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Integrated Solution to the Power Industry

OES

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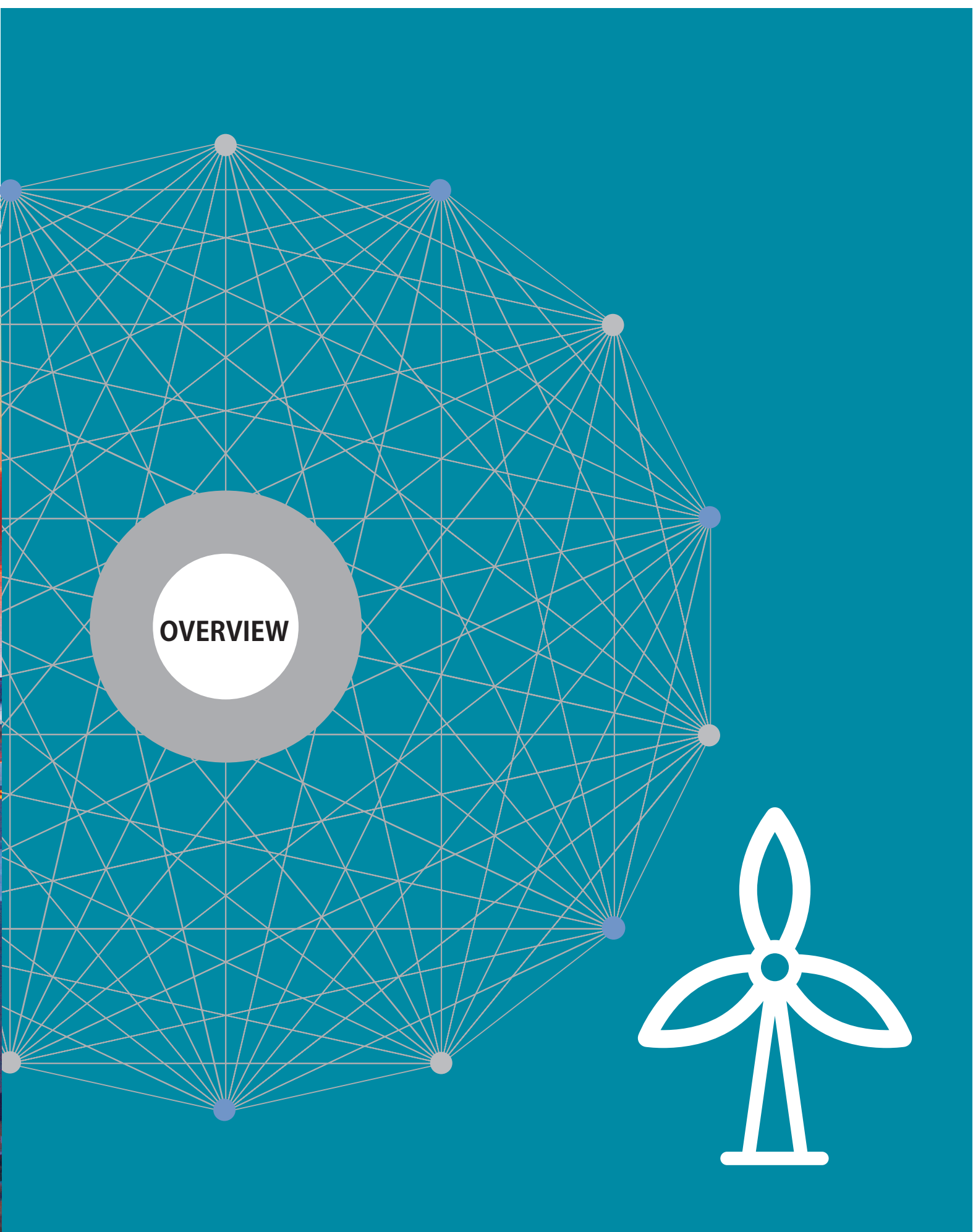
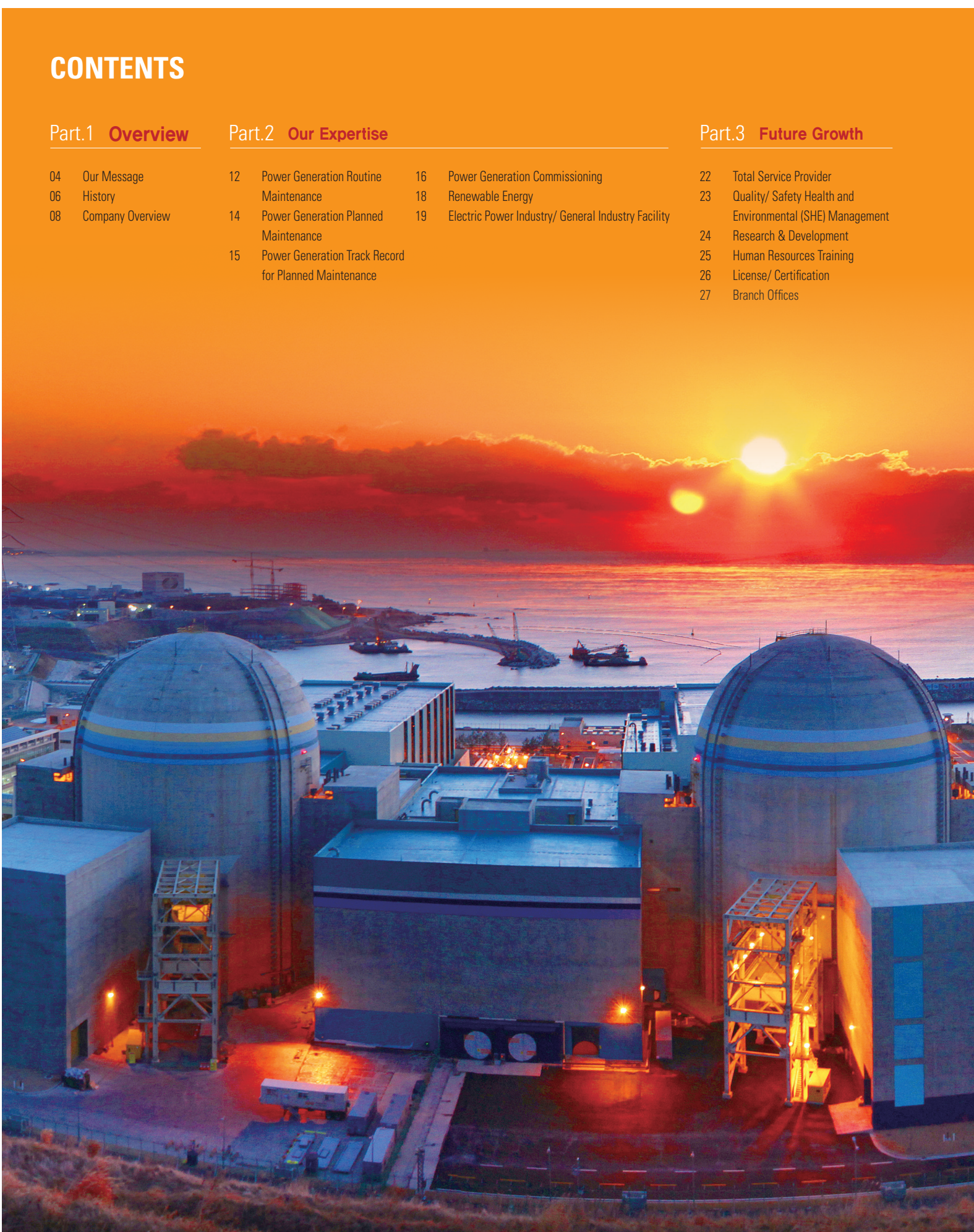
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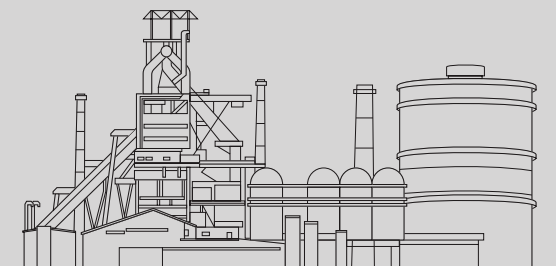


