

SOUTH ANGSI ALPHA DECOMMISSIONING



OVERALL SCOPE
2018-2023

EXECUTE – ENHANCE – EXCEL

SAA DECOMMISSIONING

Successful Strategies for P&A and Decommissioning to ensure **EFFICIENCY** during Project Execution

Lessons learnt during the P&A phase of the project and how these were implemented to ensure the next phase of the campaign could take place

Talk about the importance of the conceptual phase of the decommissioning campaign for allowing effective and efficient **Facility Decommissioning** to take place

SAA DECOMMISSIONING PROJECT OVERALL SUMMARY

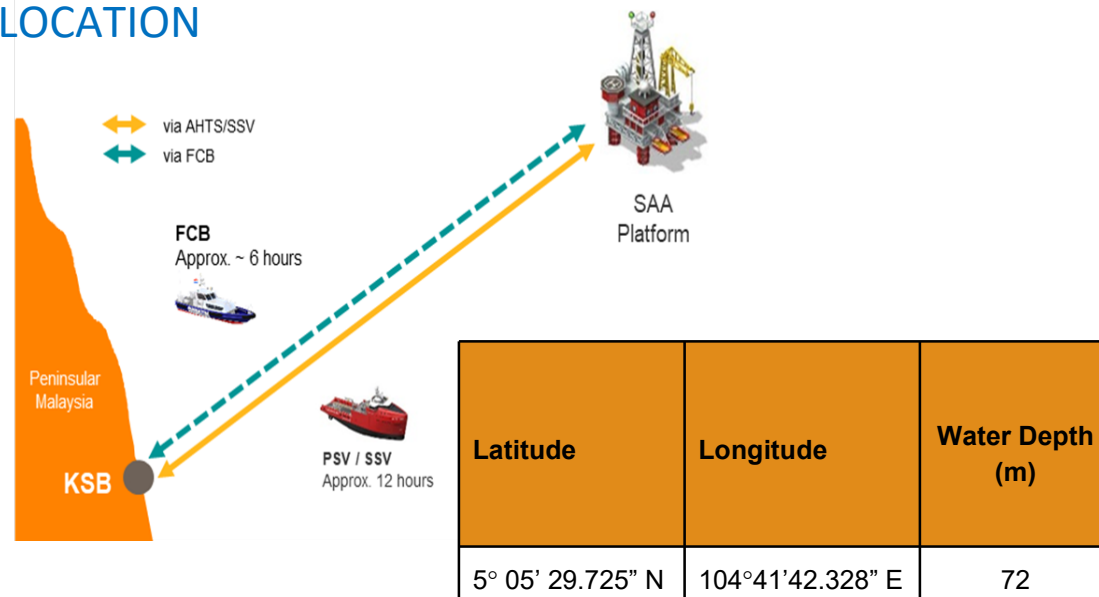
BACKGROUND

Hibiscus Oil & Gas Malaysia Limited (HML) is the operator for the South Angsi Alpha (SAA) field. SAA Platform located in block PM 305.

The initial discovery was made in March 2003 has been operating since its first oil date of 14th August 2005..

The SAA Topside is a Mobile Offshore Application Barge (MOAB) type. The Jacket was designed in such a way to allow early drilling campaign prior to arrival of the MOAB.

