

EA References & Capabilities in Power Plant Projects



EMPRESARIOS AGRUPADOS

Engineers and Consultants

Empresarios Agrupados – Company Profile

- **An Architect-Engineering and Construction Management Company**
- Created in 1971
- Main focus: **Power plants and related facilities**
- Leading engineering organization in Spain
- Project experience in more than 30 other countries
- Full range of engineering services provided to the electric power industry: from preliminary studies to complete engineering services for EPC turnkey projects.

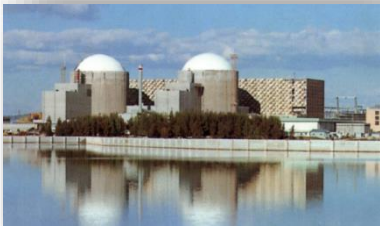
Fields of activity

Nuclear Projects

New-build nuclear power plants



Engineering support services to plants in operation



Decommissioning and Radioactive Waste Management



Research Reactors and Generation IV Reactors



ITER Fusion Reactor-Cadarache (France)

Architect-Engineering and Construction Management



Thermal power plants

Combined-cycle thermal power plants



Coal and FO-fired thermal power plants



Renewable energies

Solar, Wind and Biomass



Special projects

Large Telescopes: Grantecan and E-ELT



Scope of Services as an A-E and CM Company

Pre-Construction Phase

- Consulting
- Preliminary Project Studies and Reports
- Site and Environmental Investigations
- Plant or Main Eqpt.Specifications (BIS)
- Bid Evaluation
- Support to Owner in Contract negotiations
- Support to Licensing and Permits

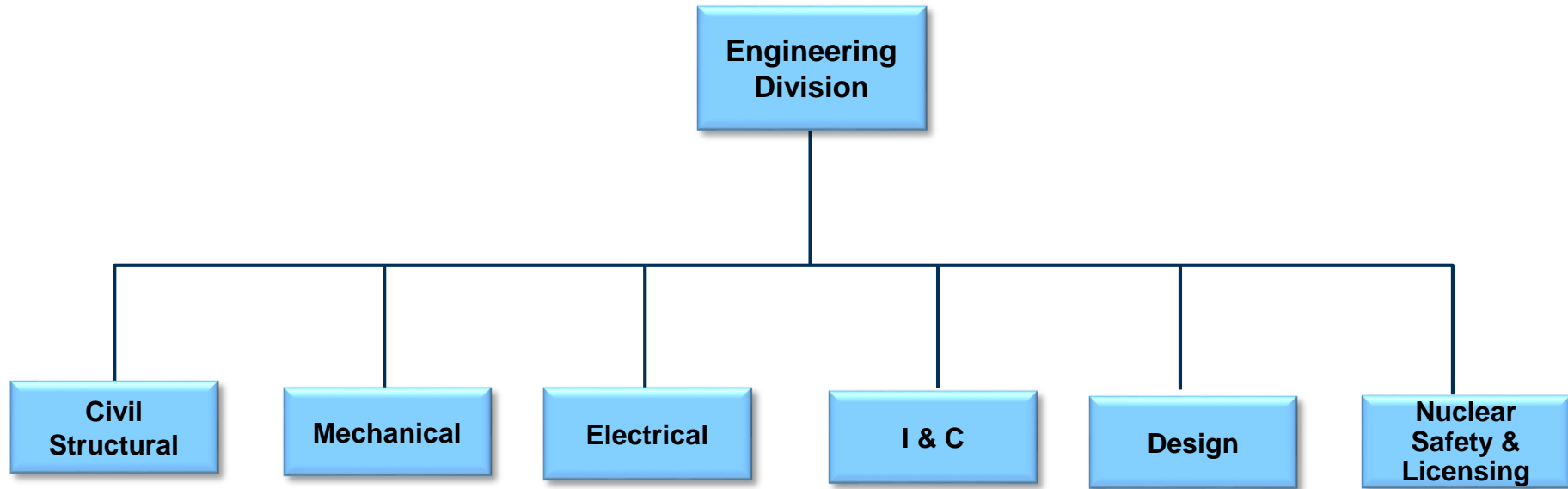
Project Execution Phase

- Project Management
- Engineering and Design
- Procurement
- Construction Management
- Plant Testing and Commissioning

