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Davis-Besse Nuclear Power Station

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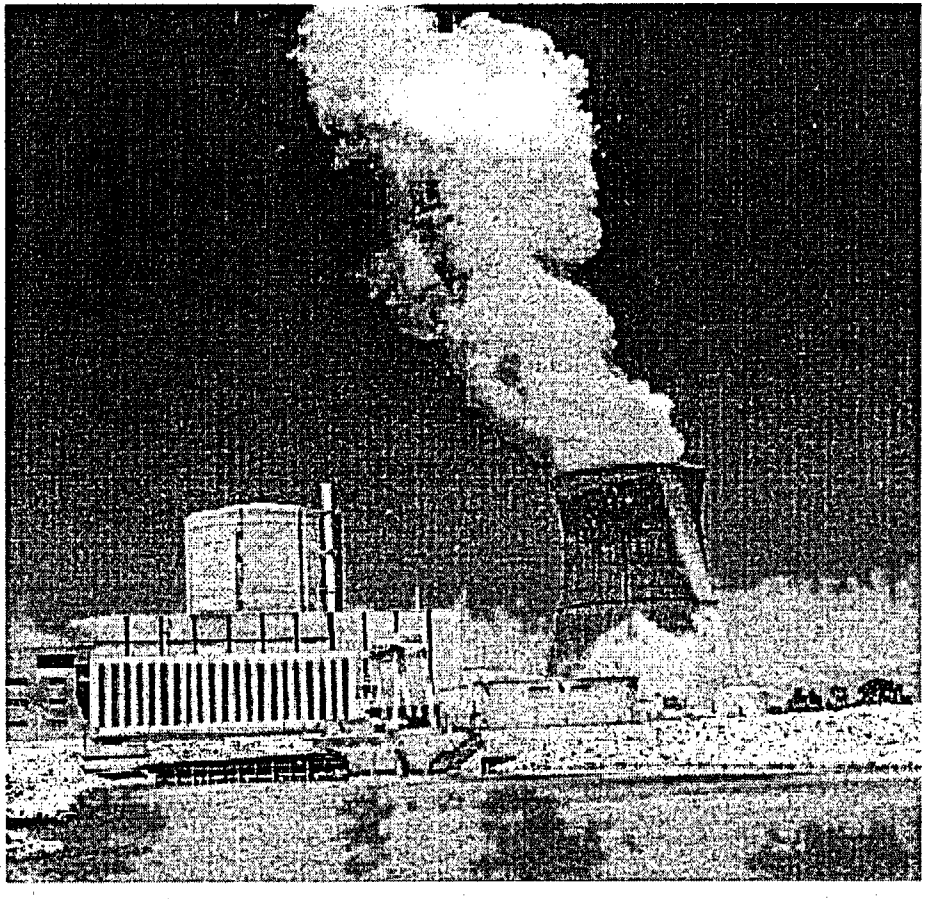

Resolution of Open Design Questions

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Opening Remarks . . . . . Lew Myers/Gary Leidich

System Health Assurance Plan..... Jim Powers

Resolution of Open Design Issues..... Bob Schrauder

Closing Comments.....Lew Myers/Gary Leidich

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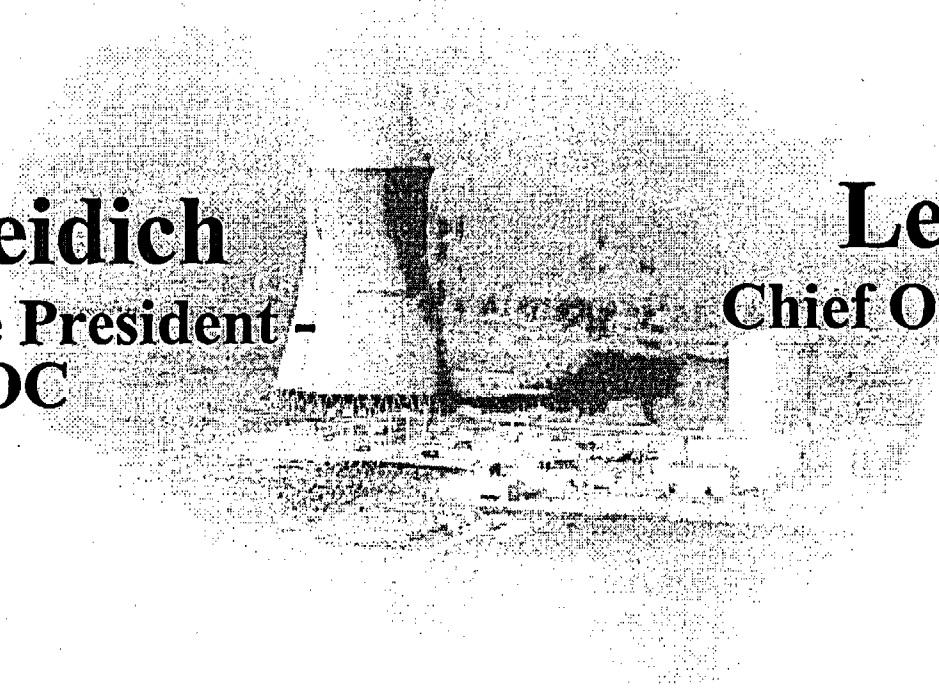
Opening Remarks



