



# Briefing for Representative Kucinich's Staff on Activities at Davis-Besse

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# Concerns Expressed by Representative Kucinich

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- Reactor Oversight Process and Significance Determination Process are “Arbitrary and Capricious”
- Significance Determination Process at Davis-Besse failed to evaluate the “Cohesive Plant Response”
- NRC inserted subjectivity into the Significance Determination Process at Davis-Besse to ensure a “Red” finding



# Topics of Discussion

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- Overview of the Reactor Oversight Process (ROP)
- Overview of the Significance Determination Process (SDP)
- Evaluation of the Davis-Besse Degraded Reactor Head
- Discussion of NRC Oversight of Davis-Besse



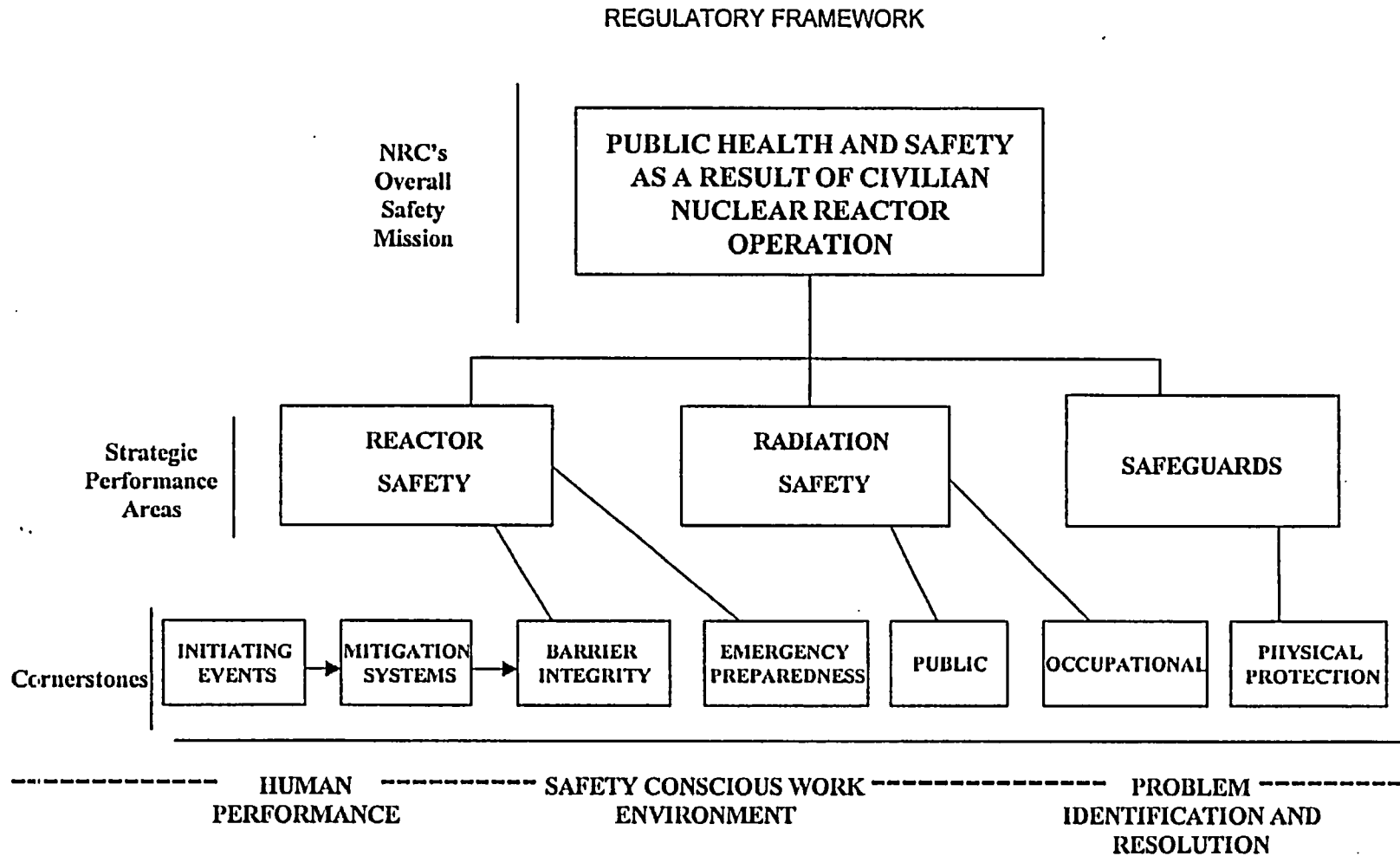
# NRC Reactor Oversight Process

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- Reactor Oversight Process framework is structured and focuses on safety
- Significance Determination Process effectively categorizes safety significance “Color” of individual performance deficiencies
- Action matrix integrates safety insights from SDPs and performance indicators resulting in consistent and predictable regulatory action

