

HMA CONNECT



Dear HMA fraternity,

2020 has been full of surprises that no one has ever asked for and ever anticipate. We have faced one of the toughest period in history due to COVID-19 pandemic. We still need to remain resilient to overcome the challenges in the years to come as the road ahead is unpredictable. For us to strive through, we need to reinvigorate the way we do things and be brave to expand beyond our core.

The main highlight of our activity in Q3 2020 is the recent HMA CoP Virtual Workshop 2020. We would like to thank each and everyone of you for the active participation and contribution throughout this event. We were delighted that all measurement and allocation practitioners were able to assemble, sharing best practices and lesson learnt in managing their respective assets.

A series of HMA Assurance Program was successfully and safely completed for SBGAST, DGDM network and BAGSF BIF as well as Joint Record Inspection for PGB (GPK and GPS), despite challenges to conduct site assessment. We continuously monitor metering validation compliance and MTAB closing performance - well done to those who had shown improvement in Q3 2020 and we strongly urge the rest to intensify your effort to achieve full compliance!

Let's strive to achieve superior performance and exceptional results through active collaboration, with courage and dedication for the success of tomorrow.

Merry Christmas to our Christian colleagues and Happy New Year to all!

#KitaJagaKita

Ir. Ts. Azral Hisham bin Othman

SALMI



IR. TS. AZRUL



KAMARUL



SHIMA



ILI



FIRDAUS



DZUHAILAH



HANISAH

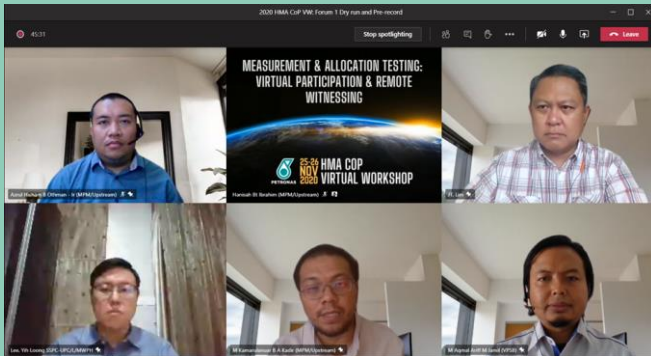




Virtual Remote Witnessing

It is time for the update for one of the forum topics during the recent HMA COP 2020, Testing Activities: Virtual Participation And Remote Witnessing with panelist coming from different background, carefully chosen to provide the best view in the topics discussed. The panelist were Ir Ts Azrul Hisham b Othman (MPM), Lee Yih Loong (Sabah Shell), M Aqmal Ariff M Jamil (VPSB) and JT Lim (Krohne).

During the session, all panelist shared their experience participation in virtual witnessing of measurement system FAT as well as flow testing. Although there were limitations in term of appreciating the sensory absence if virtual witnessing, every panelist agreed that the virtual



witnessing is a way to go moving forward with certain improvements required. These includes the placement of camera (preferably wearables), pre-activity briefing and checklist, confidentiality of witnessing, suitable virtual platform., etc.

As for the advantages, the virtual witnessing provides an avenue for the session to be recorded for future reference as well as opening the opportunity for wider participations especially for the new engineers to learn.

Looks like remote witnessing is the way to go!

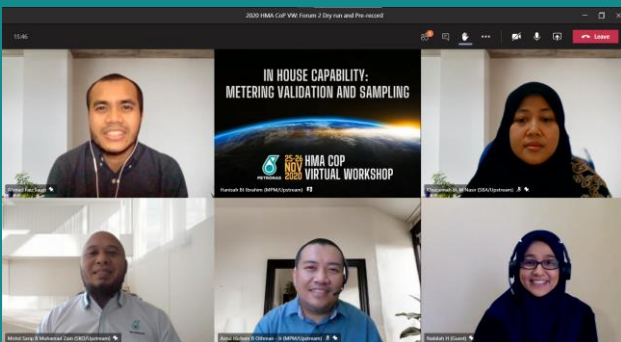
This forum was moderated by Ir. Ts. Azrul Hisham B Othman (MPM) with panelists from PCSB SKO (M Sarip B M Zain), SOMV (Ahmad Faiz B Fauzi), PCSB SBA (Khuzaimah Bt Nasir) and EMEPMI (Nabilah Bt Hamid), to get feedback on current operational practices between PACs.

