



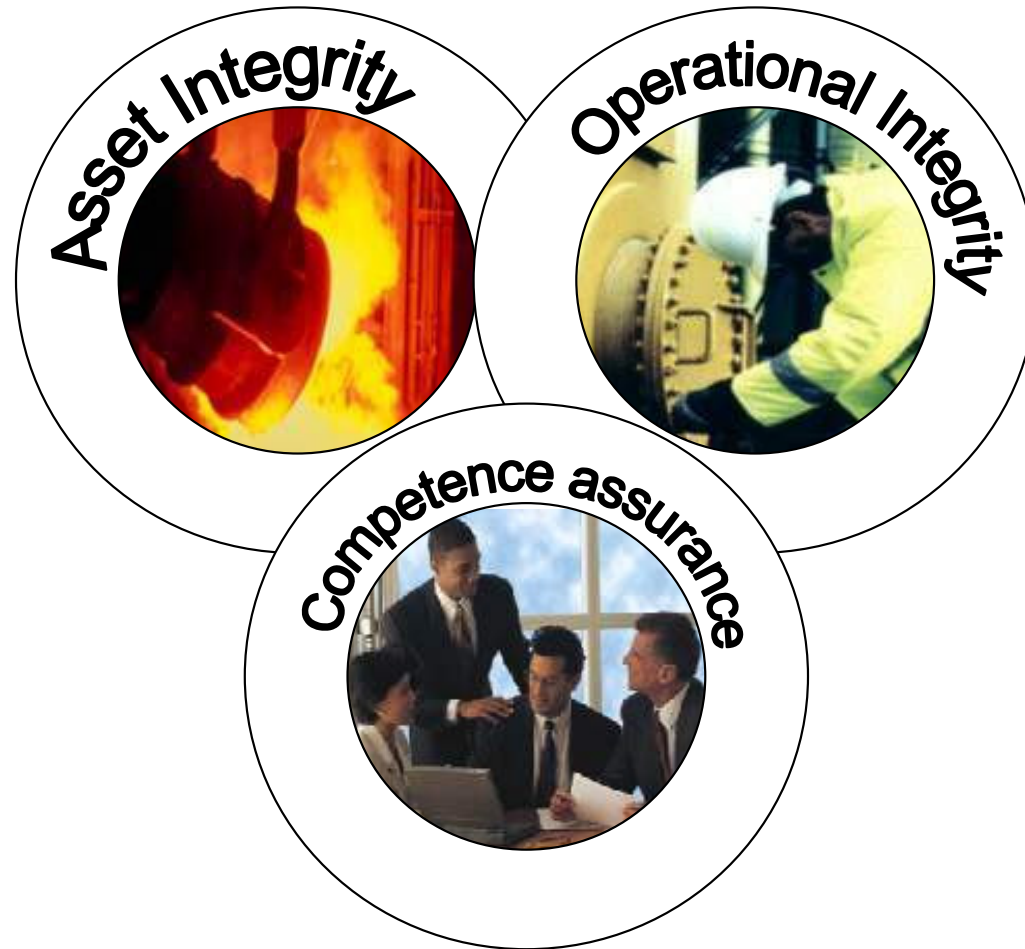
Allen Ormond – Principal Lead Safety Consultant, ABB Consulting

Morris Kho Kee Wee – Custodian – Safety Management Operations, PETRONAS Group HSE

Process safety competence of technical staff in operations - PETRONAS TPCP



Competence Assurance Underpins Asset & Operational Integrity



What does competency mean?

“ The Ability to do Something Well”

- To be truly competent a person must have:
 - Skills
 - Knowledge
 - Experience
- Competence must be demonstrated in a range of situations:
 - Normal
 - Abnormal – In process safety this can mean in an emergency

