

CATAWBA

NUCLEAR

STATION

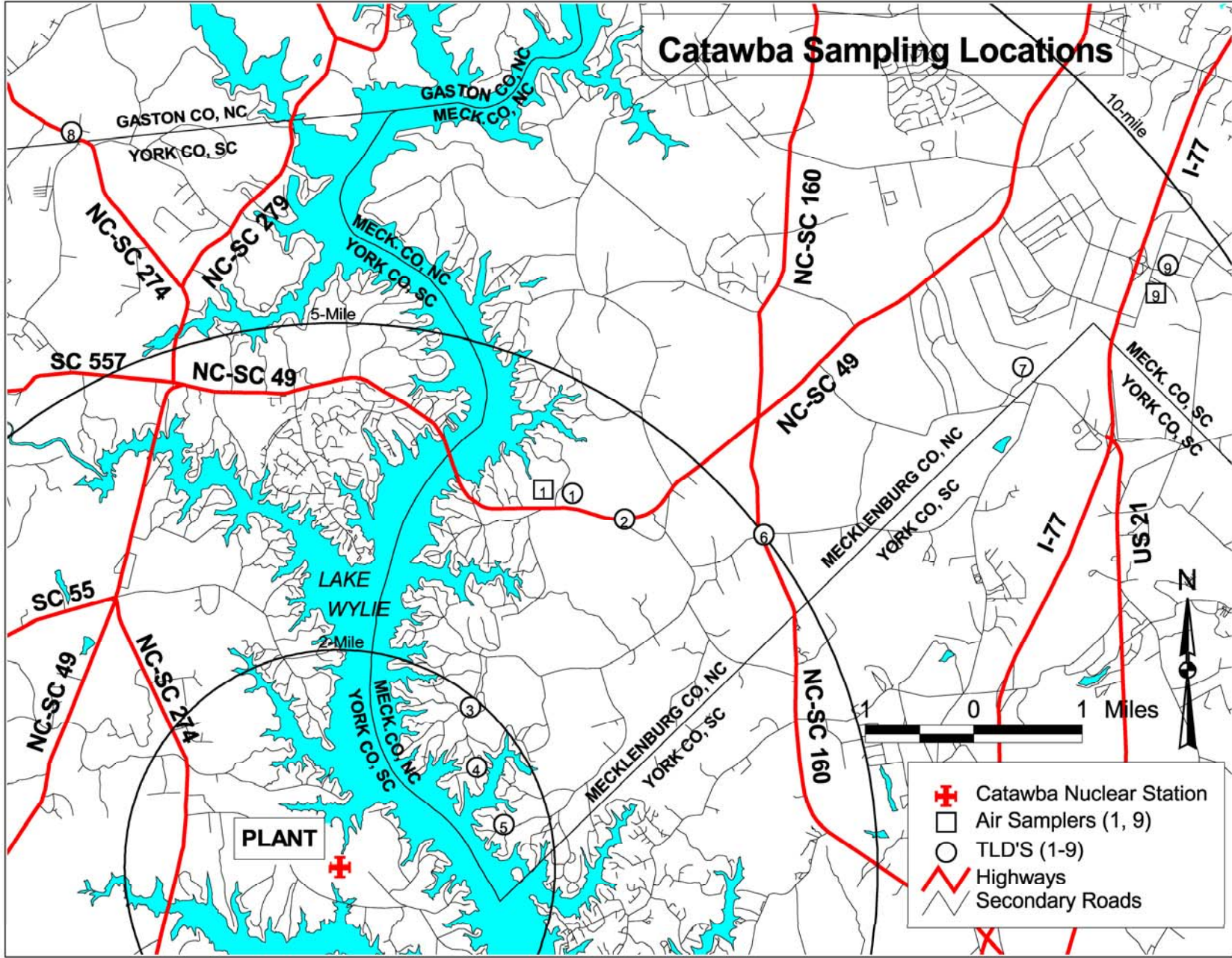
CATAWBA NUCLEAR STATION LAKE WYLIE, SOUTH CAROLINA

Duke Power Company (Duke), a subsidiary of Duke Energy Corporation (DEC), operates the Catawba Nuclear Station (CNS) located one mile from the North Carolina border and about 19 miles SW of Charlotte on Lake Wylie. The plant consists of two pressurized water reactors with a net design rating of 1129 megawatts-electrical each. Commercial power production was initiated by Unit 1 on June 29, 1985, and Unit 2 on Aug. 19, 1986.

