

## Long-Term Operation of Nuclear Power Plants: Executive Interviews

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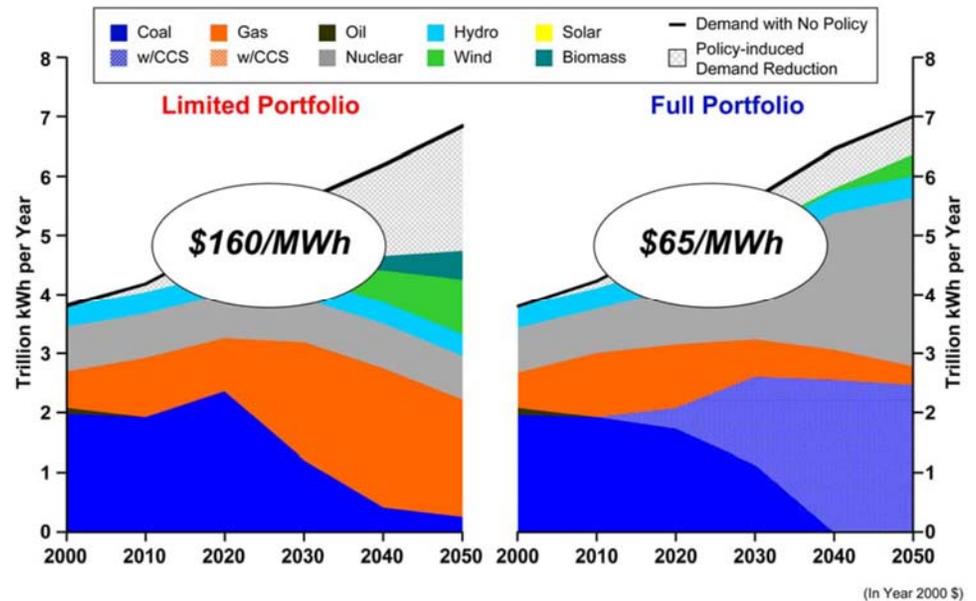
# Interview Objectives

- Systematic collection of industry's perspectives on long-term operation of nuclear power plants
  - Gauge interest
  - Identify issues
  - Identify actions

# Interviews Prompted By

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**Nuclear generation is critical to economic reduction of CO<sub>2</sub> emissions**