The forum touched on human as key intangible asset in any organization. In today's dynamic and continuous change in oil & gas industry, it is the human asset that differentiate an organization from its competitors. The session further discussed the benefits, challenges and opportunities of institutionalizing internal capability in terms of economic and risk evaluation, manpower readiness and test equipment management.



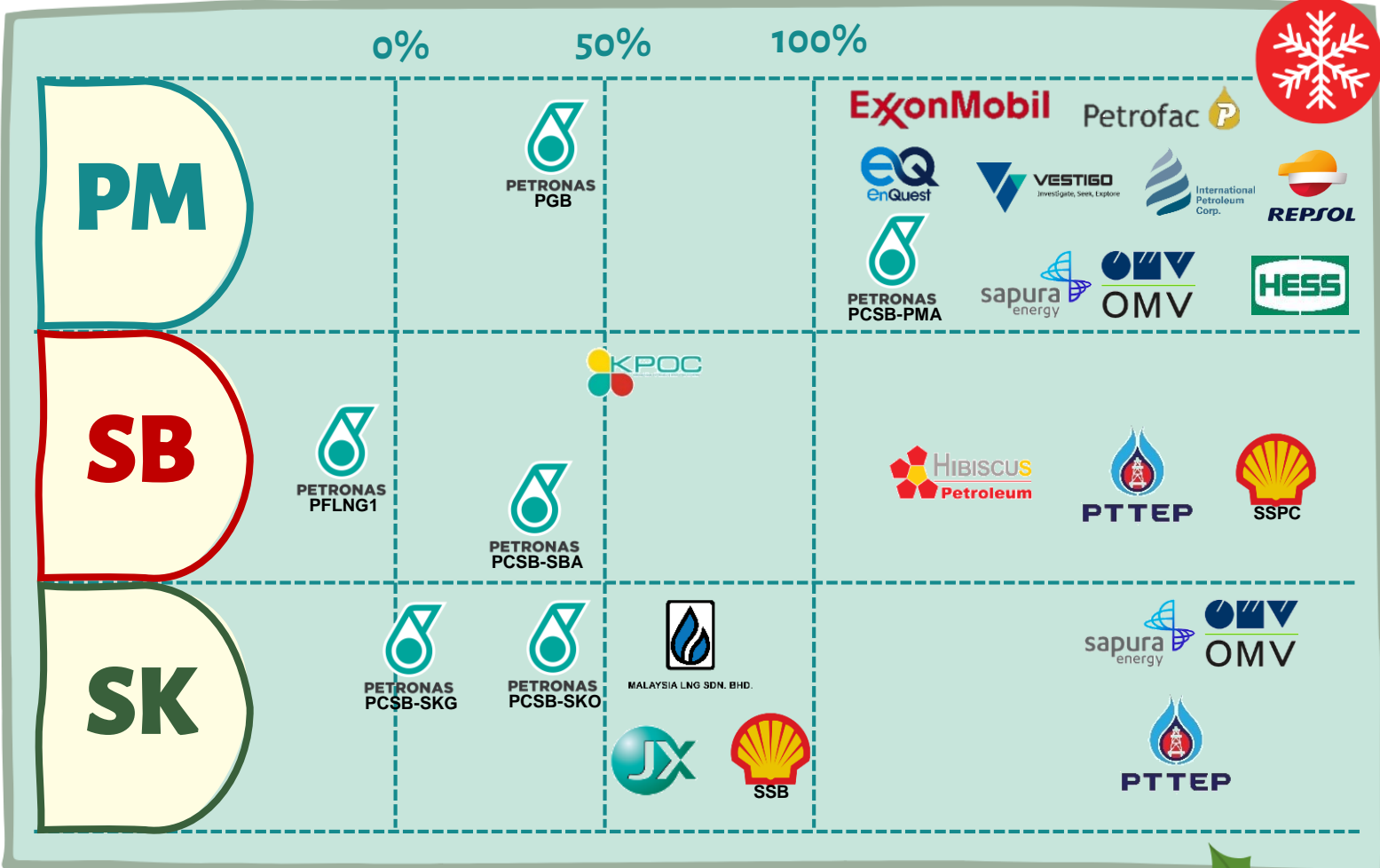
In-House Metering Validation & Sampling

Each panelist shared their experience, e.g. in-house validation strategy by EMEPMI emphasizing on technical capability program for their technician whilst complying to the governance. SOMV on the other hand implement in-house sampling activity prior analysis by certified external lab. PCSB highlighted on current challenges where evaluation for in house implementation is ongoing throughout PCSB Malaysia Asset. Concern on the impact to business ecosystem especially service providers was also raised in the forum.