LOCATION



TIMELINE



PROJECT SCOPE

Phase 1: Pre-Decom / Hydrocarbon Free

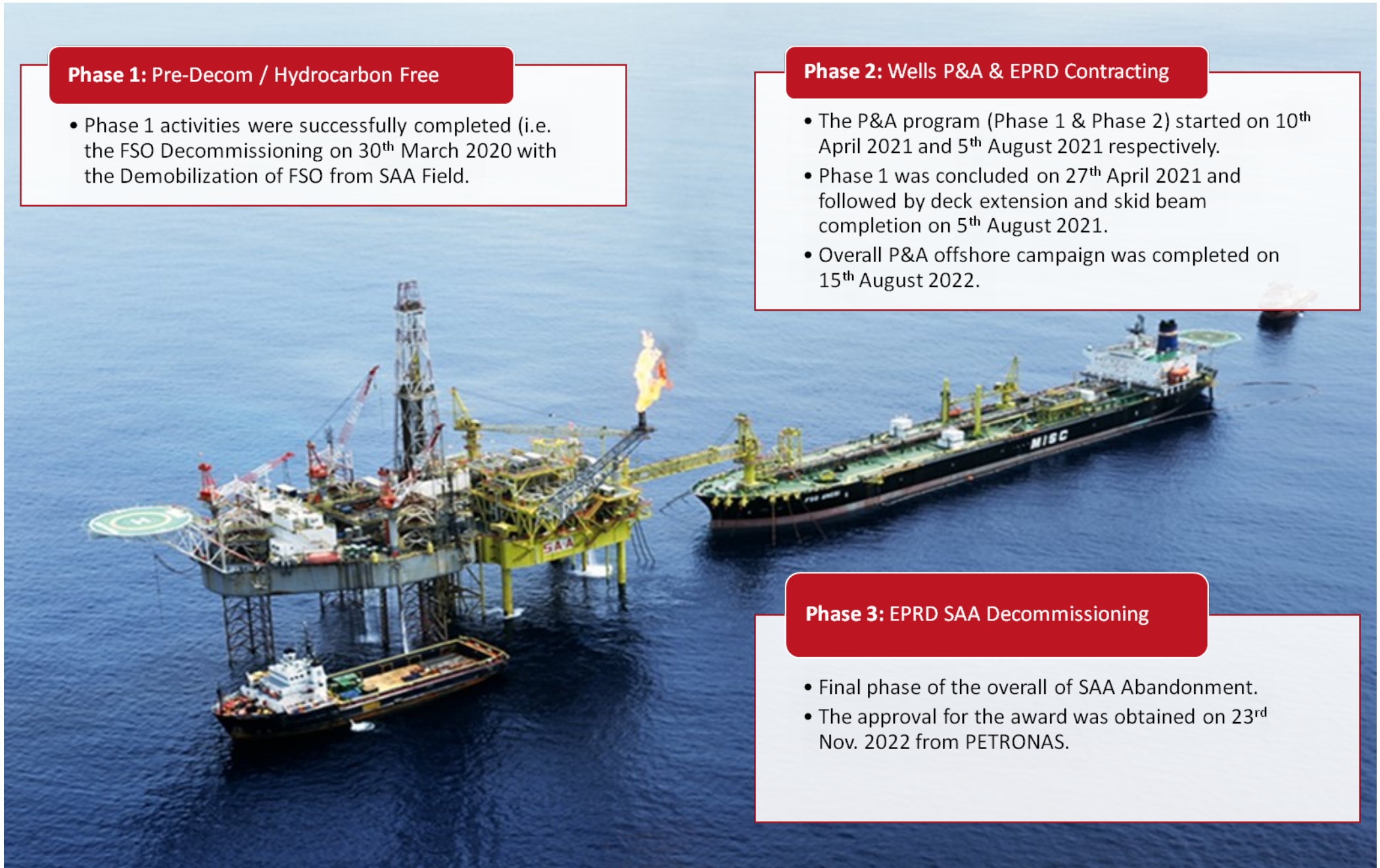
- Phase 1 activities were successfully completed (i.e. the FSO Decommissioning on 30th March 2020 with the Demobilization of FSO from SAA Field.

Phase 2: Wells P&A & EPRD Contracting

- The P&A program (Phase 1 & Phase 2) started on 10th April 2021 and 5th August 2021 respectively.
- Phase 1 was concluded on 27th April 2021 and followed by deck extension and skid beam completion on 5th August 2021.
- Overall P&A offshore campaign was completed on 15th August 2022.

Phase 3: EPRD SAA Decommissioning

- Final phase of the overall of SAA Abandonment.
- The approval for the award was obtained on 23rd Nov. 2022 from PETRONAS.



DECOMMISSIONING PHILOSOPHY

“Decommissioning is full of uncertainties & surprises.”

“What is seen might be trivial until we understand the issue in depth”



“Unknowns” poses various safety issues:

- Safety of personnel during preparation and lifting
- Presence of contaminants – Asbestos / Norm / Mercury
- Approach on Risk Assessment and strategies to make safe

