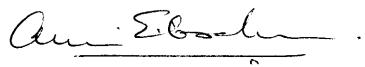
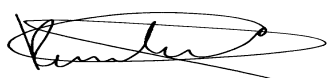




# **ECO Aviation Fuel Services Limited**

## **Permanent Aviation Fuel Facility (PAFF) for the Hong Kong International Airport**

### **Terminal HSSE Procedures Emergency/Crisis Response Procedure**

<b>Controlled Copy</b>		
<b>Issued for use</b>		
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**Summary of Changes since last revision:**

Section / Topic	Short Description of the Change
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Copy Number	Recipient	Role	Level of Involvement
1	ECO Aviation Fuel Services Limited	PAFF Operator	High
2	Airport Authority Hong Kong	Authority	Medium
3	Airport Authority Hong Kong	Authority	Medium
4	Airport Authority Hong Kong	Authority	Medium
5	Environmental Protection Department	Authority	High
6	Environmental Protection Department	Authority	High
7	Environmental Protection Department	Authority	High
8	Environmental Protection Department	Authority	High
9	Fire Station at Pillar Point	Authority	High
10	Police Station at Pillar Point	Authority	High
11	AVSECO at PAFF	Security Operator	High

## INTRODUCTION

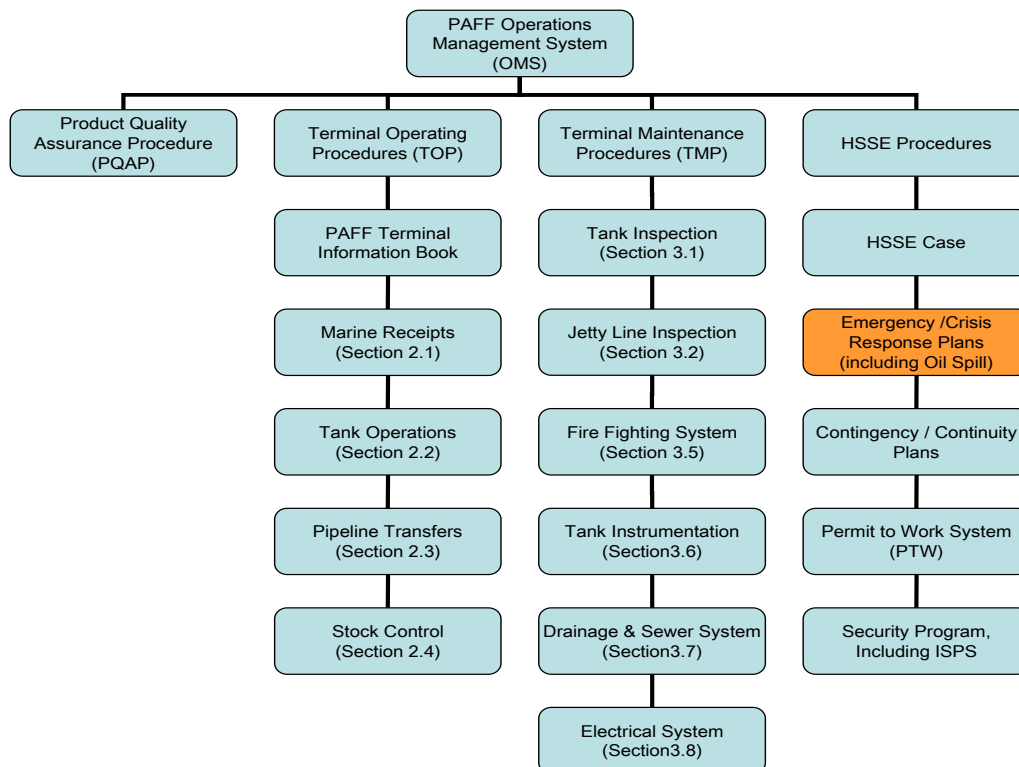
The Permanent Aviation Fuel Facility (PAFF) Terminal HSSE Procedures are an integral part of the PAFF Operating Management System and should only be used in conjunction with the said documents.

The Management System is designed to provide fit for purpose procedures for the PAFF to enable and ensure safe, sustainable and world class operations.

The Emergency/Crisis Response Procedure has been developed based upon recognized industry practices incorporating the Environmental Impact Assessment recommendations and will be subject to regular internal and external reviews to ensure continuous improvement and validity.

### The General Manager

Overview of the PAFF Operations Management System:



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## 1. INTRODUCTION

The operation of the PAFF Terminal will be carried out in a professional manner according to the highest standard of safety and efficiency. This applies to delivery of aviation fuel at the jetty, storage of aviation fuel in the tank farm, handling of samples for tests, and transfer of fuel to the Hong Kong International Airport (HKIA). The aim always is to prevent any accidents of fuel spills and fires. Prevention normally avoids emergency, nevertheless emergencies and crisis do occur, and in case one were to occur in the PAFF Terminal, this Emergency/Crisis Response Procedure provides for the general as well as specific actions that should be followed.

Following the incident at Buncefield in December 2005, the Health and Safety Executive and Buncefield Major Incident Investigation Board (BMIIB) of the United Kingdom issued relevant safety alerts and recommendations. The PAFF Terminal, as a new fuel storage facility, has conformed to the design criteria laid down by Environmental Permit and the EIA Report which exceeds the recommendations of BMIIB. The following is a brief summary of the risk reduction measures taken during the design of the PAFF Terminal:

- Primary Containment –
  - In order to prevent loss of primary containment, a High-High Level Alarm Instrument, independent to the tank level gauge as to increase the safety integrity level, is installed in each storage tank to avoid overfilling.
- Secondary Containment –
  - To prevent loss of secondary containment, bunds are partly sunken to withstand the surge of spilled fuel, and all joints of the bund walls are sealed with fire retardant sealants and stainless steel plates.
  - Wave deflectors have been installed on the bund walls to avoid/minimize bund overtopping when fuel is released instantly from bottom zip tear of a storage tank.
  - Two bunded areas are linked up to increase the containment volume
  - Impervious liners are installed within the bunded areas and underneath the tanks to prevent seepage of fuel into the soil;
- Tertiary Containment –
  - Liquid tight security wall is erected outside the bund walls;
  - Site drainage and sumps are designed in the bunded areas to drain fire fighting water to prevent flooding of fuel and foam under prolong spraying of fire water during fire fighting.

In meeting the BMIIB's recommendations, the design of the PAFF Terminal at the same time meets the IP Code "Fire Precautions at Petroleum Refineries and Bulk Storage Installations".

## 2. DEFINITIONS

### Incident:

An incident is a non-routine occurrence involving health, safety and security of the PAFF Terminal and the people including its staff, and/or environmental damage.

### Emergency:

Emergencies include fire, fuel spill, power failure, equipment breakdown, serious injury to staff/contracted staff, security breach terrorist actions, bomb warnings, civil disturbances, etc due to which the operation of the PAFF Terminal is affected.

### Crisis:

Crisis is defined as an escalation of an emergency situation whereby the incident has already or which might put the lives of the people at risk and/or which might seriously affect/pollute the environment.

### PAFF Emergency/Crisis Management Team:

PAFF Emergency/Crisis Management Team (ECMT) is a team of PAFF staff and contracted staff who would immediately upon occurrence of an incident, take command of the situation to manage the emergency/crisis and respond to mitigate the emergency/crisis with the help of other parties.

### PAFF Marine Spill Response Team:

PAFF Marine Spill Response Team is basically the same ECMT who would immediately upon occurrence of an incident on the sea, take command of the situation to manage the marine emergency/crisis and respond to mitigate the emergency/crisis with the help of other parties.

