



CONFIDENTIAL

Malaysian Standards in the Oil and Gas Industry

23 - 24 February 2009

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RESEARCH AND TECHNOLOGY DIVISION




Agenda



Over the years, standardization and conformance has played an increasing role in the development of the Malaysian industries

~ History of Malaysian Standards ~

2004	<ul style="list-style-type: none"> National Standards Strategy and Action Plan approved by the Government (13 October)
2002	<ul style="list-style-type: none"> Cabinet approved 4 measures to enhance standardisation activities in Malaysia (24 July)
1996	<ul style="list-style-type: none"> Department of Standards Malaysia established. SIRIM Berhad privatized.
1995	<ul style="list-style-type: none"> SIRIM assumes responsibility for ISO/TC 45 and ISO/TC45/SC4 Secretariat
1991	<ul style="list-style-type: none"> New government policy – “Strategies to improve Quality through Standards and Certified Products”
1975 - 1990	<ul style="list-style-type: none"> Gradual increase in use of Malaysian Standards for government procurement, certification and regulation.
1975	<ul style="list-style-type: none"> Establishment of SIRIM (Standards and Industrial Research Institute of Malaysia) – merger of SIM and NISIR
1969	<ul style="list-style-type: none"> SIM becomes a member of ISO
1966	<ul style="list-style-type: none"> Establishment of Standards Institution of Malaysia (SIM)
 1957	<ul style="list-style-type: none"> Malaysia achieves Independence
Prior to 1957	<ul style="list-style-type: none"> British Standards Utilized



The scope of Malaysian Standards in the Oil & gas industry very much relates to PETRONAS' business scope, ranging from upstream productions to downstream value adding gas processing & petrochemical facilities:-