Gary Leidich
Executive Vice President - FENOC

Lew Myers
Chief Operating Officer - FENOC

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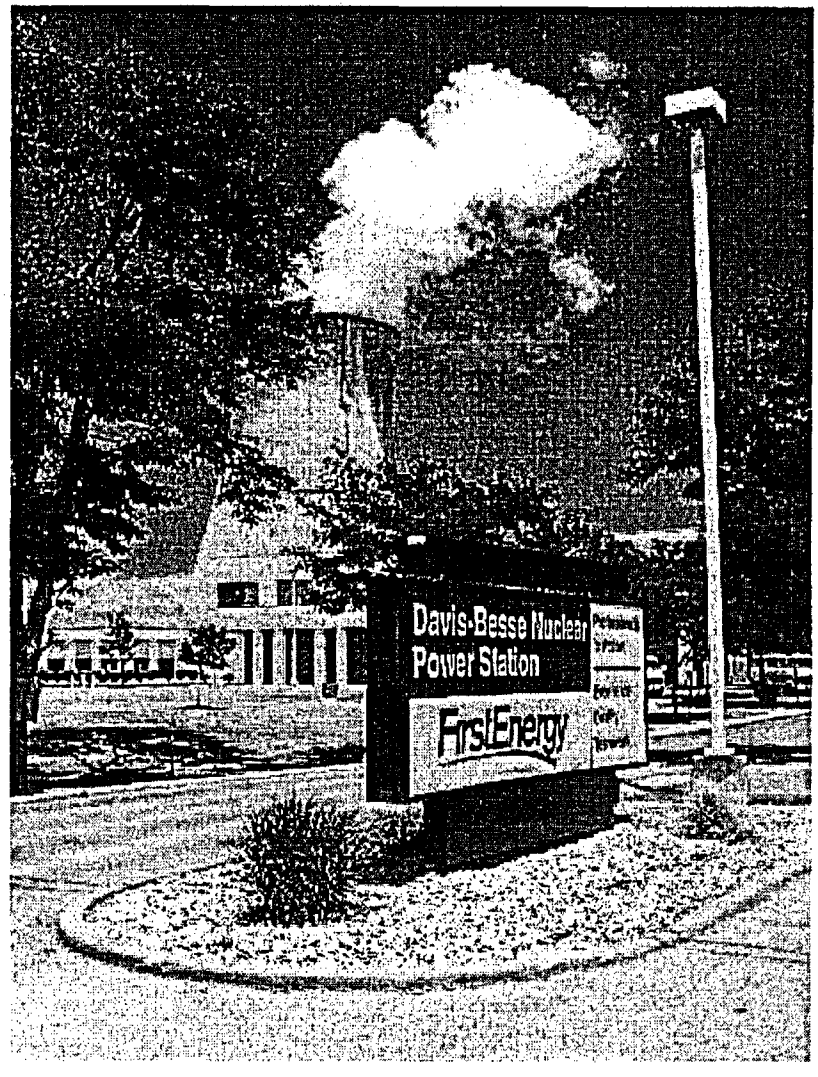

CEO of FirstEnergy has set the standard of returning Davis-Besse back to service in a safe and reliable manner

We must do the job right the first time and regain the confidence of our customers, regulators, and investors in our nuclear program

We are committed to meeting this challenge

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Desired Outcome

- Provide an update on the Davis-Besse action plan to resolve open design questions identified during the System Health Assurance Plan reviews
- Obtain NRC feedback on the action plan

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Objective

- Our Plan:

  "System Health Assurance Plan provides FirstEnergy, the regulators, and the public reasonable assurance that systems at Davis-Besse can perform their safety and accident mitigation functions"

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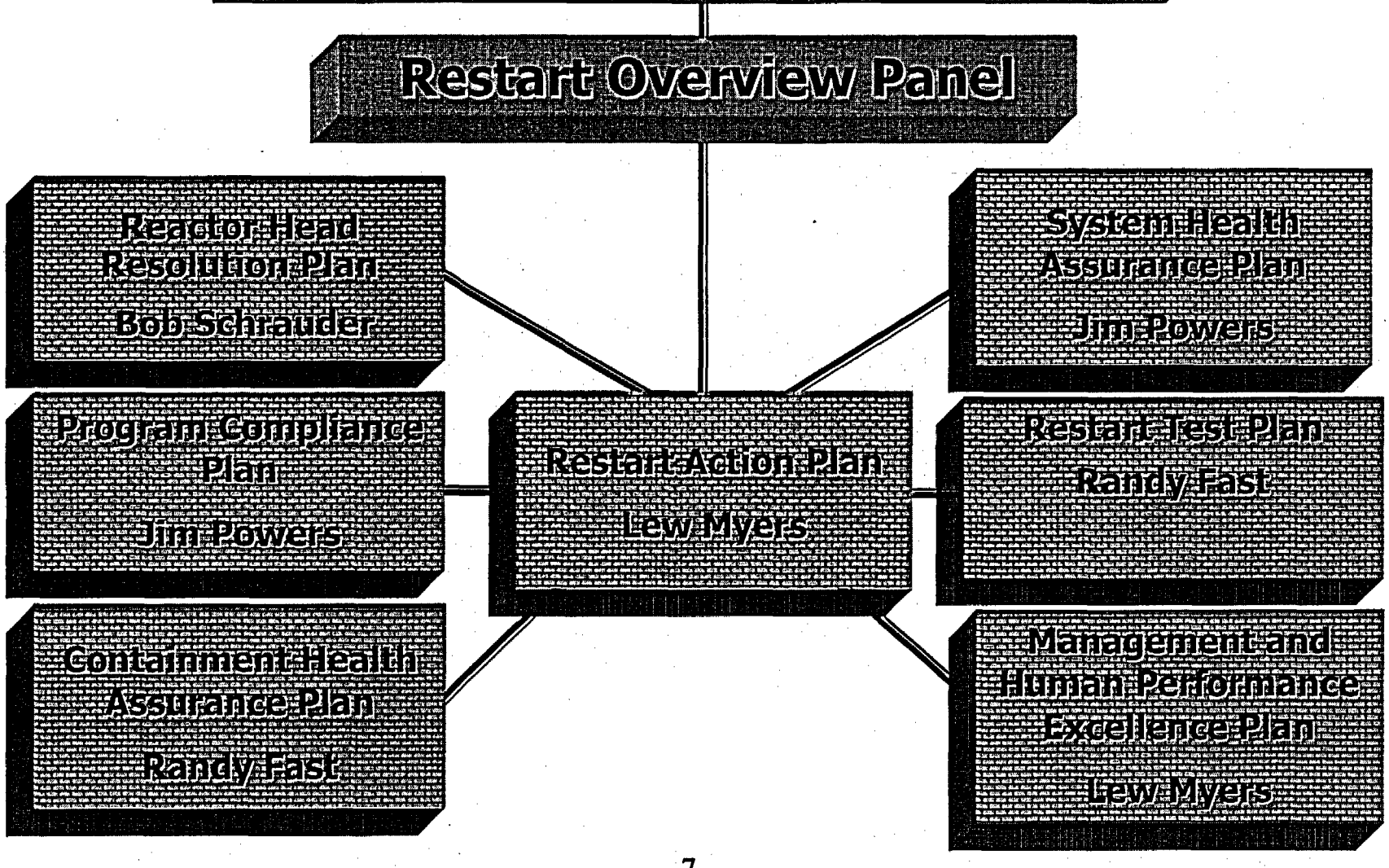
Return to Service Plan