**The Power to Reduce CO<sub>2</sub> Emissions**  
**The Full Portfolio**

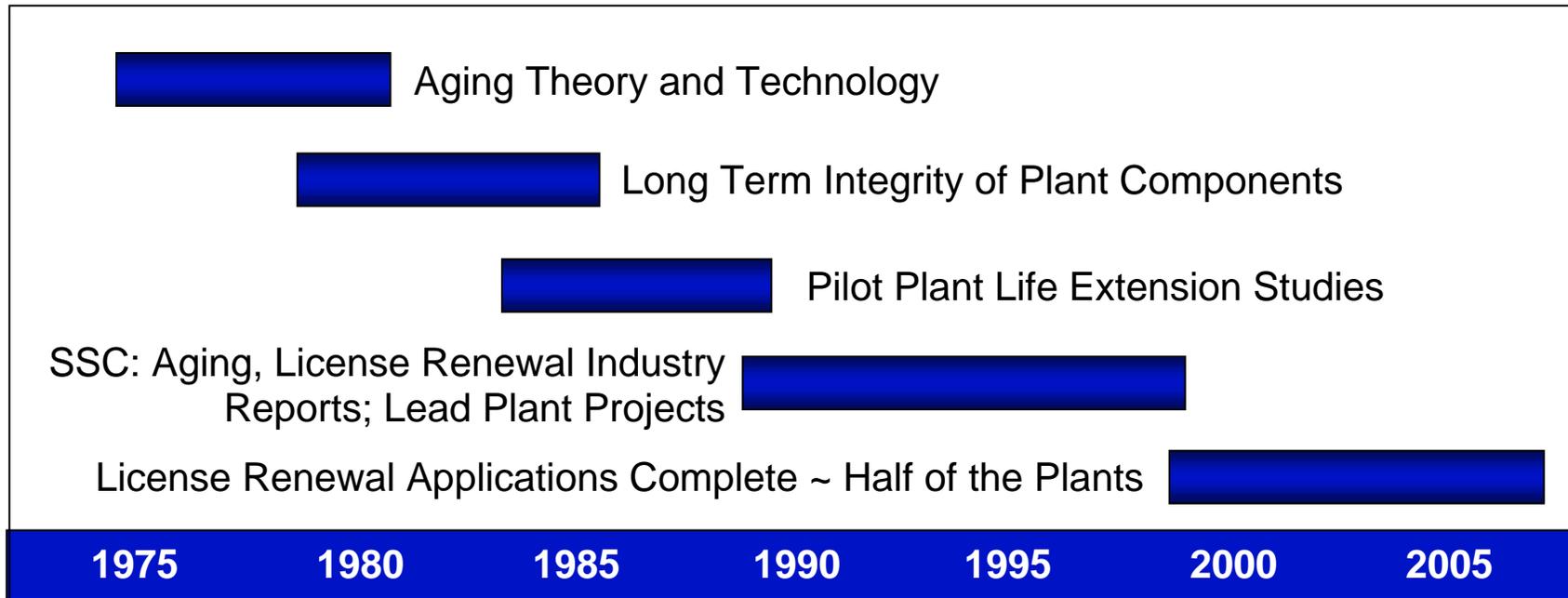
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EPRI Energy Technology Assessment Center

# Interviews Prompted By

- Having the optimal technology options, information and insights available when needed requires proper anticipation and time.

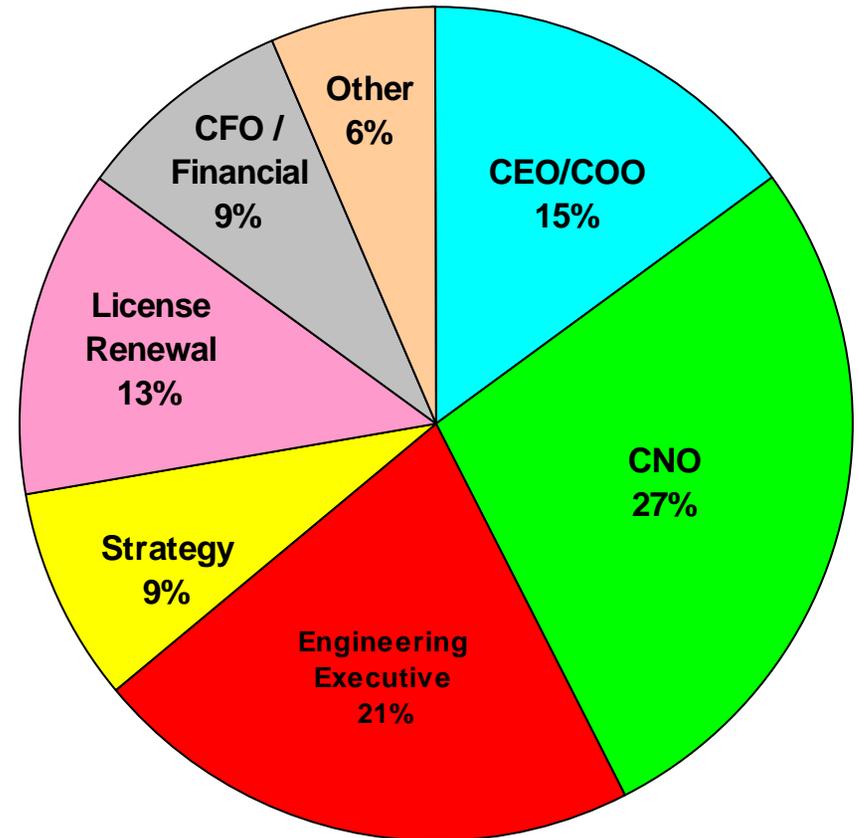
## License Renewal Technical Activities



# Interview Demographics

- 47 executives
- 23 U.S. nuclear operators/owners
- Balanced, high-level representation
  - Input from outside nuclear sector
  - >70% vice presidents or higher
  - 68% from companies with at least one unit reaching 60 years by 2037
  - 62% with BWRs; 85% with PWRs
  - 51% EPRI advisors, 49% not
- More than one executive interviewed at 15 companies to gauge consistency

