

**Southern Nuclear Operating Company**  
Vogtle Electric Generating Plant  
Post Office Box 1600  
Waynesboro, Georgia 30830



August 12, 2002

U. S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555

NOT-03839

**VOGTLE ELECTRIC GENERATING PLANT  
EMERGENCY PLAN IMPLEMENTING PROCEDURE REVISIONS**

Gentlemen:

In accordance with 10 CFR 50.4, as required by 10 CFR 50, Appendix E, Part V, Southern Nuclear hereby submits the following revision(s) to the Vogtle Emergency Plan Implementing Procedure(s):

<u>Procedure</u>	<u>Revision</u>	<u>Effective Date</u>
91303-C	17	08/05/2002
91305-C	17	08/05/2002

By copy of this letter, the NRC Region II Administrator and the Site NRC Senior Resident Inspector will receive one copy each of the revision(s).

Please contact Lawrence Mayo at (706) 826-3356 if you have questions.

Sincerely,

A handwritten signature in black ink that reads "Lawrence E. Mayo". The signature is written in a cursive style.

Lawrence E. Mayo  
Emergency Preparedness Coordinator

LEM:jjm

Enclosure: Emergency Plan Implementing Procedure(s)

xc: Southern Nuclear  
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U. S. Nuclear Regulatory Commission  
Mr. L. Reyes, Regional Administrator (with attachment – one copy)

A045

Approved By <b>G. R. Frederick</b>	<b>Vogtle Electric Generating Plant</b> 	Procedure Number <b>91303-C</b>	Rev <b>17</b>
Date Approved <b>08/05/2002</b>	<b>FIELD SAMPLING AND SURVEYS</b>		Page Number <b>1 of 32</b>

**PRB REVIEW REQUIRED**

**1.0**      **PURPOSE**

The purpose of this procedure is to provide direction for performing field monitoring.

**2.0**      **RESPONSIBILITIES**

**2.1**      The Dose Assessment Manager (or Health Physics (HP) Supervisor if the Emergency Operations Facility (EOF) is not activated) shall determine the need for offsite surveys and sampling.

**2.2**      The Dose Assessment Manager (or HP Supervisor if the EOF is not activated) is responsible for:

**2.2.1**      Briefing and dispatching the Field Monitoring Team(s) (FMT).

**2.2.2**      Directing the FMT's activities through the FMT Communicator.

**2.2.3**      Collecting all documentation, and directing disposition of samples at the completion of shift and prior to dismissal.

**3.0**      **PREREQUISITES**

NONE

**4.0**      **PRECAUTIONS**

**4.1**      FMT members shall not exceed their authorized dose limit. If the limit is approached, leave the plume and request guidance from the FMT Communicator.

**4.2**      Normal precautions applicable to the handling of radioactive material involving the potential hazards from direct radiation exposure and the spread of loose contamination apply to air sample materials. Completed sample materials will be bagged for transport and retention. Iodine cartridges and air particulate filters shall be monitored for direct radiation. Bagged sample material having contact Gamma readings greater than 2½ mRem/h above background will be stored in the rear of the field survey vehicle and any shielding materials available shall be used.

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Date Approved <b>08/05/2002</b>	<b>FIELD SAMPLING AND SURVEYS</b>	Page Number <b>2 of 32</b>	

**4.3** When precipitation is predicted or occurring in the area of the plume, the potential for significantly increased rates of radioactivity deposition shall be considered and the scope of field monitoring increased, as required, in order to quantify the effects of this potentially increased deposition.

**4.4** The FMT Communicator shall inform the FMT's of any changes in emergency classification, or of situations which may compromise their health and safety.

**5.0** **PROCEDURE**

**5.1** The Dose Assessment Manager (or HP Supervisor if the EOF is not activated) should request the formation of at least one team (three teams maximum) of two persons each, and provide a briefing to them prior to their dispatch. (Checklist 2, Field Monitoring Team, Initial Briefing Checklist, should be used.)

**5.2** The FMT(s) shall implement the actions of Field Monitoring Team Checklist, Checklist 1.

**5.3** The Field Team Communicators may use Data Sheets 2, 3, 4 or 5 and Checklists 3, 4, 5 or 6 when communicating with FMT(s).

**5.4** Prior to team dispatch, the Field Team Communicator should prepare the KI Distribution Checklist (Data Sheet 1) in Procedure 91305-C, "Protective Action Guidelines".

**5.5** The Field Team Communicator should contact Health Physics personnel when FMT kits need restocked.

**6.0** **REFERENCES**

**6.1** **VEGP EMERGENCY PLAN**

**6.2** **PROCEDURES**

**6.2.1** 91305-C, "Protective Action Guidelines"

**END OF PROCEDURE TEXT**

Approved By <b>G. R. Frederick</b>	<b>Vogle Electric Generating Plant</b> 	Procedure Number <b>91303-C</b>	Rev <b>17</b>
Date Approved <b>08/05/2002</b>	<b>FIELD SAMPLING AND SURVEYS</b>		Page Number <b>3 of 32</b>

**DATA SHEET 1**

Sheet 1 of 10

**FIELD MONITORING LOCATIONS AND ENVIRONMENTAL MONITORING POINTS**

<b>SECTOR F</b>		
F21	1-1/2 miles	Dirt road intersection, SE of Plant Wilson
F22	2 miles	Dirt road intersection, dirt road starts from River Road south of Training Center
F41	3-1/2 miles	Unimproved dirt lane, sharp right turn junction, west of Griffins Landing
F42	4 miles	Griffins Landing boat ramp
F51	4-1/4 miles	Griffins Landing Road, Y-junction with unimproved dirt road
F81	7-1/4 miles	Brigham Landing boat ramp
F91	8-1/4 miles	River Road, intersection with unimproved dirt road by concrete marker
F101	9-1/2 miles	River Road T-junction with unimproved dirt road by concrete marker, by Sweetwater Creek

<b>SECTOR G</b>		
G21	2 miles	River Road, T-junction with GPC boat landing road
G22	1-3/4 miles	River Road, junction with Training Center road
G23	1-1/2 miles	River Road, Y-junction with Plant Wilson road
G24	1-1/2 miles	River Road, T-junction with Plant Vogle exit road
G31	2-1/4 miles	River Road, at end of paved section
G41	3-1/2 miles	River Road, V-junction with unimproved dirt road
G51	4-1/4 miles	River Road, at Cochran Grove Church
G52	5 miles	River Road, at T-junction with unimproved dirt road at residence
G53	4-1/2 miles	Griffins Landing Road, Y-junction with Dixon Road
G61	5-1/2 miles	River Road, SE Beaverdam Creek at residence
G62	5-3/4 miles	End of unimproved dirt road, County Road 20 at residence
G71	6-1/2 miles	Intersection of River Road and Brigham Landing Road
G72	6-1/2 miles	Brigham Landing Road, T-junction with County Road 81
G73	6-1/2 miles	Brigham Landing Road, end of paved section, T-junction with County Road 80
G81	7-1/2 miles	River Road, T-junction with unimproved dirt road
G82	7-1/2 miles	County Road 78, by Holy Trinity Church
G101	9-3/4 miles	Royal Road, T-junction with unimproved dirt road

**DATA SHEET 1**

Sheet 2 of 10

**FIELD MONITORING LOCATIONS AND ENVIRONMENTAL MONITORING POINTS**

<b>SECTOR H</b>		
H21	1-1/4 miles	River Road, by Environmental Monitoring Station Number 8
H51	4-3/4 miles	Chance Road, sharp left turn by stream
H61	5-1/4 miles	Junction of Griffins Landing Road and Chance Road
H62	5-1/2 miles	Dixon Road, by grain bin
H63	5-3/4 miles	Griffins Landing Road, by Microwave Tower
H71	6-1/4 miles	Dixon Road, Y-intersection
H72	6-1/2 miles	Griffins Landing Road, by Bethany Church Cemetery
H81	7-1/2 miles	Georgia Route 23 in Girard by stop sign and junction of Stoney Bluff Road
H82	7-1/4 miles	Georgia Route 23, junction with Brigham Landing Road
H83	7-1/4 miles	End of dirt lane off Brigham Landing Road
H91	8-1/2 miles	Stoney Bluff Road, T-junction with Long Road
H92	8-3/4 miles	Givens Church Road by Church of God
H101	9-1/2 miles	Stoney Bluff Road, at Thankful Church Road

<b>SECTOR J</b>		
J21	1-1/4 miles	River Road, by Environmental Monitoring Station 9, T-intersection with unimproved dirt road
J22	1-1/2 miles	Y-intersection of unimproved dirt road
J23	1-3/4 miles	End of unimproved dirt road
J41	3-3/4 miles	Junction of unimproved dirt roads
J51	4-3/4 miles	Intersection of Cypress Pond Road and Georgia Route 23
J52	4-1/2 miles	Chance Road, curve at residence
J61	5-1/2 miles	Georgia Route 23, T-junction with Glisson Road
J62	5-1/2 miles	Georgia Route 23 and Chance Road
J63	5-3/4 miles	Dead end of improved dirt road off of Buck Lane
J64	5-1/2 miles	Unimproved dirt road off Buck Lane by windmill at Hickman Cemetery
J71	7 miles	Glisson Road at residence
J72	6-1/2 miles	Intersection of Claxton Road and Glisson Road
J73	6-1/2 miles	Intersection of Brier Creek Road and Buck Lane by Wimberly Cemetery
J81	7-1/4 miles	T-junction of Brier Creek Road and Claxton Road at siren B33
J82	7-3/4 miles	T-junction of Brier Creek Road and Glisson Road
J91	8-1/2 miles	T-junction of Brier Creek Road and Georgia Route 23
J101	9-1/2 miles	Y-intersection of Georgia Route 23 and County Road 138 at siren B44
J102	9-1/2 miles	Tom Barger Road at intersection of unimproved dirt road
J103	9-1/2 miles	Tom Barger Road at intersection of Benjamin Road

Approved By <b>G. R. Frederick</b>	<b>Vogle Electric Generating Plant</b> 	Procedure Number <b>91303-C</b>	Rev <b>17</b>
Date Approved <b>08/05/2002</b>	<b>FIELD SAMPLING AND SURVEYS</b>		Page Number <b>5 of 32</b>

