

Office Memorandum • UNITED STATES GOVERNMENT

TO : A. R. Luedecke, General Manager

DATE: APR 18 1960

FROM : Curtis A. Nelson, Director
Division of InspectionSUBJECT: RADIATION INCIDENT, WESTINGHOUSE TESTING REACTOR,
WALTZ MILLS, PENNSYLVANIA - DOCKET NO. 50-22

Symbol: INS:PAM

This incident, which occurred on April 3, 1960, was reported to the NY Inspection Division and the Division of Inspection, HQ, by telephone on April 4, 1960. A written memorandum from Westinghouse to the Director, Division of Licensing and Regulation was received on April 7, 1960 (a copy of which was furnished you). A press release was issued by Westinghouse on April 4, 1960 and the JCAE was informed by phone on this date.

Further information, developed by the Inspection Division, NY, indicates that this incident should be classified as a Type A Radiation Incident, under AEC 0707-053, in that the lost time, as a direct result of the incident will probably exceed one week and that the cost will probably exceed \$100,000. (A copy of the NY Office TWX is attached.) It was reported by phone on April 18, 1960 that it appears that one fuel element had melted in two; the upper piece has been removed from the reactor, the lower piece remains.

There has been no overexposure of personnel and no detectable contamination of the environment.

A committee has been established (AEC 0707) to conduct an appropriate investigation and to prepare findings and recommendations for this office, as follows:

Marvin M. Mann, Assistant Director for Compliance
Division of Inspection
John R. Sears, Inspection Division, NY
Merson Booth, Div. of Licensing and Regulation
Vincent A. Walker, Division of Inspection

Chairman
Member
Member
Member

(continued)

WTR
A/20

A. R. Luedecke

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The committee will meet at Waltz Mills, Pennsylvania in the near future. You will be kept informed of significant developments and when the committee's report is completed, you will be furnished a copy, together with the recommendations of this Division.

A letter to the Joint Committee, to inform them of these developments has been prepared for your signature.

A copy of this memorandum, together with the enclosure, has been furnished the AGMR&S, L&R, OGC, IS, B&M, H&S and the NY Manager.

✓ Enclosure:

Cpy TWX fr NY, 4/15/60

P R I O R I T Y

TDX NR 215

FM ROBERT W KIRKMAN DIRECTOR INSPECTION DIVISION

USAEC NEW YORK OPERATIONS OFFICE NEW YORK NY

TO US ATOMIC ENERGY COMMISSION DIV OF INSPECTION WASHINGTON D C

ATTN DR M M MANN CMA ASST DIRECTOR FOR COMPLIANCE

APRIL

AS PER YOUR TELEPHONE REQUEST CMA INFORMATION OBTAINED DURING INITIAL INVESTIGATION OF WTR REACTOR CMA WALTZ MILL CMA PENNSYLVANIA FOLLOWS CLN REACTOR HAD BEEN OPERATING AT STEADY STATE OF FORTY MW WITH A PRIMARY COOLANT FLOW OF FIFTEEN THOUSAND GPM PD IN CONNECTION WITH REDUCED FLOW EXPERIMENTS CMA POWER LEVEL WAS CUT TO THIRTY MW AT ABOUT NINETEEN HUNDRED ON APRIL 3 PD NORMAL REACTOR INSTRUMENTATION WAS IN SERVICE AND A CHAMBER CMA USED IN BUBBLE VOID EXPERIMENTS WAS CONNECTED TO A BRUSH RECORDER ON A BALCONY IN THE REACTOR VAPOR CONTAINER PD TWO FUEL ELEMENTS HAD BEEN INSTRUMENTED WITH THERMOCOUPLES SEEING WATER TEMPERATURES IN FUEL ELEMENT CHANNELS PD AVERAGE OF TC'S ON ONE ELEMENT DURING FORTY MW CMA FIFTEEN THOUSAND GPM OPERATION CMA WAS ONE HUNDRED SIXTY DEGREE FAHRENHEIT PD OTHER ELEMENT TC'S AVERAGED TWO HUNDRED SEVENTY FIVE DEGREE FAHRENHEIT PD THESE SECOND ELEMENT TC'S WERE NOT BELIEVED TO GIVE ACCURATE INDICATION BY WESTINGHOUSE CMA SINCE HEAT TRANSFER CALCULATIONS SHOWED THAT ACTUAL TEMPERATURES SHOULD AGREE WITH THE FIRST ELEMENT PD

