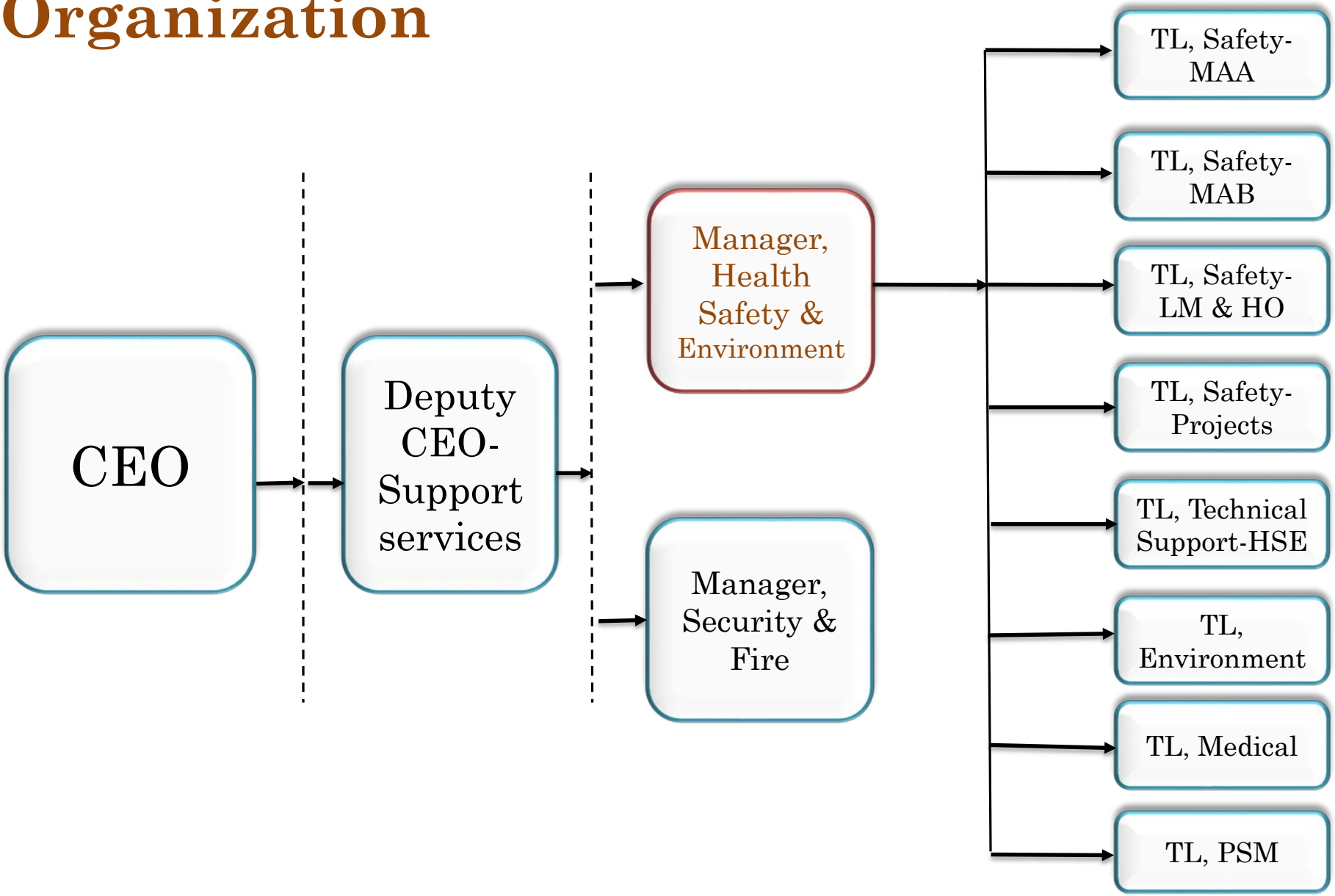
Kuwait National Petroleum Company – Safety Management Systems journey

شركة البترول الوطنية الكويتية
إحدى شركات مؤسسة البترول الكويتية
A Subsidiary of Kuwait Petroleum Corporation
KNPC

Kuwait National Petroleum Company

- Kuwait National Petroleum Company (KNPC) processes 736 MBPSD at its two refineries
- Clean Fuels Project expansion will improve the quality of product substantially- expected completion date- Apr 2019
- KNPC formed initially as a private local distribution ; Government take over in 1976
- KNPC has around 6000 employees and several thousand contractor personnel
- KNPC is run professionally under the ownership of Kuwait Petroleum Corporation (KPC)
- KNPC enjoys leadership position among downstream sector in Middle East in Technology and Health, Safety & Environment

Organization



شركة البترول الوطنية الكويتية
إحدى شركات مؤسسة البترول الكويتية
A Subsidiary of Kuwait Petroleum Corporation
KNPC

KNPC Mission, Vision and Values

KPC Downstream Sector

Our Mission Maximize the value of Kuwaiti hydrocarbons through domestic and international refining, petrochemical and marketing.