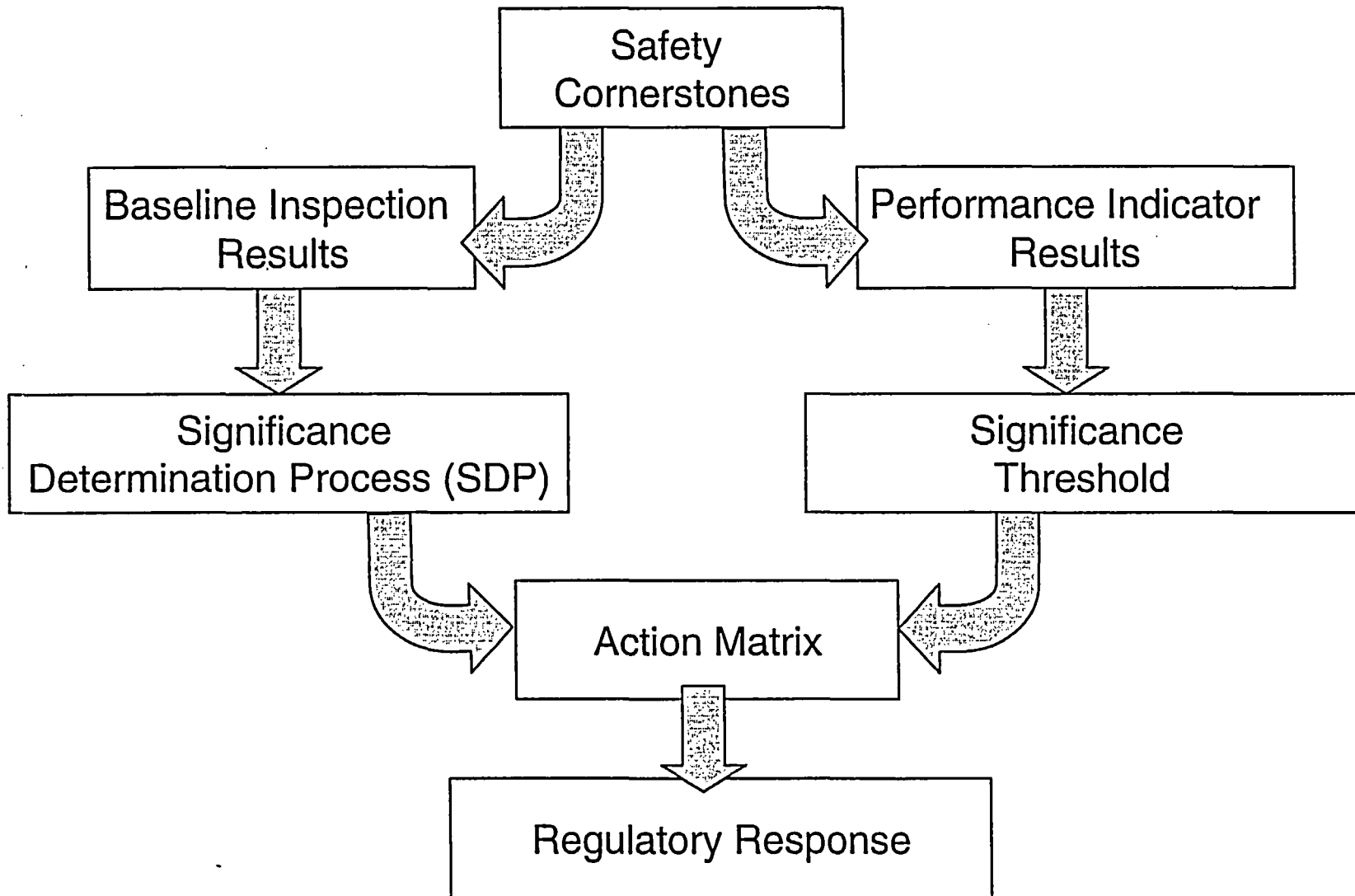


# NRC Reactor Oversight Process Framework





# Reactor Oversight Process





## LEVEL OF SIGNIFICANCE ASSOCIATED WITH INSPECTION FINDINGS

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- Green - very low risk significance
- White - low to moderate risk significance
- Yellow - substantive risk significance
- Red - high risk significance

One Core Damage Event in more than 1,000,000 Years of Operation	Green
One Core Damage Event per 1,000,000 Years of Operation	White
One Core Damage Event per 100,000 Years of Operation	Yellow
One Core Damage Event in less than 10,000 Years of Operation	Red



# Reactor Safety Significance Determination Process

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SDP - Used to evaluate the safety significance of individual inspection findings for input to the action matrix.