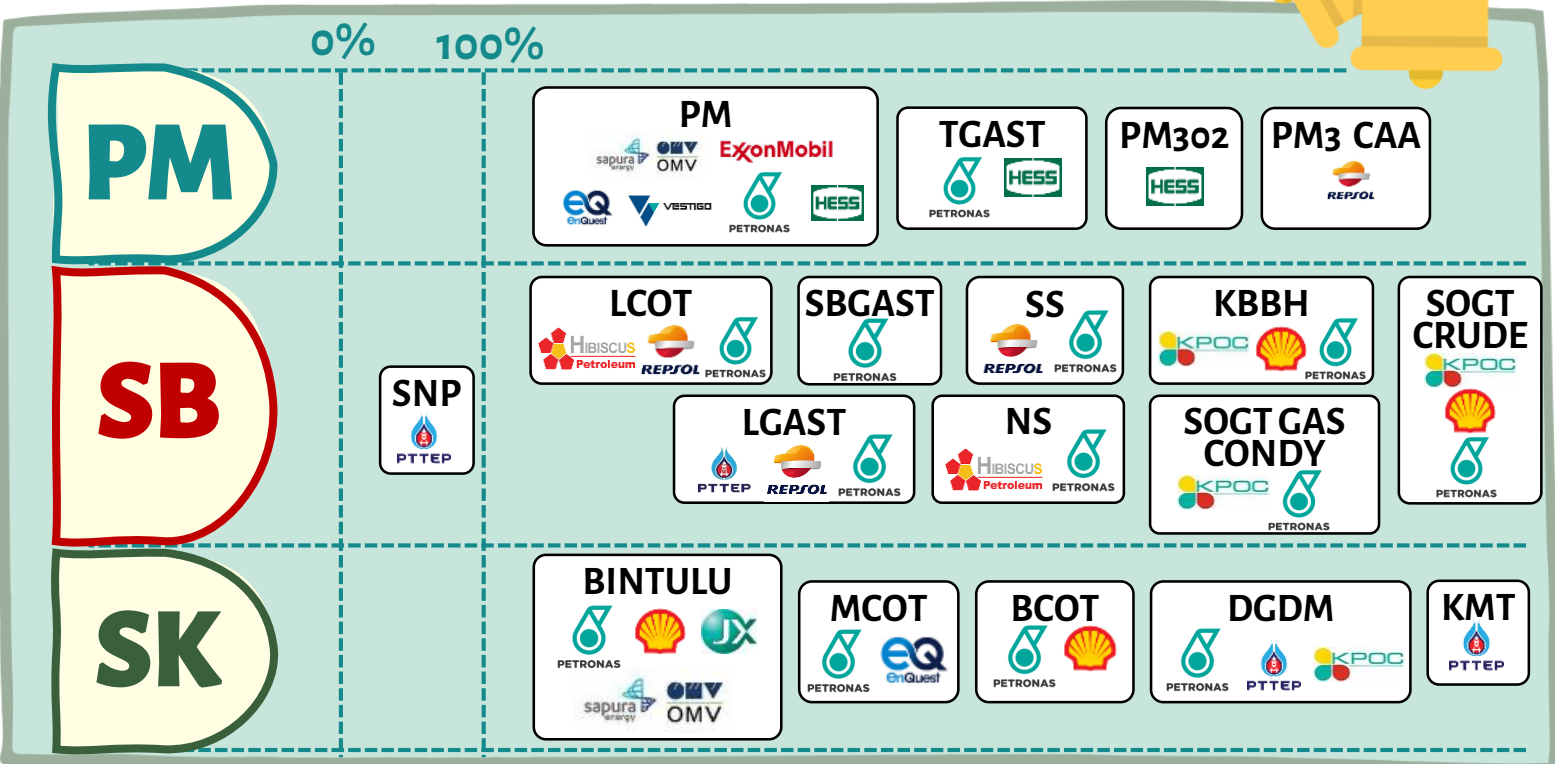


In summary, all panelist acknowledged that this initiative is a good strategy to optimize operational cost besides improving manpower competency. However, comprehensive assessment need to be conducted on cost, manpower, etc. and obtaining consensus from stakeholders and government agencies i.e. NMIM SIRIM.

Q3 Metering Validation 2020 Compliance



Q3 Allocation Closing 2020 Compliance

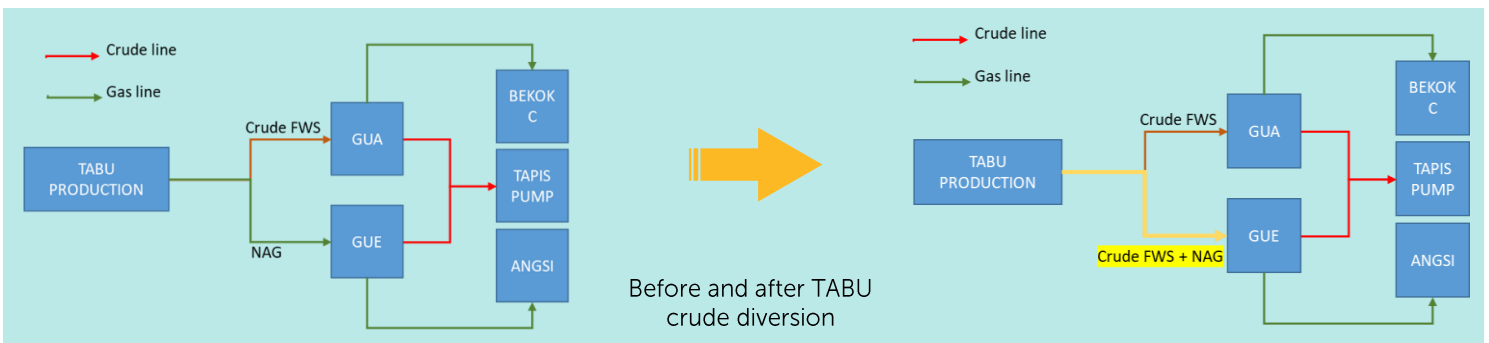


Events



TABU Diversion

Tabu Diversion Enhancement is a PM HyPAS enhancement to cater for a new flow arrangement for Tabu field which consists of crude full well stream (FWS) and non-associated gas (NAG). Prior Tabu Diversion, Tabu FWS flows to Guntong A (GUA) and its liquid is measured by a dedicated liquid Coriolis meter for Tabu. Tabu NAG flows to Guntong D/E Complex (GUE) and its drop out condensate is measured by a turbine meter together with drop out liquids from other gas feeders and spiked into crude from Guntong D/E Complex to Tapis Pump.



As part of Guntong Debottlenecking Project, Tabu Crude FWS is now able to be diverted to GUE Platform via the existing Tabu NAG pipeline to GUE. The diverted Tabu crude production will then measure together with the drop out condensate from other gas feeders using the existing turbine meter at GUE.