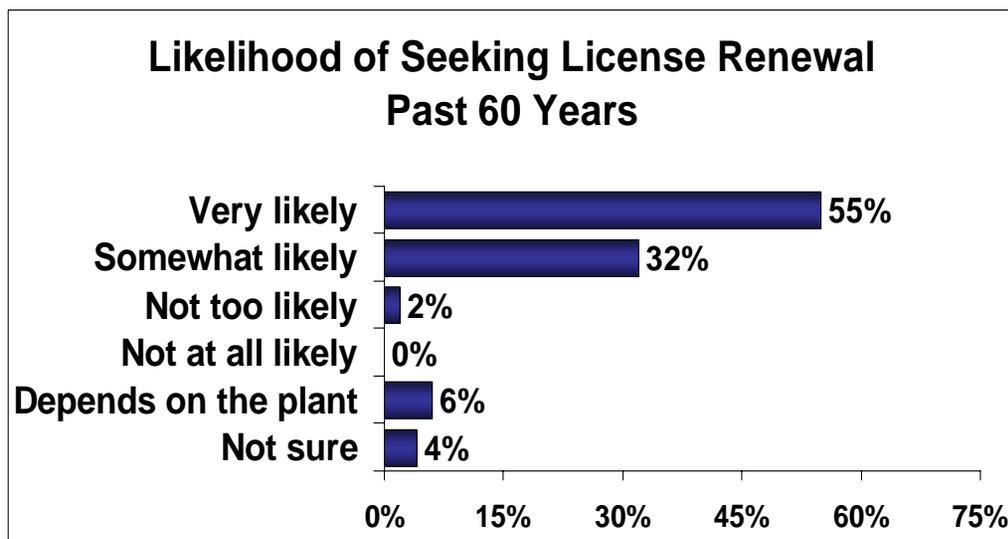
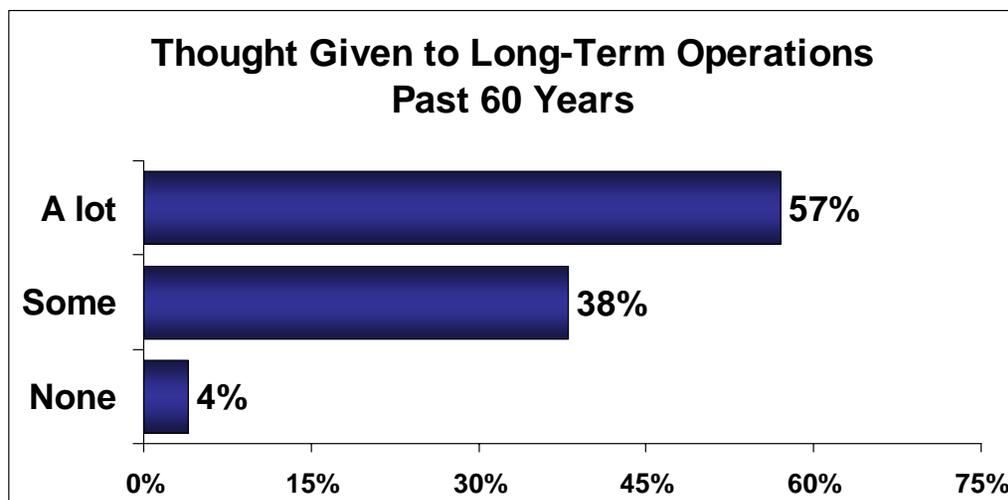
## Executive Roles



