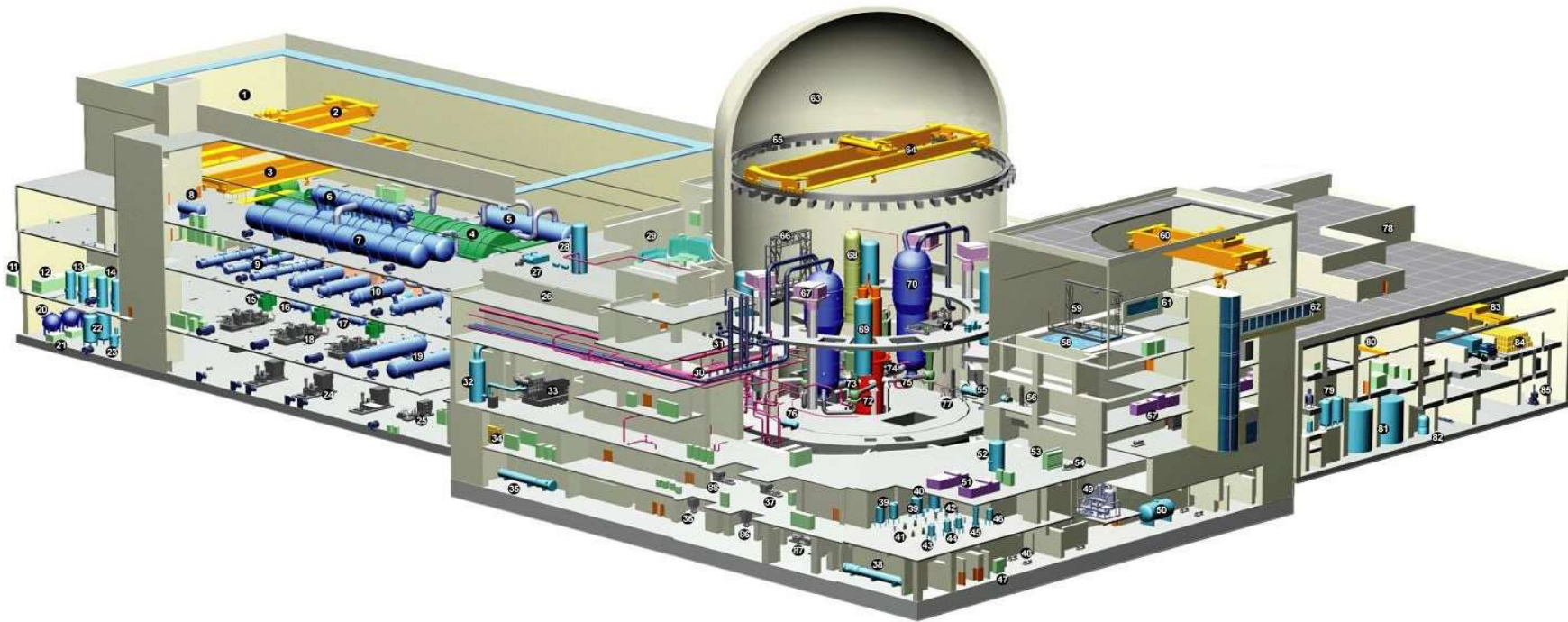