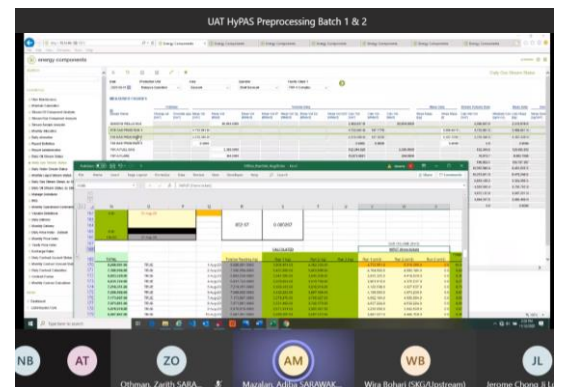
EMEPMI has led the new allocation algorithm enhancement process together with PCSB PMA, MPM HMA, and HyPAS COE to reflect this new flow arrangement in PM HyPAS. Despite WFH and no physical meetings, the team has poured out their dedication and efforts and in ensuring the enhancement is successfully migrated in PM HyPAS in time for Nov 2020 MTAB closing. This Tabu Diversion Enhancement has proven that with great collaboration and teamwork, nothing is unachievable. Well done!

BINTULU PRE-PROCESSING VIRTUAL USER ACCEPTANCE TEST, A SHARED SUCCESS EFFORT!

Every year, Bintulu Gas MTAB Parties actively contribute to utilization of HYPAS capabilities. One of the 2020 HYPAS Project/Enhancements planned was 'Bintulu Pre-Processing' project. This project is segregated by 3 phases to support holistic coverage for Bintulu Gas MTAB Network which covers the processing of raw data input in HYPAS replacing the current method using manual spreadsheet.

The HYPAS project's virtual User Acceptance Tests (UAT) were successfully conducted on 12 November 2020 and 27 November 2020 with full involvement of all MTAB Parties - PCSB-SKG, SSB, MPM and UD-HYPAS COE team. Through this effort, process flow requirement for HyPAS enhancement is unaffected despite the prolonged MCO situation.

Kudos, Team! Towards more and more engaging virtual session like this in future!



Events



Assurance Program for DGDM, BAGSF BIF and PGB

PETRONAS has conducted 3 Assurance Programs in Q3 of 2020 starting with DGDM allocation network and facilities, BAGSF BIF and a Joint Record Inspection (JRI) at PGB. The program started in August for DGDM network in Bintulu involving 4 stakeholders;

i) PCSB-SKG (HyPAS), ii) PCSB-SBA (BMS), iii) MLNG (GMS A and GMS B) iv) PTTEP (BORF).

In September, HMA AP for BAGSF Bintulu Integrated Facilities was conducted to cover 4 gas metering systems (BAGSF- PETROS, SEB, ABF, PETROS) and 1 liquid metering system (BIF NGL).

Both programs had the documentations review done virtually for 4 days followed by site assessments.

In October, PETRONAS together with EMEPMI and PCSB-PMA have completed a JRI for Gas Processing



Site assessment briefing at MLNG, Bintulu.



Site assessment at BAGSF BIF, Bintulu.



Site assessment at Bintulu Onshore Receiving Facilities (BORF).

Kerteh (GPK) and Gas Processing Santong (GPS) operated by PGB. Due to the MCO, the assessment was conducted virtually covering only the documentations.

Thank you to all auditee for your utmost commitment towards continuous improvement for upstream metering system and allocation in Malaysia!

Remote Witnessing for Meter Calibration and FAT

In continuation of Movement Control Order (MCO) directive by the government, we have seen efforts by PACs to adapt with the restriction while ensuring project delivery and operational commitment are executed according to plan. By leveraging digital platform (e.g. Microsoft Teams & Skype), remote witnessing for testing activities are conducted without the need to be physically present at the test facilities.

There were three (3) testing activities successfully completed, involving Coriolis and turbine meter calibration at three different international calibration facilities.

Challenges are still observed during the activities, mainly on connection stability impacting on quality of live streaming. One of the facilities uses Microsoft HoloLens, a head mounted display that utilizing augmented reality to take viewing perspective and productivity to new heights.