**DATA SHEET 1**

**Sheet 3 of 10**

**FIELD MONITORING LOCATIONS AND ENVIRONMENTAL MONITORING POINTS**

<b>SECTOR K</b>		
K24	1-1/4 miles	River Road at Y-intersection with unimproved dirt road
K31	2-1/2 miles	Ebenezer Church Road at intersection with unimproved dirt road prior to sharp right turn south
K41	3-1/2 miles	Ebenezer Church Road at Y-intersection with unimproved dirt road
K51	4-1/2 miles	Intersection of Ebenezer Church Road and Georgia Route 23
K52	4-1/2 miles	T-intersection of Georgia Route 23 and unimproved dirt road
K53	4-1/2 miles	Ebenezer Church Road at sharp right curve by unimproved dirt road
K61	5-1/2 miles	Intersection of Thompson Bridge Road and Brier Creek Road
K62	5-1/4 miles	Thompson Bridge Road at T-junction with Heath Road
K63	5-3/4 miles	Approximately 3/4 - mile South of K62
K64	5-1/2 miles	Fork of Buck Lane at an unimproved dirt road
K71	6-1/2 miles	Brier Creek Road by sharp curve at residence with out building
K72	6-1/2 miles	Y-junction on unimproved dirt road, County Road 92
K73	6-1/4 miles	County Road 92 at Lambert Cemetery
K81X	7-1/4 miles	Dead end of unimproved dirt road, off Roberts Road, at creek
K91	8-3/4 miles	T-intersection of unimproved dirt roads off Mobley-Brown Road
K92	8-3/4 miles	Mobley-Brown Road at triangular intersection of dirt road
K93	8-1/4 miles	Mobley-Brown Road at sharp curve
K94	8-3/4 miles	Unimproved dirt road off Roberts Road
K101	10 miles	Intersection of Tom Barger Road and Gordon Road
K102	9-1/2 miles	Gordon Road at intersection with Mobley-Brown Road
K103	9-1/4 miles	Gordon Road at intersection with unimproved dirt road
K104	9-1/4 miles	Gordon Road at T-intersection with unimproved dirt lane
K105	9-1/4 miles	Gordon Road at T-intersection with Mobley-Brown Road
K106	9-3/4 miles	Intersection of Gordon Road and Quaker Road
K107	9-3/4 miles	Intersection of Quaker Road and Hatchers Mill Road
K108	9-1/2 miles	Hatchers Mill Road at Springfield Church
K109	10 miles	Quaker Road at T-intersection with unimproved dirt road

**DATA SHEET 1**

**Sheet 4 of 10**

**FIELD MONITORING LOCATIONS AND ENVIRONMENTAL MONITORING POINTS**

<b>SECTOR L</b>		
L11	1 mile	Intersection of Plant Vogtle access roads
L21	1-1/4 miles	Intersection of Plant Vogtle Gate 1 access road and River Road
L22	1-1/2 miles	Ebenezer Church Road at Ebenezer Church
L23	2 miles	Jack Delaigle Road at T-intersection with unimproved road
L31	2-1/2 miles	Ebenezer Church Road at sharp curve after recreation area
L32	2-1/4 miles	Jack Delaigle Road at Y-intersection of unimproved road
L33	2-3/4 miles	Jack Delaigle Road at Triangular intersection with Son Delaigle Road
L34	2-3/4 miles	Y-intersection of unimproved dirt roads off of Ebenezer Church Road
L41	3-1/4 miles	Jack Delaigle Road at cluster of residences and out buildings
L42	3-3/4 miles	Unimproved dirt road off Jack Delaigle Road
L43	3-1/4 miles	Intersection of unimproved dirt roads
L44	3-1/4 miles	T-intersection of unimproved dirt roads
L51	4-1/2 miles	Jack Delaigle Road at T-intersection with County Road 391
L52	5 miles	Intersection of Jack Delaigle Road and Georgia Route 23
L53	4-1/2 miles	Fork of improved dirt roads off Jack Delaigle Road and County Road 391
L54	4-3/4 miles	Georgia Route 23 at unimproved road
L61	5-1/2 miles	Thompson Bridge Road intersection with Boll Weevil Road
L71	6-1/2 miles	Thompson Bridge Road at Cox Place Road
L72	6-1/4 miles	Thompson Bridge Road at Jobs Spring Church
L81	8 miles	Thompson Bridge Road at intersection with Seven Oaks Road
L82	7-1/2 miles	Dead End of dirt lane off Seven Oaks Road
L91	8-1/2 miles	Intersection of unimproved roads off Roberts Road
L92	8-1/4 miles	Thompson Bridge Road at Thompson Bridge
L93	8-3/4 miles	Intersection of Hatchers Mill Road and Chance Hatcher Road
L101	9-3/4 miles	County Road 393 at dead end off Quaker Road
L102	9-1/2 miles	Housing subdivision off Roberts Road

**DATA SHEET 1**

**Sheet 5 of 10**

**FIELD MONITORING LOCATIONS AND ENVIRONMENTAL MONITORING POINTS**

<b>SECTOR M</b>		
M31	2-1/2 miles	Son Delaigle Road under transmission lines
M41	3-1/2 miles	Triangular intersection of dirt roads near 230 kV transmission lines
M42	3-3/4 miles	Intersection of dirt roads north of 230 kV transmission liens
M43	3-3/4 miles	Jack Delaigle Road at intersection
M51	4-1/2 miles	Hancock Landing Road under 230 kV transmission lines
M52	4-1/2 miles	Thomas Road at T-intersection
M53	4-1/4 miles	Intersection of Thomas Road and Jack Delaigle Road
M61	5 miles	Intersection of Hancock Landing Road and Thomas Road
M62	5-1/2 miles	Intersection of Georgia Route 23 and Hancock Landing Road
M63	5-3/4 miles	Botsford Church Road by cemetery and dirt road with out buildings
M71	6-3/4 miles	McNorril Road and Cemetery Road Y-intersection
M72	6-1/4 miles	Intersection of Botsford Church Road and Cox Place Road
M73	6-1/2 miles	At Y-intersection of unimproved dirt lanes off McNorril Road
M81	7-3/4 miles	Intersection on Utley Road and Lawson Road
M82	7-1/2 miles	Intersection of Sevens Oaks Road and Botsford Church Road at Botsford Church
M83	7-1/2 miles	Seven Oaks Road at intersection with Lawson Hall Road
M84	7-1/2 miles	Seven Oaks Road at intersection with improved dirt road
M85	7-1/4 miles	Botsford Church Road at Botsford Church Cemetery
M86	7-1/2 miles	Seven Oaks Road at T-intersection with Griffin Road
M87	7-3/4 miles	Intersection of Sevens Oaks Road and dirt lane
M91	8 miles	Griffin Road and 230 kV transmission lines
M92	8-1/4 miles	Griffin Road and 108 intersection
M93	8-3/4 miles	End of Griffin Road
M101	9-1/2 miles	Intersection of Bates Road and unimproved dirt road

Approved By <b>G. R. Frederick</b>	<b>Vogle Electric Generating Plant</b> 	Procedure Number <b>91303-C</b>	Rev <b>17</b>
Date Approved <b>08/05/2002</b>	<b>FIELD SAMPLING AND SURVEYS</b>	Page Number <b>8 of 32</b>	

**DATA SHEET 1**

**Sheet 6 of 10**

**FIELD MONITORING LOCATIONS AND ENVIRONMENTAL MONITORING POINTS**

<b>SECTOR N</b>		
N21	1-1/2 miles	Y-intersection of unimproved dirt roads west of River Road
N22	1-1/2 miles	T-intersection of unimproved dirt roads west of River Road
N23	1-3/4 miles	Out buildings on unimproved dirt road and County Road 99
N31	2-1/4 miles	End of unimproved dirt road near Red Branch
N32	2-1/4 miles	Residence of unimproved dirt road off Hancock Landing Road
N33	2-3/4 miles	Dead end of Claxton-Lively Road
N41	3-3/4 miles	Intersection of Hancock Landing Road and Nathaniel Howard Road
N42	3-1/2 miles	Son Delaigle Road at railroad crossing
N43	3-1/2 miles	Intersection of Claxton Lively Road and Son Delaigle Road
N51	4 miles	Railroad crossing at Hancock Landing Road
N52	4-1/4 miles	Intersection of Claxton-Lively Road and Hancock Landing Road
N53	4-1/2 miles	Pond at end of unimproved dirt road off Hancock Landing Road
N61	5-3/4 miles	Claxton-Lively Road at Y-intersection with unimproved dirt road
N71	6-1/2 miles	Georgia Route 23 at trailer park
N72	6-1/2 miles	Claxton-Lively Road at T-intersection with unimproved dirt road
N73	6-3/4 miles	Claxton-Lively Road at Y-intersection with improved dirt road
N74	6-1/2 miles	Ben Hatcher Road at Y-intersection with improved dirt road
N75	7 miles	Ben Hatcher Road at Y-intersection with improved dirt road
N81	7-1/2 miles	Intersection of Seven Oaks Road and Sam Mead Road
N82	7-3/4 miles	Seven Oaks Road at railroad crossing
N83	7-3/4 miles	Dead end of improved dirt road off of Seven Oaks Road
N84	8 miles	Intersection of Georgia Route 23 and 80 at siren B8
N85	7-1/2 miles	Intersection of Georgia Route 23 and Ben Hatcher Road
N86	7-1/4 miles	Railroad crossing on Georgia Route 23
N91	8-1/2 miles	Pond off of improved dirt road off Sam Mead Road
N92	8-1/2 miles	Sam Mead Road at grain bin
N93	8-1/2 miles	Junction of Cates-Mead and Sam Mead Road at siren B16
N94	8-1/2 miles	Residence on improved dirt road off of Cates-Mead Road
N95	9 miles	Sharp turn on Georgia Route 80 east of Sam Mead Road
N101	9-1/2 miles	Sharp turn on unimproved dirt road between Sam Mead Road and Cates-Mead Road
N102	9 miles	T-intersection of Daybreak Road and Cates-Mead Road
N103	9 miles	Grain bins at the end or Daybreak Road
N104	9-1/2 miles	Dead end of unimproved dirt road off of Sam Mead Road
N105	9 miles	Junction of Sam Mead Road and unimproved dirt road
N106	10 miles	One mile East of N102 on Cates-Mead Road