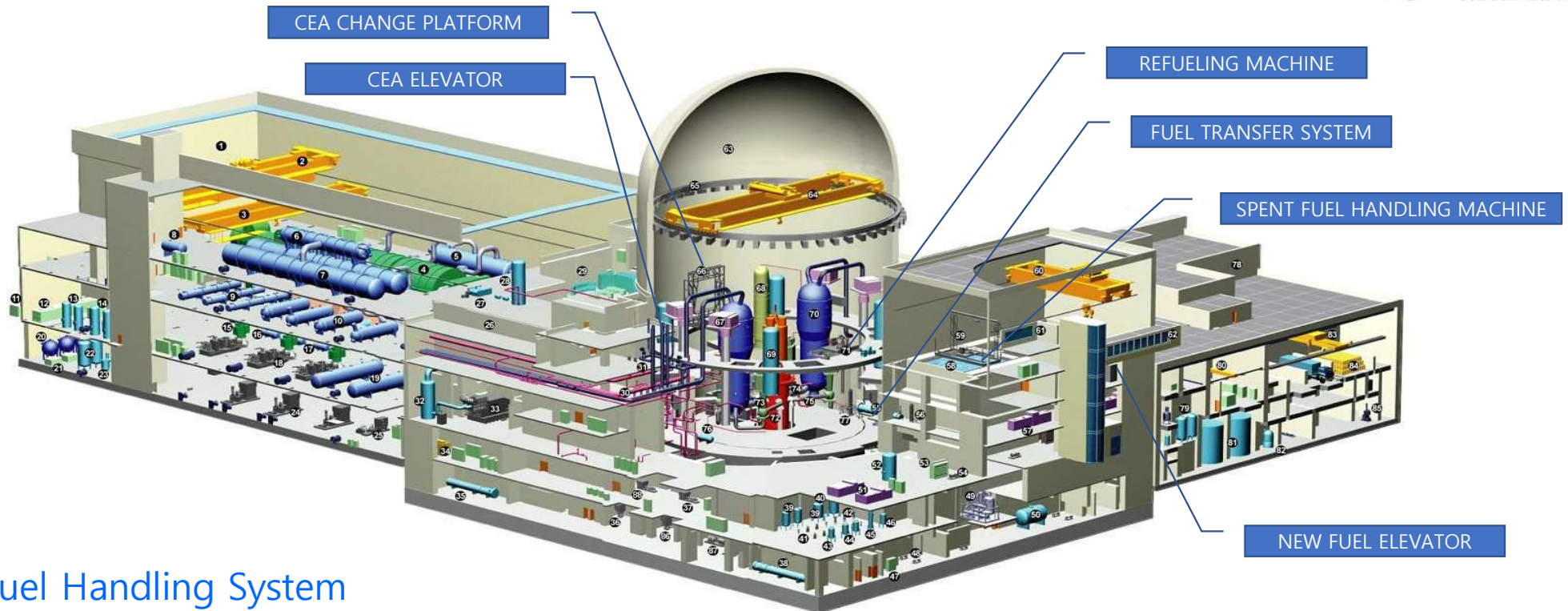




