

GROUP : 1

**Multicountry Observational Study Mission on Innovative Enterprises Implementation Energy Management System
6-10 October 2014, Jakarta, Indonesia**

PT. Indonesia Power and Schneider Electric Indonesia



Group I

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Assignment List (Clauses 4.1 – 4.3)

- Scope and Boundary
 - Organization (EnMS)
 - Top Management Commitment Evidence
 - Role of MR
 - Activities of MR
 - Compliance of Conformity Policy
-

The Main Implementation of ISO and Standards

- **PT. Indonesia Power (IP):**
 - PAS 55 Standard
 - ISO 14001:2004,
 - OHSAS 18001:2007,
 - ISO28001:2007
 - **ISO 50001 is not implemented**
- **Schneider Electric (SE) Indonesia:**
 - ISO 9001
 - ISO 14001
 - OHSAS 18001
 - ISO 50001 has been implemented



Scope and Boundary (Clauses)

- **3.1 boundaries:** physical or site limits and/or organizational limits as defined by the organization.
 - EXAMPLE: A process; a group of processes; a site; an entire organization; multiple sites under the control of an organization.
 - **3.26 scope:** extent of activities, facilities and decisions that the organization addresses through an EnMS, which can include several boundaries
 - NOTE: The scope can include energy related to transport
 - **4.1 General requirements**
 - The organization shall: (b) define and document the **scope and boundaries** of its EnMS;
-

Scope and Boundary

PT. Indonesia Power

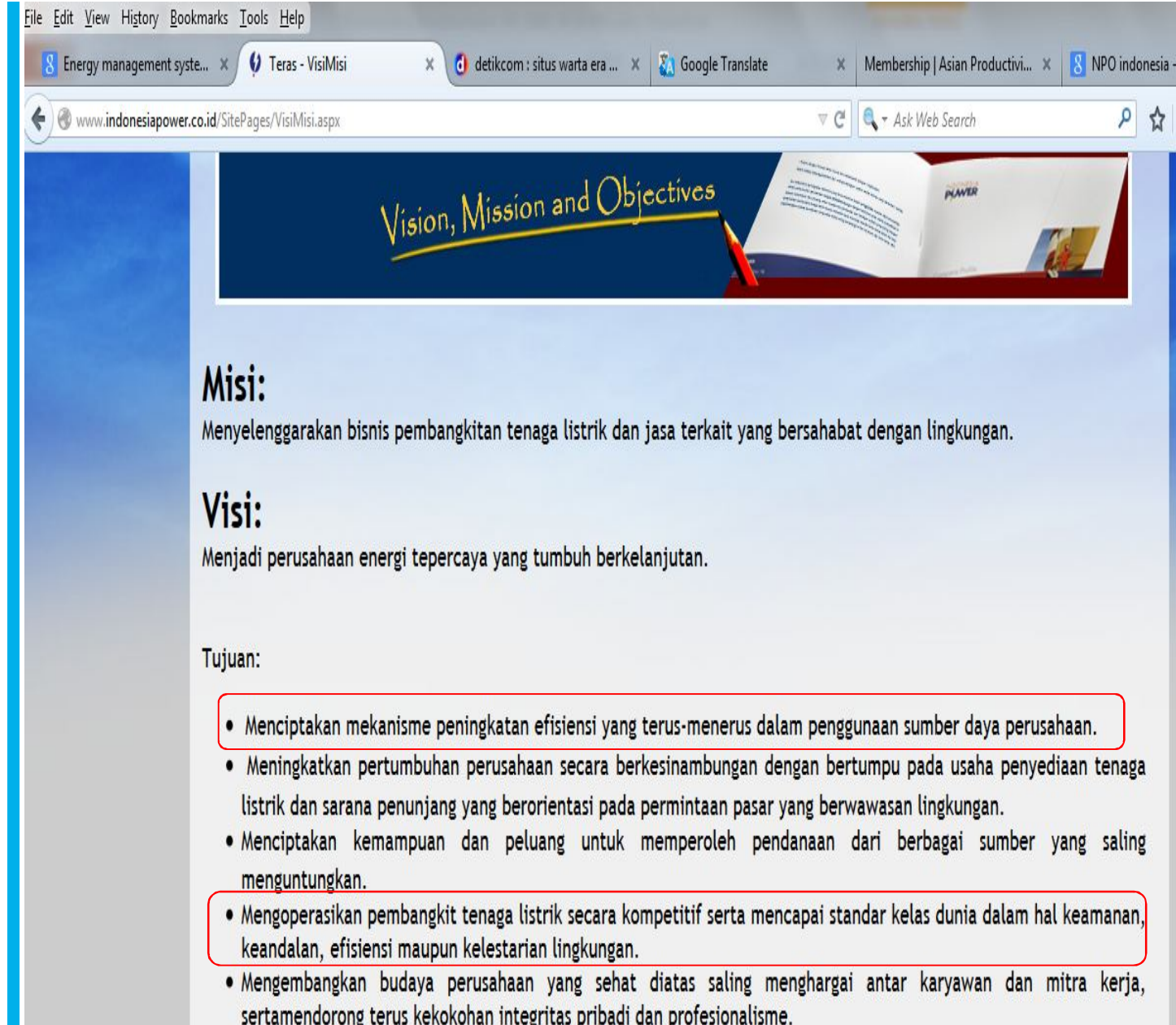
- **Scope:** Energy related to producing of the electrical power by the power plants
- **Boundary:**
 - Indonesia Power UB Priok including the 3 power plant bloks: 1, 2, and 3
- **Comments:**
 - Stated clearly and compliance with the PAS 55
 - Not ISO50001 certified company
 - EnMS is good implemeted

