



PETRONAS

PETRONAS Fatigue Management System (FMS) System Walkthrough

Briefing for contractors

23 May 2023

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Objective

To brief contractors regarding Fatigue Management System (FMS) and integration with XPRESS

FMS System Walkthrough Agenda

AGENDA

1.0 FMS Introduction

2.0 FMS System Training

2.1 Roles in FMS

2.2 FMS Modules Accessibility by Roles

2.3 FMS Features & Functionalities

2.4 FMS System Workflow

- 2.4.1 Working Hours & Email Notification
- 2.4.2 Working Days & Email Notification
- 2.4.3 Work Group Assignment
- 2.4.4 Deviation Process (Request & Approve)

3.0 Q&A Session



1.0 FMS Introduction





Centralised and standardised ICT system for Fatigue Management.



Monitor and track of Hours of Service Limit (HSL) Rule based on Work Group Assignment.



Developed based on PETRONAS Technical Standard of Fatigue Management at Work Place (PTS 18.13.03).



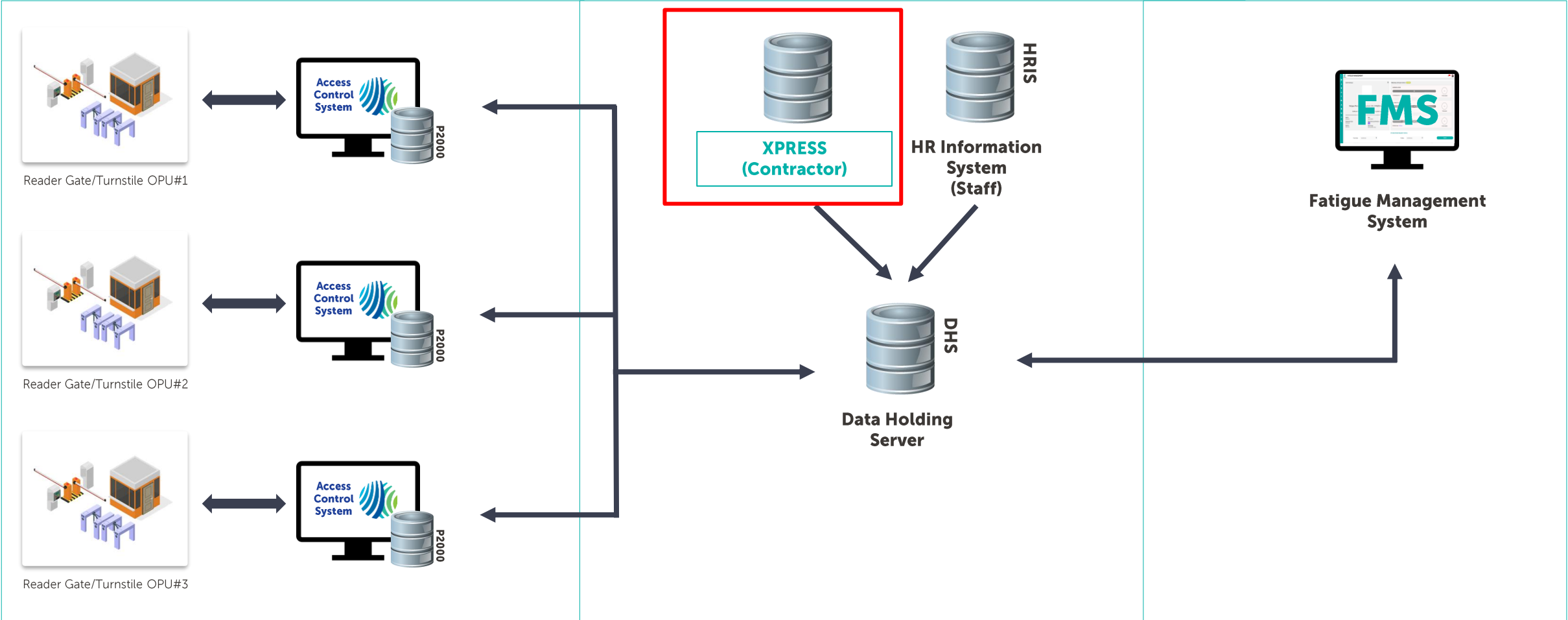
Impose on consequence management and managing deviation on access.

