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KEC

GENERAL CATALOGUE

KEC (주)고려전기
(KOREA ELECTRIC CO.,LTD)

Pre Qualification

000 Project

- Earthing & Lightning Protection Materials
- Electrical Bulk Materials

Head Office 3, Donhwamun-ro, Jongno-gu, Seoul, Korea (Gwansu-dong)

Factory 25 Changkyunggung-ro 5ga-gil(Sallim-dong)
Jung-gu, Seoul, KOREA

TEL) 02-2269-0145 FAX) 02-2269-4410

Homepage. http://www.earthsystem.co.kr

KOREA ELECTRIC CO.,LTD.

■ Summary

■ COMPANY STATUS

• Company Name	Korea Electric Co., Ltd
• Address	
Head Office	3, Donhwamun-ro, Jongno-gu, Seoul, Korea (Gwansu-dong)
Factory	25 Changkyunggung-ro 5ga-gil(Sallim-dong) Jung-gu, Seoul, KOREA
• President Name	Kim Ju Young
• Establishment Date	March, 15, 1995
• Main Business	Total Solution of Grounding & Lightning Protection Power Quality SPD / TVSS Distribution Board
• Annual Account	US$ 12,000,000-
• Employees	Total 26 (Based on 1st Jul. 2017)
• Contact Point	Tel. +82-2-2269-0145 Fax. +82-2-2269-4410 Homepage. http://www.earthsystem.co.kr E-mail korea0145@nate.com

■ COMPANY HISTORY

- 1995 ESTABLISHMENT THE KOREA ELECTRIC
- 1996 LIGHTNING ROD ＆ EARTHING SYSTEM SELLING COMMENCEMENT
- 1997 THER-MIT WELDING MATERIALS MANUFACTURE
  EARLY STREAMER EMISSION LIGHTNING CONDUCTOR IMPORTATION
- 2000 TRANSFER TO KOREA ELECTRIC CO., LTD.
  ISO 9001 CERTIFICATE
- 2001 ELECTRICAL FITTINGS & ACCESSORIES
- 2002 PROGRAM 'CYMEGARD' ESTABLISHMENT
- 2003 LIGHTNING PROTECTION SYSTEM, DESIGN, CONSULTING APPROVAL
- 2004 GROUNDING AND EARTHING FITNESS DATA
- 2005 THE MINISTRY OF LABOR " CLEAN COMPANY " APPROVAL
- 2006 LIGHTNING PROTECTION SYSTEM COEX EXPOSITION
- 2007 CERTIFCATE OF UTILITY MODEL REGISTRATION ACQUISITION
- 2008 SMALL AND MEDIUM BUSINESS ADMINISTRATION(INNO-BIZ)
  VENTURE COMPANY CERTIFICATE ACQUISITION
- 2009 QUALITY MANAGEMENT SYSTEM ISO9001 / KS A9001 CERTIFICATION
- 2011 LIGHTNING CONDUCTOR ALUMINIUM(AL) SYSTEM
  (FOUNDATION ELECTOROCITY RESEARCH) TEST CERTIFICATION
- 2014 INNO-BIZ IN INNIOVATION TECHINIQUE SMALL BUSINES CETIFICATION
  UL CERTIFICATION FOR GROUNDING AND BONDING EQUIPMENT
  (KDER.E469811)
  UL CERTIFICATION FOR LIHTNING CONDOCTORS, AIR TERMINAL AND
  FITTINGS (OVTZ.E469812)

■ HANDLING ITEMS

1 ELECTRICAL FITTINGS

2 METAL ACCESSORIES FOR LIGHTNING PROTECTION

3 EARLY STREAMER EMISSION LIGHTNING PROTECTION

4 SURGE PROTECTIVE DEVICE

5 ELECTRICAL ACCESSORIES

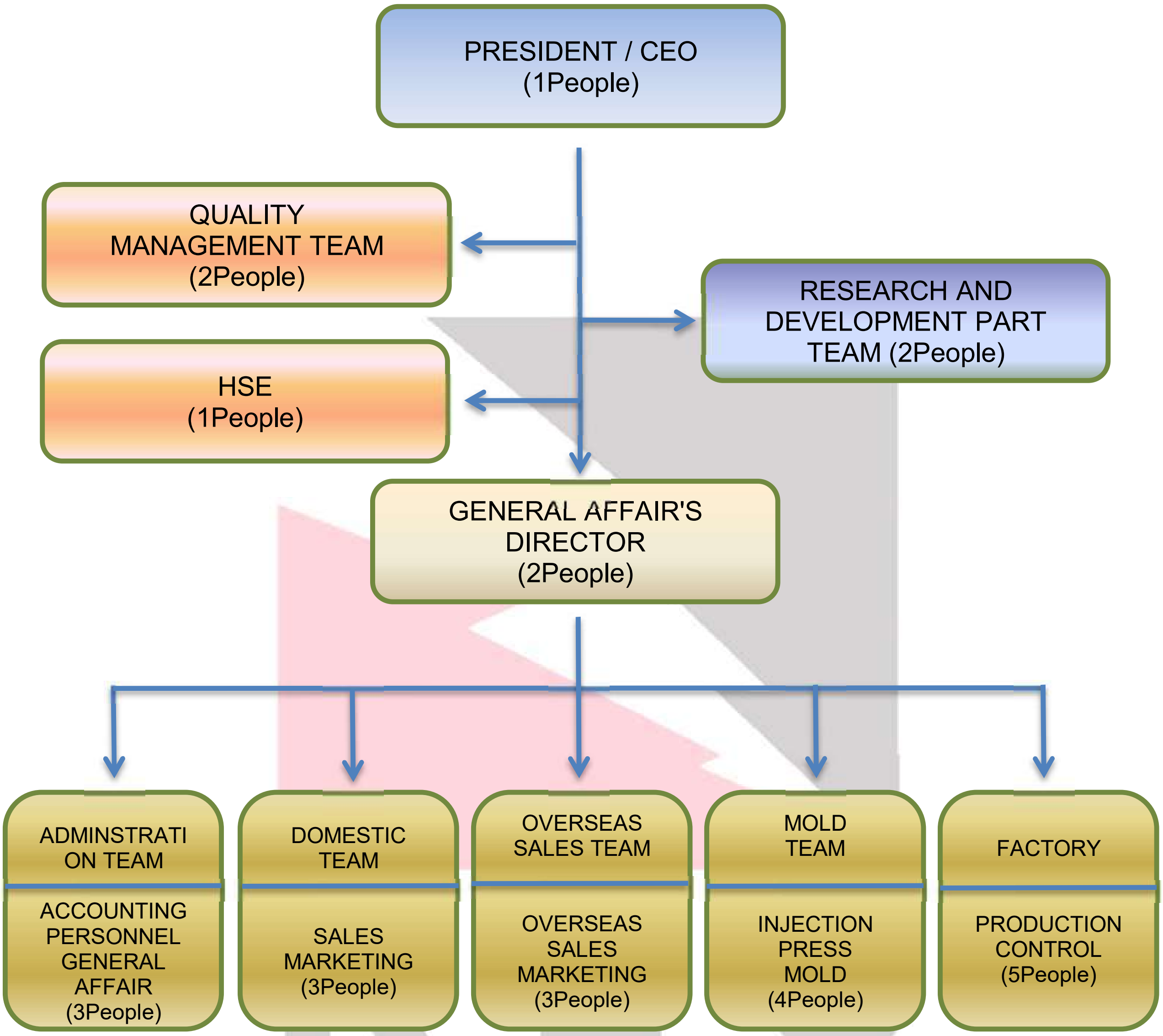
6 METAL ACCESSORIES FOR EARTHING ITEMS

7 WARING ITEMS AND METAL ACCESSORIES (FITTINGS)

CONTACT POINT

No	Name	Position	E-mail Address
1	Ju Young Kim	Project Manager	korea0145@nate.com
2	Bong Yong Park	Overseas Sales Manager	
3	Jun Ho Jeong	Project Design Manager	
4	Won Sun Jo	Project Procurement Manager 1	
5	Won Jae Lee	Project Procurement Manager 2	
6	Won Suk Choi	Project Quality Manager	

■ ORGANIZATION CHART



Contact Detail of Key Personnel

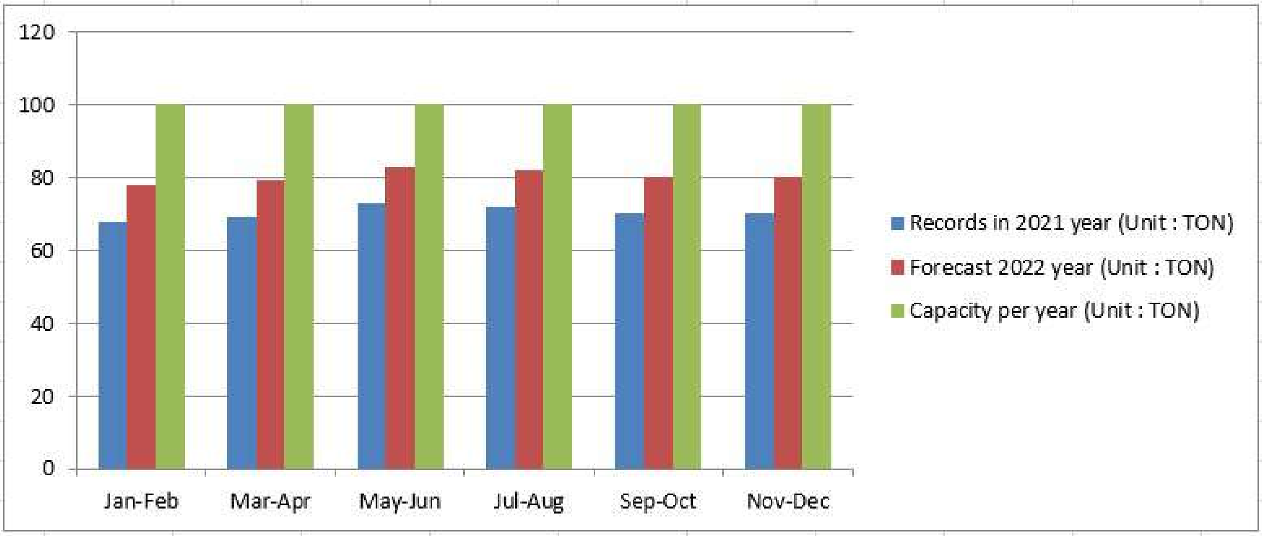
• President	Mr. Ju Young Kim
• Q.A Dept.	Mr. Won Sun Jo
• R&D Dept.	Mr. Ui Chel Park
• HSE Dept.	Mr. Young Ho Seo
• Administration Dept.	Mr. Jung Ho Chu
• Purchasing Dept.	Mr. Jun Ho Jeong
• Overseas Sales Dept.	Mr. Bong Yong Park
• Manufacturing Dept.	Mr. Jun Hyung Kim