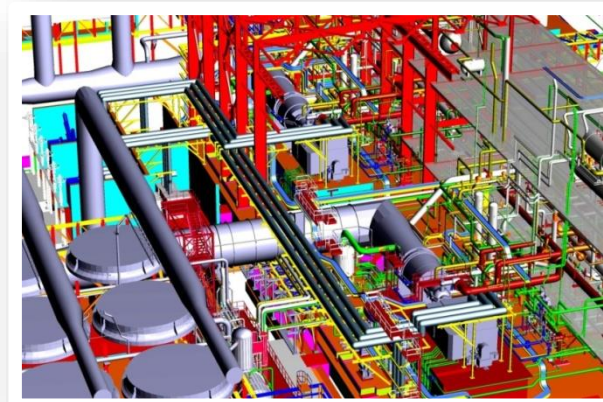
Plant Operation Phase

- Engineering Support Services to Plants in Operation

EA Engineering and Design Services



EA performs the complete basic and detail design for all project disciplines



EA participation in NPP projects in Spain

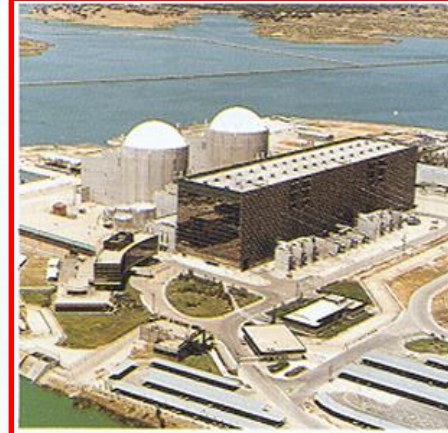
Jose Cabrera
PWR – Westinghouse
160 MWe



Garoña
BWR - GE - 466 MWe



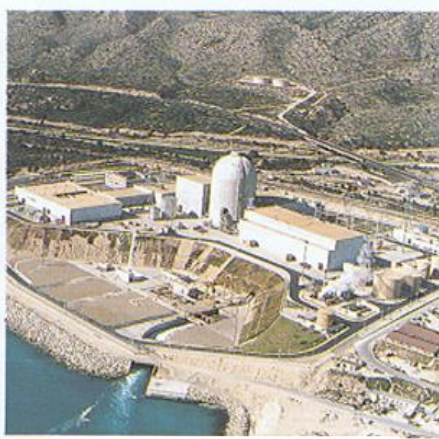
Almaraz
PWR – Westinghouse
2 x 980 MWe



Ascó
PWR – Westinghouse
2 x 980 MWe



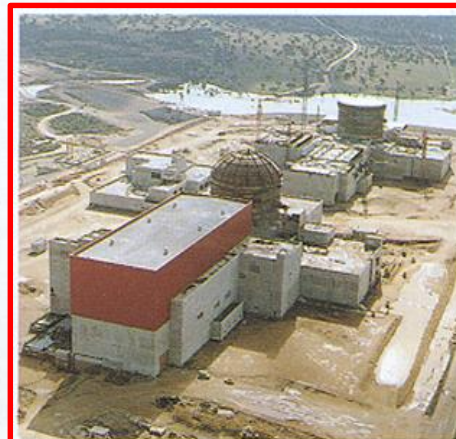
Cofrentes
BWR - GE - 1000 MWe



Vandellós 2
PWR – Westinghouse
980 MWe



Trillo
PWR - Siemens KWU - 1066 MWe



Valdecaballeros
BWR - GE - 2 x 975 MWe

EA has been the full scope Architect-Engineer for the Plants framed in red

Main EA References in Power Plant Projects

Summary of EA's experience as a full scope Architect-Engineer

Nuclear Power Plants [3 PWRs + 3 BWRs]:	6 Units	6,316 MWe
Combined - Cycle Power Plants:	37 Units	22,845 MWe
Coal and/or Oil – Fired Power Plants:	24 Units	7,780 MWe
Solar Power Plants:	3 Units	80 MWe
Hydroelectric Power Plants:	2 Units	250 MWe
TOTAL	72 Units	37,271 MWe