Fuel Handling System

SEAH Solution Automation Co.,Ltd.

1. Overview



Fuel Handling System

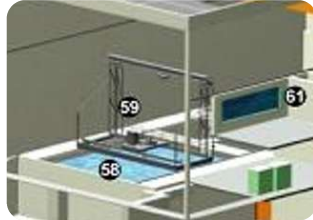
Fuel Handling System(FHS) refers to a system for **loading or unloading** nuclear fuel.

FHS refers to a system for loading or unloading nuclear fuel,
and it is called Fuel Handling Equipment (FHE).

Major equipment includes Spent Fuel Handling Machine (SFHM), Fuel Transfer System (FTS), and Refueling Machine (RM).

1. Overview

01



SFHM

Installed in the spent fuel building and is used to store or take out new fuel or spent fuel in the fuel pool.

02



FTS

Installed in the spent fuel building and the nuclear reactor building, respectively, and the fuel is transferred between the two buildings.

03



RM

installed in the reactor building and is used to load or withdraw fuel into the reactor.

FHE Control



01 HMI Check log
record status

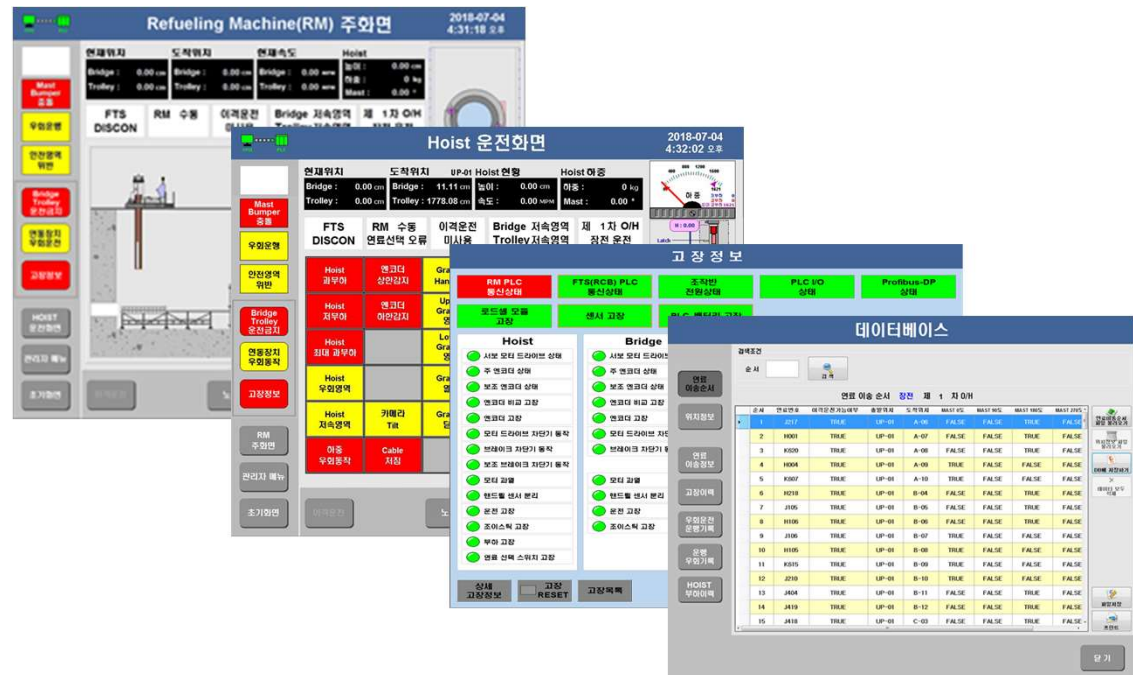
02 PLC Data Calculation
Input/Output
Control

03 DRIVE Motor Control

2. System Configuration

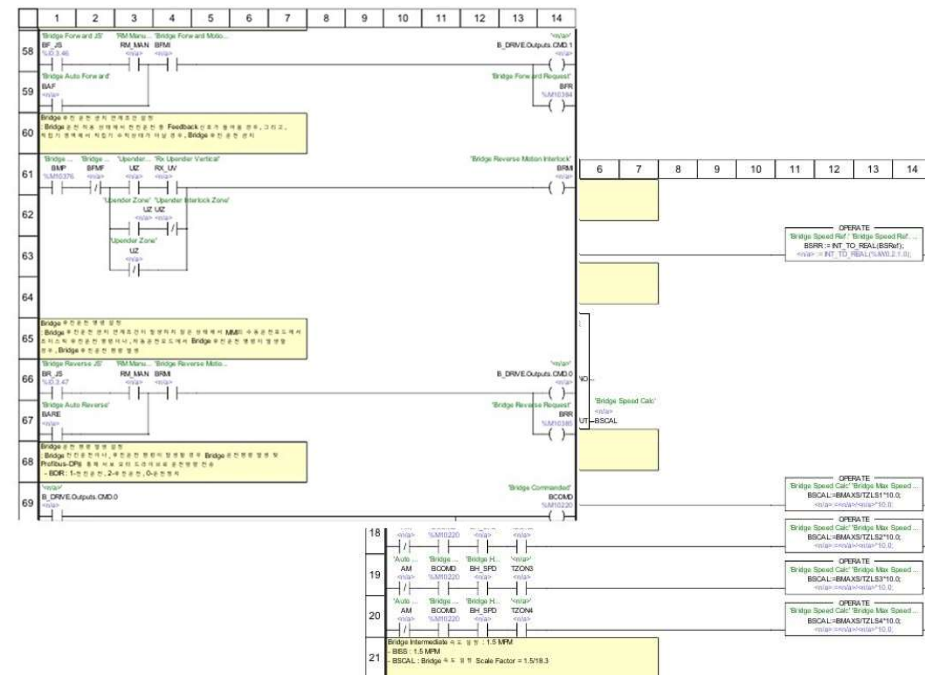
01 HMI

Communicates with PLC via Ethernet and visually delivers device status information, failure information, and operation information, and records and manages various data and logs.