# Subject Matter of Interviews

Thought given to long-term operation	<b>Interest</b>
Likelihood of seeking license renewal past 60 years	
Reasons for / potentially against license renewal past 60 years	<b>Issues</b>
Significance and manageability of challenges	
How to address issues / EPRI's role	<b>Actions</b>
Personal interest in devoting time to industry activities	

# Industry is Forward-Thinking

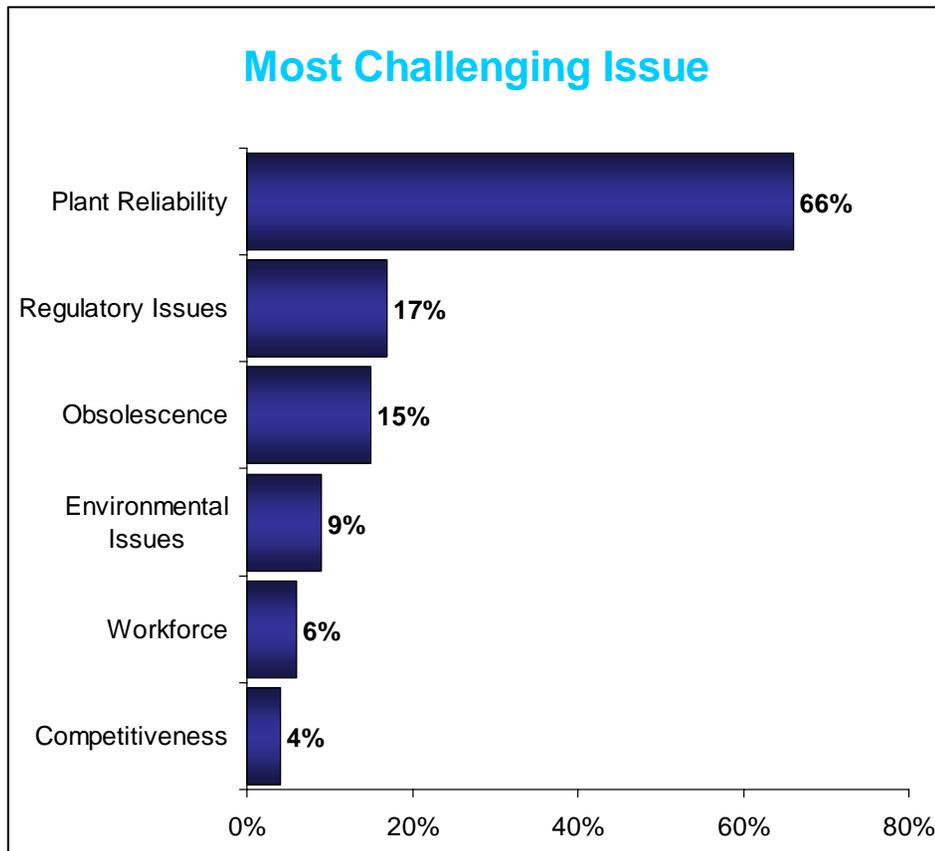


- Significant thought given to long-term operation
- Higher level executives had given more thought to the topic
- Large majority believe license renewal past 60 years is likely

