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| ACK | MRN | DTG | SIGNATURE |
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UNCLASSIFIED CLASSIFICATION
SPECIAL CHARGES

USNRC: JDLAFLEUR NAME
3/31/79: 492-7788 TEL. EXT.
OES/NET/EIC: DHCOOPER NAME

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|-----------------------------|----------------------------------|
| EUR/RPE: WBARMON (INFO) | EA/RA: PCLEVELAND (INFO) |
| NEA/RA: MS.GELBRACHT (INFO) | ARA: MR.SZNIGG/MR.HENNEKE (INFO) |
| IO/SCT: AJILLSON (INFO) | L/N: RJBETTAUER (INFO) |

DESIRED DISTRIBUTION

IMMEDIATE: ATHENS, BERN IMMEDIATE, BOMBAY IMMEDIATE, BONN
IMMEDIATE, BRASILIA IMMEDIATE, BRUSSELS IMMEDIATE,

USIAEA, USOECD, USEEC, PASS TO PARA 7 PARTIES ASAP

E.O. 11652: N/A

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TAGS: TECH

SUBJECT: THREE MILE ISLAND REACTOR STATUS

REF: A-0221, STATE

1. SUMMARY: AS OF MORNING MARCH 31, REACTOR CONDITIONS REMAIN STABLE, WITH TEMPERATURES GOING DOWN SLOWLY. NO DECISION HAS YET BEEN MADE ON THE METHOD OF ATTAINING FINAL LOW PRESSURE SHUTDOWN CONDITION. PRESENT STATUS MAY BE MAINTAINED SEVERAL DAYS. OFF-SITE RADIATION LEVELS, MEASURED AT A MAXIMUM OF ABOUT 20 MR/HR FOLLOWING EARLIER INTERMITTENT RELEASES, HAVE DROPPED CONSIDERABLY. END OF SUMMARY.

2. PLANT STATUS AS OF MARCH 30.
A. GASEOUS RADIOACTIVITY FROM THE PRIMARY COOLANT SYSTEM LETDOWN HAS BEEN CONTAINED IN WASTE GAS DECAY TANKS SINCE THE LAST GASEOUS RELEASE AT APPROXIMATELY 2:30 P.M. MARCH 30, 1979. AT THE PRESENT REACTOR COOLANT LETDOWN RATE OF APPROXIMATELY 20 GPM IT MAY BE NECESSARY TO MAKE A PLANNED RELEASE OF RADIOACTIVE GAS TOMORROW TO PREVENT GAS DECAY TANK RELIEF VALVE OPERATION AT ITS SETPOINT OF 100 PSI. THE LICENSEE HAS INSTALLED A TEMPORARY LINE FROM THE GAS DECAY SYSTEM BACK TO REACTOR CONTAINMENT WHICH IS UNDER EVALUATION BEFORE BEING PLACED IN OPERATION. CONTAINMENT

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PRESSURE IS BEING MAINTAINED SLIGHTLY NEGATIVE (-1 PSI) AS A RESULT OF FAN COOLER OPERATION.

B. REACTOR COOLANT TEMPERATURES MEASURED AT FIFTY-TWO LOCATIONS AT THE OUTLET OF THE CORE HAVE CONTINUED TO COME DOWN SLOWLY. THREE OF THESE OUTLET TEMPERATURE INSTRUMENTS CONTINUE TO INDICATE ABOVE SATURATION TEMPERATURE.

C. THE NRC STAFF WAS INFORMED BY THE LICENSEE ON FRIDAY MORNING THAT EXAMINATION OF CONTAINMENT PRESSURE DATA FOR MARCH 28 INDICATES A PRESSURE SPIKE UP TO APPROXIMATELY 30 PSI OCCURRED AT APPROXIMATELY 1:50 P.M. NRC PERSONNEL ARE EVALUATING THE POSSIBILITY THAT A HYDROGEN {CHEMICAL} EXPLOSION WAS THE CAUSE OF THE CONTAINMENT INTERNAL PRESSURE SPIKE.

