Mortality Prevention related to Occupational Hazards

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Introduction

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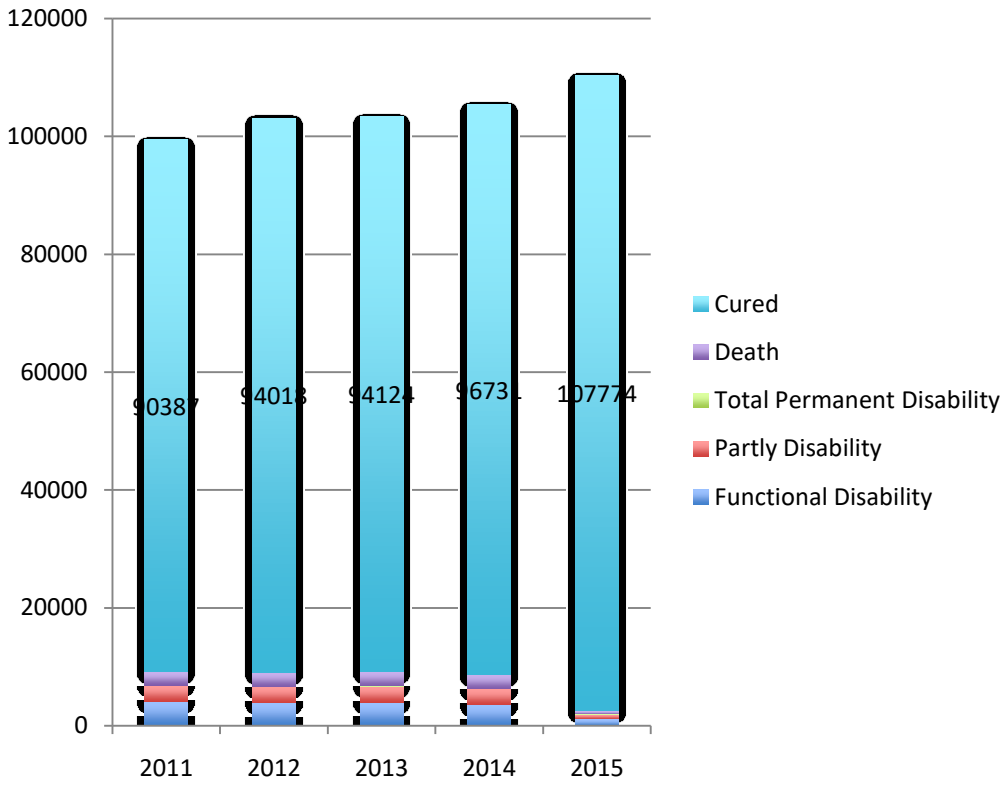
- 2014 Professorship in Safety
- 2006 PhD Safety Science (AusAid funded Scholarship) School of Risk & Safety Science, University of New South Wales (UNSW), Sydney 2052, Australia.
- 1997 MSc Chemistry, FMIPA UI
- 1993 Bachelor of Science – Chemistry, FMIPA UI

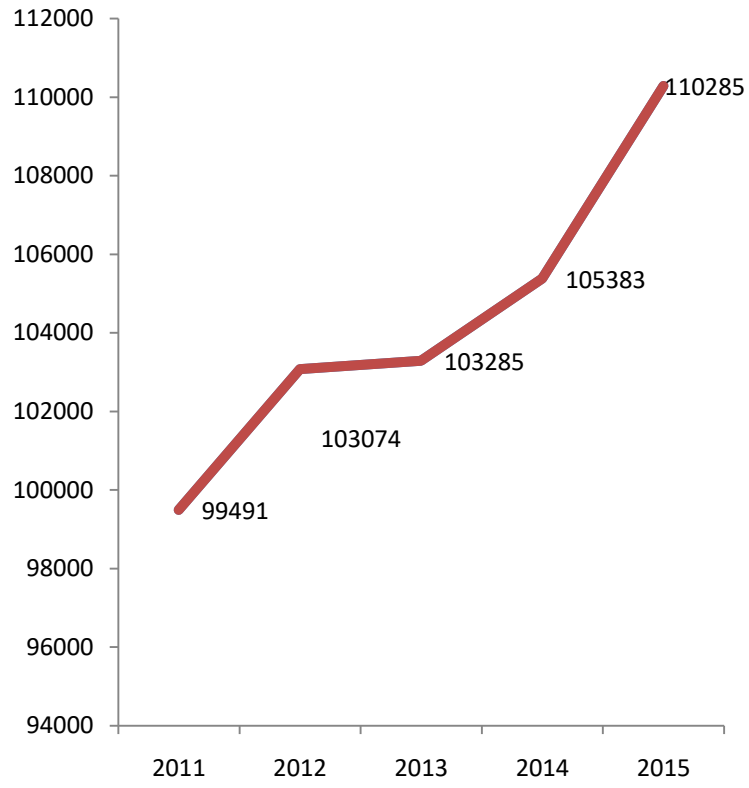
Outline

- Occupational Accidents Statistics
- Sharing Lessons learned from Accidents in Oil & Gas Industries
- Mortality Prevention in Occupational Hazards - Occupational Health & Safety Management System