■ Work Load Sheet

Production Capacity				
Production Goods	Capacity per year (Unit : TON)	Records in 2021 year (Unit : TON)	Forecast 2022 year (Unit : TON)	Remarks
Grounding Materials	500	350	380	
Lightning Materials	400	280	350	
Cable Conduit & Fitting	10,000	7,000	8,000	
Cable Accessories	250	175	200	
Total	11,150	7,805	8,930	
Average	100%	70%	80%	

PER MONTH (2022. 01 ~ 2022. 12)							
Year	2022						
Month	Jan-Feb	Mar-Apr	May-Jun	Jul-Aug	Sep-Oct	Nov-Dec	Average
Work	78%	79%	83%	82%	80%	80%	80%

• Main Business Total Solution of Grounding & Lightning Protection



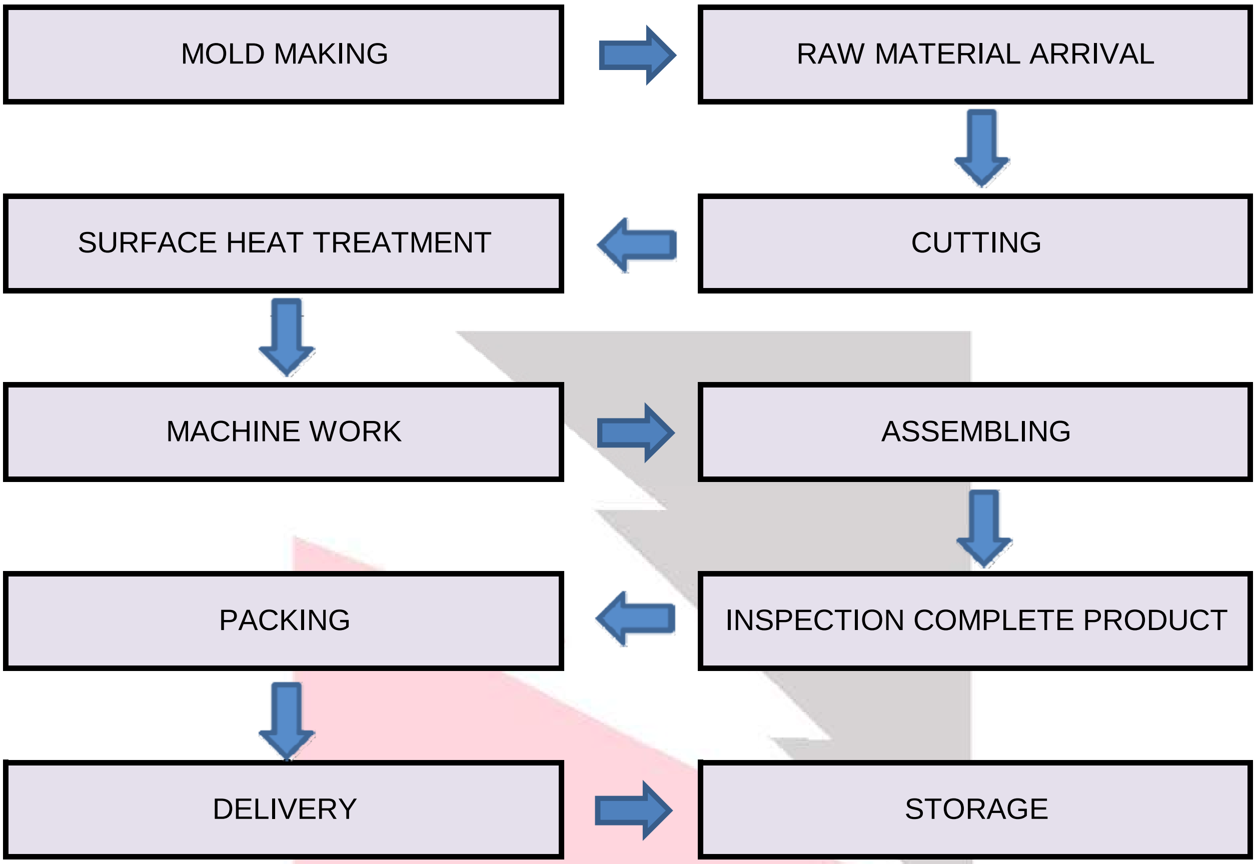
■ FABRICATION AND TEST EQUIPMENTS

FABRICATION EQUIPMENT	ELECTRIC FURNACE(COPPER)		1EA
	ELECTRIC FURNACE(ALUMINUM)		1EA
	CNC SHELF	18"	1EA
	PRESS	5Ton	3EA
	SHELF	1.8M	3EA
	MILLING MACHINE	1-1/2	2EA
	DRILLING MACHINE	1/2 HP	3EA
	TAPPING MACINE	1/2 HP	3EA
	GRINDER	1/2 HP	1EA
	CUTTING MACHINE	NHC-14D	1EA
	ARGON WELDING MACHINE		1EA
TEST EQUIPMENT	SPECTROMETER	V-950	1EA
	TENSION WRENCH	1,500KG	1EA
	SCREW GAUGE		1EA
	COMPRESSOR	500SQ㎟	1EA
	VERNIER CALIPERS	500㎟	3EA
	EARTH PROPORTION RESISTANCE MEASURING INSTRUMENT		3EA

■ PROCESS CHART FOR PRODUCTS(CASTING)

1. MELTING RAW MATERIAL
2. INSPECTION FOR COMPLETE PRODUCT
3. INJECT RUST INTO MOLD
4. 1ST INSPECTION FOR CASTING
5. WASTE DISPOSAL FOR DEFECTIVE PRODUCT
6. GATE CUTTING
7. APPEARANCE PROCESS
8. HEAT TREATMENT
9. 2ND INSPECTION
10. DRILLING PROCESS
11. IMILLING PROCESS
12. 3RD INSPECTION
13. SURFACE TREATMENT OR PLATING
14. INSPECTION FOR COMPLETE PRODUCT
15. PACKING
16. DELIVERY
17. STORAGE

■ PROCESS CHART FOR PRODUCTS(PRESS)



PREQUALFICATION STATEMENTS

MAJOR SUPPLY RECORDS

YEAR	PROJECT NAME	CLIENT & COUNTRY	CONTRACTOR	DESCRIPTION	Q'TY
2006	WESTERN LIBYA GAS PROJECT	ENI / LIBYA	DAEWOO E&C	LIGHTNING ROD W/BASE, etc..	
2006	BENGHAZI NORTH CCPP PROJECT (750MW)	LIBYA	DAEWOO E&C	GROUND ROD D18X2400L, etc..	
2007	NIGERIA AFAM Power PROJECT (400MW)	Shell Petroleum Development Company / Nigeria	DAEWOO E&C	GROUNDING AND LIGHTNING PROTECTION etc..	
2007	NIGERIA (DN48) NLNG TRAIN 6 PROJECT	NLNG / NIGERIA	DAEWOO E&C	ELECTRIC MATERIAL etc.. (Earthing & Lightning Protection)	
2007	NIGERIA (DN49) NIGERIA BRT EXPANSION PROJECT	NLNG / NIGERIA	DAEWOO E&C	ELECTRIC MATERIAL etc... (Earthing & Lightning Protection)	
2007	YEMEN LNG TANK PROJECT	GmbH(GERMANY) / Yeman	DAEWOO E&C	GROUND MATERIAL, etc…	
2007	NIGERIA (DN54) NIGERIA GBARANUBIE PROJECT	NLNG / NIGERIA	DAEWOO E&C	ELECTRIC MATERIAL etc... (Earthing & Lightning Protection)	
2007	ALGERIA FERTILIZER PLANT PROJECT	JV Company / ALGERIA	DAEWOO E&C	GROUND MATERIAL ELECTRIC MATERIAL etc..	
2007	LIBYA MISURATA COMBINED CYCLE PROJECT (750MW)	LIBYA	DAEWOO E&C	GROUNDING AND LIGHTNING PROTECTION etc..	
2008, 10	LIBYA BENGHAZI COMBINED CYCLE PROJECT	LIBYA	DAEWOO E&C	GROUNDING AND LIGHTNING PROTECTION etc..	
2008, 3	QATAR Main OilExport Terminal DRYDOCK COMPANY	DRYDOCK Company / QATAR	DAEWOO E&C	GROUND MATERIAL etc...	

PREQUALFICATION STATEMENTS

MAJOR SUPPLY RECORDS

YEAR	PROJECT NAME	CLIENT & COUNTRY	CONTRACTOR	DESCRIPTION	Q'TY
2008, 6	UAE POS-JK	UAE	DAEWOO E&C	GROUND MATERIAL etc…	
2008, 1	CLBONONG CEMENT PLATE	UAE	DAEWOO E&C	CAD WELD MOLD, etc... (Earthing & Lightning Protection)	
2008, 1	NIGERIA GAS PIPELINE PROJECT	NIGERIA	DAEWOO E&C	BUTT-CONNECTORS SLEEVES, etc.... (Earthing & Lightning Protection)	
2008, 1	LIBYA TRIPOLI HOTEL PROJECT	ESAP / LIBYA	DAEWOO E&C	GROUND ROD D18X2400L, etc..	
2008, 2	NIGERIA AFAM VI PROJECT	SHELL / Nigeria	DAEWOO E&C	PIN TERMINAL LUG, etc... (Earthing & Lightning Protection)	
2008, 2	YEMEN LNG TANK PROJECT	GmbH(GERMANY) / Yeman	DAEWOO E&C	GROUND ROD D18X2400L, etc..	
2008, 4	LIBYA BENGHAZI NORTH COMBINED CYCLE PJT	LIBYA	DAEWOO E&C	EARTHING CONDUCTOR, etc... (Earthing & Lightning Protection)	
2009, 1	AGIP WL3PPROJECT	NNPC / NIGERIA	DAEWOO E&C	ELECTRIC CONTACTOR, etc... (Earthing & Lightning Protection)	
2009, 2	NIGERIA PN900-Q552D	NNPC / NIGERIA	DAEWOO E&C	PIN TYPE TERMINAL LUG, etc... (Earthing & Lightning Protection)	
2009, 7	NIGERIA OFFICE SUPPORT	NIGERIA	DAEWOO E&C	EARTHING TERMINAL LUG, etc... (Earthing & Lightning Protection)	
2011, 2	AFAM VI CCGT POWER	SHELL / Nigeria	DAEWOO E&C	CAD WELD MOLD, etc... (Earthing & Lightning Protection)	