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AN OPERATOR CMA A SHIFT SUPERVISOR AND A. PRESSESKEY CMA MGR OF SCIENTIFIC SUPPORT SECTION CMA WERE IN CONTROL ROOM PD M. SCHULTZ CMA WTR MGR CMA WAS IN REACTOR ELDC OBSERVING BRUSH RECORDINGS PD AT NINETEEN FIFTY HOURS PRIMARY FLOW REDUCTION STARTED PD AT 20 HUNDRED HOURS CMA PRIMARY COOLANT WAS AT FIVE THOUSAND TWO HUNDRED FIFTY GPM CMA POWER AT THIRTY MW PD FIRST ELEMENT TC'S AVERAGED ONE HUNDRED EIGHTY EIGHT DEGREES FAHRENHEIT CMA SECOND ELEMENT AVERAGED TWO HUNDRED FIFTY TWO DEGREES FAHRENHEIT PD AT TWENTY TWENTY HOURS POWER INCREASED TO THIRTY SEVEN MW CMA THEN LEVELED OUT AT THIRTY FIVE MW PD FIRST ELEMENT TC'S TWO HUNDRED THREE DEGREE FAHRENHEIT PD SECOND ELEMENT TC'S TWO HUNDRED EIGHTY THREE DEGREE FAHRENHEIT PD PERTURBATIONS ON BRUSH RECORDER CORRESPONDED TO ONE HUNDRED FIFTY KW CMA SIMILAR TO FORMER REDUCED FLOW EXPERIMENTS PD AT TWENTY THIRTY ~~FOUR~~ FOUR HOURS CMA POWER INCREASED TO FORTY MW CMA FIRST ELEMENT TC'S AT TWO HUNDRED TEN DEGREE FAHRENHEIT CMA SECOND ELEMENT AVERAGED TWO HUNDRED NINETY TWO DEGREE FAHRENHEIT PD BRUSH RECORDER PERTURBATIONS INCREASED TO SIX HUNDRED KW FOR SIX SECONDS PD CONTROL ROOM NEUTRON POWER LEVEL RECORDER DROPPED RAPIDLY TO SEVENTEEN MW CMA FIRST ELEMENT TC'S AT ONE HUNDRED SIXTY DEGREE FAHRENHEIT CMA SECOND ELEMENT ONE HUNDRED NINETY DEGREE FAHRENHEIT CMA BRUSH RECORDER INDICATED A LEVEL OFF IN POWER PD AT TWENTY THIRTY FIVE HOURS CMA AUTO POWER DEMAND WAS SET FOR FORTY MW CMA AND NUMBER NINE ROD DROVE FULL OUT SCRM CONTROL SWITCHED TO NUMBER EIGHT WHICH DROVE FULL OUT PD AT TWENTY THIRTY SIX HOURS CMA REACTOR TOP RADIATION MONITOR COMMENCED ALARMING PD POWER WAS NOW FORTY MW CMA FIRST ELEMENT TC'S AT TWO HUNDRED FOURTEEN

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FAHRENHEIT CMA SECOND ELEMENT AT TWO HUNDRED NINETY FIVE DEGREE
FAHRENHEIT CMA BRUSH RECORDINGS INDICATED FIVE HUNDRED KW PERTURBATIONS
PD REACTOR WAS CUT BACK TO FIFTEEN MW AND THEN AS ALL RADIATION MONITO
ALARMED CMA THE REACTOR WAS SCRAMMED PD FOLLOWING THE SCRAM CMA EVACUA
TION REQUEST WAS SOUNDED OVER FEMCO SYSTEM PD HEALTH PHYSICIST ON DUTY
CMA D. WILLHOIT CMA REMAINED TO CONDUCT PRELIMINARY SURVEYS CONSISTING
OF AIR SAMPLES CMA SMEAR SAMPLES AND DIRECT READINGS PD RESULTS OF
SOME DIRECT READINGS AS RECORDED AT AT TWENTY ONE HUNDRED ARE AS
FOLLOWS CLN