Oil



Gas

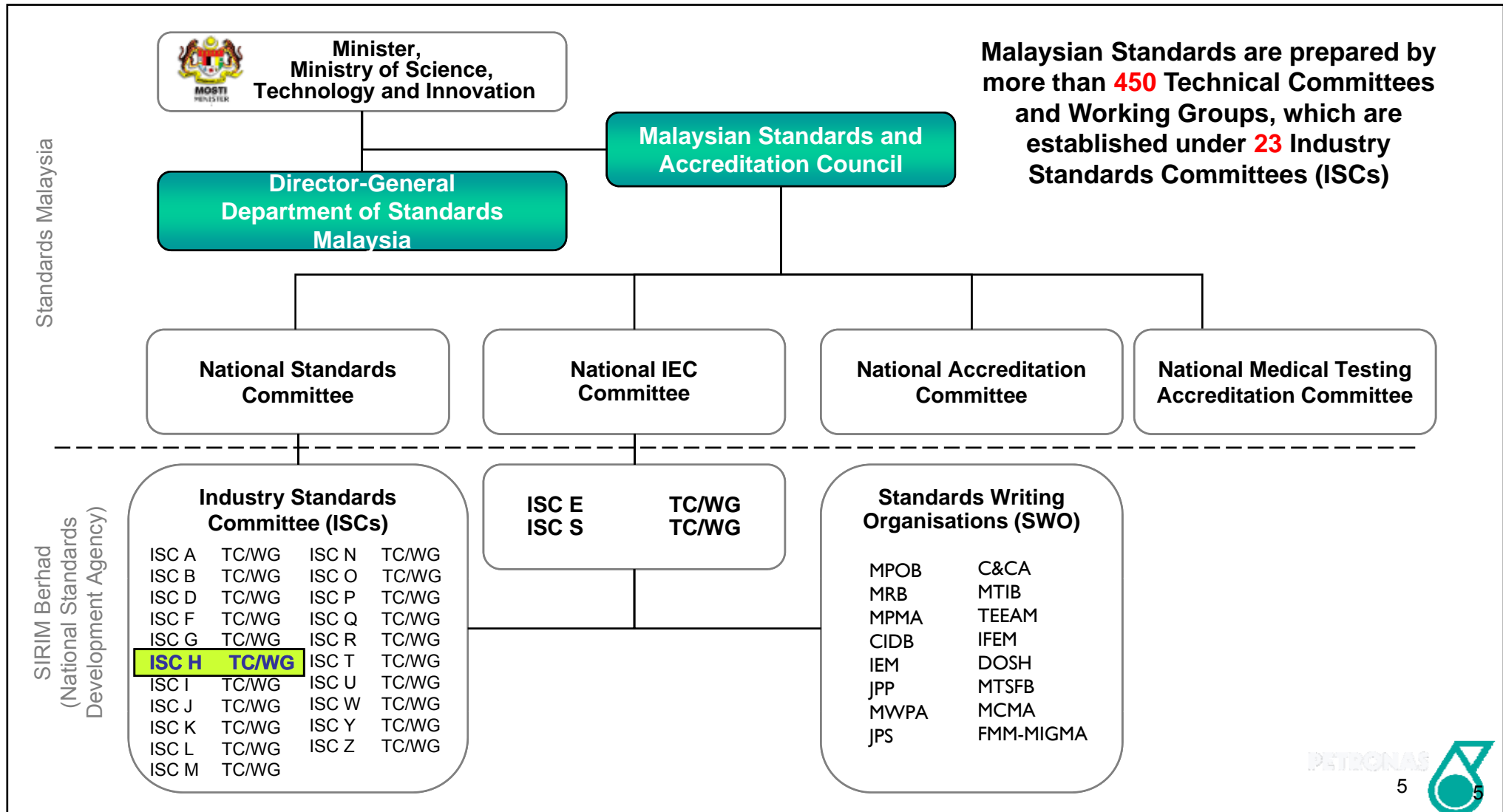


The benefits of having our own Malaysian Standards in the Oil & gas industry are realised by the owners, operators, contractors & suppliers nationally in the following areas:-

- Standardization of practices nationally**
- Enhance quality of work**
- Improve HSE performance**
- Harness Good & Best Practices (especially localised)**
- Deploy Best Practices to the industries**
- Technology advancement**
- Better quality of lives**

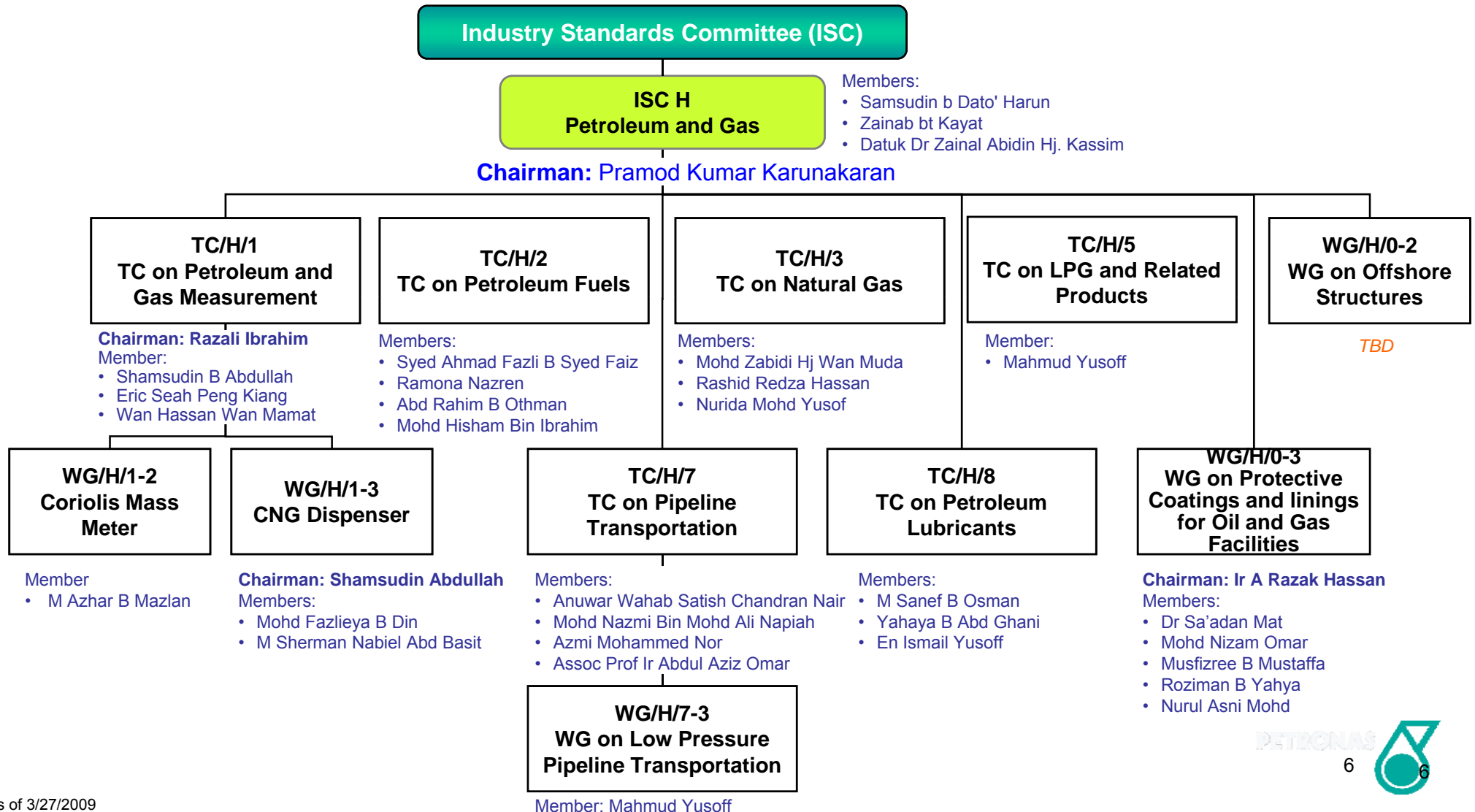
The Department of Standards Malaysia (STANDARDS MALAYSIA) is the national standards and accreditation body for Malaysia, representing Malaysia in international and regional standardization activities