Our Vision To be a leading player in the global oil & gas downstream sector, recognized for the strength of our performance and admired for our significant contributions to the State of Kuwait.

		To accomplish our Vision:	Values - we commit to…
KPC Downstream...	Superior Business PERFORMANCE	**We** integrate across the downstream to maximize the value of Kuwait`s hydrocarbons while meeting Kuwait`s fuel demand	**Excellence:** High performance, Operational Excellence, continuous improvement, high quality products and services, customer focus **Motivation:** Collaborative work place, teamwork; loyal environment driven by appropriate performance culture
... Delivers through ...	The right PRACTICE always	**We** pursue HSSE and operational excellence in everything we do **We** strive for growth and profitability in all our businesses **We** provide our customers with high quality products and superior service, constantly	**HSSE:** Environmental protection, safety, security, and healthy workplace **Society:** Corporate social responsibility in Kuwait and in host communities **Alignment:** Care for KPC's interest and issues and ensure alignment to achieve KPC's goals "KPC First" **Flexibility:** Willingness to change, Innovation, Responsiveness
... Superior People and Partnerships	Build Best PEOPLE	**We** work as a team and continuously develop our people **We** are a reliable and trusted employer and business partner in Kuwait and internationally **We** care for the environment, our customers and the communities in which we operate	**Integrity:** Openness, trust, respect, fairness, transparency, honesty, reliability, high ethical standards, professionalism, accountability **Partnership:** Long-term, value-adding relationships that support growth and enhance operational excellence

KNPC QHSSE Policy

KNPC QHSSE Policy

In KNPC, we are committed to provide a safe, secure and healthy working environment for everybody who works with us, and are responsible for working towards the goal of no accidents, and no harm to our people, environment, our assets, and the communities in which we operate.
We believe that all incidents, injuries and workplace illnesses are preventable. We will prevent pollution and the negative/adverse impacts our operations have on the environment by reducing waste, emissions and discharges, and use resources efficiently. We will produce, market and distribute quality products that can be used safely by our customers through a high commitment to safety, health and environment.
To accomplish this, we will:

a) Ensure that **management** at all levels demonstrate and encourage commitment to create and sustain a culture where QHSSE is the responsibility of all employees.
b) Set **objectives and targets** that result in continual improvement of our QHSSE performance.
c) Provide adequate **resources** to implement QHSSE processes and programs.
d) Maintain and continually improve a QHSSE **management system** that meets local and international industry standards and regulatory requirements.
e) Identify, assess and manage the health, safety, security, and environmental **risks** and impacts of our existing and planned operations.
f) Use globally recognized standards, procedures and processes for **facility design, construction** and start-up activities.
g) Apply effective procedures, structured inspections, **maintenance programs** for critical equipment, and competent personnel to ensure that our facilities are **operated** within established parameters and according to regulations.
h) Ensure that all of the **workforce including employees and contractors** are performing work in a manner that is consistent and compatible with our expectations on QHSSE.
i) **Inform and provide documentation** necessary for industry approved design, operation, inspection, and maintenance of facilities, and ensure that these are identified, accessible, reviewed, maintained and appropriately safeguarded.
j) Adequately **train our workforce** and regularly assess and improve their skills and competency.
k) Develop a motivated and committed workforce and enhance the overall **QHSSE culture** by involving employees at all levels in QHSSE initiatives.
l) Proactively **communicate** our QHSSE expectations, lessons learnt and other QHSSE information openly with the community, our staff, our contractors and other stakeholders.
m) Assess, manage and communicate the hazards associated with our products to help users and others handling **our products** in a safe and environmentally friendly manner.
n) **Manage changes** to operations, procedures, systems, site standards, facilities, structure or organizations to ensure that risk arising from these changes remains at an acceptable level.
o) **Openly report** all incidents and near misses, and structurally investigate where appropriate to establish root cause and take corrective/preventive actions. Implement lesson-learnt process to share the lessons from past incidents and historical practices.
p) Plan and prepare to handle any **emergencies** resulting from an incident and take necessary actions to protect the people/communities, the environment, assets and our reputation.
q) Monitor the effectiveness and sites compliance with our QHSSE management system, objectives and targets through **internal and external audits** and verifications.
r) Implement formal process for **senior management to review** the continuing suitability, adequacy and effectiveness of our Management System in managing QHSSE risks and ensuring continual improvement in QHSSE performance.