EA's scope of services in these projects

Project Management *(all)*

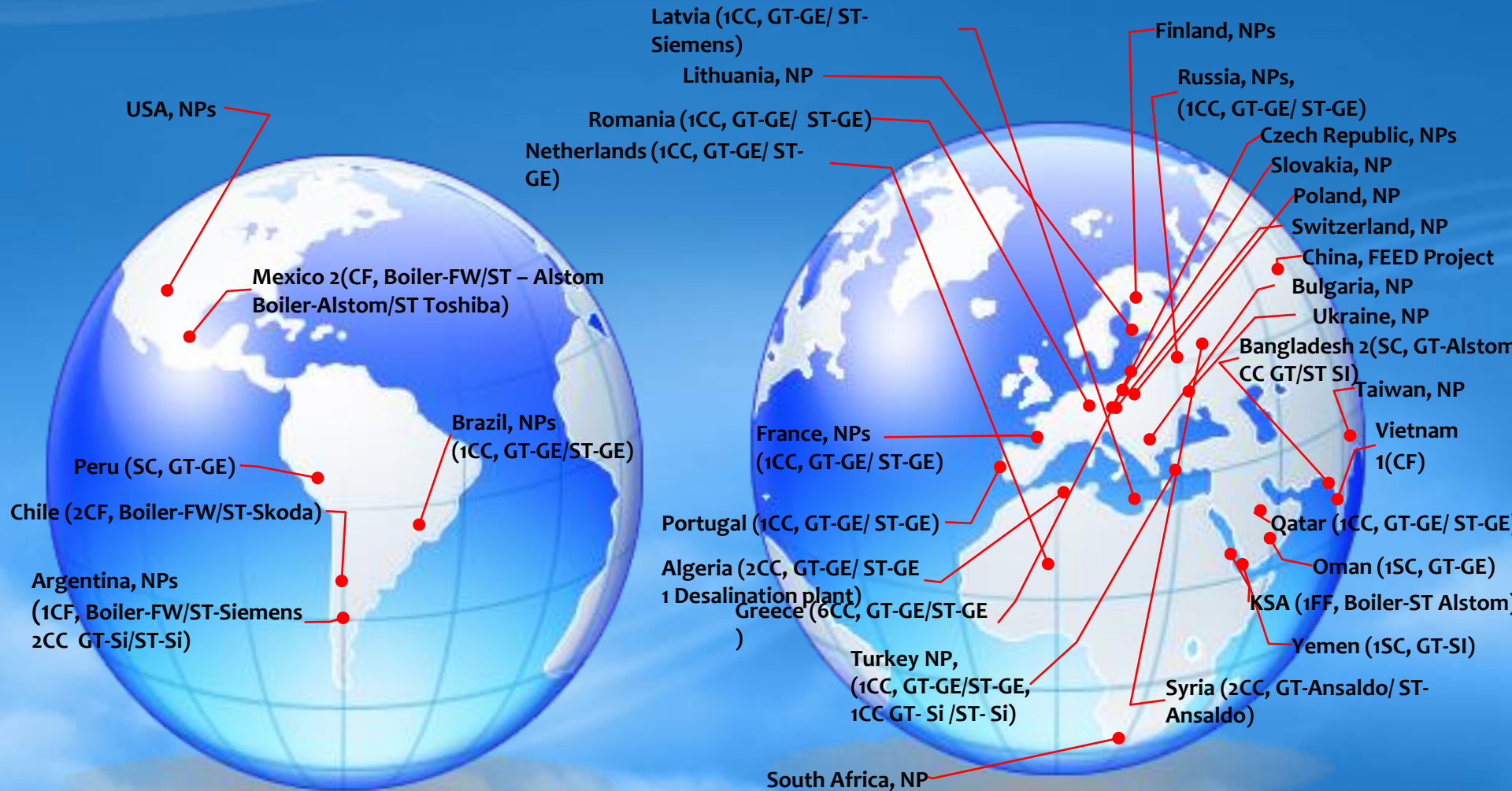
Engineering and Design *(all)*

Procurement Management *(some)*

Construction Management *(some)*

Commissioning Management *(some)*

Summary of EA International Experience over 40 years. Conventional Power Plant Projects





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Thank you for your attention