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Plan to Resolve Open Design Questions

- Three parallel paths
  - Operability determinations for Condition Reports (CRs) and determine extent of condition for operability issues
  - Validation of risk-significant safety functions
  - Resolution of topical issues
- These paths support the safe and reliable operation of Davis-Besse
- Additional corrective actions and improvements after restart

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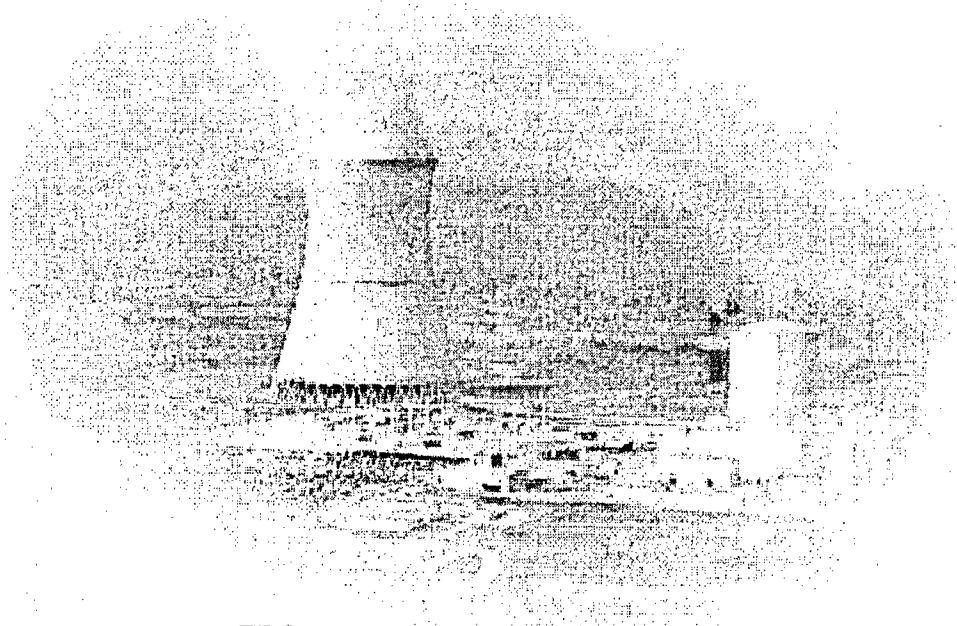
System Health Assurance Plan



Jim Powers
Director - Nuclear Engineering

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Licensing Basis Historical Timeline

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Designs Assessments Prior to 2002

- Davis-Besse Independent Safety Engineering Group vertical slice reviews of systems
  - 1989 Station and Instrument Air System
  - 1991 Emergency Diesel Generators
  - 1992 Steam Generators
  - 1993 Service Water System
  - 1994 Instrument and Controls
  - 1995 Auxiliary Feedwater System
- NRC reviews
  - 1992 Electrical Distribution System Functional Inspection
  - 1993 Service Water System Operational Performance Inspection
  - 1997 High Pressure Injection/ Low Pressure Injection Systems Architect-Engineer Inspection
  - 2000 Safety System Design and Performance Capability Inspection

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Designs Assessments Prior to 2002

- Results of the previous assessments
  - Systems consistently shown to be Operable and capable of performing safety functions
  - Identified some weaknesses in calculations
  - Continuous improvements and upgrades to calculation methodology/technology

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Resulting Remedial Actions

- Review and update of Updated Safety Analysis Report (USAR) in 1996
- Design Basis Validation Program (DBVP) in 1997-1999
- Consistent with industry practices in the 1990s
- Repeated conclusion is the design condition was acceptable and supported plant operation
- Corrective actions from DBVP continue to be implemented

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System Health Assurance Plan

- In 2002, a review of the health of plant systems was undertaken to ensure safe and reliable operation
- System health reviews included:
  - Operational Readiness Review
  - System Health Readiness Reviews
  - Latent Issues Reviews

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System Health Assurance Plan

- Operational Readiness Review (Completed)
  - Identified whether systems have any known significant deficiencies and initiated immediate corrective actions
  - Selected systems relative to Maintenance Rule, performance criteria, material condition, and operator burden
  - Utilized significant Operations involvement

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System Health Assurance Plan

- System Health Readiness Reviews
  - Scope: Maintenance Rule Risk Significant systems
  - Reviewed:
    - Test results of functionality
    - Modifications since 1990's
    - Corrective Actions
    - System walkdown
  - Comprehensive identification of known issues; questions documented on Condition Reports
  - Goal: Confidence that systems can perform function

