



Environmental Energy Management Manual

Rev. No. 2


Rev. Date: 2021. 06. 14

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1 Management Policy

1.1 Management Philosophy, Core Values, Vision and Strategy

1.1.1 Management Philosophy

Realize the dream of mankind by creating a new future through ingenious thinking and continuously challenging new frontiers.

1.1.2 Three Core Values


1. Great People
2. Great Culture
3. Great Value

1.1.3 Vision

As a global leading provider of high value engineering solution, we will create the foundation for a better life through cross-business synergy and convergence with future technologies.

1.1.4 Three Strategic Directions

1. Improving the business structure
 - Advance the business portfolio
 - High value-added business model
2. Entering the New Growth Sector
 - Selection of new growth engine projects
 - Active entry into emerging markets
 - Maximize synergy with affiliates
3. Globalization of management infrastructure
 - Establishing an effective global organization
 - Global talent development
 - Establishing a global cost/quality management system
 -

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2 Purpose & Scope

2.1 Purpose


This manual aims to provide the best quality products and services to the customer through the establishment and implementation of the customer-focused Environmental Energy Management System and the continual improvement of the Management System based on performance measurement, and to maximize productivity and management performance through process improvement.

2.2 Scope

2.2.1 R&D, project management, engineering & design, procurement, construction, commissioning & operation, maintenance, construction supervision, consulting and after-servicing services for civil, building, housing, plant(power, nuclear power, steel mill/metal refinery, desalination, waste water treatment, industrial, offshore, new & renewable energy, oil & gas, and chemical & petrochemical plants included), environmental facility, & restoration, water business, fire-fighting, electrical, information & telecommunication, dredging & reclamation, ocean/underground space, landscaping, cultural properties repair, structural steel and construction material works.


2.2.2 This manual shall be applied to provide products conforming to customer/regulatory requirements in accordance with the requirements of ISO 14001:2015 and ISO 50001:2001

2.3 References

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2.3.1 ISO 14001 : 2015 (KS I ISO 14001 : 2015)
Environmental Management Systems - Requirements

2.3.2 ISO 50001 : 2018
Energy Management Systems - Requirements

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3 Terms and Definitions

3.1 Top Management

A person or a group of people who directs and controls an organization at the highest level

3.2 Organization

A person or a group of people that has its own functions with responsibilities, authorities and relationships to achieve its objectives

3.3 Interested Party

A person or an organization that can affect, be affected by, or perceive itself to be affected by a decision or an activity

3.4 Continual Improvement

Recurring activities to enhance performance

3.5 Process

A set of interrelated or interacting activities that uses inputs to deliver an intended result


3.6 Outsource

Make an arrangement where an external organization (3.2.1) performs a part of an organization's function or process

3.7 Management System

Set of interrelated or interacting elements of an organization to establish policies and objectives, and processes to achieve those objectives

3.8 Policy

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Intentions and direction of an organization as formally expressed by its top management

3.9 Requirement

Need or expectation that is stated, generally implied or obligatory

3.10 Nonconformity

Non-fulfilment of a requirement

3.11 Conformity

Fulfilment of a requirement

3.12 Objective

Result to be achieved

3.13 Performance

Measurable result

3.14 Risk

Effect of uncertainty


3.15 Effectiveness

Extent to which planned activities are realized and planned results are achieved

3.16 Documented Information

Information required to be controlled and maintained by an organization and the medium on which it is contained

3.17 Competence

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Ability to apply knowledge and skills to achieve intended results

3.18 Monitoring

Determining the status of a system, a process, a product, a service, or an activity

3.19 Measurement

Process to determine a value

3.20 Corrective Action

Action to eliminate the cause of a nonconformity and to prevent recurrence

3.21 Audit

Systematic, independent and documented process for obtaining objective evidence and evaluating it objectively to determine the extent to which the audit criteria are fulfilled

3.22 Customer

Person or organization that could or does receive a product or a service that is intended for or required by this person or organization