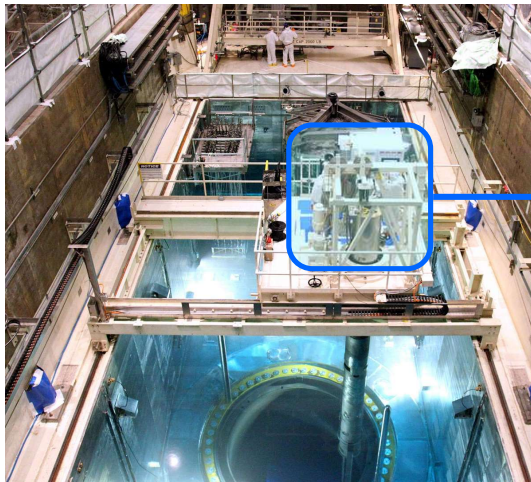


02 PLC

Receives an external signal (sensor, encoder, switch, etc.) and programs it, outputs an output to control the device, checks the status, and calculates data.



03 Refueling Machine



3. Track Records

DATE	Order No.	Project Description	Sub-buyer	User	Elec. Drawing Design	Program (PLC/HMI)	Control Panel	Site Commissioning
1999.05	1999HO011	YOUNGGWANG NUCLEAR POWER PLANT UNITS 5,6 125/5TON FUEL BUILDING CRANE (Fuel Building Cask Transfer Crane)	KHIC	KEPCO	O	O	O	O
2000.05	2000HO007	YOUNGGWANG NUCLEAR POWER PLANT UNITS 5,6 10TON SRS CRANE (Waste Drum Transfer Crane)	BANDO	KEPCO	O	O	O	O
2001.11	2001HO115	ULCHIN NUCLEAR POWER PLANT UNITS 5,6 125/5TON FUEL BUILDING CRANE (Fuel Building Cask Transfer Crane)	KHIC	KEPCO	O	O	O	O
2002.03	2002HO105	ULCHIN NUCLEAR POWER PLANT UNITS 5,6 10TON SRS CRANE (Waste Drum Transfer Crane)	KHIC	KEPCO	O	O	O	O
2002.11	2002HO121	YOUNGGWANG NUCLEAR POWER PLANT UNITS 1,2 230/65TON TURBINE CRANE (Turbine Transfer Crane)	Doosan	KHNP	O	O	O	O
2005.10	2005HO121	YOUNGGWANG NUCLEAR POWER PLANT UNITS 1,2 10TON SRS CRANE (Waste Drum Transfer Crane)	Hyosung C&P	KHNP	O	O	O	O
2005.12	2005RD110	YOUNGGWANG NUCLEAR POWER PLANT ADVANCED FUEL MACHINE DEVELOPMENT (Fuel Transfer System upgrade : RM, FTS, SIMULATOR, SUPERVISORY)	Doosan	KHNP	O	O	O	O
2006.08	2006HO108	SHIN-WOLSONG NUCLEAR POWER PLANT 250/50TON MAIN TURBINE CRANE (Turbine Transfer Crane))	Hyosung C&P	KHNP	O	O	O	O
2006.08	2006HO108	SHIN-WOLSONG NUCLEAR POWER PLANT 40/12TON INTAKE GANTRY CRANE (Yard Crane: water treatment and material handling)	Hyosung C&P	KHNP	O	O	O	O
2006.08	2006HO108	SHIN-WOLSONG NUCLEAR POWER PLANT 10TON SRS BRIDGE CRANE (Waste Drum Transfer Crane)	Hyosung C&P	KHNP	O	O	O	O
2007.09	2007HO113	SHIN-WOLSONG NUCLEAR POWER PLANT UNIT 2 125/5TON FUEL BUILDING CRANE (Fuel Building Cask Transfer Crane)	Hyosung C&P	KHNP	O	O	O	O

