CGN Europe
– A Platform for International Cooperation

27th June, 2013

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General Representative of CGN in Europe
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01 CGN Overview

China Guangdong Nuclear Power Group (CGN)

15th May, 2013, changed to

China General Nuclear Power Group (CGN)
01 CGN Overview

-The supplier and service deliverer in the clean energy sector

-The world largest developer and builder of nuclear power station
01 CGN Overview

- A large State-owned Clean Energy group
- Established in September 1994
- Total assets: Over 269 billion RMB
**01 CGN Overview**

- **GNPS (DaYaBay)**
  - construction with loans, repayment by electricity sales, operation through joint venture
  - first large commercial nuclear power station in mainland China

- **HNPS, NNPS, YNPS, FNPS (CPR1000)**
  - TSNPS (3G technology - EPR)
  - developing renewable energies such as wind power, hydropower and solar energy etc.
  - realizing “self-reliance” capabilities

- **LNPS**
  - self-reliant development of nuclear power as per international standards

- **development of proprietary advanced PWR technology - ACPR1000+**
  - building world’s first-class clean energy corporation

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**Periods**

- **Pioneering period** 1979-1994
- **Development period** 1995-2004
- **Second pioneering period** 2005-2011
- **Post-Fukushima period** 2012 —
01 CGN Overview

- **8 NPP** units in operation, with a total installed capacity of 8320 MW
- **14 NPP** units under construction, with a total installed capacity of 1664 MW

<table>
<thead>
<tr>
<th></th>
<th>GNPS</th>
<th>LNPS I</th>
<th>LNPS II</th>
<th>ND I</th>
<th>HYH I</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Commercial Operation Date</strong></td>
<td>Unit 1</td>
<td>Unit 2</td>
<td>Unit 1</td>
<td>Unit 1</td>
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<tr>
<td></td>
<td>01.02. 1994</td>
<td>06.05. 1994</td>
<td>28.05. 2002</td>
<td>08.01. 2003</td>
<td>20.09. 2010</td>
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<td>15.04. 2013</td>
<td>07.06. 2013</td>
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</tbody>
</table>

**ND1 cod:2013,4,15**

**HYH1 cod:2013,6,7**
China Nuclear Power Engineering Company (CNPEC), as the main member of CGN, is the first specialized NP engineering management company in China.

- Established in February 2004
- Capable of building a full range of nuclear power models

- CPR1000 (1000MWe)
- AP1000 (1250MWe)
- EPR (1750MWe)
- HTR (40MWe)
Over 30 years construction experience

Based on the experience feedback from similar reactors, 37 technical modifications have been made.
01 CGN Overview

- CNPEC: the first rank nuclear power AE company in the world
# Independence and localization

CGN helps:

- to upgrade the general capability of Chinese NP industry and
- to ensure the persistent, speedy and healthy development of Chinese NP.

## Localization rate

<table>
<thead>
<tr>
<th>Plant</th>
<th>Localization Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daya Bay</td>
<td>1%</td>
</tr>
<tr>
<td>Lingao Ph I</td>
<td>30%</td>
</tr>
<tr>
<td>Lingao Ph II</td>
<td>60%</td>
</tr>
<tr>
<td>Hongyanghe Ph I</td>
<td>75%</td>
</tr>
<tr>
<td>Ningde Ph I</td>
<td>80%</td>
</tr>
<tr>
<td>Fangchenggang Ph I</td>
<td>80%</td>
</tr>
<tr>
<td>Yangjiang</td>
<td>85%</td>
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</tbody>
</table>
01 CGN Overview

Post Fukushima Safety Improvements

- 3 days after Fukushima accident, China Government and Authority suspended the approval the New build NPP, and Started a whole scope safety inspection and safety Improvement.

Post Fukushima Safety Improvements
(As of end of 2012)

- finished items
- ongoing items

CPR1000 in operation: 29 finished, 21 ongoing
CPR1000 under construction: 16 finished, 14 ongoing
EPR under construction: 9 finished, 5 ongoing
02 Role of CGN Europe

the Unique Platform of CGN in Europe
02 Role of CGN Europe

CGN Europe:

- Established in 2011 in Paris
- Representative office, over 30 years cooperation with European nuclear industries
- CGN Europe actively explores and promotes the collaboration with international energy markets in Europe
02 Role of CGN Europe

**CGN Europe:**

- To Be the Cooperation Platform for Chinese and European energy enterprise, on behalf of CGN
- To Be the best Business Partner of Chinese and European energy enterprise
02 Role of CGN Europe

Main Business:

- Experience sharing on NPP new build
- NPP O&M service
- NPP Decommissioning cooperation
- Import & Export of Nuclear Power technology and equipment
- Collaboration in Renewable Energy
03 Win-Win Cooperation

CGN:
- is willing to be your reliable and sincere business partner
- is willing to share our expertise, long-term experience and lesson accumulated in 30 years NP construction in China
- is willing to be successful with you in international NP Project
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Thank You!