### Stakeholders:

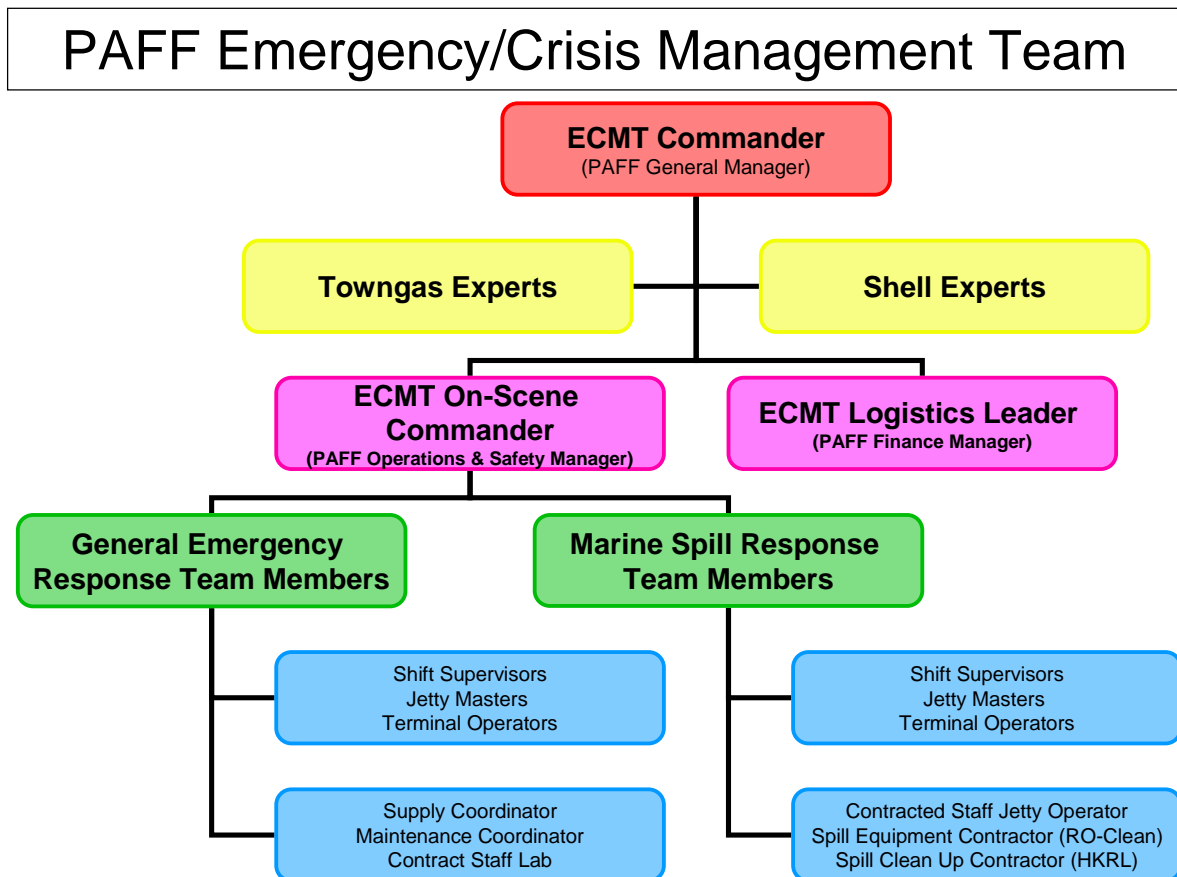
Immediately upon an occurrence of emergency/crisis, the relevant stakeholders shall be informed to seek their help as necessary depending on the emergency/crisis. The key stakeholders are shown in the diagram below:



### 3. EMERGENCY/CRISIS MANAGEMENT TEAM

The PAFF Emergency/Crisis Management Team (ECMT) shall manage the Emergency/Crisis Response Procedure to contain, control and mitigate any emergency situation and/or crisis that may occur at the PAFF Terminal.

The PAFF Emergency/Crisis Management Team comprises of ECMT Commander, ECMT On-Scene Commander, ECMT Logistics Leader and ECMT Members as follows:



The major activities of the PAFF ECMT include assessing the emergency situation and/or crisis, adapting and applying an Emergency/Crisis Response Procedure, managing the response and coordinating response operations with marine spill contractor(s) when applicable, relevant authorities and others as necessary.

Additionally, the PAFF ECMT shall provide vital communication link with Towngas/Shell, the shareholders of ECO Aviation Fuel Services to obtain and coordinate outside resources. The PAFF ECMT will also be responsible to coordinate with the media and public about the status of the incident.

**The ECMT Commander shall be responsible to:**

- assess the initial situation
- co-ordinate ECMT activities
- advise the authorities if the ship(s) moored at PAFF should vacate berth for safety, environmental control or other operational purposes

- ensure the initial Incident Report is completed and used to make initial notifications
- hold planning meeting with ECMT and relevant government departments
- develop and implement the overall response action plan in consultation with appropriate parties
- authorize the release of information concerning the incident
- act a liaison with the media and government departments
- ensure the safety and health of staff, contractors and other people responding to emergency/crisis
- assign or request an incident investigation team
- approve termination of emergency/crisis response activities
- co-ordinate the post-emergency/crisis review

**The On-Scene Commander will be responsible to:**

- assess the situation at the scene and report to the ECMT Commander
- assess the time requirement in mobilizing response team and resources
- ensure sufficient stock of spill control consumables at PAFF's immediate disposal, i.e., imbibers beads, that may be deployed to either absorb the spill; or to suppress and control evaporation rate of the spill within sea surface confinement
- when spill is from a ship moored at PAFF, ascertain from the master or his delegated hazard control officer the amount of time that will be taken by the ship to arrest the spill
- develop and supervise the on-scene response actions
- use available response equipment and personnel to contain and control situation
- report special activities, events and occurrences to the ECMT Commander
- establish the information requirements and reporting schedules for the ECMT
- supervise and prepare the specific response action plan for the next 24 and 48 hours and longer periods
- ensure that communications, medical health and safety, and security needs for the emergency/crisis response are being met by employees, contractors and local response personnel
- evaluate the environmental effects of the incident and recommend actions to minimize

**The Logistics Leader would be responsible to:**

- identify service and support requirements for planned and expected operations
- compile and display the incident status summary information
- maintain up-to-date information on the status of the incident and resources. Prepare 'updates' and daily incident summaries for the ECMT Commander
- provide input and review communication, medical health and safety, and security needs with On-Scene Commander
- prepare a communication plan
- arrange video and/or photographic documentation of the incident
- arrange for food, temporary housing, water, protective clothing, response equipment and any other materials required to meet the needs of those responding to the emergency/crisis
- establish receiving and distribution systems for incoming equipment, supplies and personnel
- prepare as necessary assistance to injured and their families including medical assistance, stress assessment, psychological assistance, etc
- work with legal to collect and preserve evidence to be prepared for likely legal implications



#### **4. OBJECTIVES**

The objectives of the Emergency/Crisis Response Procedure are:

- to clearly state, step by step, the response to be undertaken in case of emergencies and/or crisis
- to ensure that the response is implemented in a correct manner by all staff, and
- to train and inform the staff periodically on the understanding and the implementation of the response

As such the Emergency/Crisis Response Procedure includes training, drills, implementation, review and update.

#### **5. TRAINING**

All staff including contracted staff should be thoroughly familiar with the Emergency/Crisis Response Procedure and must have been assigned duties and instructed in their use, particularly in the location and emergency usage of essential controls. All staff have also been thoroughly trained in handling emergency situations and they have been given clear instructions on their responsibilities during emergency, which include first aid, fire fighting and organization of evacuation and marshalling at defined locations.

Shift Supervisors and other key Spill Response Team Members shall attend a recognized "Oil Spill Clearance Course" assessed under OPITO, the Oil and Gas Academy's approved Competence Management System.

Training will be repeated at regular intervals.

A PAFF training log will be maintained to register the training provided and the sign off to acknowledge that the training has been attended and the content is understood.

New staff will be trained as part of an established induction program.

## **6. DRILLS**

Regular drills will be conducted so every member of the staff including contracted staff is proficient in his assigned duties. Where possible, fire, fuel spill and other incidents will be simulated, drilled and practiced at least annually. The relevant authorities (Airport Authority, Fire Services Department, Police, Marine Department, Agriculture and Fisheries Conservation Department and others) will be invited to participate and/or witness exercises.

## **7. ACCESS TO PROCEDURES**

The Emergency/Crisis Response Procedure should be so located that it is clearly visible and where all staff will have easy and immediate access to it. Key Procedures will be made visible in the building and other primary locations at the PAFF.

## **8. IMPLEMENTATION**

When the PAFF staff including contracted staff, are informed of an emergency, they should analyze the emergency situation, act in a disciplined manner and apply the Emergency/Crisis Response Procedure in a correct manner.

Ship moored to PAFF will have already secured standing towage contract with one of the Hong Kong's towage companies, and the shipmaster may activate the contract to evacuate the ship from waters of Tuen Mun Area 38 even if the ship has engine failure at time of Emergency / Crisis.

## 9. EMERGENCY CONTACTS

The list below provides the names and telephone contacts of various authorities who should be contacted in case of an emergency.