Our Message

"OES is a top power plant maintenance service provider in Korea for
Thermal, Nuclear Power Plant and Renewable Assets."

OES since its establishment in June, 2003 as an exclusive maintenance company for power plant and industrial plant, the company has been developed as such a professional maintenance company in the field, executing routine maintenance, planned maintenance and commissioning for national power plant. Furthermore, OES has continuously strived for a management improvement, technology development and talent training in order to satisfy our customers by providing the best quality of our service and technology which has been accumulated for decades. As a result of our performance, the company successfully entered the international maintenance market in 2015, expanding its business area abroad. We promise to be such a pioneer not only who develops new growth business, but who actively reflects customers' potential demand by providing the best service over customers' expectation.

Optimal Energy Service



History of O E S

Optimal Energy Service Co., Ltd. is a private maintenance and development company for power generation facilities under the government, and has left many footsteps by entering the power generation maintenance industry market. We will continue to be reborn as a maintenance company that is recognized not only in Korea but also from overseas.

2022.

3

Routine maintenance works and driving water treatment facility in Hanbit Nuclear Power Plant operated by KHNP Co., Ltd.
2021.

7

Secondary air conditioning system maintenance works in Hanbit Nuclear Power Plant operated by KHNP Co., Ltd.
2021.

3

Seawater intake facility maintenance works in Hanul Nuclear Power Plant operated by KHNP Co., Ltd.
2021.

2

Seawater intake facility maintenance works in Kori Nuclear Power Plant operated by KHNP Co., Ltd.
2020.

12

Pyeongtaek 1 Complex Gas Turbine demolition works by KOWEPO Co., Ltd.
2020.

8

The current state maintenance and planning preventive maintenance of the Asan Baebang collective energy facility of Korea Land and Housing Corporation
2020.

6

Routine maintenance support service of Bundang office of Korea District Heating Corporation
2020.

4

Executed routine maintenance works and lighting facility in wolseong 2 Nuclear Power Plant operated by KHNP Co., Ltd.
2019.

11

Executed routine maintenance works and driving water treatment facility in Hanbit Nuclear Power Plant operated by KHNP Co., Ltd.
2019.

11

Executed routine maintenance works and driving water treatment facility in Saeul Nuclear Power Plant operated by KHNP Co., Ltd.
2017.

10

Company name changed to Optimal Energy Service Co., Ltd.
2017.

4

Executed routine and preventive maintenance works for Hanul #3~4 electromechanical facilities operated by KHNP Co., Ltd.
2017.

3

Executed routine maintenance works for Taeon #7~8 boilers and Pyeongtaek TPP turbine facilities operated by KOWEPO Co., Ltd.
2015.

12

Executed routine maintenance works for coal handling facilities in Samcheonpo Thermal Power Plant operated by KOEN Co., Ltd.
2015.

9

Executed routine maintenance works for #1~2 facilities in Boryeong Thermal Power Plant operated by KOMIPO Co., Ltd.
2015.

6

Executed commissioning maintenance works for #1~4 facilities of UAE BNPP operated by KEPCO KPS Co., Ltd.
2015.

3

Registered as maintenance work enterprise (general maintenance company) in KHNP Co., Ltd.
2015.

2

Executed seawater intake facility maintenance works in Taeon operated by KOWEPO Co., Ltd.
2014.

10

Executed routine maintenance works and driving water treatment facility in Wolsong Nuclear Power Plant operated by KHNP Co., Ltd.
2013.

8

Executed routine maintenance works in combined cycle power plant and #1~4 boiler facilities in Pyeongtaek operated by KOWEPO Co., Ltd.
2013.

7

Executed routine maintenance works for #5~6 boiler facilities in Yeongheung Thermal Power Plant operated by KOEN Co., Ltd.
2013.

1

Executed routine maintenance works in Sancheong Pumped-storage Plant operated by KHNP Co., Ltd.
2011.

5

Executed commissioning maintenance work (CP-S2) for #3~4 Shin-Kori facilities in the field of electro-mechanism operated by KEPCO KPS Co., Ltd.
2008.

3

Executed routine maintenance works [#1~3 facilities] in Boryeong Combined Cycle Power Plant operated by KOMIPO Co., Ltd.
2007.

10

R&D Department acquired certification
2007.

7

KOSHA 18001 Safety & Health Management System certified
2006.

12

ISO 14001 Environment Management System certified
2006.

3

Executed routine maintenance works [GT #1~2 facilities, STI #1 facility] in Boryeong Combined Cycle Power Plant operated by KOMIPO Co., Ltd.
2005.

3

Registered as maintenance work enterprise (in 8 different fields) in KHNP Co., Ltd.
2004.

12

Registered as a qualified maintenance enterprise by 5 generation corporations including KOMIPO Co., Ltd.
2003.

9

Opened Boryeong office
2003.

6

ISO 9001 Quality Management System certified
2003.

6

Registered as a cooperative firm with KEPCO KPS Co., Ltd.
2003.