And also committed to

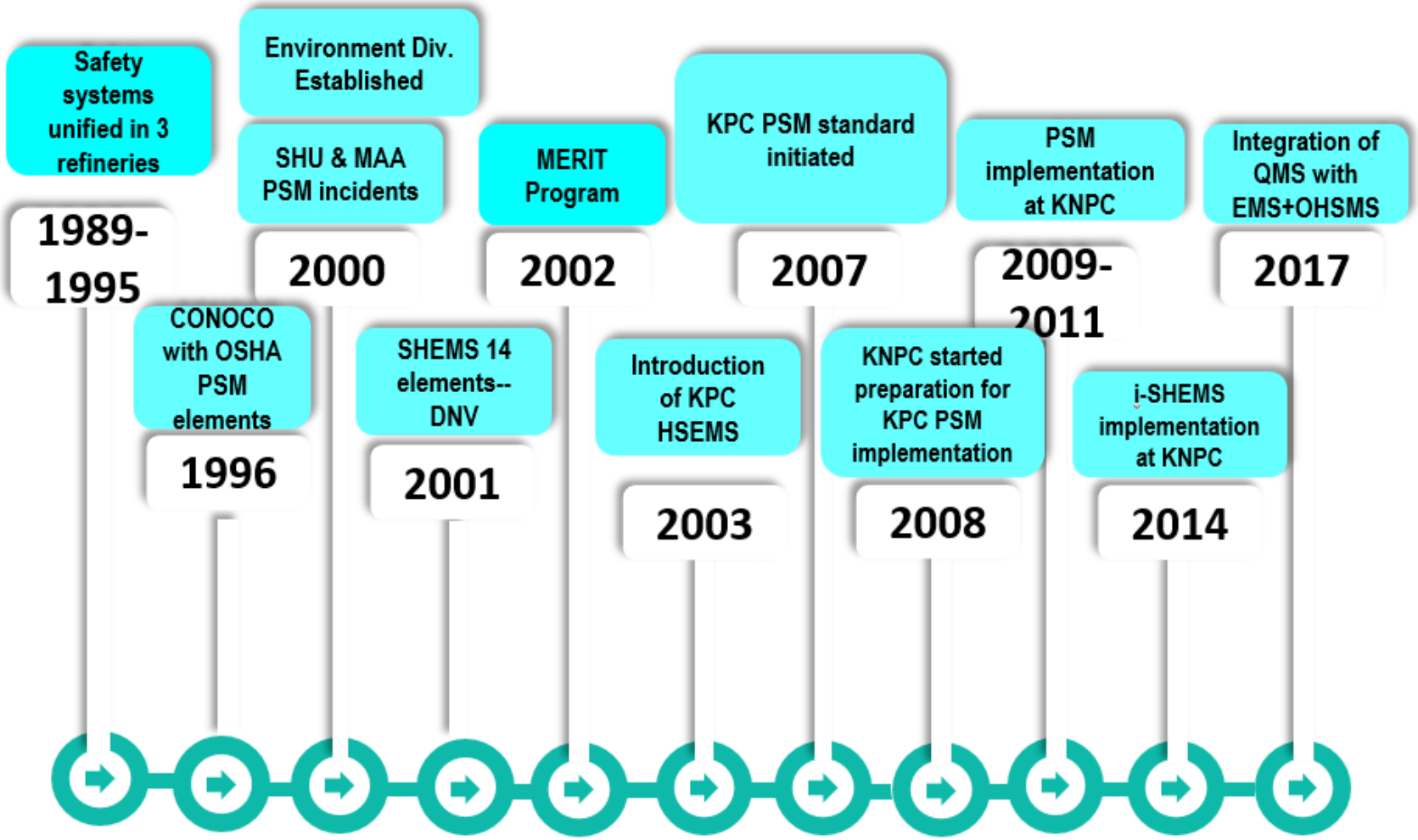
s) Reduce number of injuries, occupational health related incidents, exposure incidents, fire and other process safety incidents.
t) Dispose wastes safely and responsibly after taking measures to reuse, recycle, refurbish and recover.
u) Assign clear QHSSE responsibilities to workers and provide necessary on-the-job and off-the-job training for effective QHSSE implementation.
v) Manage the security of our sites to support the goals of our QHSSE Management System.
w) Effectively implement, maintain and improve QHSSE management system to achieve our goals.
x) Play a full part in the affiliations and associations of the industries of which we are a part to share and learn best industry practice.
y) Be honest and fair in all our dealings and demonstrate the highest standard of ethics in conducting our business.

