Alstom in China

References and Ongoing Projects

Alstom’s Presence

**KEY DATA**
- Alstom (China) Investment Co., Ltd
- Over 20 sites in China
- About 7,500 employees

**History**

1958: Alstom began supplying China with electric and diesel electric locomotives.


**Alstom in China**

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1979: The first representative office in Beijing was established.

1986: The contract to supply conventional island to Daya Bay nuclear power plant.

1995: Establishment of Tianjin Alstom Hydro Co., Ltd. (TAH).

1997: The contract to supply 14 turbine-generator units to Three Gorges Project.

1998: The contract for Waigaoqiao thermal power plant.

1999: Establishment of Alstom (China) Investment Co. Ltd. in Beijing.


2003: Suzhou High Voltage Switchgear Co. Ltd formed.

2003: The contract of 300MW CFB boiler for Baima thermal power plant.

2004: Alstom inaugurated the Alstom Beizhong Power (Beijing) Co., Ltd (ABP) in Beijing.

2004: The contract to supply 60 EMU and 180 BoBo locomotives to China.

2005: Alstom with its partner Dongfang Electric won Ling Ao Nuclear Phase II’s conventional island.

2007: The contract for 500 CoCo locomotives- the world’s most powerful electric freight locomotive.

2008: The contract of Taishan Phase I’s 2x1755MW steam-turbine generator packages in partnership with Dongfang Electric.

2009: Inauguration of the new manufacturing site of Wuhan Boiler Company Ltd. (WBC) in Wuhan.

2010: Alstom inaugurated Alstom Hydro China Co. Ltd (AHC) - the TAH extension.

2011: Inauguration of Alstom Grid’s China Technology Centre in Shanghai.

2011: The contract for Beijing Metro Line 6 and Qingdao Metro Line 3.

2012: Cornerstone ceremony of Alstom Renewable Power’s hydro Global Technology Centre (GTC) in Tianjin.

2013: Alstom’s new hydro industrial site with a Global Technology Center (GTC) was inaugurated in Tianjin.

2014: Alstom signed two major strategic cooperation agreements with China Energy Engineering Group Co., Ltd. (Energy China) and China Datang Corporation, to further expand its leading position in the power equipment market.

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**Partnerships**

Alstom in China has formed solid partnership with Chinese players in all three main businesses:

**Power**

Alstom and Central South Electrical Power Design Institute JV AWEC in 1997

Combining the strength of both parties, AWEC is specialized in engineering and sourcing and can provide third-party nuclear customer with project management services and equipment.
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Alstom and Beijing Heavy Electric Machinery Works formed JV ABP in 2004
The JV has the manufacturing capacity from 600 MW up to 1000MW sub-critical, supercritical and ultra-supercritical steam turbine and generators.

Alstom and Wuhan Boiler Company formed JV WBC in 2007
The WBC new workshop began operation in the second half of 2009 and is now Alstom’s largest utility boiler manufacturing site in the world, providing up to 1000 MW ultra-supercritical boilers.

Alstom and China Datang Corporation in 2011
Alstom and Datang formed a long-term strategic partnership to jointly develop carbon capture and storage (CCS) demonstration projects in China.

Alstom and Dongfang Electric Corporation in 2013
Alstom signed a cooperation agreement with China’s Dongfang Electric Corporation (DEC) on the supply of turbine & generator packages for future Chinese AP 1000 nuclear power projects.

Alstom and Harbin Turbine Corporation in 2013
Alstom signed a long term agreement to license GT13E2 gas turbine for manufacture, assembly and sales in China through the Harbin Turbine Corporation (HTC).

Alstom and Guangdong Electric Power Design Institute in 2013
Alstom signed a strategic cooperation agreement with China Energy Construction Group Guangdong Electric Power Design Institute (GEDI) on equipment supply and technical services for key Chinese and overseas power projects.

Alstom and China Energy Engineering Group Co., Ltd. in 2014
Alstom signed a strategic cooperation agreement with China Energy Engineering Group Co., Ltd. to tap the growing international market in thermal and renewable energy segments.

Alstom and China Datang Corporation in 2014
Alstom and Datang signed a strategic cooperation agreement to form a long-term partnership supporting Datang’s future power infrastructure projects in China and around the world.

Transport

Alstom and China Railway Signal & Communication Corporation (CRSC) JV CASCO in 1986
The 49:51 JV provides signalling systems for many Chinese cities including Shanghai, Beijing, Shenzhen and Guangzhou metros.