Malaysian Standards System



Under the Malaysian National Standards Committee, the Industry Standards Committee (ISC) oversees the development of all Malaysian Standards. In particular, ISC H deals with Petroleum & Gas where PETRONAS takes on the Chairmanship role

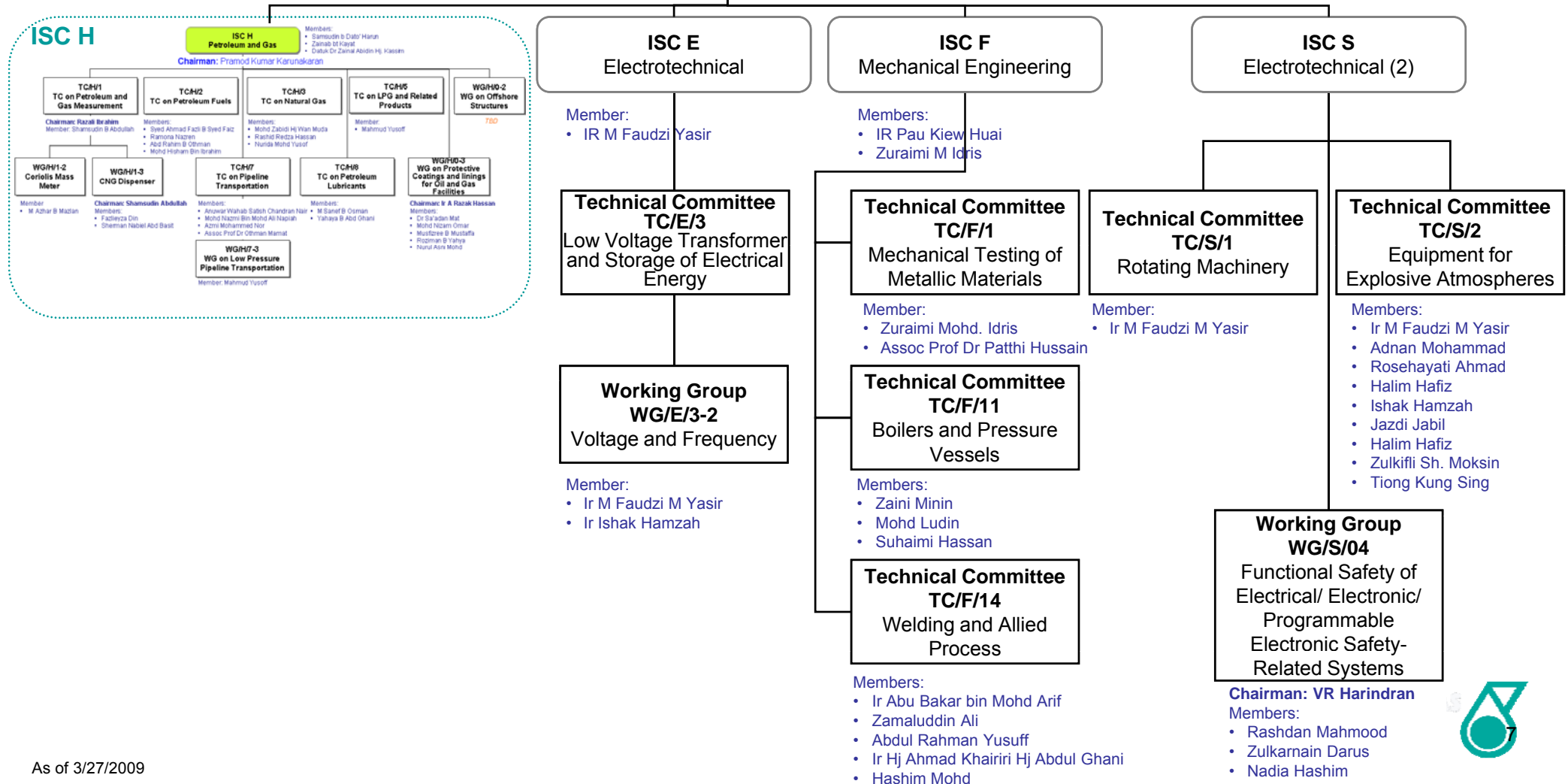
~ Industry Standards Committee on Petroleum and Gas (ISC H) Structure ~



PETRONAS also participates actively in other Industry Standards Committees

~ Industry Standards Committee (ISC) ~ Structure

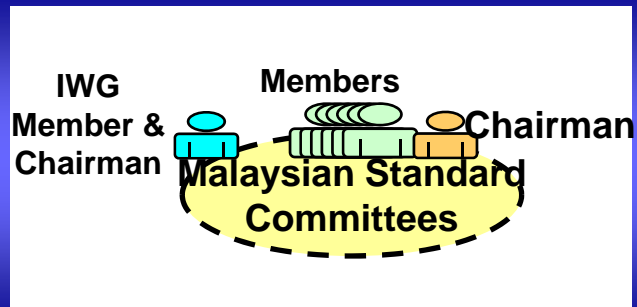
Industry Standards Committee (ISC)