PREQUALFICATION STATEMENTS

MAJOR SUPPLY RECORDS

YEAR	PROJECT NAME	CLIENT & COUNTRY	CONTRACTOR	DESCRIPTION	Q'TY
2012, 5	OMAN ALGERIA FERTILIZER PLANT	AROMATICS OMAN LTD / OMAN	DAEWOO E&C	ELECTRIC CABLE, etc... (Earthing & Lightning Protection)	
2009, 3	CAIRO ARCO PROJECT	ARCO Civil Co. / EGYPT	DAEWOO E&C	GROUNDING MATERIALS, etc..	
2010, 10	MOROCCO JORF LASFAR POWER PLANT PJ(SITE) /2,056MW	MOROCCO	DAEWOO E&C	CAD WELD MOLD, etc... (Earthing & Lightning Protection)	
2012, 5	IRAQ BNCP Bismaya New City PC Plant PJ	IRAQ	DAEWOO E&C	GROUNDING AND LIGHTING PROTECTION etc..	
2012, 5	IRAQ BISMAYA PC FACTORY PJ	IRAQ	DAEWOO E&C	GROUNDING AND LIGHTING PROTECTION etc..	
2012, 3	SamSung Eng InterGen SLP CCGT Power Plant	MEXICO	Samsung Engineering Co.,LTD	GROUNDING AND LIGHTNING PROTECTION etc..	
2012, 11	Lotte Eng Jordan IPP3 Power Project (573MW)	JORDAN	LOTTE E&C	GROUNDING AND LIGHTNING PROTECTION etc..	
2014, 6	Iraq Miss Mai New City Project	IRAQ	DAEWOO E&C	GROUNDING AND LIGHTNING PROTECTION etc..	
2012, 5	Iraq Bncp Project	IRAQ	DAEWOO E&C	GROUNDING AND LIGHTNING PROTECTION etc..	
2013, 3	VietnamBank tower Project	BMC / VEITNAM	DAEWOO E&C	GROUNDING AND LIGHTNING PROTECTION etc..	
2014, 4	Algerian Oil Refinery Project	Sonatrach & Eni / Algeria	DAEWOO E&C	GROUNDING AND LIGHTNING PROTECTION etc..	

PREQUALFICATION STATEMENTS

MAJOR SUPPLY RECORDS

YEAR	PROJECT NAME	CLIENT & COUNTRY	CONTRACTOR	DESCRIPTION	Q'TY
2013, 5	Braka Nuclear Power Plant Project	KEPCO / UAE	Jonghap Elec.&Mech.Const.Co.,Ltd.	GROUNDING AND LIGHTNING PROTECTION etc..	
2011, 11	RUWAIS SHUWEIHAT S3 Project CCPP (1600MW)	SAPCO / UAE	DAEWOO E&C	GROUNDING AND LIGHTNING PROTECTION etc..	
2014, 12	Safi Independent Power Project (Morocco)	SAFI Energy Company / Morocco	DAEWOO E&C	GROUNDING AND LIGHTNING PROTECTION etc..	
2014, 4	Akkas Gas Field Development Project	KOGAS / IRAQ	DAEWOO E&C	GROUNDING AND LIGHTNING PROTECTION etc..	
2013, 3	InterGen SLP CCGT Power Plant	MEXICO	Samsung Engineering Co.,LTD	GROUNDING AND LIGHTNING PROTECTION etc..	
2014	Algeria MEGA Deal PJT (NAAMA)	SONELGAZ SPE / Algeria	Samsung C&T	LIGHTNING CONDUCTOR AND TEE CONNECTOR etc..	
2015	IRAQ DGS PJT (zubair oil Field Development PJT)	Eni Iraq .B.V / IRAQ	DAEWOO E&C	Ground Rod and Exothermic welding etc..	
2015	JORF LASFAR FETIUZER PLANT PJT	SafCo / Morocco	DAEWOO E&C	Grounding Cable and c-type clamp etc..	
2015	NIGERIA GBARAN INFIU PJT (NLNG SUPPLY PJT)	The SHELL petroleum Development Company / NIGERIA	DAEWOO E&C	Cable Marker and Name Plate etc... (Earthing & Lightning Protection)	
2015	Safi Independent PWR PJT	SAFFI Energy company / MOROCCO	DAEWOO E&C	C-TYPE Clamp and Exothermic welding Material etc … (Earthing & Lightning Protection)	
2015	Tarapaca Thermal PWR Plant FOD system, 158MW (Tarapaca SDA PJT)	CELTA / Chile	STX HEAVY industries co,LTD.	Ground Conductor & Terminal Lug etc... (Earthing & Lightning Protection)	

PREQUALFICATION STATEMENTS

MAJOR SUPPLY RECORDS

YEAR	PROJECT NAME	CLIENT & COUNTRY	CONTRACTOR	DESCRIPTION	Q'TY
2015	Balkhash Thermal PWR Plant (1,320MW / TPP PJT)	Kazakhstan	SAMSUNG C&T	C-type Clamp . (Earthing & Lightning Protection)	
2015	MEGA DEAL PJT, 1,450MW (NAAMA CCPP)	SONELGAZ SPE / Algeria	SAMSUNG C&T	Exothermic Welding and Grounding Material etc...(Earthing & Lightning Protection)	
2016	Saffi IPP PJT	SAFI Energy Company / Morocco	DAEWOO E&C	Comp. Terminal Lug and C-type Clamp etc… (Earthing & Lightning Protection)	
2016	SWFGD system for Safi Indepent powder PJT	engie / Morocco	STX HEAVY industries co,LTD.	Grounding wire and Grounding Bushing etc...(Earthing & Lightning Protection)	
2016	MEGA DEAL PJT 1,450MW (Naama)	SONELGAZ SPE / Algeria	Samsung C&T	LIGHTNING CONDUCTOR AND GROUND ROD etc..	
2017	Fadhili combined Heat & power plant (1,509MW)	engie / Saudi Arabia	Doosan Heavy Industries & Construction	Exothermic Welding Materials and Comp. Terminal Lug etc...(Earthing & Lightning Protection)	
2017	SHOAIBA RO PHASE 4 DESALINATION PROJECT	Black & Veatch / Saudi Arabia	Doosan Heavy Industries & Construction	Exothermic Welding Materials and Comp. Terminal Lug etc... (Earthing & Lightning Protection)	
2017	Bismayah New City Project, Iraq	Iraq	Jonghap Elec.&Mech.Const.Co.,Ltd.	GROUNDING AND LIGHTNING PROTECTION etc..	
2017	BNCP Housing A8 Block Project, Iraq	Iraq	Samyoung Corporation Co.,Ltd.	GROUNDING AND LIGHTNING PROTECTION etc..	
2019	Suwayrah Air-Base Porject, Iraq	Iraq	S&P World Networks DMCC	Ground Rod(Hook Type) . (Earthing & Lightning Protection)	
2019	Namjeju Combined Cycle Power Plant Project	Republic Of Korea	DAEWOO E&C	Earthing & Lightning	

PREQUALFICATION STATEMENTS

MAJOR SUPPLY RECORDS

YEAR	PROJECT NAME	CLIENT & COUNTRY	CONTRACTOR	DESCRIPTION	Q'TY
2020	강릉안인#1,2 호기	Republic Of Korea	Doosan Heavy Industries & Construction Co., Ltd.	Earthing & Lightning	
2020	김포열병합	Republic Of Korea	Doosan Heavy Industries & Construction Co., Ltd.	Earthing & Lightning	
2021	VIET ASIA TECHNOLOGY COMPANY LIMITED	Viet Nam		Earthing & Lightning	

■ DESIGN SOFTWARE PROGRAMS

• Grounding Simulation

No	Using Department	Program Description	User
1	Design Department	CDEGS	JH Jeong
2	Design Department	CDEGS	SH Han
3	Design Department	CDEGS	BI Kim
4	Technical Sales Department	CDEGS	WJ Lee
5	Technical Sales Department	CDEGS	YH Lee
6	Technical Sales Department	CDEGS	YS Lee
7	Production Control	CDEGS	H Baek

• Auto CAD

No	Using Department	Program Description	User
1	Design Department	Auto CAD 2012	JH Jeong
2	Design Department	Auto CAD 2012	SH Han
3	Design Department	Auto CAD 2015	BI Kim
4	Technical Sales Department	Auto CAD 2007	OB Kwon
5	Technical Sales Department	Auto CAD 2012	WS Jo
6	Technical Sales Department	Auto CAD 2012	WJ Lee
7	Technical Sales Department	Auto CAD 2012	YH Lee
8	Technical Sales Department	Auto CAD 2012	YS Lee
9	Production Control	Auto CAD 2007	JH Chu
10	Production Control	Auto CAD 2007	JH Kim
11	Production Control	Auto CAD 2012	H Baek
12	Quality Management	Auto CAD 2007	WS Choi
13	Quality Management	Auto CAD 2007	YH Ju
14	Quality Management	Auto CAD 2007	JH An

FINANCIAL Report

Contents

Head Office 3, Donhwamun-ro, Jongno-gu, Seoul, Korea (Gwansu-dong)

Factory 25 Changkyunggung-ro 5ga-gil(Sallim-dong)
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TEL) 02-2269-0145 FAX) 02-2269-4410

Homepage. http://www.earthsystem.co.kr

KOREA ELECTRIC CO.,LTD.

■ Financial Statement

(Unit : Thousand USD)

ACCOUNT	Year 2019	Year 2020	Year 2021
Current Assets	$ 4,102	$ 3,276	$ 3,121
Quick Assets	$ 3,278	$ 2,798	$ 2,352
Inventories	$ 817	$ 429	$ 759
Non-Current Assets	$ 4,111	$ 5,584	$ 5,909
Tangible Assets	$ 3,687	$ 5,105	$ 5,468
Investment Securities	$ 81	$ 74	$ 74
Others	$ 114	$ 191	$ 140
TOTAL Assets	$ 16,190	$ 17,457	$ 17,823

Current Liabilities	$ 1,058	$ 1,091	$ 1,058
Long-Term Liabilities	$ 770	$ 1,464	$ 1,464
TOTAL Liabilities	$ 1,828	$ 2,555	$ 2,522

Capital Stock	$ 154	$ 154	$ 154
Capital Surplus			
Retained Earnings	$ 6,225	$ 6,174	$ 6,349
TOTAL Shareholder's Equity	$ 6,379	$ 6,328	$ 6,503

Sales	$ 11,254	$ 9,938	$ 9,875
Gross Profit	$ 1,865	$ 1,833	$ 1,709
Operating Profit	$ 415	$ 234	$ 244
Net Income	$ 367	$ 552	$ 176

Detailed Financial Audit Report (2014~2016) & Balance sheet issued by Tax office attached separately

INTERNATIONAL STANDARD CERTIFICATION
ISC
국제표준인증원

Certification No. ISCQM-3172

Quality Management System Certificate

KOREA ELECTRIC CO., LTD.

(Gwansu-dong) 3 Donhwamun-ro, Jongno-gu, Seoul, Korea

This is to certify that the Quality Management System of the above company is appropriate to the standard and the scope listed below, in accordance with registration system provision of this certification body.