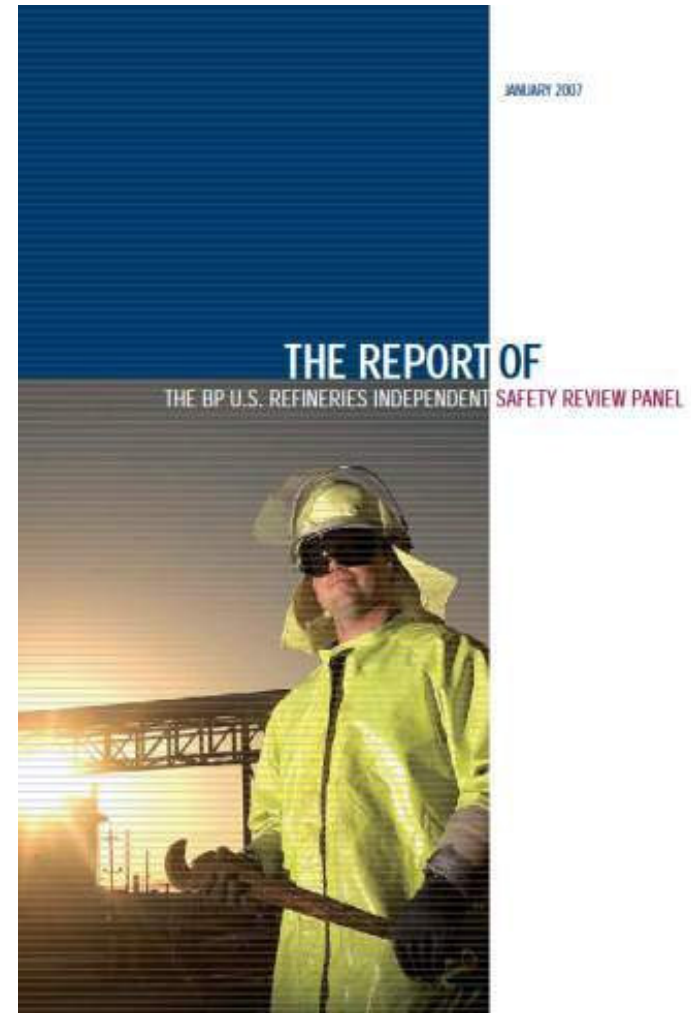
Increased focus in the Major Hazard industries

- Human & Organisational Factors



Baker Report Recommendations

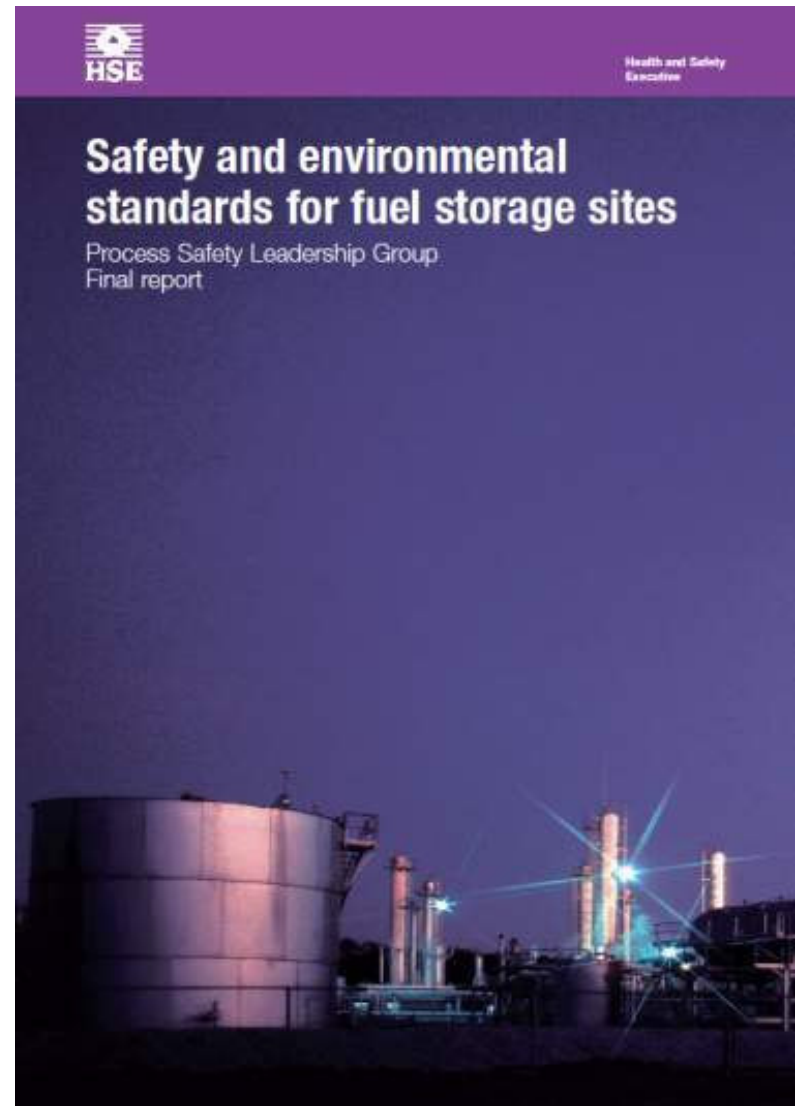
- “BP should establish and implement a system to ensure that its executive management, its refining line management above the refinery level, and all US refining personnel.....possess an appropriate level of process safety knowledge and expertise.”
- “BP should provide more effective and better coordinated process safety support for the US refining line organisation.”



