

DMB

50-493

November 23, 1982

Missouri Department of Public Health  
Bureau of Radiological Health  
ATTN: Mr. Kenneth Miller  
Administrator  
Post Office Box 570  
Jefferson City, Missouri 65102

Gentlemen:

The initial NRC environmental monitoring (TLD) network for the Callaway Nuclear Power Plant, Unit 1 was placed during August 10, 1982. This was made possible with the assistance of you and your staff member.

Enclosed with this letter is a description of the network, involving 40 TLDs around the Callaway Plant and the TLD exchange route with a copy of the map locating the TLDs. Also enclosed is a table listing the TLD stations and the Collection Data Sheet used to indicate the placement of the TLDs. This Sheet should be completed when you exchange the next set of TLD's (around January 1, 1983) and sent back with the exposed TLDs to Mr. Thomas Thompson in Region I, 631 Park Avenue, King of Prussia, Pennsylvania 19406. Mr. Thompson (Phone No. 215/337-5000) will send you the replacement TLDs, labels and instructions around December 24, 1982. The box that will be sent can be used again to return the exposed TLDs to Region I for analysis. Reports of analytical results for the Callaway as well as all the other nuclear plants in the U.S.A. will be sent to you from Region I.

To expedite your exchange, contact Mr. J. Peevy, Supervisor, Radiation Protection (Phone No. 314/676-8246) at the Callaway Plant ahead of time and arrange to go together with licensee personnel.

We are in the process of preparing a three year NRC contract with your organization to include the exchange of dosimeters on a quarterly schedule starting January 1, 1983. We will keep you posted as to its progress.

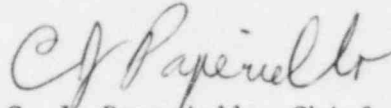
8211300235 821123  
PDR ADOCK 05000483  
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IE:06

November 23, 1982

If you have any questions, please contact Dr. Mary Jane Oestmann  
(312/932-2516). Thank you for your cooperation.

Sincerely,



C. J. Paperiello, Chief,  
Emergency Preparedness and  
Program Support Branch

Enclosures: As stated

cc w/encls:

L. K. Cohen, IE

F. Costello, RI

T. Thompson, RI

W. Menczer, RIII

W. H. Weber, Manager

Nuclear Construction

S. E. Miltenberger, Plant Manager

N. Slaten, Union Electric Company

J. Peevy, Union Electric Company

DMB/Document Control Desk (RIDS)

Resident Inspector, RIII

Region IV

K. Drey

Ronald Fluegge, Utility

Division, Missouri Public

Service Commission

RIII

*MJO*  
Oestmann/sv  
11/16/82

RIII

*W*  
Schumacher

RIII

*CJP*  
Paperiello  
11/19/82

RIII

*HW for*  
Konklin  
11/19/82

UNITED STATES NUCLEAR REGULATORY COMMISSION  
 REGION I  
 631 Park Avenue  
 King of Prussia, Pennsylvania 19406

Site Callaway

ENVIRONMENTAL RADIATION MONITORING PROGRAM  
 DOSIMETER PLACEMENT/COLLECTION DATA SHEET

Anneal Date: 7/2/82 Returned for annealing  
 Ship Date to Site: 8/5/82  
 Received at Site: 8/9/82  
 Placement Date: 8/10/82  
 Retrieval Date: \_\_\_\_\_  
 Return Shipment Date: \_\_\_\_\_  
 Read Out Date: \_\_\_\_\_

Annealed By: TCT  
 Shipped By: \_\_\_\_\_  
 Received By: Ostmann  
 Placed By: Ostmann/State of Missouri  
 Retrieved By: \_\_\_\_\_  
 Returned By: \_\_\_\_\_  
 Read By: \_\_\_\_\_

