



Institute of Nuclear Power Operations

Improving Shutdown Safety

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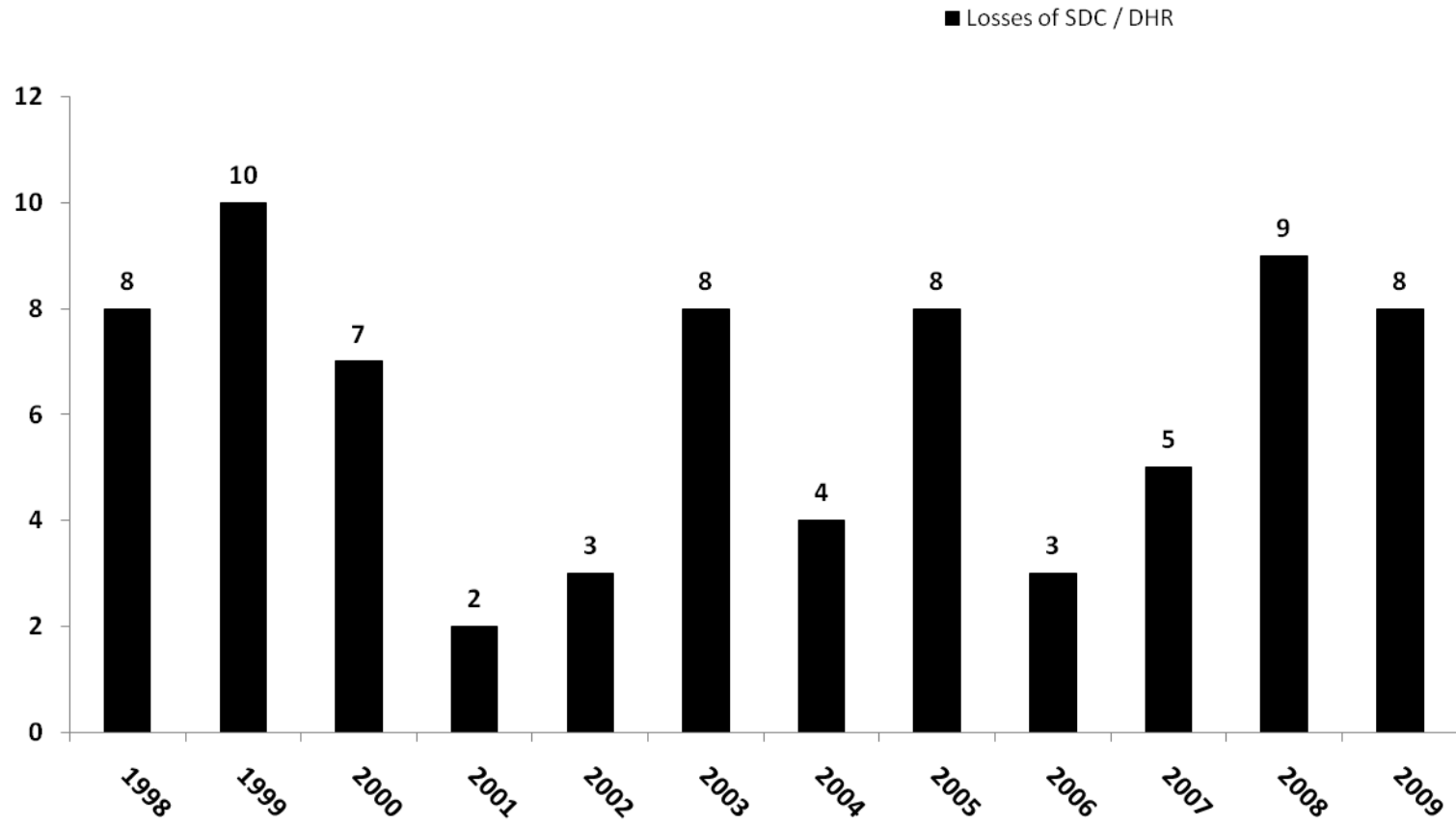
Manager – Maintenance, Outage,
and Work Management