**DATA SHEET 1**

**FIELD MONITORING LOCATIONS AND ENVIRONMENTAL MONITORING POINTS**

<b>SECTOR P</b>		
P21	1-1/2 miles	River Road at railroad crossing
P22	2 miles	Trailer park on dirt road off of Hancock Landing Road
P23	1-3/4 miles	Railroad crossing and improved dirt road
P24	2 miles	Intersection of Hancock Landing Road and River Road
P25	1-3/4 miles	Intersection of unimproved dirt road 1/3 mile off of River Road
P31	2 miles	Radio tower on Hancock Landing Road
P32	2-1/4 miles	River Road at trailer park
P33	2-1/2 miles	River Road at intersection with unimproved dirt road
P41	3-1/4 miles	Dead end of improved dirt road off of River Road
P42	3-1/2 miles	Intersection of improved dirt road and River Road
P43	4 miles	River Road at intersection with unimproved dirt road
P51	4-1/4 miles	River Road at Gobbie Grove Church
P61	5 miles	Nathaniel Howard Road at Newberry Creek
P62	5-1/2 miles	Ben Hatcher Road at Fair Field Church
P63	5-1/4 miles	Ben Hatcher Road at Newberry Creek
P64	5-3/4 miles	Junction of Ben Hatcher and Nathaniel Howard Road
P71	6-1/2 miles	Dead end of unimproved dirt road off of Georgia Route 80 by Mineral Spring Branch
P81	7-1/2 miles	Georgia Route 80 at intersection of Godbee Road
P82	7-1/4 miles	Georgia Route 80 at intersection of unimproved dirt road
P83	7-1/2 miles	Georgia Route 80 at cluster of residences and out buildings
P84	7 miles	Junction of Georgia Route 80 and Anderson Road
P91	8-3/4 miles	Georgia Route 23 at Mount Zion Church
P92	8-3/4 miles	End or unimproved road off of Godbee Road
P93	8-1/4 miles	Dead end of Godbee Road
P101	9-1/2 miles	Intersection of Georgia Route 23 and Spring Branch Church Road
P102	9-3/4 miles	T-intersection of unimproved dirt road and Spring Branch Church Road

Approved By <b>G. R. Frederick</b>	<b>Vogtle Electric Generating Plant</b> 	Procedure Number <b>91303-C</b>	Rev <b>17</b>
Date Approved <b>08/05/2002</b>	<b>FIELD SAMPLING AND SURVEYS</b>		Page Number <b>10 of 32</b>

**DATA SHEET 1**

**Sheet 8 of 10**

**FIELD MONITORING LOCATIONS AND ENVIRONMENTAL MONITORING POINTS**

<b>SECTOR Q</b>		
Q31	2-3/4 miles	Fork at unimproved road off of River Road
Q51	4-1/2 miles	Trailer park on River Road
Q52	4-1/2 miles	Intersection of County Road 58 and unimproved dirt road at siren B10
Q53	4-1/2 miles	Dead end of Allen Chapel Road
Q54	4-1/2 miles	T-intersection of unimproved dirt road off of Allen Chapel Road
Q61	5 miles	River Road and Allen Chapel Road T-intersection by trailer park
Q62	5-3/4 miles	Dead end of unimproved dirt road off of River Road
Q71	6 miles	River Road at sharp curve
Q72	6-1/2 miles	Unimproved dirt road off of Georgia Route 80
Q73	6-3/4 miles	Junction of River Road and Shell Bluff Landing Road and Georgia Route 80
Q74	6-1/2 miles	Improved dirt road off of Shell Bluff Landing Road
Q75	6-3/4 miles	Intersection of improved dirt road and Shell Bluff Landing Road
Q76	6-1/2 miles	Shell Bluff Landing Road and Y-intersection with improved dirt road
Q77	6-3/4 miles	Georgia Route 80 at Y-intersection with cluster of residences
Q78	6-3/4 miles	Georgia Route 80 by 230 kV transmission lines
Q81	7-1/2 miles	Intersection of River Road and unimproved road
Q82	7-1/2 miles	Intersection of Anderson Road and unimproved road
Q91	8 miles	River Road and McKinney Branch Church
Q92	8-1/2 miles	End of Miller Pond Road
Q93	8-3/4 miles	Junction of River Road and Miller Pond Road at siren B1

<b>SECTOR R</b>		
R71	6-3/4 miles	End of Shell Bluff Landing Road at Shell Bluff Landing

Approved By  
**G. R. Frederick**

**Vogle Electric Generating Plant** 

Procedure Number Rev  
**91303-C 17**

Date Approved  
**08/05/2002**

**FIELD SAMPLING AND SURVEYS**

Page Number  
**11 of 32**

**DATA SHEET 1**

**Sheet 9 of 10**

**FIELD MONITORING LOCATIONS AND ENVIRONMENTAL MONITORING POINTS**

<b>LOCATION NUMBER</b>	<b>DESCRIPTIVE LOCATION</b>	<b>DIRECTION</b>	<b>DISTANCE (MILES)</b>	<b>SAMPLE TYPE (1)</b>
1	Hancock Landing Road	N	1.1	D
2	River Bank	NNE	0.8	D
3	River Bank	NE	0.7	D
4	River Bank	ENE	0.8	D
5	River Bank	E	1.2	D
6	Plant Wilson	ESE	1.1	D
7	Simulator Building	SE	1.7	D,V,A
8	River Road	SSE	1.1	D
9	River Road	S	1.1	D
10	Met Tower River Road	SSW	0.9	A
11	River Road	SW	1.2	D
12	River Road	WSW	1.1	D
13	River Road	W	1.3	D
14	River Road	WNW	1.8	D
15	Hancock Landing Road	NW	1.5	D,V
16	Hancock Landing Road	NNW	1.4	D,A
17	Savannah River Site River Road	N	5.4	D
18	Savannah River Site D Area	NNE	5.0	D
19	Savannah River Site A.13	NE	4.6	D
20	Savannah River Site A.13.1	ENE	4.8	D
21	Savannah River Site A.17	E	5.3	D
22	River Bank Downstream of Buxton Landing	ESE	5.2	D
23	River Road	SE	4.7	D
24	Chance Road	SSE	4.9	D
25	Chance Road and Highway 23	S	5.2	D
26	Highway 23, mile 15.5	SSW	4.6	D
27	Highway 23, mile 17	SW	4.8	D
28	Thomas Road	WSW	5.0	D
29	Claxton-Lively Rod	W	5.0	D
30	Ben Hatcher Road	WNW	4.7	D
31	River Road at Allen's Church Fork	NW	5.0	D
32	River Bank	NNW	4.8	D
33	Nearby Residence	SE	3.3	D



**DATA SHEET 1**

**FIELD MONITORING LOCATIONS AND ENVIRONMENTAL MONITORING POINTS**

LOCATION NUMBER	DESCRIPTIVE LOCATION	DIRECTION	DISTANCE (MILES)	SAMPLE TYPE (1)
34	Girard Elementary School	SSE	6.3	D
35	Girard	SSE	6.6	D,A
36	Waynesboro	WSW	15.0	D,A
37	Substation (Waynesboro) North Side of Road	WSW	17.5	D
38	Substation (Waynesboro) South Side of Road	WSW	17.5	D
43	Employees Recreation Area	SW	2.2	D
44	Plant Wilson (West Gate)	ESE	1.1	D
45	VEGP Visitors Center	SSE	0.3	D
80	North Augusta Water Treatment Plant	Upstream	51	W
81	Savannah River (mile 153.1)	Upstream	2.2	R,S
82	Savannah River (mile 151.2)	Upstream	0.2	R,S(2)
83	Savannah River (mile 150.4)	Downstream	0.6	R
84	Savannah River (mile 149.5)	Downstream	1.5	R,S(2)
85	Savannah River (mile 146.7)	Downstream	4.3	R
87	Beaufort-Jasper Water Treatment Plant; Beaufort, S.C.	Downstream	112	W
88	Cherokee Hill Water Treatment Plant; Port Wentworth, Ga.	Downstream	122	W
98	W. C. Dixon Dairy	SE	9.8	M

**TABLE NOTATION:**

- (1) Sample Types  
 A - Airborne Radioactivity  
 D - Direct Radiation  
 M- Milk  
 R - River Water  
 S - River Shoreline Sediment  
 V- Vegetation  
 W - Drinking Water (at water treatment plant)
- (2) These are approximate locations for sediment sampling. High water may sometimes cause an otherwise suitable location for sediment sampling to be unavailable.

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**G. R. Frederick**

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**08/05/2002**

**Vogtle Electric Generating Plant** 

Procedure Number Rev  
**91303-C 17**

Page Number  
**13 of 32**

**FIELD SAMPLING AND SURVEYS**

**DATA SHEET 2**

**Sheet 1 of 1**

**FIELD MONITORING SURVEY FORM**

Date \_\_\_\_\_ Team Members \_\_\_\_\_

LOCATION and TIME		Dose Rate Meter* WAIST-LEVEL			Dose Rate Meter* 2-INCHES FROM GROUND			WAIST LEVEL	2" FROM GROUND	SAMPLE NUMBER	SAMPLE SURVEY
Survey point or miles and direction from given sample point.	Time	CLOSED (mRem/h)	OPEN (mRem/h)	OPEN/ CLOSED RATIO	CLOSED (mRem/h)	OPEN (mRem/h)	OPEN/ CLOSED RATIO	(ncpm)	(ncpm)	1.	2. (mRem/hr or ncpm)

**NOTES:**

1. TYPE OF SAMPLE CODE  
 SN - SNOW SAMPLE  
 I - ICE SAMPLE  
 V - VEGETATION (GRASS)  
 W - WATER SAMPLE  
 S - SURFACE SAMPLE  
 GA - GENERAL AREA RADIATION SURVEY
2. If results from sample survey exceed 100 net cpm, label sample with a radioactive material sticker.
- INSTRUMENT TYPES \_\_\_\_\_  
 SERIAL NUMBERS \_\_\_\_\_  
 CALIBRATION DUE \_\_\_\_\_
- \*Dose Rate Meter (RO2 or equivalent)  
 Count Rate Meter (ASP1 w/GM probe or equivalent)

EXAMPLES OF SAMPLE NUMBERS TO BE GIVEN BY FMT COMMUNICATORS:

Air Sample #1 on the 10 Mile EPZ Map at Location Mike 31 - (AS1M31) Second Air Sample at that location - (AS2M31)  
 Air Sample #1 on the Site Map at Grid Coordinate Juliet 18 - (AS1J18) - Second Air Sample at that location - (AS2J18)  
 Same Nomenclature to be used for other samples using "Type Of Sample" code above - (V1M31) or (V1J18) for Vegetation, (W1M31) or (W1J18) for Water

**AIR SAMPLE DATA** Sampler Model No. \_\_\_\_\_ Serial No. \_\_\_\_\_ Calibration Due \_\_\_\_\_

Sample Location	Sample Time	Sample Duration (Minutes) A	Flow Rate (LPM)		Total Flow (Liters) A X B	Sample No.	Sample Activity	
			Start End	B			Particulate (ncpm)	Silver Zeolite (ncpm)