RPS conducts a limited air particulate and thermoluminescent dosimeter (TLD) monitoring program of CNS for the region of North Carolina in close proximity (less than 10 miles from CNS) to the plant. NCDRP collects and analyzes low volume air particulate samples from two locations on a weekly basis and TLD's from five locations on a quarterly basis for Catawba. None of these locations are co-located with Duke sampling sites.

For 2008, all gross beta results for NCDRP air samples were below NCDRP's investigation level of 0.5 pCi/m^3 , and no appreciable upward trend was noted when compared with results from years past. For 2008, the average gross beta activity was 1.95 E-2 pCi/m^3 at location CT-APLV-01 and 2.01 E-2 pCi/m^3 at location CT-APLV-09. Composite gamma analyses of air particulate samples by RPS were not performed in 2008 due to detector malfunctions at the State Radiochemistry Laboratory. Two high purity germanium detectors were malfunctioned and could not be repaired due to budgetary concerns. All gross beta results for air particulate for 2008 were below the screening level of 0.5 pCi/m^3 . Composite gamma analyses of air particulate samples on a monthly basis is due to resume in 2009. Thermoluminescent dosimetry results for 2008 produced a yearly average exposure of 59.0 milliroentgens (mR) (approximately 14.5 mR/standard quarter) for all sites. This is less than the statewide average of 75 mR/year.

Catawba Sampling Locations



- Catawba Nuclear Station
- Air Samplers (1, 9)
- TLD'S (1-9)
- Highways
- Secondary Roads

Section 8: Catawba Nuclear Station, Lake Wylie, South Carolina**Air Particulate - Gross Beta, (pCi/m³)**

Date	CT-APLV-01^a		CT-APLV-09^b	
	All measurements x 10⁻² pCi/m³		All measurements x 10⁻² pCi/m³	
	DRP		DRP	
	Meas.	Error	Meas.	Error
1/3/08	2.72	0.11	2.81	0.11
1/9/08	2.09	0.10	2.08	0.10
1/14/08	2.04	0.10	2.03	0.10
1/23/08	2.08	0.08	2.20	0.09
1/29/08	3.19	0.13	2.92	0.12
2/7/08 ^c			1.89	0.08
2/13/08 ^d			3.91	0.16
2/19/08	2.23	0.09	2.09	0.10
2/25/08	1.98	0.09	1.74	0.08
3/3/08	1.50	0.07	1.54	0.07
3/10/08	1.40	0.07	1.35	0.07
3/20/08	2.45	0.11	2.17	0.09
3/26/08	1.62	0.08	1.62	0.08
4/1/08	1.75	0.10	1.78	0.09
4/7/08	1.04	0.06	1.00	0.06
4/14/08	0.92	0.05	0.97	0.06
4/21/08	1.63	0.08	1.45	0.07
4/28/08 ^e				
5/8/08	1.86	0.08	2.05	0.09
5/13/08	1.29	0.07	1.49	0.08
5/20/08	1.20	0.06	1.30	0.07
5/28/08	1.69	0.08	1.67	0.08
6/2/08	1.52	0.08	2.16	0.11
6/13/08	2.07	0.09	2.10	0.09
6/18/08	2.08	0.10	2.07	0.10
6/26/08	2.21	0.09	1.67	0.09
7/2/08	1.52	0.07	1.63	0.08
7/8/08 ^f	1.62	0.08		
7/15/08	1.56	0.07	1.67	0.08
7/24/08	2.05	0.10	2.17	0.10
7/30/08	2.54	0.11	2.63	0.11
8/5/08	2.52	0.11	2.62	0.11
8/12/08 ^g	2.67	0.11		
8/19/08	2.35	0.10	2.54	0.10
8/25/08	2.14	0.10	2.70	0.12
9/5/08	1.39	0.06	1.36	0.06
9/12/09 ^h				
9/16/08 ⁱ				
9/29/08	1.90	0.08	1.87	0.08
10/6/08	2.69	0.11	2.91	0.12
10/13/08 ^j				
10/22/08	2.62	0.10	2.96	0.11
10/28/08	1.48	0.07	1.67	0.08
11/5/08 ^k	2.31	0.10	2.32	0.10
11/12/08	2.23	0.09	1.97	0.09
11/21/08	1.41	0.06	1.46	0.07
11/28/08 ^l				
12/1/08	2.17	0.09	2.28	0.09
12/9/08	2.31	0.09	2.21	0.09
12/19/08 ^m	1.46	0.06	1.27	0.06
12/29/08	2.36	0.10	2.24	0.09