<b>CONTACT</b>	<b>TELEPHONE No.</b>
Ambulance (emergency)	999 / 27353355
Fire Services(Fire Services Communication Centre)	999 / 27232233
Fire Services (Emergency, Pillar Point Fire Station)	999 / 24040766
Police (Duty Controller of Regional Command and Control Centre (RCCC NT))	999 / 34727200
Tuen Mun Hospital (switchboard)	24685111 (24 hrs)
Airport Authority (Integrated Airport Centre)	29101108
Marine Department (VTC, Maritime Rescue & Oil Spill)	22337801 (24 hrs)
Environmental Protection Department (For marine spill, LI Kim Man (S(WP)1) / Leung Hing-biu, Joseph (E(WP)13)	93836036 / 25946574
Environmental Protection Department (For on-site spill, Samuel Chui (S(RW)1) / Arthur Chu (P(RW)	91861662 / 24176074
Agriculture, Fisheries and Conservation Department (Dr. Ivan Chan)	21506882
Dr. Ivan Ho who in case of dolphin stranding will liaise with Ocean Park Conservation Foundation (OPCFHK)	21506882 / 91882879 / 1823
Enviropace (Clean-up Contractor)	24357700 / 24346450

In addition, where appropriate the Specified Dolphin Specialist and Ocean Park will be informed in case there is a Marine Spill.

Neighbouring facilities will be notified of any emergency/crisis.

<b>CONTACT</b>	<b>TELEPHONE No.</b>
EcoPark (T C Hon / Office)	63230298 / 24967633
Shiu Wing Steel Mill (Daniel Ho)	98579002
Green Island Cement Plant (Plant Control Room / Port Facility Security Officer)	24405205 / 97461536
Castle Peak Power Station (Central Control Room / Main Entrance Gate House)	24046381 / 24412556
River Trade Terminal (Darwin Tang)	67927046

Emergency contact telephone numbers and names of the authority and neighbouring facilities will be checked six-monthly. Any change will be amended immediately. Any such change should be communicated to all staff. Shift Supervisors should communicate the message to contract staff.

## **10. REVIEW AND UPDATE**

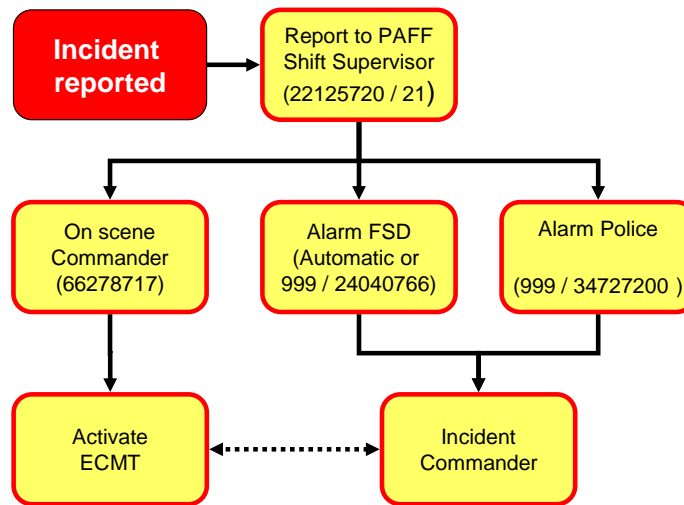
The PAFF ECMT should review the Emergency/Crisis Response Procedure after every emergency incident but at least annually, and update as required.

## **11. CALLING OUT THE PAFF ECMT**

Deciding when to declare an emergency is a PAFF corporate responsibility. The PAFF Terminal will communicate on the incident and decide what is being done to mitigate its effects through corporate communication.

Thus as soon as an emergency is declared, ECMT On-Scene Commander in consultation with ECMT Commander will mobilize ECMT according to the following ECMT call out procedure:

**PAFF Call Out Procedure**  
(Calling out the PAFF ECMT)



## 12. ECMT CONTROL CENTRE

In case of an emergency/crisis, the PAFF Conference Room will be converted into the ECMT Control Centre. If the PAFF Conference Room is not useable because of the emergency/crisis, a make shift ECMT Control Centre will be established.

## 13. LOCATION SPECIFIC INDIVIDUAL RISK LEVELS

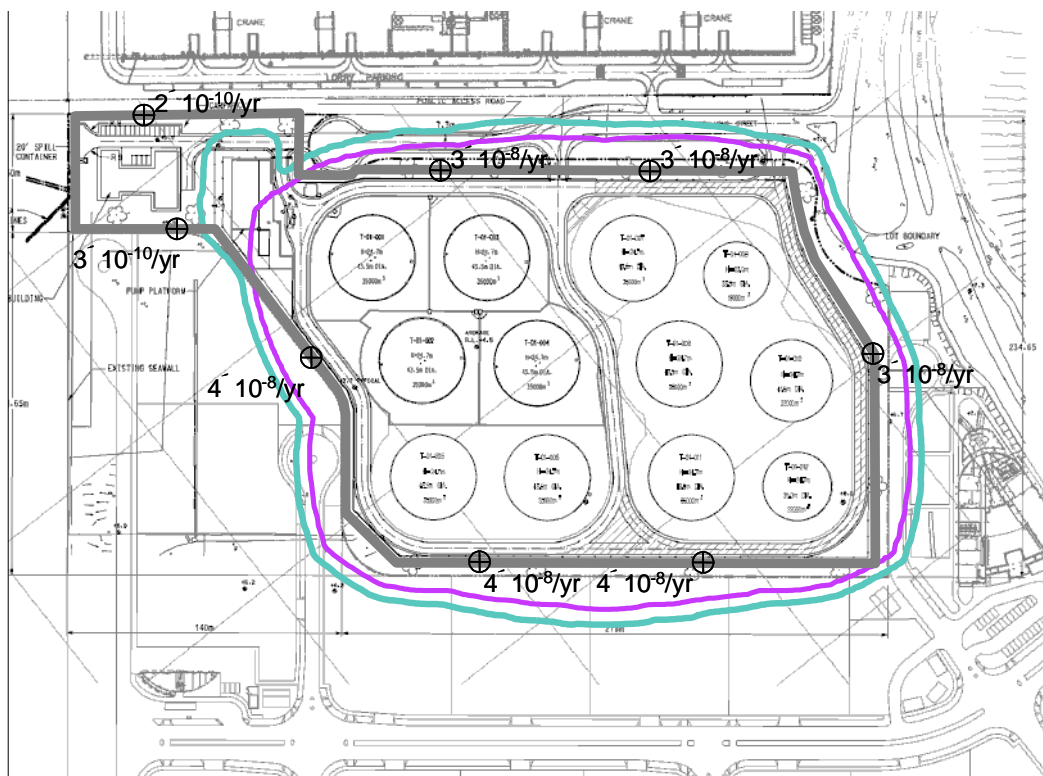
The off-site location specific individual risk levels per year as assessed in the EIA Report for the final development (12 tanks) are as follows:

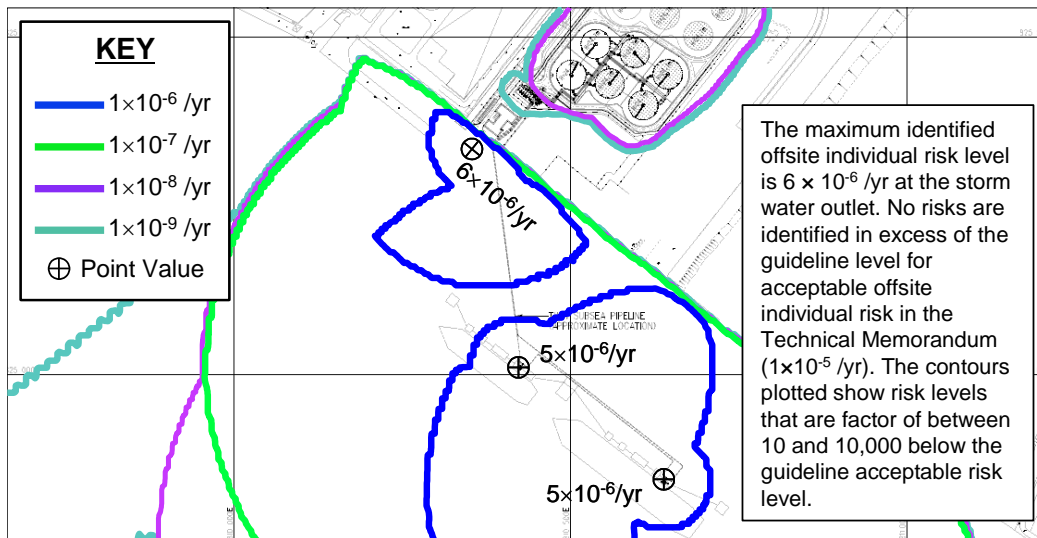
On PAFF Tank Farm Boundary	$4 \times 10^{-8}$
Storm water Outlet	$6 \times 10^{-6}$
Jetty	$5 \times 10^{-6}$
Marine Transport	$5 \times 10^{-7}$
Submarine Pipeline	$4 \times 10^{-9}$