In doing this, we encourage open communication, participation and consultation within the Company and with the suppliers, customers and community. We involve our employees, visitors and contractors and other interested parties in QHSSE activities, with the aim to prevent all types of incidents covering occupational injuries, occupational illness, security threats and pollution.
Achieving industry leadership in QHSSE performance is a collective responsibility requiring team work. Every KNPC and contractor employee shall be committed to this goal.

Mohammed Ghazi Al-Mutairi
Chief Executive Officer

HSE-TSSA-17 - 5101, Rev. 7, Nov 2017

KNPC Management System/ SMS/ PSM journey



شركة البترول الوطنية الكويتية
إحدى شركات مؤسسة البترول الكويتية
A Subsidiary of Kuwait Petroleum Corporation
KNPC

The First Safety Management System 1996-97

		Original Schedule	Revised Schedule
1. Leadership & Commitment	Phase-1	Dec 1997	
2. Metrics	Phase-1		
3. Contractors	Phase-1		
4. Incident Reporting & Investigation	Phase-1		Jun 1998
5. S&OH Planning	Phase-1		
6. Roles & Responsibilities	Phase-2	May 1998	
7. Occupational Health	Phase-2		
8. Employee Ownership & Participation	Phase-2		
9. Standards & Procedures	Phase-2		March 2000
10. Audits	Phase-2		
11. Emergency Preparedness	Phase-2		
12. Behavioral Accident Prevention	Phase-3	Dec 1998	
13. Training	Phase-3		
14. Mechanical & Operating Integrity	Phase-3		June 2001

Incidents that changed the course

- Shuaiba refinery confined space tragedy, 15 June 2000
- Mina Al Ahmadi refinery fire and explosion, 25 June 2000

SHEMS Elements, 2001

Sr.#	SHEMS Elements
1.	Leadership, Commitment & Accountability
2.	Management System, Metrics and Audits
3.	Safe Work Practices, Permits and Standards
4.	Training and Competence
5.	Environment
6.	Information and Documents
7.	Contractor & Material Procurement
8.	Roles, Responsibilities and Assignments
9.	Behavior
10.	Occupational Health
11.	Emergency Preparedness
12.	Incident Investigation and Reporting
13.	Risk Assessment and Management of Change
14.	Mechanical and Operating Integrity

KPC HSE initiatives

- HSE Department formed
- HSE Management System initiated with Du Pont, for implementation by all subsidiaries
- Incorporated Process Safety Management requirements
- Corporate PSM Committee formed (2007) to
  - Support implementation
  - Raise awareness
  - Upgrade documents
  - Monitor implementation
  - Review performance

KPC PSM elements

شركة البترول الوطنية الكويتية
إحدى شركات مؤسسة البترول الكويتية
A Subsidiary of Kuwait Petroleum Corporation
KNPC

KNPC PSM Implementation Program 2008

- Resolved to implement KPC PSM requirements
- Process Safety Culture Survey to identify issues & concerns
- PSM Implementation Committee formed
- Element wise subcommittees formed
- Three year implementation plan 2010-2012
- New processes introduced
- New organization (PSM Team) in place