Improving Shutdown Safety

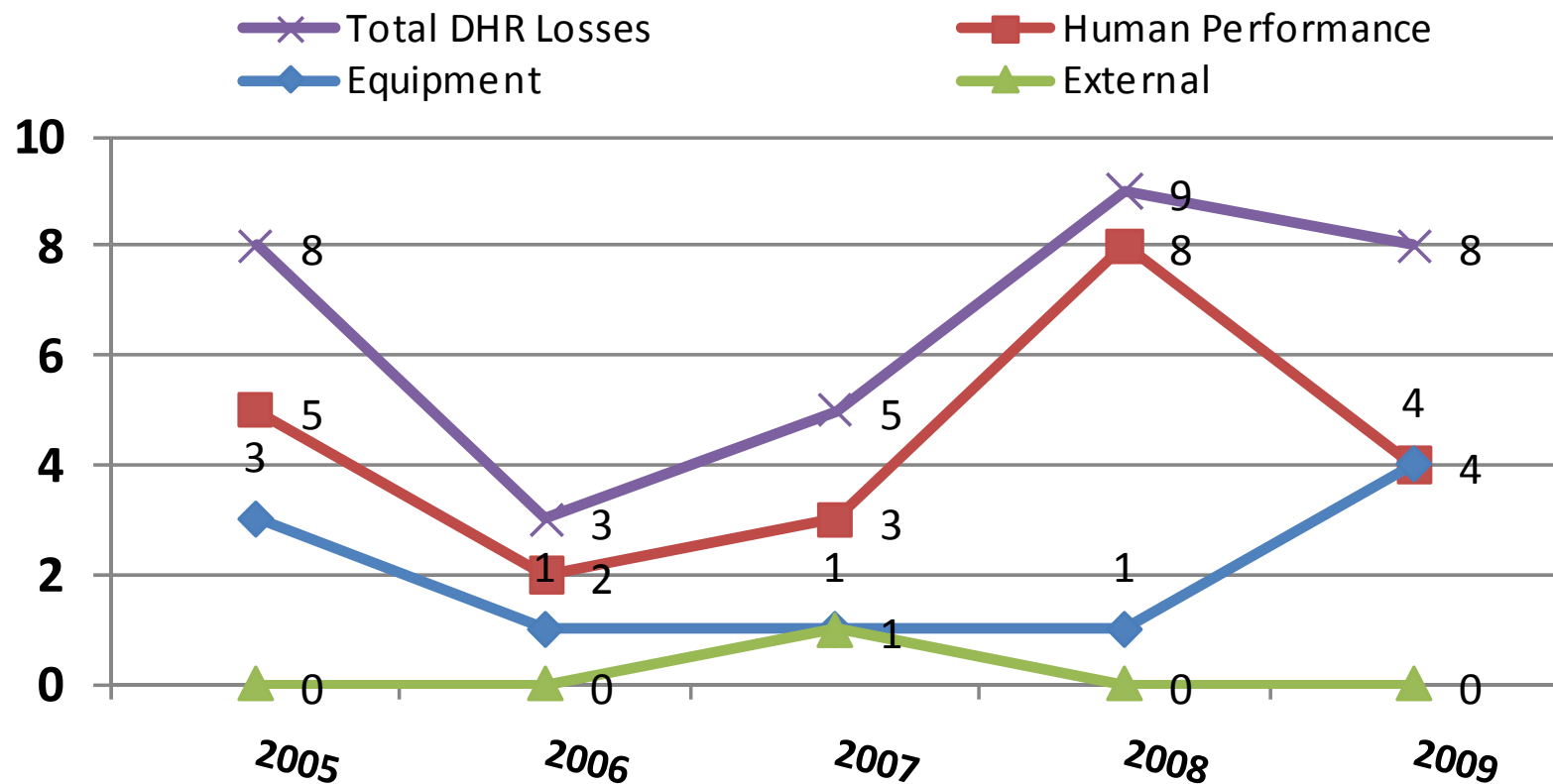
- Previous industry actions
- Renewed industry focus
- Current industry status
- What is being done about it



Losses of SDC / DHR



Losses of SDC / DHR



Other Outage Events

- Still seeing some precursor events each outage season involving other safety functions such as:
 - Inventory control
 - Power availability
 - Reactivity control
 - Containment



The Good News

- Events have had little actual consequence
- The need to further improve performance in shutdown safety is clearly understood across the industry
- Stations are taking needed actions to improve performance



Actions to Date

- Outage Planning Review Visits restarted
- Common cause performed and shared
- Letter on shutdown safety performance issued; requested shutdown safety assessment be performed
- SOER issued. Recommendations in four areas:
 - Senior Station Leadership
 - Operations
 - Outage Management
 - Training



On-Going Actions

- Additional Outage Planning Review Visits scheduled in 2010
- Outage observations being performed
- INPO / WANO teams reviewing shutdown safety on every trip
- Revision to industry guidelines on shutdown safety



Challenges

- “Protected” equipment
- Containment closure
- Redundancy of important equipment
- Time spent at reduced inventory
- Control of switchyard activities during periods of elevated risk
- Contingency plans



Questions?

