

HMA Connect #6



Friends & Colleagues, Assalamualaikum wbt & Salam Sejahtera.

The month of August always feel extra celebratory especially for the Malaysians working with PETRONAS as it marks the organization's 46th anniversary as well as Malaysia's 63rd National Day. We should be very thankful to our leaders and colleagues, past and present for their courage, effort and dedication that bring us to where we are today. Not to forget are also the continued trusts by our partners, stakeholders and customers.

In this edition, we will be sharing with you, what can be offered by INSTEP in supporting the capability development for our metering practitioners in Malaysia. Besides that, a bit of information on HMA Assurance Program, which has been one of the main activities conducted by our team every year since 2016. And last but not least, as usual, the articles written by our own HMA team on the events and happenings throughout Q3 2020.

Hope you enjoy reading our HMA Connect #6 with the theme "Hari Kebangsaan". Wishing all Malaysians a happy and fulfilling National Day and Malaysia Day. Let us all celebrate the diversity that has made us who we are today, and continue to enjoy the harmony and progress together as a Nation.

#MalaysiaPrihatin
Thank you.



Did you know?

Institut Teknologi Petroleum PETRONAS (INSTEP) provides an accredited training for metering personnel called *Certified Personnel For Metering Validation & Calibration Competency Program*. This structured program was introduced

in November 2017 as an outcome of the collaboration between PETRONAS, INSTEP and SIRIM with the aim to furnish participants with the necessary skills and knowledge to perform metering validation and calibration activities in accordance to the procedures and standards. The program is tailored to meet the need of metering personnel who performs, sign-off or evaluate reports and witness validation activities including third party contractors, PETRONAS & PAC metering personnel, and metering equipment supplier & system integrator to deliver their daily tasks. For year 2020, INSTEP organizes 4 sessions at INSTEP, Kuala Terengganu and 2 sessions in PGB-GTR, Segamat with each session limited to a maximum of 8 participants. For more information on this program, please contact the program leader at:

muhamadfaizzudin.ah@petronas.com.my.

Training Facilities at INSTEP



DAY 1

- Introduction

DAY 2

- Validation Procedures
- Flow Calculation

DAY 3

- Transmitter Validation
- Flow Meter Validation
- FC Validation

DAY 4 & DAY 5

- Written Assessment
- Practical Assessment

HMApedia: HMA Assurance Program

WHY DO PETRONAS CONDUCT ASSURANCE PROGRAM?

HMA Assurance Program is a practice where regulatory inspection is done on gas sales, condensate and crude records as well as metering system site assessment to ensure accuracy of reported sales numbers, integrity of metering system and continuous operational improvement.

Hydrocarbon allocation system is assessed on its conformity against organization policies and procedures (PPGUA), laws, regulations and contracts (SPA). Measurement and allocation issues are then identified and planned for its closure.

During the activities, PETRONAS also takes the opportunity to emulate and standardize best practices by PAC in measurement and allocation matters in order to improve the measurement and allocation practices across Malaysia.

METHODOLOGY

- Document review
- Interview with personnel, presentations, etc.
- Site assessment
- Clarification Session, Close Out Report and Exit Meeting.

HISTORY

2000s

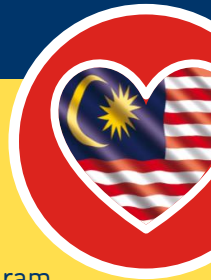
Record Inspection, HMA Audit, HMA Assessment

2017 ONWARDS

HMA Assurance Program (HMA AP)

2020

Integrated Assurance Program (IOAIA + GHSSE Security + HMA AP)



MILESTONES

- Intention letter and Assurance Memorandum
To specify Assurance Program scope and timeline.
- Kick off meeting
For schedule, assessment matrix, metering system and allocation briefing.
- Desktop Review & Site Visit
Interviews are conducted for clarification.
- Exit Meeting
Preliminary findings are presented to auditee.
2 weeks clarification
- Final finding
Official letter and findings summary are issued.
- Corrective Action Plan
Auditee is to come out with CAP to close all the findings.
- Closure
Assurance program is considered closed once all findings have been closed.

LOCATIONS VISITED

- Bintulu Integrated Facilities (BIF)
- Bintulu Onshore Receiving Facilities (BORF)
- Terengganu Crude Oil Terminal Sabah Oil and Gas Terminal (SOGT)
- Malaysia LNG
- Peninsular Malaysia Onshore Gas Terminal (OGT), Onshore Slugcatcher (OSC), Terengganu Gas Terminal (TGAST)
- Labuan Gas Terminal (LGAST)
- Labuan Crude Oil Terminal (LCOT)
 - Miri Crude Oil Terminal (MCOT) & Bintulu Crude Oil Terminal (BCOT).