Alstom and Chinese partners formed two JVs SATEE and SATCO in 1999
SATEE (60% Alstom, 40% Shanghai Electric Group) supplies Chinese mass transit with traction equipment.

SATCO (40% Alstom, 60% Shanghai Rail Traffic Equipment Development Co., Ltd.,) is a manufacturing and maintaining base of rail vehicles and supplies metro cars for Shanghai and Nanjing.

Alstom and CNR Sifang Rolling Stock Research Institute form Transport JV in 1999
The JV Alstom Qingdao Railway Equipment Co., Ltd. (51% Alstom) is the dedicated manufacturing site for DISPEN™ dampers in China.

1 DISPEN™ dampers can be used on all kinds of railway applications, such as tram, metro trains, regional trains, locomotives, interurban trains, high-speed trains and very high-speed trains.
Alstom in China

References and Ongoing Projects

**Alstom and Yongji Xinshisu Electric Equipment Co., Ltd formed JV in 2006**
The JV Xi’an Alstom Yongji Electric Equipment Co., Ltd (51% Alstom) is specialised in manufacturing, selling and warranting traction motor, auxiliary motor for motorized fan and pump for transformer.

**Alstom and Changchun Railway Vehicles Co., Ltd. (CRC)**
Alstom partnered with CRC in China EMU project.

**Alstom and CNR Datong Electric Locomotive Co., Ltd**
Alstom and Datong Locomotive supplied electric locomotive projects including 180 BoBo Electric Freight Locomotives and 500 CoCo Electric Freight Locomotives.

**Alstom and Nanjing SR Puzhen Rail Transport Co., Ltd. (NPRT)**
Alstom and Nanjing Puzhen co-worked on China’s metro project by supplying metro cars to Shanghai and Nanjing metro lines.

**Alstom and China CREC Railway Electrification Bureau Group**
Alstom and CREC cooperated in supplying signalling system to several Beijing and Shanghai metro lines.

**Alstom and Chinese Ministry of Railway (MOR) in 2010**
Alstom and Chinese MOR signed agreement to form strategic partnerships for Chinese and defined international market.

**Alstom with CNR Corporation Ltd., (CNR) and Shanghai Electric Group Co., Ltd., (SEC) in 2010**
Alstom signed a Memorandum of Understanding (MoU) with CNR and SEC to form a strategic partnership and jointly develop new markets for mass transit products.

**Grid**

**Alstom and Suzhou Chuang Yuan Investment Development (Group) Ltd created JV in 2003**
The JV Alstom Suzhou High Voltage Switchgear Co., Ltd is an engineering, production and service center, with major products of high voltage circuit breakers, disconnectors and GIS.

**Alstom and Guangzhou LeeKeen Group Co., Ltd formed JV in 2008**
The JV Alstom (Guangdong) switchgear Co., Ltd manufactures AC high-voltage disconnectors from 27.5kV to 750kV.

**Alstom and Jiangsu Jinxin Electric Appliance Co. Ltd formed JV in 2008**
The JV Alstom (Yangzhou) HV Bus-Ducts engaged in GIS parts painting, as well as assembly and testing of high voltage bus-ducts.

**Alstom signed cooperation agreement with China Electric Power Equipment and Technology Co. Ltd (CET) in 2011**
Alstom signed a cooperation agreement with CET to develop UHVDC power transmission systems in China.

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**Corporate Social Responsibility**

**Involvement in local communities – Alstom CSR work in China**

**Green Bag Programme in 2008**: Launch of an environmental initiative with the Global Village Beijing (Chinese nongovernmental organisation) to support the design, manufacture and distribution of 46,000 reusable cloth shopping bags near the Alstom site of Tianjin, in support of the Chinese government decision to ban the distribution of free plastic bags by shops.

**“Biodiversity Conservation in Northwest Yunnan - Meili Mountain and Laojun Mountain” project in 2008**: The biodiversity conservation project aims to promote sustainable development of China’s first national park in the Meili mountains and initiate a biodiversity preservation mode to foster the co-development of the local environment, ecosystems, communities, and local culture.
Donation programme in 2009: The project was initiated by Alstom China volunteers team (80 Chinese employees) to deliver clothing, books and other necessities to students in need at the Hope School of the Yi and Miao Nationalities County of Yunnan Province.

“Alstom Forest” Project in 2011: With collaboration with the Beijing Afforestation Foundation, Alstom will finance €200,000 for the planting of a total of 2011 trees in Beijing.

