



Yankee Atomic Electric Company Final Status Survey and Groundwater Investigation

Meeting with USNRC
May 6, 2003

Agenda

- YNPS History
 - Decommissioning Activities Completed
 - Site End State
 - FSS for YNPS and Issues of Interest
 - Existing Groundwater Monitoring Wells
 - Monitoring Results
 - Monitoring Wells to Be Added
 - Sampling Schedule
 - Governing Procedures
 - Summary
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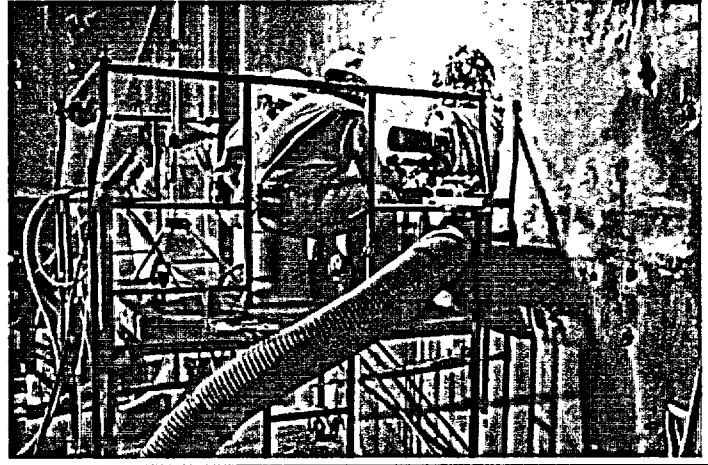
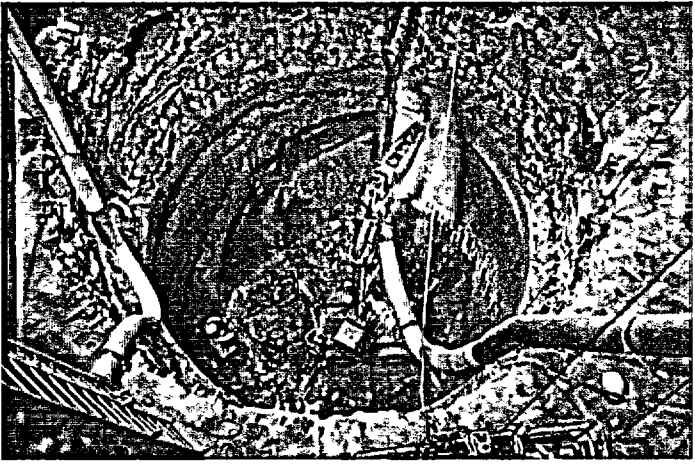
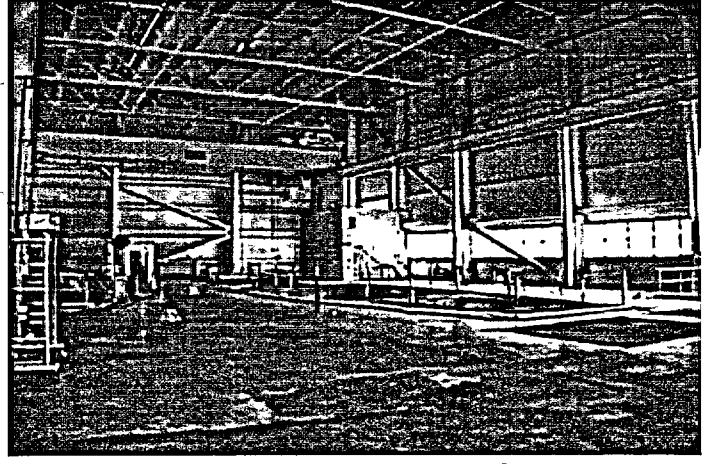
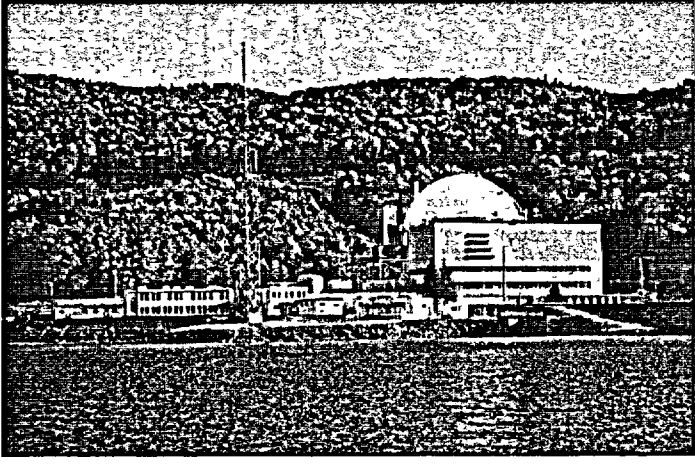
YNPS History

