



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**