Schneider Electric Indonesia

- **Scope:** Energy related to the manufacturing of MV and LV electrical devices
- **Boundary:**
 - Cikarang Factory including office, production, ICC, compressor, and others
- **Comments:**
 - Stated clearly and compliance with the ISO50001
 - ISO50001 certified company
 - EnMS is good implemeted as ISO50001

PT. Indonesia Power

- Creating mechanisms that increase **efficiency** continuously in utilization of company resources
- **Power plants** should operate in a competitive and achieve world-class standards in terms of safety, reliability, **efficiency** and environmental sustainability.



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www.indonesiapower.co.id/SitePages/VisiMisi.aspx

Ask Web Search

Vision, Mission and Objectives

Misi:
Menyelenggarakan bisnis pembangkitan tenaga listrik dan jasa terkait yang bersahabat dengan lingkungan.

Visi:
Menjadi perusahaan energi tepercaya yang tumbuh berkelanjutan.

Tujuan:

- Menciptakan mekanisme peningkatan efisiensi yang terus-menerus dalam penggunaan sumber daya perusahaan.
- Meningkatkan pertumbuhan perusahaan secara berkesinambungan dengan bertumpu pada usaha penyediaan tenaga listrik dan sarana penunjang yang berorientasi pada permintaan pasar yang berwawasan lingkungan.
- Menciptakan kemampuan dan peluang untuk memperoleh pendanaan dari berbagai sumber yang saling menguntungkan.
- Mengoperasikan pembangkit tenaga listrik secara kompetitif serta mencapai standar kelas dunia dalam hal keamanan, keandalan, efisiensi maupun kelestarian lingkungan.
- Mengembangkan budaya perusahaan yang sehat di atas saling menghargai antar karyawan dan mitra kerja, sertamendorong terus kekokohan integritas pribadi dan profesionalisme.

PT. Indonesia Power

TREND THERMAL EFFICIENCY



TREND MATURITY LEVEL of EFFICIENCY MANAGEMENT



PT. Indonesia Power

- Indonesia Power UB Priok including the 3 power plant bloks: 1, 2, and 3

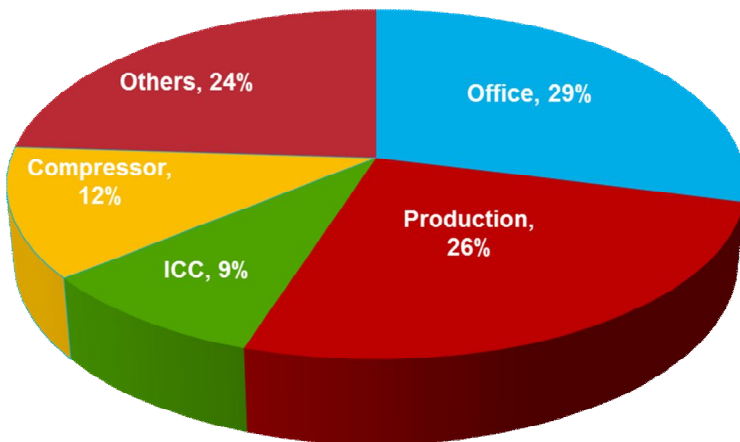


POWER GENERATION IN PT INDONESIA POWER



Schneider Electric Indonesia

Electricity Consumption



Cikarang Factory including office, production, ICC, compressor, and others



East Jakarta Industrial Park (EJIP) Plot 4B1-B3, Cikarang Selatan, Bekasi, West Java - Indonesia 17520

Surface area : 11,025 m²

Land area : 33,264 m²

Certified : ISO 9001
ISO 14001
OHSAS 18001
ISO 50001

Total HC : 672 people
NDVC : 89 People

Capacity :
LV : 2,400 panels/year
SM6 : 18,000 panels/year (25%CB, 75%SW)
Motorpact : 450 panels/year

Offers & Solutions

LV - Blokset



Blokset Fix/Drawout
up to 6300A

LV - Okken



Okken up to 7500A

MV - SM6



SM6 Switch and CB
up to 36kV, 1250A

MV - Motorpact



Motorpact up to 400A, 7.2kV

Organization (EnMS)

