



Constellation Energy

Nine Mile Point License Renewal NMP1 Drywell

Presentation to NRC LR Staff

March 27, 2006

The way energy **works**.™





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Agenda

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|-----------------------------------|------------------|
| • Introductions | Louis Larragoite |
| • Purpose | Peter Mazzaferro |
| • NMP1 Drywell Design | Peter Mazzaferro |
| • NMP1 Drywell Internal Condition | Peter Mazzaferro |
| • NMP1 Drywell External Condition | Robert Randall |
| • Conclusions | Robert Randall |



Introductions

- Louis Larragoite, Acting Manager, Fleet Licensing
- David Dellario, Director, Fleet Licensing Projects
- Robert Randall, Director, Ginna Licensing
- Peter Mazzaferro, NMP LR Project Manager
- Mohammed Alvi, Principal Engineer, Structural Design
- Ed Anderson, NMP ASME Program Manager
- Michael Fallin, NMP LR Project Lead



Purpose

- Provide NRC Staff with information to address LR SER Open Item on NMP1 Drywell
 - Condition of interior surface
 - Condition of exterior surface

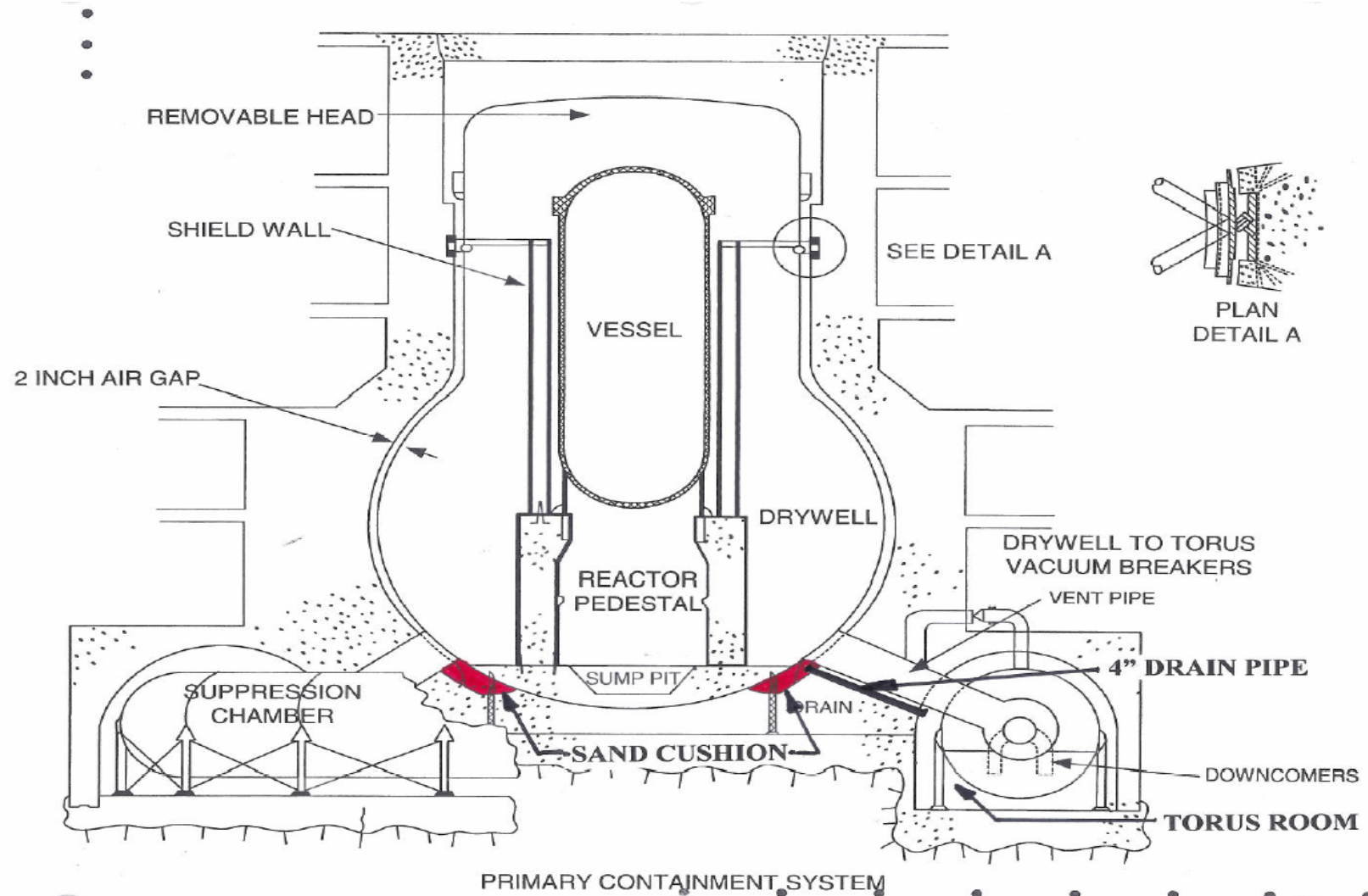


NMP1 Drywell Design

- GE Mark I Containment
- Carbon Steel Shell surrounded by Reinforced Concrete
 - ASTM-212 Grade B Firebox Steel
 - Cylindrical Region Coated
 - Shell Thickness in Cylindrical Region - 0.70"
 - Spherical Region Not Coated
 - Shell Thickness in Spherical Region - 0.77" to 1.50"



NMP1 Drywell Design