Agenda



Our efforts in building Malaysian Standards for use in the Malaysian Industries – Chairmanship role in ISC H Committee



MS – ISC H Committee

Scope: Industry Standards Committee on Petroleum and Gas (ISC H)

- ❑ **Standardisation** of methods of measurement, sampling and test, terminology, classifications and specifications for petroleum, petroleum products, its derivatives, industrial gas and bio-fuels.
- ❑ **Standardisation** of the materials, equipment and offshore structures used in the drilling, production, processing, transport by pipelines, storage, handling and utilisation of liquids and gaseous hydrocarbons within the petroleum, petrochemical and natural gas industries

The Industry Standards Committee on Petroleum and Gas (ISC H) Committee Members line up:-



ISC-H Chairman: Mr. Pramod Kumar Karunakaran,
PETROLIAM NASIONAL BERHAD

Secretary: Ms. Lee Hooi Lan, SIRIM Berhad

Members:

1. Association of Consulting Engineers Malaysia
2. Department of Occupational Safety and Health, Malaysia
3. Department of Standards Malaysia
4. Energy Commission
5. Esso Malaysia Berhad (Port Dickson Refinery)
6. Federation of Malaysian Manufacturers
Malaysian Industrial Gases
Manufacturers Group
7. Fire and Rescue Department, Malaysia
8. Malaysian Gas Association
9. Malaysian Oil and Gas Engineering Consultants
10. Malaysian Petroleum Institute
11. Malaysian Plastic Manufacturers Association
12. Ministry of Domestic Trade and Consumer Affairs
13. Ministry of International Trade and Industry
14. Petroliaam National Berhad
15. Road Transport Department, Malaysia
16. Shell Malaysia Trading Sdn Bhd
17. The Institute of Engineers, Malaysia
18. Universiti Teknologi Malaysia
19. Universiti Teknologi PETRONAS



List of Petroleum and Gas (ISC H) - Technical Committee (TC) involvement by PETRONAS Engineers:-

TC/1 – Petroleum & Gas measurement

Scope: Standardisation of methods of static and dynamic measurements for Petroleum and Gas

Chairman: Mr. Razali Ibrahim, Petroliam Nasional Bhd

Secretary: Ms. Zuraidah Baba, SIRIM Berhad

Member Organizations:

- Association of Malaysia Oil & Gas Engineering Consultant
- Carigali-Hess Operating Company Sdn Bhd (CTOC)
- Gas Malaysia Sdn Bhd
- Ministry of Domestic Trade and Consumer Affairs
- OGA Sisyem Sdn Bhd
- Persatuan Penjana Kuasa Bebas
- Petroliam Nasional Berhad
- Petronas Dagangan Sdn Bhd
- Renaco Merine Sdn Bhd
- Sarawak Shell Bhd (EPK-SUP)- Co-opted member
- Sense Services Sdn Bhd
- SIRIM Berhad (National Metrology Laboratory)
- Suruhanjaya Tenaga
- Talisman Malaysia Sdn Bhd
- Universiti Teknologi Malaysia (UTM)

List of Petroleum and Gas (ISC H) - Technical Committee (TC) & Working Group involvement by PETRONAS Engineers:-

WG/H/1-3 – WG on CNG Dispenser (reporting to TC on Petroleum and Gas Measurement)

Scope:

- **Custody Transfer Metering Systems.**
- **Measurement Metering Systems.**
- **Public refueling facilities.**
- **Private refueling depots.**
- **Factory metering application**

Chairman: Mr. Shamsudin Abdullah, Petronas Dagangan Berhad
Secretary: Ms. Zuraidah Baba, SIRIM Berhad

Member organizations:

- Gas Malaysia Sdn Bhd
- Ministry of Domestic Trade and Consumer Affairs
- Petronas Dagangan Berhad
- SIRIM Berhad (National Metrology Laboratory)
- UMW Industrial Power Sdn Bhd
- Universiti Teknologi Malaysia

List of Petroleum and Gas (ISC H) - Technical Committee (TC) & Working Group involvement by PETRONAS Engineers:-

WG/H/0-3 - WG on Protective Coatings and linings for Oil and Gas Facilities (*reporting to ISC H*)

Scope: To develop standard on protective coatings and linings for oil and gas facilities

Chairman: Ir A Razak Hassan, Petroliam Nasional Berhad

Secretary: Ms Lee Hooi Lan, SIRIM Berhad

Member organizations:

- Bredero Shaw (M) Sdn Bhd
- Chugoku Marine Paints Limited
- Department of Environment
- Department of Occupational Safety and Health Malaysia DNT Paint
- Jotun (M) Sdn Bhd
- Petroliam Nasional Berhad
- Petronas Gas Berhad
- Petronas Penapisan Melaka Sdn Bhd
- Petronas Penapisan (Terengganu) Sdn Bhd
- PETRONAS Research Sdn Bhd
- Polyethylene (M) Sdn Bhd

Progress of Petroleum and Gas (ISC H) Committee thus far:-



ACTIVITIES & PROGRESS OF ISC H

1. No. of ISC H meetings held: **at least twice/year**
2. No. of TC/WG established under ISC H: **10 (6 TC and 4 WG)**
3. Malaysian participation at International level;
 - Participating member in **4 sub committees** and
 - Observer member in **6 Technical committees** and **subcommittees**

Achievements of Petroleum and Gas (ISC H) Committee thus far:-



ACHIEVEMENTS

1. Malaysian Standards Approved: **214 (As of Oct 2008)**
2. Malaysian Standards fully adopted from ISO standards: **70**
3. Active projects in progress: **49**
4. Malaysian Standards sold in the Oil & Gas industry: **>1300**
(as at end 2008)

Agenda



Our efforts in International Standardisation activities is through our participation as O & P members in various committees

ISO committee	Status of Membership	Corresponding National Committee
ISO/TC 28 Petroleum products and lubricants	O member	TC on Petroleum Fuels and TC on Petroleum Lubricants
ISO/TC 28/SC 2 Dynamic petroleum measurement	P member	TC on Petroleum and Gas Measurement
ISO/TC 28/SC 3 Static petroleum measurement	O member	TC on Petroleum and Gas Measurement
ISO/TC 28/SC 5 Measurement of light hydrocarbon fluids	P member	TC on Petroleum and Gas Measurement
ISO/TC 30 Measurement of fluid flow	O member	TC on Petroleum and Gas Measurement
ISO/TC 30/SC 5 Velocity and mass methods	P member	TC on Petroleum and Gas Measurement
ISO/TC 67 Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries	O member	TC on Pipeline Transportation
ISO/TC 67/SC 2 Pipeline transportation systems	P member	TC on Pipeline Transportation
ISO/TC 67/SC 7 Offshore structure	O member	WG on Offshore structure
ISO/TC 193 Natural gas	O member	TC on Natural Gas
ISO/TC/44 Welding and Allied Process	P Member	TC/F/14 Mirror Committee Welding and Allied Process
IEC 60079 Series – Equipment for Explosive Atmosphere	P member	TC 31 – Chairmanship and committee member of WG
IEC 60034 Series – Electrical Rotating Machines	O member	TC 15 – Chairmanship and committee member of WG
IEC 60060 Series – HV Switchgear	O member	WG/E/01 – committee member
IEC 61000 Series – EMC	P member	TC 77 – committee member
IEC 61000-4-11 and 61000-4-34 SC77A Working Group	P member	TC 77A (Expert member National rep. – 1 PETRONAS & 1 TNB)



Our efforts in International Standardisation activities in the Oil and Gas Industries where PETRONAS senior Technical Experts are involved:-

Others:

▶ International

Abnormal Situation Management (ASM) Consortium

- ***VR Harindran – Principal Member***

▶ Regional

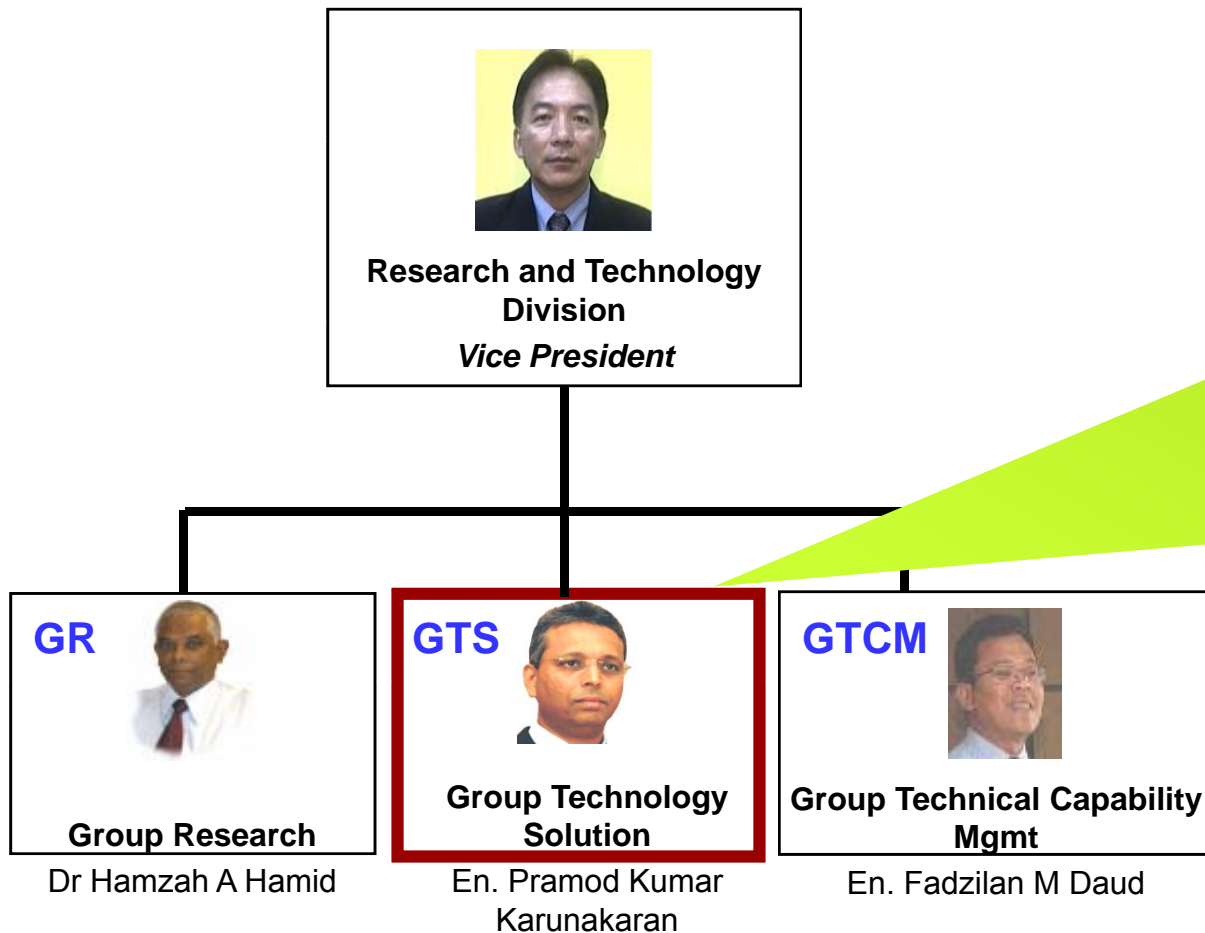
ASEAN Council on Petroleum (ASCOPE) / South East Asia Pipeline Operators Group (SEAPOG) – UFG

- ***Razali Ibrahim – Team Leader***

Agenda



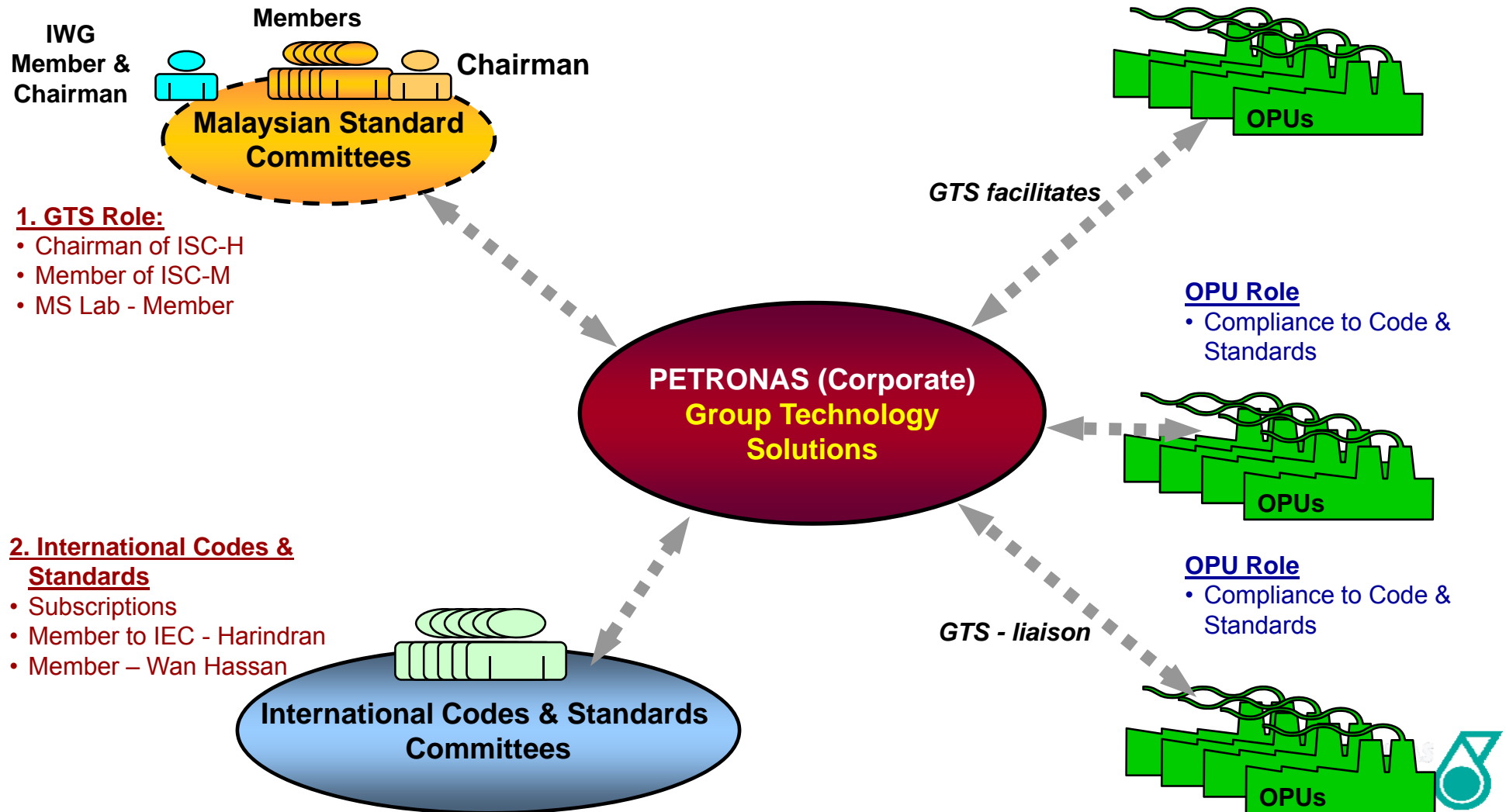
In PETRONAS' corporate center, Group Technology Solutions (GTS) is responsible to upkeep the Codes & Standards applicable for the group