For 2021, we look forward for more remote witnessing for testing activities as a testament to the effort in achieving cost and time optimization.

Meter	Angsi Crude Coriolis Meter	Pegaga Turbine Meter	SK408 Coriolis Meter
Date	5 th – 6 th October	21 st September	15 th October
Facilities	Rayong, Thailand	SGM Lab, France	Nanjing, China
Testing Activity	Routine calibration	New metering skid FAT	Routine calibration
Witness	PCSB PMA, EMEPMI and MPM	Project Team (Sapura Energy Bhd. & KROHNE), Mubadala and MPM	SSB and MPM

HMA CoP Virtual Workshop 2020



HMA CoP Virtual Workshop 2020 was held on 25th – 26th November and it was greeted by up to 140 participations among HMA fraternity and other various background. Unlike previous HMA CoP workshops, it was organized virtually via Microsoft Teams. Paper presentations and forums were pre-recorded with the Q&A session being done live to encourage interactive sessions.

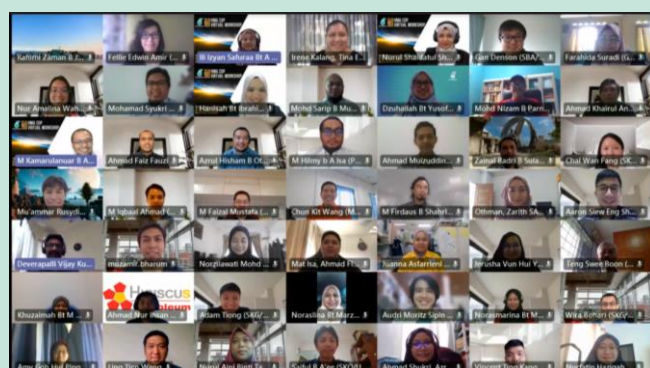


HMA CoP Virtual Workshop 2020 organizing committee

With the theme *Transitioning Towards A New Norm: Revolutionize Approaches, Rediscover Experience*, the HMA CoP Virtual Workshop 2020 was kicked off with opening remarks by En. Handan bin Ramli, Head Production Operations Management, MPM. He encouraged all participants to work together, persevere and create values not just for PACs respective companies but also to the nation. As custodian for cash register, HMA fraternity need to continue adding new values, where collaboration between PETRONAS and PACs through this workshop would strengthen HMA community.

TietoEvry, Krohne (M) Sdn. Bhd. and Dermaga Oil & Gas Sdn. Bhd dialed in on the first day to perform live demonstrations on new technologies, options and solutions available for a leaner and improved measurement and allocation activities. Two technical papers – *Condition Based Monitoring* presented by MPM and *Subsea Field Measurement and Hydrocarbon Allocation via PVT Analysis, Geochemistry Approach and Process Simulation for Deepwater Gas Development* presented by PTTEP were also lined up on the first day.

On the second day, two forums on *Virtual Participation and Remote Witnessing for Measurement & Allocation Testing Activities*, and *In-house Capability for Metering Validation and Sampling* were streamed and received various feedbacks. Two technical papers on best practices sharing (*New Ways of Conducting HMA Assurance Program* by MPM & GTS) and alternative approach of problem solving (*TCOT Flare Meter IR Validation and Correction Using Feed Forward Neural Network* by PCSB PMA) were presented.



Participants were very captivated on all the topics and fully utilized MS Teams Meeting features including chat box, raise hand, and audio visual to ask questions or giving energetic sharing and seconding views on subject presented. Closing remarks by Pn. Salmizana binti M Salim, Head HMA, MPM wrapped up the two days' workshop. She thanked and congratulated HMA fraternity across Malaysia for the hard work and achievements throughout 2020 and it was further emphasized through a specially prepared montage by the organizing committee to illustrate how HMA fraternity contributes to their respective companies and the business value chain.

Thank you to all presenters, forum panelist and participants for making HMA CoP Virtual Workshop 2020 a success!