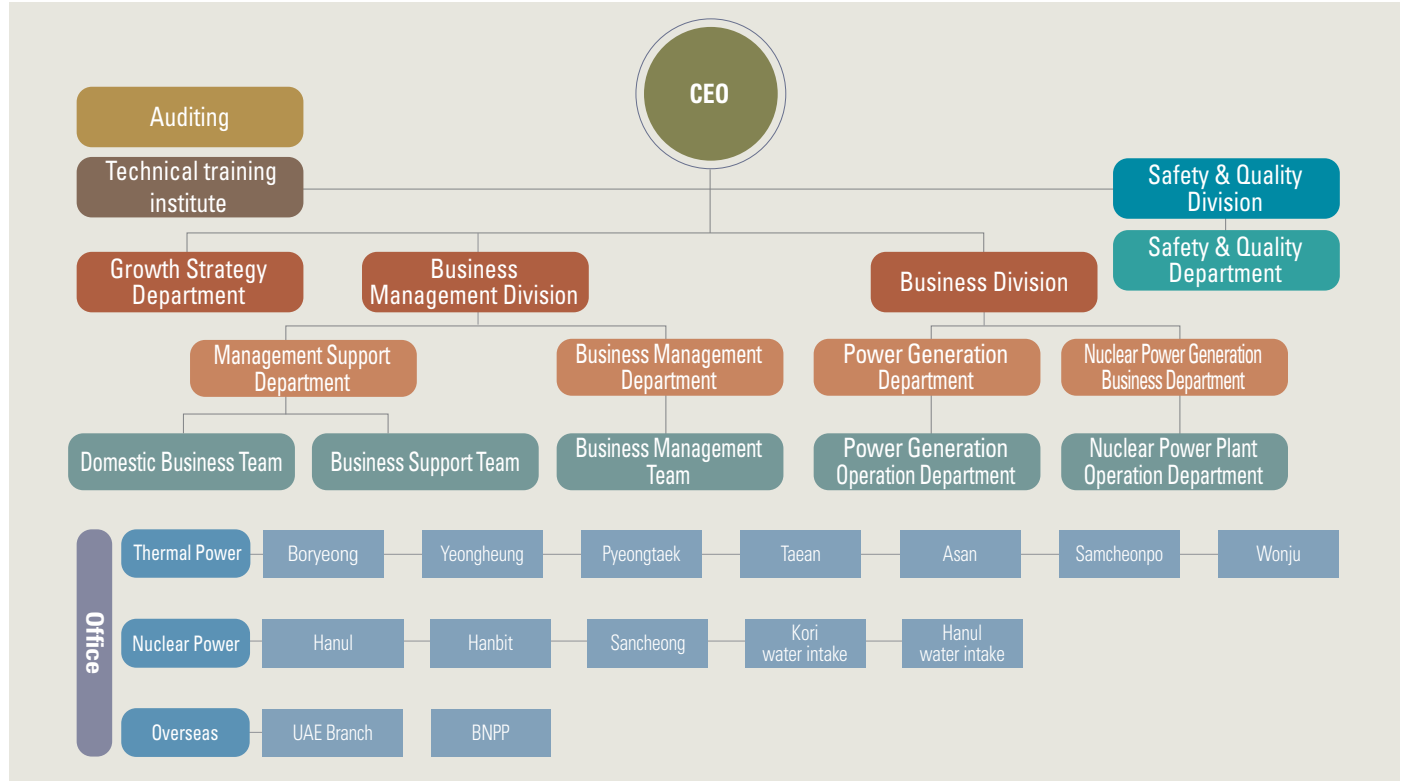
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Established Ace Power Utility Service Co., Ltd.



Company Overview

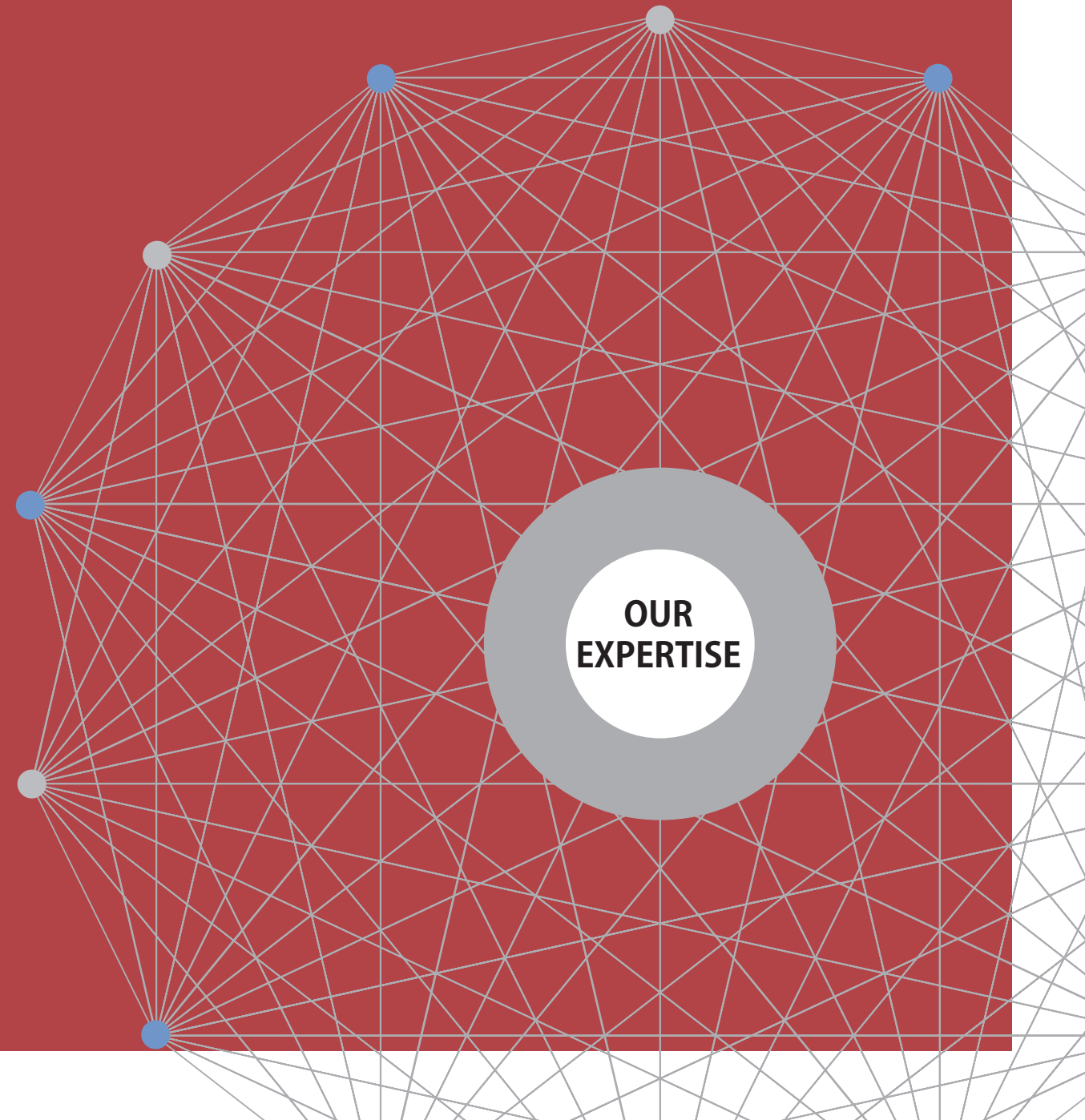
Company name	Optimal Energy Service	CEO	Lee Hyeong-Ju
Business Item	Power plant, renovation, power plant maintenance, general industry facility work		
Business Areas	- Routine maintenance and planned maintenance for thermal power plants - Routine maintenance and maintenance for Commissioning for nuclear power plants - Routine maintenance and planned maintenance for hydroelectric power plants - General maintenance work for industrial plant		
HQ	07320, 34th fl., 24, Yeoui-daero, Yeongdeungpo-gu, Seoul, Korea		
License	- Electrical construction business - Mechanical facility construction business - Metal structure & Window construction business - Scaffolding & Structure removing work construction business - Fire-fighting facility construction business - Specialty corporate for renewable energy		
Business Credit Evaluation Grade	A	Evaluation Organization	Ecredible., Co.Ltd.



