacuation Shelters and shall remain there until further instructions by government authorities.



EVACUATION MATRIX

SITUATION	EXTENT OF EVACUATION	COMMUNICATION	ACTION BY		
			Affected Point Personnel	Adjacent Point Personnel	Other Points Personnel *
Emergency Declaration	Personnel non-essential for handling emergency leave the affected point	Visual; Emergency Siren	B : Initiate Emergency action C,D,E : Proceed to TP	B,C : Remain Alert D,E : Proceed to /stay at NWP, remain alert	B,C : Remain Alert D,E : Proceed to /stay at NWP, remain alert
Partial Evacuation	All personnel in affected point	Public Address; Local Gas Alarm; Group Leaders' Instructions	A,B : Proceed to TP/ GP	C : Proceed to TP D,E : Proceed to NWP, remain alert	D,E : Proceed to NWP, remain alert
Total Site Evacuation	All personnel at site	Evacuation Siren; Civil Defence Siren Public Address; Group Leaders' Instructions	All : Proceed to GP	All : Proceed to GP	All : Proceed to GP

* Essential Operating staff in CCR will undertake emergency shut down of the plant on receiving instructions from incident controller before evacuating.

Who:

- A** : Emergency Response
- B** : Operations (Field/Shift), On site Personnel
- C** : Maintenance (Field/Shift), Construction (Field)
- D** : Operations (Day), Maintenance (Day), Projects/ Engineering
- E** : Other KNPC Staff, Service Contractors, Visitors

To Proceed Where:

- TP** : Local Transfer Point
- GP** : Main Gathering Point
- NWP** : Normal Work Place



4.0 COMMUNICATION

Refinery Emergency Siren	:	General Alert, Evacuation of non-essential personnel from the affected area.
Public Address / Plant Paging System/Portable Air Horn	:	Evacuation of all personnel from the affected area
Refinery Evacuation Siren / Civil Defense Siren	:	Total Site Evacuation

5.0 KEY PARAMETERS

5.1 Zone Leaders/Group Leaders

Total site will be divided into convenient Zones for coordinating implementation of the evacuation plan. A senior person (Supdt. level) shall be appointed as Evacuation **Zone Leader** for each Zone. A zone may comprise of one building or operating area, group of buildings depending upon the type, size and nature of the facility.

Each Zone shall be further divided into groups, each group led by a Evacuation **Group Leader** who will ensure that all personnel (company employees, contractors and visitors) are evacuated in safe and orderly manners in the event of an evacuation is ordered.

Group leader shall be appointed as follows:

- **Buildings:** One person shall be appointed for each floor/ wing as Evacuation Group leader. One **substitute** shall also be appointed.
- **Operating Areas** (Includes process units, Oil Movement, Oil Terminals): Operation Shift Supervisors shall act as Evacuation Group Leaders.
- **Contractors' Area:** Contract Supervisors will act as Evacuation Group Leaders for their staff.



5.2 Evacuation Maps And Signs

Overall Site Evacuation maps showing the location of Main Gathering point(s), Local transfer Points and the normal Evacuation Routes from transfer Points to Main Gathering Point shall be displayed at the main entrance, main road junctions and transfer points. Evacuation Guidelines (Arabic and English) shall also be written on the maps.

For buildings, **Floor Plans** showing location of emergency exits, paths, evacuation routes, local transfer point and the evacuation instructions shall be displayed at corridor junctions, stairways, conference rooms and other strategic locations on each floor. Zone leader (Designation) shall also be indicated on the floor plans.

Illuminated **Exit Signs** shall be provided at each floor.

5.3 Gathering Points

A designated safe area inside/outside Refinery fence (on-shore in case of marine terminals) to be used as a gathering point for KNPC and Contractor personnel when a site evacuation is announced.

Alternate gathering points(s), to be used in case one Gathering point can not be used for safety reasons.