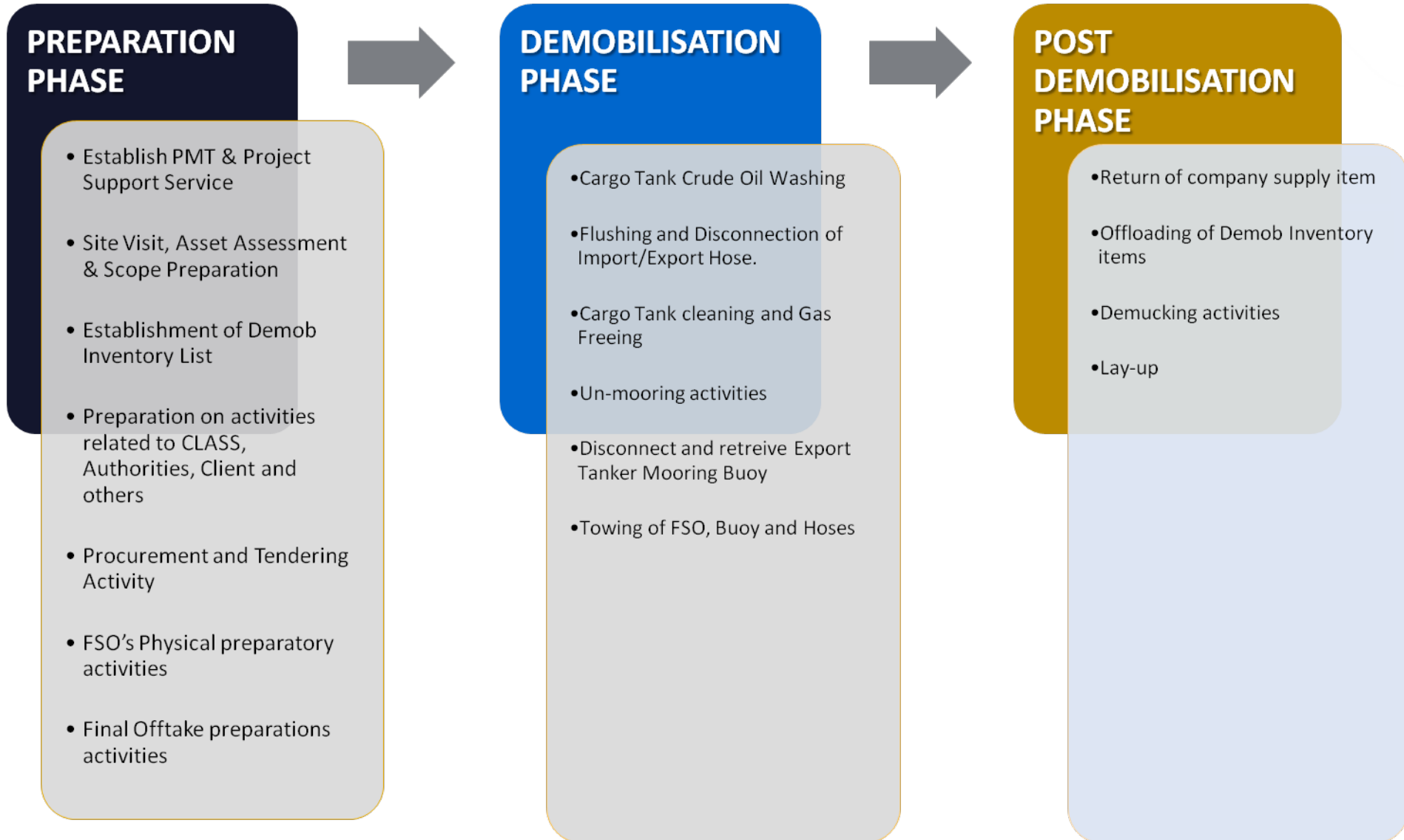
SUCCESSFUL STRATEGY

- **PRE-DECOM & HYDROCARBON FREE PHASE**

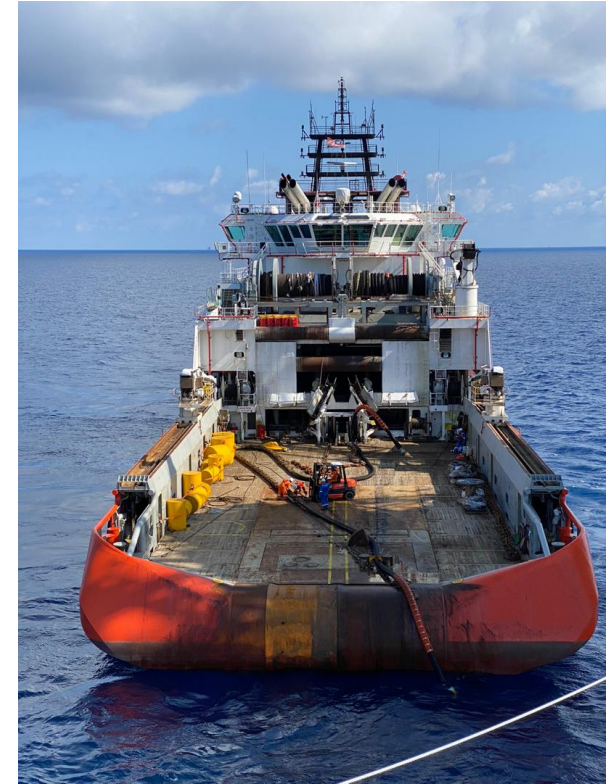
**SAA DECOMMISSIONING
FSO REMOVAL**

FSO DEMOBILIZATION SCOPE

- Phases of FSO Demobilization