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System Health Assurance Plan

- Latent Issues Reviews
  - Included Reactor Coolant System, Service Water System, Auxiliary Feedwater System, Component Cooling Water System, and Emergency Diesel Generators
    - Verification of design bases
    - Assessment of 31 system attributes
    - Review of various data sources
    - Comprehensive Walkdowns
  - Self Assessments of High Pressure Injection and 4160 Volt System calculations

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System Health Assurance Plan

- Discovery phase from reviews of System Health Assurance Plan is complete
  - Reports for Latent Issues Reviews are issued
  - Reports for System Health Readiness Reviews are issued
  - Condition Reports (CRs) issued for questions identified
  - Encouraged questioning attitude and reviews generated over 1200 CRs (including design and operation questions)
    - Collective significance reviews identified some cross-cutting issues
    - Overall discrepancy ratio related to Latent Issues Review was low (< 3%)
    - Preliminary evaluation indicates that few have potential safety consequence
    - Currently performing operability determinations to determine actual impact
- Resolution plan developed to evaluate open design questions

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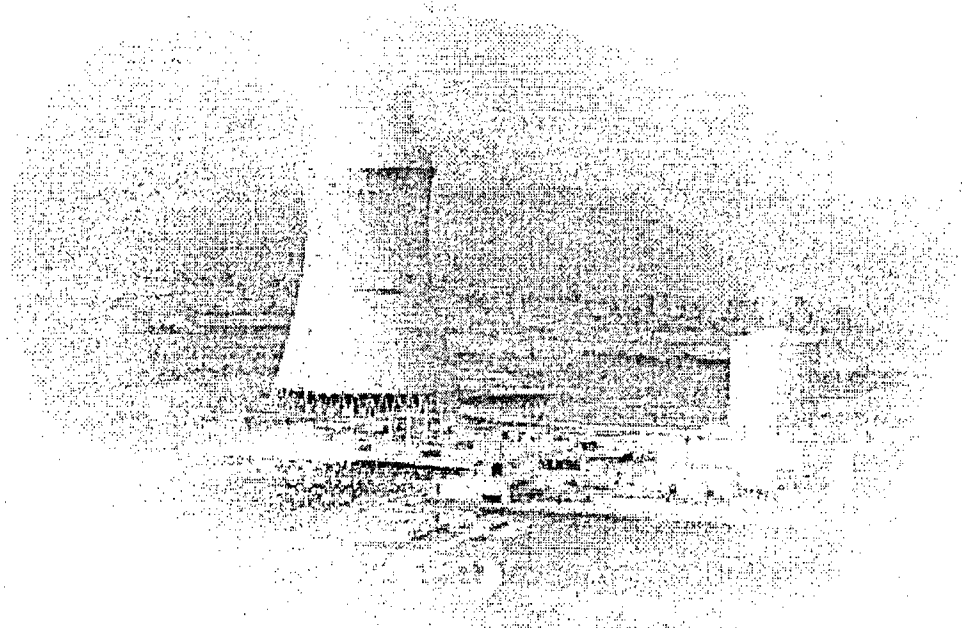
Resolution of Open Design Questions



Bob Schrauder
Director - Support Services

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Plan to Resolve Open Design Questions

- Comprehensive plan to provide assurance that:
  - Potentially safety significant issues are identified and resolved
  - Technical Specification Operability is met
  - Safety systems, structures, and components (SSCs) will perform their safety functions
  - Extent of Conditions (EOC) are known
- Preliminary results show:
  - Majority of the design-related Condition Reports (>92%) identified for restart are not potentially safety significant
  - Calculation-related questions dominate the potentially safety significant issues

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Plan to Resolve Open Design Questions

- Three parallel paths
  - Operability determinations for Condition Reports (CRs) and determine extent of condition for operability issues
  - Validation of risk-significant safety functions
  - Resolution of topical issues