Air Particulate - Gross Beta, (pCi/m³)

<u>Date</u>	<u>CT-APLV-01^a</u>		<u>CT-APLV-09^b</u>	
	<u>All measurements x 10⁻² pCi/m³</u>		<u>All measurements x 10⁻² pCi/m³</u>	
	<u>DRP</u>		<u>DRP</u>	
	<u>Meas.</u>	<u>Error</u>	<u>Meas.</u>	<u>Error</u>
Average	1.95		2.01	
% Diff.		3.07%		

^aSampling at NCDRP Site CT-APLV-01 located at McDowell Park approximately 4.2 mi. NNE of the plant.

^bSampling at NCDRP Site CT-APLV-09 located at Westinghouse Blvd and I-77 approximately 9.5 mi. NE of the plant.

^c Sample collected at CT-APLV-01 on 2/7/08 not analyzed due to analysis equipment malfunction.

^d Sample not collected at CT-APLV-01 on 2/13/09 due to locked gate. Sampler ran continuously from 2/7/09 to 2/19/08.

^e Sample analysis result not available from State Radiochemistry Laboratory database.

^f Sample analysis result not available from State Radiochemistry Laboratory database.

^g Sample analysis result not available from State Radiochemistry Laboratory database.

^h Samples not received for weeks of 9/12/08, 9/16/08 for both locations CT-APLV-01 & CT-APLV-09.

ⁱ Samplers ran continuously from 9/16/08 – 9/29/08.

^j Sample not collected for week of 10/13/2008 for both locations CT-APLV-01 and CT-APLV-09. For both locations, samplers ran continuously from 10/6/08 – 10/22/08.