FSO DEMOBILIZATION



SUCCESSFUL STRATEGY

- **PLUG & ABANDONEMENT PHASE**

**SAA DECOMMISSIONING
P&A**

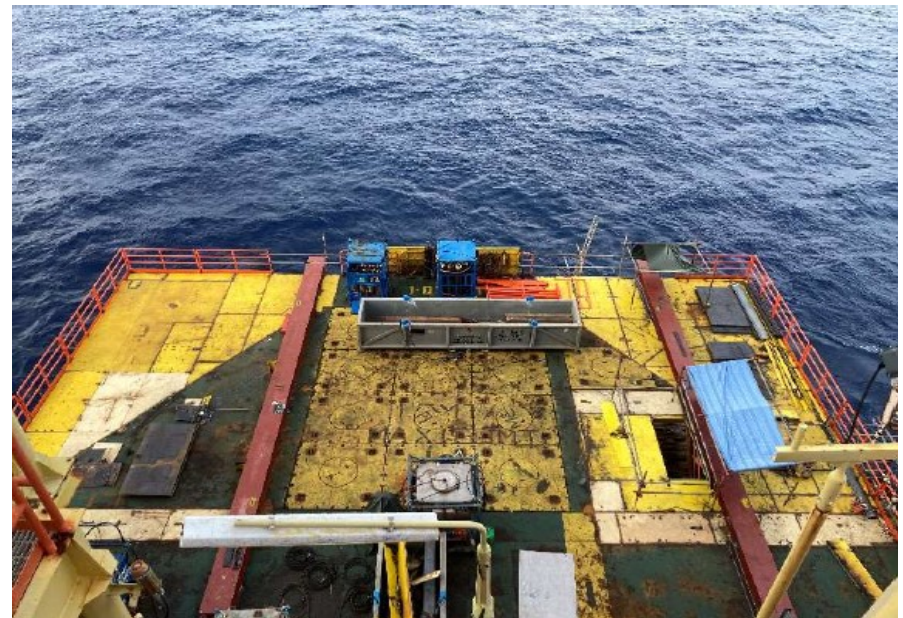
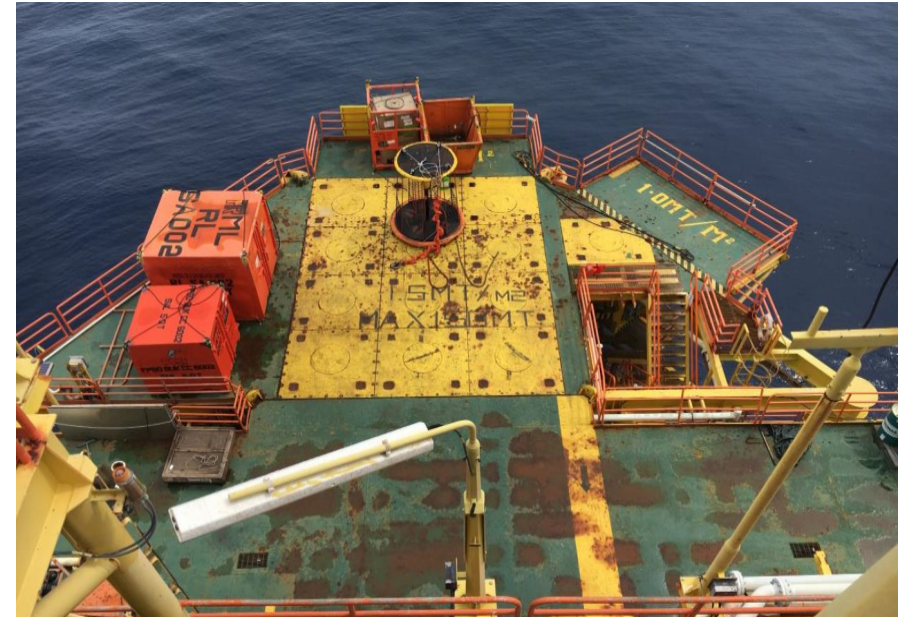
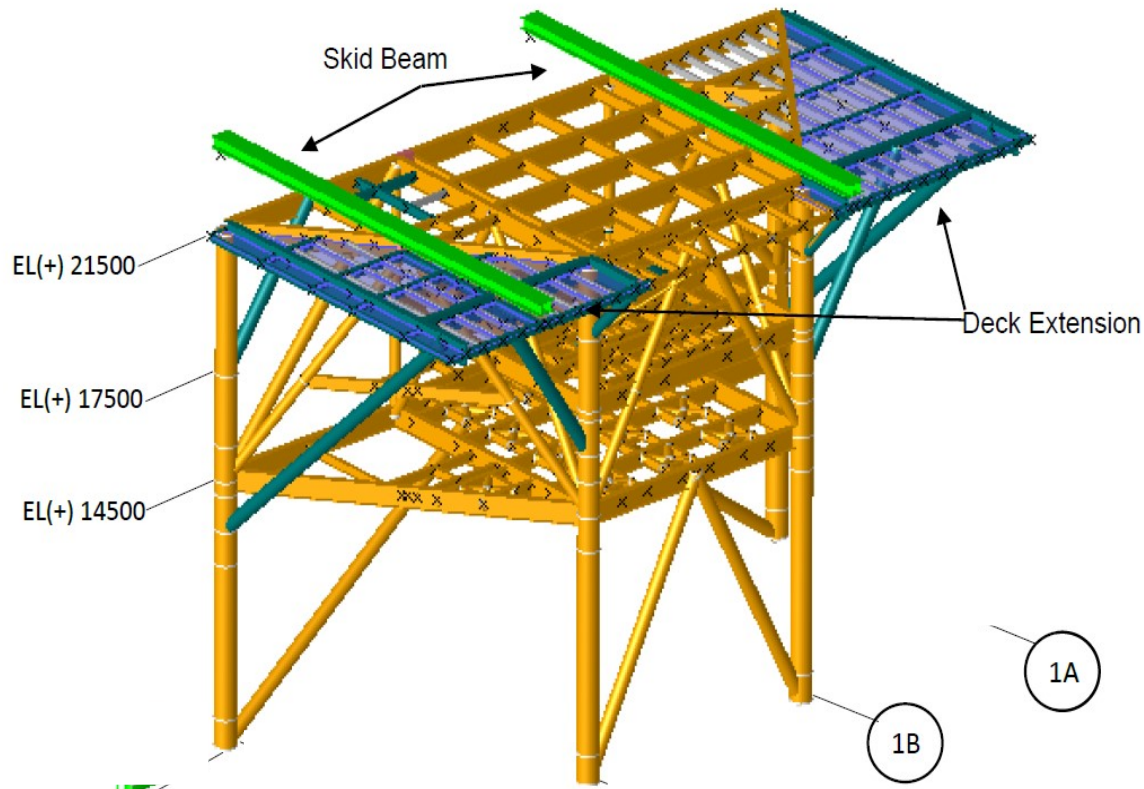
WELL ABANDONMENT