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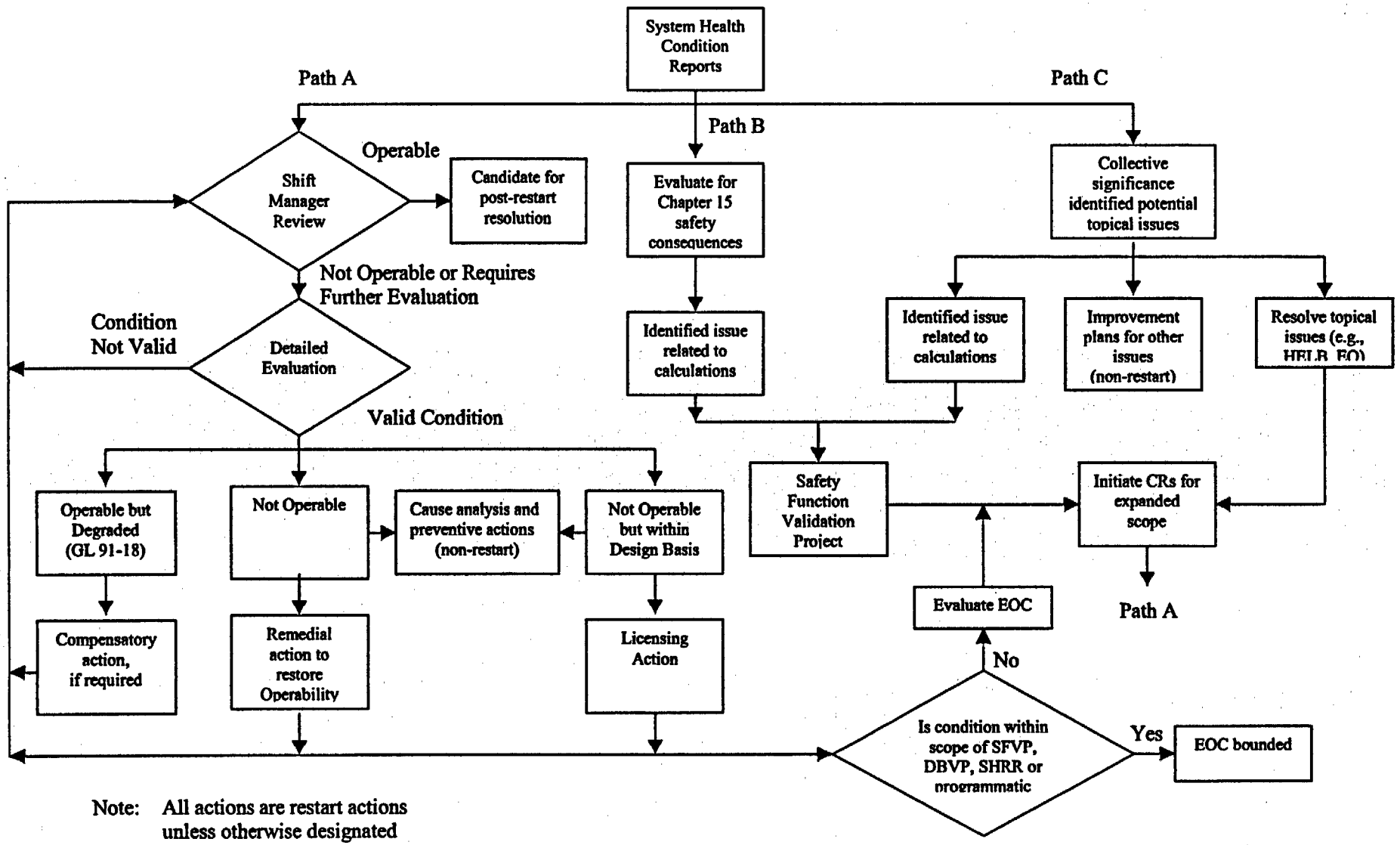
RESOLUTION OF OPEN DESIGN ISSUES



Note: All actions are restart actions unless otherwise designated

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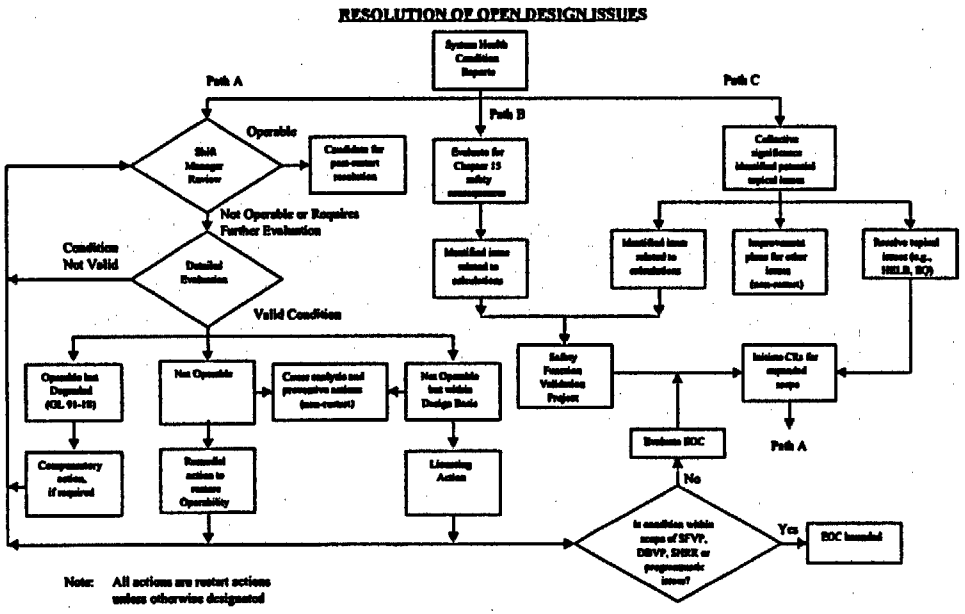
Resolution Plan Overview



- Flow Path A
  - Resolves each condition identified and determines the Extent of Condition
- Flow Path B
  - Provides evaluations for additional assurance of significant safety function capabilities
- Flow Path C
  - Resolves topical programmatic issues

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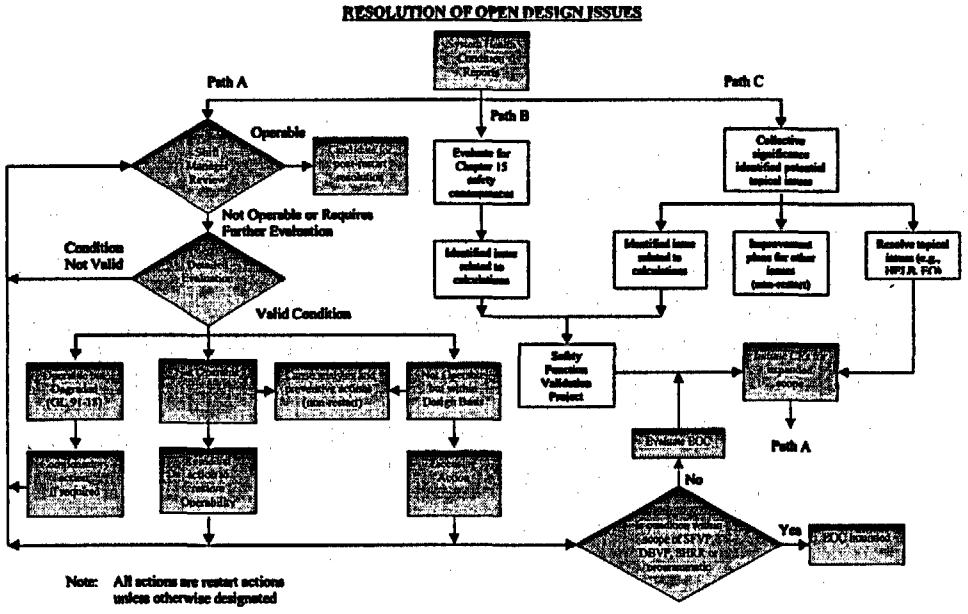
Resolution of Open Design Issues (Path A)