Process Safety Leadership Group - UK

Management of Operations & Human Factors

- Competency in major hazard prevention is necessary at all levels, not just the front line
- Standards for competency at all levels
 - process / job specific



CIMAH Regulations 1996 - Malaysia

- “....provide evidence of adequate steps taken to prevent any major accident or minimize its consequences to persons and the environment.”
- Within the report submitted shall be
 - “....the arrangements for training persons working on the site....”



LAWS OF MALAYSIA

OCCUPATIONAL SAFETY AND HEALTH ACT 1994 [ACT 514]

P.U.(A) 39/96

OCCUPATIONAL SAFETY AND HEALTH (CONTROL OF INDUSTRIAL MAJOR ACCIDENT HAZARDS) REGULATIONS 1996

Publication : 1st February 1996
Date of coming into operation : 1st February 1996

ARRANGEMENT OF REGULATIONS

[Preamble](#)

PART I - PRELIMINARY

[Regulation 1. Citation and commencement.](#)
[Regulation 2. Application.](#)
[Regulation 3. Interpretation.](#)
[Regulation 4. Limitation of power of officer.](#)
[Regulation 5. Obligations of manufacturer and employee.](#)

PART II - IDENTIFICATION AND NOTIFICATION OF AN INDUSTRIAL ACTIVITY

[Regulation 6. Application.](#)
[Regulation 7. Identification and notification.](#)
[Regulation 8. Notification of change.](#)

PART III - DEMONSTRATION OF SAFE OPERATION FOR NON-MAJOR HAZARD INSTALLATION

[Regulation 9. Application.](#)
[Regulation 10. Demonstration of safe operation.](#)
[Regulation 11. Review of demonstration of safe operation.](#)

PART IV - REPORT ON INDUSTRIAL ACTIVITY AND PREPARATION OF EMERGENCY PLAN FOR MAJOR HAZARD INSTALLATION



Process Safety Competence Requirements

Operations Level	Competence Requirements	Key Aspects
Senior Manager / Executive	Broad management arrangements sufficient to lead / direct.	Leadership. Strategic decision-making taking account of how process safety risks can be affected.
Operations Manager / Engineer	Broad technical understanding sufficient to manage operational activities within own areas of responsibility.	Operational decision-making based on a sound understanding of process safety risks.
Front-line Staff / Contractors	General understanding of hazards of operating work a activities. Detailed understanding of process safety hazards and safeguards associated with own work activities.	Activity decision-making.



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Functional / Specialist Support Staff	Detailed technical understanding & know-how for application of process safety practice.	Specialist advice. Practitioner / Facilitator of Good Practice.

For Functional / Specialist Staff there is a need for managed exposure to development opportunities, coached / mentored by experienced practitioners.