Integration with XPRESS will enable automated online fatigue management system and auto blocking access card for contractors

Access Control System (ACS) (Entrance and exit time)

Data Holding Server (Pool data from ACS, HRIS, XPRESS)

Centralized Access (Algorithm for hours service limit)



FMS System Goal

To improve PETRONAS HSSE Performance by strengthening Fatigue Management (FM) in PETRONAS through Governance, Assurance, Compliance and Collaboration



FMS Accomplishment

(From 2018 to 2021)

FMS Roll-Out Assets

59



22 Office

37 Plant



FMS Work Group

Work groups monitored in FMS:

Workgroups to be monitored by FMS	Workgroups to comply to PTS FM Requirements	Consequence Management Imposed by FMS	Maximum Working Hours per Shift	Maximum Extended Hours per Shift (non-consecutive)	Minimum Rest Hours (before returning to next shift)	Maximum Consecutive Shifts (Days) in Work set	Minimum Time-Off (without extended work shift)
Normal Plant Operations	✓	✓	12 Hours	16 hours	10 hours	7 shifts	36 hours
Security Personnel	✓	✓	12 Hours	16 hours	10 hours	7 shifts	36 hours
Emergency Responders	✓	✓	12 Hours	16 hours	10 hours	7 shifts	36 hours
Plant Shutdown (Turnaround)	✓	✓	12 Hours	16 hours	10 hours	14 shifts	36 hours
Project	✓	✓	12 Hours	16 hours	10 hours	6 shifts	36 hours
Onshore remote or Offshore location	✓	✓	12 Hours	16 hours	10 hours	28 days	1/3 10 days
Office	✗	✗	NA	NA	NA	NA	NA
Plant Maintenance	✗	✗	NA	NA	NA	NA	NA

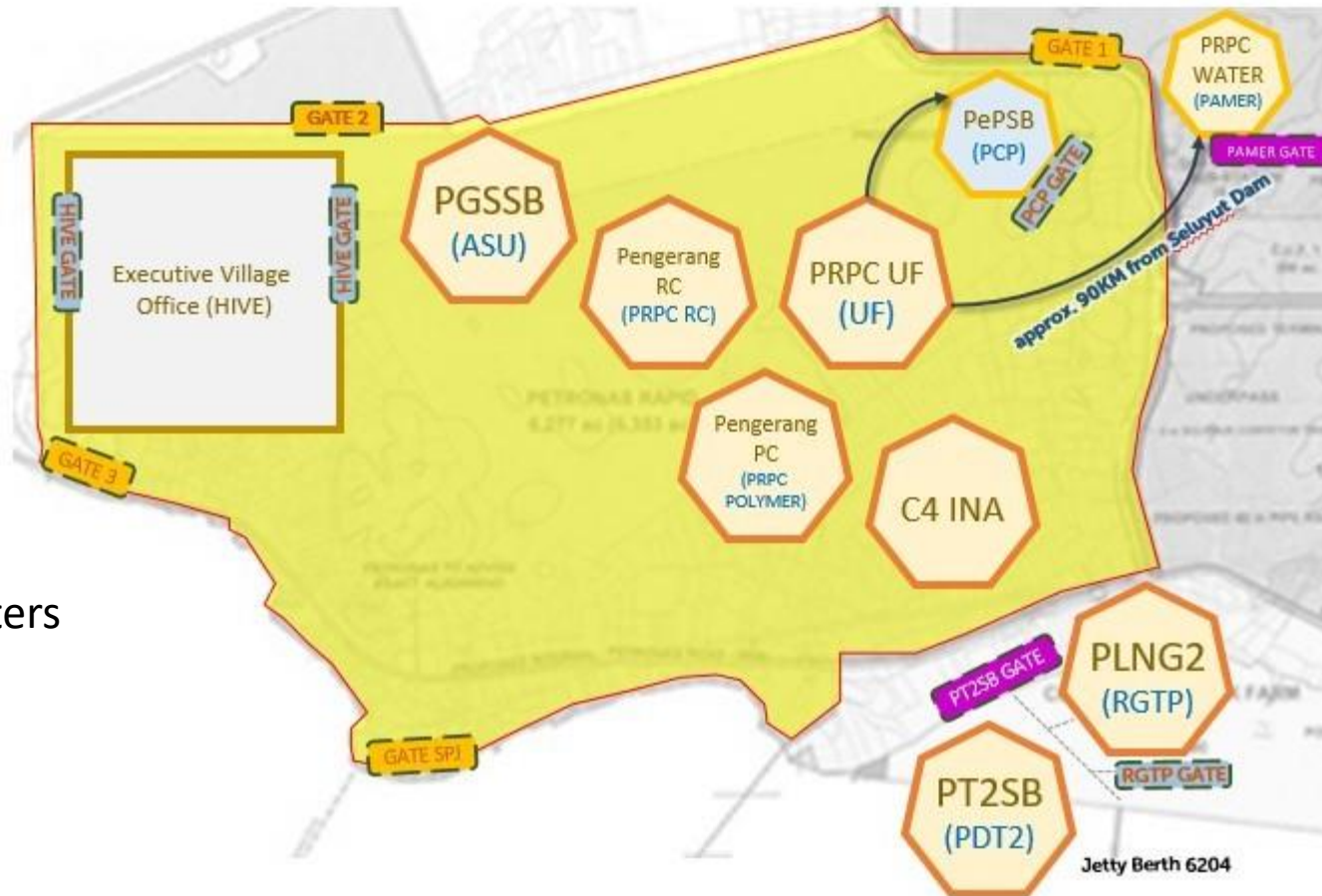
* FMS Offshore Pilot was conducted at Angsi & Temana from Dec 2018 - May 2019