Certification Standard :

KS Q ISO 9001:2015 / ISO 9001:2015

Certification Scope :

1. The Manufacture of Lightning Rod (Low Voltage Surge Protective Device, Grounding Materials)
2. The Installation of Electric Works

LATEST ISSUE	EXPIRY DATE
12 JUNE 2025	11 JUNE 2026
INITIAL CERTIFICATION	RE-CERTIFICATION BEFORE
12 JUNE 2024	11 JUNE 2027

MEMBER OF MULTILATERAL RECOGNITION ARRANGEMENT IAF

Korea Accreditation Board KAB 한국인정지원센터 KAB-QC-28

Gil Youngseok

International Standard Certification Co., LTD
Authorised Signatory

The accreditaion mark indicates that ISC has been accredited as one of certification bodies (NO. KAB-QC-28) for ISO9000 by KAB.

804ho, 12, Ojosan-ro 45beon-gil, Gyeyang-gu, Incheon, Korea TEL.+82-32-552-1205

Certification No. ISCEM-1724

Environmental Management System Certificate

KOREA ELECTRIC CO., LTD.

(Gwansu-dong) 3 Donhwamun-ro, Jongno-gu, Seoul, Korea

This is to certify that the Environment Management System of the above company is appropriate to the standard and the scope listed below, in accordance with registration system provision of this certification body.

Certification Standard :

KS I ISO 14001:2015 / ISO 14001:2015

Certification Scope :

1. The Manufacture of Lightning Rod
(Low Voltage Surge Protective Device, Grounding Materials)
2. The Installation of Electric Works

LATEST ISSUE	EXPIRY DATE
12 JUNE 2025	11 JUNE 2026
INITIAL CERTIFICATION	RE-CERTIFICATION BEFORE
12 JUNE 2024	11 JUNE 2027

Gil Youngseok

International Standard Certification Co., LTD
Authorised Signatory

KAB-EC-26

The accreditaion mark indicates that ISC has been accredited as one of certification bodies (NO. KAB-EC-26) for ISO14001 by KAB.

804ho, 12, Ojosan-ro 45beon-gil, Gyeyang-gu, Incheon, Korea TEL.+82-32-552-1205

Certification No. ISCOM-0339

Occupational Health & Safety Management System Certificate

KOREA ELECTRIC CO., LTD.

(Gwansu-dong) 3 Donhwamun-ro, Jongno-gu, Seoul, Korea

This is to certify that the Occupational Health & Safety Management System of the above company is appropriate to the standard and the scope listed below, in accordance with registration system provision of this certification body.

Certification Standard :

KS Q ISO 45001:2018 / ISO 45001:2018

Certification Scope :

1. The Manufacture of Lightning Rod
(Low Voltage Surge Protective Device, Grounding Materials)
2. The Installation of Electric Works

LATEST ISSUE	EXPIRY DATE
12 JUNE 2025	11 JUNE 2026
INITIAL CERTIFICATION	RE-CERTIFICATION BEFORE
12 JUNE 2024	11 JUNE 2027

KAB-OC-55

Gil Youngseok

International Standard Certification Co., LTD
Authorised Signatory

The accreditation mark indicates that ISC has been accredited as one of certification bodies (NO. KAB-OC-55) for ISO45001 by KAB.

804ho, 12, Ojosan-ro 45beon-gil, Gyeyang-gu, Incheon, Korea TEL.+82-32-552-1205

This Quality Manual (Revision 2, 2012.02.10) and Korean Translation has been

Prepared by	Won Sun, Jo QA Department	2012.02.10 Date
Prepared by	Won Jae, Lee Management Representative	2012.02.10 Date
Prepared by	Ju Young, Kim President	2012.02.10 Date

This firm, as a professional production company that The Design /Development, Korea Electric Co., Ltd, will do hard work in order to meet the Quality Policy based on the experience and technique we have had.

First, all employees continuously study and put effort in order to produce 『World's Best Quality』 products.
Second, our continuous improvement will prevent inadequacy and customer satisfaction is our priority.

Therefore, our firm's every organization and employee must clearly understand well-established the Quality Policy, set quality goals every year to accomplish, and put effort to improve the Quality Management System.

Also, in order to maintain, review and improve this Quality Management System, we have elected a Quality Assurance Team Representative as a Quality Management agent and asked him/her to periodically report suitability and effectiveness of this Quality Management System.

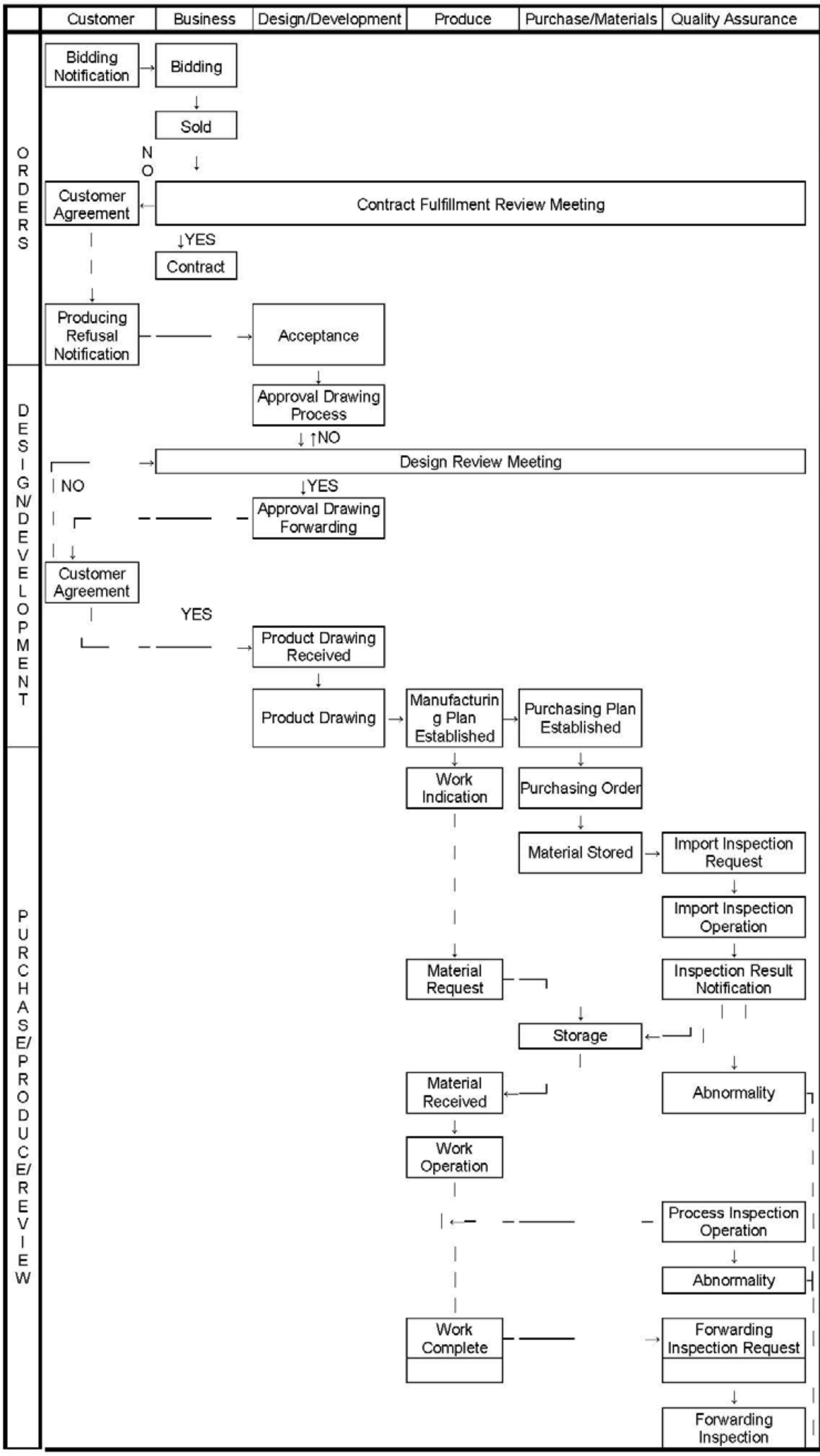
The Quality Management Manual, including this Quality Policy, was approved by CEO, myself, and I am responsible for maintenance and management of the Quality Management System.

Our company's Quality Management System is based on KS Q ISO 9001:2009.