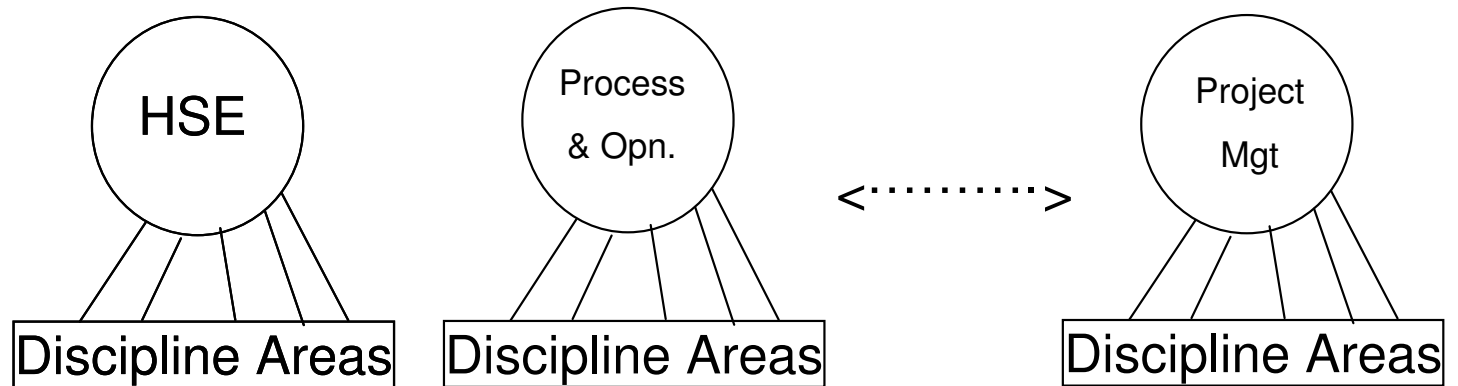


PETRONAS TPCP – Coverage of Process Safety Competence Requirements

Process safety competence embraces multi-functional skills