Management Policy

OES strives to become the most reliable and established maintenance company by thorough quality control and distinguished management system for health, safety and environment based on good communication among employees. Also, we take the initiative in meeting domestic and international legal demands, making continuous investments in technology and talent development, and fulfilling continuous management improvement.





Power Generation Routine Maintenance

OES has been officially registered as a maintenance work enterprise by government power companies such as five (5) power generation corporations and Korea Hydro & Nuclear Power Co., Ltd. We contribute to stable power supply, sudden breakdown prevention and operation rate improvement by taking a good responsibility in the field of power plant.



Boryeong Power Plant

■ Combined Cycle

- > #1-6GT & #1-3ST
- > 150MW x 6 & 150MW x 3
- > Routine Maintenance, O/H, Renovation
- > ALSTOM GT24 & ALSTOM GKY3-2N34

■ Thermal Power

- > #1, 2
- > 500MW x 2
- > Routine Maintenance, O/H, Renovation
- > TOSHIBA TC4F-33.5"



Pyeongtaek Power Plant

■ Steam Power

- > #1-4
- > 350MW x 4
- > Routine Maintenance, O/H, Renovation
- > HITACHI TC4F-26"



Yeongheung Power Plant

■ Boiler

- > #5, 6
- > 870MW x 2
- > Routine Maintenance, O/H, Renovation
- > BLR(Doosan Heavy Industries & Construction Ultra Super Critical Once Through Boiler)



Taeon Power Plant

■ Boiler

- > #7, 8
- > 500MW x 2
- > Routine Maintenance, O/H, Renovation
- > BLR(Doosan Heavy Industries & Construction Super Critical Once Through Boiler)

■ Seawater Intake

- > #1-10
- > 500MW x 8 / 1,050MW x 2
- > Routine Maintenance, O/H, Renovation
- > SLP



Samcheonpo Power Plant

■ Coal Thermal Power

- > #1-6
- > 560MW x 4 / 500MW x 2
- > Routine Maintenance, O/H, Renovation
- > Coal handling



Hanbit Nuclear Power Plant

- > Hanbit #1-6
- > 950MW x 2 / 1000MW x 4
- > Water treatment facility maintenance and Routine maintenance work



Sancheong Pumped-storage Plant

- > #1
- > 350MW
- > Routine Maintenance, O/H, Renovation



Hanul Nuclear Power Plant

■ Electrical Equipment

- > #3, 4
- > 1,000MW x 2
- > Routine Maintenance, O/H, Renovation

■ Water Intake Facility

- > #1-6
- > 950MW x 2 / 1000MW x 4
- > Routine Maintenance, O/H



Kori Nuclear Power Plant

■ Water Intake Facility

- > #2-6
- > 650MW x 1 / 950MW x 2 / 1000MW x 2
- > Routine Maintenance, O/H

Power Generation
Planned Maintenance

OES realizes customers’ satisfaction through the performance enhancement and operation reliability on the basis of professional manpower, cutting-edge maintenance technology and the accumulated track records, especially, planned maintenance works in which power plant facilities and equipment are thoroughly disassembled, inspected and normalized.



We strive to supply stable power to critical infrastructure by preventing facilities breakdown and providing excellent maintenance service in the power plant.

Facility(Grade)		Year														Total
		'09	'10	'11	'12	'13	'14	'15	'16	'17	'18	'19	'20	'21		
Combined Cycle Power Plant	Gas TBN	A	2	1	1	4	2	2	2			2		2	2	20
		B		1	1	2	2	7			4			2		19
	Steam TBN	A	1	1		2	2	3	1			1		1	1	13
		B			1	1		1	1		2			1		7
Thermal Power Plant	Boiler	A						2	2				2		6	
		B								2	2	2	1	2	9	
	TBN/GEN	A						1	1	1	1		1		5	
		B								1	2	2	1	2	8	
Other	Coal handling facility	A							2	1	1				5	
		B							1	1	2	1	2	1	8	
	Seawater Intake Facility	A						3	5	1	4	2	4	6	25	
		B														

No.	Ordering Organization	Power Plant	Facility No.	Capacity (MW)	Period	Facility	Grade (GT-GT-ST)
1	KOMIPO	Boryeong Combined	#1,2GT, #1ST	450MW	09.12.19-10.02.18	GT24	A-A-A
2	KOMIPO	Boryeong Combined	#3,4GT, #2ST	450MW	10.04.16-10.06.10	GT24	A-B-A
3	KOMIPO	Boryeong Combined	#3,4GT, #2ST	450MW	11.03.07-11.05.05	GT24	A-A-B
4	KOMIPO	Boryeong Combined	#1,2GT, #1ST	450MW	12.09.24-12.11.21	GT24	A-A-A
5	KOMIPO	Boryeong Combined	#5,6GT, #3ST	450MW	12.03.24-12.05.18	GT24	A-A-A
6	KOMIPO	Boryeong Combined	#3,4GT, #2ST	450MW	12.04.29-12.06.04	GT24	B-B-B
7	KOMIPO	Boryeong Combined	#3,4GT, #2ST	450MW	13.09.23-13.11.28	GT24	A-A-A
8	KOMIPO	Boryeong Combined	#5,6GT, #3ST	450MW	13.10.24-13.11.22	GT24	B-B-A
9	KOMIPO	Boryeong Combined	#1,2GT, #1ST	450MW	14.03.08-14.04.17	GT24	B-B-B
10	KOMIPO	Boryeong Combined	#5,6GT, #3ST	450MW	14.09.27-14.11.25	GT24	A-A-A
11	KOMIPO	Boryeong Combined	#3,4GT, #2ST	450MW	14.11.22-14.12.11	GT24	B-B-B
12	KOMIPO	Boryeong Combined	#1,2GT, #1ST	450MW	15.04.04-15.06.02	GT24	A-A-A
13	KOMIPO	Boryeong Combined	#1,2GT, #1ST	450MW	17.05.15-17.06.10	GT24	B-B-B
14	KOMIPO	Boryeong Combined	#5,6GT, #3ST	450MW	17.06.05-17.07.12	GT24	B-B-B
15	KOMIPO	Boryeong Combined	#3,4GT, #2ST	450MW	18.04.11-18.07.06	GT24	A-A-A
16	KOMIPO	Boryeong Combined	#3,4GT, #2ST	450MW	20.05.25-20.06.19	GT24	B-B-B
17	KOMIPO	Boryeong Combined	#1,2GT, #1ST	450MW	20.09.21-21.01.16	GT24	A-A-A
18	KOMIPO	Boryeong Steam Power	#2	500MW	18.04.11-18.07.06	TC4F-33.6"	B
19	KOMIPO	Boryeong Steam Power	#2	500MW	19.05.16-19.07.05	BLR	B
20	LH	Asan Energy	#1ST	24MW	15.04.01-15.04.20	CS-R11-ER	B
21	KOWEPO	Pyeongtaek Combined	#1ST	160MW	14.04.07-14.05.12	GE TC-2F	A
22	KOWEPO	Pyeongtaek Combined	#2GT	80MW	14.04.07-14.04.30	GE MS-7001EA	B
23	KOWEPO	Pyeongtaek Combined	#3GT	80MW	14.05.13-14.05.31	GE MS-7001EA	B
24	KOWEPO	Pyeongtaek Combined	#4GT	80MW	14.10.27-14.11.14	GE MS-7001EA	B
25	KOMIPO	Boryeong Steam Power	#2	500MW	15.10.10-15.11.27	TC4F-33.6"	A
26	KOMIPO	Boryeong Steam Power	#1	500MW	16.10.01-16.11.18	TC4F-33.6"	A
27	KOMIPO	Boryeong Steam Power	#2	500MW	17.04.08-17.05.17	TC4F-33.6"	B
28	KOMIPO	Boryeong Steam Power	#1	500MW	18.04.26-18.06.30	TC4F-33.6"	A
29	KOEN	Yeongheung Thermal Power	#5	870MW	15.09.01-15.10.30	BLR	A
30	KOEN	Yeongheung Thermal Power	#6	870MW	16.02.20-16.04.19	BLR	A
31	KOEN	Yeongheung Thermal Power	#5	870MW	17.05.11-17.06.11	BLR	B
32	KOEN	Yeongheung Thermal Power	#6	870MW	18.04.05-18.05.19	BLR	B

