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John L. Skolds
Vice President
Nuclear Operations

July 14, 1992

Mr. William R. Krecker
Environmental Quality Manager
Water Quality Assessment & Enforcement
Division
South Carolina Department of Health
& Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Dear Mr. Krecker:

Subject: VIRGIL C. SUMMER NUCLEAR STATION
DISCHARGE BAY FISH KILL (ONO 920051)
JULY 6-9, 1992

South Carolina Electric & Gas Company (SCE&G) herewith submits a report concerning a recent fish kill which occurred in the circulating water discharge bay of the Virgil C. Summer Nuclear Station (VCSNS). The enclosed report describes the event and probable cause.

SCE&G will continue to monitor temperature and flow conditions within the area as previously discussed with South Carolina Department of Health and Environmental Control and South Carolina Department of Wildlife and Marine Resources.

In accordance with the VCSNS Operating License NPF-12, Appendix B, a copy of this report is being provided to the Nuclear Regulatory Commission. Additionally, a copy of the report will be provided to the South Carolina Department of Wildlife and Marine Resources per the request of Mr. H. J. Logan, Chief of Fisheries.

If you have any questions please call Ms. Susan Reese at 345-4591.

Very truly yours,

John L. Skolds

SBR:lcd
Enclosure

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JE23

Fish Kill Report 7/8/92

A limited fish kill was discovered in the Virgil C. Summer Nuclear Station (VCSNS) circulating water discharge bay on 7/8/92. The apparent cause is thermal shock from increasing circulating water discharge temperatures combined with fluctuating water levels in Monticello Reservoir. Increasing discharge temperatures are a result of overall warming of the reservoir in the summer months. Fluctuating reservoir levels are caused by the operation of Fairfield Pumped Storage Facility. There were no unusual discharges from VCSNS which could have contributed to the kill. VCSNS operated at approximately 100% power throughout the time period in question. Table 1 shows the numbers and identification of the fish killed. Figure 1 shows the location of the fish kill. Table 2 presents lake level and circulating water intake and discharge temperatures from 5 - 8 July, 1992. Based on the temperature data presented in Table 3, the fish were probably killed late at night on 7/7/92 when the discharge bay bottom temperature reached 101.7°F. The time of hottest discharge bay bottom temperatures correlates with low reservoir levels. Figure 2 shows the lake levels and the corresponding discharge bay bottom temperatures. More detailed data is available and will be presented to the South Carolina Wildlife and Marine Resources Department and the South Carolina Department of Health and Environmental Control with the annual fish kill data summary in the fall of 1992.

J. H. Nagle
J. H. Nagle

Table 1

8 July 1992

<u># Fish</u>	<u>Species</u>	<u>Size Range</u>
3	gizzard shad	11 - 13 inches
5	thread fin shad	2 - 3 inches
1	bluegill	4 inches
1	largemouth bass	10 inches
1	black crappie	4 inches
2	black crappie	10 inches
9	channel catfish	7 - 11 inches
8	channel catfish	12 - 16 inches
61	white catfish	6 - 11 inches
3	white catfish	12 inches

Total # of Fish = 94

TABLE 2

Date	Hour	Lake Level (Feet)	Intake* Temp °F	Discharge* Temp °F	Date	Hour	Lake Level (Feet)	Intake* Temp °F	Discharge* Temp °F
7/5/92	0000	422.8	79.4	105.2	7/6/92	0000	423.5	77.7	103.4
	0100	422.8	79.3	105.0		0100	423.7	77.4	103.1
	0200	422.9	79.1	104.8		0200	424.0	77.2	102.9
	0300	423.1	78.8	104.6		0300	424.2	77.0	102.7
	0400	423.3	78.2	104.0		0400	424.5	76.6	102.3
	0500	423.7	77.5	103.3		0500	424.7	76.5	102.2
	0600	424.2	77.8	103.6		0600	424.9	76.5	102.2
	0700	424.6	77.5	103.3		0700	425.0	76.3	102.1
	0800	424.8	77.4	103.2		0800	425.0	76.4	102.1
	0900	424.9	76.9	102.7		0900	425.0	76.5	102.2
	1000	424.8	77.1	102.9		1000	425.0	76.9	102.6
	1100	424.7	77.8	103.6		1100	425.0	77.7	103.5
	1200	424.5	77.7	103.5		1200	425.0	78.5	104.3
	1300	424.4	78.4	104.2		1300	425.0	78.2	103.9
	1400	424.2	78.8	104.6		1400	424.8	78.1	103.8
	1500	424.1	78.0	103.8		1500	424.6	78.5	104.2
	1600	424.0	77.8	103.6		1600	424.5	79.0	104.7
	1700	423.8	77.9	103.7		1700	424.3	79.2	104.9
	1800	423.5	77.8	103.6		1800	424.1	79.3	105.0
	1900	423.3	77.9	103.6		1900	424.1	79.5	105.2
	2000	423.5	77.8	103.5		2000	424.0	79.7	105.4
	2100	423.3	77.7	103.4		2100	424.0	79.2	104.9
	2200	423.3	77.5	103.2		2200	424.0	79.0	104.7
	2300	423.3	77.2	102.9		2300	424.0	79.4	105.1

*Circulating water temperature measured at the main condensers.