3.23 Customer Satisfaction


Customer's perception of the degree to which the customer's expectations have been fulfilled

3.24 External Supplier

Provider that is not part of the organization

3.25 Infrastructure

System of facilities, equipment and services needed for the operation of an

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organization

3.26 System

Set of interrelated or interacting elements

3.27 Preventive Action

Action to eliminate the cause of a potential nonconformity or other undesirable potential situation

3.28 Procedure

Specified way to carry out an activity or a process

3.29 Product and Service

Output of an organization that can be produced without any transaction taking place between the organization and the customer

3.30 Environment

Surroundings in which an organization operates including air, water, land, natural resources, flora, fauna, humans, and their interrelation.

3.31 Environmental Aspect


Element of an organization's activities, products or services that can interact with the environment.

3.32 Environmental Condition

The state or nature of the environment determined at some point

3.33 Environmental Impact

Any change to the environment, whether adverse or beneficial, wholly or partially resulting

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from an organization's activities, products or control

3.34 Prevention of pollution

Use of the processes, practices, materials, or products that avoid, reduce or control pollution, which may include recycling, treatment, process change, control mechanisms, efficient use of resources, and material substitution.

3.35 Compliance Obligations

The legal requirements that an organization must adhere to and any other requirements that the organization must adhere to or comply with

3.36 Risks and Opportunities

Potential adverse effects (risks) and potential beneficial outcomes (opportunities)

3.37 Life Cycle


Continuous and interconnected stages of the product (or service) system from acquisition or harvesting to final disposal of raw materials from natural resources

3.38 Environmental Management System

Part of the overall management system that facilitates the management of the Environmental Risk and Opportunity associated with the business of the organization's Environmental Energy Policy

3.39 Boundaries

Physical or site limits and/or organizational limits as defined by the organization

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3.40 Energy


Electricity, fuels, steam, heat, compressed air, and other like media

3.41 Energy Review

Determination of the organization's energy performance based on data and other information, leading to identification of opportunities for improvement

3.42 Energy Management System(EnMS)

Set of interrelated or interacting elements to establish an energy policy and energy objectives, and processes and procedures to achieve those objectives

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4 Context of the organization

4.1 Understanding the organization and its context


4.1.1 The organization shall determine external and internal issues that are relevant to its purpose and that affect its ability to achieve the intended outcomes of its environmental and energy management system.

4.1.2 The head office shall collect and identify external and internal issues and the collected issues will be selected through working-level meetings and reported to the management community.

4.1.3 A project organization shall collect and identify external and internal issues in consideration of the environment surrounding the project and maintain those in documented information

4.1.4 Related Documents

- 1) Environmental Energy Risk and Opportunity Identification Regulation
- 2) Establishment of Environmental Energy Management Plan Regulation

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4.2 Understanding the needs and expectation of interested parties

4.2.1 The head office shall identify needs and expectation of interested parties such as sales and marketing, design and development, procurement, project management, construction, start-up and commissioning in all projects.

4.2.2 A project organization shall identify external and internal interested parties in consideration of the environment surrounding the project and maintain those in documented information

4.2.3 Related Documents

- 1) Environmental Energy Risk and Opportunity Identification Regulation
- 2) Establishment of Environmental Energy Management Plan Regulation

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4.3 Determining the scope of the quality management system

4.3.1 EMS/EnMS shall be applied to all business areas of organization works and shall take into account consider organizational units, functions, physical boundaries, organizational activities, products, services.

4.3.2 R&D, project management, engineering & design, procurement, construction, commissioning & operation, maintenance, construction supervision, consulting and after-servicing services for civil, building, housing, plant(power, nuclear power, steel mill/metal refinery, desalination, waste water treatment, industrial, offshore, new & renewable energy, oil & gas, and chemical & petrochemical plants included), environmental facility, & restoration, water business, fire-fighting, electrical, information & telecommunication, dredging & reclamation, ocean/underground space, landscaping, cultural properties repair, structural steel and construction material works.