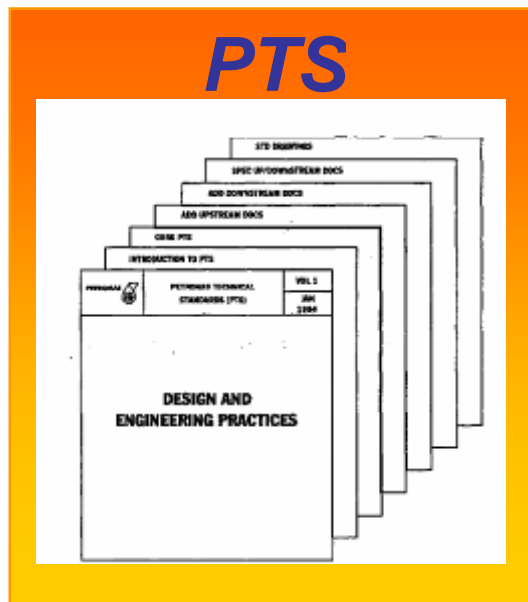
- Upkeep relevant Codes & Standards
 - Maintain set of codes & standards in Knowledge Platform – AXIS
 - Formulate & upkeep a Technical guideline – PETRONAS Technical Standards (PTS)
 - Ensure validity of standards

Group Technology Solutions (GTS) constantly engages with PETRONAS OPUs to ensure the utilization of Codes & Standards is aligned across the Group

Roles of plants operators vs those of the corporate technical service in the utilization of Code & Standards



The subject matter experts in PETRONAS are responsible to upkeep the PTS



PTS Elements	Remarks:-
Design and Engineering	These PTS are available to external, Vendors, Suppliers & Contractors
Product Specification and Lab Management	
Petroleum Engineering: Geosciences	
Health, Safety and Environment	These Documents are only available to PETRONAS internal staff
Project Management	
Operations Management	
Quality Assurance	
Materials Management	
Maintenance Management	

PTS documents are available on our Knowledge Management Website:- *AXIS.....PETRONAS Website for KM*

PTS Home Preface Manual PTS List DEPs PTS Queries Contact Us

This Site: PTS Home

View All Site Content

PTS Management System
PTS Engineering

PETRONAS TECHNICAL STANDARDS SITE

**PETRONAS
Technical Standards Site**

Dear Colleagues,

We are delighted to announce the new PETRONAS Technical Standards site. The central purpose of this site is to provide a common communication platform for Custodian, TP/SMEs, end users and focal persons in PETRONAS Group wide with regards to PTS management and documentation online to enhance our working environment.

PETRONAS Technical Standards (PTS) publications reflect the views, at the time of publication, of PETRONAS OPU/Divisions.

The information set forth in these publications is provided to users for their consideration and decision to implement. This is of particular importance where PTS may not cover every requirement or diversity of condition at each locality. The system of PTS is expected to be sufficiently flexible to allow individual operating

Announcement

Latest DEPs
by admin.GTS_moss
Please be informed that the update from SHELL is version V26

PTS HSE Documents
by M Kamil B M Akhir (R&T/PETH)
Dear user, at this moment the PTS HSE documents (60 series) are being updated by GHSE. Please contact Rabiatul Adwieah bt Shukri for any request and enquiries.