OCCUPATIONAL ACCIDENTS STATISTICS

Occupational Accidents Statistics

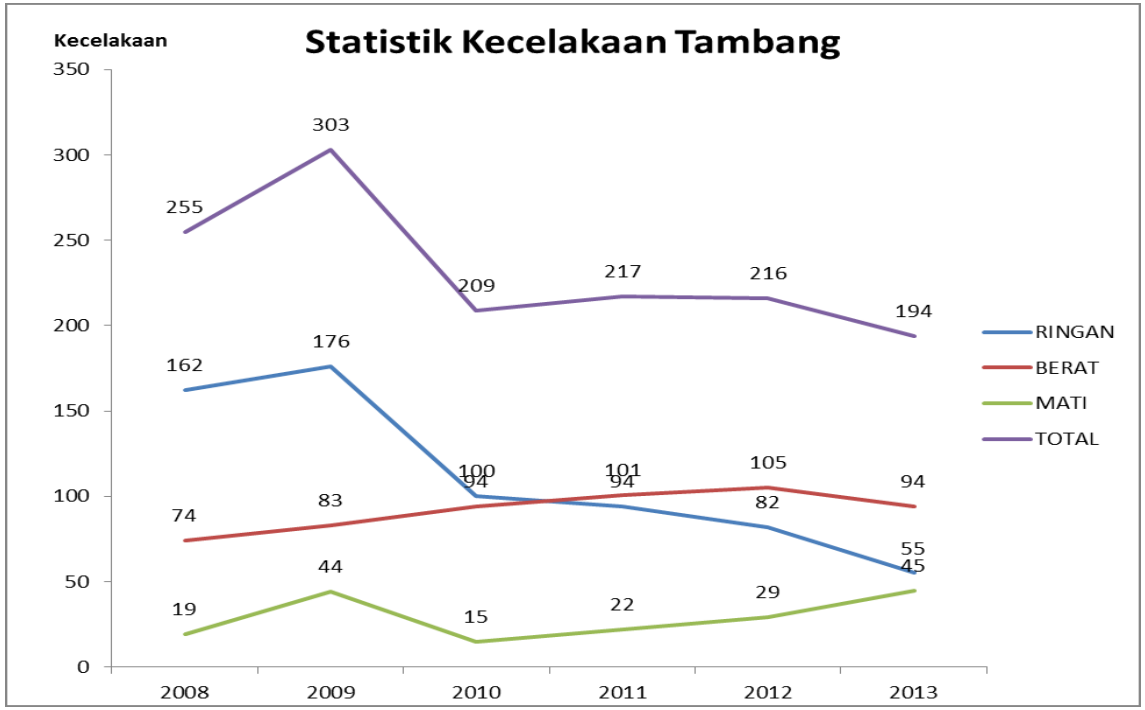




Everyday workers accidents: 273 (2011); 282 (2012); 283 (2013); 289 (2014); 302 (2015

Source: http://www.bpjsketenagakerjaan.go.id

Occupational Accidents in Coal & Mining



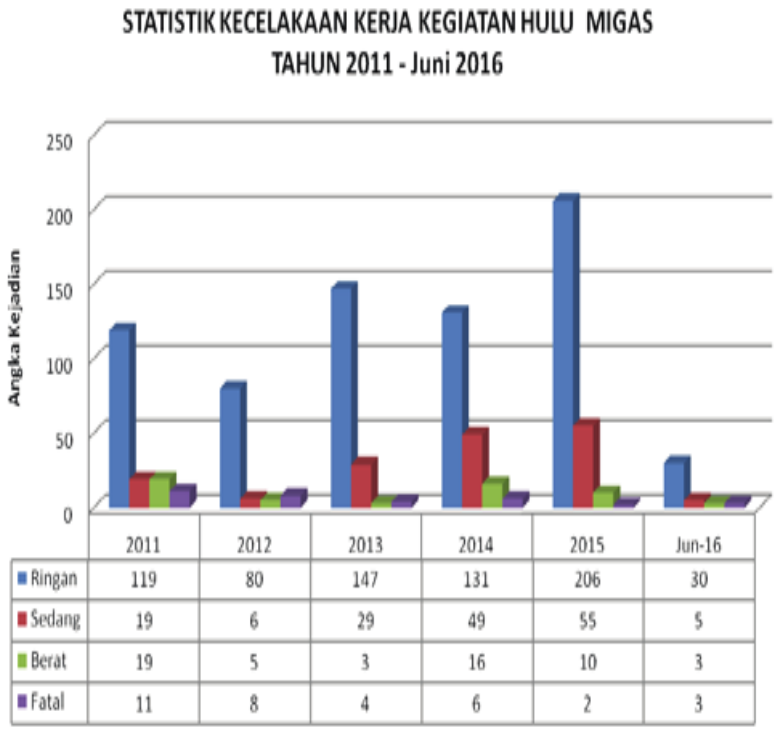
*) Data Tahun 2013 Pertanggal 6 Desember 2013
*) Masih Terdapat Laporan Pengelolaan Keselamatan Pertambangan Triwulan III Tahun 2013 yang belum masuk.
*) Jumlah Jam Kerja yang belum melaporkan untuk Triwulan III Tahun 2013 menggunakan data Bulan Juni 2013