- Achieved Initial Criticality—1960
- Began Commercial Operation—1961
- Upgrade to 600 MWt—1963
- Decision to Cease Operations—2/1992
- Possession Only Status—8/1992
- Decommissioning Activities—1992-present
- Fuel Movement to ISFSI In Progress
(Anticipated Completion) - 6/2003

Activities Completed

- Large Components Removed
- Majority of SSCs Disposed of Off-Site
- Significant Remediation and Survey Activities Performed Under Previously Submitted LTP
- Surveys Conducted Based Upon Guidance in:
 - RG 1.86
 - Draft NUREG/CR-5849
 - Draft NUREG-1500

Activities Completed



Site End State Affects FSS Scope

- VC (Containment) Removed as Waste
- Selected Structures Removed to Grade
- Partial Structures to Remain (Perforated, Filled with Clean Fill)
 - PAB
 - IX Pit
 - SF Building
 - Intake Structure
- Miscellaneous Support Buildings to Remain
- Pads to Remain
 - Turbine Building
 - Waste Disposal Building
 - Service Building
 - Warehouse Building
 - VC Support Ring
- Remaining Buried Commodities Will Be Free Released

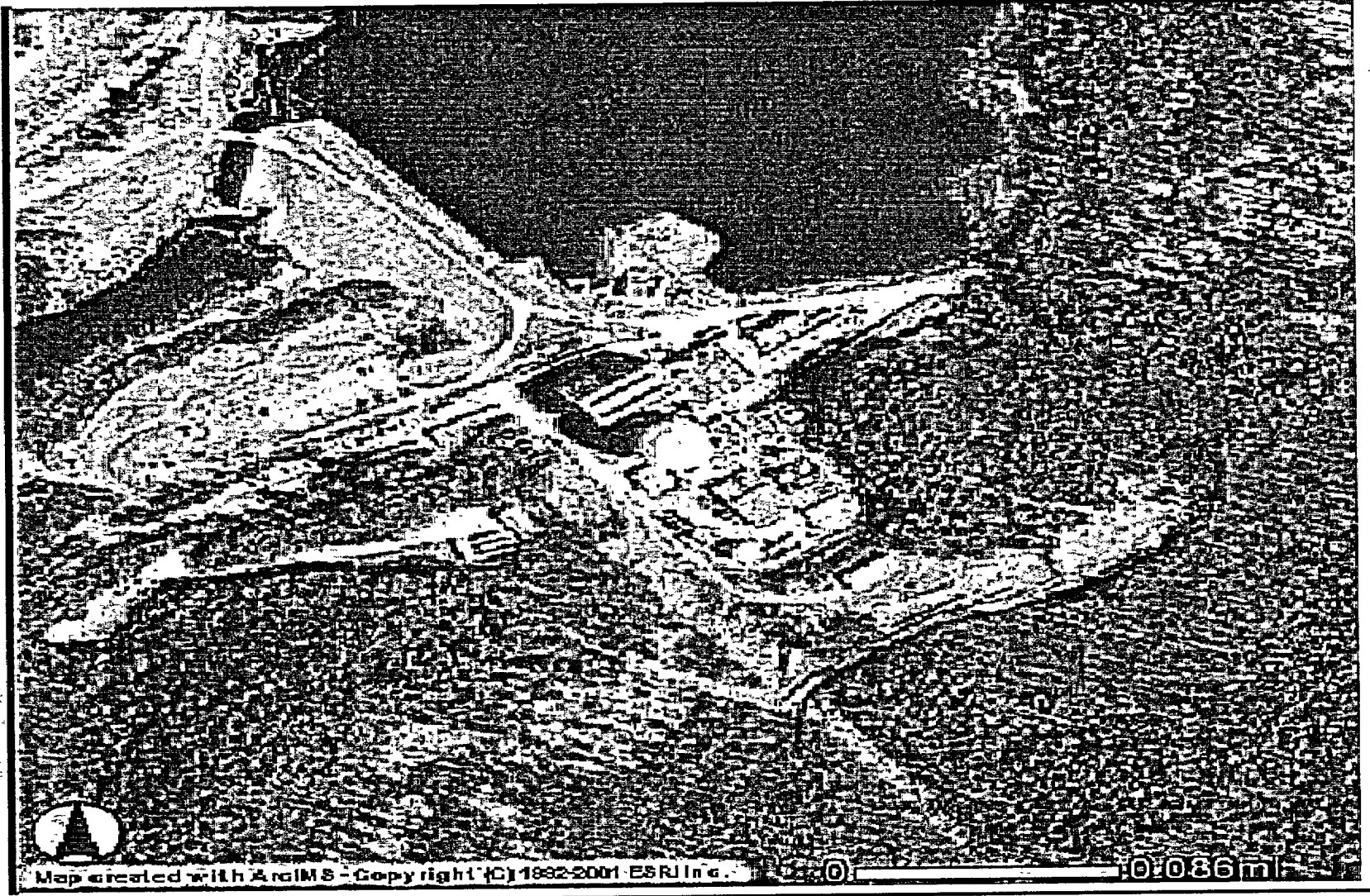
FSS for YNPS

- Follows MARSSIM
- Patterned After CY FSS Plan
- Considers Use of Advanced Monitoring Techniques
- Implemented Using Approved Procedures and Qualified Personnel
- Incorporates Extensive QA Process
- Assesses Data Thoroughly
- Reports Data Per NUREG-1700 Guidance

Issues of Interest to YNPS

- Evaluation of Impacts on Surveys from Fuel Loaded in ISFSI (Fuel Transfer to Be Completed in June 2003)
- Given Expected Site Status, Level of Surveillance Post-FSS Expected to Be Minimal
- Approach to Combining Media Expected to Be Simpler Than CY (No Concrete Debris w/Residual Contamination as Backfill and No Significant Level of Groundwater Contamination)
- Utilize Previous Survey Data