Gathering area shall be of sufficient size to accommodate the required number of personnel. It shall be divided into zones/groups and shall have facilities such as drinking water, first aid etc. Proper instruction, marking etc, shall be provided for guiding the personnel.

Chief Security Officer shall act as Gathering Point Coordinator.

5.4 Transfer Points

Suitable areas adjacent to individual process units, building or group of buildings, shall be identified to be utilized as transfer point, for further transportation to main gathering points.

5.5 Evacuation Shelters

Certain buildings shall be identified (Operations Control rooms, ECCC and firemen rooms, medical building) at each site to be used as evacuation shelters for the essential personnel. These buildings should be air-tight and



provided with hazardous gas filters and air-tight dampers in their air intakes. Necessary upgrading of the existing buildings should be done to meet these requirements. These buildings shall be equipped with adequate personal protective equipment, gas masks, drinking water, first-aid facilities.

5.6 Transportation

Shuttle buses and other company provided vehicles (cars, pick-ups), not required to attend the emergency, shall be used for transporting personnel from transfer points to Gathering points.

Contractors shall make their vehicles available keeping in mind locations where their personnel are mainly working.

Available transport facilities are used to maximum benefit to transport personnel from transfer points to designated gathering points.

6.0 ROLES AND RESPONSIBILITIES

6.1 Superintendent Safety & Fire

Supdt. Safety (Field) shall be the overall coordinator and custodian of the evacuation plan responsibilities include:

- Preparing and updating Site Emergency Evacuation Plan (SEEP).
- Training Group Leaders, organizing and conducting evacuation drills.
- Ensuring that the transfer points and Gathering points are identified and relevant instructions (Arabic + English) are displayed .
- Ensuring that Evacuation route are identified and route signs are properly displayed.
- Ensuring that evacuation route maps, floor plans, instructions and name of zone /leaders are displayed in buildings at strategic locations.
- Ensuring that megaphone and Group Leaders jackets are provided in all buildings and maintained in good condition.



- Ensuring that key of “Emergency Exit gates” is always available inside the assigned ‘Break Glass Box’ and emergency exit gates of Buildings can be opened without difficulty.
- Train the Bus driver’s with regard to Evacuation Plan, Evacuations routes, Transfer / Gathering points locations and alternative evacuation routes and keep updated list of available buses.

6.2 GROUP LEADERS (GL)

6.2.1 Under Normal Situations

- Attend the evacuation training conducted by SHE for familiarizing of the evacuation plan.
- Ensure that alternative person is available and aware of Group Leader duties during his absence.
- Know the evacuation route, possible alternative routes and transfer points in his area/building. Ensure that all evacuation route signs are displayed and well maintained and evacuation routes are free from obstructions.
- Ensure that evacuation accessories (megaphone, jackets) are available in their areas and are in good conditions and are used properly during the evacuation.
- Ensure that all personnel in their respective areas are well aware of the evacuation procedures.

6.2.2 Upon Declaration of Evacuation

- Upon hearing emergency siren, remain alert and wait for further instructions.
- When instructed by ECCC / Incident controller for evacuation, wear Group Leader Jacket for identification.
- Using megaphone to guide all personnel in the area to Transfer/Gathering points, in an orderly manner.
- Ensure all personnel are evacuated safely.



- Process unit group leaders once instructed by Incident Controller for evacuation shut down their plants/equipments and evacuate the area, unless instructed by Incident Controller to leave the units in running condition.
- At Gathering points, the Group Leaders shall carry head count for their personnel and report missing personnel to the Gathering point coordinator.
- On “All Clear Siren”, inform personnel accordingly.

6.3 ZONE LEADERS (Supdt. Level)

Coordinate with Supdt. SHE (Field) and ensure that all evacuation facilities, as covered in 6.1 and 6.2 are available and maintained in good condition in their respective buildings.

Shall nominate group leaders and their substitutes and ensure that they carry out their assigned evacuation responsibilities accordingly.