FMS in PIC



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FMS Working Parameters

1. Main Gate 1
2. Main Gate 2
3. Process Gate SPC
4. Process Gate M1

Type of gate : GATE PIC Main Gate GATE Main Gate Inside GATE Main Gate Outside

2.0 FMS System Training

fms.petronas.com
myhsse.petronas.com/fms



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2.1 Roles in FMS



Super Admin: Has an authority to access all the modules inside the system except for approving the Deviation Form.



GHSSE: Has an authority to access all the modules in the system and as the Custodian for any decision making on managing HSL rule.



BU/OPU Focal: As an administrator for the specific Business Unit (BU/OPU) only.



Deviation Approver

- ❖ Project Focal
- ❖ Shift Supervisor
- ❖ Employee's superior / HOD
- ❖ Contract Owner (Blue collar contractor)



Deviation Requestor

- ❖ Employees (executive level)
- ❖ Project Focal
- ❖ Shift Supervisor
- ❖ Contract Owner



Normal User:
Employee who has PETRONAS ID Outlook.

2.3 FMS Features & Functionalities



FMS Features

Send email notification to user & superior when employee is About to Breach (Alert) and when Breached any of the HSL

Email Notification (for Alert & Breach)

Two type of Deviation:
1. Planned Deviation
2. Unplanned Deviation

* Only by Deviation Requester

Deviation Management

OPU/BU Focal/GHSSE able access to Fatigue reports and Productivity reports.

Fatigue & Productivity Reporting



Monitor & Track HSL

Monitor and track Working Hours, Days, Rest Hours



Real-time Blocking/Unblocking upon Entry

Block employee's entry to Premise on Breach of any of the HSL

Workgroup:
Normal Plant Operation, Project & Turnaround



FMS Dashboard

OPU/BU Focal/GHSSE able to view visualization and trending of fatigue for their OPU



2.4 FMS System Workflow

- Working Hours & Email Notification
- Working Days & Email Notification
- Workgroup Assignment
- Deviation Process (Request & Approve)