NRC Station	Dosimeter Number	Location		Radial Distance	Description	Date/Time Placed	Date/Time Retrieved <sup>(X)</sup>	ΔT (To Be filled in by NRC)
		Sector	Azimuth					
1	3018051	WSW	247°	2.1 mi	Hwy CC on Pole No. 18769	8/10/82	9:30	
2	52	W	259°	1.4 mi	Hwy CC on Pole No. 18747	"	9:45	
3	53	WNW	282°	1.3 mi	Hwy AD Pole No. 18580	"	10:00	
4	54	NW	304°	1.8 mi	Hwy CC Pole No. 18450	"	10:15	
5	55	NWN	330°	1.7 mi	Hwy CC + RTO Pole No. 28613	"	10:20	
6	56	N	1°	1.7 mi	RTO and DD Pole No. 28139	"	10:25	
7	57	NNE	23°	2.0 mi	RTO UNION CITY STATION - Pole No. 31094	"	10:30	

AI  
(To Be filled  
in by NRC)

Date/Time  
Placed

Date/Time  
Retrieved

Sector

Locator  
Number

Station

8 3018058 ENE 270 0.7 mi RTDD 8/10/82 PN 28151 10:40

9 E 850 14 mi GRAVEL ROAD " 10:45  
PN 30936

10 E 980 1.5 mi RTDD - PN 06957 " 10:55  
FARMHOUSE

11 ESE 1210 2.0 mi RTDD " 11:05  
PN 2N310

12 SE 1400 2.0 mi RTDD " 11:08  
PN 06871

13 SSE 1580 2.5 mi RTDD " 11:15  
PN 06851

14 S 1830 3.7 mi RTDD + HWY 94 " 11:25  
PN 06754

15 S 1880 1.7 mi RT336 - Micro Tower A " 11:34  
PN 18716

16 SWS 2020 0.7 mi RT336 - Heavy Metal " 11:45  
Ed - no PN

17 SW 2370 0.7 mi RT336 - Heavy Metal " 11:55  
Ed - no PN - back

18 NW 3120 11.0 mi RE of FULTON " 12:05  
PN 2 - PN 21544

19 WNW 2920 10.0 mi RTC - Soft FULTON " 13:05  
no PN

20 W 2640 9.0 mi RTC - PN 53655 " 13:20

21 WSW 2470 8.0 mi RTC " RANCH HOME " 13:35  
PN 5140

22 SW 2250 8.0 mi RTC S. COLLEGEWAY " 13:47  
RT 5140

23 SW 2200 8.0 mi RTC RIVERVIEW NURSE " 14:55  
HOME PN 5411

24 SWS 2050 5.5 mi RTC SKIPPY DEER " 15:05  
COUNTRY STORE

25 SSE 1590 4.0 mi HWY 94 NEAR " 15:10  
ORAY BORN PN 12182

26 SE 1340 5.0 mi PORTLAND - NEAR " 15:20  
CHURCH BELL PN 15111

27 ESE 1150 4.2 mi HWY 94 + RTD " 15:35  
PN 11955

28 78 E 950 3.5 mi RTD " 15:45  
PN 13000

29	30-8079	ENE	670	3.4 mi	RTD PN 17955	10/87	15:50	
30	80	NE	480	4.5 mi	Interpolated by hand RTD - 1st PN 17878	"	15:56	
31	81	NNE	140	6.5 mi	YUCATAN BAPT CHURCH PN 19670	"	16:06	
32	82	N	70	5.1 mi	BEFORE HIGHWAY RD. PN 19129	"	16:37	
33	83	NGW	335	3.6 mi	RTCC	"	16:40	
34	84	WNW	780	4.3 mi	RTD PN 18145	"	16:50	
35	85	NW	310	5.2 mi	GRAVEL RD PN 17516	"	17:02	
36	86	W	264	3.2 mi	RTD GRIDPOST	"	17:35	
37	87	WSW	237	3.0 mi	RTD RTCC Pole	"	17:40	
38	88	SW	270	~1.5 mi	TEMPORARY	"	18:45	
39	89	SW	270	~1.5 mi	"	"	18:45	
40	90	SWS	203	~1.2 mi	Holla Summit	"	18:55	
50	100	CONTROL						