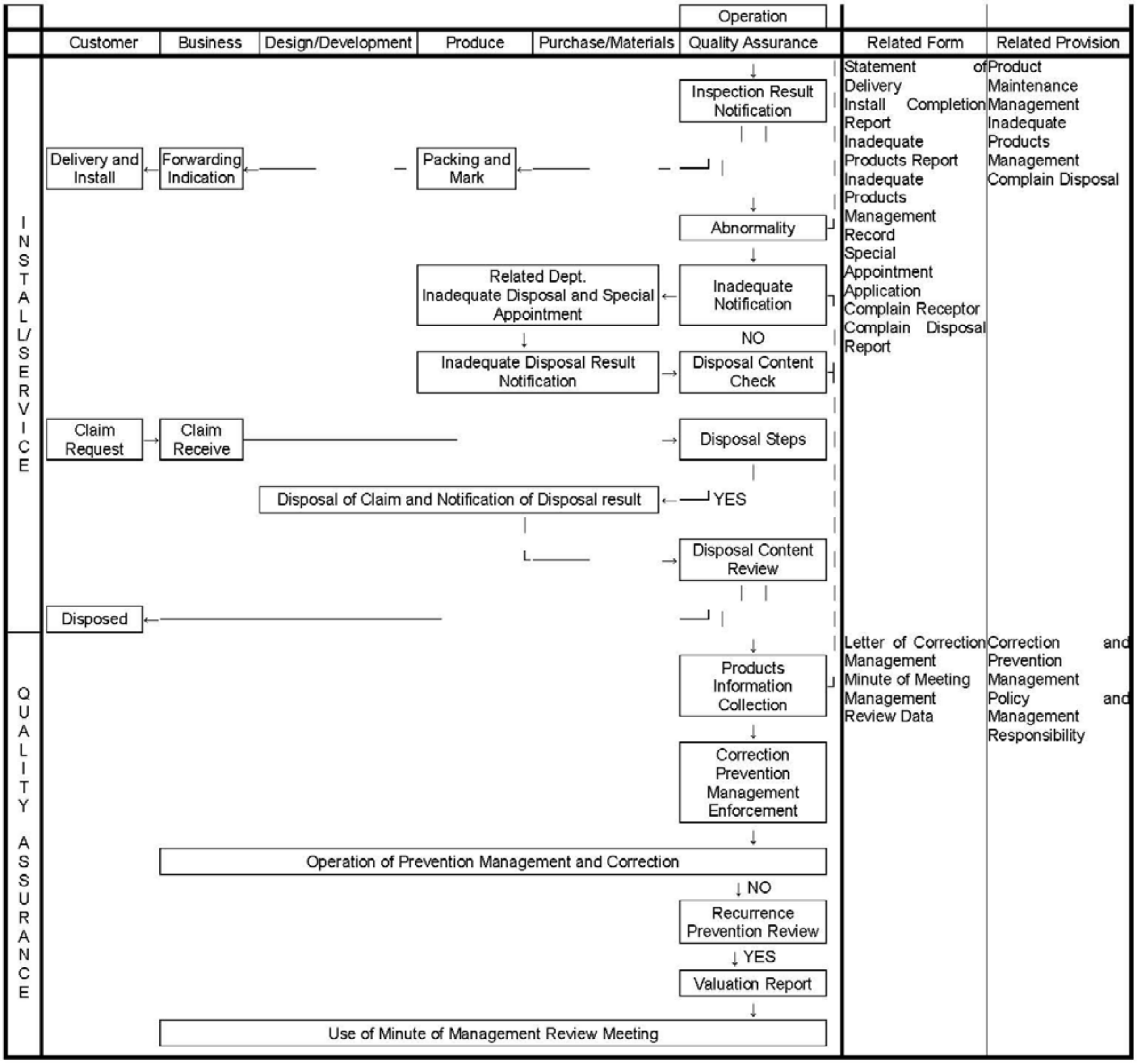
10, Feb, 2012

Korea Electric Co., Ltd

Team Manager / Kim, Ju Young



Related Form	Related Provision
Bidding information Estimate sheet Order Receptor Contract Review Minutes of Meeting Contract Review Letter of Request	Customer Service
Letter of Producing Refusal Design Review Table Letter of Design Change Letter of Producing Refusal Record Drawing Register Record	Design Business Drawing Management
Required Material List Letter of Purchasing Order Material Storage Record Letter of Import Inspection Letter of Operation Request Work Diary	Purchasing Operation Examination and Selection of Purchasing Company Measurement and Watch Import Inspection Standard Manufacturing Letter of Operation Instruction
Process Inspection Result Product Inspection Result	Process Inspection Standard Product Inspection Standard



Operation
Customer
Business
Design/Development
Produce
Purchase/Materials
Quality Assurance
Related Form
Related Provision
INSTALL/SERVICE
Inspection Result Notification
Delivery and Install
Forwarding Indication
Packing and Mark
Abnormality
Related Dept. Inadequate Disposal and Special Appointment
Inadequate Notification
NO
Inadequate Disposal Result Notification
Disposal Content Check
Claim Request
Claim Receive
Disposal Steps
Disposal of Claim and Notification of Disposal result
YES
Disposal Content Review
Disposed
Statement of Delivery
Install Completion Report
Inadequate Products Report
Inadequate Products Management Record
Special Appointment Application
Complain Receptor
Complain Disposal Report
Product Maintenance Management
Inadequate Products Management
Complain Disposal
QUALITY ASSURANCE
Products Information Collection
Correction Prevention Management Enforcement
Operation of Prevention Management and Correction
NO
Recurrence Prevention Review
YES
Valuation Report
Use of Minute of Management Review Meeting
Letter of Correction Management
Minute of Meeting Management Review Data
Correction and Prevention Management
Policy and Management Responsibility

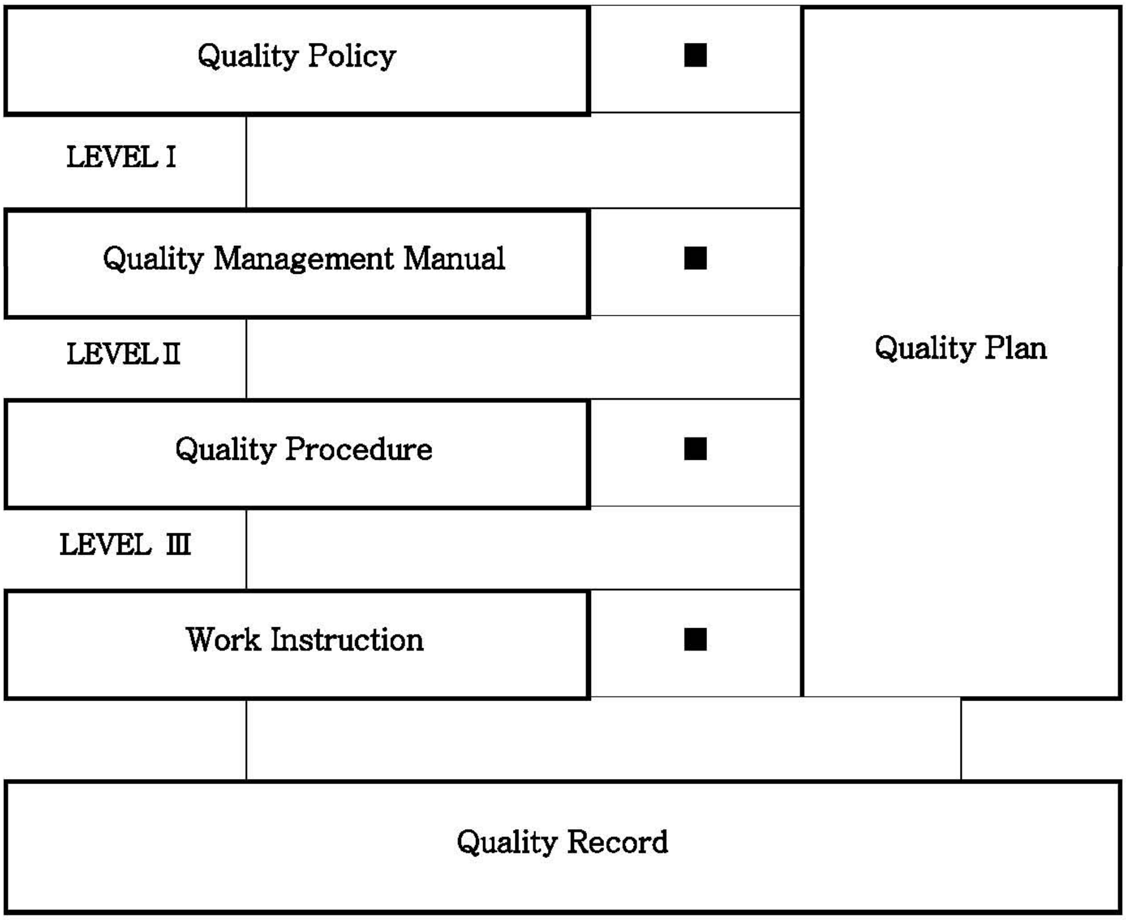
1. General Requirement

1.1. Contents

Our firm is a legally built company that specially produces Grounding & Lightning System.

1.2 Quality Management System

Quality Management System of this firm is divided into three level-Quality Management Manual, Quality Management Procedures and Work Instruction-and documented like shown below in pic1



Pic 1) Documentation of Quality Management System

2. Term Definition

2.1 Quality related terms

Quality related terms that are not defined below follows KS Q ISO 9000 : 2009 Quality Management System – basic principle and vocabulary.

1) Quality

Character or trait with respect of fineness; or grade of excellence.

2) Quality Management

All action of overall management function that determines Quality Policy, goal and responsibility, and performs Quality Plan, Quality Management, Quality Assurance and Quality Revision within the Quality Management System.

3) Quality Management System

Organization structure, procedure, process and material that are needed to perform the Quality Management.

4) Procedure

Regulated methods in order to perform action

5) Process

Mutually related materials and actions that changes inputs to outputs

6) Nonconformity

Does not satisfy regulated requirements

7) Defect

Does not satisfy purposefully used requirements or reasonable expectation, including safety.

8) Inspection

Action that examines one or more characteristics or traits and compares the results with the regulated requirements in order to confirm whether each characteristics or traits is suitable

9) Verification

Confirmation, that shows regulated requirements have been fulfilled, by objective proof.

10) Quality Management Manual

Documents that describes Quality Management System and stated Quality Policy in an organization

11) Quality Plan

Documents that determine specific Quality practices, resources and sequences of action related to specific products, projects or contract.

2.2 Related Standard

KS Q ISO 9001 : 2009 Quality Management System – Requirements

KS Q ISO 9000 : 2007 Quality Management System – Basic Details and Terms

3. Documentation Requirements

3.1 Quality Management Manual

3.1.1 This firm writes and maintains Quality Management Manual that includes followings.

1) Applied scope of Quality Management System (Except approvable requirements)

2) Quotation from Documented procedure or related documents

3) Mutually functioning techniques and processing steps included in the Quality Management System

3.1.2 Documented Quality Management Manual should be managed according to Document Management Regulation.

3.2 Management of Documentation and Quality Records

3.2.1 Documents needed for system operation are established and managed according to Document Management Regulation

1) Approve adequacy before documents are printed

2) Examination, Revision if needed and re-approval of documents.

3) Identification of newest revision condition of documents

4) Guarantee that applied documents can be used in a place where equivalent documents are used.

5) Guarantee that documents are maintained in a perceivable and easily identified manner

6) Outsourced documents, that are decided to plan and operate Quality Management System, must be discerned and distributed to be managed.②

7) Documents that lost their validity should be managed to prevent unintentional usage; if prefer to keep for some purpose, documents need to be marked and kept.

3.2.2 Quality records must be maintained as a proof of suitability and effectiveness of Quality Management System based on Quality Management System Requirement, and should be managed according to Record Management Regulation regarding discernment, perseverance, search, prevention, periods of perseverance and disposal. Also, records must be maintained readablly, easily discerned, searchable.

1. Purpose and Coverage

This chapter describes Management Responsibility in order to establish, maintain, and improve Quality Management System by regulating Management Responsibility which performs Quality Management.

2. Responsibility and Privilege

2.1 President of the firm is privileged and responsible for all organization and manufacturing activity by setting and accomplishing goals and policy, and should guarantee communication with customers in order to satisfy customers' needs and legal/regulation requirements.

2.2 Vice president is responsible for smooth and reasonable operation and management regarding company's business, technique, purchase and production according to president's requirements.

2.3 Financial Support Department Representative is responsible for performing general affairs ordered from president, selecting purchasing company that is required for production, evaluating purchasing companies, and managing all of these.

2.3 Technical Department Representative is responsible for directly controlling and managing technical matters that are required for the firm's production and its related research and development.

2.3 Business Department Representative is responsible for controlling and leading contract and contract inspection with customers, and plays a role as a window to customers.

2.4 Production Department Representative is responsible for planning, leading and managing all products that are related producing activity in the firm.

2.5 Quality Assurance Department Representative, as a Quality Management Agent, independently and objectively inspects all materials and final products that directly affect quality, is responsible for establishing, performing, maintaining and developing Quality Management System.

3. Detailed Procedure

3.1 Management Commitment and Customer-centric

3.1.1 President presents commitment to development of Quality Management System as a proof through followings.

1) Present not only customer's needs, but also importance of sufficing legal requirements.

2) Establish Quality Policy and Quality goals.

3) Perform Management examination and Guarantee solubility of needed resources.