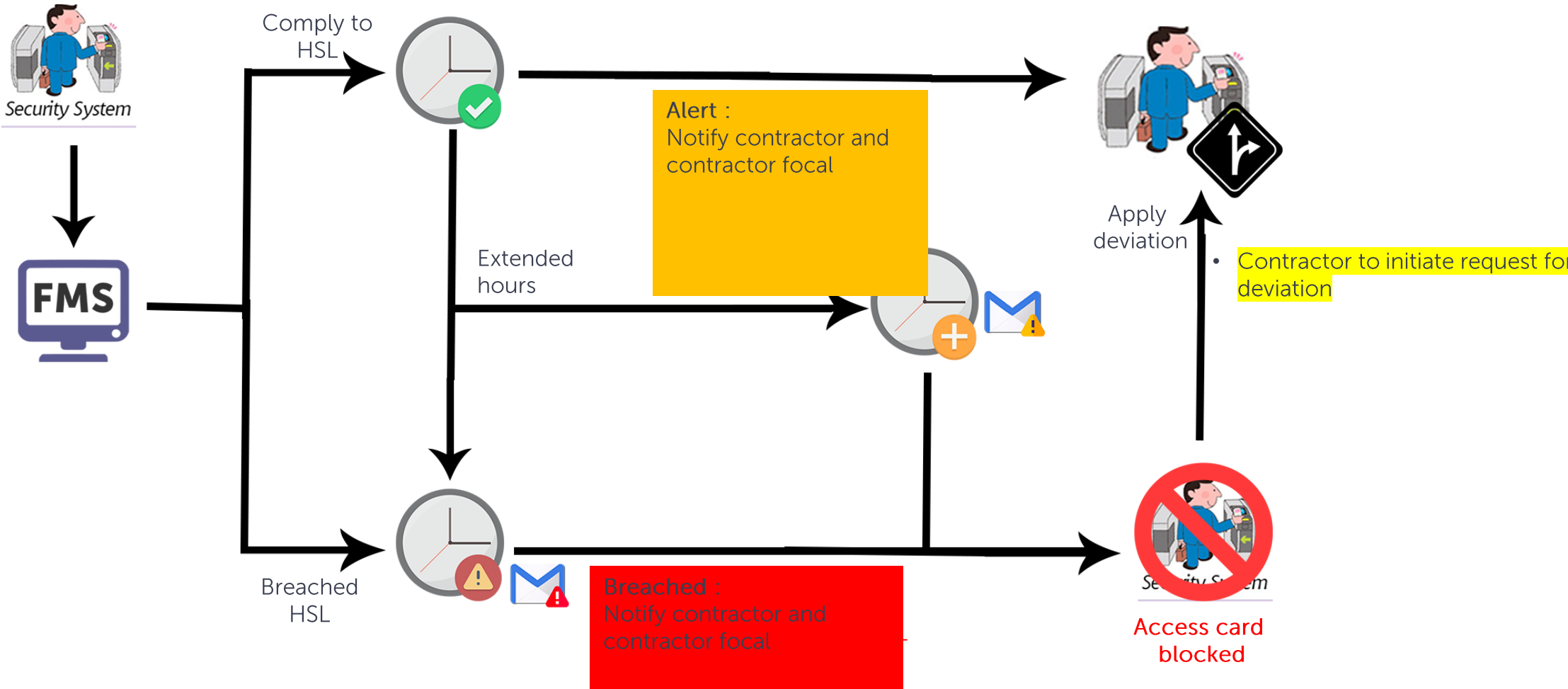


2.4.1 FMS System Workflow

- Working Hours & Email Notification

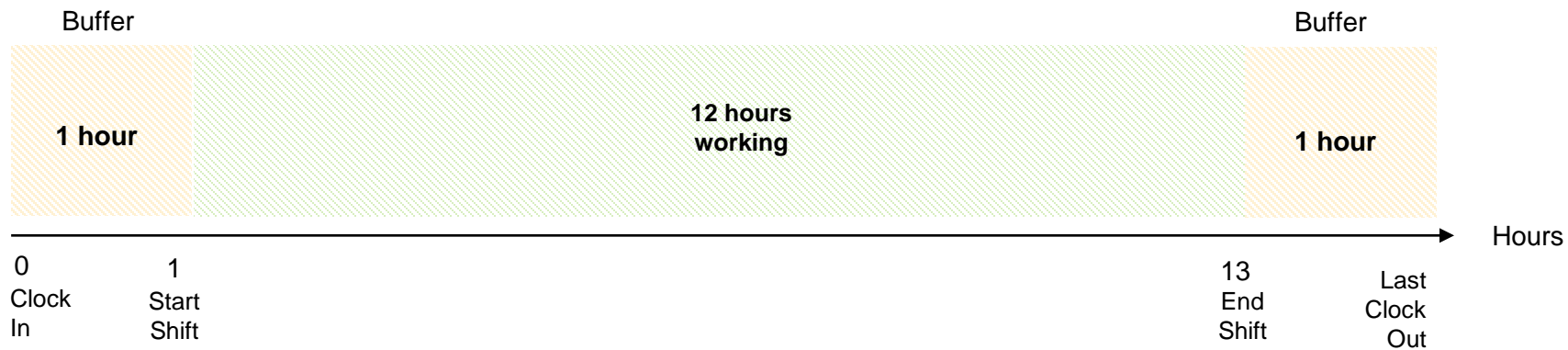


FMS Working Hours and Email Notification (1/3)



FMS Working Hours and Email Notification (2/3)

Scenario 1: Normal (12 hours of Working Hours)



(Work Group: Normal Plant Operation)

