

# The Babcock & Wilcox Company



## **B&W Technical Services Group, Inc.**

- Nuclear material handling, storage and security
- Nuclear laboratories
- Weapons complex
- Decontamination and decommissioning
- Strategic Petroleum Reserve



## **B&W Nuclear Operations Group, Inc.**

- Virginia-Class submarine program
- Ford-Class carrier program
- Refueling
- Fuel processing and fabrication



## **B&W Power Generation Group, Inc.**

- Environmental systems (FGD, SCR, Hg, Particulate, Carbon)
- Coal-fired power generation
- Service, operation and maintenance
- Construction and EPC
- Renewables (Biomass, solar, waste-to-energy)



## **B&W Nuclear Energy, Inc.**

- Field services
- Plant modifications
- Component manufacturing and installation
- Fuel design, enrichment and fabrication
- B&W mPower™

# B&W PGG Global Operations



***Extensive experience in manufacturing and sourcing worldwide***



## ***B&W is a Major Supplier of Utility Power Plant Equipment***



- **Wisconsin Public Service – Weston 4**
- **B&W 530 MW Supercritical Boiler**
- **SCR, Dry Scrubber and Baghouse**



- ▶ **AEP – Mitchell 1 and 2**
- ▶ **2 x 800 MW Wet Scrubber Systems**

## U.S. B&W Installed Capacity and Market Share

	<i>Wet FGD</i>	<i>Dry FGD</i>	<i>Fabric Filter</i>	<i>SCR</i>	<i>Wet ESP</i>
<i>B&amp;W Installed Capacity (MW)</i>	<b>19,966</b>	<b>10,023</b>	<b>8,717</b>	<b>46,607</b>	<b>2,710</b>
<i>Market Share</i>	<b>28%</b>	<b>49%</b>	<b>21%</b>	<b>32%</b>	<b>35%</b>