4.3.3 Related Documents

1) Establishment of Environmental Energy Management Plan Regulation

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4.4 Environmental Energy Management system and its processes

4.4.1 Each of head office organizations that operates an EMS/EnMS shall be responsible for identifying process maps for the activities concerned and manage them within consideration of characteristics of each Division/Group.

4.4.2 The establishment and maintenance of an environmental energy management program should take into account Understanding the organization and its context (4.1) and understanding the needs and expectations of interested parties (4.2) constantly.

4.4.3 Related documents


- 1) Environmental Energy Management System Operation Process

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5 Leadership

5.1 Leadership and commitment

- 5.1.1 Top management shall commit to leadership and commitment with respect to the Environmental Energy management system
- 5.1.2 Top management shall ensure human resources, sustainable improvement and other relevant support to contribute to the effectiveness of EMS/EnMS, and shall implement continuous improvement and communication with responsibility for EMS/EnMS.
- 5.1.3 Top management shall establish Environmental Energy Policy and Objective in connection with the strategy of organization, and shall assign the Environmental Energy Management Representative to operate and maintain EMS/EnMS and grant the responsibility and authority to implement overall EMS/EnMS.

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5.2 Policy

5.2.1 Top management shall commit direction and management principles of Environmental Energy through environmental energy policy.


5.2.2 Environmental Energy Policy shall include as blow

5.2.2.1 Includes savings, use of energy, energy efficiency, resources and energy, as well as characteristics, size, environmental impact, and GHG reduction of our activities, products and services.

5.2.2.2 Includes the use of sustainable resources, the mitigation and adaptation of climate change, the commitment to continuous improvement, including biodiversity and ecosystems, and the commitment to pollution prevention.

5.2.2.3 Includes the commitment to compliance with Environmental Energy law, regulation, and requirement

5.2.3 Environmental Energy policy shall revise in those case when the company's vision and management strategy and goals are changed, established goals are met, and the needs of customers and stakeholders are materially changed.

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5.3 Organizational roles, responsibilities and authorities

5.3.1 Top management

- 1) Establishment of management strategies and vision
- 2) Final approval of business planning and major businesses
- 3) Establishment of Environmental Energy policy and objective
- 4) Ensuring operation of EMS/EnMS
- 5) Review on the overall Environmental Energy management
- 6) Delegation of implementation and maintenance duties of the EMS/EnMS to Environmental Energy Management Representative

5.3.2 Head of (Building Works, Civil, Plan) Division


- 1) Establishment and implementation of business strategies
- 2) HR Planning (Evaluation, Promotion, Rearrangement)
- 3) Compilation of the budget and cost (Profitability) control
- 4) Business planning for the next-generation growth
- 5) Review the total project risk and decision of the bidding.
- 6) Claim & Technical support, operation etc.

5.3.3 Head of Global Marketing Division

- 1) Establishment of strategies and marketing to win the contract
- 2) Management of domestic and overseas branch
- 3) Management of Development work

5.3.4 CFO(Chief Finance Officer)

- 1) Management of the budget
- 2) Deliberation of order receiving
- 3) Financial management
- 4) Assessment of completed project
- 5) Establishment of direction and managing sustainability and ESG

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5.3.5 Head of Procurement Division

- 1) Management, selection and registration of construction subcontractors
- 2) Management, selection, registration and expediting of procurement subcontractors
- 3) Purchase and procurement green materials

5.3.6 Head of Management & Administration Division

- 1) Human resources planning
- 2) Welfare & general affairs
- 3) Education & Training
- 4) IT Planning
- 5) Environmental & energy management

5.3.7 Head of Research & Development Division


- 1) Establishment of R&D strategy and operation
- 2) Technical support
- 3) Technique commercialization

5.3.8 Head of Planning Division

- 1) Planning & Evaluation
- 2) Strategy propulsion
- 3) Coordination & Cooperation

5.3.9 Head of Quality Management Group (Environmental/Energy Management Representative)

- 1) Internal and external communication on Environmental Energy management issue
- 2) Establishment and revision the Environmental Energy management manual