Aerial View of Rowe Site



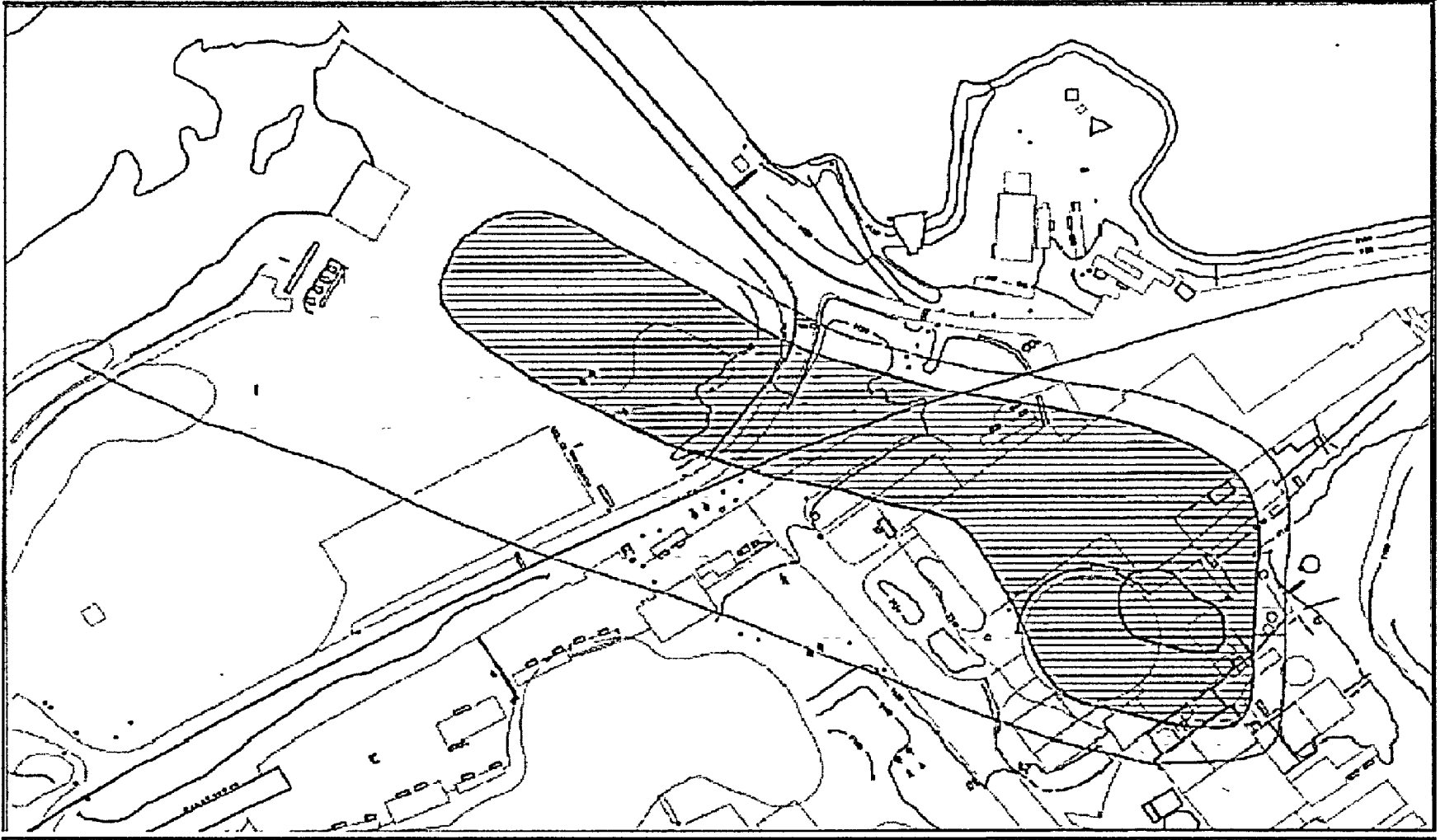
Numerous Monitoring Wells Exist on Site

- **34 Monitoring Wells Currently Exist**
 - 18 in Radiologically Controlled Area
 - 5 in Industrial General Site Area (Outside RCA)
 - 2 Outside of Industrial General Site Area (North of Site)
 - 1 South of General Site Area
 - 8 in Southeast Construction Fill Area
- **Site Potable Supply Well Also Available**

Summary of Results—1997 to 2001

- Low Levels of Sr-90 (0.54 to 1.04 pCi/L) in 5 Wells in 1997-1998; None Since.
- Low Levels of Co-60 (3.96 pCi/L) & Cs-137 (8.60 pCi/L) in MW-3, under VC.
- Low Levels of H-3 :
 - Decreased 25 to 40% in virtually all wells since 1997
 - As of July '00 range is <MDC to 4,930 pCi/L (MW-5, under VC).
 - In April '01, 6,400 pCi/L detected in CB-10 (Ion Exchange Pit).

Current Estimate of Tritium Plume



Data Gaps Currently Exist

- Few “Bedrock” Wells
- No Deep/Shallow Well Pairs
- Previously Identified “Nested Boulder” Layer (Possible Contaminant Pathway) Not Well Characterized
- Vertical and Horizontal Extent of the Plume Needs Better Definition
- No Data for Groundwater Discharge to Deerfield River
- No Sampling of Bedrock Background Well

Proposed Wells Fill Data Gaps

- 12 Wells Proposed, Including:
 - 7 “Bedrock” Wells
 - 5 Deep/Shallow Well Pairs
- Wells to Characterize “Nested Boulder” Layer in Vicinity of VC
- Well Pair at PG&E Hydro Plant to Define Downgradient Extent of Plume
- Sampling of Site Potable Supply Well as Bedrock Background

Iterative Approach to Investigation

- Sample New and Existing Wells
- Review Sample Data
- Refine Hydrogeological Assumptions and Understanding of Plume Profile
- Adjust Locations and Frequency of Monitoring, If Necessary

Proposed Sampling Schedule

	Gammas	H-3 Gross α & β	β Emitters	α Emitters