Q2 2020

Metering Validation Compliance

0% 50% 100%

PM

SB

SK

NOTES: PETRONAS PGB, PTTEP (SB), PCSB SBA, PFLNG1, SSPG, VPSB AND MLNG ARE NOT LISTED DUE TO NO PLANNED ACTIVITIES/WAIVED ACTIVITIES DURING Q2 2020.



Q2 2020

Allocation Closing Compliance

0% 100%

PM

SB

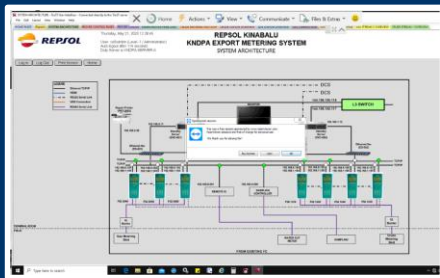
SK



REMOTE WITNESSING FOR METERING SYSTEM TESTING ACTIVITIES.

Movement Control Order (MCO) directive by the government has forced us to explore on alternative way in participating for testing activity which is remote witnessing. Remote witnessing is an event where witnesses are virtually connected through a digital platform (e.g. Ms Teams) to assess the progress of the testing, interact with site personnel and provide feedback to project team without the need to be physically present at test facilities.

A handful of remote testing conducted within Malaysia since March 2020 such as *Human Machine Interface (HMI) Upgrade for Repsol's Kinabalu Oil Metering System Factory Acceptance Test (FAT)* and *HMI & Flow Computer FAT for Mubadala's Pegaga Condensate Metering System*.



Kinabalu HMI metering upgrade - virtual FAT hosted via TeamViewer by Dermaga from testing facility in Nilai.



Pegaga new metering system - virtual FAT hosted via Microsoft Teams by Krohne from testing facility in Semeniyh.



Anjung Kecil master meter calibration - remote witnessing hosted via Microsoft Teams from Faure-Herman in France.

Apart from domestic testing activity, there was a master flowmeter calibration conducted in France for Vestigo's Anjung Kecil, where NMIM SIRIM, VPSB and MPM HMA participated virtually from their respective location.

ADVANTAGES

Unlike normal witnessing arrangement, remote witnessing is a cost-effective approach where costs associated with logistic, lodging and witnessing fee (especially for lab calibration) are evitable.

In terms of project scheduling, planning is much easier as the allocated time for testing is flexible and not bounded by witnesses readiness at site. Thus, the daily schedule can start on time, leading to productive hours and quality time spent. Unproductive manhours due to time accumulated to account for the journey to testing facility or time-out for meal hours can be reduced as well.

CHALLENGES AND LESSON LEARNT

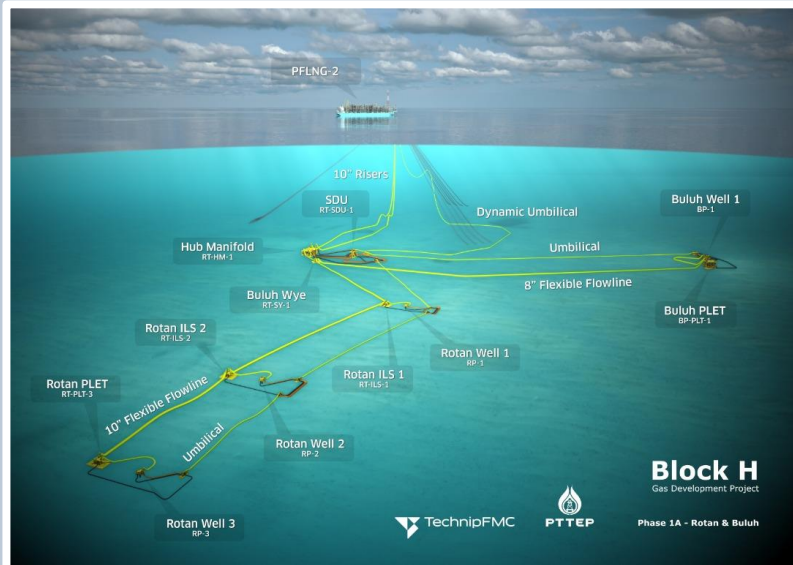
Despite successful completion of the testing activities, there were few challenges and gaps observed during the remote witnessing. Connection stability, digital platform accessibility, limitation on hardware resources, challenges to verify individual result for each test, risk for tampering test result and additional manhours for remote testing setup preparation are amongst the challenges and issues that were faced with remote witnessing arrangement.