- **3.22 organization:** company, corporation, firm, enterprise, authority or institution, or part or combination thereof, whether incorporated or not, public or private, that has its own **functions and administration** and that has the authority **to control its energy use and consumption**
 - NOTE: An organization can be a person or a group of people.
 - **3.10 energy management team:** person(s) responsible for effective implementation of the energy management system activities and for delivering energy performance improvements
 - NOTE: The size and nature of the organization, and available resources, will determine the size of the team. The team may be one person, such as the management representative.
-

Organization (EnMS)

PT. Indonesia Power

- The organization of the EnMS is included to the function of the management
 - The organization of the specific EnMS is not clearly identified
 - **Comments:**
 - Stated clearly and compliance with the PAS 55
-

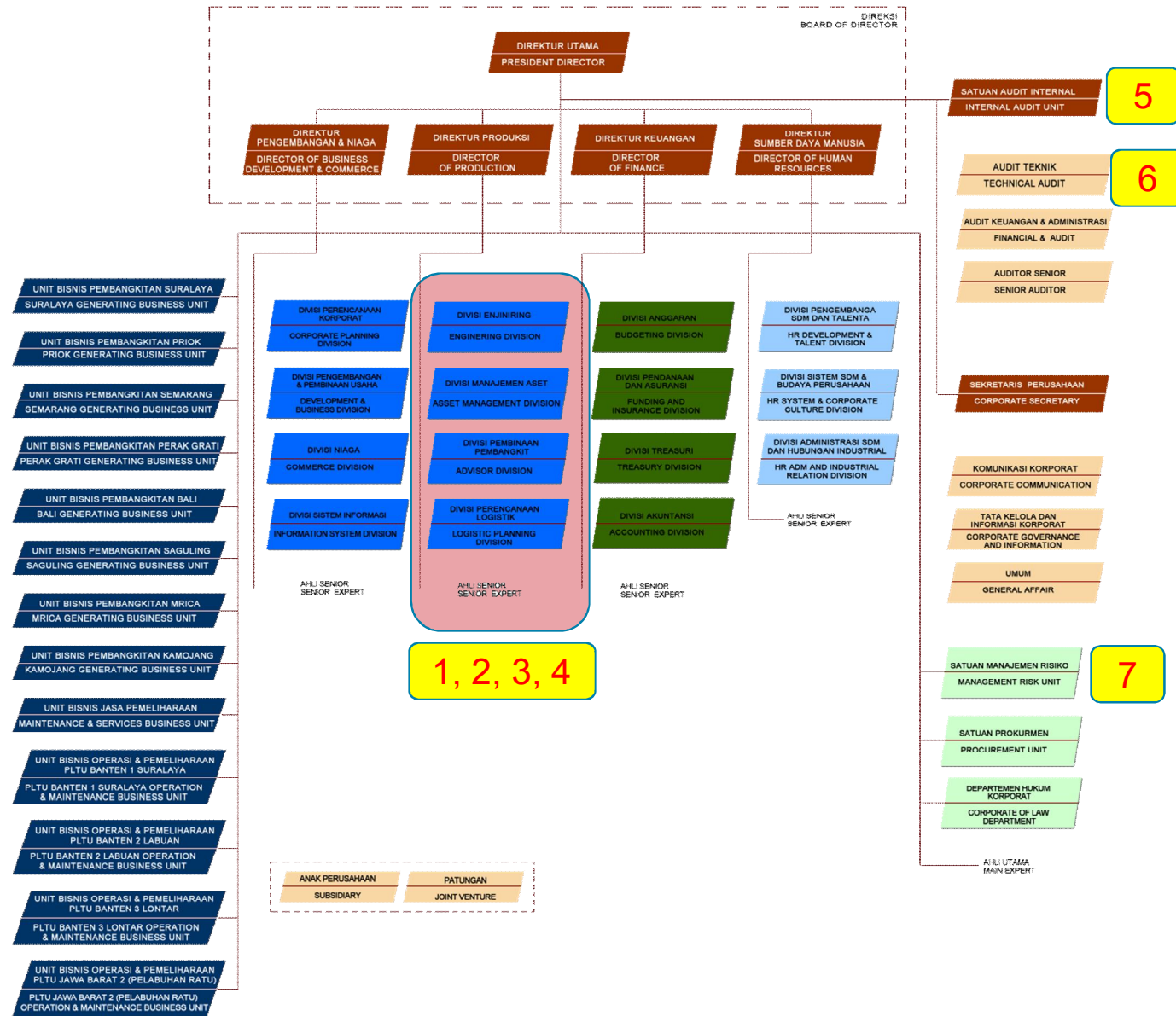
Schneider Electric Indonesia

- The specific organization to manage the EnMS is clearly identified: Green Team
- **Comments:**
 - Stated clearly and compliance with the ISO50001

PT. Indonesia Power

Organisation Structure of Indonesia Power:

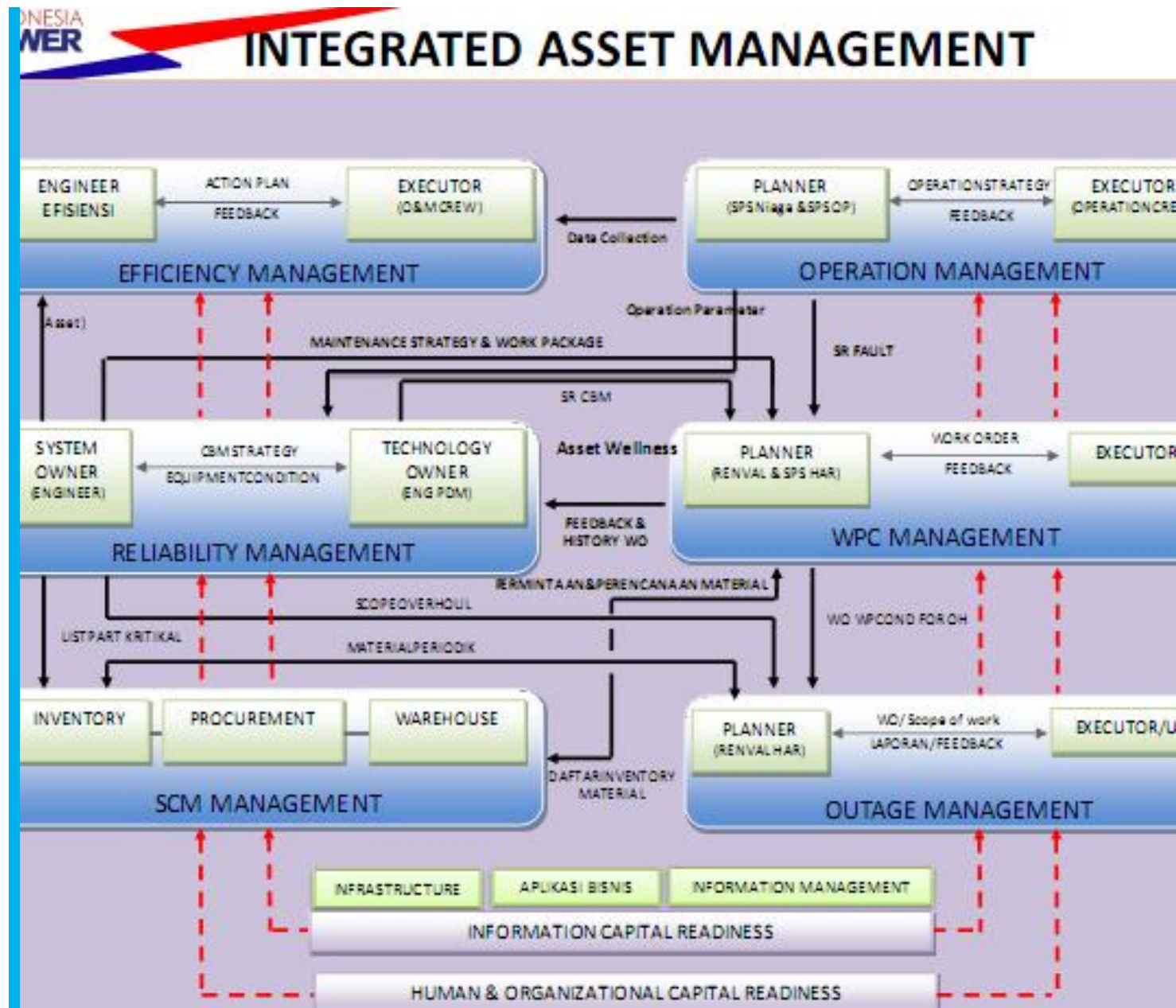
- 1) Engineering Devison
- 2) Asset Management Devison
- 3) Generation Advisor Devison
- 4) Logistic Planning Devison
- 5) Internal Audit Unit
- 6) Technical Audit
- 7) Management Risk Unit



PT. Indonesia Power

Organisation Structure of Indonesia Power:

- 1) Engineering Devision
- 2) Asset Management Devision
- 3) Generation Advisor Devision
- 4) Logistic Planning Devision
- 5) Internal Audit Unit
- 6) Technical Audit
- 7) Management Risk Unit