“Alstom Forest” Project in 2013: Alstom Hydro China (AHC) provided financial support of 500,000 RMB to the “Tree Saving, Life Protection” programme, with the objective to increase awareness of environmental protection and threat of desertification among local people especially students.

“Care for Sunvillage” in 2013: Alstom China employees participated in a volunteering programme called organized by the company’s Labour Union in Beijing. The objective of this programme is to help disadvantaged children living in the NGO Sunvillage. Alstom employees donated 23,600 RMB to the NGO, together with 1,500 items of clothing, 550 household items and 350 books.

Spring Charity Walking in 2013&2014: Alstom Beijing employees and their family members participated in the Spring Charity Walking in two consecutive years. A total of near RMB10,000 was raised by the participants, which will be used in supporting education of migrant children.

Offsetting the impact of Alstom’s activities - New factories fully respectful of environment

Eco-friendly factories from 2008 to 2010: Alstom is working towards minimizing its impact on the environment. The new WBC, new Tianjin Hydro workshops and Wuhan transformer factory have energy efficient design that will improve the working conditions of workers while lightening Alstom’s environmental footprint. Architectural innovations, such as low-energy lighting, solar-powered water heater, and geothermal heat exchanger, etc. were applied in order to reduce energy intensity and CO2 emissions.

Building tomorrow’s company - Partnerships with China’s universities and sponsorships

Partnership agreements with Huazhong University of Science & Technology (HUST) in 2007, in developing cooperation to sustain and improve HUST’s knowledge in the domain of power and future employment opportunities of its students.

Agreement with “Ecole Centrale de Pekin” in 2008, with the objective to help the Chinese graduates start career and cultivate leadership. Alstom involved in tutorial training, projects, internships and graduate recruitment.

Awards and Certification

- Alstom won “Clean Technology Pioneer” award in a competition co-organized by Chinese Academy of Social Sciences and China’s top business media 21st Century Business Herald
- Alstom won the “Customer First” Award in China WTO Tribune’s annual CSR company ranking selection
- Alstom University won the Best New Corporate University and Best Practice awards at the 12th Annual Corporate University Xchange Awards for Excellence and Innovation in the United States
- Alstom University received the ISO9000 Certification
- “Green Technology Awards” issued by China Business News
- China’s Top 100 Companies awarded by Talent Magazine
- Alstom Yunnan Biodiversity Conservation Projects was selected by China Society of Science and Technology Journalism (CSSTJ) as
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References and Ongoing Projects

one of best programmes in its CSR Cases Collection in 2010

- Awards for Special Contribution to the 2008 Beijing Olympics and Paralympics by Beijing Government
- Awards for Outstanding Contribution to Humanity Commonweal Cause (Donation to Earthquake inflicted Areas) by Beijing Red Cross
- Multinational Corporation with Utmost Core Competitiveness in China co-awarded by China International Institute of Multinational Corporation, UN Global Compact Office and UN environment Program
- Certification for Donation to Three Gorges Dam Greening Project awarded by Chongqing Municipality, Central Committee of the Communist Young League and Construction Committee to Three Gorges Project
- AWBC’s Party construction experience was promoted by Organization Bureau of Organization Department across the country
- ABP was awarded National Demonstration Enterprise of Health Promotion Program as well as high tech enterprise certificate in 2014

Power

Alstom’s specialists have developed extensive experience in engineering, procurement and constructing new plants as well as retrofitting, servicing and modernizing existing power plants.

Achievements:

- Largest power generation supplier to the world’s largest hydro project - the Three Gorges Project
  - Supplied 14 out of the total 26 hydro units
- Supply of the world’s largest hydro turbines to Xiangjiaba project
  - 4x812MW Francis turbine and generator units
- China’s largest 300MW CFB boiler for Baima thermal power plant
- Key supplier of China’s first EPR nuclear power plant (Partnered with Dongfang)
  - 2x 1750 Arabelle™ turbine generator packages
- Steam turbine and generator sets for Chinese thermal plants
  - 12×600MW Longshan/ Pingwei II/ Dabieshan/ Pingliang II/ Guixi /Shentou
- Alstom’s new hydro industrial site in Tianjin includes a Global Technology Centre (GTC)
  - The major R&D activities include: R&D in mechanics, hydraulics and electrical disciplines for hydro turbines and generators and scale model tests of Francis and Kaplan turbines