Regards

Links

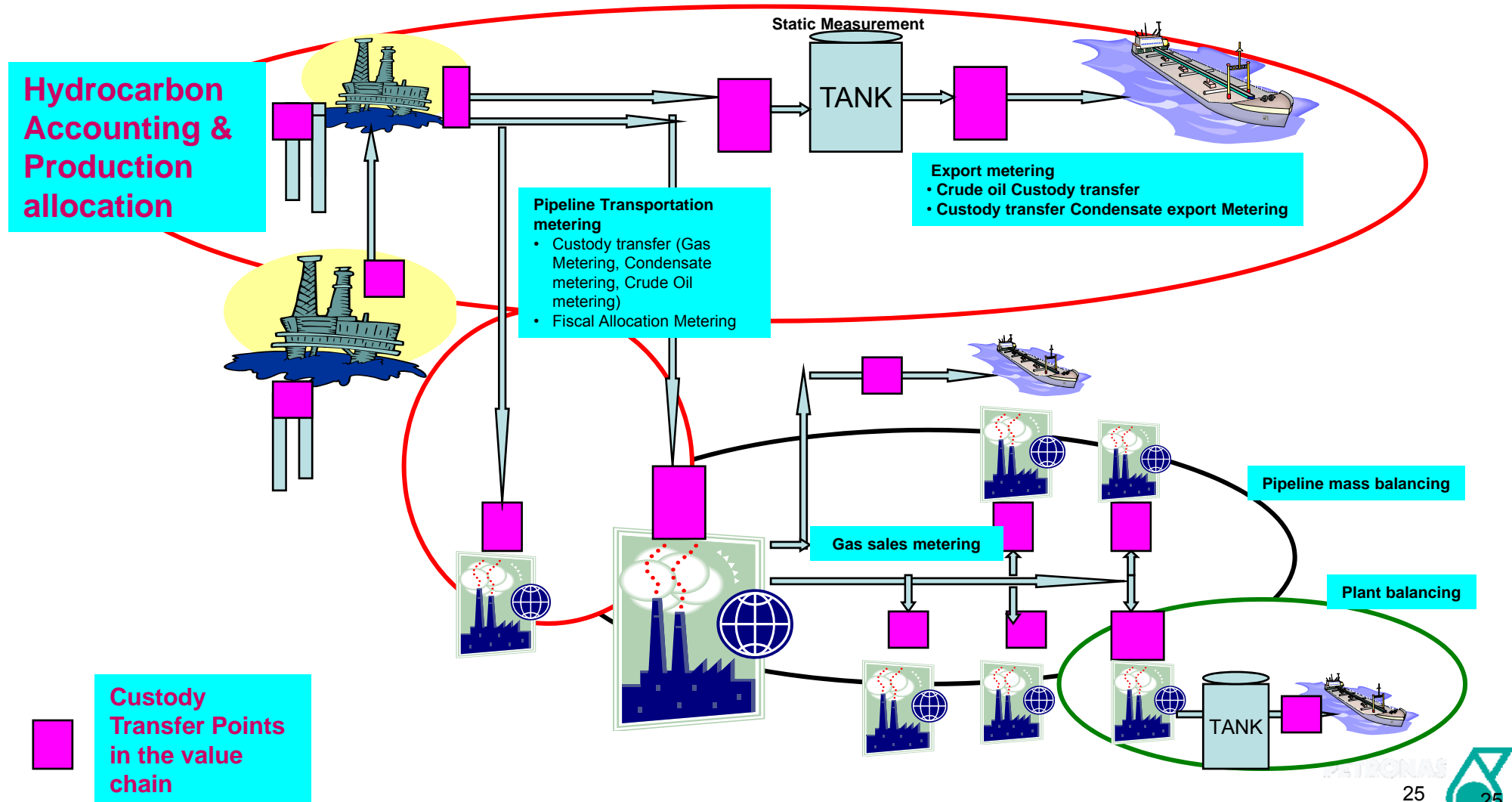
- Precise

Agenda



The Industries directly take the learnings & results from the ISCH – TC/1 Petroleum and Gas Measurement

~ Petroleum and Gas Measurement Value Chain ~

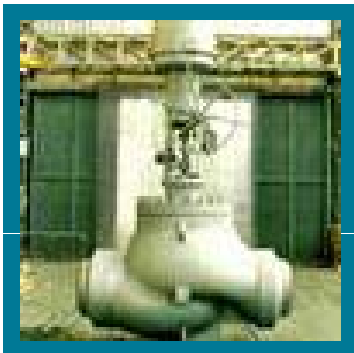


Malaysian standards have benefited local manufacturers e.g. the steel industry, cable, etc



With the available Malaysian Standards for construction steel specification...

Malaysian manufacturers are able to comply with the standards



- **Oil & Gas Industries like PETRONAS can now buy steel bars, beams, pipes, cables, valves locally... Otherwise, we would have to import as we did 30 years ago**

Agenda



Going Forward !

1. We are committed to co-lead and assist in the development of MS for Petroleum & Gas Industries
2. Continue to send Engineers to collaborate with MS committee and Malaysian Industries leaders
3. Continue to practice high technical integrity in our work through using the International & National Codes & Standards