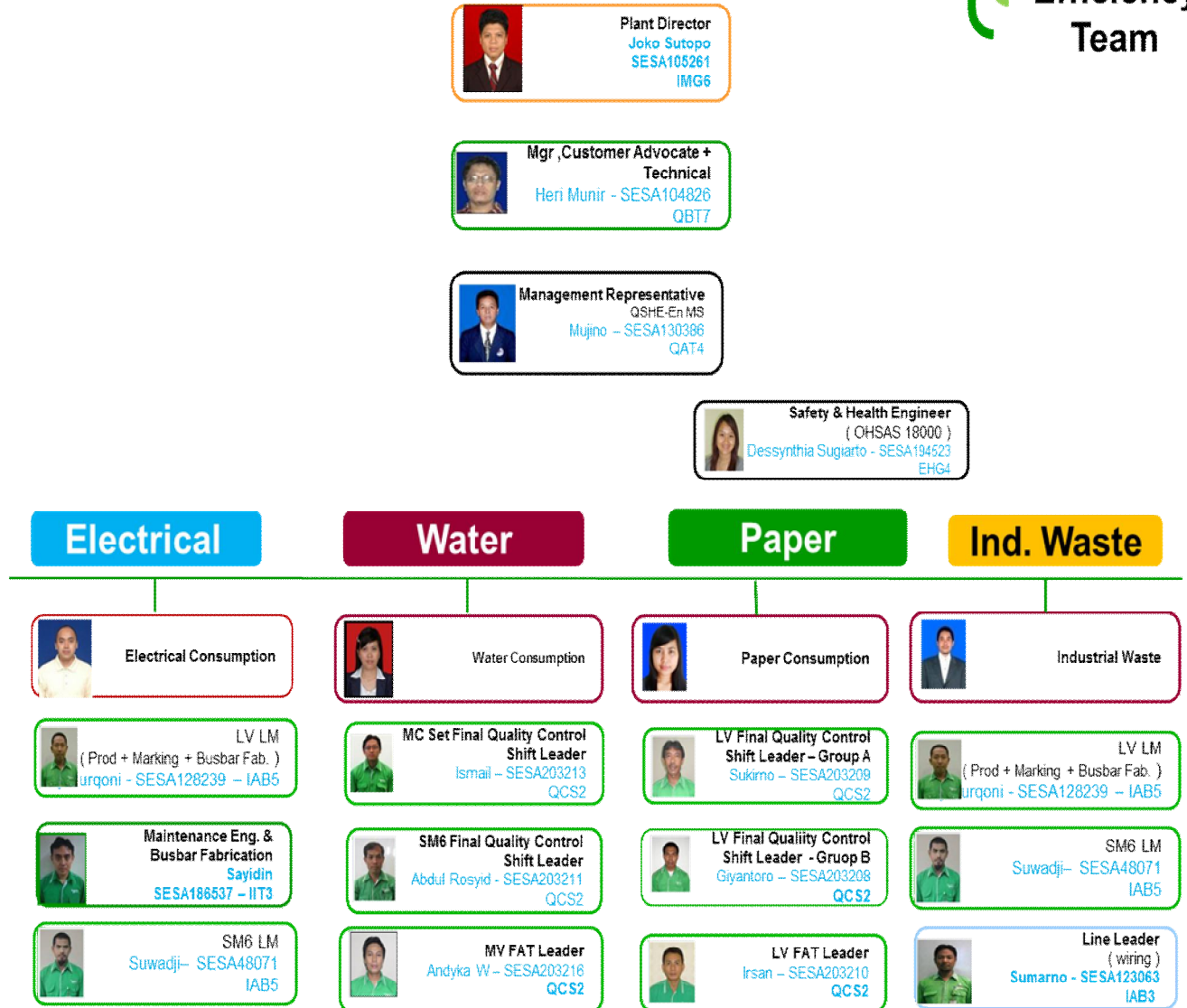
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Green Team:

- 1) Top Manager
- 2) Manager Representative
- 3) Electrical Devision
- 4) Water Devision
- 5) Paper Devision
- 6) Industrial Waste Devision

Organization Chart : Energy Efficiency (Green Team)

Energy Efficiency Team



Top Management Commitment (Evidence)

- **3.28 top management:** person or group of people who directs and controls an organization at the highest level
 - NOTE 1: Top management controls the organization defined within the scope and boundaries of the energy management system.
 - NOTE 2: Adapted from ISO 9000:2005, definition 3.2.7.
- **4.2.1 Top management**

Top management shall demonstrate its commitment to support the EnMS and to continually improve its effectiveness by:

 - a) defining, establishing, implementing and maintaining an energy policy;
 - b) appointing a management representative and approving the formation of an energy management team;
 - c) providing the resources needed to establish, implement, maintain and improve the EnMS and the resulting energy performance;

NOTE Resources include human resources, specialized skills, technology and financial resources.

 - d) identifying the scope and boundaries to be addressed by the EnMS;
 - e) **communicating the importance of energy management to those in the organization;**
 - f) ensuring that energy objectives and targets are established;
 - g) ensuring that EnPIs are appropriate to the organization;
 - h) considering energy performance in long-term planning;
 - i) ensuring that results are measured and reported at determined intervals;
 - j) ~~conducting management reviews.~~