CALLAWAY TLD ROUTE

- WSW Drive N on State Highway CC. Place Station 1 on Pole No. 18769 at the same location as the licensee's #44 on right side of road. (IR, Callaway C #44).
- W Continue driving N on Highway CC for 0.7 miles from Station 1. Place Station 2 on Pole No. 18747 at turn in road. (IR)
- WNW Continue N on Highway CC. Turn left on Rt AD. Place Station 3 on second pole (No. 18580) at the same location as licensee's #45. (Total distance of 0.5 miles from Station 2) (IR, C-45)
- NW Turn around and return to Highway CC, go left (N) on Highway CC. Place Station 4 on Pole No. 18450 on the left corner at same location as licensee's #3 (near red barn) (a total distance of 0.7 miles from Station 3) (IR, C-3)
- NWN Return to Highway CC; drive N to Route O. Place Station 5 on Pole No. 28613 (SE) on right side of road at corner of Highway CC and Route O. (A total distance of 0.8 miles from Station 4) (IR)
- N Turn right on Route O and drive east to Route DD. Place Station 6 on Pole No. 28139 at SE corner of Route O and Route DD. (A total distance of 1.2 miles from Station 5) (IR)
- NNE Continue driving east on Route O to Union City Station. Place Station 7 on Pole No. 31094. (Pole with phone sign) (A total distance of 0.5 miles from Station 6) (IR)
- ENE Turn around and drive west on Highway O to Route DD. Drive south on Route DD towards plant and past cooling tower. Place Station 8 on Pole No. 28151 at the same location as licensee's #47. (A total distance of 2.5 miles from Station 7) (IR, C-47)
- E Drive on gravel road (Rt DD) to beyond meteorological tower. Place Station 9 on left side of road on Pole No. 30956 or 30596 (a total distance of 0.9 miles from Station 8) (IR, near C-5)
- E Continue driving on Route DD for 0.6 miles to farm house (nearest residence). Place Station 10 on Pole No. 06959 at same location as licensee's #49. (A total distance of 0.6 miles from Station 9) (IR, HPI, C-49)
- ESE Continue driving on gravel road (RT DD) for 1.2 miles. Place Station 11 on Kingdom Telephone Company Pole No. 2N310 (Post underground cable) at intersection. (IR)
- SE Continue on gravel road (RT DD) for 1.10 miles. Place Station 12 on Pole No. 06871 (left side near farm) (IR, HPI)

