



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

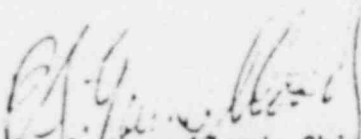
JAN 16 1981

MEMORANDUM FOR: Central Files  
[REDACTED]  
Local Public Document Room

FROM: B. J. Youngblood, Chief, Licensing Branch No. 1, DL

SUBJECT: AVAILABILITY OF FLOODPLAIN ASPECTS OF LASALLE NUCLEAR  
PLANT SITE

A copy of the Floodplain Aspects of the LaSalle Nuclear Plant Site issued by the NRC staff is attached for inclusion into the LaSalle County Station, Unit 1 and 2 files.

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

Enclosure:  
As stated

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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 cooling pond 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.

The Illinois River is utilized by the plant as a source of normal cooling water. Cooling water is withdrawn at the plant intake structure which is located on the floodplain of the river. The water is then pumped to the plant cooling pond. Construction of the plant cooling pond has produced an additional water body at the site. It is located on a small drainage area adjacent to the plant. The attached figure shows the locations of the above water sources.

For the Illinois River in the vicinity of the plant intake structure, the one-percent chance (100-year) flood level is approximately elevation 491.3 feet msl. Portions of the intake and discharge structures are, by design, located below the 100-year flood levels.

However, the plant has been designed to withstand the flooding effects of a Probable Maximum Flood (PMF) which reaches an elevation of 522.5 ft. msl. Plant grade is 710 feet msl. Major plant structures are about 190 feet above the PMF level and will not be affected by flooding on the Illinois River.

For the cooling pond, the 100-year flood level is about 1-1/2 feet above the normal pond level of 700 ft. msl and is well below plant grade. No structures sited at plant grade are thus affected. The PMF for the cooling pond was also determined. The cooling pond with its related intake structures have been designed for the PMF which reaches an elevation of 704.3 ft. msl.

Construction of the embankments for the cooling pond has altered flood levels on the small drainage area which was impounded. This effect is unavoidable where dams or dikes are constructed. As previously mentioned, the embankments were constructed prior to the issuance of E.O. 11988.

We also conclude that the plant structures 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 river and the cooling pond reservoir. In this case, flood levels are relatively unaffected by any small flow obstructions.

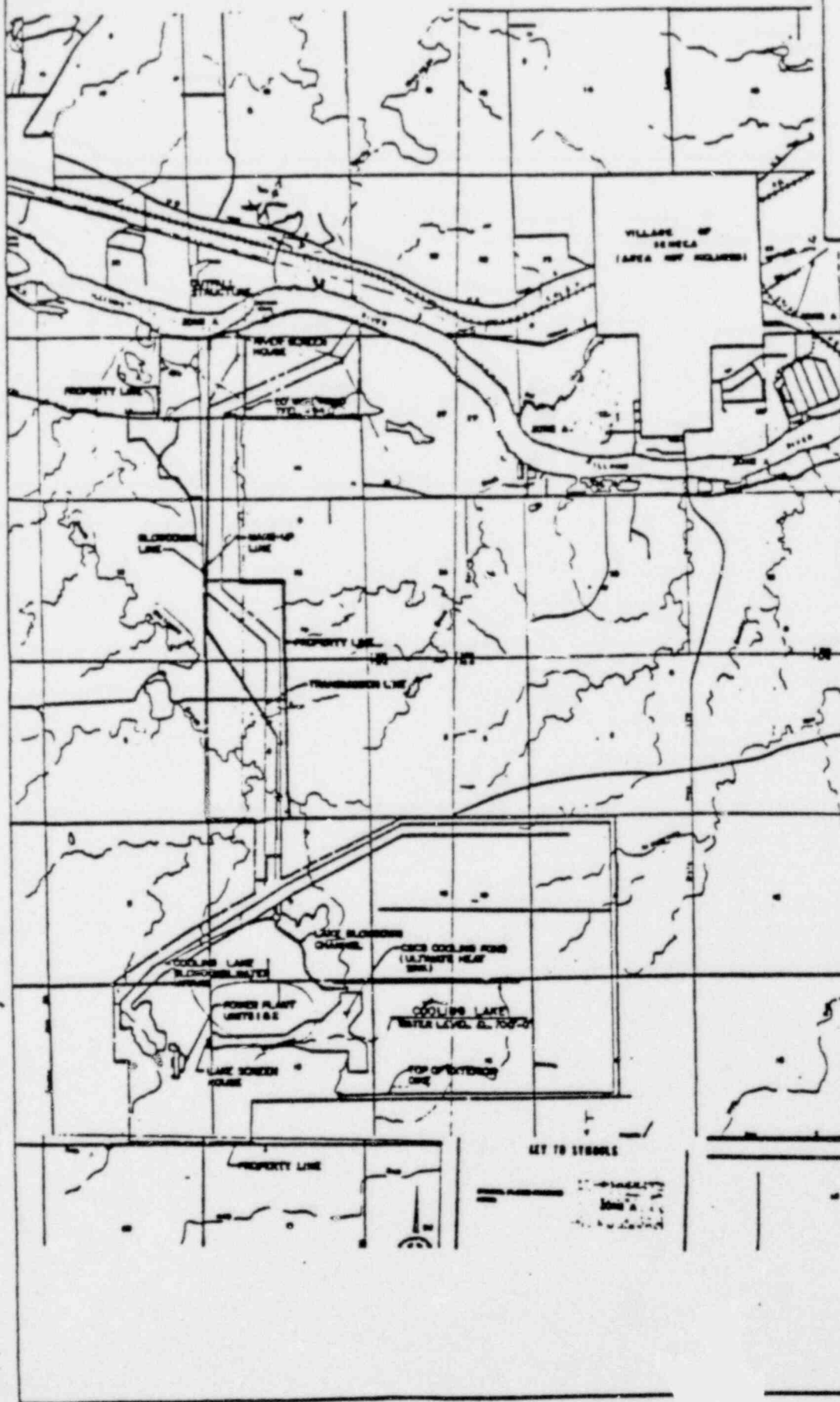


FIGURE 1  
ILLINOIS RIVER AND ITS  
TRIBUTARIES IN THE VICINITY  
OF LSCS STATION

REFERENCE: FEDERAL EMERGENCY  
MANAGEMENT AGENCY, DETRAIN-  
MENT OF HOUSING AND URBAN  
DEVELOPMENT, MAP NO. 170-000  
DOCA, DOCA 140 DOCA.

0 1000 2000 3000 4000  
FEET



KEY TO SYMBOLS

PROPERTY LINE  
TO HIGHWAY  
TO RAILROAD  
TO CANAL  
TO DAM

POOR ORIGINAL

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