To understand the level of risk, the EIA Report states that the annual risk of death during “normal” life is in the order of  $10^{-2}$  per year over an entire lifespan. Some approximate examples of events, which relate to various frequencies, are given below:

Frequency (/yr)	Comments
1	Expected to occur once per year (e.g. Christmas but less regular).
$10^{-1}$	Once in ten years – for example an event with this frequency would be expected to occur 3-4 times during the PAFF lifetime of 36 years.
$3 \times 10^{-2}$	Would be expected to occur approximately once in the PAFF lifetime.
$10^{-2}$	An event more likely not to occur than to occur in the PAFF lifetime (36 years). Average individual risk of fatality over a lifetime.
$10^{-3}$	Typical frequency of death for an individual aged 25 to 45.
$10^{-4}$	Individual risk of death in a traffic accident.
$10^{-5}$	Approximately once during the period that modern man has been on the Earth. Hong Kong individual risk criterion [20].
$10^{-6}$	Individual risk of death in air transport accidents, gas explosions, etc.
$10^{-7}$	Individual frequency of death due to lightning strike.
$10^{-9} - 10^{-10}$	Once during the age of the Earth (~4.5 billion years).

The **figures** on the next page give the location specific individual risk levels offshore and on land at and around the PAFF Terminal with final development (12 tanks).





#### 14. SCENARIOS FOR FUEL SPILLS

There are three major areas of fuel spill, namely within the contained area, in the open area of the PAFF Terminal and into the sea. Contained area include the bunded areas, namely, the containments around the tanks, the containment of the pump platform and the containment on each of the berths of the jetty. Fuel spill onto the jetty platform, fuel spill in the pump platform and fuel spill within the tank bunded area are treated under the title Spill in the Contained Area.

The spill in any other part of the PAFF Terminal is treated as Spill in the Open Area inside the PAFF

The third category is the fuel spill into the sea during tanker discharge operations at the Jetty.

For details on the Fuel Spill Response Procedure related to each of these areas, refer to section 16.

#### 15. RESPONSE ACTIONS TO FUEL SPILL/FIRE

##### Fuel Spill/Fire Detection

As soon as a spill or fire is detected by a staff member, via smoke detectors or fire detection system, the staff member should immediately:

- activate alarm through a manual callpoint or,
- inform Shift Supervisor
- try to stop fuel spill

- activate fire service system and try to extinguish the developing fire
- inform ECMT Commander and On-Scene Commander
- evacuate non-essential personnel and direct them to the emergency assembly area

### **The Shift Supervisor should immediately:**

- activate Emergency Shut Down
- shut off electric power if it presents a hazard to fire fighting
- assemble Emergency/Crisis Response Team in the Control Centre
- reiterate the responsibility of each Team Member

**EACH SPILL/FIRE INCIDENT REQUIRES ITS OWN RESPONSE PLAN, SO THE STEPS REQUIRED FOR EMERGENCY RESPONSE MUST BE ASSESSED FOR EACH INCIDENT AS THE RESPONSE PLAN IS BEING IMPLEMENTED**

### **Subsequent Response Actions**

After taking appropriate immediate emergency response actions, subsequent actions include better assessment of the situation, organizing fuel spill clean up and/or fire fighting operations, and coordinating the response actions. Many of the following subsequent response actions should be undertaken concurrently (some of which may/may not apply depending on the emergency incident):

### **Clear Access to the Incident Scene**

Open the main gate and emergency crash gates and keep access clear for fire fighting vehicles

### **Manning Gates**

Assign one staff each to three gates to direct fire fighters to the scene of incident and to prevent entry by unauthorized persons

### **Account of Personnel**

Conduct head count at the emergency assembly point to ensure no one is missing. The ECMT Logistics Leader is responsible for reporting any missing persons to the ECMT Commander

### **Remove Ignition Sources including Vehicles**

If it is safe, remove ignition sources such as vehicles outside the PAFF Terminal to avoid ignition of any spill or if there is already a fire to move vehicles outside the endangered area

### **Establish Communications**

Ensure that all emergency personnel have portable radios, phones and other means of communication so that there is communication with staff at the scene and emergency personnel



### **Assist Fire Services Department/Marine Department/Police**

When FSD/MD/Police assume full control of fire fighting and marine fuel clean up, gather available fire fighting materials, oil spill control and recovery equipment, and stand by to advise and/or assist

### **Arrange for Clean up Operation**

Deploy oil booms and initiate aviation fuel recovery. Mobilize spill equipment contractor (RO-Clean) and spill clean up contractor (HKRL)

### **Cool Adjacent Tanks**

If a tank is on fire, ensure that cooling systems for adjacent tanks are functioning to prevent rupture

### **Cool Ship's Hull**

If ship is on fire, apply water to the ship's hull to prevent failure of hull

### **Clear Exit Routes**

Make sure emergency exit routes are kept open and unobstructed at all times

### **Apply Foam**

Cover fuel spill with foam to prevent vapours from moving to an ignition source

### **Prepare Statements for News Releases**

Prepare factual statement of the incident

### **Keep Public Informed**

Brief media and answer their questions at least once a day in order to inform the public on the status of the incident and the result of the response

### **Update Information**

Update incident report as new information is available

### **Submit Daily Reports**

Submit Incident Report daily to relevant parties and notify them of any special issue

### **Arrange Aerial Surveillance**

For marine spill, it may be appropriate to arrange aerial surveillance to determine size of oil slick and direction it is heading to in order to determine any additional responses

### **Create Photographic Records**

Have the incident and response progress video taped and photographed several times a day

### **Document Activities**

Keep meeting notes in addition to decisions and activities related to the emergency response. ECMT members should document their own activities during the incident. These personnel records should be merged every day into a list of major activities that include the summary of date and time the activity occurred.

### **Conduct Post Incident Review**

Undertake post incident review and investigation (see section 17)

### **Complete Incident Report**

Complete the incident report and send it to relevant parties

## **16. EMERGENCY/CRISIS RESPONSE PROCEDURES**

There are various types of emergencies that PAFF may encounter. Each has to be handled in its own respective manner. The critical emergencies that PAFF may encounter and their respective response procedures are depicted in **the Charts** in section 18 at the end of this Procedure for the following key scenarios:

- Fuel Spill Response Procedure
- Fire Response Procedure
- Serious Injury to Staff Response Procedure
- Power Failure Response Procedure
- Security Failure, Terrorist Action, Bomb Warning, Civil Disturbances, etc Response Procedures

Except for Fuel Spill Response Procedure which dwells into the spill response Matrix and spill response types, the rest of the charts of the Procedures basically provide the response procedure together with response activities.