FMS status: Comply

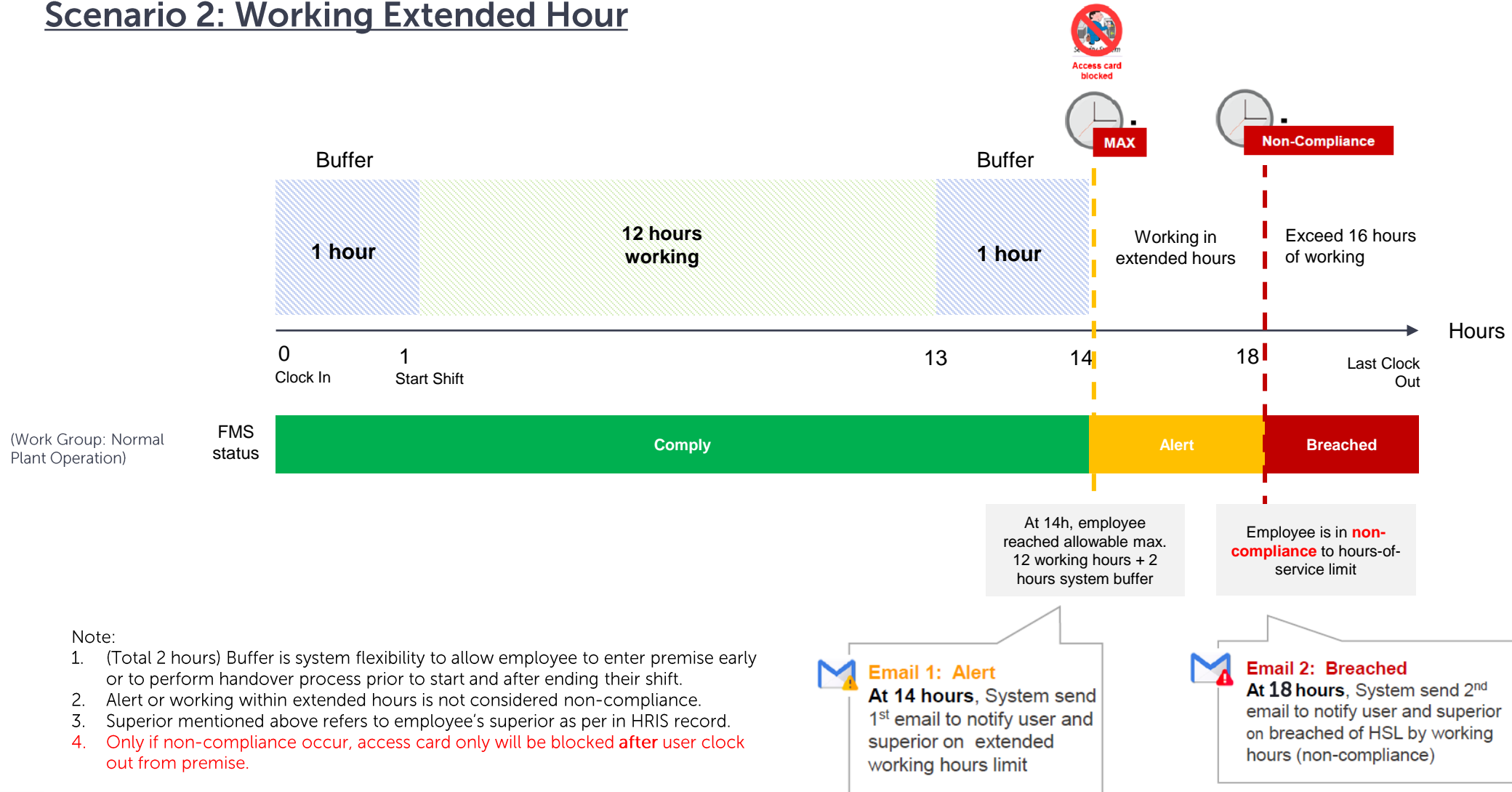
FMS algorithm of calculating working hours:
FILO
First Clock In,
Last Clock Out

Note:

1. (Total 2 hours) Buffer is system flexibility to allow employee to enter premise early or to perform handover process prior to start and after ending their shift.
2. Superior mentioned above refers to employee's superior as per in HRIS record.
3. Only if non-compliance occur, access card only will be blocked **after** user clock out from premise.

FMS Working Hours and Email Notification (3/3)

Scenario 2: Working Extended Hour



FMS Email Sample: Alert & Breached

[FMS] Extended Working Hours Notification



Fatigue Management (GHSE/PETH)

To Azrul Quezairi Awang (PMO/Upstream)

Cc M Ros Asmawi B Muhammad (PMO/Upstream)

If there are problems with how this message is displayed, click here to view it in a web browser.

Reply Reply All Forward

Tue 03-Aug-21 11:21 PM

Submit your deviation form. You are already extended working hours

August 03, 2021

Dear **Azrul Quezairi bin Awang (Peninsular Malaysia/Malaysia Assets)**,

You are being contacted because you are already reached the extended working hours - by worked for **14.00 hours**. Please click [here](#) to submit a deviation form.

