

ENTERGY OPERATIONS INCORPORATED

ARKANSAS NUCLEAR ONE

Arkansas Nuclear One
Russellville, Arkansas
Date: 950517

MEMORANDUM

TO: 103
CC - NRC - WASHINGTON

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to Document Control,
3RD floor Admin Bldg*

FROM: DOCUMENT CONTROL
Ref Key: 19500

SUBJECT: PLANT MANUAL UPDATE: NEW REVISION TO PROCEDURE

PROCEDURE/FORM NUMBER: OP-1905.002

REV. # 13 TC # 0 PC # 0

PROCEDURE/FORM TITLE: OFFSITE EMERGENCY MONITORING

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PROCEDURE(S)

PAGE(S)

SIGNATURE: _____

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TRANSMITTAL (PROCEDURE/WORK PLANS/CHANGES/FORMS)

form no.

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**ENTERGY OPERATIONS INCORPORATED
ARKANSAS NUCLEAR ONE**

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TITLE: OFFSITE EMERGENCY MONITORING

PROC/WORK PLAN NO.
1905.002

REV.
13

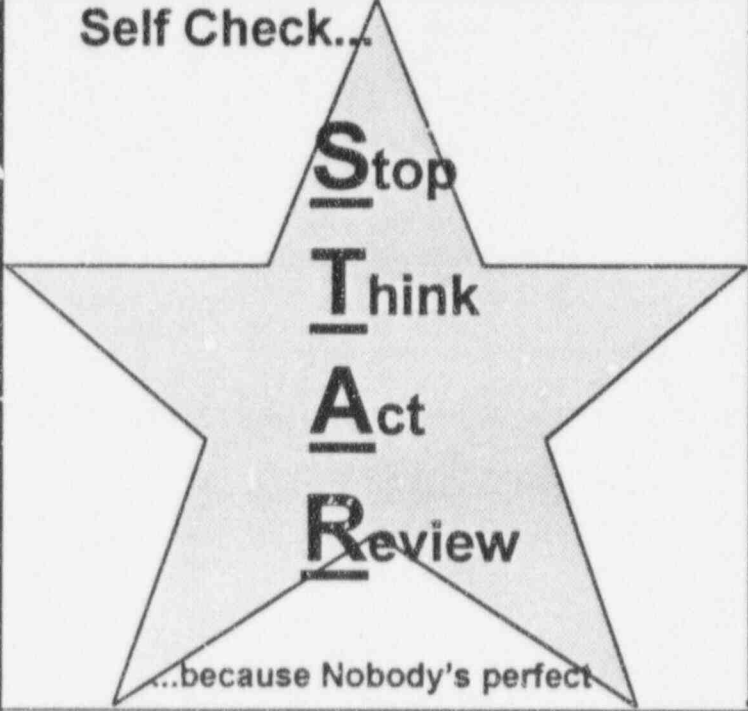
EXP. DATE
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SAFETY-RELATED
☒ YES ☐ NO

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IPTE ☐ YES ☒ NO

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VERIFIED BY _____ DATE _____ TIME _____

APPROVAL AUTHORITY:

Sherrin R. Cotton

APPROVAL DATE:

5/16/95

REQUIRED EFFECTIVE DATE:

FORM TITLE:

LIST OF AFFECTED PAGES

FORM NO.
1000.006A

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1.0 PURPOSE

The purpose of this procedure is to provide guidance to the Offsite Monitoring Section of the Emergency Radiation Team for the documentation of off-site radiological monitoring and sampling activities.

2.0 SCOPE

This procedure is limited in its scope to off-site monitoring and sampling activities performed by the Emergency Response Organization (ERO).