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- 3) Reporting the performance of EMS/EnMS and improvement to CEO
- 4) Internal audit and monitoring of the Environment Energy implementation
- 5) Supervision of external survey (Environment Energy/certification)
- 6) Internal audit in accordance with the contract requirements of projects
- 7) Determination of competence on EMS/EnMS works

5.3.10 Project Director


- 1) Composition & operation of an organization designed to execute a project
- 2) Control and support of project objectives
- 3) Decision on major project management issues such as sales, quality, schedule, profit and loss, problems, etc.

5.3.11 Project Manager

- 1) Establishment of the project Environmental Energy policy and objectives
- 2) Approval of the Project Environmental Energy Plan
- 3) Control of project evaluation index
- 4) Establishment and approval of core and special processes
- 5) Implementation of project quality management review
- 6) Measurement and monitoring of project process, products and service
- 7) Corrective actions on Environmental Energy audit findings
- 8) Supervision of compliance with Environmental Energy law and regulation
- 9) Management of Environmental Energy risk and opportunity (including Energy review, etc.)
- 10) Approval of competence in Environmental Energy operation (including education, communication, Emergency preparedness and response, etc.)
- 11) Reporting Environmental Energy problems to a Head of Division related

5.3.12 Project support team leader

- 1) Overall management of the environment at a project
- 2) Reporting on-site environmental management status, accident status, etc.

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3) Supporting and cooperating between departments

4) Designation and management of persons in charge of environmental role and response

5.3.13 Project support team

1) Authorization, Permission, complaint management

2) Project environmental inspection (Checklist inspection)

3) Construction Environ. Manage. - Waste (document, deduction, etc.)

4) Construction Environ. Manage. - Atmosphere (Wheel facility maintenance)

5) Construction Environ. Manage. - Water quality (personal sewage treatment facility, groundwater management)

5.3.14 Project management team

1) Construction Environ. Manage. - Waste (On-site waste management)

2) Construction Environ. Manage. - Noise (noise measurement, noise suppression facility operation)

3) Construction Environ. Manage. - Atmosphere (operation of dust control facilities such as wheel facilities and dustproof covers)

4) Construction Environ. Manage. - Water quality (operating water pollution prevention facilities, such as anti-mutility nets and bedding sites)

5.3.15 All representatives are responsible for implementation of works below


1) Approving and Making the Hyundai Management Standard

2) Setup, approval and implementation of work processes


3) Implementation and supervision of works as corporate standards

4) Self-review of Environmental Energy management

5.3.16 Omissions from or additions to the responsibility and authority as referred to in the above Paragraph 5.3.1 to 5.3.12 shall be specified in the Hyundai Environmental Energy Management Standard for Division/Sub-

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Division/Group or Project Environmental Energy Operation Plan for a project.

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6 Planning

6.1 Actions to address risks and opportunities

6.1.1 General

6.1.1.1 The organization shall establish, implement and maintain the processes to meet requirements of the risk and opportunity management

6.1.1.2 Organizations shall identify and determine environmental aspects, compliance obligation, understanding the organization and its context (4.1), understanding the needs and expectations of interested parties (4.2), and other issues and requirements.

6.1.1.3 The environmental energy policy shall be consistent and the effectiveness shall be assessed for continuous improvement in environmental energy performance.

6.1.1.4 Organizations shall prevent or reduce undesirable consequences that affect the organizations, including the potential for external conditions.

6.1.2 Environmental aspects

6.1.2.1 Within the defined scope of the environmental management system, the organization shall identify the environmental aspects of its activities, products and services that it can control and those that it can influence, and their associated environmental impacts, considering a life cycle perspective and shall establish management plans.

6.1.2.2 Projects shall identify Environmental Energy risk and opportunity for the

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organization's activities, products, and services that can be managed and affect the project and shall establish a management plan.