3.1.2 President guarantees to accomplish goals in order to determine customers' requirement and expectation, and satisfy customers.

3.1.3 If customers' requirement and expectation are decided, president should consider that obligation related to products is settled including legal requirements.

3.2 Quality Policy and Quality Goals

3.2.1 President guarantees Quality Policy of the firm is like following.

1) Behave according to the firm's goals.

2) Include management commitment regarding requirement satisfaction and continuous improvements.

3) Be prepared for establishment and inspection of Quality goals.

4) Inform all employees of the firm to understand

5) Examine for continuous relevance.

3.2.2 President guarantees that Quality goals that consider followings establish at a related level and function in the firm.

1) Should include a promise for continuous improvement

2) Is equivalent to Quality policy

3) Is measureable

4) Include matters that are needed to meet requirements of products.

3.3 Quality Plan

3.3.1 Grasp the process and resources that is needed for accomplishment of Quality goals, and document the result.

3.3.2 Quality Plan includes following.

1) Consideration of minimized matter that is required for Quality Management System in a range.

2) Needed Resource

3) Continuous developing activity of Quality Management System.

3.3.3 Changes in Quality Plan perform in management manner, and completion of Quality Management System stays in these changes.

3.4 Responsibility and Privilege, Quality Management Charger and Inner Communication

3.4.1 Function in organization, Including responsibility and privilege, and their mutual relationship should be regulated for effective Quality Management, and needs to communicate.

3.4.2 President is an agent who possesses responsibility and privilege, and is elected Quality Assurance Department Representative.

1) Operation that establishes and maintains process of Quality Management System

2) Operation that reports need of improvement and accomplishment of Quality Management System.

3) Operation that promotes employees' commitment regarding customers' requirements.

4) Operation that contacts with outsiders related to Quality Management System.

3.4.3 Quality Assurance Department Representative should make sure that every organization and level communicates enough regarding process of Quality Management System and its effectiveness.

3.5 Plan Review

3.5.1 President periodically reviews Quality Management System based on Management Review regulation in order to guarantee continuous suitability, properness, and effectiveness of Quality Management System.

3.5.2 President decides whether the firm needs changes in Quality Management System. If needed, Quality Policy, Quality goals, and Quality Management System may be changed.

3.5.3 Management Review should include accomplishment, problems, solutions to resolve problems, and its result so far, and Management Review should be recorded.

3.5.4 Management Review should include followings.

1) Result of Quality Inspection in and out of the firm

2) Correction management of Customers'

3) Accomplishment of process and suitability of the products

4) State of prevention and correction management

5) Following management after Management Review in the past

6) Planned changes that can affect Quality Management System

7) Suggestion for improvement

3.5.5 Outputs of Management Review are same with followings

1) Effectiveness of Quality Management System and improvement of effectiveness of process

2) Improvement of the products related to customers' requirement

3) Needs of resources

1. Purpose and Coverage

This chapter applies in order to establish, maintain, and develop Quality Management System of the firm by regulating Resource Management to perform Quality Management within the firm.

2. Responsibility and Privilege

2.1 President

President approves general instruction training planner, and grasps and offers resource, facility and working condition.

2.2 Quality Assurance Department Representative

Quality Assurance Department Representative leads instruction training, and understands and manages reports and inspection equipments regarding instruction training.

2.3 Production Department Representative

Production Department Representative grasps and manages manufacturing equipments and working condition.

2.4 Other Department Representative

Other Department Representative grasps and manages needed facilities and working condition.

3. Detailed Steps

3.1 Resource Security

President decides and secures needed resources for followings.

3.1.1 Performance and Maintenance of Quality Management System, and continuous improvement of effectiveness

3.1.2 Promotion for customers' satisfaction

3.2 Human Resource

3.2.1 Distribution of population

President should properly distribute employees based on their academic career, instruction training, and experience.

3.2.2 Proper Qualification, Instruction Training, and Recognition

Quality Assurance Department Representative performs following according to regulation of instruction training.

1) Decide proper qualification regarding performing population that affects Quality

2) Offer instruction training for needed proper qualification

3) Evaluate effectiveness of offered instruction training

4) All employees of the firm recognize relation and importance of their activity, and understand how they contribute to accomplishment of Quality goals

5) Keep records of academic career, experience, instruction training and qualification according to Record Management regulation.

3.3 Basic Structure

Grasps, offers, and maintains needed facility including following to accomplish suitability of products based on Equipment Management Regulation.

3.3.1 Working place and Facility

3.3.2 Equipment, Hardware and Software

3.3.3 Aid service

3.4 Working Condition

Grasps and understands working condition that is needed to accomplish suitability of products.

1. Purpose and Coverage

This chapter applies to Product Realization in order to establish, maintain, and develop Quality Management System by regulating Product Realization to perform Quality Management.

2. Responsibility and Privilege

2.1 Business Department Representative

Business Department Representative is responsible for controlling and leading contracts with customer and review of those contracts, and plays a role of window for customers.

2.2 Financial Support Department Representative

Financial Support Department Representative is responsible for controlling managing, selecting, and evaluating purchasing companies for smooth supply and demand of required material for the firm's production.

2.3 Technical Department Representative

Technical Department Representative is responsible for controlling and managing studies that is related to technical matters of products for production.

2.4 Production Department Representative

Production Department Representative is responsible for planning production related to producing activity, leading, and managing all decisions.

2.5 Quality Assurance Department Representative

Quality Assurance Department Representative performs inspection business, requested from Financial Support Department Representative, which is related to inspection operation and inspection equipment.

3. Detailed Process

3.1 Plan of Realization Process

3.1.1 Plan of Realization Process is a list of Process and detailed process steps to accomplish Quality goals of the firm. Plan of Realization Process should have consistency with other requirements of the firm's Quality Management System, and is documented in a form that is suitable for the firm's management method. Before plan process for product realization, followings should be determined.

1) Quality goals for products, projects or contracts

2) Need for process and documentation, and offer of facility and resource that is suitable for products.

3) Inspection, realization check, evaluation and examination, and standard of passing

4) Required records to offer reliance for process and suitability of result.

5) Documents that describe how process of Quality Management System is applied to specific products, projects, or contracts are called Quality Management Planner.

3.2 Process related to Customers

3.2.1 Understanding of Customers' requirements

The firm determines customers' requirements including followings.

1) Requirement regulated by customers who experienced leads from the firm

2) Although customers did not state, but if known, requirements that are regulated or purposefully used

3) Obligations that are related to products including regulations and legal requirements

4) All extra requirements that are considered in need

3.2.2 Product Requirement Review

Business Department Representative reviews customers' requirements with other extra requirements according to business regulation. Also, Business Department Representative reviews before promises (ex. Submit tender, contracts, or decision of orders) customers to supply products, and guarantees followings.

1) Requirements of product are decided.

2) If customers do not document requirements, check customer requirements before check.

3) Solve different contracts or order requirements from those shown before (ex. On a tender or estimate sheet).

4) Have an ability to satisfy requirements determined by organizations.

5) Manage and maintain afterward results followed by review according to Record Management Regulation.

6) If products requirements change, the firm guarantees related documents are revised, and employees recognize the changed requirements.

3.2.3 Communication with Customers

The firm performs and understands ways to communicate with customers about followings.

1) Product information

2) Include inquiries, contracts, requests, and change

3) Include Customers' feedback and customer unsatisfaction

3.3 Design and Development

3.3.1 Design and Development Plan

Technical Department Representative plans and controls design and development plan according to Design Regulation, and Design and Development Plan decides followings.

1) Levels of design and development process

2) Proper review, inspection, and checking activity for each level of design and development and checking activity

3) Responsibility and privilege regarding design and development activity

4) Manages connection between different groups that participated design and development in order to guarantee effective communication and clearness of responsibility.

5) If applicable, renews the planned outputs according to design and development process.

3.3.2 Design and Development Input

Determine inputs that are related to products requirement and document them. Requirements include followings.

1) Function and efficiency requirements

2) Applied law and regulation requirements

3) Applicable information that was used before for similar design

4) All other requirements that are required for design and development

5) Adequacy of these inputs must be reviewed, and incomplete and obscure requirements must be resolved.

3.3.3 Design and Development Output

Output of Design and Development process must be compared and documented in a provable manner.

(1) Design and development output includes followings.

1) Meet requirements of Design and Development requirements

2) Offer proper information for production

3) Include and quote product determination standard

4) Decide required characteristics of products for safety and proper usage

(2) Approve Design and Development Output documents before distributed

3.3.4 Design and Development Review

Perform systemic review at proper level regarding Design and Development for other purposes.

1) Evaluate ability to meet requirements

2) Grasp problems and suggest solutions

3) Include representative staffs who are in charge of design and development process. Maintain and manage result of afterward management according to Record Management regulation.

3.3.5 Design and Development Verification

Perform inspection of Design and Development in order to guarantee outputs satisfy requirements of inputs. Maintain and manage result of inspection and management according to Record Management regulation.

3.3.6 Confirmation of Realization of Design and Development

1) Perform confirmation of realization of Design and Development in order to check the products can satisfy requirements of intended usage.

2) Complete confirmation of realization before delivery of the products.

3) If enough confirmation of realization cannot be completed before delivery, parts of confirmation should be completed in an applicable range.

4) Maintain and manage result of confirmation according to Record Management regulation.

3.3.7 Management of Design and Development Change

1) Grasp, document and manage Design and Development changes.

2) Include evaluation of effects of delivered products and changes of parts.

3) Properly inspect changes, confirm realization, and approve before execution.

4) Maintain and manage all the records of review of changes and needed management according to Record Management regulation.

3.4 Purchase

3.4.1 Management of Purchase

1) Management Support Department Representative manages purchasing process according to Purchasing Business regulation in order to guarantee purchased products meet requirement

2) Methods and degree of management should be alternated based on the effects of realized process and outputs.

3) Evaluate and select purchasing companies based on their ability to supply products with same requirements from other firms, and set standard regarding evaluation.

4) Maintain and manage result of afterward management according to Record Management regulation.

3.4.2 Purchasing Information

(1) Purchasing documents should include information about products, and if applied, followings should be included.

1) Requirements regarding approval of products, process, processor, and equipments.

2) Requirements regarding qualification recognition of staffs

3) Requirements of Quality Management System

(2) Before print purchasing documents, guarantee adequacy of regulated requirements which is included in documents.

3.4.3 Review of Purchased Products

1) The firm grasps and performs action that is needed for inspection.

2) If the firm or customers want to perform inspection at the spot, Business Support Department Representative regulates method of inspection plan and delivery of the products.

3.5 Management of Process

3.5.1 Operation Management

Through followings, the firm operates production according to Management of Process regulation.

1) Solubilization of information that regulates characteristics of products

2) If needed, Solubilization of a guide of business

3) Proper usage and maintenance of manufacturing equipment

4) Usage and Solubilization of monitoring and evaluation equipments

5) Performance of proper monitoring and evaluating activity

6) Execution of determined process for activity after delivery

3.5.2 Confirmation of Realization of Process

(1) Verify realization of process of products that cannot be inspected by evaluation or monitoring.