Power Generation Track Record for
Planned Maintenance

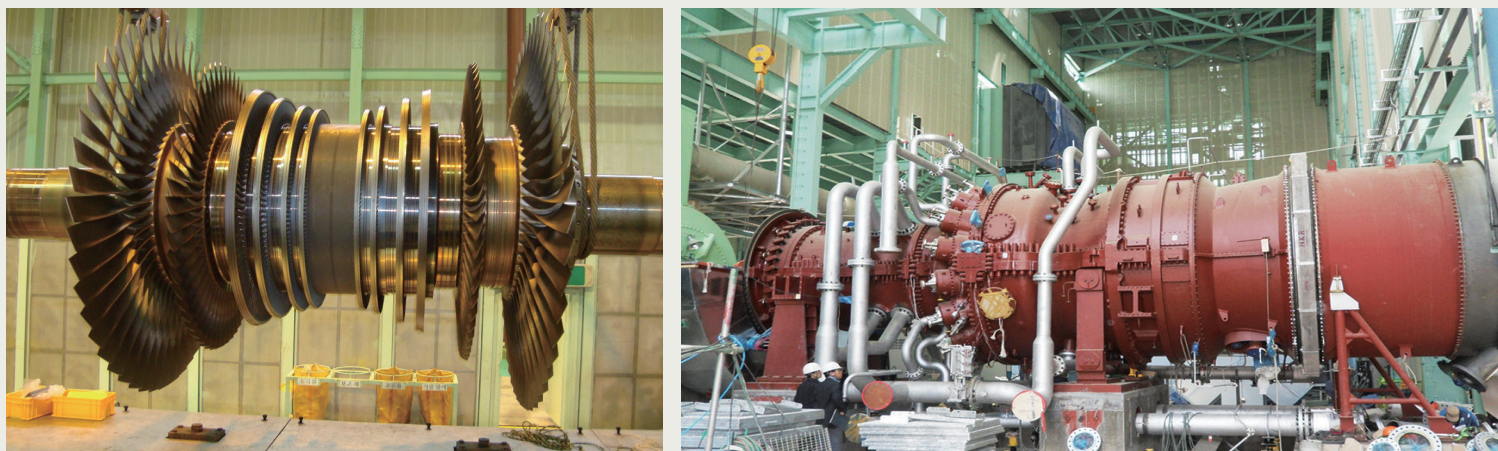
33	KOEN	Yeongheung Thermal Power	#5	870MW	19.04.15-19.06.05	BLR	B
34	KOEN	Yeongheung Thermal Power	#5	870MW	19.04.15-19.06.05	BLR	B
35	KOEN	Yeongheung Thermal Power	#6	870MW	20.03.19-20.05.19	BLR	A
36	KOEN	Yeongheung Thermal Power	#5	870MW	21.03.14-21.05.17	BLR	B
37	KOEN	Samcheonpo Thermal Power	#4	560MW	16.03.22-16.05.08	Coal handling facility	B
38	KOEN	Samcheonpo Thermal Power	#5	500MW	16.09.03-16.10.24	Coal handling facility	A
39	KOEN	Samcheonpo Thermal Power	#2	560MW	16.09.20-16.11.28	Coal handling facility	A
40	KOEN	Samcheonpo Thermal Power	#1	560MW	17.03.04-17.05.12	Coal handling facility	B
41	KOEN	Samcheonpo Thermal Power	#6	500MW	17.04.26-17.06.25	Coal handling facility	A
42	KOEN	Samcheonpo Thermal Power	#2	500MW	18.04.27-18.06.30	Coal handling facility	B
43	KOEN	Samcheonpo Thermal Power	#4	500MW	18.09.01-18.11.04	Coal handling facility	A
44	KOEN	Samcheonpo Thermal Power	#5	500MW	18.10.10-18.11.30	Coal handling facility	B
45	KOEN	Samcheonpo Thermal Power	#3	560MW	19.01.03-19.04.07	Coal handling facility	A
46	KOEN	Samcheonpo Thermal Power	#6	560MW	19.04.15-19.07.03	Coal handling facility	B
47	KOEN	Samcheonpo Thermal Power	#5	560MW	19.12.02-20.04.14	Coal handling facility	B
48	KOEN	Samcheonpo Thermal Power	#3	560MW	20.05.01-20.06.30	Coal handling facility	B
49	KOEN	Samcheonpo Thermal Power	#3	560MW	21.09.01-21.11.23	Coal handling facility	B
50	KOWEPO	Taeon Thermal Power	#3	500MW	15.03.02-15.04.15	Seawater intake facility	A
51	KOWEPO	Taeon Thermal Power	#2	500MW	15.05.18-15.06.30	Seawater intake facility	A
52	KOWEPO	Taeon Thermal Power	#5	500MW	15.11.03-15.12.24	Seawater intake facility	A
53	KOWEPO	Taeon Thermal Power	#8	500MW	16.01.04-16.02.17	Seawater intake facility	A
54	KOWEPO	Taeon Thermal Power	#7	500MW	16.03.02-16.04.15	Seawater intake facility	A
55	KOWEPO	Taeon Thermal Power	#4	500MW	16.04.18-16.06.01	Seawater intake facility	A
56	KOWEPO	Taeon Thermal Power	#6	500MW	16.06.07-16.07.21	Seawater intake facility	A
57	KOWEPO	Taeon Thermal Power	#1	500MW	16.11.07-16.12.21	Seawater intake facility	A
58	KOWEPO	Taeon Thermal Power	#3	500MW	17.02.13-17.03.29	Seawater intake facility	A
59	KOWEPO	Taeon Thermal Power	#5	500MW	17.05.17-07.06.27	Seawater intake facility	A
60	KOWEPO	Taeon Thermal Power	#7	500MW	18.02.26-18.04.11	Seawater intake facility	A
61	KOWEPO	Taeon Thermal Power	#4	500MW	18.04.16-18.06.04	Seawater intake facility	A
62	KOWEPO	Taeon Thermal Power	#6	500MW	18.06.07-18.07.20	Seawater intake facility	A
63	KOWEPO	Taeon Thermal Power	#10	1050MW	18.09.20-18.12.24	Seawater intake facility	A
64	KOWEPO	Taeon Thermal Power	#7	500MW	18.05.23-18.07.10	BLR	B
65	KOWEPO	Taeon Thermal Power	#10	1050MW	18.09.20-19.05.26	Seawater intake facility	B
66	KOWEPO	Taeon Thermal Power	#8	500MW	19.05.04-19.04.04	Seawater intake facility	A
67	KOWEPO	Taeon Thermal Power	#8	500MW	19.05.04-19.06.30	BLR	B
68	KOWEPO	Taeon Thermal Power	#1	500MW	19.05.07-19.06.20	Seawater intake facility	A
69	KOWEPO	Taeon Thermal Power	#2	500MW	20.02.10-20.03.25	Seawater intake facility	A
70	KOWEPO	Taeon Thermal Power	#7	500MW	20.03.16-20.05.26	BLR	B
71	KOWEPO	Taeon Thermal Power	#9	1050MW	20.03.27-20.06.09	Seawater intake facility	A
72	KOWEPO	Taeon Thermal Power	#7	500MW	20.06.15-20.07.29	Seawater intake facility	A
73	KOWEPO	Taeon Thermal Power	#4	500MW	20.10.05-20.12.03	Seawater intake facility	A
74	KOWEPO	Taeon Thermal Power	#10	1050MW	21.03.01-21.04.29	Seawater intake facility	A
75	KOWEPO	Taeon Thermal Power	#1	500MW	21.05.10-21.06.25	Seawater intake facility	A
76	KOWEPO	Taeon Thermal Power	#8	500MW	21.09.01-21.11.29	BLR	B
77	KOWEPO	Taeon Thermal Power	#5	500MW	21.09.27-21.11.15	Seawater intake facility	A