- need to be developed across all engineering and technical disciplines

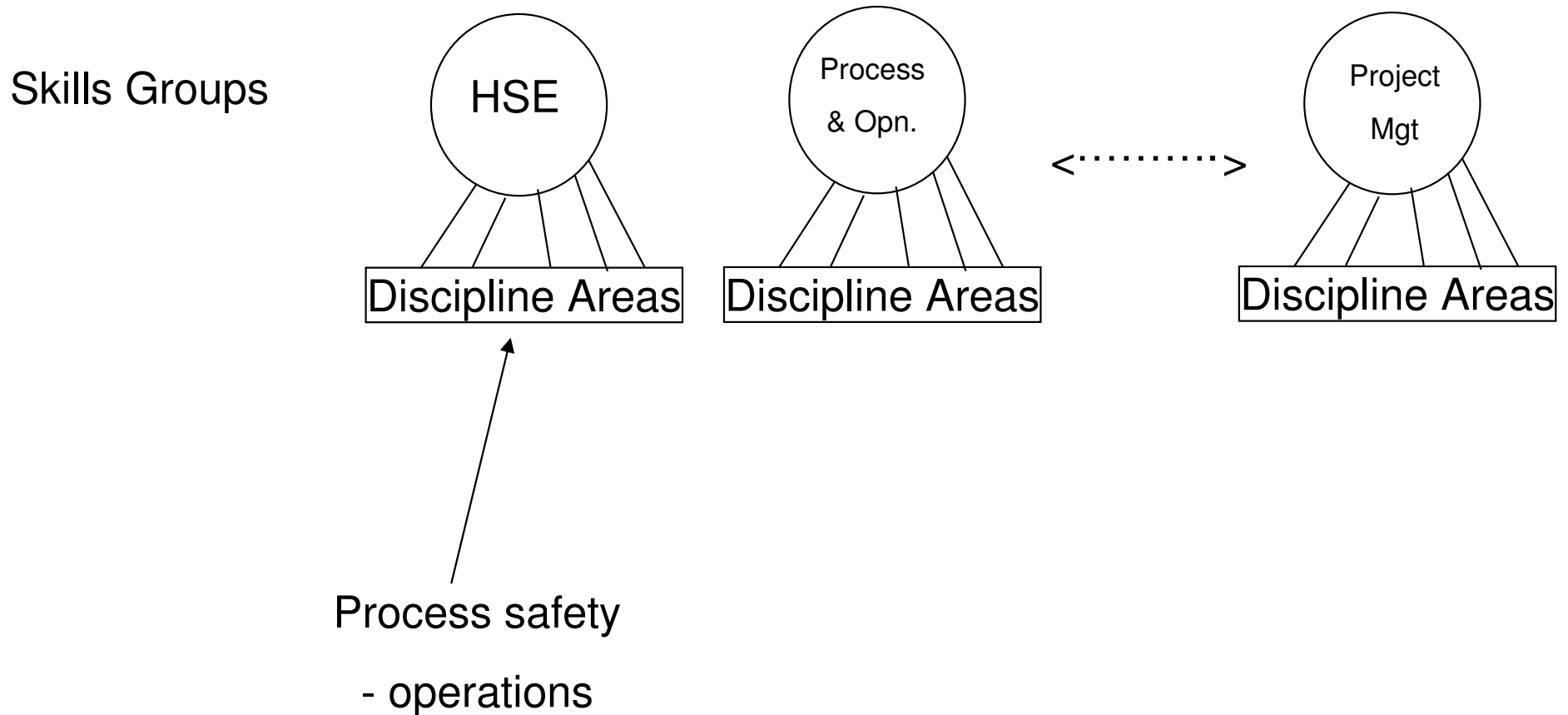
Skills Groups



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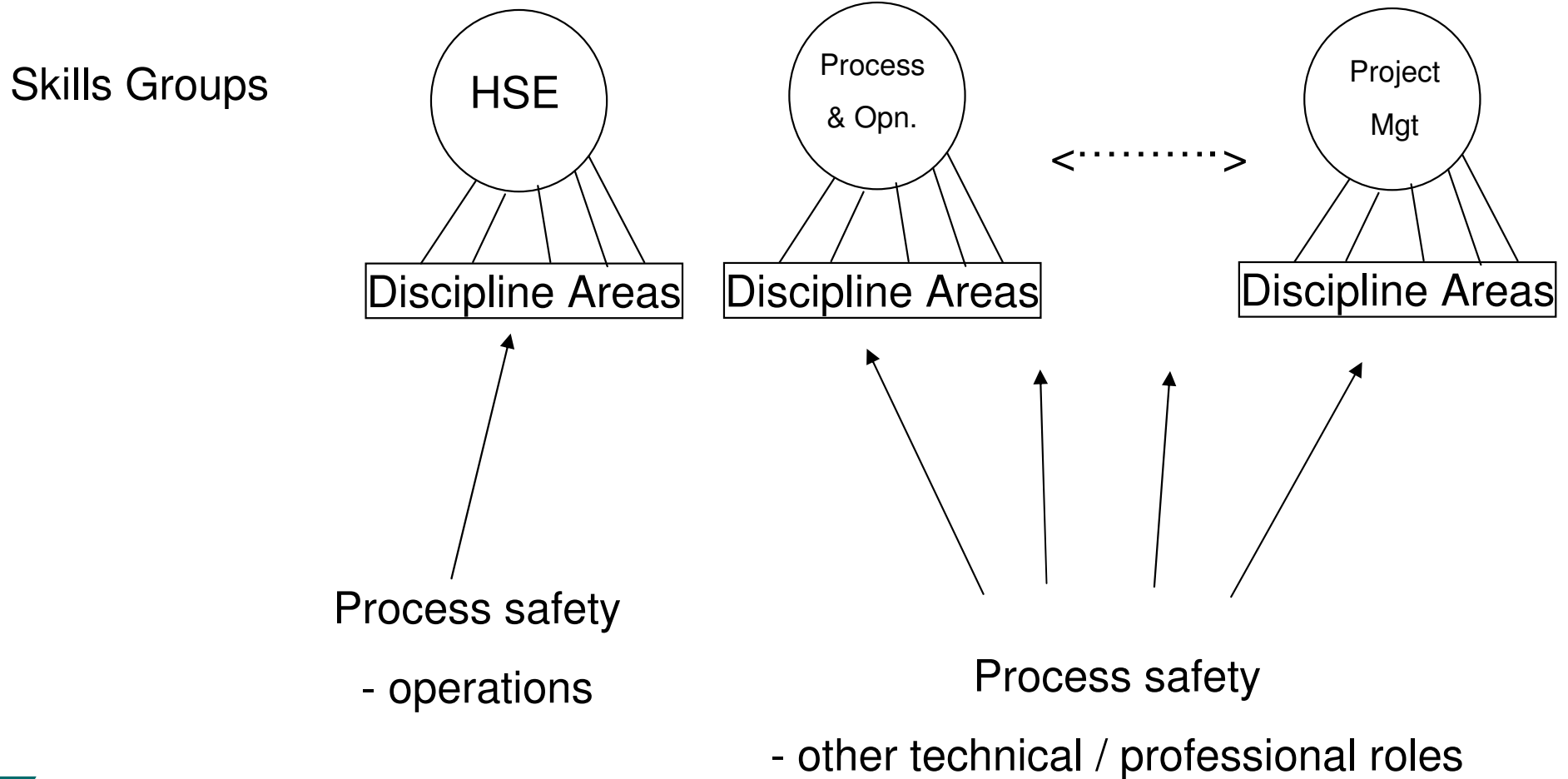