Approved By <b>G. R. Frederick</b>	<b>Vogle Electric Generating Plant</b> 	Procedure Number <b>91303-C</b>	Rev <b>17</b>
Date Approved <b>08/05/2002</b>	<b>FIELD SAMPLING AND SURVEYS</b>	Page Number <b>15 of 32</b>	

Sheet 1 of 1

**DATA SHEET 4**  
**FIELD MONITORING TEAM DATA**

**THYROID DOSE RATE ( $\dot{D}$ )**  
**FROM FIELD MONITORING DATA**

Sample No. \_\_\_\_\_ Time of Sample \_\_\_\_\_ Date \_\_\_\_\_ Location \_\_\_\_\_

**A. FIELD DATA**

**REMARKS:**

1. Total volume of air sampled: ( $V$ ) \_\_\_\_\_ liters \_\_\_\_\_

2. Net cpm (Iodine) above background ( $N$ ): \_\_\_\_\_ cpm \_\_\_\_\_  
Data Sheet 2 of Procedure 91303-C) \_\_\_\_\_

**B.** Thyroid dose rate ( $\dot{D}$ ): \_\_\_\_\_ mRem/h \_\_\_\_\_  
(Use appropriate expression below to calculate)

**NOTE**

**T** is time since reactor shutdown until release occurred.

---

FOR  $T \leq 24$  hr:  $\dot{D} = \frac{N(12)}{V}$       FOR  $T > 24$  hr:  $\dot{D} = \frac{N(65)}{V}$

---

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**Vogtle Electric Generating Plant**



Procedure Number Rev  
**91303-C 17**

Date Approved  
**08/05/2002**

**FIELD SAMPLING AND SURVEYS**

Page Number  
**16 of 32**

**DATA SHEET 5**

**Sheet 1 of 1**

**FIELD MONITORING TEAM  
STATUS UP-DATE**

EMERGENCY CLASSIFICATION \_\_\_\_\_

WIND DIRECTION: FROM \_\_\_\_\_° TO \_\_\_\_\_° WIND SPEED \_\_\_\_\_ MPH

AFFECTED SECTORS: \_\_\_\_\_

PROJECTED RADIOLOGICAL CONDITIONS:

<u>DISTANCE</u> (miles)	<u>TEDE</u> (mRem)	<u>THYROID CDE</u> (mRem)
0.6	_____	_____
2	_____	_____
5	_____	_____
_____	_____	_____
_____	_____	_____

MESSAGE \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Approved By <b>G. R. Frederick</b>	<b>Vogle Electric Generating Plant</b> 	Procedure Number <b>91303-C</b>	Rev <b>17</b>
Date Approved <b>08/05/2002</b>	<b>FIELD SAMPLING AND SURVEYS</b>	Page Number <b>17 of 32</b>	

**CHECKLIST 1**

**Sheet 1 of 9**

**FIELD MONITORING TEAM CHECKLIST**

**POSITION FILLED BY:** Qualified members of Radiological Emergency Team.

**RESPONSIBILITY:** Field sampling and surveys.

**INITIAL ACTIONS**

**NOTE**

The first FMT consists of those on-shift personnel whose names appear on Data Sheet 1 of procedure 00012-C, "Shift Manning Requirements" in the FMT position.

**FIRST FMT**

1. Report to the Technical Support Center (TSC)
2. Receive an Initial Briefing from the HP/Chem Shared Foreman or designee.
3. The Initial Briefings will be given per Checklist 2, Field Monitoring Team, Initial Briefing Checklist.
4. Pick-up the field monitoring kit, vehicle key rings, hand held radio, Southern LINC bag phone, field survey handbook and emergency dosimetry (TLD and EDRD) at the vehicle barrier security control point in the employee parking lot and go directly into the field for sampling and surveys.

**NOTE**

If there are no emergency vehicles present in the designated parking spaces at the plant, then drive over and obtain a designated training center emergency vehicle via any company vehicle. Keys to company vehicles can be obtained from the Maintenance tool room and Human Resources in the Administrative building. A personnel vehicle may also be used for this purpose.

5. Obtain Emergency Vehicles. Emergency vehicles are located in designated spaces in the employee parking lot and in the Training Center parking lot.
6. Go to the "Instrument and Equipment Checks" section in the Initial Actions section of this checklist.

Approved By <b>G. R. Frederick</b>	<b>Vogle Electric Generating Plant</b> 	Procedure Number <b>91303-C</b>	Rev <b>17</b>
Date Approved <b>08/05/2002</b>	<b>FIELD SAMPLING AND SURVEYS</b>	Page Number <b>18 of 32</b>	

**CHECKLIST 1**

**Sheet 2 of 9**

**FIELD MONITORING TEAM CHECKLIST**

**INITIAL ACTIONS(Cont'd.)**

**SECOND AND THIRD FMT**

1. Report to the Operations Support Center (OSC).
2. Form teams under the direction of the OSC Manager and Lab Foreman in the OSC or the HP Supervisor in the TSC. If the OSC Manager or Lab foremen are not available in the OSC, call the TSC and receive direction from the HP Supervisor.
3. Obtain Emergency Vehicle Key Rings at the OSC.

**NOTE**

If there are no emergency vehicles present in the designated parking spaces at the plant, then drive over and obtain a designated training center emergency vehicle via any company vehicle. Keys to company vehicles can be obtained from the Maintenance tool room and Human Resources in the Administrative building. A personnel vehicle may also be used for this purpose.

4. Obtain Emergency Vehicles. Emergency vehicles are located in designated spaces in the employee parking lot and in the Training Center parking lot.
5. Report to the EOF, obtain field monitoring kit, Southern LINC bag phone, hand held radio, field survey handbook and emergency dosimetry (TLD & EDRD) if not already obtained.
6. Receive an Initial Briefing from the Dose Assessment Manager or designee (or HP Supervisor if the EOF is not activated).
7. The Initial Briefings will be given per Checklist 2, Field Monitoring Team, Initial Briefing Checklist.
8. Go to the "Instrument and Equipment Checks" section in the Initial Actions section of this checklist.

Approved By <b>G. R. Frederick</b>	<b>Vogle Electric Generating Plant</b> 	Procedure Number <b>91303-C</b>	Rev <b>17</b>
Date Approved <b>08/05/2002</b>	<b>FIELD SAMPLING AND SURVEYS</b>	Page Number <b>19 of 32</b>	

**CHECKLIST 1**

**Sheet 3 of 9**

**FIELD MONITORING TEAM CHECKLIST**

**INITIAL ACTIONS (Cont'd.)**

**INSTRUMENT AND EQUIPMENT CHECKS**

1. Check vehicle for adequate fuel ( $\frac{1}{2}$  tank or greater), refuel if necessary. The gas pump is operated by a key-card and the users ID number must be used when prompted for a PIN number.

**NOTE**

Inventory of FMT Kit is required ONLY if seal is found broken. If seal is broken, inventory kit per Procedure 91702-C, "Emergency Equipment And Supplies", Data Sheet 2. If the First Teams FMT Kit has a seal broken, they have the option of proceeding to the EOF to obtain a spare FMT kit and leaving the unsealed kit at the EOF to be inventoried at a later time.

2. Check operation of selected Field Monitoring Kit's equipment as follows:
  - a. Perform radio check on vehicle and hand held radio.
  - b. Perform operational check on Southern LINC bag phone as follows:
    - (1) Inspect bag phone power cord and antenna to ensure that they are properly attached to the back of the unit.
    - (2) Insert the phone power cord into the cigarette lighter.

**NOTE**

If the radio was left on after previous use then it will automatically boot up.

- (3) Turn power on by pressing the knob (green circle on face) in the upper left-hand corner of radio and wait for boot up (~ 30 seconds).
- (4) Perform a radio check once "T1" is displayed in the display window.

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**G. R. Frederick**

**Vogle Electric Generating Plant**



Procedure Number Rev  
**91303-C 17**

Date Approved  
**08/05/2002**

**FIELD SAMPLING AND SURVEYS**

Page Number  
**20 of 32**

**CHECKLIST 1**

**Sheet 4 of 9**

**FIELD MONITORING TEAM CHECKLIST**

**INITIAL ACTIONS (Cont'd.)**

**INSTRUMENT AND EQUIPMENT CHECKS (Cont'd.)**

- c. Perform instrument checks on radiological survey instruments to include:
  - (1) Calibration up-to-date.
  - (2) Battery check
  - (3) Response check
- d. Perform operational check of air sampler as follows:
  - (1) Calibration up-to-date.
  - (2) Install sample head with particulate filter or orifice plate.

***CAUTION***

*Ensure power cables and handles will remain clear of vehicle hood before lowering the hood.*

- (3) Connect air sampler cables to the grill mounted quick disconnect battery cable or to vehicle battery and lower the hood if quick disconnect is not installed.
  - (4) Start vehicle engine if engine is not already running.
  - (5) Start air sampler, ensure flow is greater than 25 LPM.
- e. Check for satisfactory operation of the Stopwatch. (A personal watch with a second hand is acceptable in lieu of a stopwatch)
3. Obtain replacement for any defective equipment.

Approved By <b>G. R. Frederick</b>	<b>Vogle Electric Generating Plant</b> 	Procedure Number <b>91303-C</b>	Rev <b>17</b>
Date Approved <b>08/05/2002</b>	<b>FIELD SAMPLING AND SURVEYS</b>	Page Number <b>21 of 32</b>	

Sheet 5 of 9

**CHECKLIST 1**

**FIELD MONITORING TEAM CHECKLIST**

**INITIAL ACTIONS (Cont'd.)**

**INSTRUMENT AND EQUIPMENT CHECKS (Cont'd.)**

4. Ensure air sample heads are loaded and bagged for rapid use. The Silver Zeolite cartridge should have the flow arrow pointing toward the air sampler body and the particulate filter should be installed with the rough side out, away from the sampler body.
5. Install one air sample head in sampler and cover the inlet with a bag or glove.
6. Place the following in vehicle for easy access:

**NOTE**

RO-2 should have beta window closed at all times except when taking an open window reading.

- a. ASP-1 or equivalent and R0-2 or equivalent
  - b. Field monitoring survey forms (Data Sheets 2 & 3, begin filling out as time permits)
  - c. Clip board
  - d. Log Book
  - e. Data Sheet 1 - survey/sample locations, EPZ and site area maps
7. Place kit in vehicle.