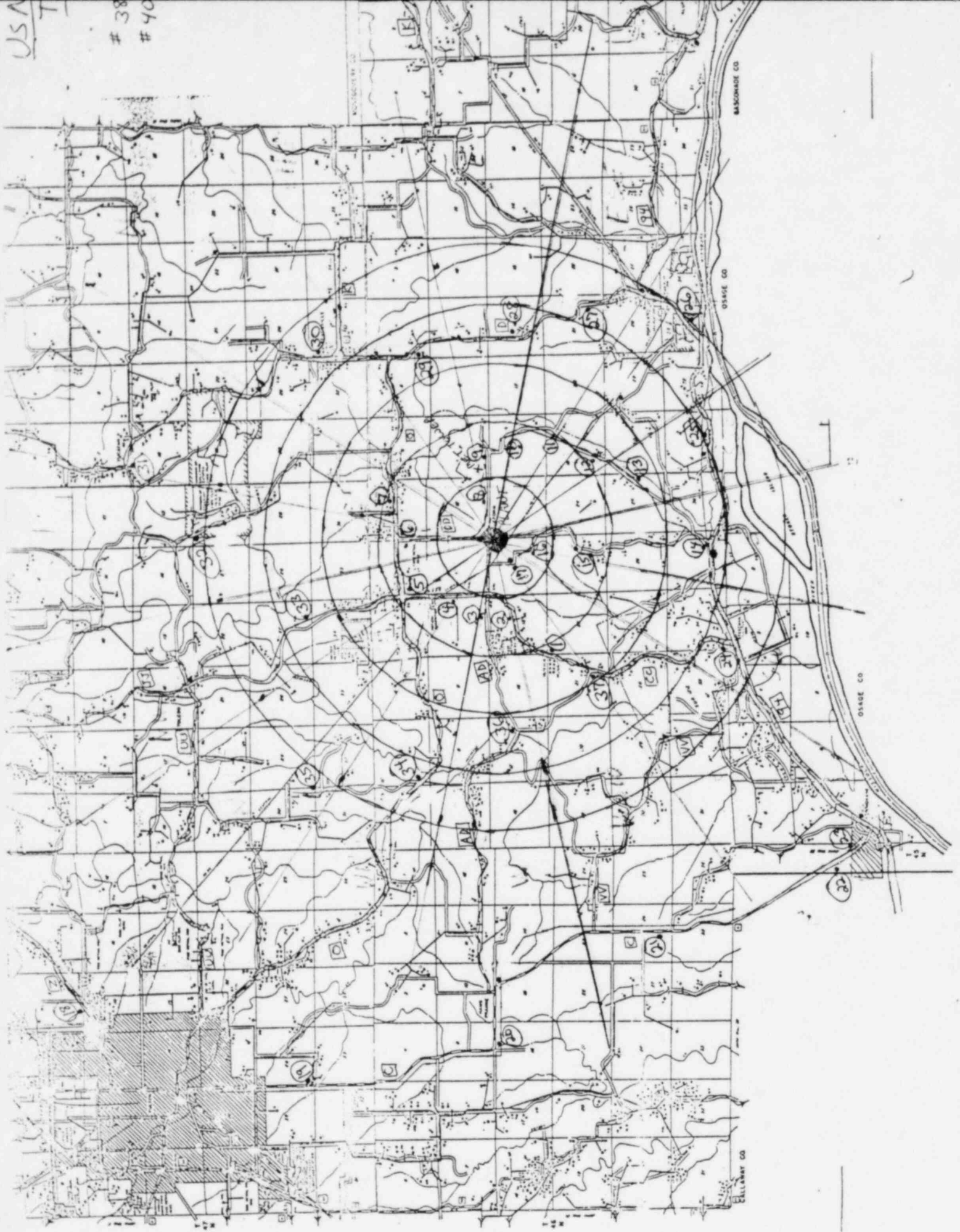
- SSE Continue on gravel road (RT DD) for 1.0 miles. Place Station 13 on Pole No. 06851 on left side of road at same location as licensee's #29. (A total distance of 1.0 miles from Station 12) (IR, C-29)
- S Continue on RT DD; turn left at T in road; cross RR tracks and turn right at T. Place Station 14 on Pole No. 06754 at cross section of Route DD and Highway 94 at same location as licensee's #9. (A total distance of 1.7 miles from Station 13) (OR, C-9)
- S Turn around and drive N on Heavy Haul Road (Cty Road 336) for 2.5 miles to microwave tower. Place Station 15 on pole on right side on side road towards tower. (Pole No. 18716) (IR, near C-7)
- SWS Continue on Heavy Haul Road (Cty Road 336) towards Plant. Place Station 16 on pole (no number) (A total distance of 1.4 miles from Station 15) (IR, near C-37)
- SW Continue on Heavy Haul Road (Cty Road 336) for 0.6 miles. Place Station 17 on pole (no number) near parking lot (Areas Information and Regulations sign). (IR)
- NW Drive to Fulton and on to Route 54B and to Route Z. Place Station 18 on Pole No. 21544 at same location as licensee's #1. (A total distance of about 21.2 miles from Station 17) (OR, HPC) (C-1)
- WNW Turn around and go W on Route Z to Highway 54B. Turn left onto Highway 54B and then turn left onto Route C. Place Station 19 near Tennyson Apts on Route C on pole with no number. (South of Fulton) (OR)
- W Continue driving S on Route C. Place Station 20 on Pole No. 53655 at sharp turn on Route C west of Hams Prairie (Elvis Presley Memorial). (A total distance of 8.8 miles from Station 18) (OR)
- WSW Drive 3.6 miles on Route C. Place Station 21 on Kingdom Pole 5/40 near Ranch Home. (OR)
- SW Continue driving S on Route C for 2.4 miles to S. Callaway RII School. Place Station 22 on Kingdom Telephone Pole No. ~~5~~25 K. (OR) (HPI)
- SW Drive S on Route C for 1.2 miles to the Riverview Nursing Home. Place Station 23 on Kingdom Telephone Pole No. 5V/1. (OR, HPI)
- SWS Continue S to Highway 94, turn east (left) and turn left on Route CC. Cross RR tracks and place Station 24 on post behind tree across from Skip and Debs Country Store in Steedman. (A total distance of 4.7 miles from Station 23) (OR, HPC)