- Design-related conditions have been identified by the NRC and Davis-Besse
- Conditions Reports are evaluated and their impact on operability is determined
- Condition Reports with operability impact
  - Remedial action prior to restart
  - Determine extent of condition for issues that impact operability
  - Root Cause analysis and preventive actions (non-restart)

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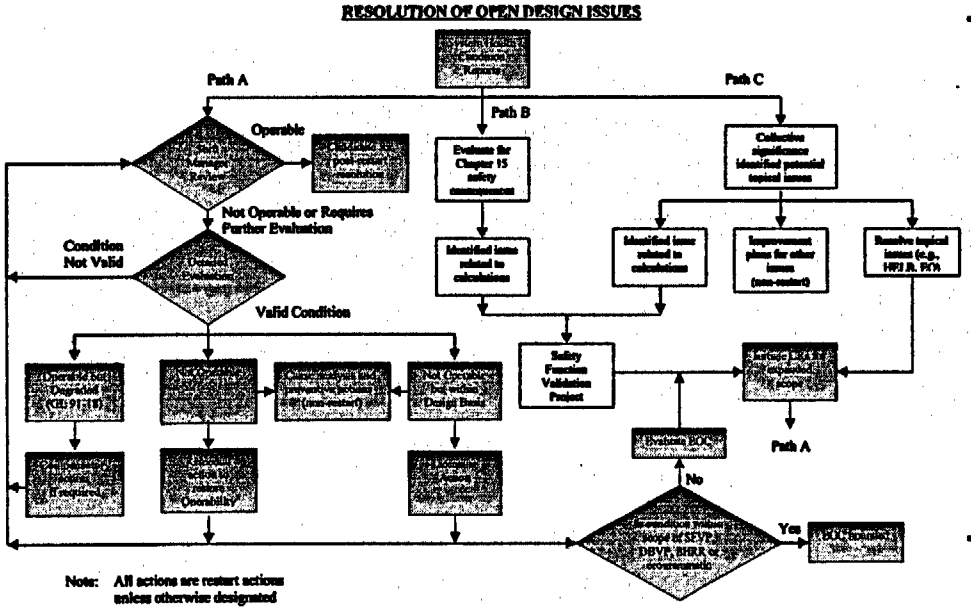
Resolution of Open Design Issues (Path A)



- Methods for determining Extent of Condition
  - If Condition Report is addressed by an existing program/activity, that program determines Extent of Condition for risk-significant systems
    - Design Basis Validation Program
    - Safety Function Validation Project
    - Resolution of topical issues
    - System Health Readiness reviews
  - If not, develop and implement actions to determine Extent of Condition

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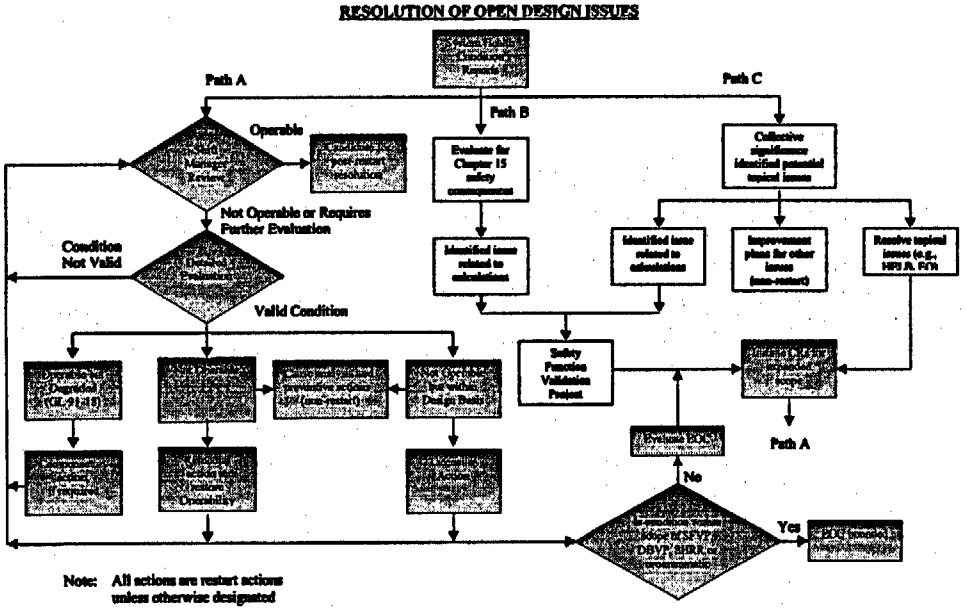
Resolution of Open Design Issues (Path A)



- Results of Extent of Condition Reviews
  - Correct any operability issues prior to restart
  - Determine the need for and timing of additional reviews based upon number of issues and their significance