Baseline	All	All	All	All
Q1	24 + supply well	41 + supply well	19 + supply well	19 + supply well
Q2	25 + supply well	32 + supply well	19 + supply well	19 + supply well
Q3	24 + supply well	41 + supply well	19 + supply well	19 + supply well
Q4	25 + supply well	32 + supply well	19 + supply well	19 + supply well

Well Drilling and Sampling Schedule

- Timely Stakeholder Input On Well Locations Requested
 - Drilling to Begin in May to Provide Latest Sampling Data for LTP
 - First Round of Sampling at End of July
 - Sample Results (1st Round) Expected by Mid September
 - Inclusion of 1st Round Results in LTP Submittal in Late November
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Approved Procedures Govern Drilling and Sampling

- AP-9601: QA Plan for Sample Data Quality
- AP-8601: Well Water Monitoring Program
- DP-8603: Radiochemical DQAs
- OP-8122: Well Monitoring Installation
- DP-8123: Chain of Custody
- DP-9745: Well Level Measurement and Sample Collection in Wells

Important Issues Summary

- Many Monitoring Wells Currently Exist Onsite
 - Groundwater Contamination Is Currently Understood to Be Low (< Drinking Water MCLs)
 - Data Gaps Do Exist
 - New Monitoring Wells Fill Known Gaps
 - Sampling Plan Is Rigorous
 - Timely Stakeholder Feedback Is Desired
 - Time Is of the Essence for Drilling
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Milestones to Obtain LTP Approval in 2004

- Public Comments Received on Draft: 10/2003
 - Submittal to NRC: 11/2003
 - Public Meeting: 3/2004
 - RAI Issued: 6/2004
 - RAI Response: 9/2004
 - NRC Approval: 11/2004
 - Complete FSS: 2005
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- Dose Modeling Calcs Submitted: 6/2003
 - Public Comments Received
on Draft: 10/2003
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