## **17. INFORMATION REQUIRED FOR INCIDENT REPORT**

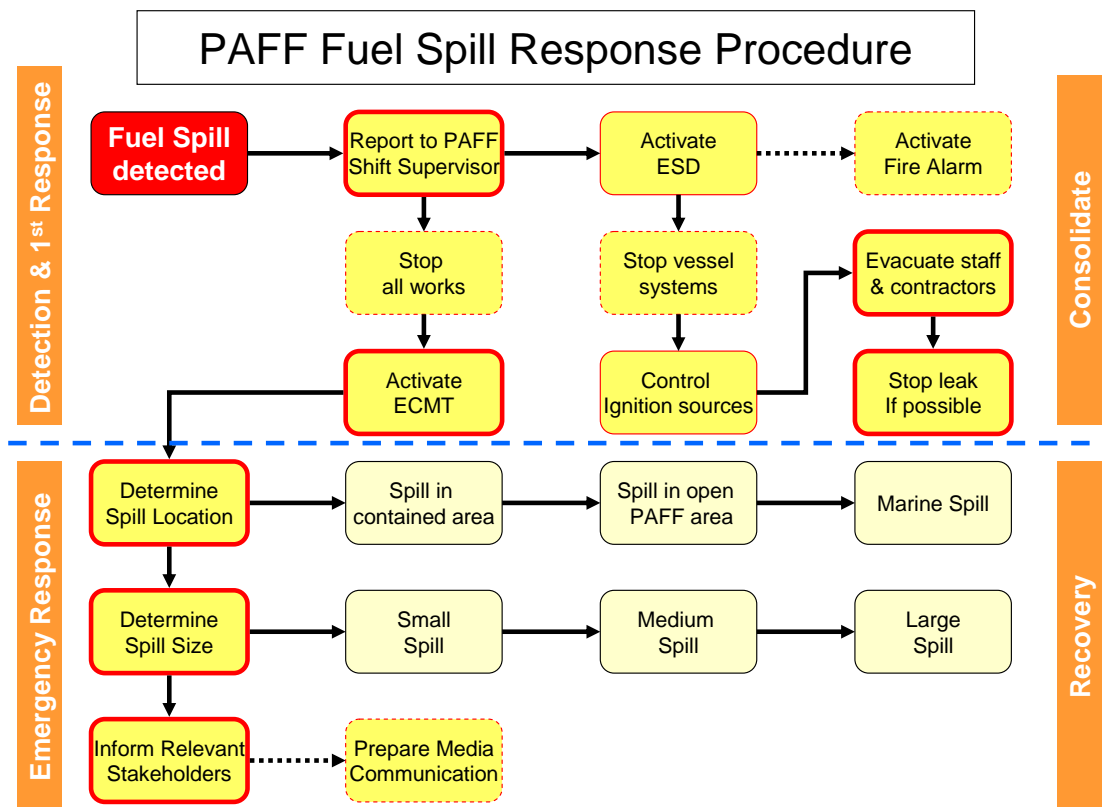
Incident Report must provide information for further investigation, thus it should consider the following:

- location of incident
- description of incident
- facility/equipment where the incident occurred
- time and date of occurrence
- weather condition
- quantity of aviation fuel spilled
- quantity of aviation fuel recovered
- method of disposal of recovered product
- damage to property
- damage to marine life
- injuries to staff/contracted staff
- if faulty equipment is the cause of incident;
  - the date last inspected/tested,
  - the date and the type of maintenance before incident,
  - the date and time repaired or replaced

- if fuel spill is caused by corrosion;
  - conditions leading to corrosion
  - whether systems are cathodically protected
  - steps taken to prevent future corrosion
- list of parties/authorities who were advised of the incident, name, date and time
- what equipment and material were used to handle the incident
- time and date of final clean up and /or extinguishing of fire
- estimated cost of the incident including loss of product, personnel for recovery, equipment hired, material used, damage to property and/or third parties, others
- whether the stocks used up dealing with the incident have been replaced
- any recommendations to prevent future incident of this type at this location
- any advice from the authorities participating in this incident

The Incident Report may also include such information as the repetition of occurrence at the location or at the time, whether it is to do with outside normal working hours or peak hours or public holiday, was there enough lighting, was it due to inadequate training and/or whether the seasonal climate contributed to the incident, e.g. typhoon, flood, rain.

**18. EMERGENCY SCENARIOS**



### PAFF Fuel Spill Response Activities

Spill in contained area	Spill in open area inside the PAFF	Marine Spill
<ol style="list-style-type: none"> <li>1) Check if drains to Oil interceptors are all closed.</li> <li>2) Stop leakage source if possible</li> <li>3) Activate Fire Fighting System for foam cover and or deluge</li> <li>4) Recover spill</li> <li>5) Determine recovered product destination</li> <li>6) Clean up</li> </ol>	<ol style="list-style-type: none"> <li>1) Stop leakage source if possible</li> <li>2) Stop spread of spill, cover drains, apply absorbents</li> <li>3) Activate Fire Fighting System for foam cover</li> <li>4) Recover spill</li> <li>5) Determine recovered product destination</li> <li>6) Determine soil contamination &amp; clean up</li> </ol>	<ol style="list-style-type: none"> <li>1) Stop leakage source if possible</li> <li>2) Activate Marine Spill Response Team &amp; Boat</li> <li>3) Apply Oil booms and contain spill</li> <li>3) Activate jetty Fire Fighting System for foam cover and/or deluge</li> <li>4) Recover spill with skimmers</li> <li>5) Determine recovered product destination</li> <li>6) Determine Marine Pollution &amp; Clean up</li> </ol>

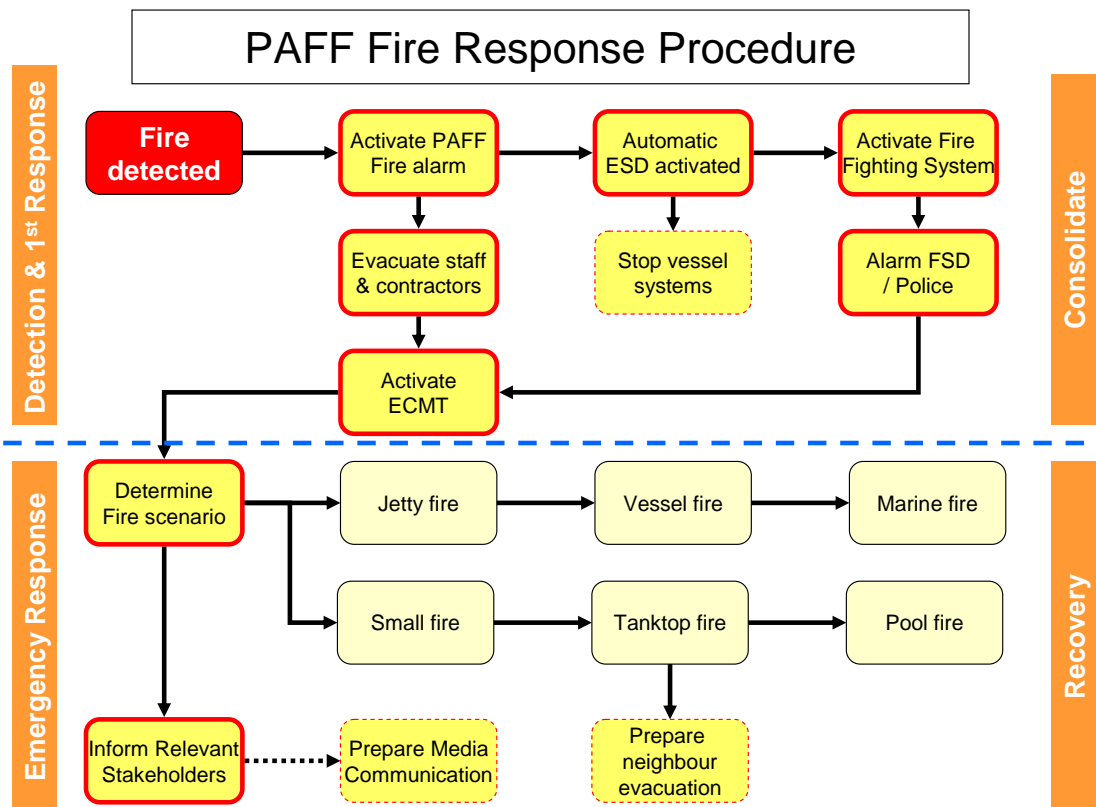
\* Marine Spill is defined as a spill on water in sea, caused by ship or PAFF facilities.