Hydro references

- Three Gorges Project - 14x700MW Francis turbines generator units
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References and Ongoing Projects

- Pengshui - 5x350MW Francis turbines generator units
- Heimifeng - 4x300MW pump turbines generator units
- Nina - 4x40MW bulb turbines generator units
- Longkou - 5x100MW kaplan turbine generator units
- Jisha - 2x60MW pelton turbines
- Zhanghewan - 4x250MW pumped storage turbine generator units
- Xiaowan - 6x800MW generators as partner
- Longtan - 7x800MW generators as partner
- Guangzhou I Pump Storage - 4x300MW and BOP package
- Baoquan/Huizhou/Bailianhe Pumped Storage Projects - 16xover 300MW units and its BOP package
- Liyuan - 4x660MV hydro generators and its auxiliary equipment
- Xiangjiaba - 4x812MW turbine generator units
- Guanyinyan - 3x600 MW turbine generator units
- Xiajiang - 5x42 MW bulb turbine generator units
- Bui project in Ghana - 3x133MW turbine generator units
- Sesan 4A - 3x100MW turbine generator units in Vietnam
- Son La project - 6x400 MW turbine generator units and full BOP package in Vietnam
- Song Tranh 2 project - 2x96 MW turbine generator units in Vietnam
- Song Bung 4 project – 2x78 MW Francis turbine-generator sets and related equipment in Vietnam
- Soubre Hydropower Project - 3x90 MW Francis turbine-generator sets, one 5 MW Bulb turbine-generator set and related equipment in Ivory Coast
- Hainan Qiongzhong project – 3x200 MW pumped storage turbine generator units

Nuclear References

- Daya Bay - 2x984MW conventional Island, nuclear power station water pump system
- Qinshan Phase II - 2x650MW 5th emergency diesel generator
- Qinshan Phase III - 2x728MW emergency diesel generators
- Lingao Phase I - 2x990MW conventional Island, circulating water pumps, nuclear power station water pump system, 5th emergency diesel generator
- Tianwan Phase I - 2x1060MW emergency diesel generators
- Lingao Phase II - 2x1080MW steam-turbine generator packages, nuclear power station water pump system, liquid purification equipment
- Hongyanhe Phase I - 4x1080MW steam-turbine generator packages, emergency diesel generators, liquid purification equipment
- Ningde Phase I - 4x1080MW steam-turbine generator packages, emergency diesel generators, liquid purification equipment
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References and Ongoing Projects

- Fanchenggang Phase I - 2x1080MW steam-turbine generator packages, emergency diesel generators, liquid purification equipment
- Taishan Phase I - 2x1755MW steam-turbine generator packages, emergency diesel generators, circulating water pumps, condensate extraction pumps, LP&HP heaters, SRI,deaerators, ATD
- Yangjiang Phase I - 4x1080MW liquid purification equipment
- Fangjiashan Phase I - 2x1080MW steam-turbine generator packages, liquid purification equipment
- Fuqing Phase I - 2x1080MW steam-turbine generator packages, liquid purification equipment
- Changjiang Phase I - 2x660MW emergency diesel generators, liquid purification equipment
- Fuqing Phase II - 2x1080MW steam-turbine generator packages, liquid purification equipment
- Tianwan Phase II - 4 unit standby diesel generators
- Xudapu Phase I – 2x1250MW steam-turbine generator packages

Power Automation and Controls references

- Huaneng Power International Remote Monitoring & Diagnosis Centre - 27 plants with total capacity 32GW are under monitored
- Hebei Zhangbei Lvnaobao Wind Farm - provide 66 sets of online monitoring system for 1.5MW wind turbines
- China Guangdong Nuclear Power Group - 37 units of generator controls for nuclear power plants
- Various pumped storage plants - 22 units of generator controls for pumped storage hydro plants

Fossil Fuel-fired Power references

- Shunde and Foshan combined cycle projects - 300MW
- Shenzhen Meishi combined cycle project - 235MW
- Baima project in Sichuan - China’s first 300MW CFB Boiler
- Longshan/ Pingwei II/ Dabieshan/ Pingliang II/ Guixi - 12×600MW steam turbine and generator sets
- Baosteel power plant in Shanghai - 150MW gas turbine
- Waigaoqiao II Power Plant - 2×900MW supercritical tower type boilers
- Beijiang - 2×1,000MW Ultra-supercritical 2-pass boiler
- Waigaoqiao III - 1,000MW Ultra-supercritical Tower Boilers
- Huaneng Yueyang Steam Power Plant - 2 x 362 MW
- Huaneng Luohuang Steam Power Plant - 2 x 360 MW
- Shaijao C Steam Power Plant - 3 x 660 MW
- Shidongkou Steam Power Plant - 2 x 600 MW
- Medupi - 6x800MW steam turbines, export to South Africa
- Kusile - 6x800MW steam turbines, export to South Africa
- Laibin B coal-fired thermal power plant - 2 x 360MW
Alstom in China