78	KOWEPO	Taeon Thermal Power	#4	500MW	21.11.01-22.01.21	Seawater intake facility	A
79	KOWEPO	Pyeongtaek Thermal Power	#4	350MW	17.10.10-17.11.22	TBN	B
80	KOWEPO	Pyeongtaek Thermal Power	#2	350MW	18.03.26-18.05.04	TBN	B
81	KOWEPO	Pyeongtaek Thermal Power	#3	350MW	18.05.21-18.06.29	TBN	B
82	KOWEPO	Pyeongtaek Thermal Power	#1	350MW	19.04.15-19.05.27	TBN	B
83	KOWEPO	Pyeongtaek Thermal Power	#4	350MW	19.10.10-19.11.20	TBN	B
84	KOWEPO	Pyeongtaek Thermal Power	#3	350MW	20.03.12-20.05.26	TBN	B
85	KOWEPO	Pyeongtaek Thermal Power	#2	350MW	20.05.11-20.07.09	TBN	A
86	KOWEPO	Pyeongtaek Thermal Power	#1	350MW	21.04.12-21.05.25	TBN	B
87	KOWEPO	Pyeongtaek Thermal Power	#4	350MW	21.10.11-21.11.19	TBN	B
88	KHNP	Sancheong Pumped Storage Power	#1	350MW	19.05.25-19.07.10	ALSTOM	B
89	KHNP	Hanul Nuclear Power	#3	1000MW	17.12.05-18.04.28	electromechanical facilities	
90	KHNP	Hanul Nuclear Power	#4	1000MW	18.05.18-18.07.21	electromechanical facilities	
91	KHNP	Hanul Nuclear Power	#3	1000MW	19.09.02-19.11.28	electromechanical facilities	
92	KHNP	Hanul Nuclear Power	#4	1000MW	19.12.16-20.02.27	electromechanical facilities	

Power Generation Commissioning

We contribute to a secure facility condition during commercial operation by performing a maintenance work for the commissioning which is the final step of construction of the power plant. We also carry out preventive maintenance in order to efficiently and stably manage installation-completed facility until it is commercialized. As a maintenance company registered by KHNP Co.,Ltd., not only we participated in a test maintenance based on the technology accumulated in Kori, Wolsung and Saeoul Nuclear Power Plants, but the company entered into UAE BNPP test maintenance project in 2015. In consideration of the aforesaid references, we are ready to grow as a global integrated maintenance service provider for power plant by expanding overseas market.

U A E B N P P

> BNPP #1-4 > 1,400MW x 4 > Commissioning



Renewable Energy

OES as a professional renewable certified company actively participate in renewable energy projects. Due to the significance and growth prospect of the renewable energy which emerged as a solution to global warming, climate change and exhaustion of fossil energy, we are making contributions to green growth by consolidating its position in the field of the renewable energy such as solar power system and hydro power which is also called a hope energy for clean future.

Solar power

Wind Power

Hydro Power

Geothermal Energy

Tidal Power

Fuel Cell Facilities and

Test Drive Maintenance

Routine Maintenance

Planned Maintenance

Renovation



Electric Power Industry

In order to have electrical power system stabilization and to provide high-quality electricity to our customers, we carry out maintenance works including underground power distribution, overhead power distribution, and uninterruptible power supply work. In case of power outage, we contribute to provide power supply through immediate restoration and performance quality improvement.



Overhead Power Distribution Facility Construction

Carried out electrical constructions in KEPCO, LH Corporation, Korea Expressway Corporation, Seoul Metro, and other governmental institutions

Underground Power Distribution Facility Construction

Carried out power line tunnel construction incumbent on underground power distribution facility, electrical facility construction in common utility tunnels, electric power underground pipeline facility construction, electric equipment and power cable installation construction.

Electric Cable Construction in Tunnel

Carried out electric cable constructions in tunnels such as railroad, track, expressway, pavement and so on.