FR = Frequency Rate; SR = Severity Rate.
Sumber: Dirjen Mineral & Batubara

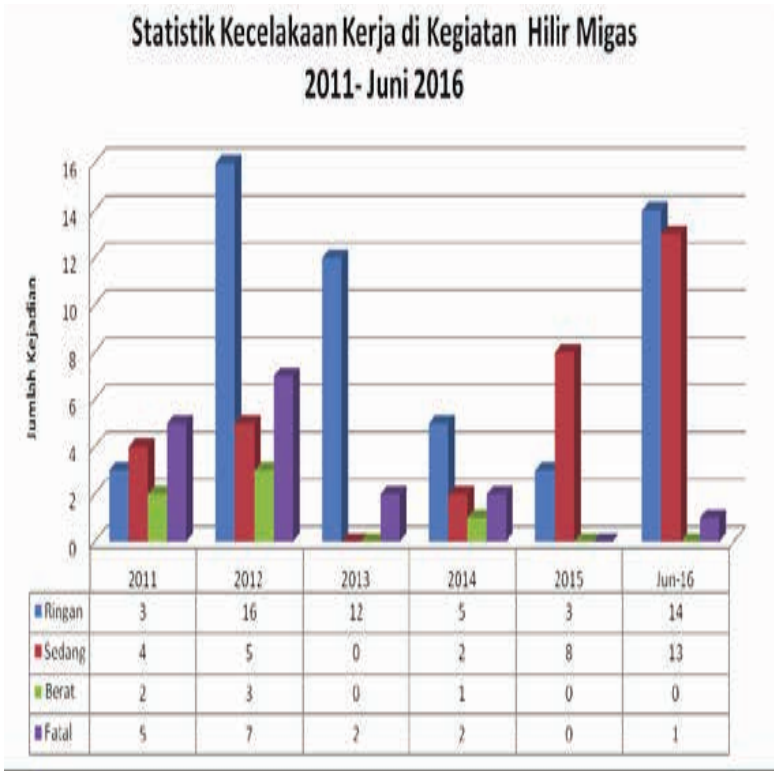
NO.	TAHUN	RINGAN	BERAT	MATI	TOTAL	FR	SR
1.	2008	162	74	19	255	0,68	-
2.	2009	176	83	44	303	0,69	633,83
3.	2010	100	94	15	209	0,40	192,34
4.	2011	94	101	22	217	0,35	228,80
5.	2012	82	105	29	216	0,34	248,94
6.	2013*	55	94	45	194	0,33	512,13

Sumber: Dirjen Mineral & Batubara

Occupational Accidents in Oil & Gas Industries in Indonesia



Gambar 2. Statistik Kecelakaan Kerja Kegiatan Hulu Migas



Source: Buku Atlas Keselamatan Migas. Dirjen Migas. 2016.

“The Tip of the Iceberg”

