Nuclear Safety at Calvert Cliffs: Review of Issues Arising from the Japanese Accident

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Probabilistic Safety Assessment

- What can go wrong in the nuclear plant?
- What is the likelihood of it?
- What are the consequences?

Notable PSAs and Typical Results

- WASH-1400 or Rasmussen Study
- IREP
  - First Calvert Cliffs PSA
- Extent of PSAs
- Likelihood of Core Melt and Environmental Releases
- List of items critical to safety

Was Fukushima scenario considered by the PSAs?

- Natural Events are Considered
- Probabilities and Results
  Conditional → Uncertainties
  –Unknown-Unknowns →
  Defense-in-Depth

Should the Nuclear Industry be complacent?

- Absolutely not!
- We must learn, adapt, improve
- Revise PSAs in light of new evidence

What We Should Do?

- Frequency of earthquake
- Combined initiators
- Long-term complete loss of power
- Multi-unit PSAs
- Benchmark Fukushima Hydrogen explosion
- Spent Fuel Pool PSAs

Conclusions

I am confident that similar to the Three Mile Island accident of 1979, the Nuclear Industry will come out of the Fukushima accident stronger and safer. I have all confidence and belief that the U.S. nuclear plants including Calvert Cliffs units are safe and should continue to play their critical role in our future energy mix. It makes the U.S. independent of the unstable and dirty sources of fossil fuel, and is far safer than most other forms of electric power generation.