

SUPPLEMENT TO CAUSE DESCRIPTION

THE 04-12-82 EVENT, WHERE THE CHARCOAL FILTERS WERE RETURNED TO SERVICE WITHOUT TESTING AS REQUIRED BY TECHNICAL SPECIFICATIONS 4.7.6.1.f, IS DESCRIBED BELOW:

IN MARCH 1982, PERFORMANCE SECTION PERSONNEL INITIATED A JOB ORDER TO REMOVE CHARCOAL FROM ESF VENTILATION UNITS 1-HV-AES-1 AND 2 CHARCOAL BEDS AND FILL CHARCOAL TEST CANISTERS AS PART OF A PLANNED SURVEILLANCE TEST. CONSTRUCTION PERSONNEL WERE ASSIGNED TO PERFORM THIS WORK. DUE TO TEST EQUIPMENT FAILURES, WORK WAS DELAYED UNTIL THE TEST EQUIPMENT COULD BE REPAIRED. THIS TEST EQUIPMENT WAS NEEDED TO FULFILL TECHNICAL SPECIFICATIONS REQUIRED TESTING FOLLOWING A FULL OR PARTIAL CHARCOAL BED REPLACEMENT. THE PERFORMANCE ENGINEER NOTIFIED CONSTRUCTION PERSONNEL THAT THIS WORK WOULD BE RESCHEDULED FOR 04-12-82.

ON 04-10-82, OPERATIONS PERSONNEL PERFORMED AN 18 MONTH SURVEILLANCE TEST ON THE ESF VENTILATION SYSTEM UNRELATED TO THE ABOVE CHARCOAL SURVEILLANCE TEST. THE DELTA-P ACROSS THE COMBINED HEPA FILTERS AND CHARCOAL ABSORBER BANKS FOR FAN 1-HV-AES-1 WAS FOUND TO BE 5.6 INCHES OF WATER, WHICH WAS ABOVE THE ALLOWABLE VALUE STATED IN THE SURVEILLANCE TEST PROCEDURE BUT WITHIN THE TECHNICAL SPECIFICATION LIMITS. OPERATIONS PERSONNEL, HOWEVER, DECLARED THE HEPA FILTERS FOR THIS UNIT INOPERABLE ON 04-10-82 BASED ON THE SURVEILLANCE TEST PROCEDURE LIMITS AND INITIATED A JOB ORDER TO REPLACE THE HEPA FILTERS.

ON 04-12-82, A CLEARANCE WAS ISSUED BY OPERATIONS WITH THE REASON STATED ON THE CLEARANCE REQUEST UNDER THE PURPOSE SECTION "CHANGE FILTERS". THIS CLEARANCE WAS REQUESTED BY MAINTENANCE PERSONNEL TO CHANGE THE HEPA FILTERS FOR FAN 1-HV-AES-1. THE PERFORMANCE ENGINEER SAW THE CLEARANCE PERMIT ALLOWING WORK TO START FOR THE FILTER CHANGE, AND INCORRECTLY ASSUMED THAT THIS CLEARANCE WAS FOR WORK TO BE PERFORMED ON THE CHARCOAL FILTERS. THE ENGINEER ALSO INCORRECTLY ASSUMED THAT THE SHIFT SUPERVISOR WAS AWARE OF THE CHARCOAL FILTER CHANGE. FOR THAT REASON, THE ENGINEER CONTACTED THE CONSTRUCTION PERSONNEL AND INFORMED THEM THAT A CLEARANCE PERMIT WAS POSTED AND THAT THE CHARCOAL FILTER WORK COULD BEGIN. THE CHARCOAL FILTER BED SAMPLES WERE OBTAINED AND WORK COMPLETED ON 04-12-82.

ALSO ON 4-12-82, A REVIEW, BY ANOTHER PERFORMANCE ENGINEER, OF THE 1-HV-AES-1 HEPA FILTER HIGH DELTA-P DATA TAKEN BY OPERATIONS PERSONNEL ON 04-10-82 INDICATED THAT THE HEPA FILTER DELTA-P VALUES DID NOT EXCEED THE ALLOWABLE TECHNICAL SPECIFICATION LIMITS OF 6 INCHES OF WATER. OPERATIONS WAS INFORMED THAT THE HEPA FILTERS WERE ACTUALLY OPERABLE AND DID NOT REQUIRE IMMEDIATE CHANGEOUT. THE SHIFT SUPERVISOR, NOT KNOWING THAT THE CHARCOAL BEDS HAD BEEN CHANGED, DECLARED THE 1-HV-AES-1 FAN OPERABLE AND NOTIFIED MAINTENANCE PERSONNEL. ON 04-12-82 AT 1600 HOURS, MAINTENANCE PERSONNEL RELEASED THE CLEARANCE WHICH WAS ISSUED FOR THE FILTER CHANGE.

ON 04-14-82, THE PERFORMANCE ENGINEER WAS IN THE SHIFT SUPERVISOR'S OFFICE AND NOTICED THAT 1-HV-AES-1 FAN WAS NOT LISTED ON THE STATUS BOARD WHICH LISTED INOPERABLE TECHNICAL SPECIFICATION EQUIPMENT. THE ENGINEER WAS NOT AWARE THAT THE CLEARANCE HAD BEEN RELEASED. THE ENGINEER KNEW THAT THE CHARCOAL FILTERS HAD BEEN CHANGED ON 04-12-82, AND WERE NOT RETESTED PER TECHNICAL SPECIFICATIONS 4.7.6.1.f. THE SHIFT SUPERVISOR DECLARED THE 1-HV-AES-1 FAN INOPERABLE AT 0845 HOURS ON 04-14-82.