Top Management Commitment Evidence

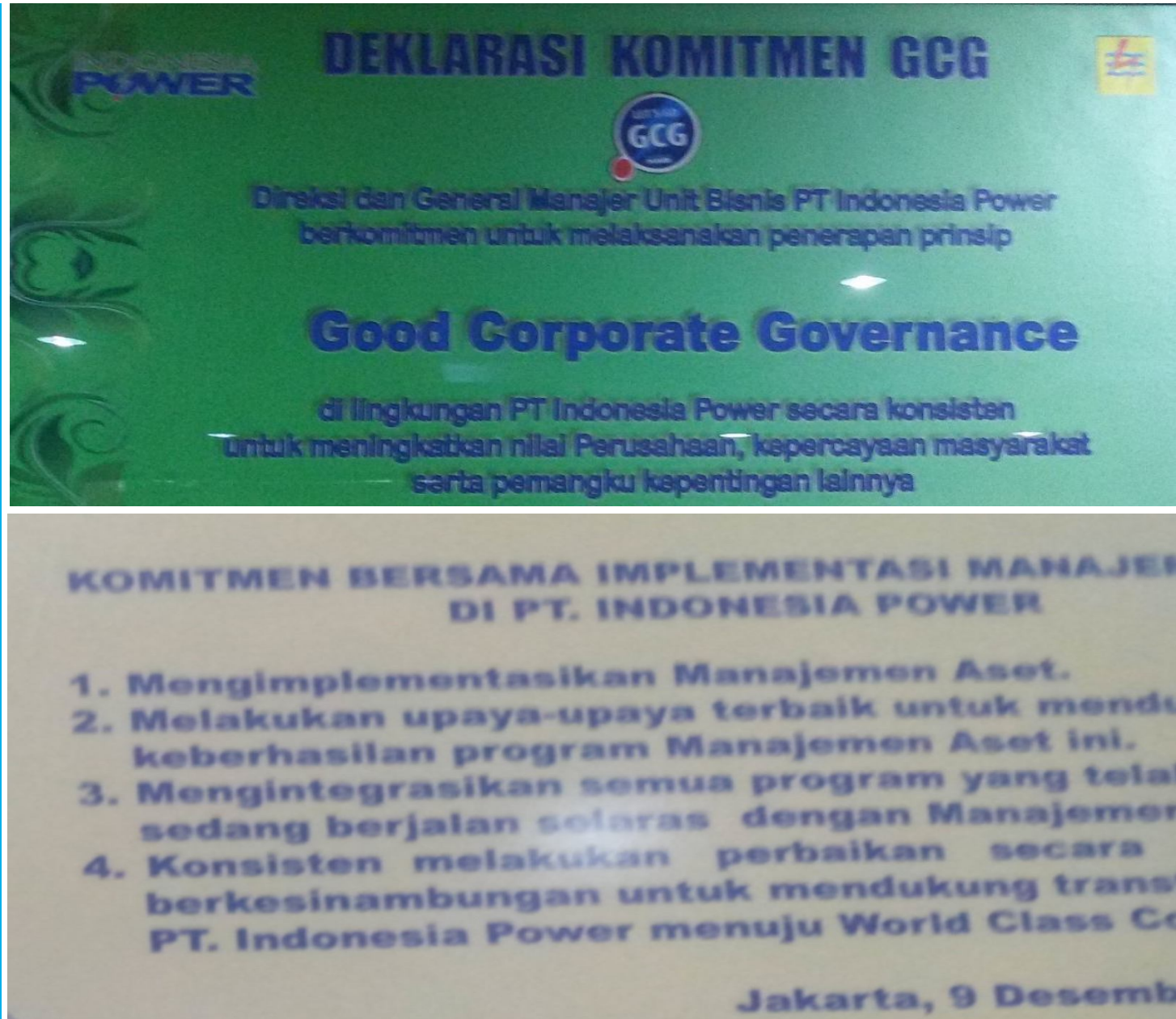
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- Stated clearly and compliance with the PAS 55

Schneider Electric Indonesia

- Stated clearly and compliance with the ISO50001
-

PT. Indonesia Power



DEKLARASI KOMITMEN GCG

POWER

Diriksi dan General Manajer Unit Bisnis PT Indonesia Power
berkomitmen untuk melaksanakan penerapan prinsip

Good Corporate Governance

di lingkungan PT Indonesia Power secara konsisten
untuk meningkatkan nilai Perusahaan, kepercayaan masyarakat
serta pemangku kepentingan lainnya

**KOMITMEN BERSAMA IMPLEMENTASI MANAJEMEN
DI PT. INDONESIA POWER**

1. Mengimplementasikan Manajemen Aset.
2. Melakukan upaya-upaya terbaik untuk mendukung keberhasilan program Manajemen Aset ini.
3. Mengintegrasikan semua program yang telah sedang berjalan selaras dengan Manajemen Aset.
4. Konsisten melakukan perbaikan secara berkesinambungan untuk mendukung transformasi PT. Indonesia Power menuju World Class Company.

Jakarta, 9 Desember 2014

Top Management Commitment
(Evidence)


Schneider Electric Indonesia

- 1) Energy Efficiency is everyone's responsibilities.
- 2) "we are committed to consume energy in more efficient, effective and environmental friendly manner to save our planet"

Setting up Energy Policy

Our Energy Policy

at Schneider Cikarang Indonesia



Energy Efficiency is everyone's responsibilities.


We are committed to consume energy in more efficient, effective and environmental friendly manner to safe our planet.