D. THE REACTOR COOLANT PATH IS THROUGH ONE REACTOR COOLANT PUMP AND ONE STEAM GENERATOR. THE STEAM GENERATOR IS BEING FED BY AN AUXILIARY FEEDPUMP. SEVERAL OPTIONS FOR DEPRESSURIZING THE REACTOR AND CONTINUING COOLDOWN VIA THE RESIDUAL HEAT REMOVAL SYSTEM ARE UNDER CONSIDERATION.

E. THE VOLUME OF NON-CONDENSIBLE GASES IN THE REACTOR VESSEL HAS BEEN ESTIMATED TO BE APPROXIMATELY 1000 TO 1500 CUBIC FEET AT 1000 PSI. THIS VOLUME IS ESTIMATED TO RESULT IN A WATER LEVEL OF SEVERAL FEET OVER THE TOP OF THE FUEL. THE RATE OF GROWTH OF THE BUBBLE IN THE REACTOR VESSEL IS ESTIMATED TO BE LESS THAN 50 CUBIC FEET PER DAY AT 1000 PSI.

3. THE DIRECTOR OF THE OFFICE OF NUCLEAR REACTOR REGULATION, THE DIRECTOR OF THE REGION I OFFICE OF INSPECTION AND ENFORCEMENT AND THE DIRECTOR OF THE DIVISION OF OPERATING REACTORS ARRIVED AT THE SITE AT APPROXIMATELY 2 P.M. MARCH 30, TO DIRECT NRC ACTIVITIES AT THE SITE AND SITE VICINITY. REPRESENTATIVES OF HEW AND EPA ARE PROVIDING COORDINATION AND ASSISTANCE TO THE NRC AT THE INCIDENT RESPONSE CENTER.

4. ENVIRONMENTAL STATUS AS OF MARCH 30.

A. AT APPROXIMATELY 3 P.M. ON MARCH 30, 1979, NRC ANALYSIS OF EIGHT VEGETATION SAMPLES FROM THE OFFSITE AREAS SHOWED NO DETECTABLE ACTIVITY. AT 5:30 P.M. THE PENNSYLVANIA STATE RADIATION HEALTH DEPARTMENT REPORTED THAT ENVIRONMENTAL WATER AND AIR SAMPLES COLLECTED IN THE VICINITY OF THE THREE MILE ISLAND PLANT SHOWED NO DETECTABLE ACTIVITY EXCEPT FOR SOME XENON-133 AND XENON-135. MILK SAMPLE ANALYSIS SHOWED NO ACTIVITY LEVELS ABOVE BACKGROUND.

9. OFFSITE GROUND LEVEL GAMMA SURVEYS IN THE MIDDLETOWN AND GOLDSBORO AREAS BETWEEN 3:00 AND 6:00 P.M. ON MARCH 30, RANGED FROM .02 TO 1 MILLIROENTGENS PER HOUR. AN AERIAL

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SURVEY WAS MADE BY HELICOPTER FROM 4:00 - 6:00 P.M. ON MARCH 30, THE SITE WAS SURVEYED IN CONCENTRIC CIRCLES AT APPROXIMATELY ONE MILE INTERVALS AND AT A HEIGHT OF 300 TO 1,000 FEET. THE HIGHEST RADIATION READINGS WERE OVER THE SITE AND MEASURED .3 TO 1.0 MILLIROENTGENS PER HOUR. THE PLUME FOLLOWED THE RIVER IN A NORTHWESTERLY DIRECTION AND WAS NOT DETECTABLE BEYOND FIVE TO SIX MILES FROM THE SITE. SITE GROUND LEVEL SURVEYS CONDUCTED BETWEEN 7:30 - 8:00 P.M. RANGED FROM .01 TO 1.8 MILLIROENTGENS PER HOUR.