Accidents

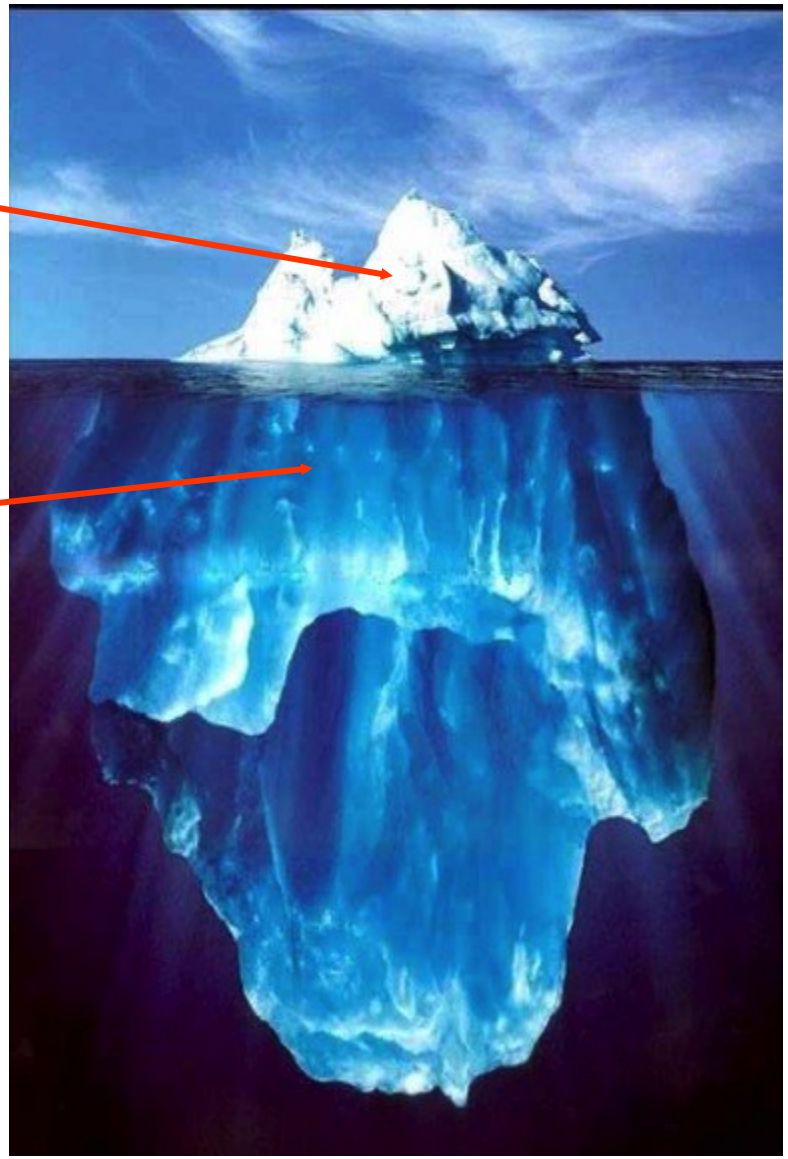
An accident is an incident which has given rise to injury, ill health or fatality

Incidents

An incident where no injury, ill health, or fatality occurs may also be referred to as a “near-miss”, “near-hit”, “close call” or dangerous occurrence”.

Investigate incidents since they are potential “accidents in progress”.

OHSAS 18001: 2007



Sources of picture: Google image

ACCIDENT CONSEQUENCES

IMPACT ON INDIVIDUALS

- Injury
- Disability
- Fatalities
- Loss for the family & communities

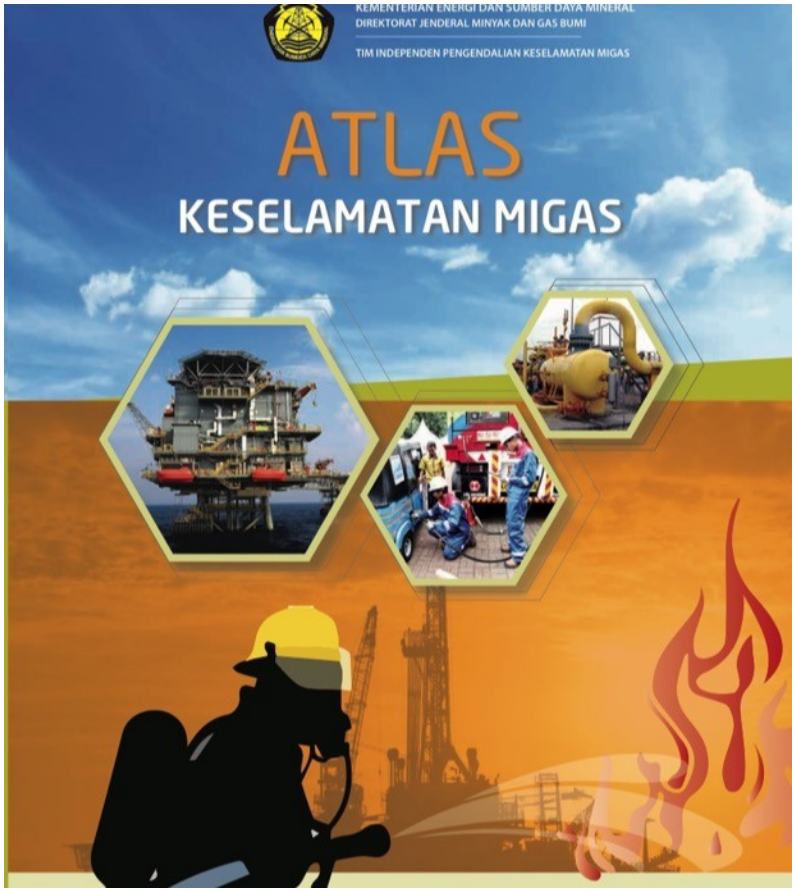
IMPACT ON COMPANY

- Loss of life
- Loss of valuable human resources
- Medical expenses
- Loss of assets & property
- Loss of time & production
- Disruption on business activity
- Environmental pollution
- Reduced Company Image & reputation