References and Ongoing Projects

- Shenzhen Nantian Electric Power Co., Ltd combined cycle plant – 1 GT13E2 gas turbine
- Huaneng Power International’s Suzhou combined heat and power plant – 2 GT13E2 gas turbines
- Huaneng Power International’s Tongxiang combined heat and power plant – 2 GT13E2 gas turbines
- Turkey Karabiga project - 2X660MW steam turbine generator & 2X660MW USC boilers

Air Quality Control Systems references

- China’s first SWFGD plant in Mawan Power Plant - 3x300MW
- Teamed with local partners to provide Sea Water Flue Gas Desulphurization (SWFGD) in 10 Chinese power plants with a total capacity of 12GW, including:
  - Qingdao - 4x300MW
  - Huangdao - 2x660MW
  - Weihai - 2x300MW+2x660MW
  - Rizhao - 2x350MW+2x660MW
  - Haimen -2x1000MW
- Dry Flue Gas Desulphurization (DFGD) systems for:
  - Jingmen Plant - 1x200MW
  - Wuhan Iron & Steel Sinter Plant - 1x360m2
- Alstom licensees have supplied more than 15GW FGD plants in China based on our WFGD/DFDG technologies.
- Successfully serving export market:
  - Mundra Phase IV SWFGD - 3x660MW in India
  - Rabigh IPP SWFGD & ESP - 2x660MW in Saudi Arabia
  - Vinh Tan II SWFGD - 2x622MW in Vietnam
  - JSW Ratnagiri SWFGD - 4x300MW in India
  - Manjung #4 SWFGD - 1x1000MW in Malaysia

Service references

- Total Technical Service Agreement (TTSA) of Daya Bay, Lingao conventional islands
- Long Term Service Agreement (LTSA) of Bao Steel (150MW gas turbines) and Foshan (300MW combined cycle gas turbines)
- Long term Service Agreement (LTSA) with EDF Guangxi Laibin
- Nantian (235MW combined cycle gas turbines) LNG conversion
- CASTLE PEAK generator stator and rotor rewinding
- Maintenance Service Agreement with CLP at Castle Peak Power Station in Hong Kong
- Beilungang generator (600MW) stator rewinding
- HEC Lamma low Nox retrofit for MHI Boiler
- Guohua Suizhong Unit #1 Electrosilla Generator Stator Rewinding
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References and Ongoing Projects

• Service contract with CLP for retrofit of Castle Peak B Power Station in Hong Kong
• Shenzhen Mawan Power Plant steam turbine retrofit project
• Zhejiang Jiahua Power Plant and Lanxi Power Plant steam turbine retrofit project

Transport

Since providing diesel electric locomotives and electric locomotives to China in 1950s, Alstom Transport has been committed to establishing long-term partnership with Chinese rail industry.

Achievements:

• One of the largest suppliers in the Chinese urban transit segment
• Supported 2008 Beijing Olympics, 2010 Shanghai Expo and Nanjing 2014 Youth Olympic Games with sustainable mobility solutions

Mainline:

• **EMU Projects**
  - High-speed Electrical Multiple Units (EMUs) in partnership with the Changchun Railway Company with speed ranging from 200 to 250 km/h.

• **Locomotive Projects**
  - 180 high-power double locomotives (BoBo) in partnership with Datong Electric Locomotive Co., Ltd. between Dalian and Qin Huangdao.
  - 500 electric freight locomotives of 9,600 kW in partnership with Datong Electric Locomotive Co., Ltd.

• **Infrastructure - Electrification**
  - Supplied the electrification of the over-189-kilometer-long Shi-Tai high-speed line.