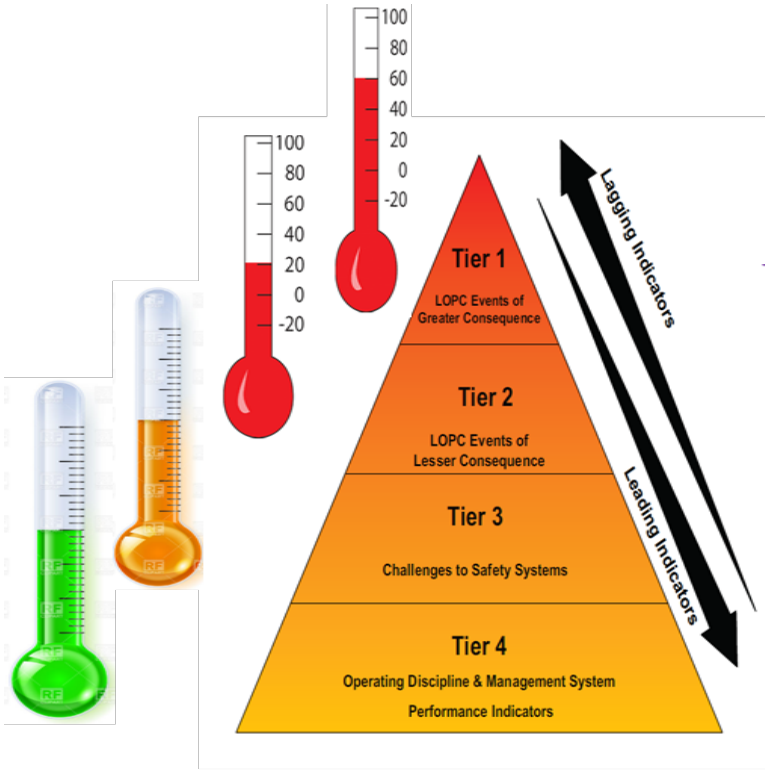
KNPC i-SHEMS elements

KNPC PSM Programs & Initiatives

- MOC Audits
- PSSR process introduced, good response on CFP commissioning
- PSM KPIs introduced per API 754, being monitored
- Incident investigation process upgraded
- PHA revalidation began
- Contractor HSE performance database
- ESD interlock bypass process automation

KNPC PSM Measures

- First company in the region fully implemented API -754 PSM KPI which was well appreciated by international insurance survey .
- PSM KPI dashboard e-Portal developed and implemented.



T1 PSE is an unplanned or uncontrolled release of any material (i.e. LOPC) including non-toxic and non-flammable materials from a process that results greater consequence.

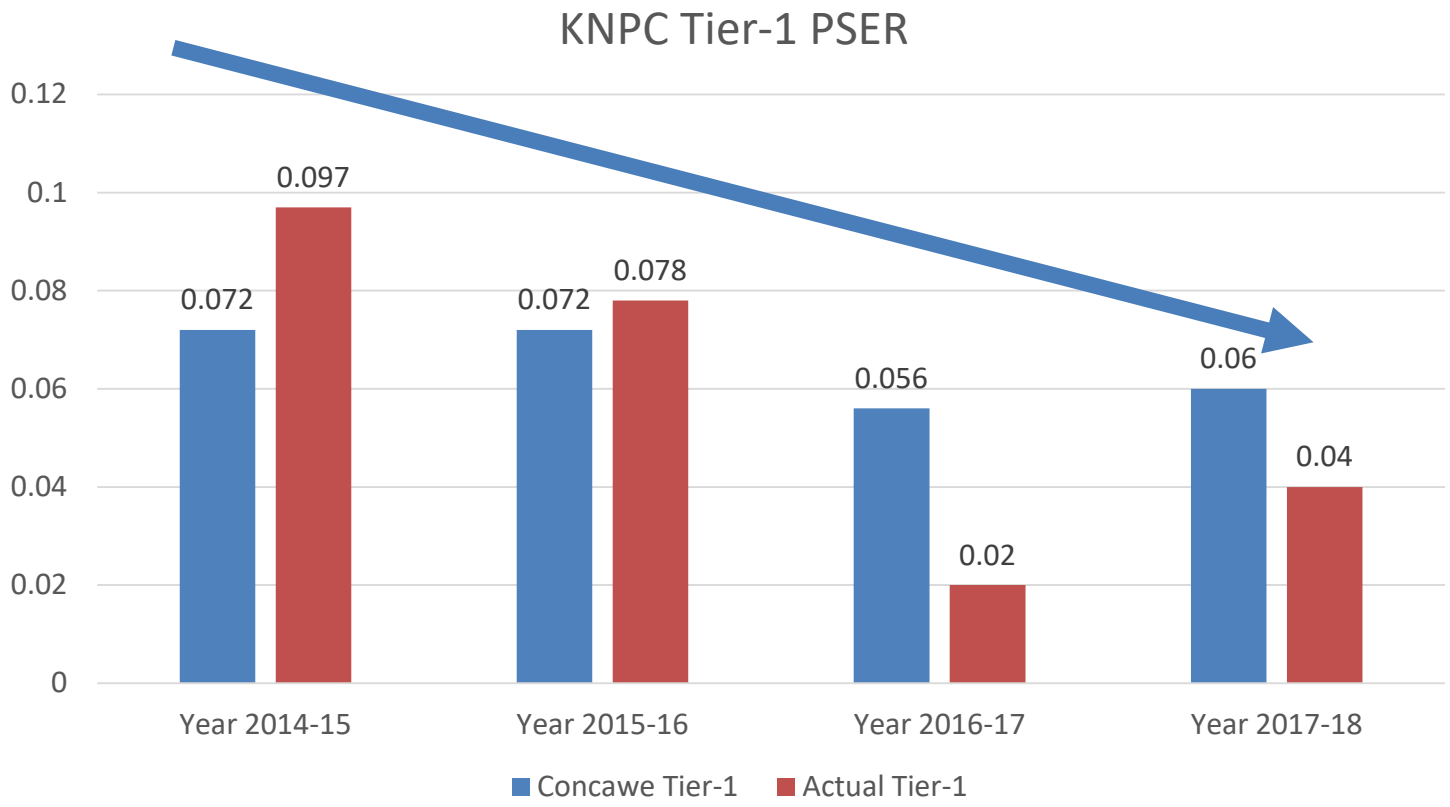
A Tier 2 same as Tier 1 with lesser consequence.