- SSE Return to Highway 94 and drive east on Highway 94 for 3.7 miles to just before gray barn on left side of road at side road at the same location as licensee's #10. Place Station 25 on Pole No. 12182 (OR, C-10)
- SE Continue on Highway 94 to Portland for 2.3 miles. Place Station 26 on Kingdom Telephone Pole No. 125111 in front of church bell. (OR, HPI)
- ESE Continue on Highway 94, turn N (left) on Route D for 1.9 miles. Place Station 27 on Pole No. 11955 just before black and white sign for narrow road at the same location as licensee's air sampler B-2 (OR, C-15)
- E Continue on RT D for 2.7 miles. Place Station 28 on Pole No. 13000. (OR)
- ENE Continue on Route D for 1.4 miles. Place Station 29 on left side of road on Pole No. 12955. (Last pole on left side) (OR)
- NE Continue on RT D for 1.5 miles. Just past Route K, place Station 30 on right side of road on Pole No. 12818 by old white house with fence near Readsville Store. (Davis Boo General Merchandise Store - left side of road) (OR)
- NNE Continue on Route D for 4.8 miles to Yucatan Baptist Church in Yucatan. Place Station 31 on Pole No. 12670. (OR, HPC)
- N Turn left on dirt road at church, bear left on fork (1.3 miles) keep left at fork (0.7 miles) cross water and drive straight ahead. Place Station 32 on Pole No. 19139 - just before Mohegan Road. (A total distance of 2.7 miles from Station 31) (OR)
- NWN Continue straight ahead to cross roads. Turn left onto Route U.U. to crossroads of Routes JJ and UU, turn left (south) to Route JJ or Route CC. Continue South on Route CC for 3.9 miles from Station 32. Place Station 33 on pole on left side of road. (OR)
- WNW Continue to Route O; turn right (West); turn right on gravel road (total distance of 4.5 miles from Station 33). Place Station 34 on right side on Pole No. 18145 (at same location as licensee's #40 (OR) C-40)
- NW Drive up gravel road for 1.8 miles. Place Station 35 on Pole No. 17516 (near licensee's #5) (OR)
- W Turn around and return to Route O to Route CC and drive south to Route AD (across from plant entrance). Keep straight (don't cross bridge). Place Station 36 on bridge post on right side). (A total distance of 10.3 miles from Station 35) (OR)



- WSW Continue on Route AD to Route CC. Place Station 37 on telephone pole at cross section of side road and Route CC. (OR)
- SW Turn onto Route CC and return to Route 0 and drive towards Fulton. Drive south on Highway 54 to New Bloomfield. Place Controls 38 and 39 on pole behind Don Hy Klas Store. (Control)
- SWS Continue on Highway 54 to Holts Summit. Place Control 40 on pole left of Chiropractic Clinic at Highway 54 and Karen Road. (Control)