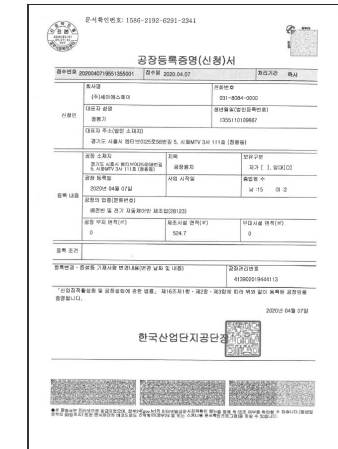
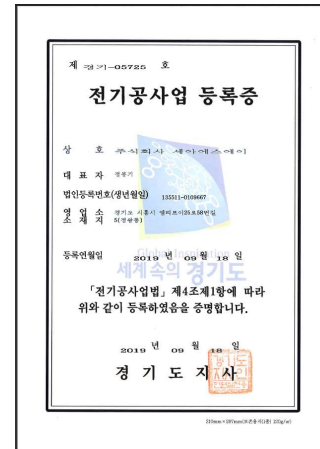
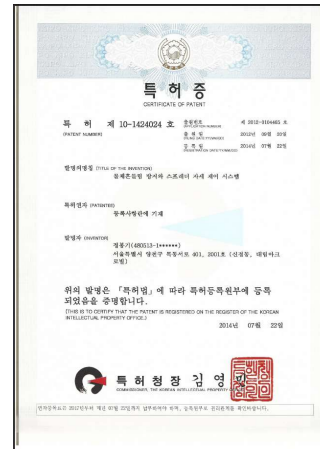
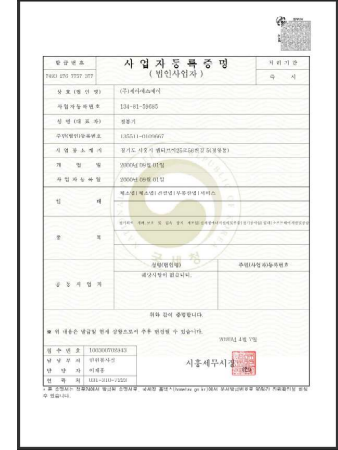
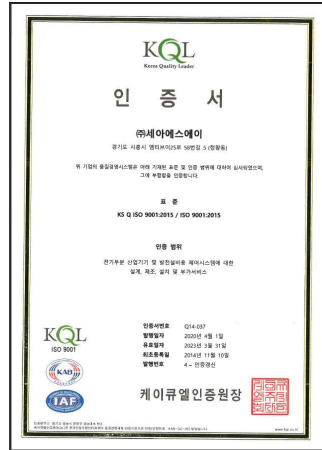
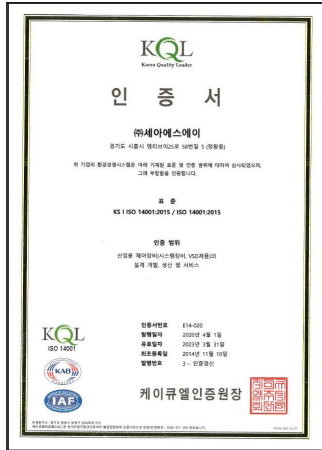
3. Track Records