A Tier 3 typically represents a challenge to the barrier system that progressed along the path to harm , but is stopped short of a Tier 1 or Tier 2 LOPC consequence.

A Tier 4 represents performance of individual components of the barrier system and are comprised of Operating discipline and management system performance.

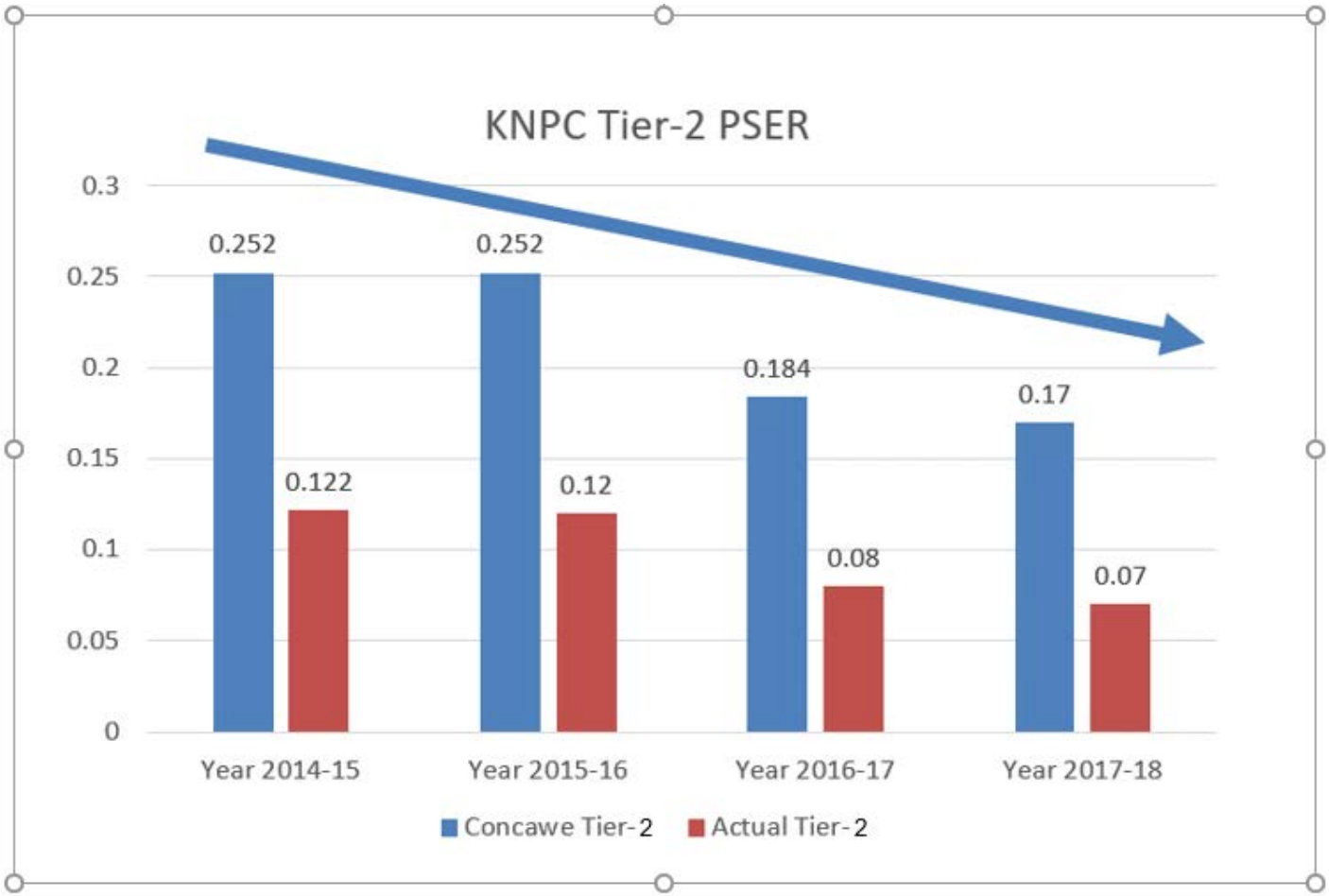
15

KNPC PSM Measures



شركة البترول الوطنية الكويتية
إحدى شركات مؤسسة البترول الكويتية
A Subsidiary of Kuwait Petroleum Corporation
KNPC