Shall proceed to gathering point in the event of evacuation, collect the head count lists from the group leaders, compile and forward the same to the Gathering Point Coordinator.

6.4 CHIEF SECURITY OFFICER

Shall act as Gathering Point Coordinator in case of an evacuation. He shall provide support to the Zone/Group Leaders in maintaining discipline at the gathering area to ensure an accurate head count.

Shall collect the head count reports from the Zone Leaders, compile and forward the same to the IC/ECM.

6.5 SHIFT SECURITY OFFICER

- Obtain information regarding extent of Evacuation, wind direction, changes in evacuation routes and Gathering points (if decided by Incident Controller) from ECCC Operator /Incident Controller.
- Instruct bus drivers to pick up the personnel from transfer points to the designated Gathering points.



- Ensure proper and orderly evacuation by coordinating with Incident Controller and Group Leaders.
- Post Security personnel at strategic locations to regulate the traffic
- On “All Clear Siren” guide the personnel to return to their normal work place in consultation with Incident Controller.
- Maintain communication with ECCC/IC/GLs for ambulance, vehicles and other support requirements.
- Act as Gathering Point Coordinator until relieved by the Chief Security Officer

6.6 BUS DRIVERS

- On hearing the emergency siren report to the Security personnel, obtain information about the routes and proceed to the transfer points as directed.
- Pick-up personnel from transfer points and proceed to the main gathering point via a safe route as directed.
- Make additional trips, if required as directed.

6.7 INDIVIDUALS

- It is the responsibility of all individuals to familiarize themselves with evacuation Procedures and its associated details. e.g., emergency routes, location of transfer points and gathering points and siren modes.
- If in doubt, ask.

7.0 EVACUATION PROCEDURE

7.1 GENERAL

- On hearing the Emergency siren, reach your respective work places and remain alert and wait for further instructions.



- In case evacuation is declared in your area, proceed to the transfer point under the guidance of the area group leader.
- Do not panic, do not run, push or overtake.
- Keep noise to a minimum so that instructions can be easily heard
- Use stairs. Do not use lifts.
- Personnel having company cars and pool vehicles shall evacuate with their vehicles to maximum benefit to transport personnel and park the vehicles in the assigned parking near Gathering Points, or as directed.

No panic driving or over-speeding shall be allowed. Emergency response vehicles such as ambulance and fire trucks shall be given priority over other traffic.

Heavy equipment shall be left out, properly secured at site in such a way that they do not obstruct the emergency operation or hamper the evacuation.

- On reaching the main gathering point, report to your group leader for head count.
- Do not re-enter the site until 'all clear' siren is sounded.

7.2 EVACUATION OF PROCESS AREAS

7.2.1 Affected Block/Area

- Upon declaration of emergency in the area, all visitors, maintenance and other non-essential Personnel not directly related to the affected area shall immediately proceed to the nearest transfer point and wait there until further instructions.
- The signal to evacuate will be on the instructions of the incident Controller using a portable air horn (from the process Forward Control Unit), augmented by PA on the FCU, PA from the ECCC to the control rooms, and broadcast from the Incident Controller on the RED channel radio.



- All non-essential personnel (i.e. those at the transfer points) will vacate the area and return to their offices or normal place, via a safe route and as instructed.
- All emergency response personnel should vacate the block/area and assemble at a location stated by the Incident Controller via a safe route as instructed.

7.2.2 Adjacent Areas

The areas (process units, buildings etc.) adjacent to the affected area, specially on the down wind side, may be under the potential threat, depending upon the nature and the magnitude of the incident and it may be advisable to evacuate them, if deemed necessary by the Incident Controller. The following procedure shall be followed in such case:

- Sites adjacent to the incident will be instructed to evacuate by PA or radio from the ECCC or direct from the Incident Scene.
- The evacuation route and destination will be given by means of a message by the Incident Controller.
- The appropriate local alarm should be sounded.
- Process Operators under the supervision of the Emergency Operations coordinator should check the transfer points and relay the instructions to non-essential personnel assembled there.
- If possible, suitable protective/preventive measures should be taken to prevent escalation, prior to evacuation.