Mass Transit:

• **Metro Rolling Stock**
  
  1222 Metropolis metro cars for Shanghai
  - Line 3 - Pearl Line
  - Line 5 - Xin Min Line
  - Line 8 - Yangpu Line
  - Line 6 - Pu Dong Line
  - Line 1 extension 2
  - Line 2 West Ext and Eastern Ext
  - Line 10

  456 Metropolis metro cars for Nanjing
  - Line 1
  - L1 Southern Ext
  - Line 2
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References and Ongoing Projects

- L2 East Ext

**Metro Traction System**
- Beijing Line 15, 180 cars
- Beijing Line 6, 512 cars
- Qingdao Line 3, 144 cars
- Nanjing Line 10, 126 cars
- Nanjing Line 4, 174 cars
- Nanjing Line 12, 144 cars
- Nanjing Airport Link, 90 cars
- Shanghai Metro Lines 3 and 4, 210 cars
- Chengdu Line 3 and 4, 306 cars
- Xi’an Line 3, 246 cars

- **Metro Signalling System**
  - Beijing Airport Link, Line 2, Line 6, Line 9, Fangshan Line and Line 1 revamping
  - Shanghai Mass Transit Line 3, Line 3 north extension, Line 4, Line 10, Line 12, Line 13 and Line 16
  - Guangzhou Line 6, Line 6 east extension
  - Nanjing Ningtian Intercity Line
  - Chengdu Line 4
  - Shenzhen Line 2, Line 5 and Line 11
  - Wuhan Line 2, Line 4
  - Changchun Line 1
  - Suzhou Line 4
  - Ningbo Line 1 phase I and phase II, Line 2
  - Kunming Line 1 and Line 2 phase I, Line 3
  - Wuxi Line 1, Line 2
  - Nanning Line 1
  - Zhengzhou Line 2

**Grid**

China is being identified as a key priority in Alstom Grid’s global strategy. Alstom Grid China offers the full scope of electrical equipment. With the specialized R&D center, Alstom China will support the development of UHVAC/DC solutions as well as 1100 kVAC transformers for the Chinese market.
Alstom in China

References and Ongoing Projects

Achievements:

- Qualified protection process bus IEC 61850 in China
- Alstom Grid’s China Technology Centre is the first multinational invested R&D Centre for UHVAC and UHVDC electrical transmission, focusing on technology research and development in energy management systems/distribution management systems/market management system.

Project references:

Power Transformers

- 4 units 319 MVA / 660 kV convert transformers to Brazilian Rio Madeira project, which is world’s longest power transmission line in 2013
- 780 MVA 525 kV three-phase generator transformers to Huaxia Yangxi Power Plant in 2013
- 6 units 334MVA / 500kV Auto transformers in SGCC for Jiangsu EPC in 2011
- 20 units 50MVA / 220 kV Trackside Transformer for Beijing-Shanghai High Speed Rail
- 16 units 65 MVA with the greatest current rating (155 kA) of any Electric Arc Furnace for Qinghai Salt Lake Industry Group
- 800 kV HVDC converter transformer for part of Jinping to Sunan UHVDC (Ultra High Voltage Direct Current) power link of State Grid Corporation of China (SGCC) in 2014
- 3 units of 450MV 525 kV single-phase generator transformers to Malaysian Tanjung Bin Power Plant in 2014

Instrument Transformers

- Bushing for SGCC’s first 1100 kV transmission line
- Zero-flux ITR for SGCC Three Gorges to Shanghai 500 kV HVDC Project
- China’s 1st VSC HVDC for the country’s 1st off-shore wind farm
- 11 wall bushings for Xiluodu-Zhexi 800kV UHVDC transmission line

Disconnectors

- 16 units 72.5kV, 44 units 220kV and 15 units 500kV Disconnectors for Inner Mongolia Baotou East 500kV substation in 2011
- 18 units 800 kV Disconnectors for Gansu Yongdeng Substation & Ningxia Shuidonggou Power Plant

Circuit Breakers & Generator circuit breakers

- New compact solution - Hypact breakthrough in SGCC for Hubei EPC in March 2011
- Hypact in CSG for Yunnan EPC in June 2011
- Dead Tank for Shanghai Nanqiao Substation
- 330kV in Gansu Dongxing Aluminum in April 2011
- Generator circuit breakers: 12 kV FKG 2-S to the Middle East (Oman)

Gas Insulated Switchgear

- Jinsha Hydropower A Hai 550 GIS
- Yunnan Huangping HGIS 500 kV

Power Electronics Activities

- 4000 MW / 660 kV H400 thyristors valve for SGCC Ningdong – Shandong HVDC project in 2010
References and Ongoing Projects

- 500 kV SGCC Three Georges HVDC Project (Gezhouba Dam to Shanghai)