SHARING LESSONS LEARNED FROM ACCIDENTS IN OIL & GAS INDUSTRIES

Lessons learned from Accidents in Oil & Gas Industries

- *Buku Atlas Keselamatan Migas* (Oil & Gas Industries Safety Map Book) published by Dirjen Migas consists of more than 30 lessons learned from accidents
- A summary of Accidents Investigations Report within Exploration & Production, Refinery, LPG, L NG, Storage & Distribution, Transportation & Pipelines during the last 10 years



Oil & Gas Industries

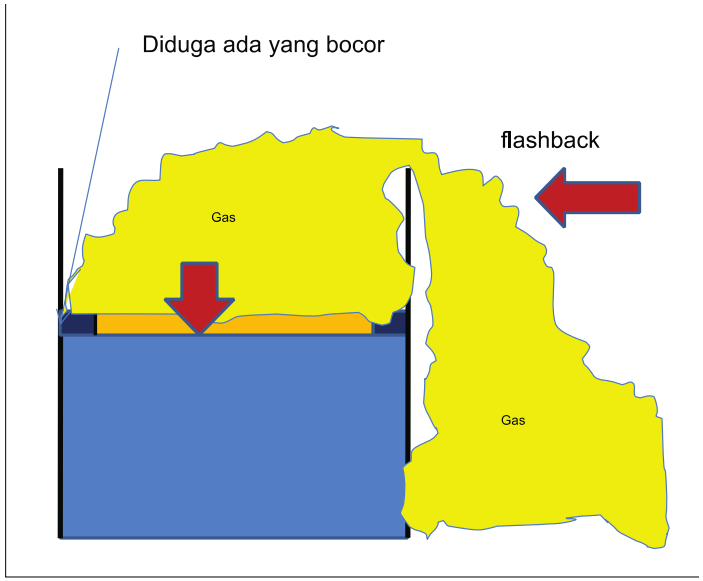
- Oil & Gas Industries is a high hazards industries: fires, explosions, environmental pollution & occupational accidents
- A vital sector for Indonesia's energy resources & supports national economy
- Main priority for: workers life safety, installation safety, environmental protection & public safety

Blow Out at Porong, Sidoarjo, Lapindo Brantas

- 29 May 2006 – now
- Underground blowout
- Loss: > US$1 Billion (10 Triliun Rupiah)
- Hot Blow out at Banjar Panji Lapindo Brantas at Porong, Sidoarjo
- Hot Sludge, H_2S gas,

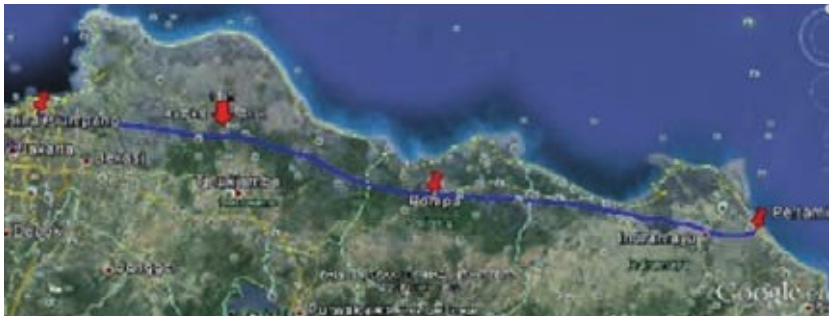
Fires in Cilacap Oil Refinery

- Date: 2 April 2011
- Cilacap Oil Refinery
- 3 tank damaged costs Rp. 75 Milyar
- Direct Causes: hydrocarbon accumulation (explosive mixtures within flammable range), spread to surrounding area & reach source of ignition
- Source of ignition: furnace flame



Fire in Fuel Pipelines at Subang

- Leaking from fuel pipelines (Premium, Solar, Pertamax) followed by fires
- Date: 28 August 2014
- Kampung Batang, Desa Mandalawangi, Subang
- 4 people died
- Cause: illegal tapping



Fire & Explosion at Filling Station Pinang Ranti, East Jakarta

- 13 Sep 2016
- SPBU (Filling Station) Pinang Ranti, East Jakarta
- Fires
- Major damaged to fuel storage tank & mobile tank
- Loading & Unloading – leaking from coupling spread to tank manhole - fires

Kecelakaan Kerja di 38T 103 PERTAMINA RU IV CILACAP

- 13 September 2011
- Tank 38 T103 Refinery Cilacap Jawa Tengah
- 3 Death & 4 injured
- SOR (*Sludge Oil Recovery*)