C. AT 4:00 P.M. MARCH 30, UPPER LEVEL WINDS WERE FROM THE SOUTHEAST. FORECAST INDICATED PRECIPITATION IN THE FORM OF THUNDERSTORMS MOVING IN AFTER 12 MIDNIGHT, MARCH 30. AT 5:00 P.M. WINDS ONSITE AT THREE MILE ISLAND WERE REPORTED AT 2 TO 3 MILES PER HOUR GENERALLY FROM EAST TO WEST.

5. PLANT STATUS AS OF MORNING OF MARCH 31.

A. REACTOR COOLING CONTINUES USING THE 1A MAIN REACTOR COOLANT PUMP WITH STEAM GENERATOR A STEAMING TO THE MAIN CONDENSER. CHANGES TO THIS COOLING METHOD ARE NOT PLANNED FOR THE NEAR TERM. AN OPERABILITY STATUS OF EQUIPMENT IS BEING COMPILED FOR USE AS BACKUP IN THE EVENT OF FAILURE OF EXISTING OPERATING EQUIPMENT.

B. THE HYDROGEN RECOMBINER IS IN AN OPERABLE STATUS; HOWEVER, SHIELDING OF ITS PIPING AND COMPONENTS IS NOT FULLY INSTALLED AND IS PRESENTLY CONSIDERED INADEQUATE. LEAD FOR SHIELDING HAS BEEN LOCATED AND WILL BE MOVED TO THE SITE ON AN EXPEDITED BASIS. CALCULATIONS OF HYDROGEN IN CONTAINMENT SHOW THAT THE PRESENT CONCENTRATION IS LESS THAN 4%, THE STAFF'S LIMIT ON ALLOWED CONCENTRATION TO ENSURE AN EXPLOSIVE MIXTURE IS NOT OBTAINED. ATTEMPTS ARE BEING MADE TO OBTAIN A CONTAINMENT ATMOSPHERE SAMPLE.

C. THE WASTE GAS DECAY TANK PRESSURES WERE 80 PSI AT 10:15 P.M. ON MARCH 30 AND HAD BEEN RELATIVELY CONSTANT FOR ABOUT FIVE HOURS. THE TANK IS SET TO RELIEVE PRESSURE AT 100 - 110 PSI. THE RADIATION FIELD (60 R/HR AT CONTACT) PREVENTS RESETTING RELIEF POINTS.

D. REACTOR COOLANT TEMPERATURES MEASURED BY INCORE THERMOCOUPLES AT 52 LOCATIONS PRESENTLY SHOW ONLY ONE LOCATION ABOVE SATURATION TEMPERATURE. TEMPERATURES IN THE CORE AS MEASURED FROM OUTLET THERMOCOUPLES ARE GRADUALLY DECREASING. OTHER SYSTEM PARAMETERS ARE REMAINING STABLE.

6. ENVIRONMENTAL STATUS AS OF MORNING MARCH 31.

A. THREE SURVEY FLIGHTS OF ONE-HOUR LENGTH WERE CONDUCTED BEGINNING AT 9:30 P.M. ON MARCH 30, AND AT MIDNIGHT

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AND 3:00 A.M. ON MARCH 31. AT A DISTANCE OF ONE MILE FROM THE PLANT, MAXIMUM READINGS RANGED FROM 0.5 MILLIROENTGENS PER HOUR (MR/HR) TO 1.5 MR/HR. AT THE 18 MILE POINT, READINGS OF 0.1 TO 0.2 MR/HR WERE OBTAINED DURING THE TWO EARLIER SURVEYS AND 0.5 MR/HR DURING THE LATEST. FLIGHTS ARE BEING MADE AT APPROXIMATELY THREE HOUR INTERVALS.

