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UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA ST., N.W., SUITE 3100
ATLANTA, GEORGIA 30303

OCT 19 1979

In Reply Refer To:
RII:JPO
50-413, 50-414
50-488, 50-489
50-490, 50-491
50-492, 50-493

Duke Power Company
Attn: L. C. Dail, Vice President
Design Engineering
P. O. Box 33189
Charlotte, North Carolina 28242

Gentlemen:

Enclosed is IE Circular No. 79-21, "Prevention of Unplanned Releases of Radioactivity," which provides information in inadvertent releases/on-site spills of radioactivity. Should you have any questions related to the enclosed suggested preventive measures, please contact this office.

Sincerely,

James P. O'Reilly
Director

Enclosures:
1. IE Circular 79-21
2. IE Circulars Issued in the Last Six Months

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cc w/encl:
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT
WASHINGTON, D.C. 20555

October 19, 1979

IE Circular No. 79-21

PREVENTION OF UNPLANNED RELEASES OF RADIOACTIVITY

Numerous incidents of unplanned releases of radioactivity have been reported to the NRC within the past few months. These incidents of leaks, overflows and spills have resulted in contamination of areas outside of plant buildings. The attached table provides you with summary information on these events, their apparent causes, the radiological consequences and the corrective actions.

We believe that a number of these incidents could have been avoided and preventive actions for these types of unplanned releases should be instituted by all reactor licensees. Based on the reported incidents, the following preventive measures can minimize the occurrence of such events.

1. Review of procedures for transfer of radioactive liquids. Errors in written procedures have led to mistakes in valve line-ups and tank overflows. Written procedures, including check lists for valve line-ups, should be developed and followed for operations which could cause spills of radioactivity. Management controls, including audits, should be employed to assure verbatim compliance with such procedures.

2. Review of "as built" systems having the potential of inadvertent releases because of design or construction errors. Consider items such as:

   a. Tank overflows should be routed to liquid radwaste tanks.

   b. Storm drains should be located away from areas with a high potential for spills.

   c. Consideration should be given to drip pans under equipment, such as pumps and valves, from which leakage is expected.

   d. Cofferdams should be installed under doors to areas with a potential for radioactive spills.

   e. Preoperational testing should v
   that would permit radioactivity
   unit(s) under construction.

3. Periodically functionally test and p
   of systems that could cause an inadv
   corrosion degradation have occurred
   to cause leaks. New permanent and t

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