5 Top Causal Factors Fatalities & High potential incidents

Oil & Gas Companies & Contractor worldwide - 2013

- **Process (conditions): Organisational: Inadequate training/competence**
- **People (Acts): Inattention / Lack of awareness – Improper decision making or lack of judgment**
- **Process (conditions): Organisational: Inadequate work standards / procedures**
- **Process (conditions): Organisational: Inadequate supervision**
- **Process (conditions): Organisational: Inadequate hazard identification or risk assessment**

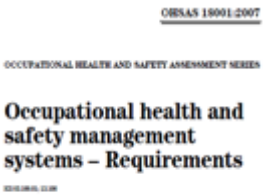
OGP. 2013. Safety Performance Indicators

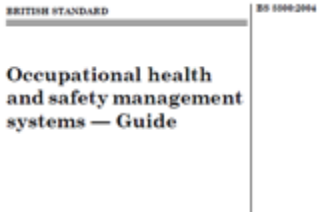
MORTALITY PREVENTION RELATED TO OCCUPATIONAL HAZARDS - OHSMS

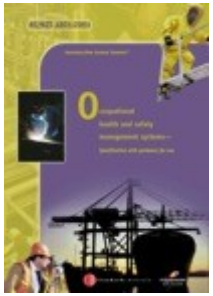
Occupational Health & Safety Management System

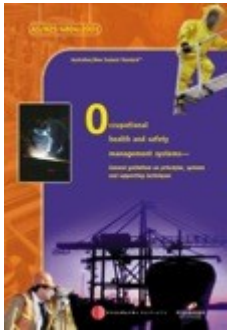
International

- Occupational Health & Safety Management System - OHSAS 18001 – 2007
- OHSAS 18001: 2008. Occupational Health & Safety Management System. Guidelines for the implementation of OHSAS 18001:2007.
- British Standard. Occupational health and safety management systems — Guide. BS 8800:2004.
- AS-NZS 4801:2001. Occupational Health & Safety Management Systems. Specifications with guidance for use.
- AS-NZS 4804:2001. Occupational Health & Safety Management Systems. General guidelines on principles, system & supporting techniques
- ILO-OSH. Guidelines on OHSMS. 2001.
- OGP. Guidelines for the Development and Application of Health, Safety and Environmental Management Systems. Report No. 6.36/210. 1994.









OHSMS in Indonesia
(Sistem Manajemen Keselamatan di Indonesia)

- SMK3 (PP 50/Kepmenaker 05/1996)
- SMK3 Konstruksi (Kepmen PU No 09/PRT/M/2008
- Sistem Manajemen K3 Rumah Sakit (SK Menteri Kesehatan No 432/MENKSE/SK/IV/2007
- Sistem Manajemen K3 untuk sektor Migas – STK SMK3 - BP Migas
- SMK3 Minerba (Kepmen ESDM No 38)

PRESIDEN
REPUBLIK INDONESIA

PERATURAN PEMERINTAH REPUBLIK INDONESIA
NOMOR 50 TAHUN 2012
TENTANG
PENERAPAN SISTEM MANAJEMEN
KESELAMATAN DAN KESEHATAN KERJA

DENGAN RAHMAT TUHAN YANG MAHA ESA

PRESIDEN REPUBLIK INDONESIA,

Menimbang : bahwa untuk melaksanakan ketentuan Pasal 87 ayat (2) Undang-Undang Nomor 13 Tahun 2003 tentang Ketenagakerjaan, perlu menetapkan Peraturan Pemerintah tentang Penerapan Sistem Manajemen Keselamatan dan Kesehatan Kerja;

Mengingat : 1. Pasal 5 ayat (2) Undang-Undang Dasar Negara Republik Indonesia Tahun 1945;
2. Undang-Undang Nomor 13 Tahun 2003 tentang Ketenagakerjaan (Lembaran Negara Republik Indonesia Tahun 2003 Nomor 39, Tambahan Lembaran Negara Republik Indonesia Nomor 4279);
3. Undang-Undang Nomor 1 Tahun 1970 tentang Keselamatan Kerja (Lembaran Negara Republik Indonesia Tahun 1970 Nomor 1, Tambahan Lembaran Negara Republik Indonesia Nomor 2918);

MEMUTUSKAN

Menetapkan : PERATURAN PEMERINTAH TENTANG PENERAPAN SISTEM MANAJEMEN KESELAMATAN DAN KESEHATAN KERJA.

