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US GOVERNMENT

ATOMIC ENERGY COMM HDQTRS

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U.S. ATOMIC ENERGY COMM.
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1710-547-0657

3-10-70 5000 PM EST



ATTENTION DR. PETER A. MORRIS, DIRECTOR
DIVISION OF REACTOR LICENSING



GENTLEMEN

SUBJECT: DOCKET NO. 50-220

P.O.L. NDPR-17

RADIOGRAPHY AND ULTRASONIC TESTING ON MARCH 8, 1970 DISCLOSED THAT A SERIES OF CRACKS EXTENDING AROUND THE UPPER 180 DEGREES OF THE INSIDE DIAMETER, EXISTED IN THE STAINLESS STEEL SAFE-END OF THE CORE SPRAY NOZZLE LOCATED AT AZIMUTH 240 DEGREES OF THE NINE MILE POINT NUCLEAR STATION REACTOR VESSEL. TWO VERY SMALL LEAKS WERE DETECTED SEVERAL DAYS PREVIOUS WHICH LED TO THE APPLICATION OF NON-DESTRUCTIVE TESTING. WHEN DISCOVERED, THE REACTOR WAS OUT OF SERVICE IN A COLD SHUT-DOWN CONDITION.

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IN ORDER THAT THE RE IR CAN PROCEED IN A MOST EXPEDITIOUS MANNER, IT IS NECESSARY TO REMOVE THE EFFECTED MATERIAL OF THE SAFE-END FOR METALURGICAL EXAMINATION AS SOON AS POSSIBLE. THEREFORE, THE WATER LEVEL IN THE REACTOR MUST BE LOWERED TO FOUR FEET OVER THE ACTIVE FUEL. THIS ALLOWS A THREE-INCH CONTROL BAND TO THE INVERT OF THE CORE SPRAY NOZZLE. TECHNICAL SPECIFICATIONS 2.1.1 AND PG. 6 DO NOT PERMIT LOWERING TO BELOW SEVEN FEET, ELEVEN INCHES OF NORMAL LEVEL. THIS CORRESPONDS TO FOUR FEET, EIGHT INCHES ABOVE TO TOP OF ACTIVE FUEL. (SEE BASES PG. 9).

THEREFORE, WE REQUEST A TEMPORARY CHANGE IN TECHNICAL SPECIFICATIONS TO ALLOW LOWERING TO FOUR FEET ABOVE ACTIVE FUEL WHICH IS ELEVATION 294 FEET. IN ORDER TO ASSURE COMPLETE SAFETY, THE FOLLOWING STEPS WILL BE TAKEN:

I. WATER LEVEL

- AN MANOMETER LOOP ESTABLISHED TO OUTSIDE DRYWELL READABLE SEVERAL FEET ABOVE AND BELOW REQUESTED LEVEL. MONITORED BY OPERATOR
- X WITH COMMUNICATIONS TO CONTROL ROOM.
- X. CLOSED CIRCUIT UNDERWATER TYPE TELEVISION IN VESSEL AT WATERLINE MONITORED IN CONTROL ROOM.

II. EXPOSURE

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WITH WATER LEVEL AT FOUR FEET ABOVE CORE, IT IS ESTIMATED THAT AN EXPOSURE OF 105 R/HR WILL EXIST AT VESSEL FLANGE. REGULAR CONCRETE FLOOR SHIELD PLUGS WILL BE REINSTALLED ABOVE VESSEL ATTENUATING FIELD TO BELOW 100 MR/HR. THE FLOOR AREA WILL BE DECLARED A HIGH-RADIATION AREA AND ACCESS RESTRICTED. EXPOSURE LEVELS WILL BE MONITORED AS LEVEL IS SLOWLY LOWERED IN VESSEL.

EXPOSURE IN THE WORK AREA, PRESENTLY AT 27 MR/HR ON CONTACT WILL BE MAINTAINED AS LOW AS PRACTICAL WITH LEAD SHEET SHIELDING INSIDE THE VESSEL.

III. CONTROL OF LEVEL

FLOW INTO THE VESSEL FROM THE CONT

CL ROD DRIVE SYSTEM IS ABOUT 65 GPM. DRAINAGE TO HOLD LEVEL IS AT PRESENT AND WILL BE MAINTAINED THROUGH REMOTELY OPERATED VALVES BETWEEN THE CLEAN-UP SYSTEM AND EITHER CONDENSER OR EQUIPMENT DRAIN TANK. OPERATION IS FROM THE CONTROL ROOM. ONE OF THREE CONDENSATE PUMPS WILL BE IN CONTINUOUS OPERATION WHEREBY CONDENSATE CAN BE ADDED TO THE VESSEL BY REMOTE FEEDWATER VALVE OPERATION FROM THE CONTROL ROOM.

IV. HEAT REMOVAL

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REGULAR HEAT REMOVAL SYSTEMS, REACTOR CLEAN-UP AND/OR SHUT-DOWN COOLING WILL BE AVAILABLE AND IN SERVICE IN THEIR NORMAL OPERATING MODES.

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UPON COMPLETION OF PIPE CUTTING OPERATIONS AN EXPANDABLE PIPE PLUG WILL BE INSERTED IN THE NOZZLE AND REINFORCED WITH JACK SCREWS FROM THE OUTSIDE IN ORDER TO PREVENT THE PLUG FROM BEING BLOWN OUT.

WATER LEVEL WILL THEN BE RETURNED TO A POINT NEAR THE FLANGE READABLE ON CLOSED CIRCUIT TELEVISION AS AT PRESENT. LEVEL MAY BE INCREASED TO REFUELING LEVEL SHOULD INVESTIGATIONS SHOW NEED FOR CORE UNLOADING.

RESULTS OF METALLURGICAL EXAMINATION WILL DETERMINE METHOD OF REPAIR, BUT IN NO EVENT WILL REACTOR BE OPERATED WITHOUT PRIOR NOTICE OF U. S. ATOMIC ENERGY COMMISSION.

INVESTIGATION OF ALL OTHER CAFFEENDS ON VESSEL ARE PROCEEDING WITH P.T., U.T., AND R.T. METHODS.

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