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POWER AUTHORITY OF THE STATE OF NEW YORK
JAMES A. FITZPATRICK NUCLEAR POWER PLANT

DOCKET NO. 50-333

ATTACHMENT TO LER 83-001/04T-0

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On December 30, 1982 the impingement rate at the James A. FitzPatrick Nuclear Power Plant exceeded 20,000 fish for a 24-hour sample. The sample collected on December 30 contained 20,229 fish. Prior to this sample the impingement rates at the FitzPatrick Plant were low with rates of less than 100 fish/24 hr. based on the four previous impingement collections for the month of December 1982. The five dominant species collected in the December 30 sample (>50 individuals) were Rainbow Smelt (18,899), Alewife (807), Spottail Shiner (216), White Perch (97), and White Bass (73). A total of 17 different species was identified in the sample.

This dramatic increase in the impingement rate was due to bad weather conditions experienced during the sampling on December 29-30 and the large numbers of young-of-the-year and sub-adult fish that inhabit the shore zone during this time of the year. On the impingement set (29th) the wind was from the west at a gusty 30 mph with waves of six to nine feet. The high wind and waves continued through the night and then decreased during the 30th to 15 to 25 mph and waves of three to five feet. These rough weather conditions forced large schools of young fish to become disoriented making them more susceptible to impingement force. A second factor which may have contributed to the increased impingement was that the fish in the near shore zone were seeking deeper water for shelter and were generally in closer proximity to the intake structure than during periods of calmer weather. Of the 20,229 fish caught on the 30th, at least 95% were young-of-the-year or sub-adult fish. Rainbow Smelt made up 93% of the total fish caught of which at least 99% were young-of-the-year fish. Young fish were collected in the samples prior to this collection but not in such large numbers.

As required by the Plant's Environmental Technical Specifications sampling was continued until the number of fish collected during a 24-hour period diminished to less than 20,000 individuals. On the follow-up impingement collection of December 30-31, the wind switched from the west to the south and diminished to 9 mph with waves of one to three feet. The total fish caught on the 31st was 2,890 fish, most of which were caught on the afternoon of the 30th when the winds were still out of the west which is considered the major factor in the high impingement of the previous sample. The dominant species in the follow-up sample of December 30 were Rainbow Smelt (2,636) followed by Alewife (98) and White Bass (70). A total of 14 species was collected in this sample.