**PAFF Fuel Spill Response Matrix**

Spill Size Location	Small (1-1,000 Liters)	Medium 1,000-100,000 Liters)	Large (>100,000 Liters)
Inside contained area	Tier 1 Response	Tier 1 Response	Tier 2 Response
In open area	Tier 1 Response	Tier 2 Response	<b>Tier 3 Response</b>
Marine	Tier 2 Response	<b>Tier 3 Response</b>	<b>Tier 3 Response</b>

**PAFF Fuel Spill Response Types**

Tier 1 Response	Tier 2 Response	Tier 3 Response
<ul style="list-style-type: none"> <li>• Handled internally within the PAFF organization lines</li> <li>• Inform relevant stakeholders as required</li> <li>• File incident report with root causes and recommendation to improve</li> </ul>	<ul style="list-style-type: none"> <li>• Activate the PAFF Emergency Response Team immediately</li> <li>• Inform relevant stakeholders instantly</li> <li>• Limited media attention expected</li> <li>• File incident report with root causes and recommendations to avoid repetition</li> <li>• File Incident and evaluate response and adjust plans as required</li> </ul>	<ul style="list-style-type: none"> <li>• Activate PAFF Emergency Response Team or PAFF Marine Spill Response Team</li> <li>• Activate dormant specialists consultancy contracts</li> <li>• Inform and involve relevant stakeholders</li> <li>• Extended media attention expected, activation of media communication plan</li> <li>• Set up multi skill team to investigate causes and emergency response</li> </ul>



As soon as a fire alarm is activated the following systematic actions will be triggered:

- The fire alarm is automatically transferred to the FSD
- Fire water pumps (4) will start automatically and be ready for action depending on the scenario and specific needs
- The Emergency Shut Down (ESD) is activated automatically which will shut down all operations in a safe manner

Only in case of a tanktop fire(s) evacuation of the immediate neighbouring facilities is recommended.

## PAFF Fire Key Response Activities

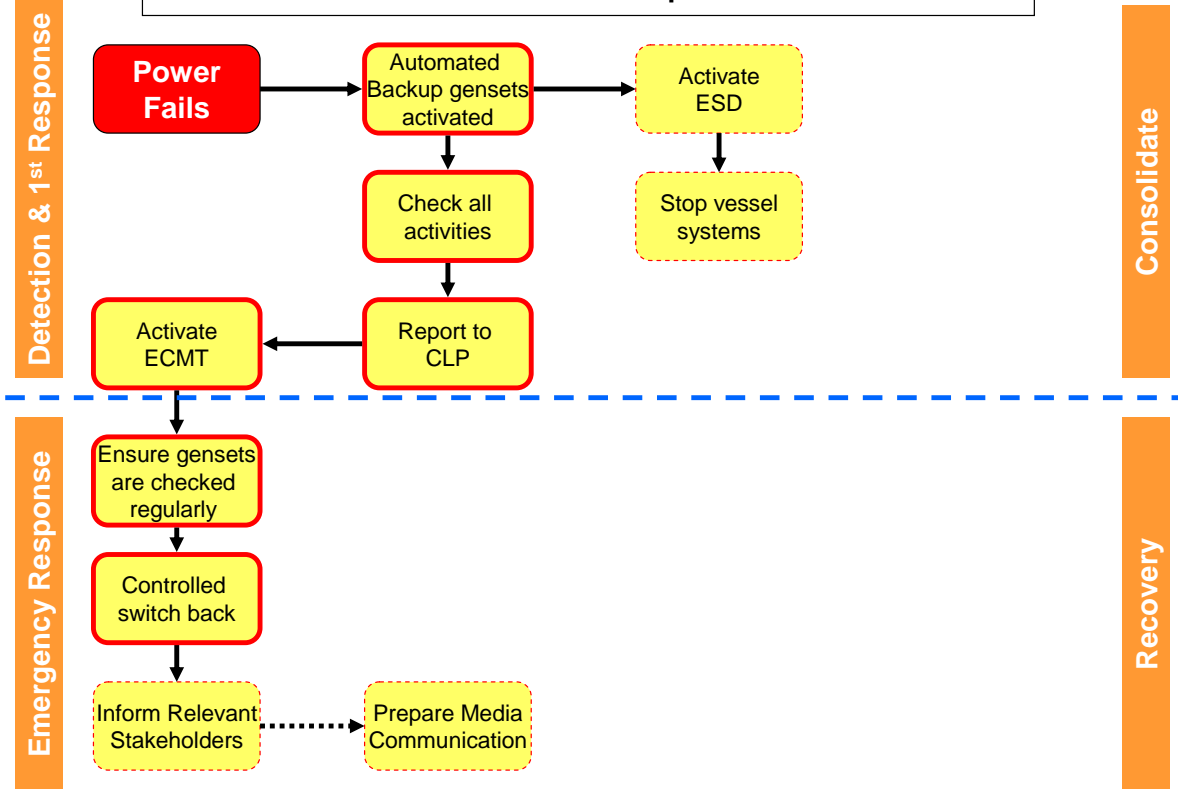
Small Fire	Tank Fire	Pool Fire
<ol style="list-style-type: none"> <li>1) Stop fire source if possible</li> <li>2) Start fire fighting using extinguishers and/or fire hoses</li> <li>3) Attempt to protect /save human life without jeopardizing own</li> <li>4) Wait for FSD</li> <li>5) Inform FSD on situation</li> <li>6) Recovery</li> </ol>	<ol style="list-style-type: none"> <li>1) Start deluge on surrounding tanks</li> <li>2) Activate sub surface foam system</li> <li>3) Inform and brief FSD on situation</li> <li>4) Wait for FSD</li> <li>5) Decision to inject foam into tank</li> <li>6) Recovery</li> </ol>	<ol style="list-style-type: none"> <li>1) Start deluge on tanks</li> <li>2) Activate foam system</li> <li>3) Wait for FSD</li> <li>4) Inform FSD on situation</li> <li>5) Apply Foam blanket using remotely controlled foam monitors, backed by FSD big foam gun</li> <li>6) Recovery</li> </ol>

## PAFF Fire Key Response Activities

Jetty Fire	Vessel Fire	Marine Fire*
<ol style="list-style-type: none"> <li>1) Stop fire source if possible</li> <li>2) Start jetty fire fighting system</li> <li>3) Start jetty drencher system</li> <li>4) Wait for FSD boat</li> <li>5) Inform FSD &amp; MD on situation</li> <li>6) Apply foam or water as applicable</li> <li>7) Recovery</li> </ol>	<ol style="list-style-type: none"> <li>1) Stop fire source if possible</li> <li>2) Start jetty fire fighting system</li> <li>3) Start jetty drencher system</li> <li>4) Inform and brief FSD &amp; MD on situation</li> <li>5) Wait for FSD &amp; MD</li> <li>6) Apply foam or water</li> <li>7) Link vessel and jetty fire fighting systems as applicable</li> <li>8) Recovery</li> </ol>	<ol style="list-style-type: none"> <li>1) Stop source of fire if possible</li> <li>2) Contain spill using oil booms</li> <li>3) Wait for FSD</li> <li>4) Inform FSD &amp; MD on situation</li> <li>5) Let fire burnout in controlled manner while protecting the public</li> <li>6) Recovery</li> </ol>

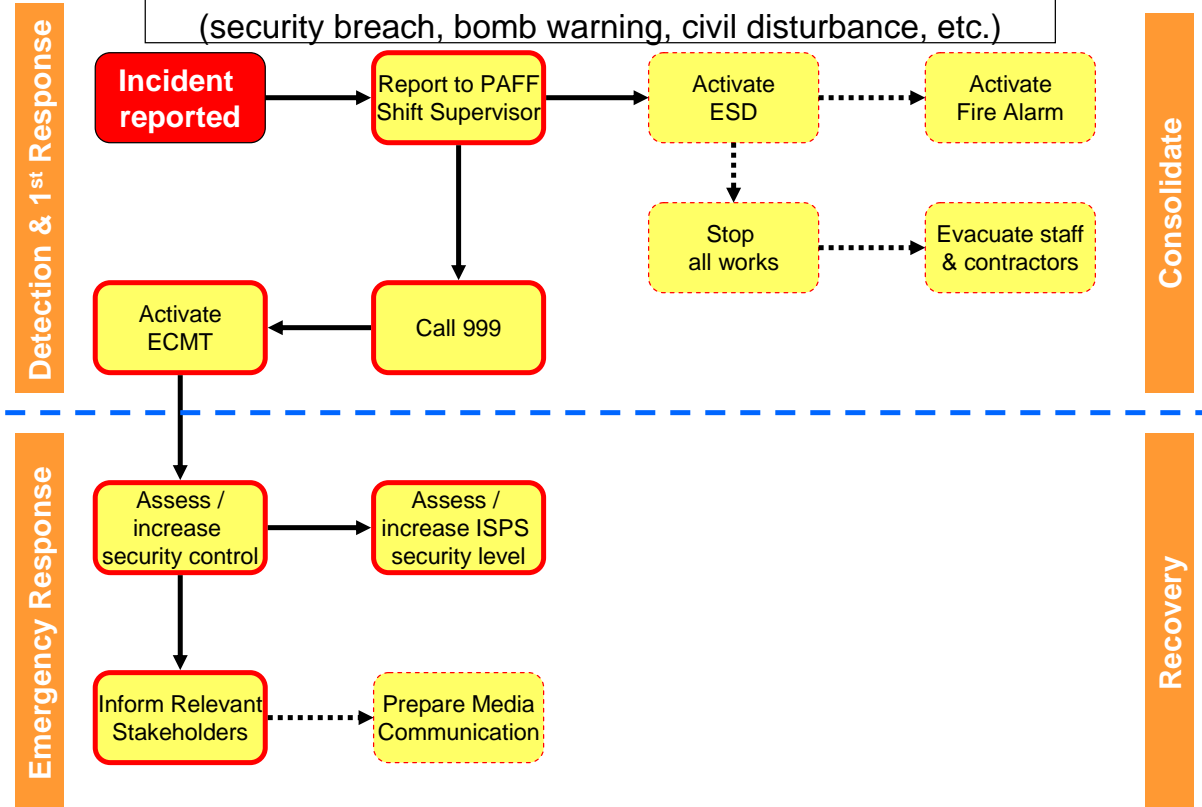
\* Marine Fire is defined as Fire on water in sea