P&A SEQUENCE OF MILESTONE EVENTS & SCHEDULE

Date	Events
16 Apr 2021	Mob for platform preparation & modification work
20 Apr 2021	Mob Slickline & Pumping services for Phase 1 work – establish barriers & cut tubing. Concurrently, deck extension preparation work on-going.
26 May 2021	Phase 1 completed. New covid-19 annex 9 kicked in.
26 May 2021	Deck extension work & skid beams installation started.
9 July 2021	Skid beams installed.
11 July 2021	Performed AWB re-inspection.
5 Aug 2021	Mob Phase 2 – isolate well with cement plugs & recover casing/tubing using HWU Asian Pearl 101
13 Sept 2021	Commence first well
	Completed 4 wells (SAA13 / SAA04 / SAA07 / SAA01)
26 Nov 2021	Temporary Ceased Operation (Due to Monsoon)
16 Feb 2022	Resume P&A Phase 2
15 Aug 2022	Complete P&A all wells

WELL ABANDONMENT DECK EXTENSION

- Deck extension required to accept AP101 HWU



LESSON LEARN

MILESTONE PAYMENT

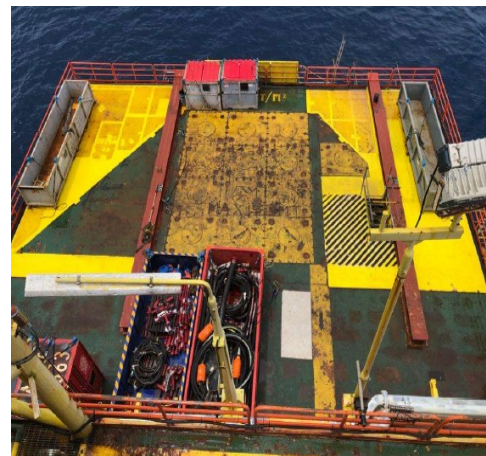
- 80/20 RULE
- EACH COMPLETED MS WILL BE PAID 80% OF SCOPE

BUNDLING OF SCOPE

- SPECIALIZED SERVICE PROVIDER TO HANDLE ITS OWN SPECIALITY

SECURITY BREACH

- CONTINUOUS SURVEILLANCE



LESSON LEARNT (MARINE)

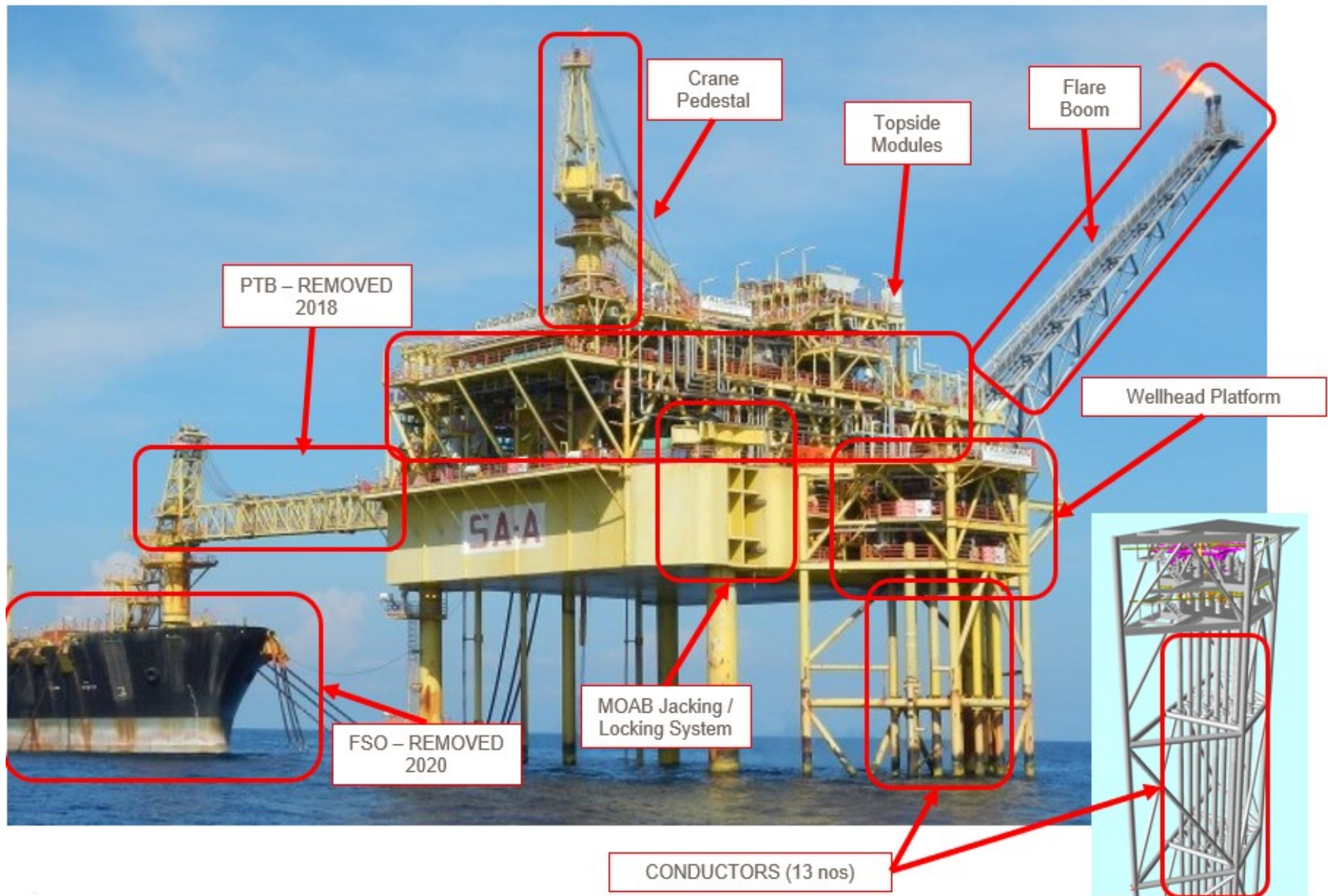
No	Description	What suppose to happen	What is happening	Lesson learnt & recommendation
1	Marine Spread-SK Line 605 No.2 Bow Thruster Motor	SK Line 605 required to be operated on DP2 mode to support the operations.	No. 2 bow thruster motor's premature winding damage is due to hot spot generated from previously detected stator lamination core which led to DP2 mode failure.	<ol style="list-style-type: none"> 1) Vessel owner shall conduct/arrange class surveyor for DP Trial test annually. 2) Machinery PMS recommendation needs to be reviewed by charterer if it meets industry standard. 3) Vessel master to ensure all bow thruster motors follow the PMS. 4) Vessel owner to ensure availability of spares onboard for immediate rectification works.
2	Marine Spread-Delayed mobilization of SKOM repair team	To call out repair team to get onboard for rectification work on the bow thruster motor issue on SK Line 605.	Repair work was delayed due to: <ol style="list-style-type: none"> 1)Insufficient repair crew with valid certification. 2)Unavailability of repair team. 3)Unresponsive contractor for repair work. 	<ol style="list-style-type: none"> 1) Strengthening contracting strategy to obtain vessel owner's commitment for any rectification work as and when required in the event of any technical issues with vessel.
3	Marine Spread-Replacement vessel for Executive Valour	To have a minimum of two (2) working vessels throughout the campaign.	Executive Valour was off-hired on 30 th June 2022, which is before the campaign ended on 17 th Aug 2022 due to no availability.	<ol style="list-style-type: none"> 1) Commitment from vessel owner to support till completion of campaign. 2) Contracting strategy of identifying vessel owner with capability of providing immediate replacement vessel. 3) Vessel utilization forecast to be improved to indicate 1 month lookahead.