6.1.2.3 Organizations shall determine significant environmental aspects based on the results of planned or newly established changes, new or revised environmental risks and opportunities, and environmental impact assessment and shall establish the plan to achieve significant environmental aspects

6.1.2.4 In the event of changes in Environmental Energy regulations, design changes, process changes, or changes in stakeholder requirements, the Environmental aspects of relevant parts shall be revised and then an Environmental impact assessment and significant environmental aspects shall also be revised

6.1.3 **Compliance obligations**

6.1.3.1 Organizations shall identify and determine compliance obligations related to its organizations and shall periodically check the compliance obligations so that can be continuously implemented, maintained, managed.

6.1.3.2 All employees shall be required to work in compliance with the obligations and other requirement related to Environmental Energy

6.1.4 Related documents

- 1) Environmental Energy Risk and Opportunity Identification Regulation
- 2) Establishment of environmental significant aspects management plan Regulation
- 3) Environmental Energy Obligation Management Regulation

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6.2 Environmental Energy Objectives and planning to achieve them

6.2.1 Environmental objective

6.2.1.1 Organizations shall establish Environmental Energy objectives taking into account the company policy and objective, the project policy, and associated compliance obligations.

6.2.1.2 The Environmental objective shall be revised as necessary to reflect activities, products, service or changes in the operating conditions of the organization


6.2.2 Planning action to achieve environmental objective

6.2.2.1 Organizations shall establish the planning action to achieve Environmental objective taking into account significant Environmental aspects, associated compliance obligations, and risk and opportunity.

6.2.2.2 Organizations shall identify and implement the requirements, resources, responsibilities, deadlines, and monitoring indicators for the planning action to achieve Environmental objective.

6.2.2.3 The planning action to achieve environmental objective shall be prepared and developed taking into account the contract conditions, site conditions, and regional characteristics of the site, and shall be able to reflect changes in the operating conditions of the activity, product, service or organization.

6.2.2.4 The planning action to achieve environmental objective shall be established as quantitatively as possible and achievement should be established and managed to enable evaluation.

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6.2.3 Related documents

- 1) Establishment of Environmental Energy Management Plan Regulation

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6.3 Energy review, performance indicator, baseline

- 6.3.1 Organizations shall evaluate and identify energy usage for products, activities, work, support, and services, and shall determine the significant energy use to improve energy performance.
- 6.3.2 Projects responsible for energy review and assessment shall identify the energy review related to activities within the work scope and shall establish a management plan for the significant energy use.
- 6.3.3 In consideration of the specificity of the construction industry, energy baseline is considered to be implemented when the energy review is carried out.
- 6.3.4 The significant energy use shall be determined based on the result of an energy review and shall be maintained latest documented information.
- 6.3.5 Organizations shall determine measurable and appropriate energy performance and shall monitor. Organizations shall be able to demonstrate energy performance improvement.
- 6.3.6 In the event of changes in energy-related laws, design changes, process changes, or changes in stakeholder requirements, the energy review for that part shall be revised.
- 6.3.7 Related documents
- 1) Environmental Energy Management Plan Regulation
 - 2) Greenhouse Gases and Energy Management Regulation

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6.4 Planning for collection of energy data


- 6.4.1 Energy consumption that directly affects energy performance shall be measured or energy consumption calculated by collecting activity data.
- 6.4.2 Plans for collecting energy data shall include collection cycles, collection methods, and measurement targets.
- 6.4.3 Devices for collecting energy data shall be accurate and repeatable.
- 6.4.4 Related documents
- 1) Environmental Energy Monitoring and Measurement Management Regulation
 - 2) Greenhouse Gases and Energy Management Regulation

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7 support


7.1 Resources

- 7.1.1 Organizations shall clarify the roll and responsibility of all employees related to Environment and Energy and shall determine and provide the necessary resources for implementation, maintenance, and continuous improvement.
- 7.1.2 Top management shall ensure that the personnel responsible for the EMS/EnMS are supported with the necessary resources and shall provide them human and material resources.
- 7.1.3 Resources shall include human, natural, infrastructure, technical and financial resources.

