

# **New Strategies & New Players**

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## **Creating a Nuclear Revival for the Long Term**

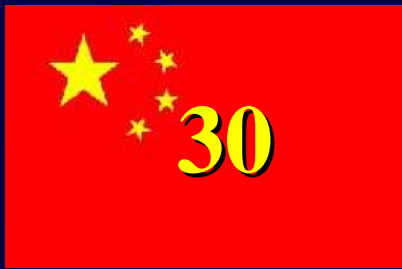
**Mark D. Herlach**

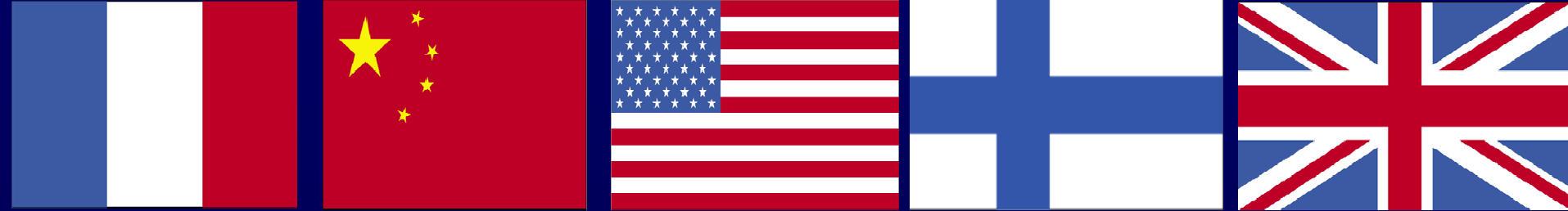
**Sutherland Asbill & Brennan LLP**

- Changes in the World Energy Market Favor Nuclear
- Three Primary Drivers
  - High oil and natural gas prices
  - Global warming
  - Energy security
- The Dynamics for Nuclear Power Have Changed



- Eleven U.S. Utilities Have Proposed Building 24 Advanced Reactors
- China Has Plans to Build 30 New Reactors by 2020
- European Countries Are Building 2 Advanced Reactors





- Government Policy of Nuclear Deployment
  - France
  - China
  
- Joint Approach of Industry and Government
  - Finland
  - United States
  - United Kingdom

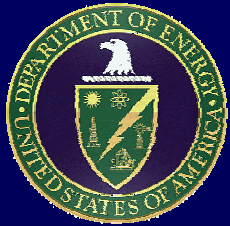
- Nuclear Power a Key Element in Energy Diversification Policy
- Goal to Increase Nuclear Generating Capacity to 40 GWe by 2020
- 11<sup>th</sup> Five-Year Plan Proposes Construction of 8 New Plants
- Emphasis on PWR Technology and Localization
- Large Advanced PWR and Small HTR Are Long-Term Priorities

**New Nuclear Plant Status**



**Construction / Operating  
License Submittal**

<b>Company</b>	<b>Site(s)</b>	<b>Early Site Permit (ESP)</b>	<b>Design, # of Units</b>	<b>Construction / Operating License Submittal</b>
Dominion	North Anna	Under review, approval expected 2007	ESBWR (1)	November 2007
TVA (NuStart )	Bellefonte	-	API000 (2)	October 2007
Entergy (NuStart )	Grand Gulf	Under review, approval expected 2007	ESBWR (1)	November 2007
Entergy	River Bend	-	ESBWR (1)	May 2008
Southern Company	Vogtle	Submitted August 2006, Approval expected early 2009	API000 (2)	March 2008
Progress Energy	Florida (TBD), Harris	-	API000 (2), Not yet determined (2)	Harris - October 2007, Florida - July 2008
South Carolina Electric & Gas	Summer	-	API000 (2)	October 2007
Duke	William States Lee, Cherokee County, South Carolina	-	API000 (2)	October 2007
Exelon	Clinton	Under review, approval expected 2007	Not yet determined	Not yet determined
Constellation (UniStar)	Calvert Cliffs or Nine Mile Point	Will go to COL but submit siting information early	EPR (5)	4Q - 2007
Florida Power & Light	Not yet determined	-	Not yet determined	Not yet determined
Duke	Davie County, North Carolina	Under consideration	-	Not yet determined
Duke	Oconee County, South Carolina	Under consideration	-	Not yet determined
NRG Energy / STPNOC	South Texas Project	-	ABWR (2)	Latter part of 2007
Amarillo Power	Vicinity of Amarillo, TX	Under development, to be submitted 4Q / 2007	ABWR (2)	As soon as practicable after 2007
Texas Utilities	Not yet determined	Will go straight to COL	Not yet determined	2008