## PAFF Power Failure Response Procedure

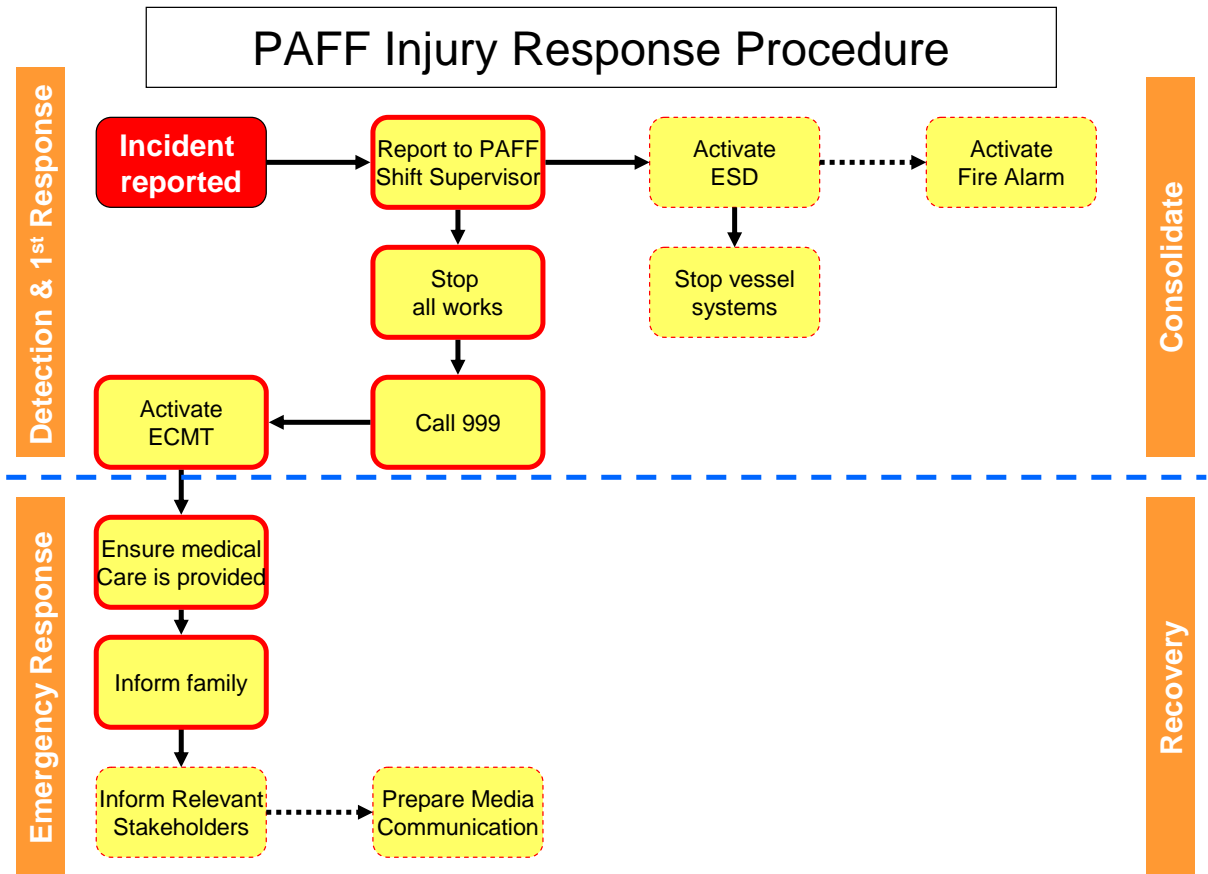


## PAFF General Response Procedure

(security breach, bomb warning, civil disturbance, etc.)







## **ANNEX 1 - EVACUATION OF PAFF**

### **1.0 Evacuation of PAFF Operational Areas**

- 1.1 If it is required to evacuate all or part of the PAFF facility in the event of a security incident or threat, the fire alarm will be initiated by the PAFF Control Room to alert all staff and visitors to immediately evacuate the facility and proceed to the assembly area located outside the Administration & Service Building. Once the evacuation is completed the Security Supervisor will reconcile the number of staff and visitors present at the assembly area with the number of permanent staff, contracted staff and visitors logged as entering PAFF by the access control system.
- 1.2 In the event of the fire alarm sounding the following actions will be taken in each operational area of PAFF:-

#### **Jetty**

- The Emergency Shut Down (ESD) will be activated, closing down all operational activities in a safe manner;
- Fire pumps will be activated and prepared for further action as required;
- The Jetty Master will liaise directly with any ships berthed at PAFF and keep them informed of required actions;
- The Shift Supervisor (PFSO) will liaise directly with the Security Supervisor to assess the situation;
- Jetty staff will standby to disconnect discharge arms if possible;
- Staff will standby to evacuate the jetty by tender boat;
- Once evacuated all jetty staff will proceed to the assembly area, if safe to do so in the prevailing circumstances, and report to the Security Supervisor.

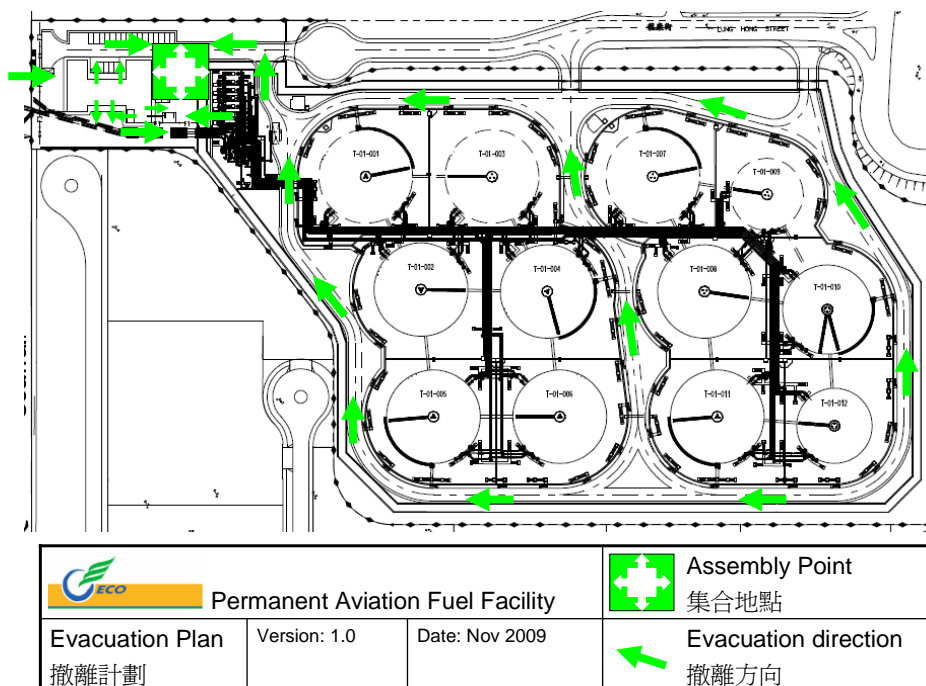
#### **Administration & Service Building**

- The Emergency Shut Down will be activated, closing down all operational activities in a safe manner;
- Fire pumps will be activated and prepared for further action as required;
- Electrical devices should be switched off;
- Windows and doors should be closed;
- All staff will evacuate through the main or emergency exit via the nearest safe route of escape as indicated on the plans;
- Staff will proceed to the assembly area and report their presence to the Security Supervisor.