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Date Approved <b>08/05/2002</b>	<b>FIELD SAMPLING AND SURVEYS</b>	Page Number <b>22 of 32</b>	

**CHECKLIST 1**

**Sheet 6 of 9**

**FIELD MONITORING TEAM CHECKLIST**

**INITIAL ACTIONS (Cont'd.)**

**MONITORING and SURVEY ACTIONS**

**NOTE**

The CEDE component of the TEDE dose cannot be directly determined by field measurements, therefore a correction factor of (2) should be applied to convert the DDE to the TEDE dose. This is accomplished by multiplying the Direct Reading Dosimeter reading by 2 to get the TEDE dose. When actual source term data becomes available a more accurate correction factor may be obtained using the offsite dose assessment computer.

1. Wear a direct-reading dosimeter and TLD. Record initial readings in Logbook and record remaining allowable dose for each team member. The FMT Communicator should prepare the KI Distribution Checklist (Data Sheet 1) in Procedure 91305-C, "Protective Action Guidelines", prior to team dispatch.
2. When dispatched, report departure and carry out the instruction of the Dose Assessment Manager via the FMT Communicator.

**NOTE**

Use phonetic alphabet and individual numbers as appropriate (e.g., if Team designation is ST17, report as Sierra Tango One Seven).

3. Turn on survey instrument(s) (ASP-1 and RO-2) and speaker when so equipped. Make frequent observations of meter readings while in transit to sampling location or while traversing plume. Record these observations on Data Sheet 3 or in the Logbook.

Approved By <b>G. R. Frederick</b>	<b>Vogle Electric Generating Plant</b> 	Procedure Number <b>91303-C</b>	Rev <b>17</b>
Date Approved <b>08/05/2002</b>	<b>FIELD SAMPLING AND SURVEYS</b>	Page Number <b>23 of 32</b>	

**CHECKLIST 1**

**Sheet 7 of 9**

**FIELD MONITORING TEAM CHECKLIST**

**INITIAL ACTIONS (Cont'd.)**

**MONITORING and SURVEY ACTIONS (Cont'd.)**

**WARNING**

- a. **DO NOT EXCEED A READING OF 100 MREM/HR WITHOUT APPROVAL OF THE DOSE ASSESSMENT MANAGER OR HP SUPERVISOR AS APPROPRIATE.**
- b. **ALL ITEMS ENTERING THE PLUME ARE TO BE CONSIDERED POTENTIALLY CONTAMINATED.**

- 4. Report when entering the plume and the location of the highest in transit dose rate.
- 5. Take KI, per Emergency Director (ED) directive via the FMT Communicator. Don protective clothing when directed by the Dose Assessment Manager or his designee.
- 6. Check dosimetry at least every 30 minutes and each time the plume is crossed. Record in Logbook and report readings to the FMT Communicator.
- 7. If routine communications are not being made on a frequent basis, check in with FMT Communicator every 30 minutes. **MAINTAIN RADIO CONTACT.**
- 8. Vehicle speed should not exceed 30 mph while traversing the plume. Flashers should be used while sampling.
- 9. When approximate plume centerline is detected (i.e., highest reading on any traverse), stop and perform radiation survey as directed by the Field Team Communicator.

**NOTE**

If open window reading is less than 2.5 mRem/hr then use ASP-1 for survey.

- a. Take open and closed window readings at waist and 2-inches.
  - b. Record data from log book on Data Sheet 2.
- 10. Report results to FMT Communicator.

Approved By <b>G. R. Frederick</b>	<b>Vogle Electric Generating Plant</b> 	Procedure Number <b>91303-C</b>	Rev <b>17</b>
Date Approved <b>08/05/2002</b>	<b>FIELD SAMPLING AND SURVEYS</b>	Page Number <b>24 of 32</b>	

Sheet 8 of 9

**CHECKLIST 1**

**FIELD MONITORING TEAM CHECKLIST**

**INITIAL ACTIONS (Cont'd.)**

**MONITORING and SURVEY ACTIONS (Cont'd.)**

**NOTE**

A representative air sample should be taken near the edge of the plume where dose rates are low. Dose Assessment personnel can estimate activity concentration at the plume centerline by correlating the air activity using the ratio of dose rates between the sample point and the plume centerline

11. If the waist-level open window reading is at least twice the closed window reading, or if directed, obtain an air sample, per instructions on Checklist 3.
12. If directed to obtain a surface deposition sample, see Checklist 4, report acquisition and await further instructions.
13. If directed to obtain a vegetation sample, see Checklist 5, report acquisition and await further instructions.
14. If directed to obtain a water sample, see Checklist 6, report acquisition and await further instructions.

**RETURN TO BASE/SHIFT TERMINATION**

**WARNING**

**THE VEHICLE AIR CLEANER COULD BE A POTENTIAL SOURCE OF RADIATION DEPENDING ON THE ISOTOPIC MIX OF THE PLUME.**

1. On final exit from the plume, or prior to return to base, survey yourself and the vehicle, and document results.
2. If contamination is found, report to FMT Communicator and proceed as directed.
3. Submit all survey and sample records documentation except LOGBOOK to the Dose Assessment Manager (or HP Supervisor if the EOF is not activated). Keep LOGBOOK with you for debriefing.

Approved By  
**G. R. Frederick**

**Vogtle Electric Generating Plant**



Procedure Number Rev  
**91303-C 17**

Date Approved  
**08/05/2002**

**FIELD SAMPLING AND SURVEYS**

Page Number  
**25 of 32**

**CHECKLIST 1**

**Sheet 9 of 9**

**FIELD MONITORING TEAM CHECKLIST**

**RETURN TO BASE/SHIFT TERMINATION (Cont'd.)**

4. Return sample(s) and rad waste on direction of the Dose Assessment Manager (or HP Supervisor if EOF is not activated).
5. Debrief with Dose Assessment Manager or HP Supervisor, including as a minimum:
  - a. Radiation exposure from dosimeter readings
  - b. Subsequent duty schedule (if return is anticipated, obtain name and phone for verification)
  - c. Unusual circumstances or route conditions
  - d. Final location for emergency field monitoring kit
6. Ensure emergency field monitoring kit supplies are replenished as necessary by notifying the FMT communicator. The FMT communicator will notify Health Physics personnel of the items that need to be restocked.
7. Sign out in LOGBOOK including:
  - a. Debrief time
  - b. Kit discrepancies
  - c. Final radiation exposure of the dosimeter from each team member
  - d. Unusual circumstances or route conditions
8. Return LOGBOOK to emergency field monitoring kit.
9. Place emergency field monitoring kit in location specified by Dose Assessment Manager (or HP Supervisor).

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**Vogle Electric Generating Plant** 

Procedure Number Rev  
**91303-C 17**

Date Approved  
**08/05/2002**

**FIELD SAMPLING AND SURVEYS**

Page Number  
**26 of 32**

**CHECKLIST 2**

**Sheet 1 of 2**

**FIELD MONITORING TEAM INITIAL BRIEFING CHECKLIST**

**FIELD TEAM 1**

KI-AUTH.

DOSIMETRY

RESP. QUAL.

EXP. MARGIN

(Leader) \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

INITIAL SAMPLE POINT \_\_\_\_\_

TYPE VEH. \_\_\_\_\_

TEAM BRIEFED \_\_\_\_\_

**FIELD TEAM 2**

KI-AUTH.

DOSIMETRY

RESP. QUAL.

EXP. MARGIN

(Leader) \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

INITIAL SAMPLE POINT \_\_\_\_\_

TYPE VEH. \_\_\_\_\_

TEAM BRIEFED \_\_\_\_\_

**FIELD TEAM 3**

KI-AUTH.

DOSIMETRY

RESP. QUAL.

EXP. MARGIN

(Leader) \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

INITIAL SAMPLE POINT \_\_\_\_\_

TYPE VEH. \_\_\_\_\_

TEAM BRIEFED \_\_\_\_\_

EMERGENCY CLASSIFICATION \_\_\_\_\_

METEOROLOGICAL CONDITIONS AFFECTED ZONES

WIND SPEED \_\_\_\_\_ WIND DIRECTION FROM \_\_\_\_\_ TO \_\_\_\_\_

PLANT CONDITIONS/ANTICIPATED RADIOLOGICAL CONDITIONS \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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**08/05/2002**

**Vogle Electric Generating Plant**   
**FIELD SAMPLING AND SURVEYS**

Procedure Number Rev  
**91303-C 17**  
Page Number  
**27 of 32**

**CHECKLIST 2**

**Sheet 2 of 2**

**FIELD MONITORING TEAM INITIAL BRIEFING CHECKLIST**

**EXPOSURE GUIDANCE/LIMITATIONS**

- Do not exceed a reading of 100 mRem/hr. without the approval of the Dose Assessment Manager or TSC HP Supervisor as appropriate.
- All items entering the plume are to be considered potentially contaminated.
- Do not exceed your exposure margin.
- Don PC's when directed by the Dose Assessment Manager or his designee.
- Take KI as directed by Emergency Director.
- Your self-reading dosimeter reading will initially be multiplied by two (2) to account for CEDE until a more accurate correction factor is computed.

**COMMUNICATE THE FOLLOWING INFORMATION**

- Notify FMT Communicator when you encounter edge of plume reading (2x BKG) and plume centerline (Highest dose rate encountered when traversing plume). The plume centerline should follow the wind direction. If waist level window open (W.O.) readings are 2x's window closed (W.C.) readings then representative air samples should be taken near the edge of the plume, where dose rates are low.
- You will be updated of changes in meteorological, radiological, and other pertinent information every 15-30 minutes or as conditions change.
- Initial sample locations, suggested routes. (See Data Sheet 3 or use logbook to complete traverse path information.)
- Phone number to call if radios fail. (See VEGP Emergency Telephone Directory in FMT Handbook)
- If approached by members of the public and/or press, the field monitoring team leader must contact the EOF for appropriate instructions/directions to give those persons.
- Ensure you log all required information on the appropriate data sheet or in your logbook.

**COMMENTS:**

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Approved By <b>G. R. Frederick</b>	<b>Vogtle Electric Generating Plant</b> 	Procedure Number <b>91303-C</b>	Rev <b>17</b>
Date Approved <b>08/05/2002</b>	<b>FIELD SAMPLING AND SURVEYS</b>	Page Number <b>28 of 32</b>	

Sheet 1 of 2

### CHECKLIST 3

#### AIR SAMPLING

- EQUIPMENT:**
- a. 12V DC Air Sampler.
  - b. Preloaded sample head.
  - c. Plastic bags.
  - d. Marking pen.
  - e. Forceps.
  - f. Stop watch.
  - g. Disposable surgeons gloves.
  - h. Calculator (optional).
  - i. ASP-1 with HP-260 probe or equivalent.

**ACTIONS:**

1. Monitor radiation levels at all times. Avoid spreading contamination by using disposable surgeons gloves as a minimum.
2. Obtain Data Sheet 2 and record initial data.

