



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

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Docket Nos.: 50-369
and 50-370

U.S. NRC
DISTRIBUTION SERVICES
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ELECTRONIC DISTRIBUTION
SERVICES UNIT

Mr. William O. Parker, Jr.
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Dear Mr. Parker:

SUBJECT: FLOODPLAIN ASPECTS OF THE MCGUIRE NUCLEAR PLANT SITE

We have issued an assessment of the Floodplain Aspects of The McGuire Nuclear Plant Site pursuant to Executive Order 11988, Floodplain Management. A copy of this report is enclosed and is being placed in The Commission's Public Document Room, 1717 H Street, N. W., Washington, D. C. 20555 and at the Atkins Library, University of North Carolina, Charlotte (UNCC Station), North Carolina 28223.

Sincerely,

B. J. Youngblood, Chief
Licensing Branch No. 1
Division of Licensing

Enclosure:
Floodplain Assessment

cc: Service list

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September 3, 1980

FLOODPLAIN ASPECTS OF THE
MCGUIRE NUCLEAR PLANT SITE
DOCKET NOS. 50-369, 50-370

All major plant structures and site construction were substantially complete at the time Executive Order 11988, Floodplain Management, was signed by President Carter in May 1977. This includes intake structures, discharge facilities, and dam embankments. It is, therefore, our conclusion that consideration of alternative locations for those structures identified as being in the floodplain is neither required nor practicable.

Lake Norman on the Catawba River is utilized by the plant as a source of normal cooling water. Construction of the Standby Nuclear Service Water Pond (SNSWP) and the Waste Water Collection Basin (WWCB) has produced two additional water bodies at the site. These are located on an intermittent stream that discharges to the Catawba River. The attached figure shows the locations of the above water sources.

For Lake Norman, the one-percent chance (100-year) flood level at the site is approximately elevation 760 feet msl. Major plant structures are at plant grade which is 760 feet msl. Portions of the intake and discharge structures are, by design, located below the 100-year flood levels. The plant has been designed to withstand the flooding effects of a Probable Maximum Flood (PMF) which reaches an elevation of 767.9 ft. msl. Plant structures are protected from the PMF on Lake Norman by earth dikes, which are extensions of Cowens Ford Dam. No plant structures will therefore be affected by flooding on Lake Norman.

For the SNSWP, the 100-year flood level at the site is approximately elevation 743.5 ft. msl, 3.5 feet above the normal pond level. This flood level is well below plant grade and no structures sited at plant grade are affected. The service water intake structure has been designed for the PMF, which reaches an elevation of 746.9 ft. msl.

The 100-year flood level for the WWCB is approximately elevation 694 ft. msl, 4 feet above normal water level, but well below plant grade. No major plant structures are affected.

Construction of the two small dams for the SNSWP and WWCB have altered flood levels on the small stream which was impounded. This effect is unavoidable where dams are constructed. As previously mentioned, the dams were constructed prior to the issuance of E.O. 11988.

We also conclude that the plant structures other than the dams in the floodplain will have negligible effect on post-construction water levels during a flood event. This conclusion is based on the small cross sectional area of those structures in relation to the area of flow available in the reservoirs. In this case, flood levels are relatively unaffected by any small flow obstructions.



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