General Industry Facility

Through excellent technology and experiences accumulated in various power plants, the company has been participating in electricity and professional construction works ordered not only by private power plants but also public institutions including LH Construction, Korea Expressway Corporation and local governments. We strive to become the best integrated plant service providing company through perfect maintenance service providing not only customers' satisfaction but also by touching customers' heart.



- Public building machinery and electrical constructions
- Machinery maintenance construction in large-scale plants
- Apartment construction fields
(Machinery maintenance, electrical equipment maintenance, firefighting facility maintenance installation works)
- District heating facility inspection and renovation
- Various industrial facility and tank facility renovation
- General industrial boiler, pipeline installation work
- Other industrial facility renovation



Total Service Provider

OES will accelerate to develop overseas market by improving its competitiveness and integrating its own synergy effects of design, management and maintenance system.

The global power demand as well as the domestic demand are increasing every year. OES continues reinforcing its unique competitiveness by establishing a collaboration system with professionals in the field of power plant along with technology and experience accumulated in domestic market for the past 15 years.

Collaboration System



In order to have perfect power plant facility maintenance, OES implements Quality/ Safety Health and Environmental (SHE) Management system in overall processes.

Quality/ Safety Health and Environmental (SHE) Management

Quality Management

OES established laying emphasis on customer value as a quality management policy in order to meet customers' quality demand. As a systematic quality management approach, the company is running the hydro-thermoelectric power quality management system in accordance with ISO9001 requirement for perfect maintenance of power plant facilities, and also operating nuclear plant quality management system in accordance with KEPIC QAP-1 requirements. Through such quality management system and quality management, the OES seeks to perform continuous quality management activities until customers are fully satisfied to position itself as a master of power plant maintenance

Certification : ISO 9001:2015 / KS Q ISO 9001:2015

Safety and health management system

Optimal Energy Service operates the safety and health management system (KOSHA MS / ISO45001) for each business site for safety, centering on people who are the most fundamental of power generation facility maintenance. This is one way to achieve "establishment of a safety culture", which is the safety management policy of Optimal Energy Service, and furthermore, we will achieve "ZERO industrial injury accidents" by building the safety and health infrastructure, strengthening capabilities, and participating in safety and health activities.

Certification : KOSHA MS / ISO45001

Environmental Management

As a part of efforts to guarantee environmental-oriented reliability, OES acquired ISO 14001 environmental management system along with quality management system. Through the environmental management system, the company seeks to perform corporate activities by minimizing harmful environmental influence and by efficiently utilizing energy, resource renewability and consumption.

Certification : ISO 14001:2015 / KS I ISO 14001:2015



Research & Development

Through the establishment of global-level of energy R&D system, we strengthen innovative, high efficient and environment-friendly technology development.

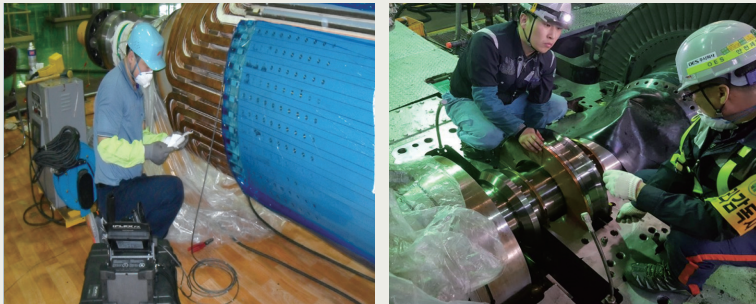
Patent

OES possesses 17 patents in Tube fixer and more.

NO.	Classification	Assigned No.	Application No.	Name	Date of registration	Note
1	Patent	10-0422676	2001-0086404	Tube fixer	2004.03.02	Boiler
2	Patent	10-1587789	2015-0124127	Device sealing assembly model	2016.01.15	Boiler
3	Patent	10-1594278	2015-0124125	Separating device for fuel injection device	2016.02.04	Boiler
4	Patent	10-1873429	2017-0049197	Dust Collecting System	2018.06.26	Boiler
5	Patent	10-1924618	2017-0049200	Dust Collector and Dust System	2018.11.27	Boiler
6	Patent	10-0935215	2008-0071113	Generator exciter rotor extracting machine	2009.12.24	Generator
7	Patent	10-0974113	2008-0071114	Generator cooler extracting machine	2010.07.29	Generator
8	Patent	10-1533945	2015-0035257	Removable cutting device	2015.06.29	Generator
9	Patent	10-1679981	2015-0124122	Exciter support system including Exciter supporting equipment	2016.11.21	Generator
10	Patent	10-1716578	2015-0124121	Rotor cellulose paper replacing equipment and method to replace cellulose paper using the equipment	2017.03.08	Generator
11	Patent	10-1716579	2015-0124123	Generator rotor extracting device	2017.03.08	Generator
12	Patent	10-1830399	2017-0049198	Power plant control system	2018.02.12	Generator
13	Patent	10-0449425	2001-0082832	Automatic voltage regulator dynamic characteristics test device	2004.09.09	Electricity
14	Patent	10-0593506	0593506	Transmission line vibration/ deflection preventing device	2006.06.19	Electricity
15	Patent	10-1579043	2015-0124126	Tension maintenance device for gas turbine maintenance	2015.12.14	Gas TBN
16	Patent	10-1579042	2015-0124124	Turbine assembly model work station	2015.12.14	Gas TBN
17	Patent	10-1915099	2017-0049199	Apparatus for removing caupler and method for removing using the same	2018.10.30	Fan
18	Patent	10-2170747	2019-0048637	Long bolt measuring device	2020.10.21.	Steam TBN
19	Patent	10-2183968	2019-0048638	Relay tester	2020.11.23.	Electricity
20	Patent	10-2183969	2019-0048639	Electronic terminal box storage housing	2020.11.23.	Electricity
21	Patent	10-2180971	2019-0048998	Nut operating apparatus	2020.11.23.	Machine
22	Patent	10-2192636	2019-0048640	Impeller-Shaft support assembly and the system transporting this	2020.12.11	Pump
23	Patent	10-2191207	2019-0048641	Lapping mechanism for globe valve	2020.12.09	valve
24	Patent	10-2221349	2019-0048635	BFP-TBN Rotor lifting assembly and transport system including the same	2021.02.23	Pump
25	Patent	10-2198861	2019-0048636	BFP-MAIN Cone-sealing Assembly	2020.12.29	Pump
26	Patent	10-2293524	2020-0007948	Scraper damper assembly and scraper system comprising same	2021.08.19	Desulfurization

R&D Investment

OES annually invests 5% of net profit for technology development that could become the foundation of future industry.



Human Resources Training

As a technology-oriented company, OES makes a key investment on employees by new employee training, OJT training, and overseas training in order for them to play a pivotal role in technology development and future growth engine of the company.