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7.2 Competence

- 7.2.1 Organizations shall ensure competence themselves by that all employees are aware of EMS/EnMS requirements, and by that key persons responsible for EMS/EnMS are trained and educated.
- 7.2.2 Organizations shall ensure that employees responsible for influence of Environmental Energy performance and compliance obligation are competence.
- 7.2.3 Employees performing work that may affect the Environment Energy shall ensure that they are competent to perform the work based on their academic background, qualifications, training, or career experience.
- 7.2.4 Related documents
- 1) Environmental Energy Education and Training Regulation
 - 2) Environmental Internal Audit Regulation

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7.3 Awareness

- 7.3.1 The organization shall ensure that employees are aware of Environmental Energy policy, Environmental aspects, Environmental performance, Positive and negative consequences of non-compliance with obligation and EMS/EnMS, and last their Contribution on those.
- 7.3.2 Employees shall be aware of the effectiveness of improved Environmental performance on EMS/EnMS.
- 7.3.3 Related documents
- 1) Environmental Energy Education and Training Regulation

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7.4 Communication

7.4.1 General

7.4.1.1 Organizations shall establish and implement a process for internal and external communications relevant to the EMS/EnMS.

7.4.1.2 Communication shall include topics, targets, when, when, how and etc.

7.4.1.3 Communication shall be transparent and appropriate on the basis of fact and shall be easily understandable by stakeholders.

7.4.1.4 Communication shall be carried out in accordance with the system, and shall be recorded.


7.4.2 Internal communication

7.4.2.1 When internal and external information and requirements related to the environmental energy management system are received, they shall be communicated to the relevant departments.

7.4.2.2 The Environmental Energy management representative and project managers shall communicate Environmental Energy related obligations, Environmental Energy incidents / complaints with their employees as necessary.

7.4.3 External communication


7.4.3.1 Organizations shall communicate information related to Environmental Energy with stakeholders in accordance with the communication process

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7.4.3.2 All divisions and projects report to Environmental Energy management representative about Environmental Energy incident and complains affecting its performances

7.4.4 Related document

- 1) Environmental Energy Communication Regulation
- 2) Environmental Energy Communication Process
- 3) Environmental Accident Reporting Process

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7.5 Documented information

7.5.1 General

7.5.1.1 Documents relevant to Environmental Energy management shall be prepared in consideration of the requirements of ISO 14001 and ISO 50001, and the related laws.

7.5.1.2 The Environmental Energy Management Manual shall describe Environmental Energy contents and their interrelationships, and provide the direction for related documentation.


7.5.1.3 Regulations and instructions is documents defining the role and responsibility for implementing Environmental Energy Management, the method of carrying out the work, and the working relationship within the organization in accordance with the requirements described in the manual.

7.5.1.4 Environmental Energy Process is documents defining systems such as detailed procedures, implementation methods, and standards for performance to understand and implement Environmental Energy works.

7.5.2 Creating and updating

7.5.2.1 Environmental Energy manual, regulations, instructions shall be revised by the group that has established it at first, and revision history shall be identified.

7.5.2.2 Documentation shall use the general form, the changes shall be identifiable and the revised document shall be approved.

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7.5.2.3 Revised documents shall be destroyed or be identified to prevent the use of out dated documents

7.5.3 Control of documented Information

7.5.3.1 Documented information shall be established to be legible, identifiable, and traceable for relevant activities, products, and services

7.5.3.2 Documented information shall be stored and maintained to enable search without delay, and stored and preserved to prevent damage, deterioration, damage or loss.


7.5.3.3 Documented information shall be maintained by setting retention periods to reflect obligations

7.5.3.4 Documents shall be protected from leakage of confidential information, improper use, and documentation damage and customers or his representatives shall be able to access documented information if negotiated by contract.

7.5.3.5 Established and revised document shall be posted in the GOEP, and shall be maintained as current version at all time.