FIVE R/HR TWO METERS FROM HEAD TANK MONITOR

FORTY MR/HR IN CONTROL ROOM

ONE R/HR AT REACTOR TOP

FOUR R/HR AT HEAD TANK EXCLUSION FENCE

FIRST ASSEMBLY POINT WAS AT GUARD HOUSE AT MAIN GATE BUT DUE TO READING
OF TWO HUNDRED MR/HR AT THIS POINT CMA ALL PERSONNEL PROCEEDED BY CAR
TO LICENSEE'S GUEST HOUSE PAREN SEUBERT HOUSE PAREN ABOUT ONE THIRD
OF A MILE AWAY PD IN ANOTHER GUEST HOUSE CMA ABOUT ONE QUARTER MILE
AWAY PAREN FABIAN HOUSE PAREN A COUNTING STATION WAS SET UP PD
SECURITY POLICE ERECTED ROAD BLOCKS AND INSTRUCTED ALL PERSONS ARRIVING
FOR THIRD SHIFT TO RETURN TO THEIR HOMES PD PRELIMINARY RESULTS OF
SMEAR AND AIR SAMPLES TAKEN BOTH INSIDE AND OUTSIDE OF THE FACILITY
WERE NEGATIVE INDICATING THAT HIGH LEVELS OF RADIATION RESULTED FROM
AN ESTIMATED MAXIMUM TEN THOUSAND CURIES OF FISSION PRODUCTS CON-
TAINED IN ELEVATED HEAD TANK PD A HEAD TANK GASEOUS MONITOR WENT OFF
SCALE IMMEDIATELY FOLLOWING SCRAM PD ABOUT FIVE MINUTES LATER SCALE

WAS CHANGED ON THIS INSTRUMENT AND IN A SHORT TIME GASEOUS ACTIVITY RETURNED TO BACKGROUND COUNT PD LICENSEE'S EXTRAPOLATION OF THIS CHART ESTIMATED THAT ABOUT EIGHT HUNDRED Curies OF GASEOUS ACTIVITY WAS RELEASED TO THE ATMOSPHERE IN THIS FIVE MINUTE INTERVAL PD THIS CMA HOWEVER CMA IS AN ESTIMATE INASMUCH AS THIS MONITOR WAS OFF SCALE FOR FIVE MINUTES PD IT IS BELIEVED THAT ALL ACTIVITY RELEASED WAS ARGON CMA XENON AND KRYPTON GASES INASMUCH AS RECORDS OF ENVIRONMENTAL SURVEYS PAREN SOIL CMA WATER AND VEGETATION SAMPLES PAREN HAVE ALL BEEN NEGATIVE PD NUCLEAR SCIENCE AND ENGINEERING COMPANY PRESENTLY CONDUCTING SIMILAR ENVIRONMENTAL SURVEYS ON SITE AND IN SURROUNDING TOWN OF MADISON CMA YUKON CMA AND NEW STANTON PD TELEPHONED RESULTS OF THESE SURVEYS HAVE ALL BEEN NEGATIVE TO DATE PD MAJORITY OF SURVEYS REPORTEDLY BEING CONDUCTED IN DOWN WIND DIRECTION WHICH WAS FROM NORTH AT APPROXIMATELY THREE TO FIVE MILES PER HOUR CMA IN A DRIZZLING RAIN CMA AT THE TIME OF THE INCIDENT PD THERE WERE NO OVEREXPOSURES PERSONNEL PD URINE AND BLOOD SAMPLES TAKEN ON ALL PERSONS ASSOCIATED WITH INCIDENT HAVE BEEN NEGATIVE PD CLEANUP OPERATIONS HAVE BEGUN AND REMOVAL OF ESTIMATED FIVE TO TEN THOUSAND Curies OF ACTIVITY FROM TWO HUNDRED FORTY THOUSAND GALLONS OF WATER HAS BEGUN USING ION EXCHANGE RESINS PD ALL FUEL IS BEING DISCHARGED TO CANAL PD SUSPECTED RUPTURED ELEMENTS WILL BE EXAMINED IN HOT CELLS PD THE SECOND TC INSTRUMENTED ELEMENT IS REPORTEDLY TIGHT IN THE GRID PLATE PD WE BELIEVE THAT THIS IS A TYPE QUOTE A UNQUOTE INCIDENT DUE TO ONE PAREN OUR ESTIMATION OF LENGTH OF TIME OF SHUTDOWN OF ONE WEEK CMA TWO PAREN ESTIMATED RELEASE OF ACTIVITY AND THREE PAREN ESTIMATED COST OF DECONTAMINATION PD

IN OUR OPINION CMA UNLOADING AND CLEANUP OPERATIONS
ARE BEING CONDUCTED IN A SATISFACTORY MANNER WITH NO
SPREAD OF CONTAMINATION AND NO OVEREXPOSURES TO
PERSONNEL PD MORE DETAILED REPORT WILL FOLLOW
REF INSPECTION JRR AND JRS

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 .C.D. MOTTA
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