DATE	Order No.	Project Description	Sub-buyer	User	Elec. Drawing Design	Program (PLC/HMI)	Control Panel	Site Commissioning
2008.04	2008HO116	SHIN-KORI NUCLEAR POWER PLANT UNITS 3,4 475+475/90 TON POLAR CRANE	Doosan	KHNP	O	O	O	O
2008.08	2008HO118	SHIN-KORI NUCLEAR POWER PLANT UNITS 3,4 310/70 TON TURBINE GENERATOR BUILDING CRANE (Generator Turbine Transfer Crane)	Hyosung C&P	KHNP	O	O	O	O
2008.08	2008HO118	SHIN-KORI NUCLEAR POWER PLANT UNITS 3,4 310/70 TON TURBINE CRANE (Turbine Transfer Crane)	Hyosung C&P	KHNP	O	O	O	O
2009.05	2009HO117	ULCHIN NUCLEAR POWER PLANT UNITS 1,2 POLAR CRANE	GS Heavy	KHNP	O	O	O	O
2009.08	2009HO124	SHIN-WOLSONG NUCLEAR POWER PLANT UNITS 1,2 7.5TON L&M CRANE (Waste Drum Transfer Crane)	Hyosung C&P	KHNP	O	O	O	O
2009.05	2009RD104	YOUNGGWANG NUCLEAR POWER PLANT UNITS 5,6 FUEL HANDLING EQUIPMENT UPGRADE (RM, SFHM, FTS, NFE)	DOOSAN	KHNP	O	O	O	O
2010.04	2010HO101	SHIN-KORI NUCLEAR POWER PLANT UNITS 3,4 10TON SRS CRANE (Waste Drum Transfer Crane)	Hyosung C&P	KHNP	O	O	O	O
2010.12	2010HO109	SHIN-KORI NUCLEAR POWER PLANT UNITS 3,4 FUEL HANDLING EQUIPMENT (RM, SFHM, FTS, NFE, CEACP, CEAE, SIMULATOR, SUPERVISORY)	DOOSAN	KHNP	O	O	O	O
2011.05	2011HO103	ULCHIN NUCLEAR POWER PLANT UNITS 5,6 FUEL HANDLING EQUIPMENT UPGRADE (RM, SFHM, FTS,NFE)	DOOSAN	KHNP	O	O	O	O
2011.07	2011HO106	SHIN-ULCHIN NUCLEAR POWER PLANT UNITS 1,2 POLAR CRANE	DOOSAN	KHNP	O	O	O	O
2011.10	2011HO114	ULCHIN NUCLEAR POWER PLANT UNITS 3,4 POLAR CRANE	DOOSAN	KHNP	O	O	O	O

3. Track Records

DATE	Order No.	Project Description	Sub-buyer	User	Elec. Drawing Design	Program (PLC/HMI)	Control Panel	Site Commissioning
2012.01	2012HO101	SHIN-KORI NUCLEAR POWER PLANT UNITS 3,4 150/10 TON FUEL BUILDING CRANE (Fuel Building Cask Transfer Crane)	Hyosung C&P	KHNP	O	O	O	O
2013.09	2013HO108	SHIN-HANUL NUCLEAR POWER PLANT UNITS 1,2 FUEL HANDLING EQUIPMENT (RM, SFHM, FTS, NFE, CEACP, CEAE, SIMULATOR, SUPERVISORY)	DOOSAN	KHNP	O	O	O	O
2014.02	2014HO104	SHIN-KORI NUCLEAR POWER PLANT UNITS 5,6 FUEL HANDLING EQUIPMENT Seismic Test for FHE Cabinet	DOOSAN	KHNP	O	O	O	O
2014.08	2014HO122	SHIN-KORI NUCLEAR POWER PLANT UNITS 3,4 FUEL HANDLING EQUIPMENT SFHM UPGRADE	DOOSAN	KHNP	O	O	O	O
2017.03	2017HO103	SHIN-KORI NUCLEAR POWER PLANT UNITS 5,6 FUEL HANDLING EQUIPMENT (RM, SFHM, FTS, NFE, CEACP, CEAE, SIMULATOR, SUPERVISORY)	DOOSAN	KHNP	O	O	O	O
2017.09	2017HO112	HANBIT NUCLEAR POWER PLANT UNIT 4 POLAR CRANE	DOOSAN	KHNP	O	O	O	O
2019.11	2019HO107	SHIN-KORI NUCLEAR POWER PLANT UNITS 5,6호기 10TON SRS CRANE (Waste Drum Transfer Crane)	KOREA HOIST	KHNP	O	O	O	O

4. Certifications





Thank You

SEAH Solution Automation Co., Ltd