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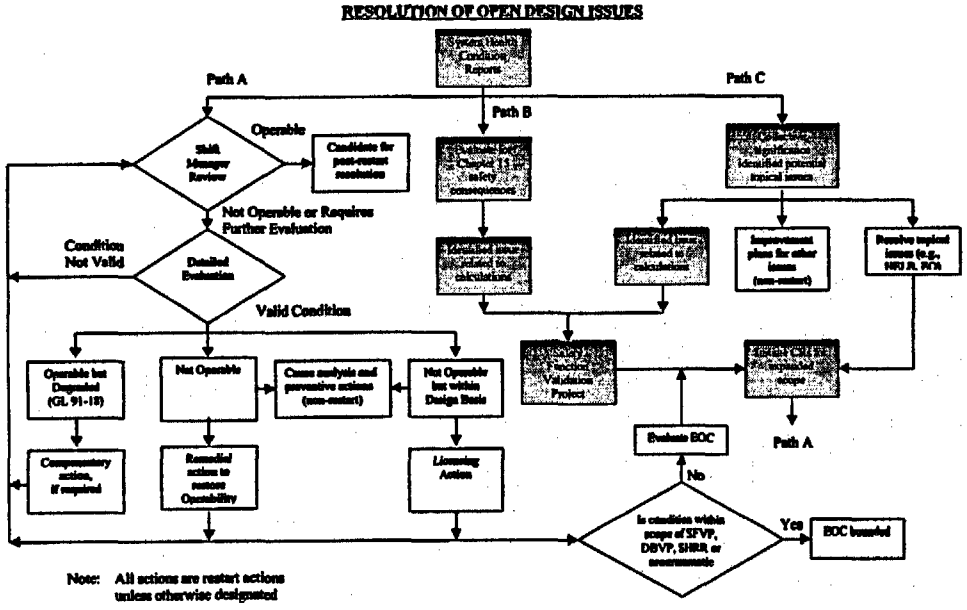
Resolution of Open Design Issues (Path B)



- Collective Significance Review and potential safety significant evaluation identified potential issues related to calculations that support safety functions
- Safety Function Validation Project
  - Perform evaluations of the functions that contribute more than 1% of Core Damage Frequency (CDF)
    - 15 systems with such functions
    - 5 of 15 systems already validated by Latent Issue Reviews
    - 15 systems contribute 99% to Large Early Release Frequency (LERF) and to CDF

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Resolution of Open Design Issues (Path B)

- 15 plant systems subject to Safety Function Validation Project
  - Component Cooling Water
  - Emergency Diesel Generators
  - Auxiliary Feedwater
  - Service Water
  - Reactor Coolant System
  - High Pressure Injection
  - Decay Heat Removal/ Low Pressure Injection
  - Heating Ventilation and Air Conditioning of Emergency Core Cooling Systems
  - Main Steam
  - Steam Generators
  - Safety Features Actuation System
  - Steam & Feedwater Rupture Control System
  - 4160 Volt AC
  - 125/250 Volt DC
  - 480 Volt AC

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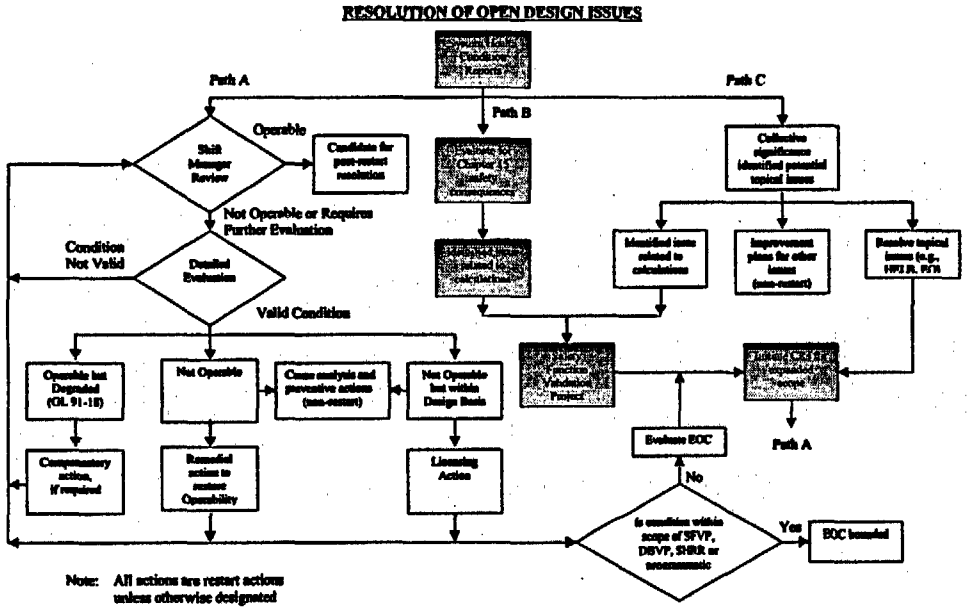
Resolution of Open Design Issues (Path B)



- Methodology
  - For each function, review associated calculations/tests and confirm they support the function
  - If necessary, prepare evaluation to support operability determination for condition reports
- Provides additional assurance that structures, systems, and components (SSCs) can perform their safety functions