KNPC PSM Measures



شركة البترول الوطنية الكويتية
إحدى شركات مؤسسة البترول الكويتية
A Subsidiary of Kuwait Petroleum Corporation
KNPC

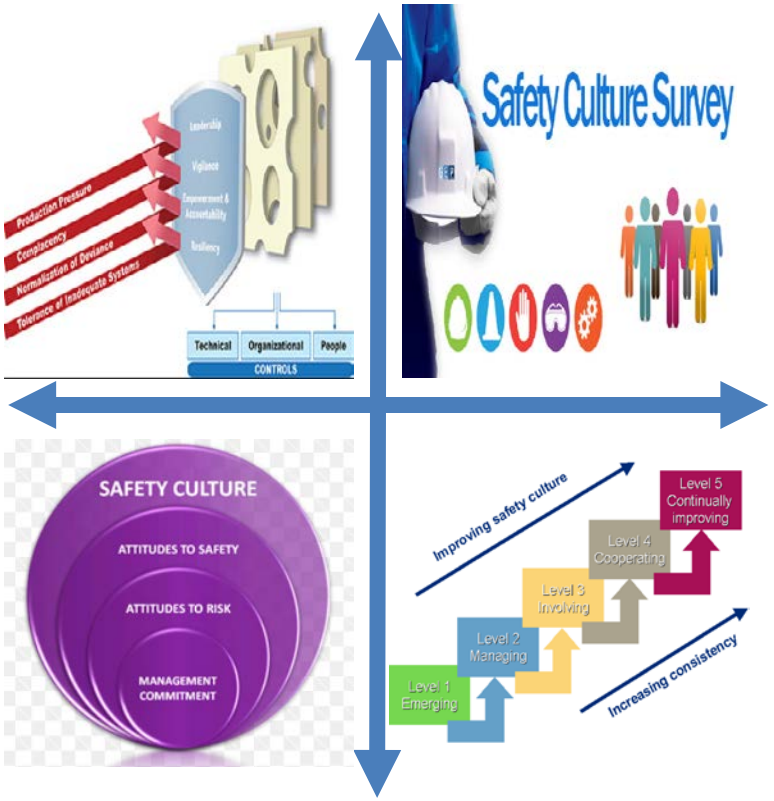
Mechanical Integrity - Safety Critical equipment

Mechanical Integrity--Safety Critical Equipment program: Identified and verified; almost 40,000 equipment were categorized, risk ranked and well maintained as SCE through inspection, maintenance and spare parts program

18

Safety Culture Improvement Program

A Safety culture improvement program which includes Safety Culture survey is being carried out to review the effectiveness of the safety culture programs (for employees and contractors) and develop a corrective action plan to enhance safety culture. This is a 3 year project.