Click [here](#) for more details.

If you are experiencing any technical issues, please contact PETRONAS ICT Service Desk at +603-2331 3333 or email us at ict.servicedesk@petronas.com

Thank you.

Fatigue Management
PETRONAS ICT SDN. BHD.

Please do not reply to this email as replies will be routed to an unmonitored mailbox.

[FMS] Your Card Will be Blocked due to Breached of Working Hours



Fatigue Management (GHSE/PETH)

To M Naquiddin Rosli (PMO/Upstream)

Cc M Khairolanuar B Zakaria (PMO/Upstream)

If there are problems with how this message is displayed, click here to view it in a web browser.

PETRONAS Fatigue Management System (FMS)

Your card will be blocked temporarily. You have breached maximum working hours

August 03, 2021

Dear **Mohd Naquiddin bin Rosli (Peninsular Malaysia/Malaysia Assets)**,

You are being contacted because you have breached maximum working hours (**18.00 hours**). Your card will be blocked temporarily until minimum rest hours (**10.00**) completed.

[Click here to view more details.](#)

Thank you,

Generated by Fatigue Management System (FMS)

Do not reply to this email as it is a system generated notification.

If you are experiencing any technical issues, please contact PETRONAS ICT Service Desk at +603-2331 3333 or email us at ict.servicedesk@petronas.com



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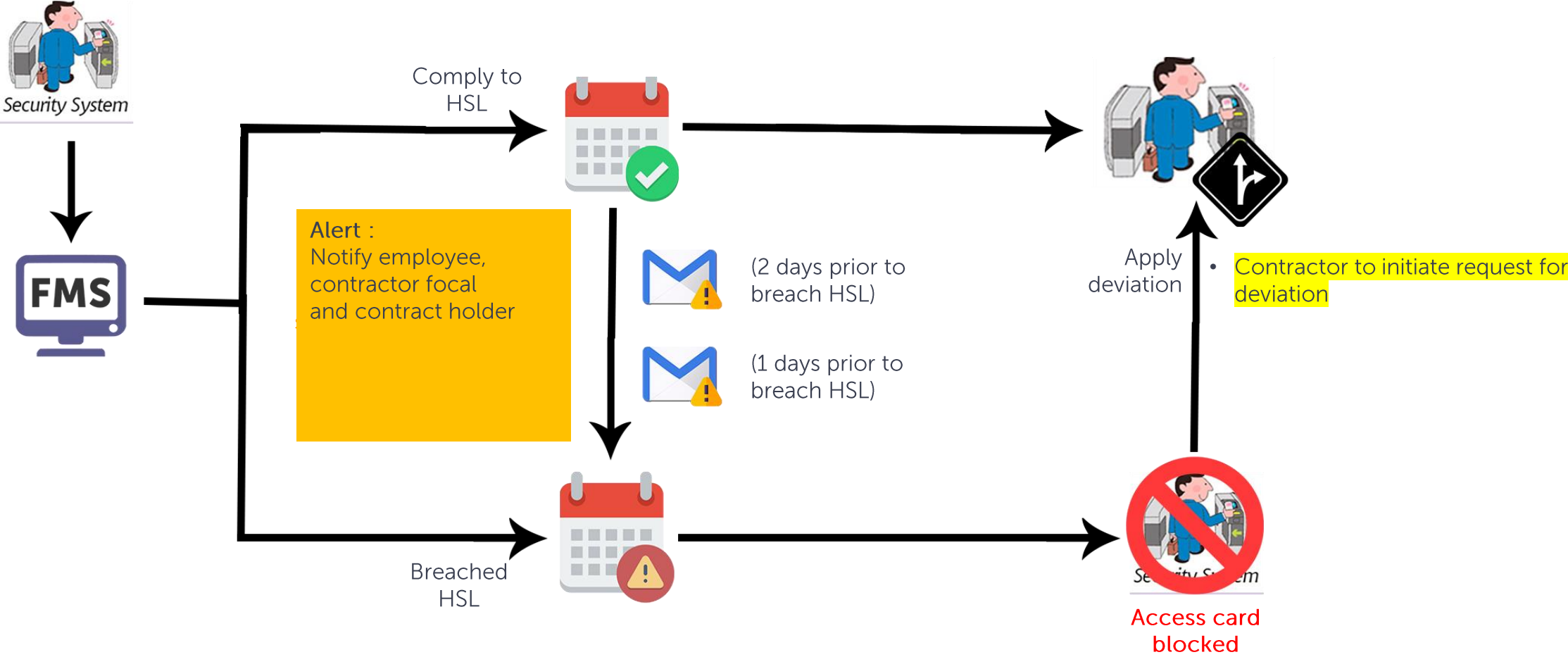
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2.4.2 FMS System Workflow

