concerning nuclear power reactors are also reported. One involved the fracture of a frozen pipe at Dresden Unit 1 with a consequent release of water, and the other involved the possible deliberate exposure of a contract laborer to radiation at Quad Cities Nuclear Power Station.

Section 208 of the Energy Reorganization Act of 1974, as amended, also requires NRC to provide a wide dissemination of information relating to these reported occurrences. Descriptions of the NRC licensee AOs for the third quarter of calendar year 1994, are provided below and have been reported to Congress in NUREG-0090, Vol. 17, No. 3.

NRC Material and Medical Licensees

(Industrial Radiographers, Medical Institutions, Industrial Users, etc.)

94-15 Sodium Iodide Event at Welborn Memorial Baptist Hospital in Evansville, Indiana

The following information pertaining to this event is also being reported concurrently in the **Federal Register**. Appendix A (see General Criterion 1) of this report notes that a moderate exposure to, or release of, radioactive material licensed by or otherwise regulated by the Commission can be an abnormal occurrence.

Date and Place—March 9, 1994; Welborn Memorial Baptist Hospital, Inc.; Evansville, Indiana.

Nature and Probable Consequences— On May 16, 1994, the licensee reported to NRC that a pregnant patient was administered 185 megabecquerel (MBq) (5 millicurie [mCi]) of sodium iodide-131 (I-131) on March 9, 1994, as prescribed in the written directive for the treatment of Graves' disease (hyperthyroidism). The licensee did not know that the patient was pregnant at the time of the administration. On May 10. 1994, the licensee was informed by a private practice physician that the patient was 22-weeks pregnant at the time of treatment. As a result, the patient's fetus received an unintended radiation dose.

The patient was referred to the licensee with possible hyperthyroidism. To confirm the suspect condition, the licensee administered a 440.3 kilobecquerel (11.9 microcurie) I–131 capsule of the patient on March 7, 1994, and measured an 82-percent thyroid uptake over the ensuing 25 hours. The licensee stated that prior to administering the I–131 diagnostic capsule on March 7, 1994, the patient was questioned and informed both the treating physician and the nuclear medicine technologist administering the

capsule that she was not pregnant. The licensee diagnosed the patient's condition as Graves' disease and the treating physician perscribed a 185 MBq (5 mCi) I–131 therapy treatment. On March 9, 1994, a 185 MBq (5 mCi) I–131 capsule was orally administered by one of the licensee's nuclear medicine technologists, as prescribed. Prior to the treatment on March 9, 1994, the technologist questioned the patient once more and was again informed by the patient that she was not pregnant.

Oak Ridge Institute for Science and Education calculated the fetal whole body and thyroid doses at NRC request. The fetal dose to the thyroid was calculated as 7,000-12,000 centigray (cGy) (7,000-12,000 rad), and the fetal whole body dose was calculated as 0.55 cGy (0.55 rad). Based on the calculated fetal dose there are a range of possible consequences, the most likely being no significant harm to the fetus. At NRC request, the Radiation Emergency Assistance Center/Training Site in Oak Ridge, Tennessee, contacted the licensee to discuss the dose assessment and potential fetal effects.

On May 10, 1994, a physician specializing in maternal fetal medicine, not affiliated with the licensee, discussed the incident with the licensee. The patient was informed of the exposure and possible consequences to the fetus by the material fetal specialist.

NRC Region III learned the patient was aware that she was being administered radioactive materials, and subsequent to the administration she realized she was pregnant. It should be noted that since this was not a misadministration, there was no requirement to notify the patient.

Cause or Causes—The principal cause for the event was licensee reliance on the patient's assurance of non-pregnancy. Licensee procedures do not require determination of pregnancy status through serum testing, or other appropriately documented means, for all female patients of child bearing age. The patient was apparently unaware of her pregnancy status at the time of I–131 administration on March 9, 1994.

Action Taken To Prevent Recurrence

Licensee—The licensee is in the process of developing internal policies which will address options for pregnancy status determination including serum pregnancy testing or suitable written proof, such as evidence of a hysterectomy. The legal implications and options for written proof of non-pregnancy are being evaluated by the licensee. Until policies have been finalized, the licensee plans

to administer pregnancy tests to all female patients of child bearing age, unless appropriate proof of non-pregnancy is available as determined by the authorized user. For patients unwilling to undergo pregnancy testing, radiopharmaceuticals will not be administered and the authorized user will be consulted for the appropriate course of action.

NRC—NRC Region III conducted a safety inspection from May 18 through June 8, 1994, to review the circumstances surrounding the event and to evaluate aspects of the licensee's radiopharmaceutical Quality Management Program (Reg. 1). No regulatory violations associated with the event were identified. The licensee's procedure appears to have been followed in this specific case. NRC regulations do not include requirements for patient pregnancy verification prior to administration of radiopharmaceuticals. However, NRC is in the process of developing regulations which will address the administration of radiopharmaceuticals to breast feeding and pregnant patients.

94–16 Teletherapy Misadministration at Medical Center Hospital in Chillicothe, Ohio

The following information pertaining to this event is also being reported concurrently in the **Federal Register**. Appendix A of this report notes that a therapeutic dose that results in any part of the body receiving unscheduled radiation can be considered an abnormal occurrence.

Date and Place—July 21 and 22, 1994; Medical Center Hospital; Chillicothe, Ohio.

Nature and Probable Consequences— On July 27, 1994, the licensee reported that a patient received a radiation dose of approximately 300 centigray (cGy) (300 rad) to an unintended treatment site using a cobalt-60 teletherapy unit.

A patient was scheduled to receive 1400 cGy (1400 rad) in a series of seven treatments for cancer of the esophagus. Each of the treatments was to consist of two radiation exposures of 100 cGy (100 rad) each delivered from different angles. The first treatment was performed on July 21. Following the first of the to exposures during the second treatment on July 22, the technologist found inconsistencies in the angles of treatment documented in the written directive and in the patient simulation sheet. Upon further review, the licensee determined that the wrong treatment angles had been used during the first treatment and part of the second treatment.