7.5.4 Related documents

- 1) Environmental Energy Record Management Regulation

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8 Operation

8.1 Operational planning and control

8.1.1 Organizations shall manage and maintain Environmental Energy related matters on projects to achieve Actions to address risks associated with threats and opportunities (6.1), and Environmental objectives and planning to achieve them (6.2).

8.1.2 Works related with sub-contractors such as materials, equipment, services, and out sourcing shall be implemented in accordance with their work procedures, and shall be managed the sub-contractors understood.


8.1.3 Instructions not specific in company regulations shall be implemented complying with related obligations

8.1.4 Suitability and effectiveness of Operational management process shall be reviewed regularly, and if necessary, revised to prevent negative effect

8.1.5 Organizations shall establish the plan to minimize Environmental impacts from the design stage, and identify operational procedure and procurement for products, services and equipment to ensure that Environment Energy related processes are in an appropriate state of management


8.1.6 Related documents

- 1) Project Environmental Management Regulation
- 2) Environmental Energy Monitoring and Measurement Management Regulation

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8.2 Emergency preparedness and response

- 8.2.1 Organizations shall establish and maintain operation procedures to implement high potential emergency situations related to works to prevent incidents.
- 8.2.2 Plans of Organization shall be established taking into account obligations, past experiences, emergency training results.
- 8.2.3 Plans for potential emergency situations shall include emergency identification, persons in charge, role and responsibility, and corrective action.
- 8.2.4 Departments in charge and projects shall review, revise, and manage validity of plans for potential emergency situations
- 8.2.5 Organizations shall form a group to implement potential emergency situations and shall train the group on a regular basis.
- 8.2.6 Results for Potential emergency training shall be reflected in the plans for potential emergency situations.
- 8.2.7 Related documents
- 1) Environmental Energy Emergency Preparedness and Response Regulation
 - 2) Environmental Energy Emergency Preparedness and Response Process

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8.3 Design


8.3.1 Organizations shall determine design direction in consideration of life cycle perspective beforehand, and shall establish and apply design standard to comply with related obligations and to overcome the technical constraints.

8.3.2 In the case of designing facilities, equipment, system, and processes that have a significant impact on EMS/EnMS, organizations shall consider opportunity for improvement and operational management.

8.3.3 The results of design of EMS/EnMS shall be included in project specifications, design and purchasing activities, and the results of design and purchase shall be recorded.


8.3.4 Related documents

- 1) HMSJ-SAKI-SK-003-K
- 2) HMSJ-SASU-EN-005-K
- 3) HMSJ-SASU-EN-009-K
- 4) HMSJ-SAKI-BS-001-K

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8.4 Procurement

- 8.4.1 Procurement director shall record, maintain, and manage eco-friendly procurement information and communicate with relevant departments.
- 8.4.2 Directors of Procurement and subcontractor shall ensure the finding of new subcontractors, and establishment of audit standard for information, qualification of existing subcontractors in management aspects.
- 8.4.3 Organizations shall establish and implement the audit standard to assess usage and efficiency of energy during planned or expected operating period when purchasing products, equipment, services that are expected to have significant impacts on Environmental Energy
- 8.4.4 Procurement specifications for Environmental Energy management shall be established and documented if necessary
- 8.4.5 Related documents
- 1) HMSK-SAJI-KM-001-K
 - 2) HMSK-SAJI-WJ-001-K

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9 Performance evaluation

9.1 Monitoring, measurement, analysis and evaluation (EnMS 4.6.1)

9.1.1 General

9.1.1.1 Organizations shall monitor, measure, and evaluate compliance of Environmental Energy objectives, operational standards, and obligation on regular basis.

9.1.1.2 Monitoring and performance evaluation, and compliance of obligations cycles shall be applied in accordance with the related laws, if otherwise specified, in accordance with the regulations registered in the company or projects.


9.1.1.3 Targets requiring environmental energy monitoring and measurement should include action plans, significant aspects, achievement objectives, evaluation methods, timing, and analysis of the results should be evaluated..