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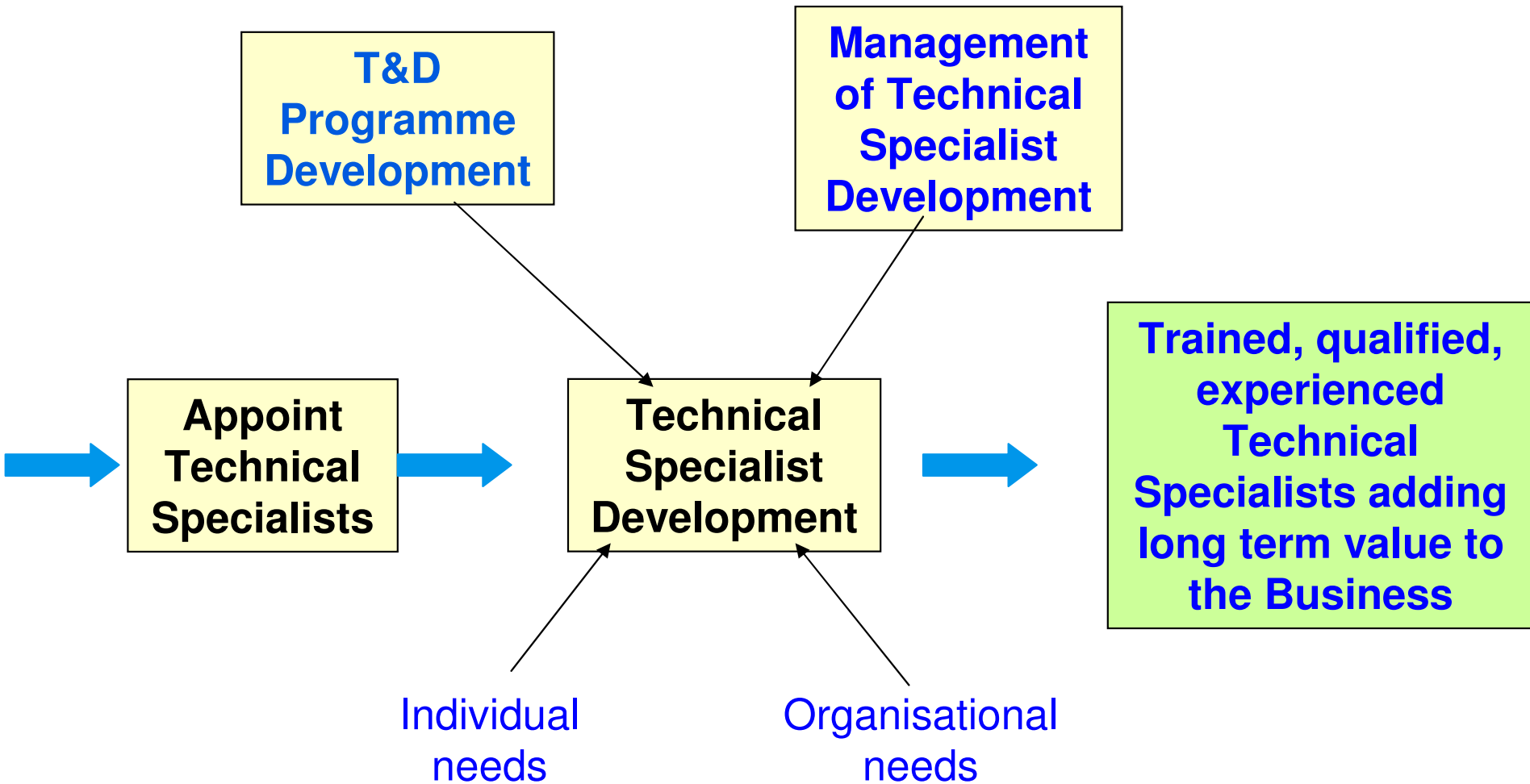
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Overview of Technical Staff Development