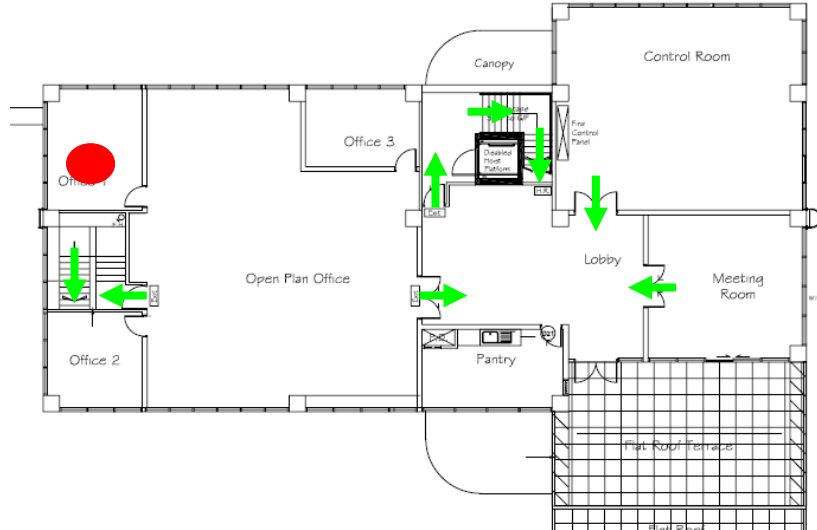
#### **Tank Farm and Pump Platform**




- The Emergency Shut Down will be activated, closing down all operational activities in a safe manner;
- Fire pumps will be activated and prepared for further action as required;

- All ongoing work will cease;
  - All electrical devices should be switched off;
  - All work locations will be evacuated and staff should proceed calmly and follow the emergency signage;
  - Staff will proceed to the assembly area and report their presence to the Security Supervisor.
- 1.3 Upon arrival of all staff at the assembly area and confirmation that no staff or visitors are unaccounted for the Operations & Safety Manager or Shift Supervisor will assess the situation and determine further actions as required in consultation with Police and Fire Services.
- 1.4 In order to ensure that PAFF staff and contractors are familiar with procedures; evacuation drills will be conducted twice per year.
- 1.5 Evacuation plans have been developed for the building and the tankfarm area. These plans show for each location; the escape route and the general assembly point.
- 1.6 Typical samples for the tankfarm and the building are attached as a reference:

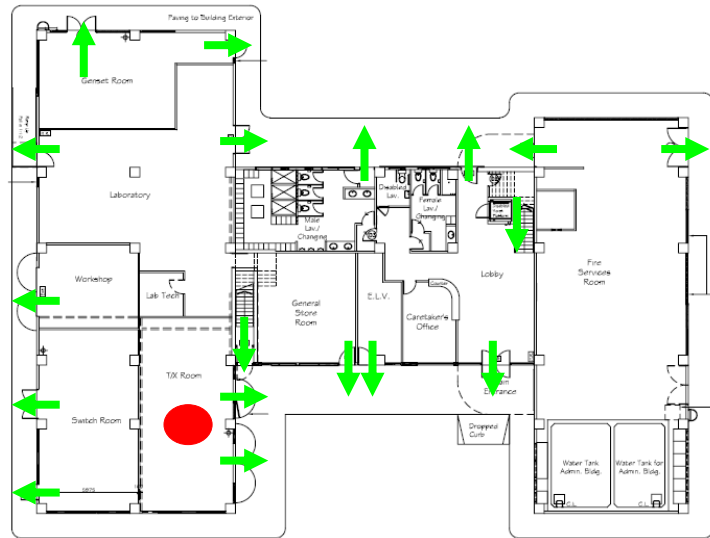





Tankfarm evacuation plan and general assembly point



 Permanent Aviation Fuel Facility			 You are here 各下在此
Evacuation Plan 撤離計劃	Version: 1.0	Date: Nov 2009	 Evacuation direction 撤離方向

PAFF Service and Administration building 1<sup>st</sup> floor evacuation plan



 Permanent Aviation Fuel Facility			 You are here 各下在此
Evacuation Plan 撤離計劃	Version: 1.0	Date: Nov 2009	 Evacuation direction 撤離方向

PAFF Service and Administration building ground floor evacuation plan

## **ANNEX 2 - EVACUATION OF PAFF NEIGHBOURING FACILITIES**

### **1 Evacuation of PAFF neighbouring Facilities**

1.1 The Environmental Impact Assessment for the PAFF describes two scenarios in which it is recommended to evacuate the PAFF neighbouring facilities. These scenarios are:

- A tanktop fire
- Multiple tanktop fires

1.2 For both tanktop fire scenarios, the heat radiation assessed does not harm people outside the PAFF premises, nevertheless evacuation has been recommended to be preferable. A tanktop fire, once ignited will take approximately 30 minutes to fully develop, in which time the PAFF fire system will be activated and will be ready to inject foam into the tank to extinguish the tanktop fire.

1.3 A PAFF fire alarm will be automatically transmitted to the Fire Service Station at Pillar Point. The average response time for the fire services is assessed to be within 6 minutes.

### **2 The PAFF neighbouring facilities which would be involved in a evacuation are limited to:**

2.1 Shiu Wing Steel on the East side of the PAFF and,

2.2 The EcoPark facilities on the West side of the PAFF.

2.3 The following PAFF neighbouring facilities will be kept informed of an incident at the PAFF:

- Castle Peak Power Station, China Light & Power
- Green Island Cement Company Limited
- River Trade Terminal Company Limited

### **3 In case one of the identified scenarios is actual, the following actions are to be initiated:**

3.1 When the fire alarm is raised, the situation will be assessed immediately by the duty PAFF Shift Supervisor and:

- The fire services and police will be alarmed automatically or by phone, and on arrival an incident commander (fire service or police) will take command of the incident response.
- The Emergency Shut Down (ESD) is activated which will stop all processes at the PAFF in a safe manner.
- The PAFF internal evacuation plan will be activated
- The PAFF Emergency & Crisis Management Team will be activated.

3.2 In case of a genuine tanktop fire a warning will immediately be issued to the PAFF neighbouring facilities to prepare for evacuation.

3.3 The communication shall include information on tank involved and suggested direction of evacuation given the current wind direction.

3.4 The PAFF neighbouring facilities should raise the internal alarm, safeguard their processes and assemble non critical staff at their assembly points.

3.5 Once the processes at the PAFF neighbouring facilities are safely shutdown, critical staff of the PAFF neighbouring facilities should also proceed to the assembly points.

3.6 If the evacuation of the PAFF neighbouring facilities is not required by the Incident Commander in charge at the scene and the situation is considered safe for one or more PAFF neighbouring facilities the PAFF neighbouring facilities will be informed accordingly.

3.7 Once the Incident Commander arrives at the scene and the need for evacuation of the PAFF neighbouring facilities is confirmed then the evacuation plan should be proceeded with under guidance of the Incident Commander.

### **4 Communication**

4.1 Communication is of utmost importance during the alarm situations as described above.

4.2 In the remote scenario of a tanktop fire or any other scenario requiring evacuation of any of the PAFF neighbouring facilities the preparedness and readiness will entirely depend on a good and clear communication between the parties.

4.3 Communication between PAFF duty staff and PAFF neighbouring facilities shall be in the Cantonese language

4.4 The communication shall be by phone or mobile phone or automated fire alarm message through the public address system.

- 4.5 The message shall be short and clear:
- PAFF ALARM: PREPARE YOUR FACILITIES FOR EVACUATION
  - PAFF: EVACUATE YOUR FACILITIES NOW
  - PAFF: EVACUATION CANCELLED
- 4.6 Once the evacuation has been initiated, follow up communication by the Incident Commander should inform the PAFF neighbouring facilities on the developments of the emergency situation at the PAFF, the expected duration of the evacuation and any other relevant information available through a joint Police/Fire service command post.

## **5 Preparedness**

- 5.1 In order to be prepared at any time for evacuation, PAFF will meet the PAFF neighbouring facilities regularly and check the names of the responsible staff at the PAFF neighbouring facilities and emergency phone numbers listed twice a year.
- 5.2 PAFF staff will perform the PAFF evacuation drills twice a year.
- 5.3 Assumption is that the PAFF neighbouring facilities will perform their own emergency response drills regularly.