TABLE 2
(Continued)

Date	Hour	Lake Level (Feet)	Intake* Temp °F	Discharge* Temp °F	Date	Hour	Lake Level (Feet)	Intake* Temp °F	Discharge* Temp °F
7/7/92	0000	424.0	79.8	105.5	7/8/92	0000	421.3	80.2	105.9
	0100	424.1	79.8	105.5		0100	421.7	79.3	105.0
	0200	424.2	79.1	104.8		0200	422.2	78.4	104.1
	0300	424.3	78.7	104.4		0300	422.7	77.9	103.6
	0400	424.4	78.8	104.5		0400	423.2	77.6	103.4
	0500	424.5	78.8	104.5		0500	423.7	77.4	103.1
	0600	424.6	78.8	104.5		0600	424.1	77.3	102.9
	0700	424.7	78.7	104.4		0700	424.5	77.2	102.9
	0800	424.7	78.6	104.3		0800	424.7	77.1	102.8
	0900	424.7	79.1	104.8		0900	424.9	77.1	102.8
	1000	424.7	79.8	105.5		1000	425.0	77.2	103.0
	1100	424.7	80.3	106.0		1100	425.0	78.3	104.0
	1200	424.6	80.7	106.4		1200	424.9	78.0	103.7
	1300	424.4	80.8	106.5		1300	424.7	78.7	104.3
	1400	424.1	80.3	106.0		1400	424.4	79.1	104.8
	1500	423.7	79.9	105.6		1500	424.1	77.8	103.5
	1600	423.3	79.6	105.3		1600	423.9	77.4	103.1
	1700	422.8	79.4	105.1		1700	423.4	77.8	103.5
	1800	422.3	79.4	105.1		1800	423.0	78.2	103.8
	1900	421.9	79.4	105.1		1900	422.5	78.2	103.9
	2000	421.4	79.4	105.1		2000	422.1	78.2	103.9
	2100	421.3	79.5	105.2		2100	422.0	78.3	104.0
	2200	421.1	80.0	105.7		2200	421.8	78.1	103.8
	2300	421.0	80.0	105.7		2300	421.7	78.3	104.0

*Circulating water temperature measured at the main condensers.

TABLE 3

Date	Hour	Lake Level (Feet)	Bay Bottom Temp °F	Date	Hour	Lake Level (Feet)	Bay Bottom Temp °F
7/5/92	0000	422.8	95.8	7/6/92	0000	423.5	92.8
	0100	422.8	96.0		0100	423.7	91.8
	0200	422.9	95.8		0200	424.0	91.4
	0300	423.1	95.0		0300	424.2	90.4
	0400	423.3	94.2		0400	424.5	90.4
	0500	423.7	93.6		0500	424.7	90.4
	0600	424.2	92.8		0600	424.9	90.6
	0700	424.6	92.8		0700	425.0	91.0
	0800	424.8	92.4		0800	425.0	91.4
	0900	424.9	91.8		0900	425.0	91.6
	1000	424.8	91.2		1000	425.0	91.8
	1100	424.7	90.6		1100	425.0	91.8
	1200	424.5	90.6		1200	425.0	91.8
	1300	424.4	90.4		1300	425.0	91.6
	1400	424.2	90.4		1400	424.8	91.2
	1500	424.1	90.6		1500	424.6	90.0
	1600	424.0	91.0		1600	424.5	89.6
	1700	423.8	91.2		1700	424.3	89.6
	1800	423.5	91.6		1800	424.1	89.6
	1900	423.3	92.0		1900	424.1	89.8
	2000	423.3	92.6		2000	424.0	90.0
	2100	423.3	93.2		2100	424.0	90.2
	2200	423.3	93.4		2200	424.0	90.4
	2300	423.3	93.6		2300	424.0	91.2

TABLE 3
(Continued)

