



PUBLIC MEETING
U.S. NUCLEAR REGULATORY COMMISSION
OAK HARBOR, OHIO

October 16, 2002, 9:00 am EDT

Purpose of Meeting

**Discuss preliminary findings and observations from the two
NRC special inspections conducted to review the public and
occupational exposure consequences of steam generator
nozzle dam installations at Davis-Besse**



AGENDA

- I. Introduction and Opening Remarks**
- II. Summary Of Planning For And Conduct Of Steam Generator Nozzle Dam Installation**
- III. Summary Of Release Of Contaminated Workers To The Public Domain And Consequences**
- IV. Summary Of Dose To Workers From Internal Contamination During Work**
- V. Summary Of Findings**
- VI. Comments/Questions From Local Members Of The Public**
- VII. Comments/Questions From All Members Of The Public**
- VIII. Adjourn Meeting**



U.S. NUCLEAR REGULATORY COMMISSION PUBLIC AND OCCUPATIONAL RADIATION SAFETY SPECIAL INSPECTION TEAMS (SITs) EXIT MEETING

OPENING REMARKS/INTRODUCTIONS

USNRC REPRESENTATIVES

TOM KOZAK - TEAM LEADER, OCCUPATIONAL SIT

JOHN HOUSE - TEAM LEADER, PUBLIC SIT

JACK GROBE - CHAIRMAN, MC 0350 PANEL

BILL DEAN - VICE CHAIRMAN, MC 0350 PANEL

TONY MENDIOLA - SECTION CHIEF PDIII-2, NRR

CHRISTINE LIPA - BRANCH CHIEF, RPB 4, DRP, RIII

SCOTT THOMAS - SENIOR RESIDENT INSPECTOR, DB

JAY COLLINS - GENERAL ENGINEER



OPENING REMARKS/INTRODUCTIONS (cont.)

- **SIT DISPATCHED ON APRIL 17, 2002 TO REVIEW CONTAMINATED WORKERS IN PUBLIC DOMAIN**
- **2ND SIT DISPATCHED ON SEPTEMBER 30 TO REVIEW POTENTIAL OVEREXPOSURE TO WORKERS DURING SG NOZZLE DAM INSTALLATIONS**
- **RESULTS WILL BE DOCUMENTED IN INSPECTION REPORT NOS. 02-06 AND 02-16 UNDER ONE COVER LETTER**
- **RESULTS ARE CONSIDERED AS “UNRESOLVED ITEMS” AND RISK ASSESSMENT AS “TO BE DETERMINED” UNTIL RISK ASSESSMENT IS COMPLETED**
- **RISK WILL BE EVALUATED USING THE PUBLIC AND OCCUPATIONAL RADIATION SAFETY SIGNIFICANCE DETERMINATION PROCESSES (SDPs)**



SUMMARY OF PLANNING FOR AND CONDUCT OF STEAM GENERATOR NOZZLE DAM INSTALLATIONS

- **EVALUATION OF POTENTIAL RADIOLOGICAL HAZARDS NOT ADEQUATE TO IDENTIFY AND PROTECT AGAINST ALPHA EMITTING RADIATION**
- **MISSED OPPORTUNITIES TO IDENTIFY POTENTIAL HAZARD**

INCREASING ALPHA EMITTER TREND

HIGHER THAN PREVIOUS IODINE LEVEL IN RCS

CRUD BURST JUST PRIOR TO SG BOWL ENTRY

**VERY HIGH CONTAMINATION LEVEL IDENTIFIED
ON SG DIAPHRAGM**

**ALPHA PARTICLES IDENTIFIED IN SG PLATFORM
AIR SAMPLE**

- **SUBSTANTIAL POTENTIAL FOR OVEREXPOSURE**



SUMMARY OF RELEASE OF EXTERNALLY CONTAMINATED WORKERS TO THE PUBLIC DOMAIN

- **SIX WORKERS INTERNALLY AND EXTERNALLY CONTAMINATED DURING SG NOZZLE DAM INSTALLATIONS**
- **SEVERAL ATTEMPTS MADE TO DECONTAMINATE THE WORKERS**
- **CONTAMINATION SURVEYS CONDUCTED AT RRA EXIT WERE INADEQUATE**

DID NOT IDENTIFY ALL EXTERNAL CONTAMINATION

SOME PERSONAL CLOTHING NOT SURVEYED

- **FOUR WORKERS FOUND CONTAMINATED AT OTHER SITES**
- **16 DRPs FOUND IN PUBLIC DOMAIN**
- **DOSE CALCULATIONS - NO ADVERSE HEALTH EFFECTS TO WORKERS OR PUBLIC FROM DRPs**



SUMMARY OF DOSE TO WORKERS FROM INTERNAL CONTAMINATION DURING WORK

- **TWO WORKERS RECEIVED RELATIVELY LARGE INTERNAL CONTAMINATIONS**
- **INITIAL ASSESSMENT CONDUCTED WITH WBC WHICH IS NOT SUITABLE TO MEASURE ALPHAS**
- **CONCENTRATIONS OF RADIOACTIVE MATERIAL IN AIR IN WORK AREAS NOT MEASURED**
- **DOSE ASSIGNED PRIMARILY BASED ON GAMMA EMITTING RADIATION**
- **CONTAMINATION IDENTIFIED TO CONTAIN HIGH ALPHA EMITTER CONCENTRATIONS IN AUGUST**
- **DOSE RECALCULATED USING SCALING FACTORS, RESULTS UNCERTAIN**
- **MULTIPLE BIOASSAY SAMPLES OBTAINED FROM WORKERS**
- **SAMPLES WERE NOT TIMELY - AWAITING RESULTS**



SUMMARY OF PRELIMINARY FINDINGS

- **FAILURE TO ADEQUATELY IDENTIFY AND EVALUATE THE RADIOLOGICAL HAZARDS PRESENT IN SPITE OF NUMEROUS OPPORTUNITIES - SUBSTANTIAL POTENTIAL FOR AN OVEREXPOSURE**
- **FAILURE TO CONDUCT TIMELY AND SUITABLE MEASUREMENTS OF CONCENTRATIONS OF RADIOACTIVE MATERIAL IN AIR IN WORK AREAS OR OF CONCENTRATIONS OF RADIONUCLIDES EXCRETED FROM THE BODY - COMPROMISED THE ABILITY TO ASSESS DOSE**
- **FAILURE TO ADEQUATELY SURVEY WORKERS PRIOR TO RELEASE FROM SITE - RESULTED IN THE RELEASE OF RADIOACTIVE MATERIAL OUTSIDE CONTROLLED AREA INTO THE PUBLIC DOMAIN**
- **THE FINDINGS ARE UNRESOLVED ITEMS WHOSE SIGNIFICANCE IS TO BE DETERMINED - EACH FINDING MAY INVOLVE VIOLATIONS OF NRC REQUIREMENTS**