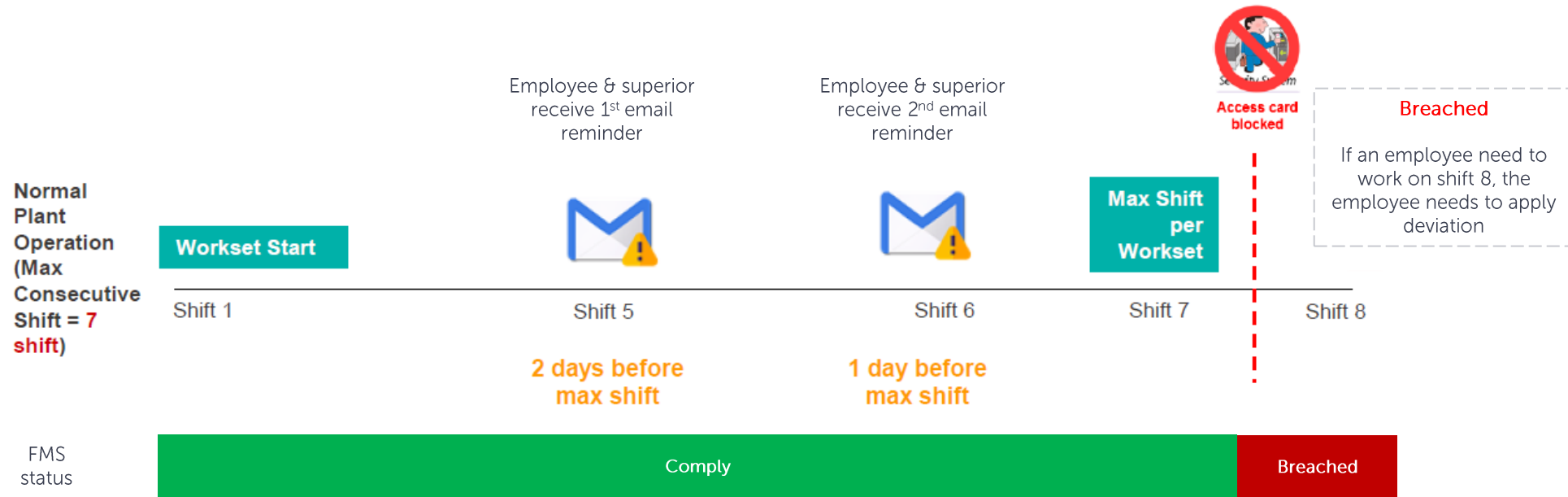
- Working Days & Email Notification



FMS (contractor) Working Days and Email Notification (1/2)



FMS Working Days and Email Notification (2/2)



Note:

1. Superior mentioned above refers to employee's superior as per in HRIS record.
2. Deviation is system feature to enable access card for a specified duration as in Deviation Request.
3. Only if non-compliance occur, access card only will be blocked **after** user clock out from premise.



FMS Email Sample: Working Days (2 Days before Breach)

[FMS] Two Days to Breach Maximum Consecutive Working Days



Fatigue Management (GHSE/PETH)

To: Fedelis B Martin Junie (MLNG/GNE)

Cc: James Lim (MLNG/GNE)

Reply Reply All Forward ...

Tue 03-Aug-21 12:02 AM

If there are problems with how this message is displayed, click here to view it in a web browser.

PETRONAS Fatigue Management System (FMS)

You Have Two Days Left Before Reaching Your Maximum Consecutive Working Days

August 03, 2021

Dear **Fedelis B Martin Junie (Plant/LNG - Malaysia)**,

You are being contacted because you have **two (2) days left** before reaching your maximum consecutive working days.

[Click here to view more details.](#)

Thank you,

Generated by Fatigue Management System (FMS)

Do not reply to this email as it is a system generated notification.

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FMS Email Sample: Working Days (1 Day before Breach)

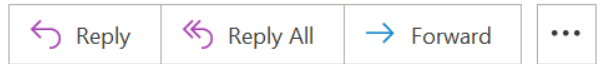
[FMS] One Day to Breach Maximum Consecutive Working Days



Fatigue Management (GHSE/PETH)

To Haslan B Kudiran (ET/PCEPE)

Cc Ahmad Ramzi B Omar (ET/PCEPE)



Tue 03-Aug-21 12:02 AM

If there are problems with how this message is displayed, click here to view it in a web browser.