(2) Include all process that only can have incompletion after the products are used.

(3) Confirmation of realization demonstrates ability of process in order to accomplish planned goals.

(4) Need to decide ways to confirm realization, and include followings as much applicable as possible.

1) Qualification recognition of process

2) Approval of equipments and qualification recognition of staffs.

3) Determined ways and usage of steps

4) Requirements of records

5) Re-confirmation of realization

3.5.3 Identification of products and pursuit

1) If applied, identify products according to Identification of Products regulation at every step of production.

2) Identify status of products related to monitoring and evaluating requirements.

3) If pursuit is a requirement, maintain and manage own characteristic of products according to Record Management regulation.

3.5.4 Customer Property

1) Manage property of customers, which are under control of the firm or themselves, according to Customer Property Management regulation.

2) Financial Support Department Representative identifies, inspects, preserves, and maintains Property of Customers for usage of products.

3) If property of customer is proved as a loss, damage or not suitable to use, this should be recorded and reported to customers.

4) Property of customers can include the intellectual ownership right.
(ex. Secretly offered information)

3.5.5 Perseverance of Products

1) Within inner process, manages products so that suitability of products maintains until products are delivered at the destination according to Perseverance of Products regulation.

2) This includes identification, treatment, packing, perseverance and protection.

3) Also applies to parts of the products.

3.6 Management of Monitoring and Evaluation Equipment

3.6.1 Quality Assurance Department Representative grasps and understands evaluation and monitoring and evaluation equipment that guarantees suitability of products.

3.6.2 Manage monitoring and evaluating equipments to guarantee evaluating ability that agrees with requirements.

3.6.3 If applied, monitoring and evaluating equipments should be same with followings.

1) Inspect or reform with available International evaluation standard before regulated periods or before use. If there is no standard like this, record proof used for reformation.

2) Re-regulate with needs.

3) Identify so that status of reformed equipments can be decided.

4) Protect from regulation that can invalidate result of evaluation.

5) While maintained, preserved, and kept, protect from damage and fire

6) Maintain and manage record of reformed result according to Record Management regulation.

7) If equipments are not suitable for requirements, evaluate validity and record result of previous evaluation.

8) Check realization of used software in order to evaluate regulated requirements of monitoring.

1. Purpose and Coverage

This chapter is for the firm to establish, maintain and develop Quality Management System by regulating measurement, analysis and improvements, thereby improving measurement and analysis system.

2. Responsibility and Privilege

2.1 President

President approves customer satisfaction business, and is responsible for the result of inner Quality Inspection.

2.2 Quality Assurance Department Representative

Quality Assurance Department Representative supervises customer satisfaction business, inner Quality Inspection, performs and protects measurement business, management of unsuitable products, incompletion improvement business, customer unsatisfaction business, and unsuitability related to system.

2.3 Production Department Representative

Production Department Representative often practices inspection, and performs continuous improvement and incompletion improvement business.

3. Detailed Steps

3.1 Plan

Quality Assurance Department Representative plans and performs process of monitoring, measurement, analysis, and improvement that are needed for followings.

1) Demonstrate suitability of product requirements

2) Guarantee suitability of Quality Management System

3) Continuously improve effectiveness of Quality Management System

This includes applicable methods including statistic techniques and decision regarding range of usage.

3.2 Measurement and Monitoring

3.2.1 Quality Assurance Department Representative is one of ways to measure accomplishment of Quality Management System, and monitors information regarding customer satisfaction and unsatisfaction. One of ways to gain and use the information is to grasp and decide inputs of customer satisfaction survey, data by customer regarding delivered products, user opinion survey, analysis of business loss, compliments, and guarantee claim.

3.2.2 Inner Inspection

(1) Quality Assurance Department Representative periodically performs Inner Inspection in order to decide followings based on Inner Inspection regulation.

(1) Whether or not Quality Management System is suitable for standard of requirements

(2) Whether or not Quality Management System is performing effectively

2) Plan not only status and importance of inspection subjects and parts, but also consider result of previous inspection

3) Decide inspection range, periods and method.

4) Staff who does not do business of inspection subjects performs inspection.

5) Responsibility and requirements, that need to be reported to President regarding plan and performance of inspection, record establishment, independence of inspection and record of results, follow inner inspection regulation.

6) Applied department representatives take responsibility and manage incompletion found from inspection.

7) Afterward management includes proof of management and report of inspection result.

3.2.3 Monitoring and Evaluation of Process

1) Demonstrate processor's ability that is needed to satisfy customers' requirements for monitoring and evaluation.

2) If planned result is not accomplished, manage according to protection regulation.

3.2.4 Monitoring and Evaluation of Products

1) Quality Assurance Department evaluates and monitors according to Inspection Business regulation in order to prove products meet all the requirements.

2) This needs to perform at a proper level of Product Realization Process.

3) Document proof to show products are suitable for standard.

4) Quality Assurance Department Representative has responsibility to approve products that will be delivered to customers.

5) Delivery of products should not be preceded before all the regulations are finished successfully except the case when customers approve.

3.3 Management of Incomplete Products.

3.3.1 Quality Assurance Department Representative follows incomplete product regulation in order to prevent from unintended usage and delivery, and manage and identify unsuitable products for requirements.

3.3.2 Incomplete products are taken care by one or more following methods.

1) Action to remove incomplete parts

2) If someone has related privilege, approve customers' special usage, delivery or approval.

3) Practice others except intended purpose or application

4) If incomplete products are found after delivery or usage, practice proper afterward service regarding influence or the products.

3.3.3 In order to demonstrate suitability of products after afterward service, firstly re-inspect, and record and manage the result.

3.3.4 If incomplete products are found after delivery or usage, provide proper afterward service according to the influence and seriousness of products.

3.3.5 Sometimes it is required for suggested reformation to report to customers, final users, regulated institution or related institution for special appointment

3.4 Analysis of Data

3.4.1 Quality Assurance Department Representative decides effectiveness and suitability of Quality Management System, and collects and analyzes data in order to grasp subjects possible for reformation. This includes data created from different monitoring and evaluating activity.

3.4.2 Quality Assurance Department Representative analyzes this data to provide information related to followings.

1) Customer satisfaction or unsatisfaction

2) Suitability of customers' requirements

3) Process including prevention service, and characteristic of products and their tendency

4) Purchasing company

3.5 Reformation

3.5.1 Continuous reformation

1) Applied Department representatives plan and manage needed process for continuous improvements of Quality Management System.

2) Applied Department representatives promote continuous improvements of Quality Management System through Quality Policy, goals, inspection result, data analysis, and prevention service.

3.5.2 Correction Service

(1) Applied Department Representatives provides service in order to remove factors of incompletion with purpose of incompletion prevention.

(2) Afterward service needs to be suitable for effects of faced problems, and decides followings regarding Afterward service regulation

1) Review of Incompletion (including customers' unsatisfaction)

2) Decide factors of incompletion

3) Evaluation of necessity to guarantee no occurrence of incompletion

4) Decide needed service and performance

5) Record result of performed service

6) Review effectiveness of performed service

3.5.3 Prevention Service

(1) Quality Assurance grasps managements to remove factors of incompletion to prevent occurrence of incompletion.

(2) Prevention service needs to be suitable for effects of problems, and decide followings according to Prevention service regulation.

1) Decide factors of incompletion

2) Evaluate necessity to prevent occurrence of incompletion

3) Decision and performance of needed management

4) Record of result of afterward management

5) Review of effectiveness of prevention

■ QUALITY SYSTEM CERTIFICATES

No	Type	Certifiate No.
1	Business Registration	
2	Plant Registration	
3	UL	KDER.E469811
4	UL	OVTZ.E469812
5	CE	BD17032618
6	CE	BD17032619
7	INNO-BIZ	R8012-3449
8		

■ CERTIFICATE-Business Registration

발급번호 Issuance number	사업자등록증명 Certificate of Business Registration (법인사업자) (Corporate Taxpayer)	처리기간 Processing time
0339-853-4486-134		즉시 Immediately

상호(법인명) Name of company (Business registration number)	주식회사 고려전기 KOREA ELECTRIC CO.,LTD (101-81-53022)	
사업자등록번호 Business registration number	101-81-53022	
성명(대표자) Name of representative (Resident(Corporation) registration number)	김주영 KIM JOO YOUNG (110111-1837652)	
주민(법인)등록번호 Resident(Corporation) registration number	110111-1837652	
사업장소재지 Business Address	서울특별시 종로구 돈화문로 3(관수동) 3, Donhwamun-ro, Jongno-gu, Seoul, Republic of Korea	
개업일 Date of business commencement	2000년(Year) 01월(Month) 01일(Day)	
사업자등록일 Date of business registration	2000년(Year) 01월(Month) 07일(Day)	
업태 Business type	도매/제조 Wholesale and retail trade/Manufacturing	
종목 Business item	피뢰자재, 접지자재 Wholesale of Electrical Machinery and Related Materials 피뢰, 접지자재 Manufacture of apparatuses for switching, protecting electrical circuits used in power distribution systems	
공동사업자 Joint business owner	성명(법인명) Name(Name of company)	주민(사업자)등록번호 Resident(Business) registration No.
	해당사항 없습니다 (No Data)	

위와 같이 증명합니다.

I certify that above information is true and correct to the best of my knowledge and belief.

※ 위 내용은 발급일 현재 상황으로서 추후 변경될 수 있습니다.
This information is true as of the issuance date of this certification and but maybe subject to change in the future.

※ 영문 임의기재사항[상호, 성명(대표자), 업태, 종목, 상세주소]은 실체적 권리관계를 증명하는 효력이 없습니다.
Arbitrary data in English[name of company, name of representative, business type, business item, detail address] do not hold a power to prove the actual relationship of rights.