To achieve this, we will :


- > Ensure appropriate resources and information to achieve Objectives Target and Program.
- > Provide necessary support : budget, human resources and training to develop an energy management system.
- > Involve all employess, sub. contractors and suppliers to consistently implement energy efficiency in all sectors and elements.
- > Ensure purchase of equipments and services related to energy usage considering energy efficiency.
- > Comply to relevant legal obligation and other requirements.
- > Upgrade and create awareness among of our people throughout continual and effective training to achieve energy efficiency.
- > Implement continual improvement of energy efficiency.
- > Periodically review and update policies & objectives.

To be the role model in energy efficiency

Cikarang, 20 December 2013



Joko Sutopo
Plant Director



The Global Specialist in Energy Management

Objectives :

- Commitment from Top Management.
- Clear vision ad mission.
- Consistency for system development.
- Comply to legal obligation and other regulations.
- Implement continual energy improvement.
- To be the role model in Energy Efficiency

Role of MR

- **4.2.2 Management representative**
- Top management shall appoint a management representative(s) with appropriate skills and competence, who, irrespective of other responsibilities, has the responsibility and authority to:
 - a) ensure the EnMS is established, implemented, maintained, and continually improved in accordance with this International Standard;
 - b) identify person(s), authorized by an appropriate level of management, to work with the management representative in support of energy management activities;
 - c) report to top management on energy performance;
 - d) report to top management on the performance of the EnMS;
 - e) ensure that the planning of energy management activities is designed to support the organization's energy policy;
 - f) define and communicate responsibilities and authorities in order to facilitate effective energy management;
 - g) determine criteria and methods needed to ensure that both the operation and control of the EnMS are effective;
 - h) promote awareness of the energy policy and objectives at all levels of the organization

Role of MR

PT. Indonesia Power

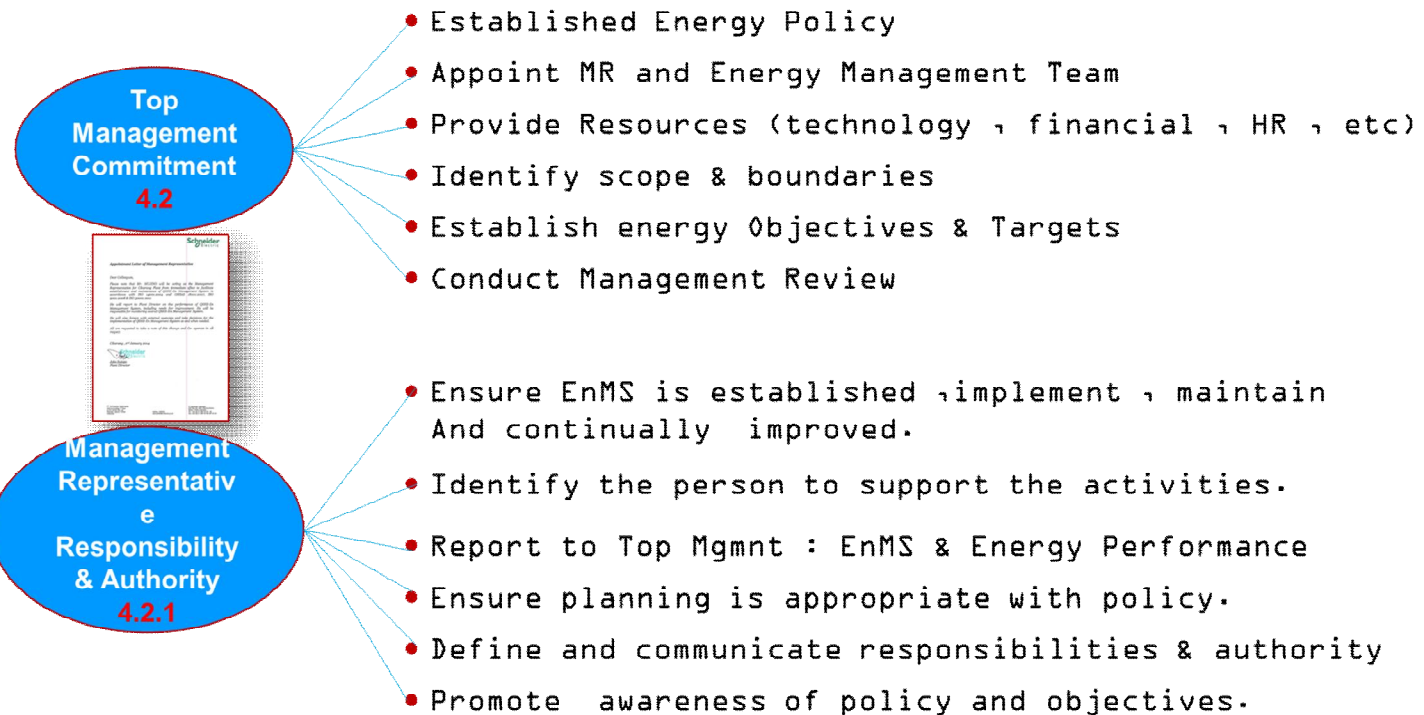
- Not sure

Schneider Electric Indonesia

- Stated clearly and compliance with the ISO50001
 - Comments:
 - Top Management Commitment should be 4.2.1 instead of 4.2
 - The clause should be 4.2.2 instead of 4.2.1
 - All requirements of the top management do not included in the evidens such as: 4.2.1. e) Communiting the importance of energy management → external communications
-