PETRONAS Fatigue Management System (FMS)

You Have One Day Left Before Reaching Your Maximum Consecutive Working Days

August 03, 2021

Dear **Haslan B Kudiran (Production Ethylene/)**,

You are being contacted because you have **one (1) day left** before reaching your maximum consecutive working days.

[Click here to view more details.](#)

Thank you,

Generated by Fatigue Management System (FMS)

Do not reply to this email as it is a system generated notification.

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2.4.4 FMS System Workflow

- Deviation Request
- Deviation Approval



FMS Deviation



Deviation purpose is to **unlock access card that is being blocked** or **will be blocked** due to employee is required to work more hours (any business-related reasons) beyond the maximum hours-of-service limits specified in PTS of Fatigue Management at Workplace.

1. There are 2 types of deviation in FMS:
 - **Unplanned deviation (instant)**
 - **Planned deviation (future deviation)**
2. Deviation can only be requested by employee with role of **Deviation Requestor** in FMS.
3. Deviation can only be approved by employee with role of **Deviation Approver** in FMS.
4. For **unplanned deviation**, once the deviation approver approved the deviation request, employee access card will be unblocked automatically (real-time unblocking).
5. If an employee exceeds any of the HSL, and continue to work within duration of approved deviation, it is still considered it as non-compliance.



FMS OPU Focal, Deviation Requestor & Deviation Approver

OPU/OPC/Department	Contractor Work Group	OPU Focal	Deviation Requestor	Deviation Approver	Remarks
SPW / SPJ	Operation	HSE DE	RA / Job Owner	Section Head	RA / Job Owner are accountable to manage contractors.
Engineering	TA (UF)	HSE DE	RA / Job Owner	TA Manager	RA / Job Owner are accountable to manage contractors.
	TA (PePSB)	HSE DE	RA / Job Owner	TA Manager	RA / Job Owner are accountable to manage contractors.
UO	Operation	HSE DE	Shift Supervisor	Section Head / USM	Contractors are part of shift team. USM will act as Deviation Approver during silent hours
OF WID	Operation	HSE DE	RA / Job Owner	Section Head / USM	RA / Job Owner are accountable to manage contractors. USM will act as Deviation Approver during silent hours
OF ETP	Operation		RA / Job Owner	Section Head / USM	RA / Job Owner are accountable to manage contractors. USM will act as Deviation Approver during silent hours
CFS	Operation	HSE DE	RA / Job Owner	Section Head	RA / Job Owner are accountable to manage contractors.
CLS	Operation (Petronnic)	CLS HSE Representative	Contractor Supervisor (Aworldtech with PET email) / CLS Executive	Section Head	Contractor Supervisor to assist CLS Executive
	Operation (Aworldtech)		Contractor Supervisor (Aworldtech with PET email) / CLS Executive	Section Head	Contractor Supervisor to assist CLS Executive
Warehouse	Normal Office Hour / TA	Executive Warehouse	Warehouse Executive	Section Head	Contractor default workgroup is Normal Office hour. However, they will change the workgroup during TA
PePSB	N/A	N/A	N/A	N/A	Normal Office Hour
Facility Integrity (FI)	N/A	N/A	N/A	N/A	Normal Office Hour

List of appointed FMS-XPRESS OPU Focal, Deviation Requestor & Deviation Approver ([link](#))

Deviation Process Flow (Contractor to initiate the request through communication outside of the system)

Contractor > Contractor focal

Deviation Requestor | Create new deviation request



SUBMIT

CANCEL



Receiver: Deviation Requestor

REJECTED



Receiver: Deviation Requestor

Deviation Approver | Approve/Reject request



APPROVED



Receiver: Deviation Requestor

REVERTED

Email: Notify the form require amendment



Contractor's access card unblocked

Lesson Learnt

- Personnel to ensure properly badge-in/out at first level gate (entry point).
- Any malfunction from ACS gate/turnstile that cause missing Clock In or Clock Out will impact FMS calculation of working hours.



Frequently Asked Questions

No.	FAQ	Answer
1	What if the contractor take leave during work set? Will the shift be reset?	Yes. Shift will be reset to new cycle
2	What if the the contractor works under various PETRONAS contracts? Which work group to choose	Will follow active PETRONAS contract with workgroup Normal Plant Operation, TA and Projects
3	Project working day is different from HSL in PTS - 13 work days 1 day off. Which work group to choose	To select TA as Work Group



3.0 Q&A session



Thank you for your passion!

Questions?



fms.petronas.com
myhsse.petronas.com/fms