WAY FORWARD

Apart from cost and time optimization, all queries from the witnesses were able to be addressed and communicated via digital platform. There were few gaps identified for improvement and lesson learnt from the activities that can be implemented for other virtual testing and remote witnessing activities in the future.



BLOCK H MAC MTAB WORKSHOP



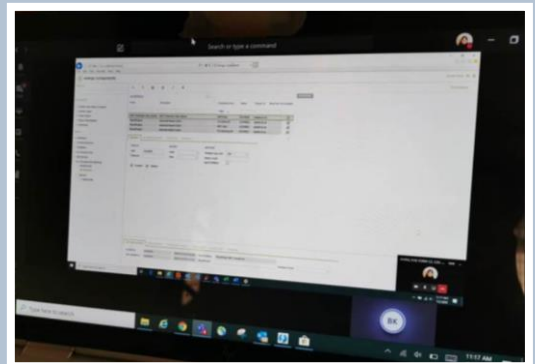
23rd July 2020 marks another milestone for Block H field development where Measurement, Testing, Allocation and Balancing (MTAB) Workshop was successfully conducted with the participation of various stakeholders.

The establishment of MTAB procedure is crucial as it is a platform in ensuring all relevant stakeholders receives equal allocation of the product as well as the accuracy of the measurement system.

As the appointed field operator and the MTAB Custodian, PTTEP has managed to gather and coordinate all relevant stakeholders which includes PERTAMINA, PCSB, PETRONAS, PFLNG 2 and GTS as PFLNG 2's consultant partner for a discussion session on the procedure. With the integration & collaboration between the Upstream parties and PFLNG 2, we hope that it will give assurance to the stakeholders for the upcoming operational phase soon. We would like to thank all parties involved in ensuring compliance to the PPGUA and pray for smooth operation for the first Gas Operation. Thank you and all the best!

KIDURONG MARINE TERMINAL HYPAS GO-LIVE

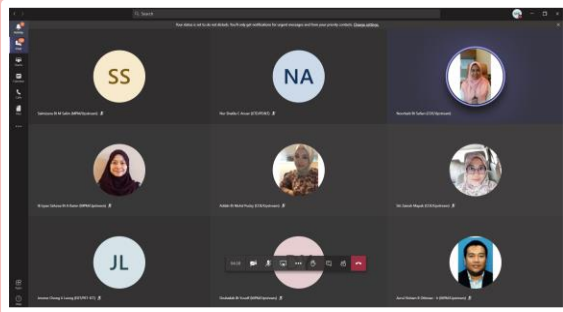
Kidurong Marine Terminal (KMT) Allocation Reports digitalization project was successfully Go-Live in HYPAS in June 2020 closing through various engaging discussions and proper UAT with PTTEP, HYPAS COE and MPM HAA representatives. The digitalization effort has led to the reduction of manhours for reporting and approval, support data confidentiality and security using recognized PETRONAS allocation system and provide seamless data integration using digital platform.



Congratulations!



HYPAS HMA ASSURANCE PROGRAM



Hydrocarbon Production Allocation has been in practice in Malaysia in view of its integrated development from upstream to downstream. With the digital era started transforming business in in new millennium, MPM has introduce a hydrocarbon production allocation system to improve existing system at PM and SB/SK to a web based system, called HyPAS leveraging on Energy Component application as based. The improvement started in 2014 in PM and

2016 at SB/SK region. Since then, numerous enhancement, configurations and tie-ins to HyPAS for it has help PSCs production allocation smother, auditable and traceable.

This year, marks its 6th year in Malaysia production allocation environment and MPM has embarked on its inaugural full system assessment via HyPAS HMA Assurance Program from 10 - 14 Aug 2020 virtually. Concept of desktop review with daily interviews with Upstream Digital team has been used, and prove effective in providing insights and details of HyPAS management.

We would like to thank Upstream Digital for their support and dedication towards HyPAS HMA AP. Besides, their dedication in supporting HyPAS since the beginning stage until now is commendable, and pray for more enhanced and systematic collaboration in the future.



Coming to you...



1. BAGSF BIF HMA ASSURANCE PROGRAM
2. JOINT RECORD INSPECTION FOR PGB GPK AND GPS
3. HMA COP WORKSHOP
4. KIKEH SNP HYPAS GO-LIVE