Schneider Electric Indonesia

EnMS – Management Responsibility



Activites of MR

PT. Indonesia Power

- Not sure

Schneider Electric Indonesia

- Conducting the internal audit 2 times/year
 - Management review 1 time/year
 - **Comments:**
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PT. Indonesia Power

Awareness:

- 1) Stiker for using lighting effisienly
- 2) Inovation compitation



PT. Indonesia Power

- 1) Energy management review
- 2) Monitoring and assesment
- 3) Workshop and campaign: banner and

Energy Management Review

Sample

No.	Energy Management Review Activities	PIC
1	Opening Meeting	Mujino
2	Review Energy Objectives achievement 2013	Mujino
3	Assessment of Energy Management System Documentation	Mujino
4	Progress of Energy Internal Audit Report	Susanti N
5	Energy Objectives 2014	Mujino
6	Energy Action Plan 2014	Abdul Rasyid
7	Energy Opportunities For Improvement (OFI)	Abdul Rasyid
8	Closing Meeting	Mujino

Energy Management Review Meeting 2014

Assessment of Energy Management System Documentation



* Energy Management System :

1. Provide Energy Policy → Done
2. Provide Energy Manual → Approval process (14 March 2014)

* Energy Document Control :

No.	Category	New	Revision	Total
1	Procedure	5 (on approval)	7 (Done)	12
2	Instruction	0	1 (Done)	1
3	Best Practice Energy	1 (Done)	0	1



we are one
Schneider Electric

Lakukan Hemat Energy SEKARANG JUGA !!!

energy saving

Make the most of your energy

Energy Efficiency Committee

Compliance of Conformity Policy

- **4.5.2 Competence, training and awareness**

The organization shall ensure that any person(s) working for or on its behalf are aware of:

- b) the importance of **conformity** with the energy policy, procedures and the requirements of the EnMS;

- **4.6.5 Control of records**

The organization shall establish and maintain records, as necessary, to demonstrate **conformity** to the requirements of its EnMS and of this International Standard, and the energy performance results achieved.

Compliance of Comformity Policy

PT. Indonesia Power

- Not sure

Schneider Electric Indonesia

- The policy has been clearly stated and identified
 - Stated clearly and compliance with the ISO50001
-

Schneider Electric Indonesia

- Ensure appropriate resource and information to achieve Objective Target and Program.
- Provide necessary support : Budget, human resource and training to develop an energy management system.
- Involve all employess, sub contractors and suppliers to cosistently implement energy efficiency in all sectors and elements.
- Ensure purchases of equipments and services related to energy usage considering energy efficiency.
- Comply to relevant legal obligation and other requirements
- Upgrade and create awareness among of our people throughout continual and effective training to achieve energy effisiensi

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To be the role model in energy efficiency

Cikarang, 20 December 2013

Joko Sutopo
Plant Director

Schneider
Electric™

The Global Specialist in Energy Management

Schneider Electric Indonesia

Setting up Saving Target and Plan

No	Action	Yearly Saving	Due Date	PIC	Remark
1	Install Power Monitoring System	45.3 MIDR	Aug 2012	EE Team	
2	Create Lighting Controller at Production	116.4 MIDR	April 2011	EE Team	
3	Create Lighting Controller at Ware House	121.8 MIDR	Feb 2013	EE Team	
4	Replace Neon 36W to LED 17W	45.6 MIDR	May 2012	Utility Team	
5	Automatically switch off compressor during break time	26.9 MIDR	Feb 2013	EE Team	
6	Optimize lighting at corridors	1.2 MIDR	Feb 2013	Utility Team	
7	Install Solar cell	1.5 MIDR	Apr 2012		
8	Install lighting control sensor at meeting room	6.5 MIDR	June 2011	EE Team	
9	Install automatic air compressor control during break time	29.7 MIDR	Feb 2013	Utility Team	
10	Replacement of old air compressor to new energy saving	64.8 MIDR	April 2014	EE Team	
11	Replace High beam lamp to LED	68.2 MIDR	Mar 2012	Utility Team	
12	Change AC Freon to hydrocarbon refrigerant.	38.4 MIDR	Sept 2012	EE Team	

Key Learning Points

- How to implement ISO in the organization
 - To learn the best practices and experiences from the company in term of:
 - Implementation of the EnMS
 - Monitoring and measuring by using hardware and software (Schneider Indonesia)
 - Managing the power plant to achieve the specific efficiency and energy performance (Indonesia Power)
 - Preparing the team (resource) and documents
 - Preparing the energy planning and review
-

Thank you....