# Timeline for Project Execution

## Permitting, RFQ and Contracting Phase



Takes one to two years before Engineer-Procure-Construct (EPC) project begins

## Project Execution Phase



**EPC Scope: Fabric Filter (30-35 Months) Startup & Testing**



**EPC Scope: Dry FGD (30-36 Months) Startup & Testing**

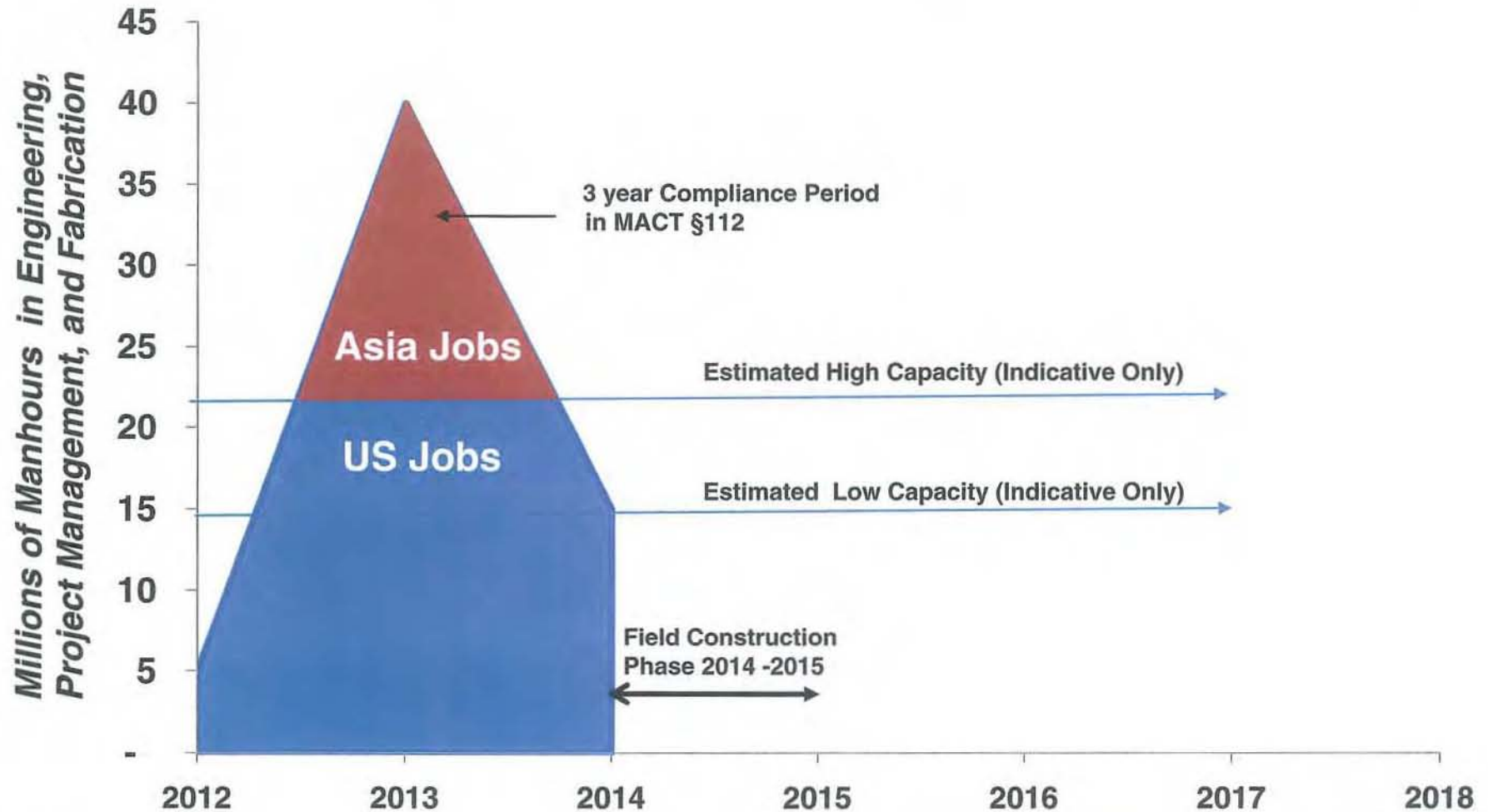


**EPC Scope: SCR (35-36 Months) Startup & Testing**



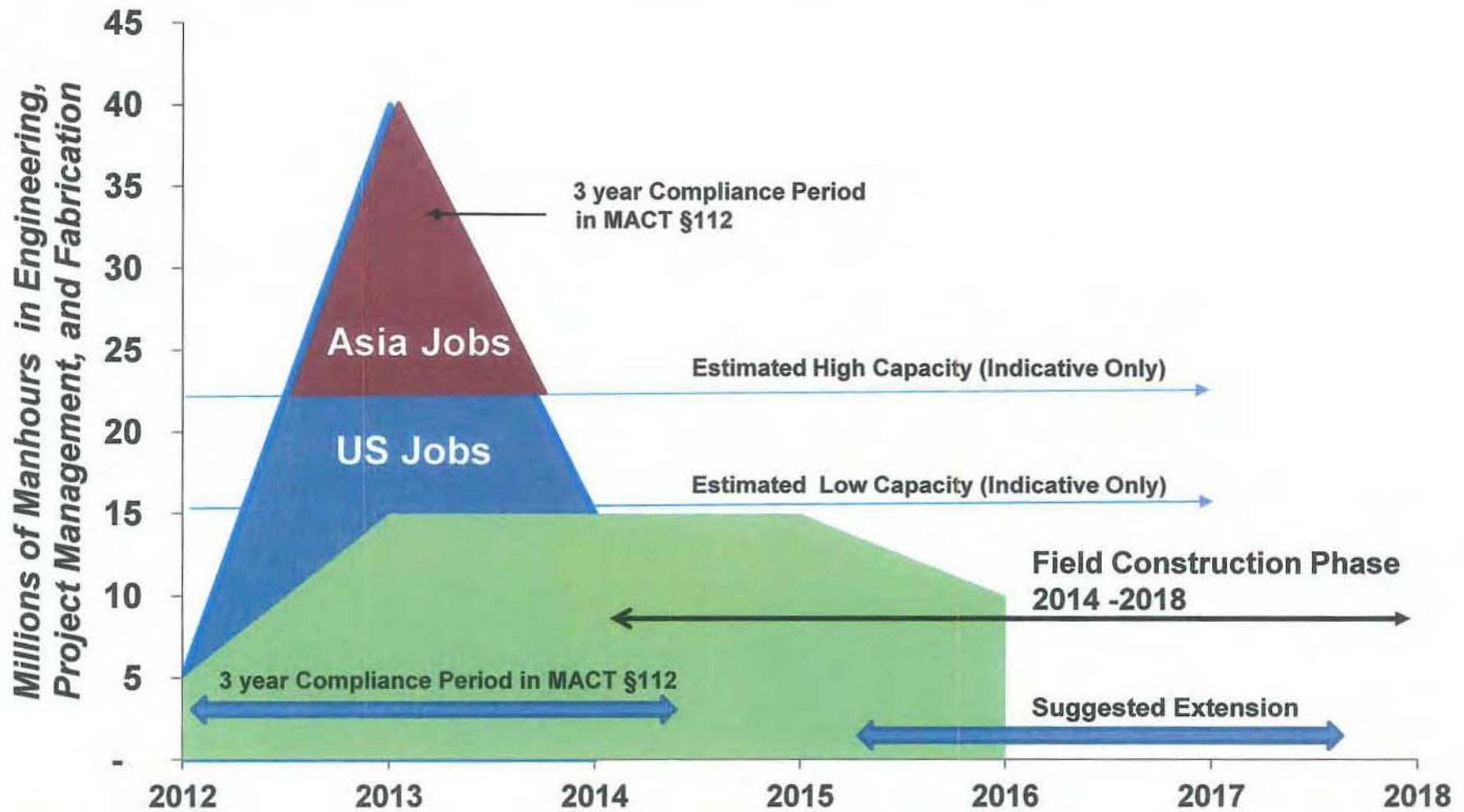
**EPC Scope: Wet FGD (40-42 Months) Startup & Testing**