USA  
# 38  
# 40



U. S. NRC DIRECT RADIATION MONITORING NETWORK SITING WORKSHEET

NUCLEAR POWER STATION Callaway  
CLINTON

NRC STATION NO.	LOCATION	DESCRIPTION	CRITERIA SATISFIED	COLOCATED
1	WSW - 247° - 2.1 mi	Hwy CC on PN 18769	IR	Yes C-44
2	W - 259° - 1.4 mi	Hwy CC on PN 18747	IR	No
3	WNW - 282° - 1.3 mi	Hwy AD on PN 185580	IR	Yes C-45
4	NW - 304° - 1.3 mi	Hwy CC on PN 18450	IR	Yes C-3
5	NWN - 330° - 1.7 mi	Hwy CC and O - PN 28613	IR	No
6	N - 1° - 1.7 mi	RT O and DD - PN 28139	IR	No
7	NNE - 23° - 2.0 mi	RT O - Union City St. - PN 31094	IR	No
8	ENE - 77° - 0.7 mi	RT DD - PN 28151	IR	Yes C-47
9	E - 85° - 1.4 mi	RT DD - Gravel Rd - PN 30956	IR	Yes C-5
10	E - 98° - 1.5 mi	RT DD - Farm House	IP, HPI	Yes C-49
11	ESE - 121° - 2.0 mi	RT DD - PN 2 N 310	IR	No
12	SE - 140° - 2.0 mi	RT DD - PN 06871	IR, HPI	No
13	SSE - 158° - 2.5 mi	RT DD - PN 06851	IR	Yes C-29
14	S - 183° - 3.7 mi	RT DD & Hwy 94 - PN06754	OR	Yes C-9
15	S - 188° - 1.7 mi	RT 336 (Heavy Haul Rd) Micro Twr PN - 18716	IR	Yes C-7
16	SWS - 202° - 0.7 mi	RT 336 (Heavy Haul Rd) No #	IR	Yes C-37
17	SW - 237° - 0.7 mi	RT 336 - No PN - near Park Lot	IR	No
18	NW - 312° - 11.0 mi	NE of Fulton on Z-PN 21544	OR, HPC	Yes C-1

U. S. NRC DIRECT RADIATION MONITORING NETWORK SITING WORKSHEET

Callaway  
 NUCLEAR POWER STATION ~~XXXXXXXX~~

NRC STATION NO.	LOCATION	DESCRIPTION	CRITERIA SATISFIED	COLOCATED
19	WNW - 292° - 10.0 mi	RT C - S of Fulton - no PN	OR	No
20	W - 268° - 9.0 mi	RT C - PN 53655	OR	No
21	WSW - 247° - 8.0 mi	RT C - Ranch House PN 5/40	OR	No
22	SW - 225 - 8.0 mi	RTC - S Callaway RII School PN 5/25 K	OR, HPI	No
23	SW - 220° - 8.0 mi	RT C - Riverview Nurse Hm. PN 5V/1	OR, HPI	No
24	SWS - 205° - 5.5 mi	RT C - Skip & Debs Store - Post	OR, HPC	No
25	SSE - 157° - 4.0 mi	Hwy 94 - Near Gray Barn PN 12182	OR	Yes, C-10
26	SE - 134° - 5.0 mi	Portland - Near Church Bell PN 125/i1	OR, HPI	No
27	ESE - 115° - 4.2 mi	Hwy 94 & RT D - PN 11935	OR	Yes C-15
28	E - 95° - 3.5 mi	RT D - PN 13000	OR	No
29	ENE - 67° - 3.4 mi	RT D - PN 12955 - Last Pole Left Side	OR	No
30	NE - 48° - 4.5 mi	RT D - Just past RT K - PN 12818	OR	No
31	NNE - 14° - 6.5 mi	Yucatan Baptist Church PN 12670	OR, HPC	No
32	N - 2° - 5.1 mi	Before Mohegan Rd PN 19139	OR	No
33	NWN - 335° - 3.6 mi	RT CC - Pole - Left side of road	OR	No

U. S. NRC DIRECT RADIATION MONITORING NETWORK SITING WORKSHEET

Callaway  
 NUCLEAR POWER STATION CLINTON

NRC STATION NO.	LOCATION	DESCRIPTION	CRITERIA SATISFIED	COLOCATED
34	WNW - 288° - 4.3 mi	RT 0 - PN 18145	OR	Yes, C-40
35	NW - 310° - 5.2 mi	Gravel Rd - PN 17516	OR	Yes, C-5
36	W - 264° - 3.2 mi	RT AD - Bridge Post - Right side	OR	No
37	WSW - 237° - 3.0 mi	RT CC - Pole at X section with sideroad	OR	No
38	SW - 270° - 15.0 mi	New Bloomfield - Behind store	Control	No
39	SW - 270° - 15.0 mi	New Bloomfield - Behind store	Control	No
40	SWS - 203° - 20.0 mi	Holts Summit - By Chiropractic Clinic	Control	No