NMP1 Drywell Internal Condition

- ASME Section XI, Subsection IWE Examinations of Internal Surface (VT-3)
- 2001 Results - All Conditions Acceptable
 - Surface Rust in Cylindrical Region
 - Surface Rust in General Area of Spherical Region
 - Slightly More Rust in 6 Localized Areas
- 2003 Results - All Conditions Acceptable
 - Surface Rust in Cylindrical Region
 - Surface Rust in General Area of Spherical Region
 - Increased Rust in Same 6 Localized Areas
 - Condition entered into corrective action program



NMP1 Drywell Internal Condition

- 2003 Supplemental Exams and Engineering Evaluations
- Detailed Visual Examination (VT-1)
 - Surface Corrosion with No Pitting
 - Acceptable per Code
- UT Thickness Measurements
 - 4 UT Exams at Most Severe Conditions
 - Measured Thickness from 1.106" to 1.131"
 - Design Acceptance Criteria 1.049"
 - Acceptable with respect to Design



NMP1 Drywell Internal Condition

- 2007 Re-Examinations per Code
 - Visual Exam (VT-3) of Drywell Internal Surface
 - Detailed Exam (VT-1) of Same 6 Localized Areas
 - UT Measurements of Same 4 Locations
- 2007 Engineering Evaluation
 - Project shell thickness at end of PEO based upon measured loss
 - Determine if any additional inspections or actions are required
- Future Inspections in accordance with ASME Section XI, Subsection IWE and Engineering Evaluation
- Effective Aging Management Program Being Implemented to Prevent Loss of Intended Function of NMP1 Drywell