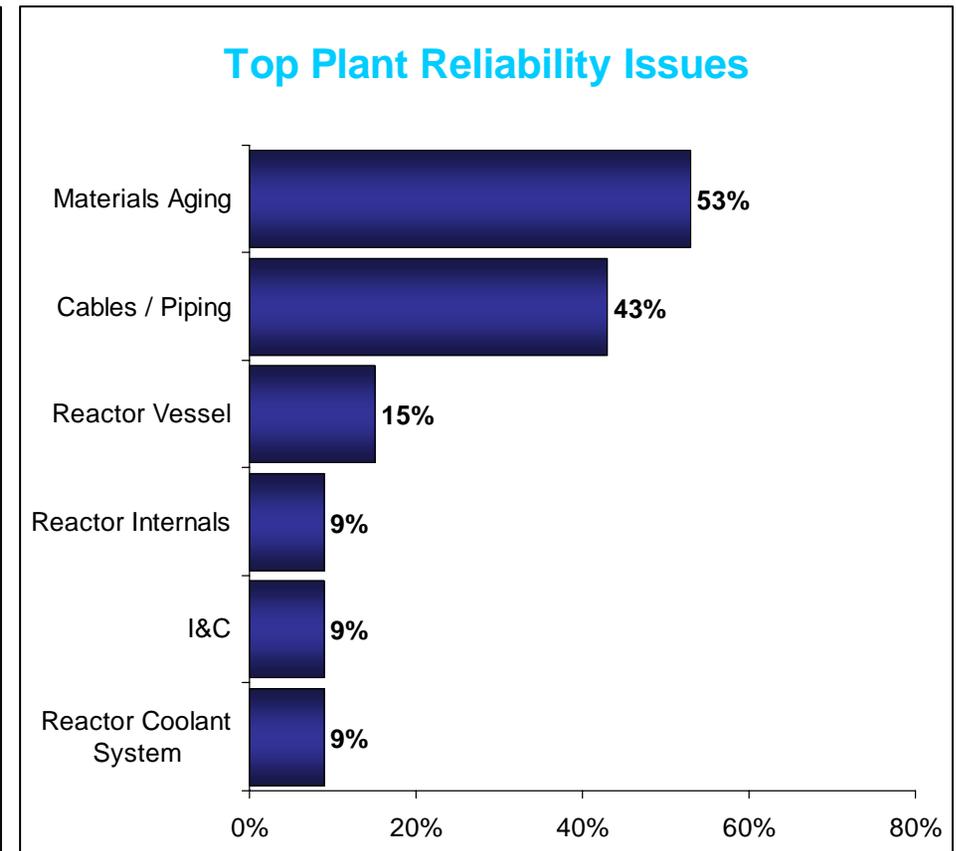
# Drivers and Challenges

## Top Challenges are Technical

- Technical challenges trump other business challenges
- Plant reliability issues dominated by materials and equipment integrity



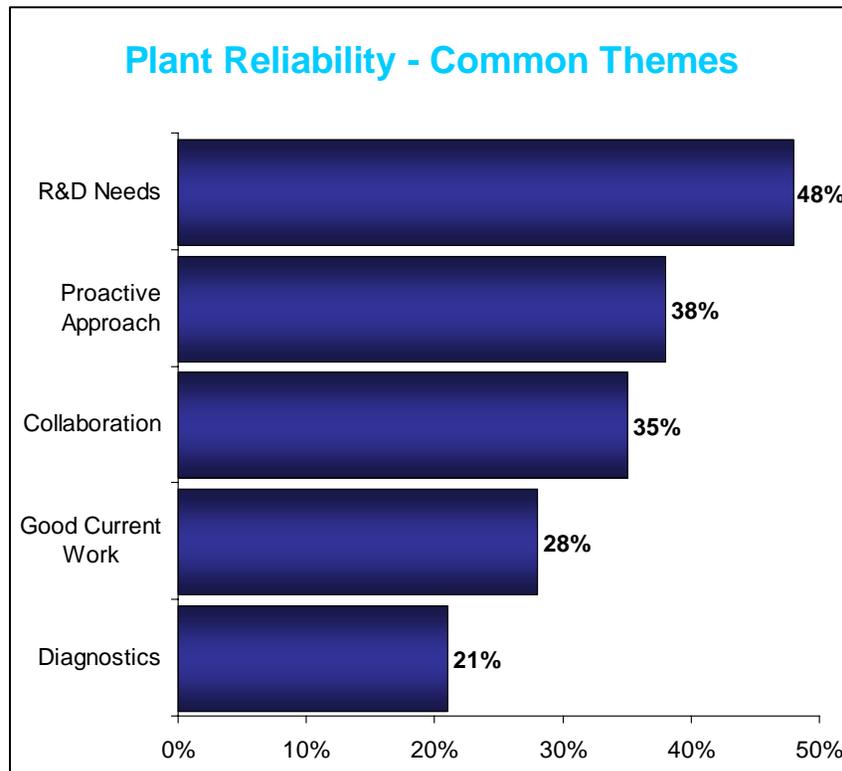
Note: Percentages don't sum to 100. Some interviewees cited more than one issue as most challenging.