Date	Hour	Lake Level (Feet)	Bay Bottom Temp °F	Date	Hour	Lake Level (Feet)	Bay Bottom Temp °F
7/7/92	0000	424.0	91.6	7/8/92	0000	421.3	100.6
	0100	424.1	92.0		0100	421.7	99.0
	0200	424.2	92.0		0200	422.2	97.6
	0300	424.3	92.6		0300	422.7	96.0
	0400	424.4	92.8		0400	423.2	95.2
	0500	424.5	93.2		0500	423.7	93.6
	0600	424.6	92.6		0600	424.1	92.2
	0700	424.7	91.8		0700	424.5	91.6
	0800	424.7	91.8		0800	424.7	90.8
	0900	424.7	91.6		0900	424.9	90.4
	1000	424.7	91.4		1000	425.0	90.4
	1100	424.7	91.2		1100	425.0	90.2
	1200	424.6	91.2		1200	424.9	90.4
	1300	424.4	91.4		1300	424.7	90.6
	1400	424.1	91.6		1400	424.4	91.0
	1500	423.7	91.8		1500	424.1	91.2
	1600	423.3	92.2		1600	423.9	91.4
	1700	422.8	93.0		1700	423.4	92.0
	1800	422.3	94.4		1800	423.0	92.2
	1900	421.9	96.2		1900	422.5	93.2
	2000	421.4	98.2		2000	422.1	94.6
	2100	421.3	100.4		2100	422.0	96.4
	2200	421.1	101.7		2200	421.8	97.8
	2300	421.0	101.5		2300	421.7	98.4

FIGURE 1

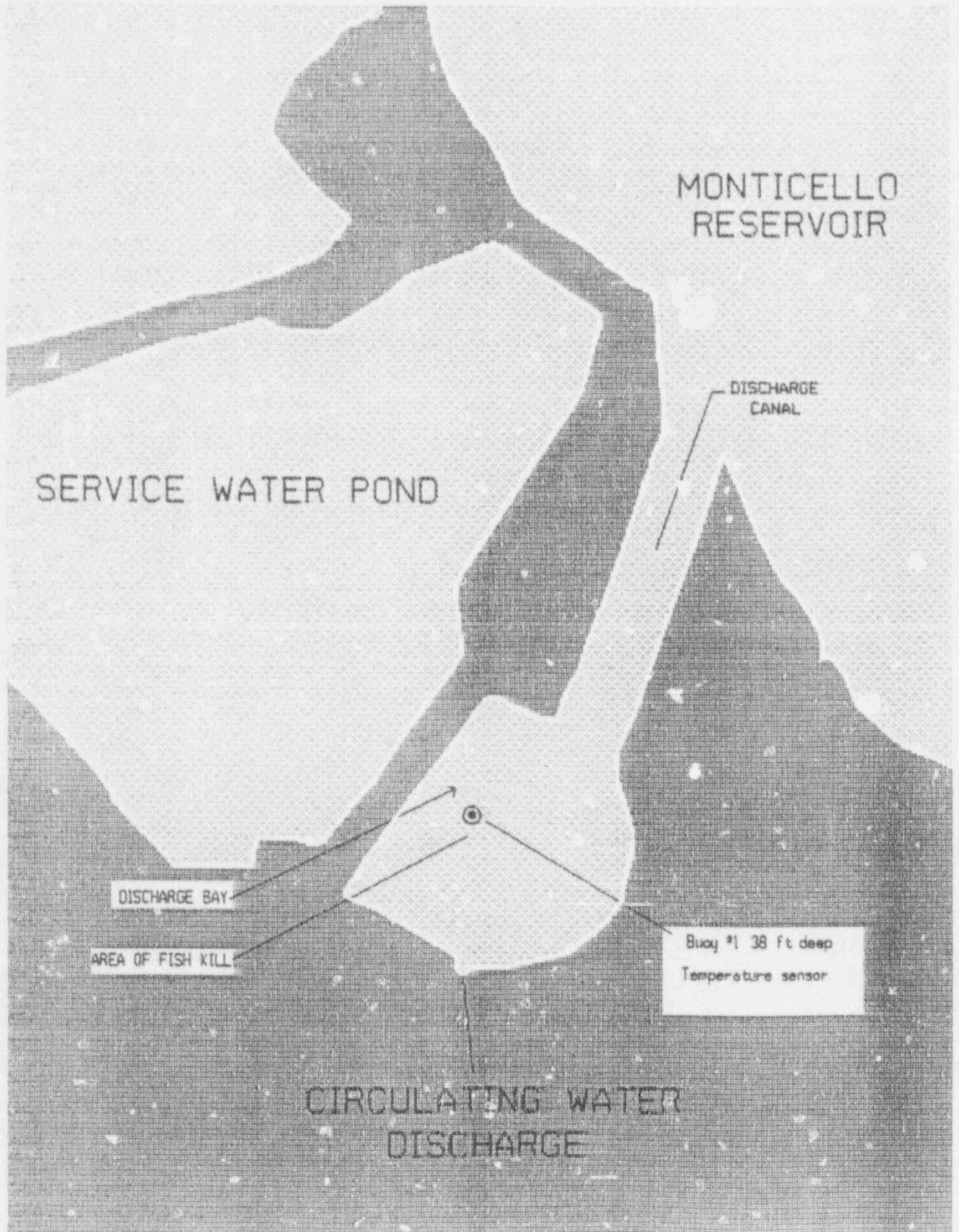


Figure 2