9.1.1.4 Criteria and indicator for Environmental Energy Evaluation shall be measurable, and testable. Equipment specification and calibration cycle shall follow standards prescribed.

9.1.2 Evaluation of compliance

9.1.2.1 Compliance of obligations shall be evaluated in a regular basis.

9.1.2.2 Monitoring and performance evaluation, and compliance of obligations cycles shall be applied in accordance with the related laws, if otherwise specified, in accordance with the regulations registered in the company or


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projects.

9.1.2.3 Organizations shall take corrective action if not complying with obligations


9.1.3 Related documents

- 1) Environmental Energy Monitoring and Measurement Management Regulation
- 2) Environmental Energy Obligation Management Regulation
- 3) Greenhouse Gases and Energy Management Regulation

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9.2 Internal audit

- 9.2.1 The organization in charge shall establish and conduct an internal audit plan for EMS/EnMS for all company divisions.
- 9.2.2 Organizations shall assess suitability, adequacy and effectiveness of established plans, method, and procedure that related to EMS/EnMS.
- 9.2.3 Internal auditors shall be properly educated and trained to implement the internal audit.
- 9.2.4 Organizations shall implement an internet audit to maintain and continual improve EMS/EnMS by assessing EMS/EnMS state, and its effectiveness
- 9.2.5 Related documents
- 1) Environmental Internal Audit Regulation

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9.3 Management review

- 9.3.1 Top management shall review EMS/EnMS to ensure continuing suitability, adequacy and effectiveness of EMS/EnMS at regular intervals
- 9.3.2 Management reviews may be managed in the form of integrated reports or individual reports and should be conducted regularly.
- 9.3.3 The management review shall include consideration of
- 1) The status of actions from previous management reviews
 - 2) Needs for change to Environmental Energy policy and objectives, and specific plan
 - 3) Fulfilment of Environmental Energy compliance obligations
 - 4) Environmental Energy internal audit results
 - 5) External and internal issues that are relevant to the EMS/EnMS and the needs and expectations of interested parties
 - 6) Operating and managing results of EMS/EnMS
 - 7) Significant Environmental Energy aspects, risks and opportunities and adequacy of resources
- 9.3.4 Management review shall be used as a basis for continuous improvement of EMS/EnMS.
- 9.3.5 Related documents
- 1) Environmental Energy Management Review Regulation

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10 Improvement

- 10.1.1 Organizations shall identify opportunity relevant with Environmental Energy, and evaluate need for action to eliminate the causes of the nonconformity in order that it does not recur or occur elsewhere.
- 10.1.2 Nonconformity shall be taken corrective action, and project managers, directors of department shall take the action needed to eliminate the causes of the nonconformity in order that it does not recur or occur elsewhere.
- 10.1.3 Nonconformity relevant with EMS/EnMS shall be properly identified to eliminate the original cause including below
- 1) Incident and emergency occurrence
 - 2) Not comply with Environmental Energy standards, and obligations
 - 3) Pre and post-performance evaluation results, corrective action
 - 4) Not comply with EMS/EnMS defined by the company
- 10.1.4 Elimination of the causes of the nonconformity shall be identified in actual and potential cause, and corrective action shall be appropriate to the problem, the Environmental impacts encountered and the risks involved.
- 10.1.5 Changes due to corrective and corrective actions shall be reflected and enforced in the relevant procedures.
- 10.1.6 Corrective actions shall be verified after taking corrective actions.
- 10.1.7 Related document
- 1) Environmental Energy Nonconformity and Corrective Action Regulation

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10.2 Improvement

10.2.1 Continual improvement shall be ensured through monitoring and performances evaluation on which the same nonconformity does not occur and intended improvement is being made.

10.2.2 Nonconformity, corrective and corrective action shall be recorded, managed, and maintained.

10.2.3 Related document

- 1) Environmental Energy Nonconformity and Corrective Action Regulation
- 2) Greenhouse Gases and Energy Management Regulation