SUCCESSFUL STRATEGY

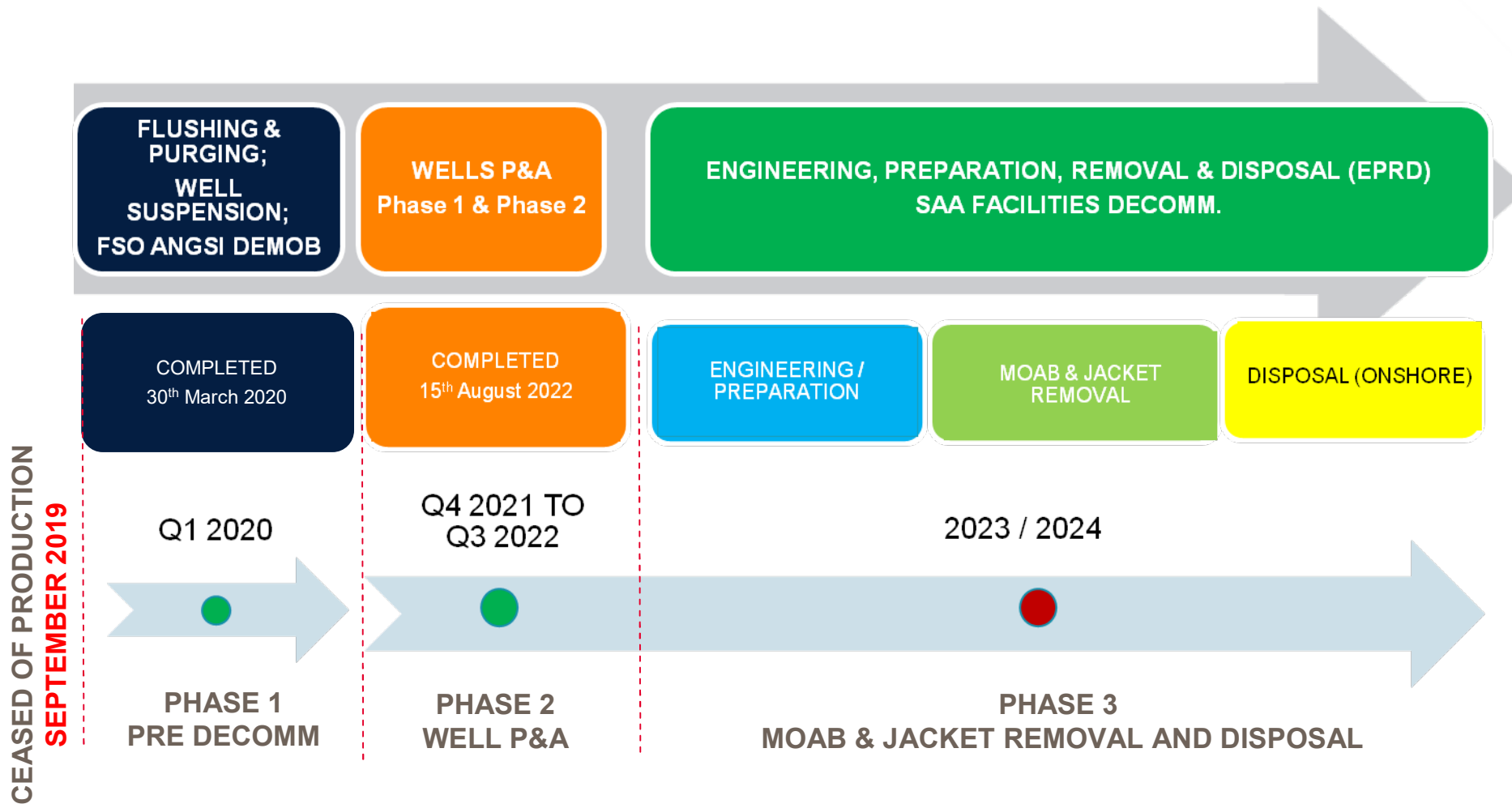
- FACILITY DECOMMISSIONING PHASE

**SAA DECOMMISSIONING
EPRD**

SOUTH ANGSI ALPHA PROJECT BACKGROUND



DECOMMISSIONING OVERALL TIMELINE



ENGINEERING PREPARATION REMOVAL & DISPOSAL (EPRD) SAA FACILITIES DECOMMISSIONING OVERVIEW

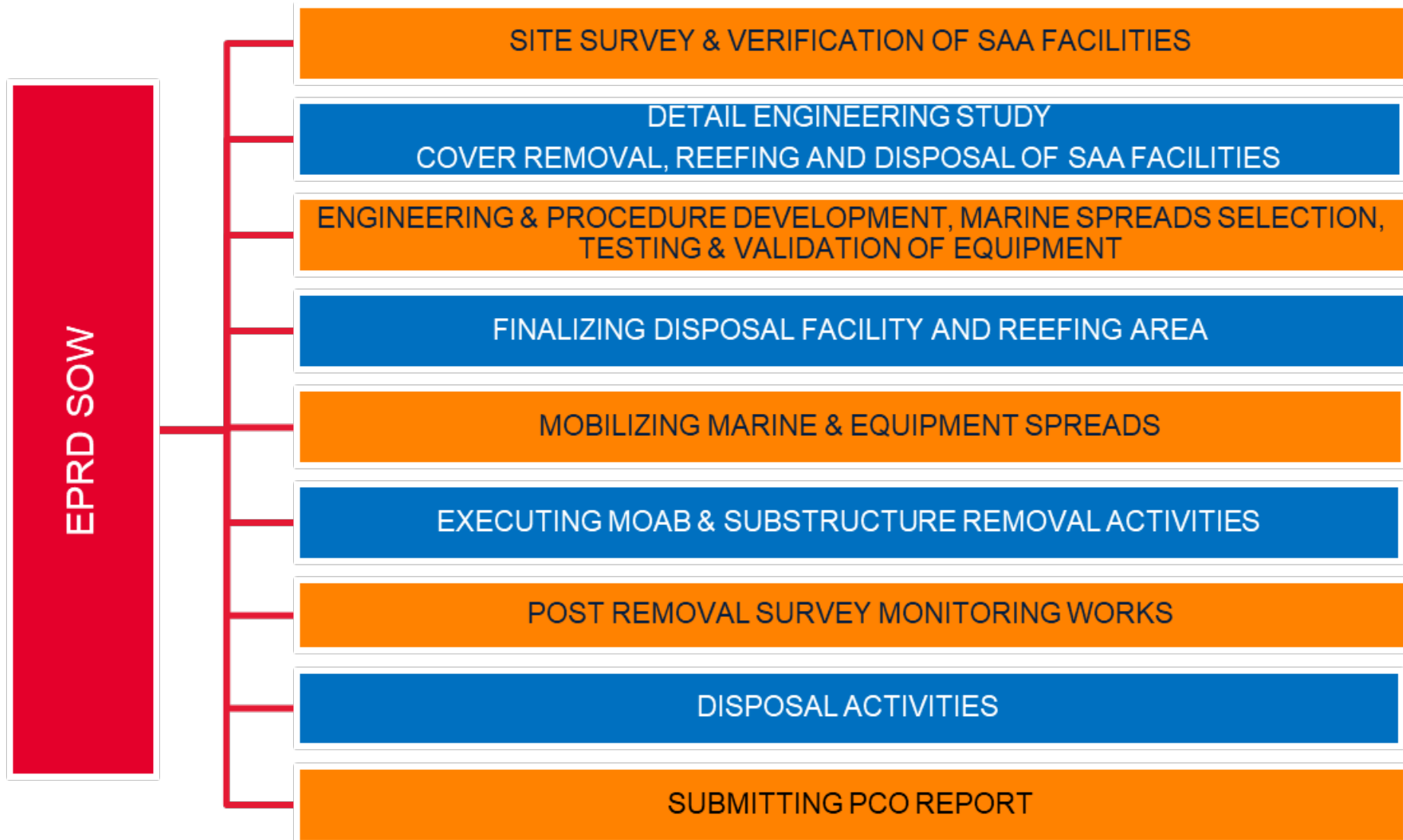
- EPRD campaign involves **2 main facilities**; MOAB and Substructure.
- EPRD scope is split into **three categories**, Category 1, Category 2 and Category 3:

Category 1	Engineering & Preparation	Detail engineering study & procedures development, marine spreads selection, testing & validation of equipment
Category 2	Removal	Executing MOAB, substructure removal activities & post removal survey monitoring works
Category 3	Disposal	Disposal activities

- SAA Facility Decommissioning is based on a **EPRD** concept which all the engineering, preparation, removal and disposal - integrated under **a single LUMP SUM** contract and awarded to a single Contractor based on competitive bidding strategy.
- Planned EPRD duration = **24 months**
- Jacket: **2248.06 MT** (3339.10 MT incl. wellhead platform, piles and legheads)
- MOAB: **3927.01 MT**
- SAA is located in Block 305/314, **145km** offshore Peninsular Malaysia, in the South-Western part of Malay Basin. Water depth is **~72m**.