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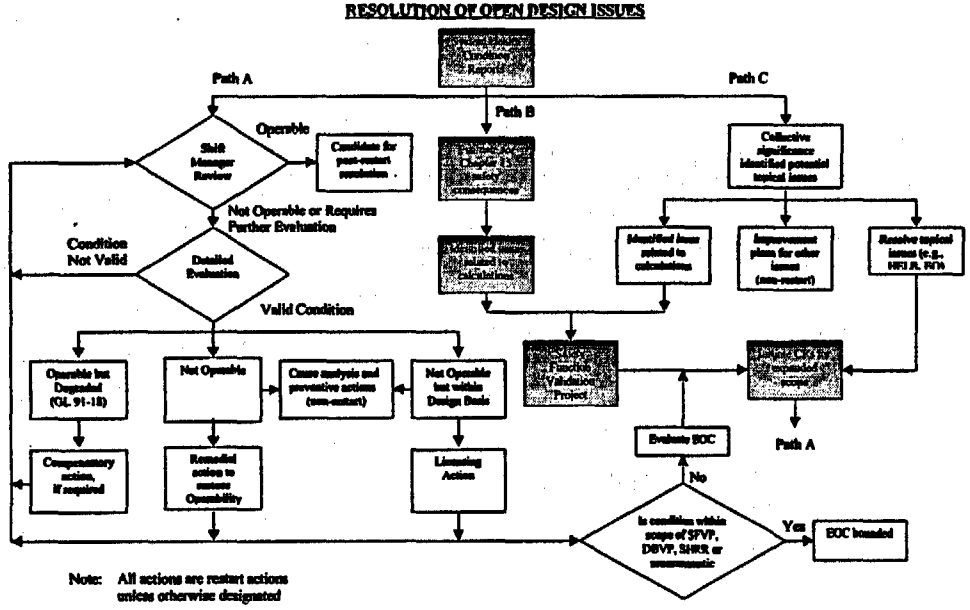
Resolution of Open Design Issues (Path B)



- Results
  - Prepare a summary report that evaluates results for all 15 systems to reach a conclusion on ability of plant to perform its risk-significant functions
  - Correct any operability issues prior to restart
  - If necessary, determine whether to expand scope

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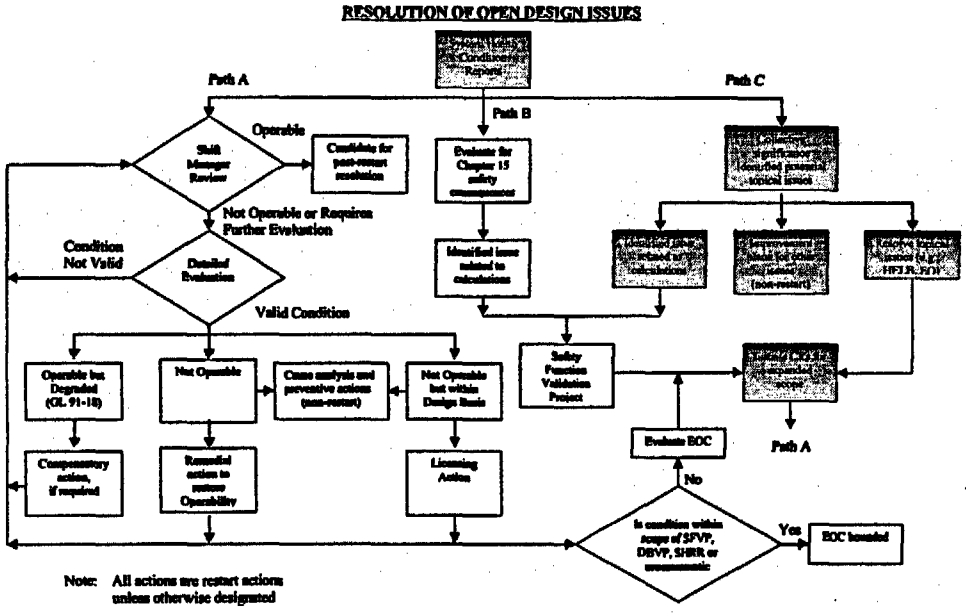
Resolution of Open Design Issues (Path C)



- Collective Significance Review performed of System Health Readiness
  - Calculation questions
  - Topical issues
    - High Energy Line Break (HELB)
    - Environmental Qualification (EQ)
    - Seismic Qualification
    - Fire Protection (Appendix R -Safe Shutdown)
    - Flooding
  - Other issues

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Resolution of Open Design Issues

- Schedule
  - Identified operability determinations and the Safety Function Validation Project are expected to be completed by the end of January, 2003

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Conclusion

System Health Assurance Plan and
the plan to resolve open design questions will provide
reasonable assurance that Davis-Besse
is ready to support safe and reliable plant operation

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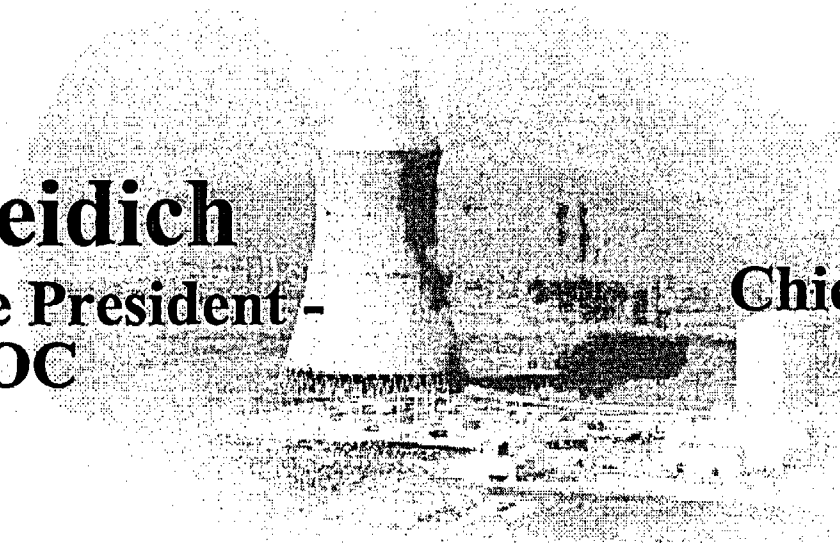
Closing Remarks

Gary Leidich
Executive Vice President - FENOC



Lew Myers
Chief Operating Officer - FENOC

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Closing Remarks

- Prior to restart
  - Resolve topical design issues
  - Validate the most risk-significant function capabilities
  - Address operability issues and extent of condition
- Completion of these will ensure the plant is ready for safe and reliable operations