접수번호 Receipt No.	502754433111	2022 년 2 월 22 일 Year Month Day
담당부서 Department	민원봉사실 Taxpayer Service Center	
담당자 Staff in Charge		종로세무서장 (인) Head of Jongno District Tax Office (Stamp)
연락처 Telephone No.	+082-2-760-9226	

국세청
National Tax Service

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■ CERTIFICATE-Plant Registration

■ Form No. 8-2

Also available online: www.femis.go.kr

Plant Registration Certification Form

Reference No.	Date Received	Processing Time	Immediate

Company Information	Name of Company KOREA electric co., LTD	Tel. (Tel : (02) 2269-0145)	
	Name of Chairperson KIM JU YOUNG	Date of Birth (Corporate Registration No.) 110111-1837652	
	Address of Chairperson (Address of Company) 12 jongro22gil(Jangsa-dong) Jongro-gu,Seoul, KOREA		
Plant Information	Address of Plant 25 changkyunggung-ro 5gagil(Sallim-dong) Jung-gu,Seoul, KOREA	Land Category site	Property Status Owned [ ] , Rented [√]
	Plant Registration Date 2013-03-11	Start Date of Business 2013-03-11	No. of Employees Male: 2 Female: 1
	Business Line (Classification Code) Manufacture of Other Febricated and Processed Metal Products n.e.c 25999		
	Area of Site 63.14 ㎡	Area of Manufacturing 41.09 ㎡	Area of Other Facilities 0 ㎡
Registration Conditions			
Changes (Including Dates)			

I hereby apply for a Plant Registration Certificate in accordance with Article 12-3 of the *Industrial Cluster Development and Factory Establishment Act.*

2013 Year 05 Month 29 Day

Applicant KIM JU YOUNG (Signature or Stamp)

To Seoul Jung-gu

Required Documents	Not Required	Service Charge ₩ 1000

I hereby certify that the above plant is registered in accordance with Article 16-1/16-2/16-3 of the *Industrial Cluster Development and Factory Establishment Act.*

2013 Year 05 Month 29 Day

Seoul Jung-gu

서류발행일: 2013년05월29일

210 ㎜ × 297 ㎜ [Paper 70g / ㎡ (Recycled)]

원본대조필

이상은 / 05월29일 15:29

■ CERTIFICATE - UL

ONLINE CERTIFICATIONS DIRECTORY

KDER.E469811
Grounding and Bonding Equipment

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Grounding and Bonding Equipment

See General Information for Grounding and Bonding Equipment

KOREA ELECTRIC CO LTD E469811
11 JONG-RO 22-GIL JONGNO-GU
SEOUL, 110-430 REPUBLIC OF KOREA

Ground sleeves, Cat. Nos. SGW-22, SGW-44, SGW-62, SGW-66, SGW-1002, SGW-1006, SGW-1010, SGW-1212, SGW-1506, SGW-1515, SGW-2004, SGW-2010, SGW-2020, SGW-2515, SGW-2525, SGW-3030.

Electrolyte ground rod (ChemRod), Cat. No. EGS ROD.

Cable to Cable, Cat. Nos. H, HT, HX, HXU.

Cable to Plate, Cat. Nos. HCHS, ADVS

Cable to Rebar, Cat. Nos. HCVR, HCHRT, HCHRZ, and HCVRX.

Grounding connectors, Cat. Nos. GB-26, GB-34, GBM-26, GBM-29, and GBM-34.

Ground Flush Plate, Cat. Nos. GP-70, GP-95, GP-120, GP-150, and GP-185.

Exothermic welding connection system (Cable size: 50-240mm^2) Cable to Cable: H, HT, HX (Cable size: 240mm^2 only), HXU.

Cable to Plate: HCHS, ADVS.

Cable to Rebar: HCVR, HCHRT, HCHRZ, and HCVRX (Rebar size: D10 to D32, Cable Size: 240mm^2 only).

Last Updated on 2017-05-22

Questions? Print this page Terms of Use Page Top

■ CERTIFICATE - UL

ONLINE CERTIFICATIONS DIRECTORY

OVTZ.E469812
Lightning Conductors, Air Terminals and Fittings

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Lightning Conductors, Air Terminals and Fittings

See General Information for Lightning Conductors, Air Terminals and Fittings

KOREA ELECTRIC CO LTD E469812
11 JONG-RO 22-GIL JONGNO-GU
SEOUL, 110-430 REPUBLIC OF KOREA

Class I & Class II Air Terminal Adaptor, Model(s) Cat. Nos. KRL-63W

Class I & Class II Air Terminal Base, Model(s) Cat. Nos. KRL-60X, KRL-336, KRL-688C and KRL-61B.

Class I & Class II Air Terminal Brace, Model(s) Cat. No. KRL-A112

Class I & Class II Air Terminal Swivel Adaptor, Model(s) Cat. No. KRL-63A

Class I & Class II Cross Run Clamp, Model(s) Cat. No. KRL-119.

Class I & Class II Down Cable Fastener, Model(s) Cat. No. KRL-267

Class I & Class II Fasteners and Anchor Fasteners, Model(s) Cat. Nos. KRL-552 and KRL-574

Class I & Class II TEE Splicer, Model(s) Cat. No. KRL-304.

Class I & Class II Two Cable Clamp, Model(s) Cat. No. KRL-G28.

Class I & Class II U-Bolt Clamp, Model(s) Cat. No. KRL-28U

Class I air terminals, Model(s) KRL 600

Class III Air Terminal, Model(s) Cat. Nos. KRL-332D and KRL-510

Last Updated on 2017-02-21

Questions? Print this page Terms of Use Page Top

■ CERTIFICATE - CE

Beidor

CERTIFICATE OF CONFORMITY

NO.: BD17032618

Applicant	:	Korea Electeic Co.Ltd
Address	:	Jong-Ro 22 GIL, Jong-Ro-Gu, seoul, Korea
Manufacturer	:	Korea Electeic Co.Ltd
Address	:	Jong-Ro 22 GIL, Jong-Ro-Gu, seoul, Korea
Product	:	Surge Protective Ddevice
Brand Name	:	KEC
Model(s)	:	KECCD2Y-40/80/160 (Additional models See the Appendix1)
Directives	:	EMC Directive 2014/30/EU

Test Standard(s):

EN 61000-6-3: 2007+A1: 2011;
EN 61000-6-1: 2007;
EN 61000-3-2:2014;
EN 61000-3-3:2013.

The EUT described above has been tested by us with the listed standards and found in compliance with all relevant EU Directive. It is possible to use CE marking to demonstrate the compliance with the EU Directive.

The certificate applies to the tested sample above mentioned only and shall not imply an assessment of the whole production.

CE

Shenzhen Beidor Testing Technology Co., Ltd. Beidor

Manager

(Date) Mar. 20, 2017

Shenzhen Beidor Testing Technology Co., Ltd.
No.72, Yuquan Road Eas, Gongming Street, Guangming New District, Shenzhen City, Guangdong Province, China
Tel:86 755-23244807 E-mail:beidor@beidor.com Http:www.beidor.com

■ CERTIFICATE - CE

CERTIFICATE OF CONFORMITY

NO.: BD17032619

Applicant	:	Korea Electeic Co.Ltd
Address	:	Jong-Ro 22 GIL, Jong-Ro-Gu, seoul, Korea
Manufacturer	:	Korea Electeic Co.Ltd
Address	:	Jong-Ro 22 GIL, Jong-Ro-Gu, seoul, Korea
Product	:	Surge Protective Ddevice
Brand Name	:	KEC
Model(s)	:	KECCD2Y-40/80/160 (Additional models See the Appendix1)
Directives	:	LVD Directive 2014/35/EU

Test Standard(s):

IEC61643-11：2011.

The EUT described above has been tested by us with the listed standards and found in compliance with all relevant EU Directive. It is possible to use CE marking to demonstrate the compliance with the EU Directive.

The certificate applies to the tested sample above mentioned only and shall not imply an assessment of the whole production.

CE

Shenzhen Beidor Testing Technology Co., Ltd. Beidor

Manager

(Date) Mar. 20, 2017

Shenzhen Beidor Testing Technology Co., Ltd.

No.72, Yuquan Road Eas, Gongming Street, Guangming New District, Shenzhen City, Guangdong Province, China

Tel:86 755-23244807 E-mail:beidor@beidor.com Http:www.beidor.com

■ CERTIFICATE - INNO-BIZ

Certificate No : R8012 - 3449

CERTIFICATE OF Inno-Biz

Company : KOREA ELECTRIC COMPANY CO, LTD

C E O : KIM JU YOUNG

Address : 11, JONG-RO 22-GIL, JONGNO-GU, SEOUL, REPUBLIC OF KOREA

Validity of Certificate : 2020. 12. 26 ~ 2023. 12. 25

This is to certify that the above mentioned company is a Technology Innovation-Oriented Small and Medium Enterprise(Inno-Biz) selected by the Ministry of SMEs and Startups in accordance with the Act on the Promotion of Technology Innovation of Small and Medium Enterprises.

NOV 10, 2020

MINISTRY OF SMES AND STARTUPS · 중소벤처기업부 ·

중소벤처기업부장관인

minister

Ministry of SMEs and Startups
Republic of Korea

■ Supervision & After Sales Service Center

DATE : 14. Jul. 2017

No.	LOCATION	ADDRESS	REMARK
1	SOUTH KOREA	3, Donhwamun-ro, Jongno-gu, Seoul, Korea (Gwansu-dong)	Head Quarter

■ Health Safety Environmental Policy

KOREA ELECTRIC CO.,LTD(under the same as above the our company) 's total Managers and total workers carry out a thorough investigation of None disaster's establishment that is safety, clean and environmental friendship for continuous improvements and protections to the individual's sphere of activity, And select the first subject to decide the Health Safety Environmental management purpose.

1	We setup the HSE Management System more than National Laws and International Conventions.
2	We supply with fitting resource for the HSE's improvement, plan the total manager and worker's active participation for the education's training.
3	We develop HSE consider with the Intention decision, produce, machine, method and design, And apply to the total business action's area.
4	We minimize the risk and environment's effect, And evolve the continuous innovative action for establishing, checking of the target and practice plan to improvement.
5	We investigate the HSE Policy and the result by periods, And maintain the see-through for opening the people the result.

President / Ju-Young, Kim

2016.03.20

Date

Injury Statics

(The basic period : 2014 ~ 2016)

	Year 2014	Year 2015	Year 2016
Total No. of Employee	21	22	24
Total Man Hours	40,320	42,240	46,080
No. of Recordable Injury	0	0	0
Total Loss Time	0	0	0
No. of Minor Injury	0	0	0

- Total man hour is calculated based on Korean Labor Law.
- Recordable Injury : The hazard could result in injuries requiring medical aid consisting of emergency assessment, in-patient treatment, lost time with the potential of permeant disability or significant property damage.
- Minor Injury : The hazard could result in injury up to and including medical aid consisting of assessment and observation, no lost time or minor to major property damage.

1 **OSHA Recordable Incident Rate (IR)**

: The number of employees per 100 full-time employees that have been involved in a recordable injury or illness.

	2014	2015	2016	**Average**
IR	0.00	0.00	0.00	0.00

2 **Lost Time Case Rate (LTC)**

: The Number of lost time cases per 100 full-time employees in any given time frame.

	2014	2015	2016	**Average**
LTC	0.00	0.00	0.00	0.00

3 **Severity Rate of Injury**

: The number of lost days experience as compared by 1,000 working hours.

	2014	2015	2016	**Average**
SR	0.000	0.000	0.000	0.000

(주)고려전기
(KOREA ELECTRIC CO.,LTD)
3,Donhwamun-ro, Jungno-gu, Seoul Republic of Korea
Tel. (02)2269-0145 Fax. (02)2269-4410
Homepage : http://www.earthsystem.co.kr
E-mail : korea114@unitel.co.kr

KS Q ISO 9001