Talking Points

Safety

September 17, 2007

Safety Is the Nuclear Industry's Highest Priority

- The nuclear energy industry has a demonstrated commitment to operating its facilities safely. Operating practices and government/industry oversight ensure the highest standards and continued outstanding safety performance of 104 reactors.

- Dramatic gains in safety, reliability and productivity have been achieved over the past 15 years. Over the most recent three-year period, the best plants are operating at an astounding 95 percent capacity factor (capacity factor measures the amount of electricity actually produced compared with the maximum output achievable). All the safety-related metrics tracked by the industry and the Nuclear Regulatory Commission demonstrate high levels of excellence.
    1. Unplanned shutdowns are at near-record lows.
    2. Lost-time accident rates are at record-low levels.
    3. Forced plant outage rates, unplanned safety system actuations and plant events with safety implications are all down.

- A commitment to a "defense-in-depth" safety approach protects public health and safety.
    1. A dedicated, talented and professional work force receives comprehensive integrated training and education and is fully qualified within rigorous standards.
    2. U.S. nuclear plants have redundant, reliable safety systems.
    3. They are operated under strict procedural compliance.
    4. An industrywide database catalogs plant operating experience so the entire industry can learn from each plant's operations.
    5. Multiple barriers protect against accidental radiation release (fuel rods, reactor vessel, steel reinforced concrete containment).

- The industry's safety record is proven by key performance indicators tracked by the industry and the NRC. But even more confidence is derived from the *process* that produces those indicators, including an exhaustive inspection program.
    1. The NRC is a strong government regulator.
        - Resident plant inspectors, who are technical experts, work full time at each plant; they are supplemented by regional and national inspectors.
        - Baseline on-site inspections are conducted semiannually, involving 2,500 man-hours per year; additional inspection is based on plant performance.
        - Performance indicators are validated as part of the baseline inspection.
        - The U.S. Government Accountability Office and the NRC Office of the Inspector General gave positive assessments of the NRC reactor oversight process.
    2. The Institute of Nuclear Power Operations (INPO) is a unique form of self-regulation, and recognition that the nuclear industry standard is excellence.
        - INPO conducts on-site, two-week inspections at each plant once every two years. An INPO team and industry peers inspect each plant. INPO also conducts exit interviews, including a formal briefing with the company leadership, including the CEO.
        - Equipment problems and mean time between failures are tracked so that equipment is replaced before it fails.
        - Industry training programs for technical positions must meet independently accredited standards. Employees in these disciplines must meet these standards.

- The nuclear industry's enormous potential for growth depends on dedication to the principles of nuclear safety, information sharing, operational transparency and strict procedural compliance.

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