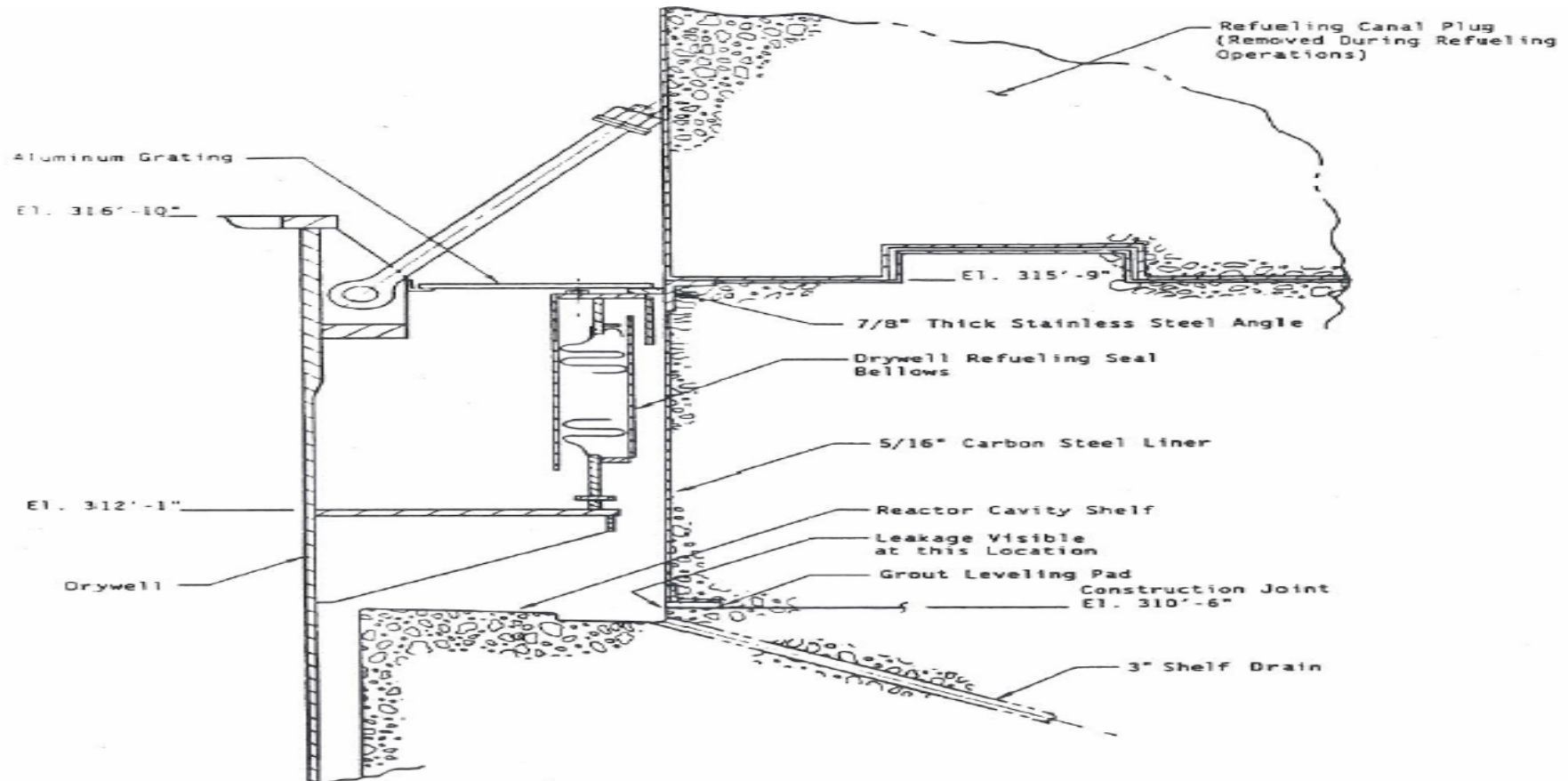


NMP1 Drywell External Condition

- GL 87-05 Identified Potential Degradation of Mark I Drywells
 - Water Leaked Past Refueling Seal into Air Gap and Sand Cushion Area
 - Corrosion Occurred on External Surface
 - UT Measurements Confirmed Loss of Material
- NMP Confirmed Similar Condition Did Not Exist
- NMP Confirms Similar Condition Does Not Exist



NMP1 Drywell External Condition



NINE MILE POINT UNIT 1
REACTOR HEAD CAVITY REFUELING SEAL
AND SHELF AREA

FIGURE 3

NER-007
Revision 0



NMP1 Drywell External Condition

- NMP Actions for GL 87-05 (Remote Visual Inspections)
 - Sand Cushion Drain Lines (10)
 - Portion of Drywell External Surface and Air Gap Adjacent to 2 Sand Cushion Drain Lines
 - Reactor Head Cavity Seal Leakage Drain Area
- Results
 - Sand Cushion Drain Lines Unobstructed
 - Air Gap Dry and No Evidence of Water Intrusion
 - Reactor Cavity Drain Lines Function Properly



NMP1 Drywell External Condition

- NMP1 Differences from GL 87-05 Event
 - Refueling Seal Drain Welded vs. Gasket
 - Drain Lines Unobstructed
 - Leakage from Reactor Cavity Repaired
- Confirming Activities
 - Periodic Visual Inspection of Sand Cushion Drain Lines (located in Torus Room)
 - No leakage from Reactor Cavity Shelf Drains



Conclusions

- NMP1 Drywell Internal Condition Effectively Managed
 - Implement ASME Section XI IWE Requirements
 - Confirmatory UT Thickness Measurements
 - Implement Additional Engineering Requirements
- NMP1 Drywell External Condition Effectively Managed
 - Confirmed No Leak into Air Gap
 - Leakage Collection and Drain Systems Functional
 - Periodic Visual Inspections of Sand Cushion Drains
- NMP1 Drywell is Effectively Managed to Prevent Loss of Intended Function Currently and through PEO



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