# Short Compliance Deadlines Will Lead to Significant Challenges for Engineering, PM and U.S. Suppliers



Source: estimate by M. W. O'Donnell, B&W

# Short Compliance Deadlines Will Lead to Significant Challenges for Engineering, PM and U.S. Suppliers



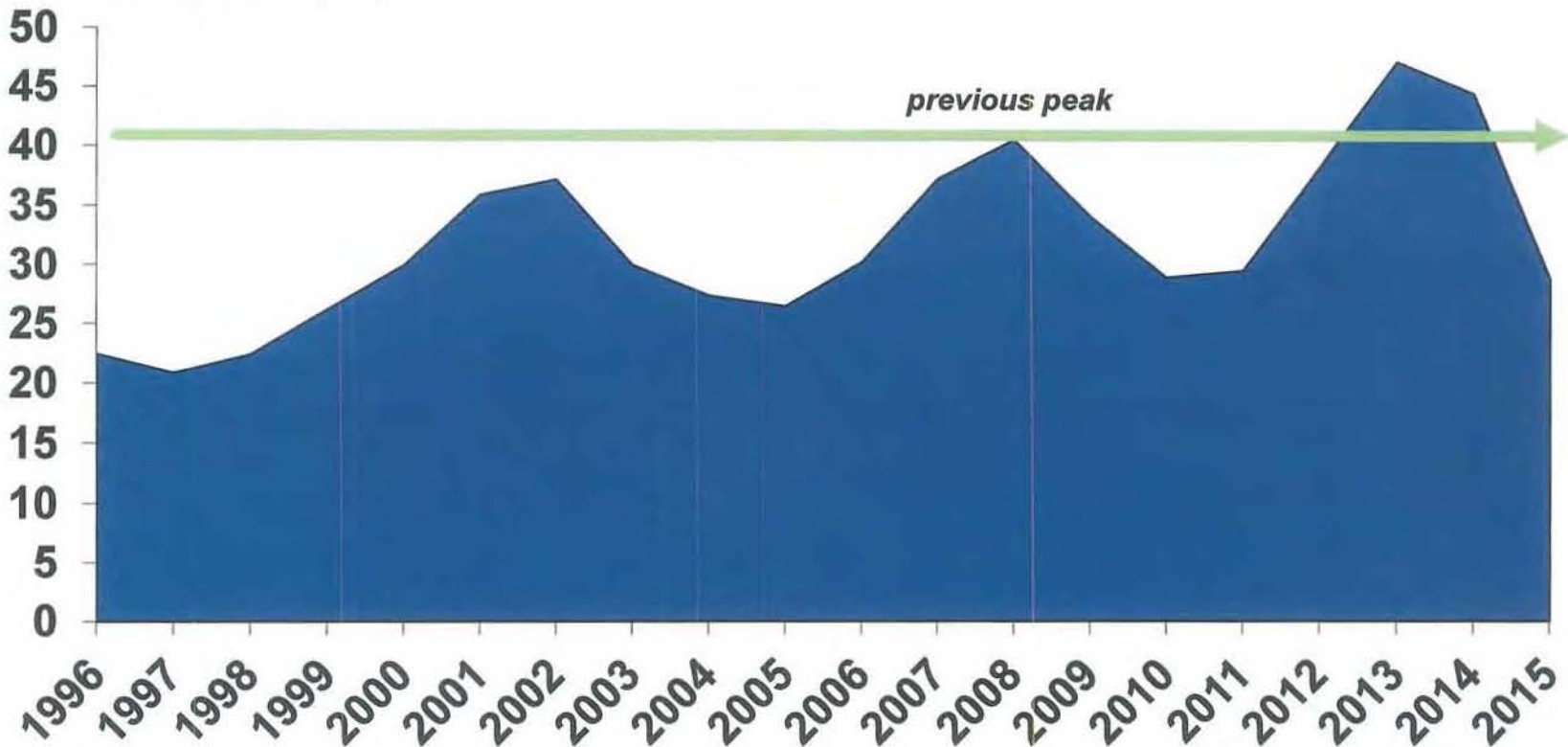
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## Total Boilermaker Man-Hour Forecast

3 year compliance schedule requires 16% more man-hours than highest recent peak

Man-hours (Millions)





## ***Challenges to Achieve Environmental Compliance***

- ④ **Three year UMACT compliance period cannot be fulfilled due to large number and duration of major projects**
- ④ **Attempts to meet UMACT three year compliance**
  - ④ **Will drive extensive U.S. manufacturing, engineering and project management jobs offshore**
  - ④ **Will increase risk substantially for project cost, schedule completion, and safety**
- ④ **There is insufficient experienced field craft to construct the required projects within three year period**
- ④ **UMACT emissions requirements for new installations cannot be met with current technology – no new coal based power plant will be built in the US under the proposed emission limits**
- ④ **As a major environmental system supplier, B&W urges consideration for a six year compliance period**