INVESTIGATION INTO THIS EVENT ALSO REVEALED THAT IT HAS BEEN A PRACTICE FOR THE CONSTRUCTION JOB ORDER CLERK TO BRING A GROUP OF JOB ORDERS TO THE SHIFT SUPERVISOR FOR APPROVAL SEVERAL DAYS IN ADVANCE OF THE ACTUAL START OF A JOB. AFTER WORK IS COMPLETED BY CONSTRUCTION PERSONNEL, OPERATIONS IS NOT ALWAYS NOTIFIED IMMEDIATELY. THE CONSTRUCTION JOB ORDER CLERK APPARENTLY WAITS UNTIL SEVERAL COMPLETED JOB ORDERS HAVE ACCUMULATED AND THEN TAKES THESE ORDERS TO THE SHIFT SUPERVISOR FOR THE NOTIFICATION OF COMPLETION.

THE PRACTICE OF OBTAINING THE SHIFT SUPERVISOR'S APPROVAL FOR START OF WORK ON THE JOB ORDER SEVERAL DAYS IN ADVANCE OF THE ACTUAL START OF WORK, COUPLED WITH THE LACK OF FOLLOWUP ON THE PART OF THE PERFORMANCE ENGINEER ALLOWED WORK TO BE STARTED ON THE CHARCOAL FILTERS ON 04-12-82 WITHOUT THE SHIFT SUPERVISOR'S KNOWLEDGE.

THE 04-19-82 EVENT, WHERE THE 1-HV-AES-1 HEPA FILTERS WERE CHANGED AND NOT TESTED IN ACCORDANCE WITH TECHNICAL SPECIFICATION 4.7.6.1.e, IS DESCRIBED BELOW:

ON 04-19-82, CONSTRUCTION OBTAINED REPLACEMENT HEPA FILTERS FOR 1-HV-AES-1. CONSTRUCTION PERSONNEL NOTIFIED THE APPROPRIATE PERFORMANCE ENGINEER WHO ACKNOWLEDGED THAT THE HEPA FILTER CHANGEOUT COULD BE SCHEDULED. CONSTRUCTION PERSONNEL THEN NOTIFIED THE CONTROL ROOM AND OPERATIONS PERSONNEL UNLOCKED THE VENTILATION HOUSING TO ALLOW THE CONSTRUCTION PERSONNEL ACCESS FOR THE HEPA FILTER CHANGE.

AGAIN, AS IN THE PREVIOUS EVENT, THE APPROVAL TO START WORK FOR THE JOB ORDER WAS OBTAINED SEVERAL DAYS IN ADVANCE OF THE ACTUAL START OF THE JOB. WITHOUT NOTIFICATION FROM THE CONTROL ROOM AND THE FACT THAT THE JOB ORDER WAS SIGNED SOME TIME IN ADVANCE OF THE WORK START DATE, THE SHIFT SUPERVISOR WAS THEREFORE UNAWARE THAT THE HEPA FILTERS WERE BEING CHANGED. FOR THIS REASON, THE 1-HV-AES-1 FAN WAS NOT DECLARED INOPERABLE AND WAS SUBSEQUENTLY NOT TESTED AS REQUIRED BY TECHNICAL SPECIFICATIONS 4.7.6.1.e.

ON 04-23-82, THE PERFORMANCE ENGINEER LEARNED THAT THE 1-HV-AES-1 HEPA FILTERS HAD BEEN CHANGED ON 04-19-82 WITHOUT THE 1-HV-AES-1 FAN HAVING BEEN DECLARED INOPERABLE AND WITHOUT A RETEST BEING PERFORMED. THE 1-HV-AES-1 FAN WAS DECLARED INOPERABLE AND RETESTED, AS REQUIRED BY TECHNICAL SPECIFICATION 4.7.6.1.e, ON THE SAME DAY.

TO PREVENT RECCURRENCE, THE FOLLOWING CORRECTIVE MEASURES HAVE BEEN COMPLETED:

1. PMP 2110 CPS.001 (CLEARANCE PERMIT SYSTEM)
WAS MODIFIED TO REQUIRE A CLEARANCE WHENEVER THE STATUS OF BREAKERS, VALVES, ETC. OF ANY T.S. RELATED EQUIPMENT IS ALTERED SO AS TO CAUSE THE EQUIPMENT TO BECOME INOPERABLE IN THE MODE IN WHICH IT IS REQUIRED.
2. PMI 9010 (I&M CONSTRUCTION QC MANUAL)
WAS MODIFIED TO REQUIRE SHIFT SUPERVISOR NOTIFICATION WHEN WORK IS ACTUALLY GOING TO START ON EQUIPMENT THAT CAN AFFECT AN OPERATING SYSTEM.

3. 12 THP 4030 STP.201 (CHARCOAL AND HEPA FILTER TEST)
WAS MODIFIED TO REQUIRE THE COGNIZANT PERFORMANCE ENGINEER
TO OBTAIN A CLEARANCE ON THE APPLICABLE FAN AND FILTER
PRIOR TO THE START OF PHYSICAL WORK REQUIRED TO COMPLETE
A SURVEILLANCE TEST ON THESE SYSTEMS.
4. A MEMO WAS SENT TO APPLICABLE OPERATIONS PERSONNEL CONCERNING
APPROVAL OF JOB ORDERS FOR WORK ON T.S. RELATED EQUIPMENT.
5. A MEMO WAS SENT TO ALL PERFORMANCE ENGINEERS WHICH INCLUDED
INFORMATION CONCERNING THESE EVENTS AND EMPHASIZED THAT FOLLOW-
UP ACTIONS ARE NECESSARY TO PREVENT RECCURRENCES.