#### **CAUTION**

*Be careful when connecting air sampler cables to battery terminals. Ensure the vehicle hood does not contact exposed cables or cable handles when the hood is lowered.*

3. Connect air sampler cables to the grill mounted quick disconnect battery cable or to vehicle battery and lower the hood if quick disconnect is not installed.
4. Start vehicle engine if engine is not already running.
5. Remove cover from sample head inlet.
6. Simultaneously start sampler and timing device.
7. Record start time and start flow rate. Ensure rotometer flow is greater than 25 LPM.
8. Remain in vehicle during sampling to minimize exposure.
9. Obtain sample number from FMT Communicator and record on Data Sheet 2.
10. Label two plastic bags with the sample number.

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Date Approved <b>08/05/2002</b>	<b>FIELD SAMPLING AND SURVEYS</b>	Page Number <b>29 of 32</b>	

Sheet 2 of 2

**CHECKLIST 3**

**AIR SAMPLING**

**ACTIONS: (CONT'D)**

11. Run sample for 10 minutes unless otherwise specified by the FMT Communicator.
12. When sampling is complete, turn off sampler, record stop flow rate on Data Sheet 2 and cover sample head with a plastic bag or glove.
13. Disconnect air sampler from vehicle battery.
14. Proceed out of the plume to a low background area of less than or equal to 300 cpm to count the samples.
15. Purge Silver Zeolite (AgX) or charcoal cartridges by running sample for about 15 seconds.
16. Put on disposable surgeon's gloves.
17. Remove head from sampler, separate particulate filter and cartridge.
18. Count the filter and cartridge and record data (net cpm) on Data Sheet 2.

**NOTE**

Cartridge and particulate filter should remain in the plastic bags until delivered to a lab or EOF.

20. Place the separated particulate filter and cartridge in separate bags.
21. Report sample data to FMT Communicator.



**CHECKLIST 4**

**SURFACE SAMPLING**

- EQUIPMENT:**
- a. Soil Scoop
  - b. Large polybag
  - c. Marking pen
  - d. Tape
  - e. Tape measure (optional)
  - f. Paper towel or wipe
  - g. Disposable surgeons gloves
  - h. ASP-1 with HP-260 probe or equivalent

**NOTE**

Potentially contaminated ice and snow samples should be collected similar to surface samples and analyzed similar to water samples except the ice and/or snow may have to be broken up in order to fill the bag.

**ACTIONS**

- 1. Monitor radiation levels at all times. Avoid spreading contamination by using disposable surgeon's gloves as a minimum.
- 2. Locate an area of exposed soil with minimal or no overhead cover (should not be dirt road).
- 3. Obtain sample number from FMT Communicator and label the bag with the sample number.
- 4. Using the trowel, dig soil to a depth of approximately 1/4 inch, and place the soil and whatever lies on the soil into the plastic bag. This sample should represent an area of approximately 10 square feet.
- 5. Twist the unused portion of the bag to the top and double the top over before taping.
- 6. Tape the bag such that opening is not exposed.
- 7. Frisk bag (in low background area, if practical) and label with RADIOACTIVE MATERIAL sticker if net cpm exceeds 100.
- 8. Record sample data on Data Sheet 2.
- 9. Record sample number, location, date and time of sample in the LOGBOOKS.

Approved By <b>G. R. Frederick</b>	<b>Vogtle Electric Generating Plant</b> 	Procedure Number <b>91303-C</b>	Rev <b>17</b>
Date Approved <b>08/05/2002</b>	<b>FIELD SAMPLING AND SURVEYS</b>	Page Number <b>31 of 32</b>	

Sheet 1 of 1

**CHECKLIST 5**

**VEGETATION SAMPLING**

- EQUIPMENT:**
- a. Razor knife, scissors or grass clippers
  - b. Large polybag
  - c. Marking pen
  - d. Tape
  - e. Tape measure (optional)
  - f. Paper towel or wipe
  - g. Disposable surgeons gloves
  - h. ASP-1 with HP-260 probe or equivalent

**ACTIONS:**

1. Monitor radiation levels at all times. Avoid spreading contamination by using disposable surgeons gloves as a minimum.
2. Locate an area of exposed growing grasses with minimal or no overhead cover.
3. Obtain sample number from FMT Communicator and label the bag toward the bottom with the sample number.
4. Cut the grass from a 10 ft<sup>2</sup> area about (2 ft x 5 ft) and place in bag. Cut sufficient grass to fill the bag approximately  $\frac{1}{2}$  full. Grass should be cut to about  $\frac{1}{2}$  to 1 inch from the ground.
5. Twist the unused portion of the bag to the top and double the top over before taping.
6. Tape the bag such that opening is not exposed.
7. Frisk bag (in low background area, if practical) and label with RADIOACTIVE MATERIAL sticker if net cpm exceeds 100.
8. Record sample data on Data Sheet 2.
9. Record sample number, location, date and time of sample in the LOGBOOKS.

Approved By <b>G. R. Frederick</b>	<b>Vogle Electric Generating Plant</b> 	Procedure Number <b>91303-C</b>	Rev <b>17</b>
Date Approved <b>08/05/2002</b>	<b>FIELD SAMPLING AND SURVEYS</b>	Page Number <b>32 of 32</b>	

**CHECKLIST 6**

**Sheet 1 of 1**

**WATER SAMPLING**

- EQUIPMENT:**
- a. Poly bottle (approximately 1 liter)
  - b. Marking pen
  - c. Paper towel or wipe
  - d. Disposable surgeons gloves.
  - e. ASP-1 with HP-260 probe or equivalent

**ACTIONS:**

- 1. Monitor radiation levels at all times. Avoid spreading contamination by using disposable surgeons gloves as a minimum.
- 2. Locate an area of non-flowing water with minimal or no overhead cover. If water is flowing, seek clarification from FMT Communicator.
- 3. Obtain sample number from FMT Communicator and label bottle with the sample number.
- 4. Fill bottle slowly with surface water by partial submersion of the bottle.
- 5. Wipe bottle and place in bag.
- 6. Frisk bag (in low background area, if practical) and label with RADIOACTIVE MATERIAL sticker if net cpm exceeds 100.
- 7. Record sample data on Data Sheet 2.
- 8. Record sample number, location, date and time of sample in LOGBOOKS.

Approved By <b>G. R. Frederick</b>	<b>Vogtle Electric Generating Plant</b> 	Procedure Number <b>91305-C</b>	Rev <b>17</b>
Date Approved <b>08/05/2002</b>	<b>PROTECTIVE ACTION GUIDELINES</b>		Page Number <b>1 of 14</b>

**PRB REVIEW REQUIRED**

**1.0**      **PURPOSE**

The purpose of this procedure is to provide instruction(s) for protective action(s) and the factors to be considered in selection of an appropriate measure.

**2.0**      **RESPONSIBILITY**

**2.1**      The Emergency Director (ED) shall be responsible for implementing onsite protective actions throughout the emergency. He shall also be responsible for offsite protective action recommendations (PAR) to the States. This responsibility shall not be delegated.

**2.2**      The Health Physics (HP) Supervisor (HP Foreman if TSC is not activated) shall be responsible for evaluating the radiological situation onsite and for recommending onsite protective actions to the ED. The HP Supervisor shall also have responsibility for making offsite dose estimates and recommending offsite protective actions to the ED until relieved of that responsibility by the Dose Assessment Manager.

**2.3**      The Dose Assessment Manager shall be responsible for making offsite dose estimates and recommending offsite protective actions to the ED.

**3.0**      **PREREQUISITES**

A Notification of Unusual Event, Alert, Site Area Emergency, or General Emergency has been declared in accordance with Procedure 91001-C, "Emergency Classification and Implementing Instructions".

**4.0**      **PRECAUTIONS**

**4.1**      The offsite protective actions determined by this procedure shall be presented to appropriate State personnel as recommendations. Only the States are authorized to implement offsite protective actions.

**4.2**      Protective action recommendations shall be made on the basis of plant conditions and/or dose assessment results. If a General Emergency is declared, protective action recommendations shall be made during initial notification based on plant conditions and in accordance with guidelines of Table 1. A 15-minute time limit is required to notify the offsite agencies whenever a PAR is given or has been upgraded or changed. Dose assessment results should be used to refine protective action recommendations (but not reduce) after adequate data becomes available.

Approved By <b>G. R. Frederick</b>	<b>Vogtle Electric Generating Plant</b> 	Procedure Number <b>91305-C</b>	Rev <b>17</b>
Date Approved <b>08/05/2002</b>	<b>PROTECTIVE ACTION GUIDELINES</b>		Page Number <b>2 of 14</b>

- 4.3 Protective action guidelines shall not imply an acceptable dose under any circumstances.
- 4.4 Weather conditions and weather forecasts will be considered by the States and Counties in their decisions regarding implementation of Vogtle Electric Generating Plant (VEGP) recommended protective actions. Weather should therefore not influence VEGP protective action recommendation for the public except for changes in plume trajectory.
  - 4.4.1 Utilize forecast changes in wind direction in the determination of expected changes in plume trajectory. Areas for which protective actions are recommended may be expanded using simple manual rotation of the plume footprint.
- 4.5 At times, selection of protective actions must be considered on the basis of an expected degradation of plant systems and equipment prior to the release of radioactivity.

**5.0 PROCEDURE**

**5.1 ONSITE PROTECTIVE ACTIONS**

**NOTE**

Direct radiation monitoring, contamination control, personnel dosimetry and other onsite protective measures shall be conducted in accordance with Health Physics Procedure 00930-C, "Radiation And Contamination Control", unless directed otherwise by the HP Supervisor.

- 5.1.1 The HP Supervisor shall prepare appropriate radiological assessments. Based on these assessments, he shall recommend onsite protective actions to the ED using the following criteria:
  - 5.1.1.1 Evacuation or early dismissal of non-essential personnel shall be mandatory for a Site Area Emergency or a General Emergency. For an Alert classification, an Early Dismissal of all non-essential personnel is normally conducted. An evacuation to a relocation center may be ordered at the Alert classification if the monitoring and possible decontamination of evacuees is required.