EPRD OVERVIEW

OVERVIEW OF EPRD SCOPE OF WORKS



FACILITIES DECOMMISSIONING

ACTIVITIES PRIOR EPRD- OFFSHORE EXECUTION



COMPLETION OF P&A

- P&A PHASE 2 UNTIL JUNE 2022

REEFING PREP

- SYNDICATION WITH GOVERNMENT AGENCIES

EPRD ENGINEERING PREPARATION

- ENGINEERING STUDY OF PRE-SELECTED CONCEPT BY CONTRACTOR
- DESIGNING LOWERING MECHANISM
- VERIFICATION OF MOAB
- DEVELOPMENT OF PROCEDURES & METHODOLOGY
- DEFINE CUTTING MECHANISM & LOCATION
- VESSELS SELECTION – INSPECTION & ACCEPTANCE

- EQUIPMENT VALIDATION
 - TOOL SELECTION
 - TESTING & VERIFICATION

- DISPOSAL YARD INSPECTION & ACCEPTANCE

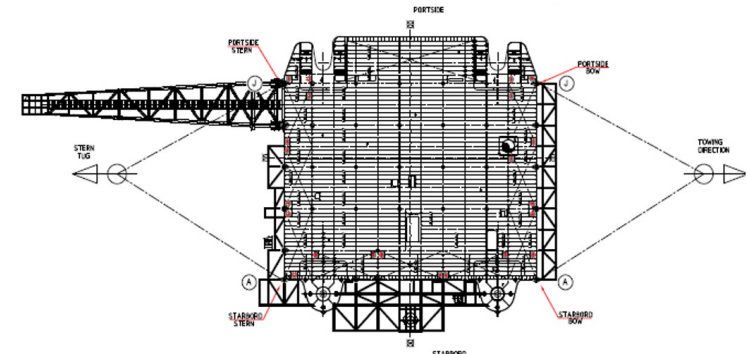
FACILITIES DECOMMISSIONING OPTIONS

METHODOLOGY FOR MOAB

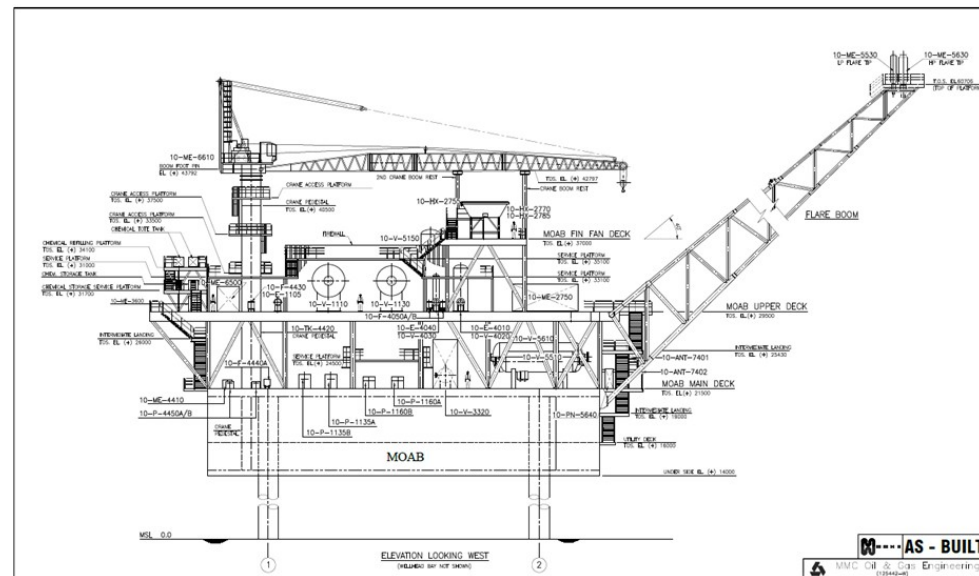


Weight 3'900 to
Lowering distance (legs) 20 m

Strand jack H-400 16 units
Strand jack H-140 8 units



MOAB Towing Directions



FACILITIES DECOMMISSIONING OPTIONS

METHODOLOGY FOR MOAB



Q&A SESSION





**HIBISCUS OIL & GAS MALAYSIA LIMITED –
ENGINEERING, PREPARATION, REMOVAL AND DISPOSAL
(EPRD) SERVICES FOR SOUTH ANGSI ALPHA (SAA)
FACILITIES DECOMMISSIONING PROJECT**

Contract No.: PA21-0001

THANK YOU

***Note: The tentative window for Pulau Tenggol reefing is mid of December 2023**