- Reform of the NRC Regulatory Process
- Nuclear Power 2010 Program
- Energy Policy Act of 2005

- NRC Addressed Key Issues at Outset
- Limited Opportunities for Intervention
- NRC Completed Licensing Process in 30 months
- LES Received Its NRC License to Construct and Operate on June 23
- Urenco Broke Ground for \$1.5 Billion National Enrichment Facility on August 29



- Program Announced in February 2002 to Support Objectives of 2001 National Energy Policy Study
- Joint Cost-Share Effort of Government and Industry
- Multiple Objectives
  - Identify new plant sites
  - Develop advanced plant technologies
  - Test-drive new regulatory process
- Three Consortia Responded
  - Dominion Energy 
  - NuStart Energy 
  - TVA 

- Act Became Law on August 8, 2005
- Contains Key Incentives for Deployment of Advanced Reactors
  - Standby Support for New Plant Delays
  - Loan Guarantees for New Plants
  - Production Tax Credits
- Support for Nuclear Research and Development

- Protection from Regulatory and Litigation Delays Available for First 6 New Reactors
- Delay Costs of \$500 Million Each Covered for First 2 Reactors
- Next 4 Reactors Receive More Limited Protection
- Department of Energy Issued Final Rule on August 11, 2006

- Guidelines Issued August 8, 2006
- No Authorization for Loan Guarantees Until Congress Grants Appropriation Authority
- Commitments in First Solicitation Will Not Exceed \$2 Billion
- Nuclear Energy One of Many Technologies That May Receive Guarantees

- IRS to Issue Final Rules Later This Year
- Tax Credit of \$0.018 per Kilowatt-Hour of Electricity Generated Available for First 8 Years of Operation of Advanced Nuclear Facilities
- Credit Limited by DOE Allocation Ratio and Capped at Annual Limit of \$125 Million per Thousand Megawatts of Allocated Capacity

- Set Policy Goals
  - Diversity of supply
  - Energy security
  - Deployment of advanced technology
  
- Remove Show Stopping Risks
  - Streamline regulatory process
  - Minimize policy anomalies
  
- Offer Support Within a Commercial Context
  - Joint government-industry program
  - Economic incentives to serve policy goals

- Historical Focus on Eastern Europe and China
- Limited Access to the U.S. and European Markets
- Future Role?



- Reorganization of Russian Industry
- Significant Questions Remain
  - 1992 Uranium Suspension Agreement
  - Future of the HEU Agreement
  - Euratom Supply Agency Policy
- Competition with Areva, Urenco and USEC



- Latest Round of Industry Restructuring
- Combines Advanced U.S. PWR Technology with Leading Japanese BWR Capability
- Strengthens Westinghouse and Enhances Existing Competition
- Accelerates Deployment of Passive PWR Technology





- Areva – National Champion and Fully Integrated Supplier
- Westinghouse/Toshiba – U.S. Technology / Japanese Financial Strength
- General Electric – U.S. Technology and Renewed Commitment
- Atomic Energy of Canada Limited – Technological Diversity
- Russian Nuclear Complex – National Champion Waiting in the Wings

- Demand for Solutions to Rising Energy Costs and Global Warming
- Nuclear an Essential Component of Energy Security and Diversity
- Competition to Deploy New Technology
- U.S. Market Demonstrates Industry Momentum
- China and Russia's Ambitious Plans Will Accelerate the Worldwide Revival