Approved By <b>G. R. Frederick</b>	<b>Vogtle Electric Generating Plant</b> 	Procedure Number <b>91305-C</b>	Rev <b>17</b>
Date Approved <b>08/05/2002</b>	<b>PROTECTIVE ACTION GUIDELINES</b>		Page Number <b>3 of 14</b>

- 5.1.1.2 Additionally the HP Supervisor shall:
- 5.1.1.2.1 Make thyroid dose estimates for workers entering airborne radioactivity areas and shall recommend the use of potassium iodide (KI) as a thyroid blocking agent to the ED when thyroid doses are projected, or have been estimated, to be equal to or above 25 rem.
  - 5.1.1.2.2 Direct radiological survey personnel (In-Plant Monitoring Teams for CR, TSC, PESB, and OSC, habitability personnel performing habitability surveys for EOF) to issue KI to those individuals who are candidates for KI based on criteria in 5.1.1.2.1. Ensure those personnel actually exposed to 25 rem or greater receive 130 mg daily of KI for at least 3 days.
  - 5.1.1.2.3 Obtain completed KI Distribution Checklist (Checklist 1) from the radiological survey personnel.
  - 5.1.1.2.4 Consult with candidate's supervisor for replacement of candidates who have reported a KI sensitivity, or who have received the maximum (10) dosages allowed.
- 5.1.1.3 The use of additional dosimetry, respiratory protection and protective clothing shall be recommended by the HP Supervisor on the basis of criteria in Procedures 91301-C, "Emergency Exposure Guidelines" and 00920-C, "Radiation Exposure Limits And Administrative Guidelines".
- 5.1.2 The ED shall be responsible for implementing onsite protective actions per Procedure 91102-C, "Duties Of The Emergency Director", and Procedure 91403-C, "Site Evacuation", after consultation with the HP Supervisor.
- 5.1.3 Radiological survey personnel directed to issue KI shall:
- 5.1.3.1 Obtain KI from the CR/TSC, OSC, or EOF emergency kits.
  - 5.1.3.2 Obtain the name(s) or location(s) of personnel who are to be issued KI.
  - 5.1.3.3 Obtain sufficient copies of the KI Distribution Checklist (Checklist 1).
  - 5.1.3.4 Follow the instructions on the KI Distribution Checklist (Checklist 1).
  - 5.1.3.5 Report to the HP Supervisor or his designee after completion of KI distribution.

Approved By <b>G. R. Frederick</b>	<b>Vogtle Electric Generating Plant</b> 	Procedure Number <b>91305-C</b>	Rev <b>17</b>
Date Approved <b>08/05/2002</b>	<b>PROTECTIVE ACTION GUIDELINES</b>		Page Number <b>4 of 14</b>

## 5.2 OFFSITE PROTECTIVE ACTIONS

- 5.2.1 If a General Emergency has been declared, offsite protective action recommendations shall be made based on plant conditions (see Table 1). Dose assessment results may increase the recommended protective action, but should not decrease the initial General Emergency protective action recommendations.
- 5.2.2 The Dose Assessment Manager shall prepare appropriate radiological assessments as described in Procedure 91304-C, "Estimating Offsite Dose".
- 5.2.3 The Dose Assessment Manager, in consultation with the HP Supervisor, shall review plant status and estimate the potential for a release or, if a release is occurring, for changes in the release rate.
- 5.2.4 The Dose Assessment Manager shall update and refine dose estimates for critical receptor site locations per Procedure 91304-C, "Estimating Offsite Dose" approximately every 15 to 30 minutes, or upon significant changes, in one or more of the following parameters:
- 5.2.4.1 Release rates.
  - 5.2.4.2 Duration of the releases.
  - 5.2.4.3 Isotopic mixture of the release (varies as a function of effective age).
  - 5.2.4.4 Meteorological conditions.
- 5.2.5 In addition, he shall make dose projections for potential releases or potential increases in release rates.
- 5.2.6 The Dose Assessment Manager shall compare the plant condition and dose estimates with the Guidelines for Recommended Protective Actions for Gaseous Plume Exposure in Table 1.
- 5.2.7 If offsite doses exceed the action thresholds, then evacuation shall be recommended. Evacuations will require approximately 2.5 to 3 h for completion.

Approved By <b>G. R. Frederick</b>	<b>Vogtle Electric Generating Plant</b> 	Procedure Number <b>91305-C</b>	Rev <b>17</b>
Date Approved <b>08/05/2002</b>	<b>PROTECTIVE ACTION GUIDELINES</b>		Page Number <b>5 of 14</b>

5.2.8 If offsite doses do not exceed the action threshold, or if local constraints prevent evacuation, sheltering may be prescribed by the states or counties together with the following actions:

5.2.8.1 Remain indoors.

5.2.8.2 Close windows.

5.2.8.3 Turn off ventilation system.

5.2.8.4 Seal cracks in doors, windows, or walls with wet material (paper, cloth, etc.).

5.2.9 Protective action recommendations shall be made in accordance with Table 1. Zones should be used when making recommendations. Savannah River Site (SRS) is one big zone. Use miles when referencing the SRS zone. (i.e., evacuate out to 5 miles in SRS).

5.2.10 After the plume has passed, it may still be advisable to consider the possibility of evacuation if high dose rates due to ground deposition are possible. Dose rates due to deposited radioactivity shall be determined using sampling information obtained per Procedure 91302-C, "In-Plant Sampling And Surveys" and Procedure 91303-C, "Field Sampling And Surveys".

5.2.11 The ED shall make offsite protective action recommendations to offsite authorities in accordance with Procedure 91102-C, "Duties Of The Emergency Director", after consultation with the Dose Assessment Manager.

Approved By <b>G. R. Frederick</b>	<b>Vogtle Electric Generating Plant</b> 	Procedure Number <b>91305-C</b>	Rev <b>17</b>
Date Approved <b>08/05/2002</b>	<b>PROTECTIVE ACTION GUIDELINES</b>		Page Number <b>6 of 14</b>

**6.0      REFERENCES**

**6.1      VEGP EMERGENCY PLAN**

**6.2      PROCEDURES**

6.2.1      00920-C, "Radiation Exposure Limits And Administrative Guidelines"

6.2.2      91001-C, "Emergency Classification And Implementing Instructions"

6.2.3      91102-C, "Duties Of The Emergency Director"

6.2.4      91301-C, "Emergency Exposure Guidelines"

6.2.5      91302-C, "In-Plant Sampling And Surveys"

6.2.6      91303-C, "Field Sampling And Surveys"

6.2.7      91304-C, "Estimating Offsite Dose"

6.2.8      91403-C, "Site Evacuation"

**6.3      NUREG-0654, FEMA-REP-1, Rev. 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants".**

**6.4      Manual of Protective Action Guides and Protective Actions For Nuclear Incidents, EPA-400-R-92-001, Environmental Protection Agency, Office of Radiation Programs, October 1991.**

**6.5      10 CFR 50.47 (b) (10).**

**END OF PROCEDURE TEXT**

**TABLE 1**

**GUIDELINES FOR RECOMMENDED PROTECTIVE ACTIONS FOR  
GASEOUS PLUME EXPOSURE**

**NON-ESSENTIAL STATION PERSONNEL AND GENERAL POPULATION**

**NOTE**

Affected zones (Data Sheets 1 and 2 ) are the direct downwind zone and each adjacent zone.

**CONDITION**

**RECOMMENDED ACTION**

**PAR 1.**

A General Emergency has been declared.

- **Evacuate** - 2 miles in all directions and 5 miles downwind.
- **Shelter** - remainder of the 10 mile EPZ.
- Use Data Sheet 1 to identify affected zones for Georgia and South Carolina. Savannah River Site is a zone. (Figure 1 – 10 mile EPZ map may be used as a reference)

**PAR 2.**

A General Emergency has been declared with:

- large amounts of fission products or noble gases are in the containment atmosphere (RE-0005/0006 reading >1.0E+8 mrem/hr)

OR

- severe core damage has occurred(or is likely) and containment failure has occurred (or is judged imminent).

- **Evacuate** - 5 miles in all directions and 10 miles downwind.
- **Shelter** - the remainder of the 10 mile EPZ.
- Use Data Sheet 2 to identify affected zones for Georgia and South Carolina. Savannah River Site is a zone. (Figure 1 - 10 mile EPZ map may be used as a reference).

**TABLE 1 (Cont'd.)**

**GUIDELINES FOR RECOMMENDED PROTECTIVE ACTIONS FOR  
GASEOUS PLUME EXPOSURE**

**NON-ESSENTIAL STATION PERSONNEL AND GENERAL POPULATION**

**CONDITION**

**RECOMMENDED ACTION**

**PAR 3.**

An actual release has occurred or is imminent and the projected dose to individuals in the population (outside the site boundary) is calculated to be:

- a. Total Effective Dose Equivalent Equal to or Greater than 1 rem

OR

- b. Committed Dose Equivalent for Thyroid Equal to or Greater than 5 rem

- General Emergency should be declared in accordance with 91001-C, "Emergency Classification And Implementing Instructions".
- **Evacuate** - 5 miles in all directions and 10 miles downwind.
- **Shelter** - the remainder of the 10 mile EPZ.
- Use Data Sheet 2 to identify affected zones for Georgia and South Carolina. Savannah River Site is a zone. (Figure 1 - 10 mile EPZ map may be used as a reference).



**TABLE 1 (Cont'd.)**

**GUIDELINES FOR RECOMMENDED PROTECTIVE ACTIONS FOR  
GASEOUS PLUME EXPOSURE**

**EMERGENCY TEAM PERSONNEL**

**CONDITION**

**RECOMMENDED ACTION**

**PAR 4.**

An actual release has occurred or is imminent and the projected dose to Emergency Team workers is calculated to be:

Issue potassium iodide.

- a. Committed Dose Equivalent of 25 rem to the thyroid

**PAR 5.**

An actual release has occurred or is imminent and the projected dose to Emergency Team workers is calculated to be:

Evacuate personnel unless emergency exposure is authorized per Procedure 91301-C "Emergency Exposure Guidelines".