7.3 EVACUATION OF BUILDINGS

- The signal to evacuate will be given through PA from ECCC or the group leader
- The evacuation route and destination shall be as instructed by the Group leader.



7.4 TOTAL SITE EVACUATION

- Total evacuation of the site shall be declared through the Evacuation siren. The evacuation Siren shall be repeated several times until evacuation is complete (as advised by the Incident Controller).
- Procedures described under 7.1, 7.2 and 7.3 shall be applicable for Total evacuation also.
- Other key Operational Personnel who have designated roles and are not at their designated location, must contact the Operations Control Room for permission and safe route to drive/walk to their location with minimum delay.
- In case the evacuation is necessitated due to toxic gas release, the detailed instruction given in the relevant section of the MIPP shall also be followed.

7.5 EVACUATION OF MARINE TERMINALS

- These guidelines shall be applicable to SHU Oil Pier, MAB Sea Island, MAA Piers.
- The decision to evacuate the terminal will be taken by the KNPC Operations Shift supervisor/Incident Controller. He will immediately inform the KOC. Marine & Export Dept./ Duty Pilot and the concerned refinery ECCC and CCR.
- Shift Supervisor/Incident Controller shall decide and announce the evacuation routes taking into account the wind direction and site condition, transfer point location and further evacuation mode (approach way / sea).
- Contractors and others will cease the work immediately and proceed to the transfer point under guidance of the Group Leaders.
- Operations staff shall carry out emergency shutdown or other activities as directed by the shift supervisor.
- Shift supervisor/Incident Controller will coordinate and arrange for the transportation of personnel from the terminal transfer point(s) to on-shore gathering point.



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- Respective Supervisor / Group Leaders will ensure that all personnel have been evacuated and accounted for at the on-shore gathering point. Missing personnel, if any, shall be reported immediately to the Gathering point coordinator who will inform the Incident Controller accordingly.



APPENDIX - I

HEAD COUNT

It is essential in an emergency evacuation to account for all personnel and to do so quickly and correctly, to ascertain the missing personnel so that the necessary search and rescue activity can be initiated. More emphasis will be given to the head count report of the affected area(s).

ELECTRONIC HEAD COUNT

For an accurate head count, an advanced **access/exit control system**, which is practiced sincerely, is a must. The system should cover all employees, contractors and visitors. It should be possible to get a report indicating the number of personnel present on site at any time. The existing access control systems at the Refineries need to be upgraded and extended to the Gathering Points.

MANUAL HEAD COUNT

In the mean time, the head count shall be carried out **manually** by the respective group leaders at the gathering points.

- Each Group Leader shall maintain an updated list of personnel working within his point of responsibility.
- Visitors shall always follow their KNPC representative.
- Personnel entering the site outside their scheduled hours of work shall make their presence known to the Shift Security Officer.
- On reaching the Gathering Point, all personnel shall report to their respective group leaders.
- The group leaders will then count the personnel and compare with the list of personnel under their responsibility and hand over the same to the respective Zone Leader.
- The Zone Leaders will compile the head count data for their respective zones and hand over the same to the Gathering Point Coordinator.
- Gathering Point Coordinator will compile the overall head count data and forward the same to the IC/ECM



APPENDIX-II

OUTLINES OF SITE EMERGENCY EVACUATION PLANS (SEEP)

- Identify Transfer Points, Gathering Points and Evacuation Shelters
- Identify Evacuation Routes.
- Identify Zone and Groups and nominate Zone Leaders and Group Leaders
- Prepare the Base Head Count Lists for each Zone / Group
- Identify all available means of transport and their capacities.
- Prepare necessary maps/drawing indicating the Transfer Points, Gathering Points, Evacuation Routes etc.
- Modify access Control and link with card readers installed at gathering points.
- Rehearse & Train.