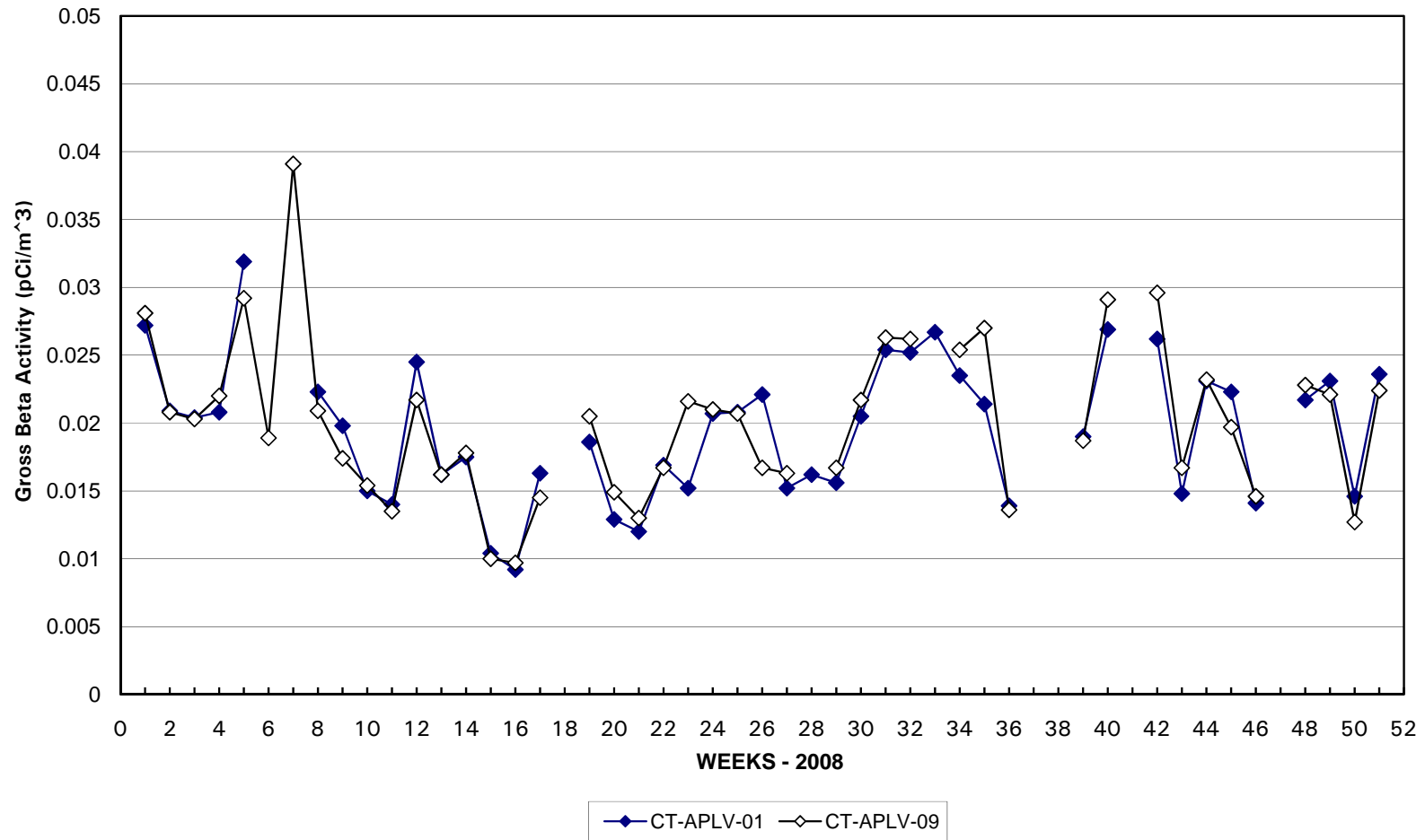
^k Sample for location CT-APLV-09 actually collected on 11/4/09.

^l Samples not collected due to Thanksgiving holiday.

^m Sample for location CT-APLV-01 actually collected on 12/22/09 due to locked gate.

CATAWBA AIR PARTICULATE

NCRPS



TLD

<u>Loc #</u>	<u>Location</u>	<u>All readings in mR/year.</u>							
		<u>1st Qtr</u>		<u>2nd Qtr</u>		<u>3rd Qtr</u>		<u>4th Qtr</u>	
		<u>Meas</u>	<u>Error</u>	<u>Meas</u>	<u>Error</u>	<u>Meas</u>	<u>Error</u>	<u>Meas</u>	<u>Error</u>
1	McDowell Park	54.7	3.3	65.6	3.7	70.9	1.9	70.2	1.7
2	NC 49 and Pleasant Hill Road	68.7	3.6	84.2	2.1	55.9	3.9	88.0	1.8
6	Hamilton Road and Steele Creek Road	54.6	2.6	59.2	1.1	59.6	1.9	63.4	1.5
7	Carowinds Boulevard	40.3	1.2	51.1	1.2	46.4	3.7	49.5	1.9
9	Westinghouse Boulevard and Interstate 77	40.5	4.2	49.3	4.2	47.2	4.0	60.3	4.6
	Average, All Sites	51.8		61.9		56.0		66.3	
	Yearly Average, All Sites	59.0							