B. OFFSITE GROUND LEVEL GAMMA SURVEYS IN THE MIDDLETOWN AREA AND NORTH, BETWEEN 9:30 P.M. ON MARCH 30 AND 1:00 AM ON MARCH 31, INDICATED LEVELS FROM 0.2 TO 0.5 MR/HR. THESE MEASUREMENTS WERE TAKEN IN THE GENERAL DIRECTION OF THE PLUME MEASURED IN AERIAL SURVEYS.

C. AT 3:00 P.M. ON MARCH 29, (PRIOR TO THE RELEASES OF MARCH 30) THE LICENSEE RECOVERED THERMOLUMINESCENT DOSIMETERS FROM 17 FIXED POSITIONS LOCATED WITHIN A 15 MILE RADIUS OF THE SITE. THE DOSIMETERS HAD BEEN IN PLACE FOR THREE MONTHS AND HAD BEEN EXPOSED FOR ABOUT 32 HOURS AFTER THE INCIDENT. ONLY TWO DOSIMETERS SHOWED ELEVATED EXPOSURES ABOVE NORMAL LEVELS. THE HIGHEST READING OBSERVED WAS ON THREE MILE ISLAND, 0.4 MILES NORTH OF THE REACTOR AT THE NORTH WEATHER STATION. AT THIS LOCATION, THE QUARTERLY ACCUMULATED EXPOSURE WAS 81 MR, APPROXIMATELY 65 MR ABOVE THE NORMAL QUARTERLY EXPOSURE RATE. THE OTHER HIGH EXPOSURE WAS OBSERVED AT NORTH BRIDGE, 0.7 MILES NNE OF THE REACTOR AT THE ENTRANCE TO THE SITE. AT THIS LOCATION, THE TOTAL QUARTERLY ACCUMULATED EXPOSURE WAS 37 MR OR APPROXIMATELY 22 MR ABOVE THE NORMAL QUARTERLY EXPOSURE RATE.

D. DURING THE EVENING MILKING HOURS ON MARCH 30, MILK SAMPLES WERE COLLECTED BY THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL RESOURCES AT THE FOLLOWING LOCATIONS: HARRISBURG (2 SITES), YORK, MIDDLETOWN, BAINSBIDGE, ETTERS. ANALYSES SHOWED NO DETECTABLE RADIOIODINE. THE COWS HAD BEEN FED ON STORED FEED BUT HAD BEEN OUTSIDE FOR EXERCISE.

E. THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL RESOURCES ALSO COLLECTED WATER SAMPLES AT FILTRATION PLANTS AT COLUMBIA, PA (FOR THE CITY OF LANCASTER) AND WRIGHTSVILLE ON MARCH 30 IN THE MORNING AND EARLY AFTERNOON. BOTH SAMPLE POINTS ARE DOWNSTREAM OF THREE MILE ISLAND. NO DETECTABLE ACTIVITY WAS FOUND.

7. ADDRESSEES REQUESTED TO NOTIFY NRC OFFICIAL CONTACTS IN HOST GOVERNMENTS (REF. A-0223) AND DOE ASSISTANT SECRETARY BERGOLD ASAP DURING DAYLIGHT HOURS, AND USE AS APPROPRIATE IN ANSWERING INQUIRIES.

8. NOTE INFORMATION IS PRELIMINARY AND NOT FULLY EVALUATED. 44

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ACTION LINE CONTINUED:-

IMMEDIATE COPENHAGEN
IMMEDIATE HELSINKI
IMMEDIATE LONDON
IMMEDIATE MADRID
IMMEDIATE MANILA
IMMEDIATE MEXICO CITY
IMMEDIATE NEW DELHI
IMMEDIATE PARIS
IMMEDIATE RIO DE JANEIRO
IMMEDIATE ROME
IMMEDIATE SEOUL
IMMEDIATE STOCKHOLM
IMMEDIATE TEHRAN
IMMEDIATE TEL-AVIV
IMMEDIATE THE HAGUE
IMMEDIATE TOKYO
IMMEDIATE VIENNA