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# How to Address Issues Plant Reliability

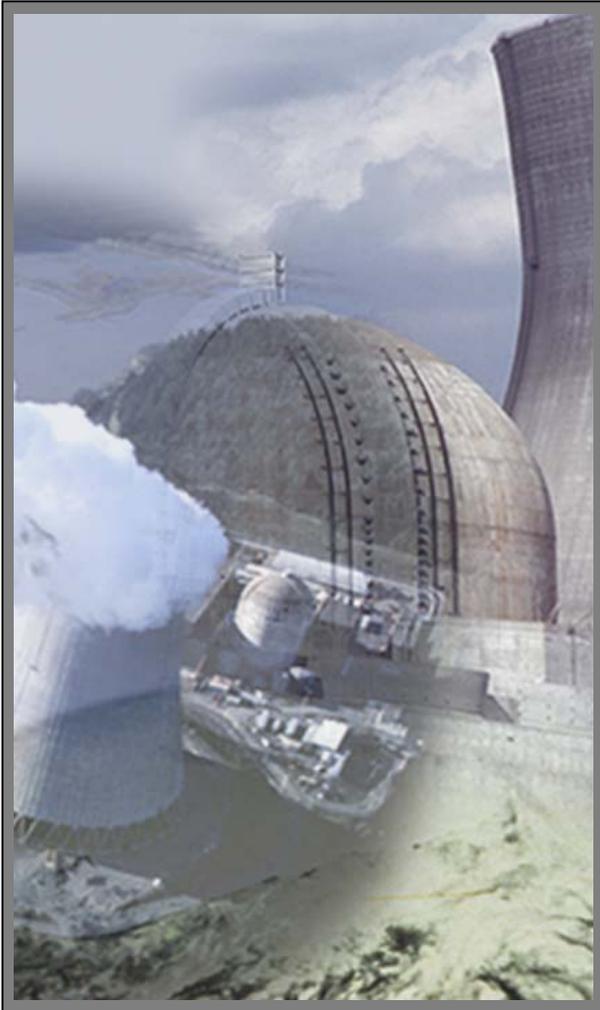
- Plant reliability, ~ 2/3 of responses
- Several common themes



Note: Percentages don't sum to 100. Interviewees could provide multiple responses.

- R&D to understand issues and develop proactive strategies
- Importance of collaboration between industry and DOE / NRC
- Diagnostics, inspection capabilities

# Key Points from Executive Interviews



- Positive about long-term operation and license renewal
- Most frequently cited challenge was technical
- R&D important to addressing potential issues
- Current work and programs recognized and valued
- Want proactive, forward looking identification, understanding of potential issues
- Collaboration the preferred approach

# Alignment – Industry Executive Interviews and Workshop

Executive Interview Key Points	Workshop Content
Importance of Long-Term Operation of Current Plants	Workshop and Workshop Plenary Session
Interest in License Renewal of Current Plants Beyond 60 Years	Session 1a: Industry Discussion on Historical License Renewal Efforts Session 1b: Industry Perspective on Future Industry Needs for Continued Operation Beyond 60 Years
Top Challenges – Technical, Plant Reliability	Session 2: Long-Term Reliability Systems, Structures, and Components Session 3: Management of Age-Related Materials Degradation Issues
Proactive Approach and Collaboration	Timing of Workshop and Broad Participation
Diagnostics	Session 4: Determination of New Technologies, Tools, and Applications for Diagnostics and Monitoring