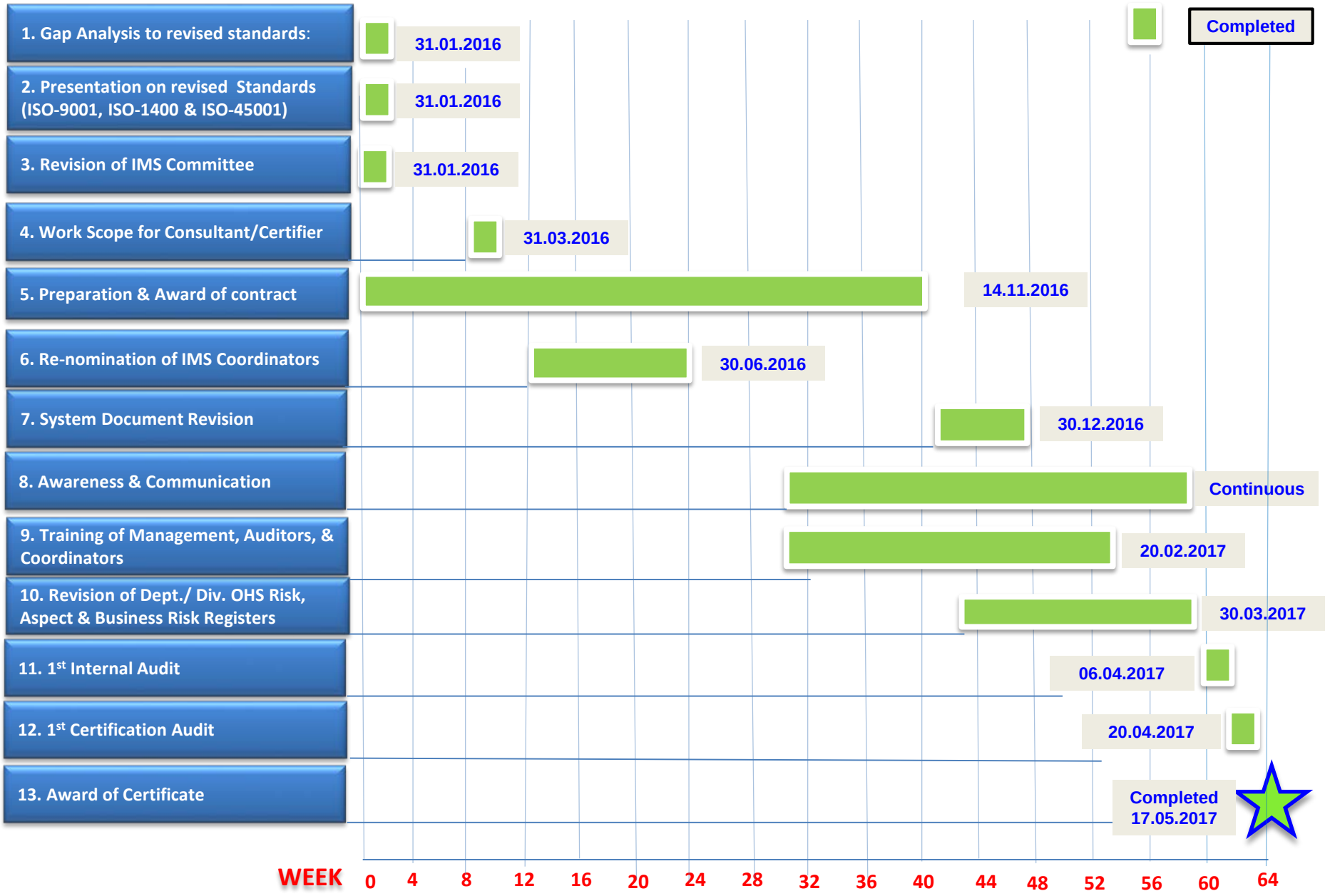
19

KNPC Integrated Management System for ISO requirements (IMS), 2017

Integrated Management System

1. KNPC had been certified to ISO 9001, Quality Management System, ISO 14001, Environment Management System and OHSAS 18001, OHS Management System
2. In May 2017, Integrated Management System project unified their implementation

IMS Implementation Timeline



IMS Implementation – challenges and accomplishments

- Fig.4 major achievement

1. Short time – large company
2. Major management of change issue
3. Upgraded to 2015 editions of ISO 9001 and ISO 14001
4. Among the first in major companies in GCC

23

Safety awards achieved by KNPC

Awards from British Safety Council (BSC) U.K.
KNPC sites regularly achieve International Safety Award from BSC

Awards from Royal Society for the Prevention of Accidents (RoSPA)-U.K.:
KNPC sites regularly achieve Achievement awards from RoSPA

Safety awards achieved by KNPC

Year	Industry Sector	Achievement Award				
	KNPC - Organization	MAA	MAB	SHU	LM	PD
2016	Not participated	Not participated	President's Award	Gold Medal	Not participated	Not participated
2015	Not participated	Not participated	President's Award	Gold Award	Gold Medal	Gold Award

Year	International Safety Awards					
	MAA	MAB	SHU	LM	PD	HO
2016	Not participated	Merit	Merit	Not participated	Not participated	Merit
2015	Not participated	Distinction	Distinction	Distinction	Merit	Distinction

Future

- Improvements in management systems have led to improvement in performance
- KNPC aspires to be abreast with the best
- Likely to upgrade to ISO45001 from current BS OHSAS 18001 by mid 2018
- Future integration planned with IT Security ISO 27001, Food Safety ISO 22001 and Energy Standards ISO 50001
- Further improve compliance and auditor development program
- Further enhancement of PSM performance

Thank you