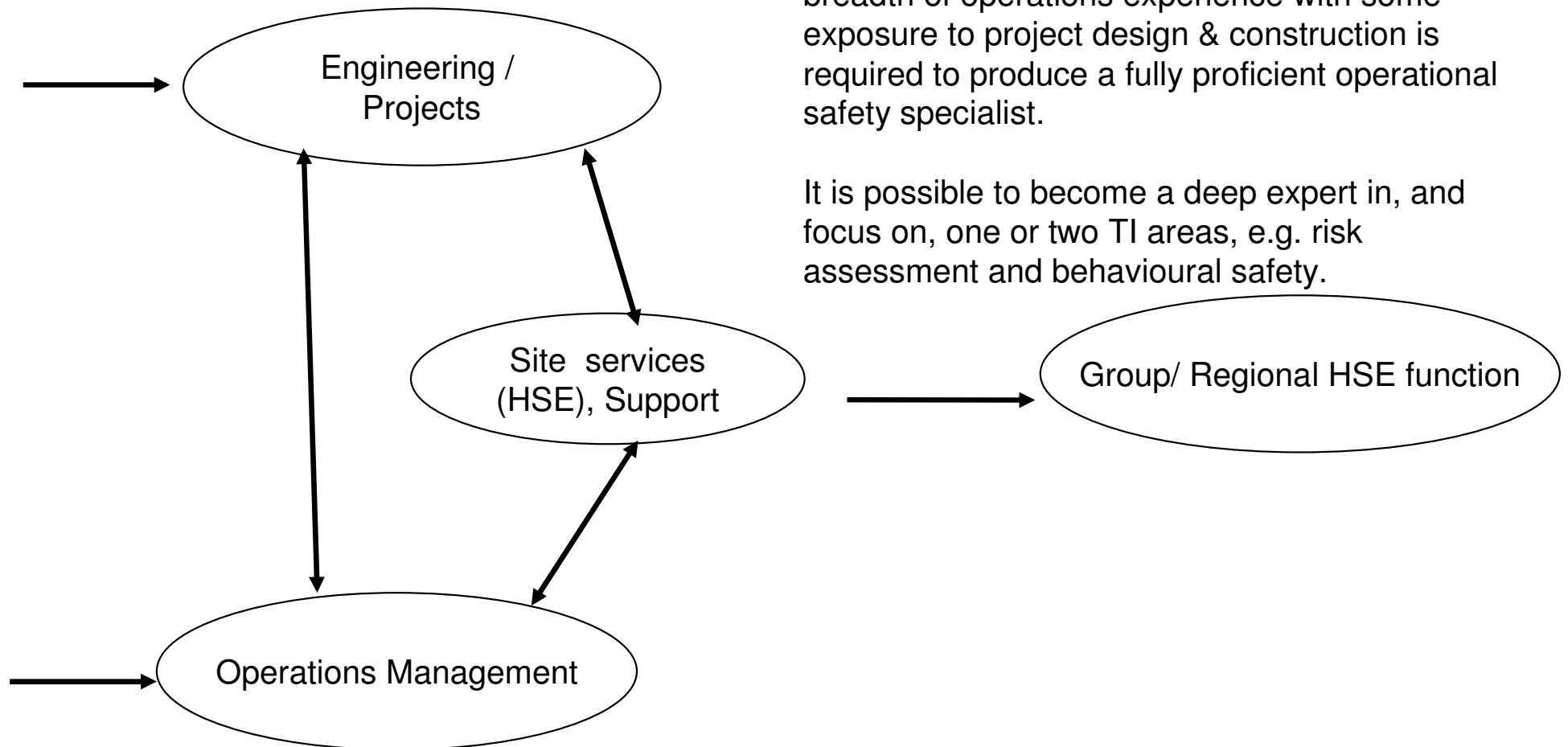


TPCP & Process Safety Competence Development within PETRONAS

- Earliest TP assessments in 2002 on broad safety management competence found relatively low levels of competence cf. occupational / personal amongst the candidates interviewed
- Training in process safety has since become more prominent in the company's training and development programme for its management and technical staff
- Career development framework has been used as a guide
 - exposure to working roles & responsibilities across a range of different functions



Career Development Framework for Safety Management - Operations



TPCP & Process Safety Competence Development within PETRONAS

- Re-assessment interviews demonstrate:
 - TPCP is giving scope for staff to develop in line with
 - individual aspirations and capability
 - what is needed by the company
 - good evidence of management commitment
- ACD and coaching / mentoring from established TPs are providing effective opportunities to put learning into practice
- Establishment of Community of Practitioners amongst Operations Safety TPs
 - standards setting
 - sharing & networking
 - improving capability to provide technical support & solutions to site operations



Conclusions

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- Key success factors

- structured process
- seen as fair, transparent and consistent whilst ensuring confidentiality
- sustained management commitment
- relentless drive in implementation