BADAN PELAKSANA KEGIATAN USAHA HULU MINYAK DAN GAS BUMI
(BPMIGAS)

KELENGKAPAN PEDOMAN :
1. Pedoman Implementasi
2. Pedoman Audit
3. Protokol Audit

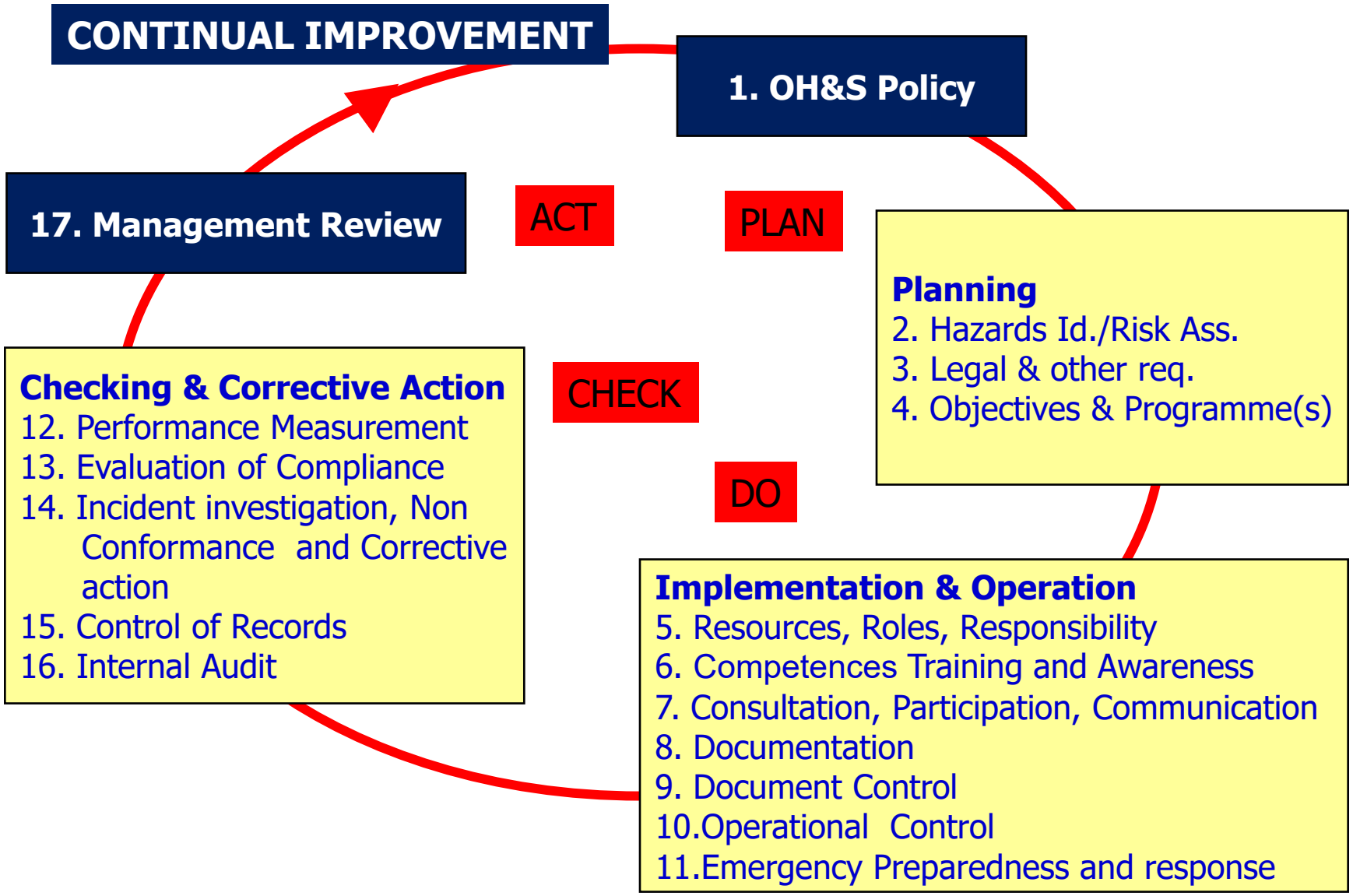
PTK : NO : 016 /PTK/09/2007

TENTANG :

SISTEM MANAJEMEN
KESELAMATAN DAN KESEHATAN KERJA
KONTRAKTOR KKS

JAKARTA

OHSAS 18001.2007



The future of OHSMS - 2016

ISO/NP 45001: Occupational health and safety management systems – Requirements
→ menggantikan OHSAS 18001 pada tahun 2016