- Uses Pre-established tools
- Findings must represent a deficiency in licensee performance
- SDP's for the Initiating Event, Mitigating Systems, and Barrier Integrity cornerstones are quantitative in nature, based on use of Probabilistic Risk Assessment techniques
- Other cornerstones are qualitative in nature





# Reactor Safety Significance Determination Process

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## Three Phases:

- Phase 1 –Screens issues to quickly identify those of very low safety significance (Green)
- Phase 2 - Simplified PRA tool to allow inspectors to evaluate findings. This tool tends to produce a conservative estimate of the risk.
- Phase 3 - Full analysis by a risk analyst utilizing refined modeling assumptions. It uses best available methods to establish the risk significance.



# Reactor Safety Significance Determination Process

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## Review process

- A Significance and Enforcement Review Panel is convened to review each evaluation that is greater than very low safety significance (Green). The panel is comprised of managers from headquarters and the regions.
- A “preliminary determination” is transmitted to the licensee and the licensee is offered an opportunity to meet in public with the NRC or provide a written response
- Final Determination is issued



# NRC Action Matrix

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- Receives input from NRC inspections and plant performance indicators to determine appropriate NRC response
- NRC response is structured and provides a graded approach to agency actions depending on level of licensee performance during the 12 month assessment window
- NRC regulatory responses range from continued baseline inspections to regulatory orders to modify, suspend, or revoke operating license
- Results are shared with licensee and public on the NRC web page and at annual public meetings in the vicinity of the plant



# NRC Reactor Oversight Process

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- Reactor Oversight Process framework is structured and focuses on safety
- Significance Determination Process effectively categorizes safety significance “Color” of individual performance deficiencies
- Action matrix integrates safety insights from performance deficiencies and performance indicators resulting in consistent and predictable regulatory action



# NRC Oversight at Davis-Besse

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- NRC implementing special oversight at Davis-Besse due to significant performance deficiencies
- Significance Determination of reactor head wastage followed NRC Policies and Procedures
- NRC Providing effective oversight of Davis-Besse



# NRC Oversight at Davis-Besse

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- Inspection Manual Chapter 0350 addresses shutdown facilities with performance incongruous with the routine Reactor Oversight Process
- NRC Davis-Besse Oversight Panel chartered April 2002
- Oversight Panel coordinates NRC activities and provides NRC oversight utilizing existing regulatory tools
- SDP utilized to evaluate significance of performance deficiencies at Davis-Besse



# “Red” Significance Determination at Davis-Besse

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- Performance deficiency involved the failure to effectively implement the corrective action program and boric acid corrosion management program
- The performance deficiency resulted in Reactor Head Wastage which was a challenge to Barrier Integrity
- Significance Determination Process was followed in evaluating this performance deficiency



# Significance Determination of Head Wastage

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- Phase 1 SDP revealed finding was greater than “Green”
- Phase 2 SDP evaluation resulted in a “Red” finding
- Phase 3 analysis uniquely challenging and evolved over time
  - Preliminary Phase 3 analysis assuming plate stainless steel behavior revealed “Green” risk significance
  - Cladding was not plate stainless steel
    - Flaws
    - Material Variations
    - Distortion and Cracks
  - Corrosion mechanism and rate not well understood
- Because Phase 3 analysis contained significant uncertainties, the Phase 2 analysis was utilized to determine the significance. This is consistent with SDP procedures.
- Evaluation continues into cladding behavior and corrosion mechanisms





# Current Status of NRC Oversight at Davis-Besse

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- NRC approval needed for plant restart
- NRC Restart Checklist established—22 of 31 items completed
- Extensive NRC assessment of Safety-Significant Systems and Programs, and Management and Human Performance
- Approximately 70 public meetings conducted
- Davis-Besse will not be permitted to restart until the NRC is convinced it can be safely operated
- Oversight Panel will continue after restart



# Conclusions

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- ROP provides a predictable and consistent safety focused regulatory response to licensee performance
- Significance assessment of the Davis-Besse head degradation was performed in accordance with NRC policies and procedures
- NRC instituted special oversight processes at Davis-Besse. The Facility will not be permitted to restart unless NRC is convinced it can be operated safely