The core essence of OES growth is employees. To realize that principle, the company supports employees to acquire certificates related to power plant maintenance through the cooperation with Institute of Korea Polytechnics and Korea Power Learning Institute (KPLI). OES where employees and the company grow together will continue to make investment on the human resource and technology development to become a reputable global company.

No. of Technicians

Classification	Machinery	Electrical	Welding	Operation	Safe · Quality	Other	Total
No. of technicians	300	161	19	47	21	45	593

Power Plant Maintenance Technician Development

Classification	Grade 1	Grade 2	Grade 3	Total
No. of technicians	4	39	65	108



New Employee Training

In-company training program given to new employees. 4 weeks program includes basic training on power plant facility maintenance, machinery and electricity facilities.



OJT Training

Customized-training given to each department in machinery, electricity along with annual training.

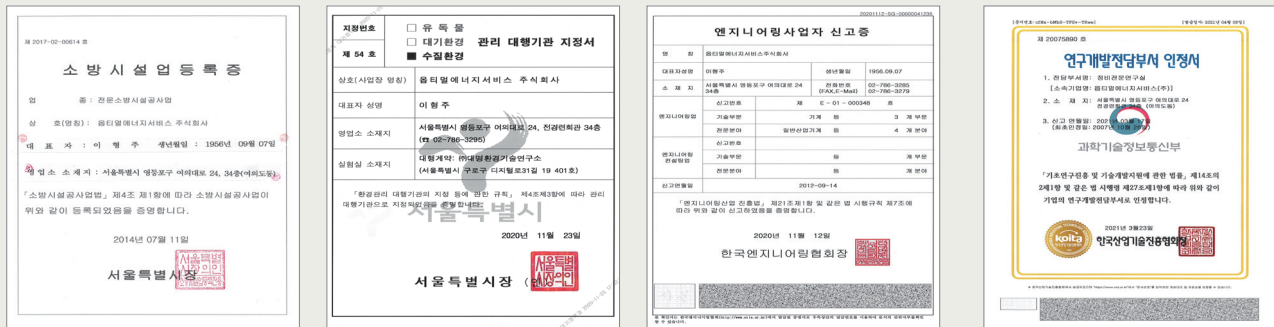
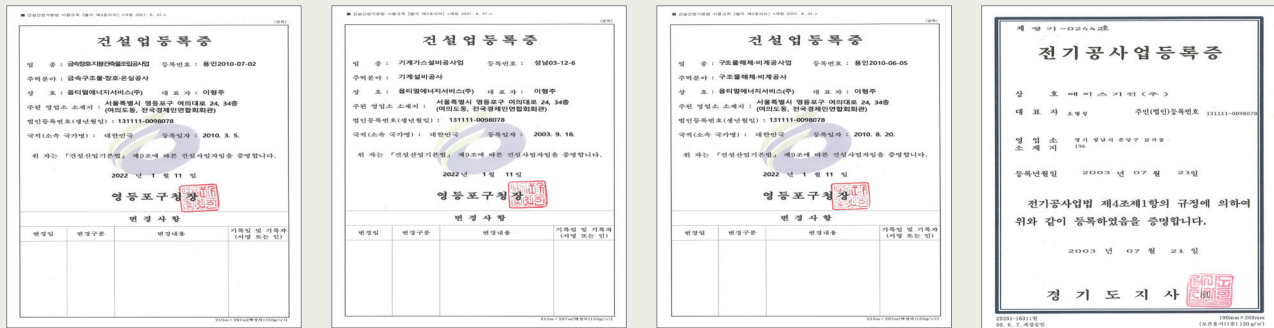


Overseas Training

Execution of professional training through overseas training institute for cultivating professional knowledge.

License / Certification

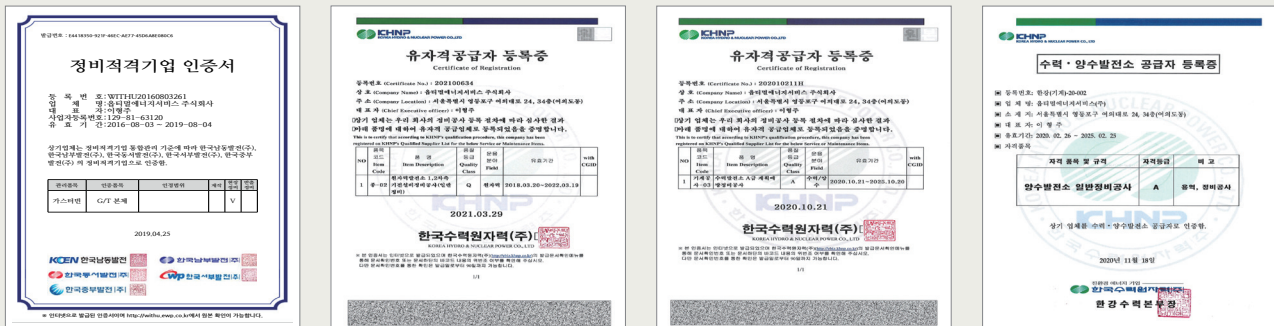
License / Registration certificate



Quality, environment, safety and health management certification



Acknowledgement as a qualified power plant maintenance service provider



Branch Offices



Headquarters	34th fl., 24, Yeoui-daero, Yeongdeungpo-gu, Seoul, Korea	02-786-3277
Boryeong Office	307, Gojeong-ro, Jugyo-myeon, Boryeong-si, Chungcheongnam-do	041-934-8634
Yeongheung Office	75, Yeongheungnam-ro 293 beon-gil, Yeongheung-myeon, Ongjin-gun, Incheon	070-4924-8192
Taeon Office	457, Baljeon-ro, Wonbuk-myeon, Taeon-gun, Chungcheongnam-do	041-429-9386
Pyeongtaek Office	175-2, Namyangman-ro, Poseung-eup, Pyeongtaek-si, Gyeonggi-do	031-647-6015
Samcheong Office	1, Hai-ro, Hai-myeon, Goseong-gun, Gyeongsangnam-do	055-835-7237
Sancheong Office	20-18, Jirisandae-ro 1088 beon-gil, Sicheon-myeon, Sancheong-gun, Gyeongsangnam-do	055-972-1085
Hanul Office	2040, Wooljinbuk-ro, Buk-myeon, Wooljin-gun, Gyeongsangbuk-do	054-785-5687
Hanul Water intake Office	2040, Wooljinbuk-ro, Buk-myeon, Wooljin-gun, Gyeongsangbuk-do	054-781-0681
Kori water intake Office	96-1, Gilcheon-gil, Jangan-eup, Gijang-gun, Busan	051-726-6537
Hanbit Office	846 Hongnong-ro, Hongnong-eup, Yeonggwang-gun, Jeollanam-do	061-357-3316
Asan Office	841, Yisunsin-daero, Baebang-eup, Asan-si, Chungcheongnam-do	070-4406-8790
UAE Branch	No.929, 9F, ADNIC Building, Khalifa Street, Abu Dhabi, UAE	+971-56-975-8020