- a. Total Effective Dose Equivalent of 5 rem

OR

- b. Committed Dose Equivalent of 50 rem to the thyroid or other organs

OR

- c. Shallow Dose Equivalent of 50 rem to the skin

**DATA SHEET 1  
AFFECTED ZONES FOR PROTECTIVE ACTION RECOMMENDATIONS**

**PAR 1**

<b>WIND DIRECTION FROM</b>	<b>EVACUATE ZONES</b>	<b>SHELTER ZONES</b>
11.25 - 33.75	A, B-5, C-5, SRS to 2 Miles	Remainder of 10 mile EPZ
33.75 - 56.25	A, B-5, C-5, D-5, SRS to 2 Miles	Remainder of 10 mile EPZ
56.25 - 78.75	A, C-5, D-5, E-5, SRS to 2 Miles	Remainder of 10 mile EPZ
78.75 - 101.25	A, C-5, D-5, E-5, F-5, SRS to 2 Miles	Remainder of 10 mile EPZ
101.25 - 123.75	A, D-5, E-5, F-5, SRS to 2 Miles	Remainder of 10 mile EPZ
123.75 - 146.25	A, D-5, E-5, F-5, SRS to 2 Miles	Remainder of 10 mile EPZ
146.25 - 168.75	A, E-5, F-5, SRS to 5 Miles	Remainder of 10 mile EPZ
168.75 - 191.25	A, F-5, SRS to 5 Miles	Remainder of 10 mile EPZ
191.25 - 213.75	A, F-5, SRS to 5 Miles	Remainder of 10 mile EPZ
213.75 - 236.25	A, SRS to 5 Miles	Remainder of 10 mile EPZ
236.25 - 258.75	A, SRS to 5 Miles	Remainder of 10 mile EPZ
258.75 - 281.25	A, B-5, SRS to 5 Miles	Remainder of 10 mile EPZ
281.25 - 303.75	A, B-5, SRS to 5 Miles	Remainder of 10 mile EPZ
303.75 - 326.25	A, B-5, SRS to 5 Miles	Remainder of 10 mile EPZ
326.25 - 348.75	A, B-5, SRS to 2 Miles	Remainder of 10 mile EPZ
348.75 - 11.25	A, B-5, C-5, SRS to 2 Miles	Remainder of 10 mile EPZ

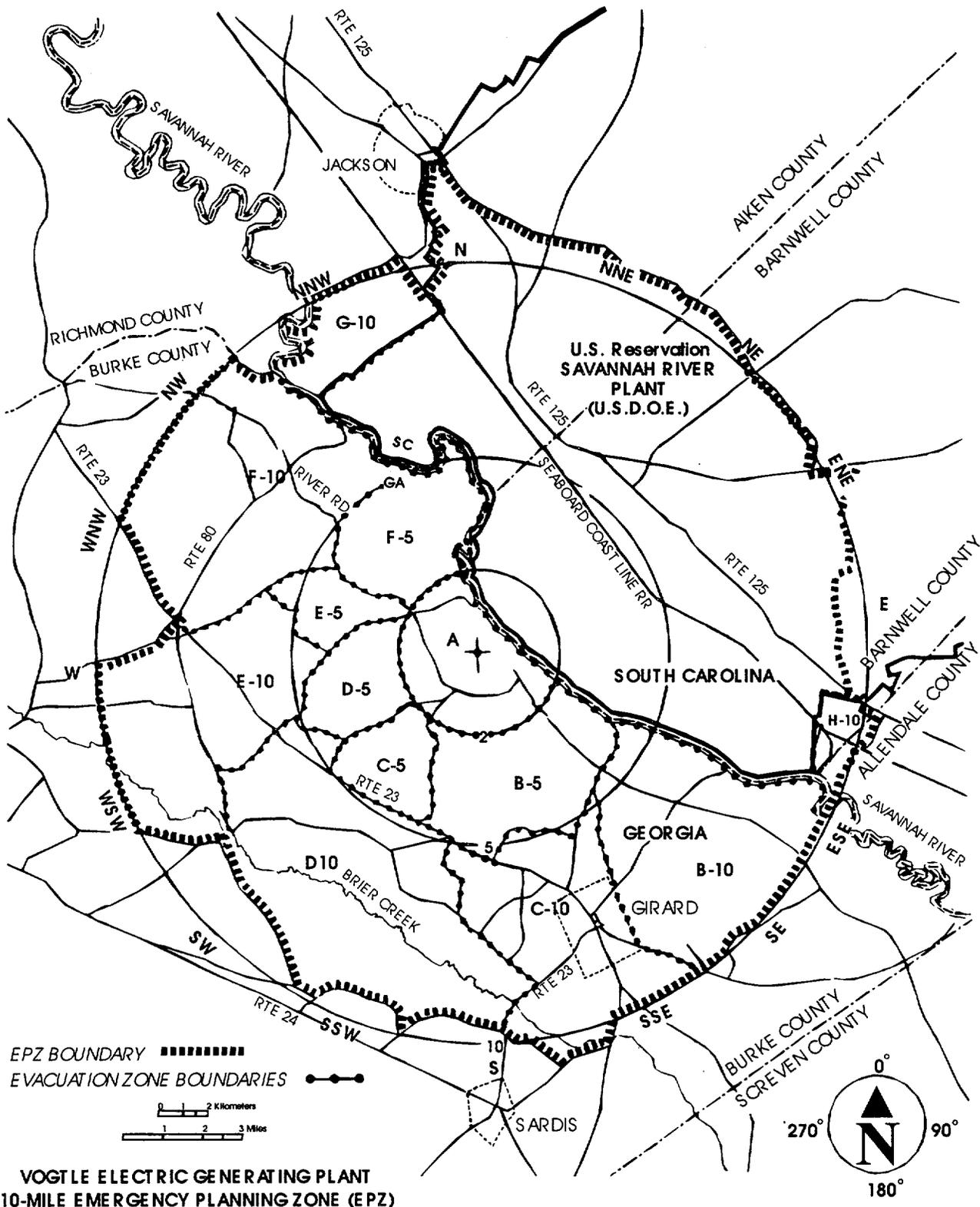


**DATA SHEET 2**

**AFFECTED ZONES FOR PROTECTIVE ACTION RECOMMENDATIONS**

**PAR 2 & 3**

<b>WIND DIRECTION FROM</b>	<b>EVACUATE ZONES</b>	<b>SHELTER ZONES</b>
11.25 - 33.75	A, B-5, C-5, D-5, E-5, F-5, C-10, D-10, SRS to 5 Miles	Remainder of 10 mile EPZ
33.75 - 56.25	A, B-5, C-5, D-5, E-5, F-5, C-10, D-10, E-10, SRS to 5 Miles	Remainder of 10 mile EPZ
56.25 - 78.75	A, B-5, C-5, D-5, E-5, F-5, D-10, E-10, F-10, SRS to 5 Miles	Remainder of 10 mile EPZ
78.75 - 101.25	A, B-5, C-5, D-5, E-5, F-5, D-10, E-10, F-10, SRS to 5 Miles	Remainder of 10 mile EPZ
101.25 - 123.75	A, B-5, C-5, D-5, E-5, F-5, E-10, F-10, G-10, SRS to 5 Miles	Remainder of 10 mile EPZ
123.75 - 146.25	A, B-5, C-5, D-5, E-5, F-5, E-10, F-10, G-10, SRS to 10 Miles	Remainder of 10 mile EPZ
146.25 - 168.75	A, B-5, C-5, D-5, E-5, F-5, F-10, G-10, SRS to 10 Miles	Remainder of 10 mile EPZ
168.75 - 191.25	A, B-5, C-5, D-5, E-5, F-5, F-10, G-10, SRS to 10 Miles	Remainder of 10 mile EPZ
191.25 - 213.75	A, B-5, C-5, D-5, E-5, F-5, G-10, SRS to 10 Miles	Remainder of 10 mile EPZ
213.75 - 236.25	A, B-5, C-5, D-5, E-5, F-5, SRS to 10 Miles	Remainder of 10 mile EPZ
236.25 - 258.75	A, B-5, C-5, D-5, E-5, F-5, H-10, SRS to 10 Miles	Remainder of 10 mile EPZ
258.75 - 281.25	A, B-5, C-5, D-5, E-5, F-5, B-10, H-10, SRS to 10 Miles	Remainder of 10 mile EPZ
281.25 - 303.75	A, B-5, C-5, D-5, E-5, F-5, B-10, C-10, H-10, SRS to 10 Miles	Remainder of 10 mile EPZ
303.75 - 326.25	A, B-5, C-5, D-5, E-5, F-5, B-10, C-10, H-10, SRS to 10 Miles	Remainder of 10 mile EPZ
326.25 - 348.75	A, B-5, C-5, D-5, E-5, F-5, B-10, C-10, D-10, SRS to 5 Miles	Remainder of 10 mile EPZ
348.75 - 11.25	A, B-5, C-5, D-5, E-5, F-5, B-10, C-10, D-10, SRS to 5 Miles	Remainder of 10 mile EPZ



Approved By <b>G. R. Frederick</b>	<b>Vogle Electric Generating Plant</b> 	Procedure Number <b>91305-C</b>	Rev <b>17</b>
Date Approved <b>08/05/2002</b>	<b>PROTECTIVE ACTION GUIDELINES</b>		Page Number <b>13 of 14</b>

Sheet 1 of 2

**CHECKLIST 1**  
**KI DISTRIBUTION CHECKLIST**

Prior to issuing KI, ask the candidate the following:

1. Name \_\_\_\_\_  
SS No. \_\_\_\_\_ or TLD No. \_\_\_\_\_

**CAUTION**

*DO NOT ISSUE KI to candidate if response to questions 2, 3, or 4 is "yes".  
Call HP Supervisor and report candidate's name, situation, and await further instructions.*

2. Do you have a known allergic reaction or sensitivity to KI?  
Yes \_\_\_\_\_ Go to Step 6.  
No \_\_\_\_\_ Go to Step 3.
3. Have you received KI in the past 24 hours?  
Yes \_\_\_\_\_ Go to Step 6.  
No \_\_\_\_\_ Go to Step 4.
4. Have you received KI for 10 or more days?  
Yes \_\_\_\_\_ Go to Step 6.  
No \_\_\_\_\_ Go to Step 5.

**NOTE**

The Field Monitoring Team Kits contain bottles of KI tablets. The FMT members are to take the prescribed amount issued by this checklist, from the kits, when directed by the Emergency Director.

5. Issue ONE 130 mg dose of KI and have candidate sign Step 7.
6. KI not to be issued because of:  
\_\_\_\_\_ Allergy/sensitivity to KI.  
\_\_\_\_\_ Received KI within last 24 hours.  
\_\_\_\_\_ Received KI for 10 or more days.

Approved By <b>G. R. Frederick</b>	<b>Vogle Electric Generating Plant</b> 	Procedure Number <b>91305-C</b>	Rev <b>17</b>
Date Approved <b>08/05/2002</b>	<b>PROTECTIVE ACTION GUIDELINES</b>		Page Number <b>14 of 14</b>

Sheet 2 of 2

**CHECKLIST 1**  
**KI DISTRIBUTION CHECKLIST CON'T**

7. I have been issued ONE 130 mg dose of KI and will take it when directed by the Emergency Director or his designee.

\_\_\_\_\_

Candidate's Signature                      Date                      Time

8. Issuing individual:

\_\_\_\_\_

Name                      Date                      Time

9. Submit completed checklist to HP Supervisor or designee.