OHSAS 18001:2007

1. Scope
2. Reference Publications
3. Terms & definitions
4. OHS Management System requirements

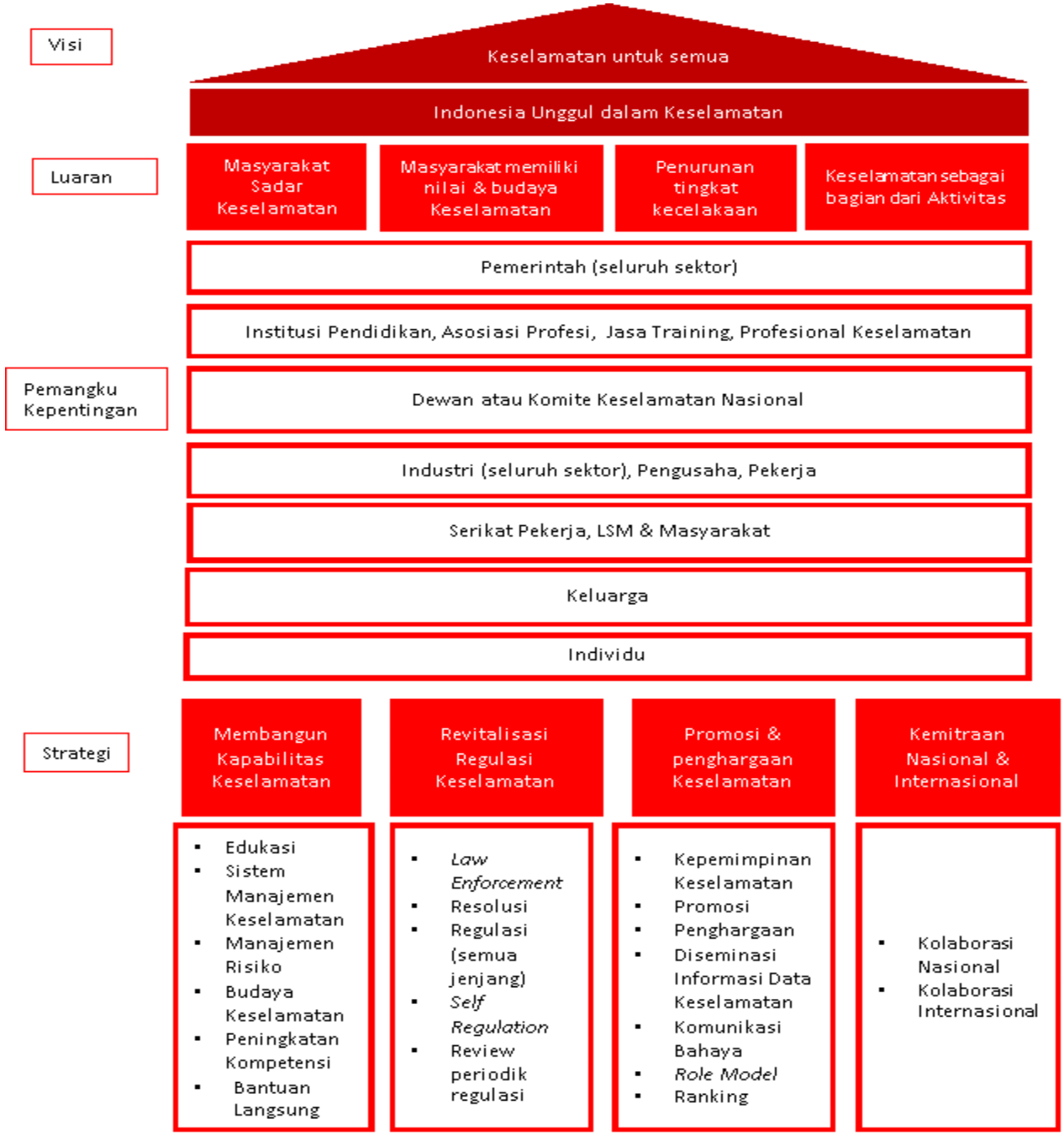
- 4.1. General requirements
- 4.2. OHS Policy
- 4.3. Planning
- 4.4. Implementation & Operation
- 4.5. Checking
- 4.6. Management Review

ISO/NP 45001

1. Scope
2. Normative references
3. Terms and definitions
4. Context of the organisation
5. Leadership
6. Planning
7. Support
8. Operation
9. Performance evaluation
10. Improvement

Challenges on implementation of OHSMS in Indonesia

1. Low awareness on the society
2. Accidents occur as it is a natural phenomenon - Accidents can not be prevented
3. Financial performance above OHS performance
4. Leaders perceived to reactive approach rather than proactive
5. OHS regulations are not implemented consistently
6. OHS is not everyone's responsibility
7. Cost & time efficiency is above the OHS aspects
8. Risk Assessment, Inspection, Audit, Accident Investigation has not become a culture



Source. Strategi Peningkatan Keselamatan – Konsep Merah Putih Keselamatan

References

- OHSAS 18001: 2007. Occupational Health & Safety Management System. Requirements
- OHSAS 18001: 2008. Occupational Health & Safety Management System. Guidelines for the implementation of OHSAS 18001:2007.
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- AS-NZS 4801:2001. Occupational Health & Safety Management Systems. Specifications with guidance for use.
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- Fatma Lestari, Strategi Peningkatan Keselamatan Kerja & Keselamatan Publik di Indonesia melalui pendekatan Sistematik Pencegahan Kecelakaan. Buku Pidato Guru Besar dalam Bidang Keselamatan Kerja FKM UI. 2014.

References

- Buku Atlas Keselamatan Migas. Dirjen Migas. 2016.
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