3.0 REFERENCES

3.1 REFERENCES USED IN DEVELOPING THIS PROCEDURE:

- 3.1.1 Emergency Plan
- 3.1.2 1903.043, "Duties of the Emergency Radiation Team"
- 3.1.3 EPA-520/1-75-001 MANUAL of Protective Action Guides and Protective Actions for Nuclear Incidents (September 1975 Revised 1980) page: D-47
- 3.1.4 ANIN-880425-023

3.2 REFERENCES USED IN CONJUNCTION WITH THIS PROCEDURE:

- 3.2.1 1012.018, "Administration of Radiological Surveys"
- 3.2.2 1601.402, "Operation of Portable Air Samplers"
- 3.2.3 1608.005, "Environmental Radiation Monitoring Program"
- 3.2.4 1000.031, "Radiation Protection Manual"
- 3.2.5 1903.066, "Emergency Response Facility - Operational Support Center (OSC)"
- 3.2.6 1903.067, "Emergency Response Facility - Emergency Operations Facility (EOF)"
- 3.2.7 1905.001, "Emergency Radiological Controls"
- 3.2.8 1905.031, "I-131 Determination Using RM14/HP-210"
- 3.2.9 1905.030, "Airborne I-131 Determination using MS-2/SPA-3"
- 3.2.10 1012.018, "Administration of Radiological Surveys"

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3.3 RELATED AND PROCEDURES:

None

3.4 REGULATORY CORRESPONDENCE CONTAINING NRC COMMITMENTS WHICH ARE IMPLEMENTED IN THIS PROCEDURE:

3.4.1 OCAN108605 Violation Response Steps Attachment 1

4.0 DEFINITIONS

4.1 Emergency Response Organization (ERO) - The organization which is composed of the Initial Response Staff (IRS), the EOF staff, the TSC staff, the OSC staff, and the Emergency Team members. It has the capability to provide manpower and other resources necessary for immediate and long-term response to an emergency situation.

4.2 Health Physics Network (HPN) Telephone

Dedicated telephone system established by the NRC during its standby or initial activation mode of operations after the licensee's TSC/EOF has been activated and is operational. The HPN is the primary means of communicating radiological data (onsite and offsite measurements and dose assessment information) from the licensee to the NRC.

5.0 RESPONSIBILITIES

5.1 The Manager, Radiological Protection and Radwaste is responsible for the administrative control of this procedure.

5.2 The Offsite Monitoring Supervisor (OMS) is responsible for implementing the offsite radiological monitoring activities under the direction of the Dose Assessment Supervisor.

5.3 The Offsite Monitoring Section of the Emergency Radiation Team is responsible for:

5.3.1 Staffing the HPN and Offsite Monitoring base radio at the EOF.

5.3.2 Determining offsite radiological hazards.

5.3.3 Performing the required offsite surveys, monitoring, and sampling.

5.3.4 Reporting offsite Radiological hazards and survey/sampling results to the Offsite Monitoring Supervisor.

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6.0 INSTRUCTIONS

6.1 SURVEYS

- 6.1.1 The Offsite Monitoring Supervisor and Dose Assessment Supervisor (DAS) should determine the priorities to be assigned to surveys. The Offsite Monitoring Supervisor and DAS should also determine the locations and areas to be surveyed.
- 6.1.2 As monitoring teams become available, the surveys are assigned on a priority basis by the OMS.
 - A. Offsite Monitoring Section personnel should be instructed to complete Form 1905.002G, "Offsite Radiation Monitoring Team Checklist" prior to being dispatched from the EOF.
 - B. Form 1905.002A, "Offsite Survey Log/Record" should be used by Offsite Monitoring Team members to record survey information.
- 6.1.3 Surveys should be conducted in accordance with the applicable Radiation Protection Procedures and Emergency Radiation Protection Procedures.
 - A. The Offsite Monitoring Supervisor should consider the radiation protection/plume search methods outlined in Attachment #1 when directing Offsite Monitoring Activities.
 - B. The Offsite Monitoring Supervisor and the Offsite Monitoring Team members should utilize Attachment #2, "Monitoring/Sampling Points Physical Description" as an aid to physically locate the predetermined monitoring points.
 - C. Survey results should be entered in the appropriate spaces on Form 1905.002A by the Offsite Radiation Monitoring Section personnel.
- 6.1.4 Survey results should be provided by the monitoring team to the Offsite Monitoring Supervisor.
- 6.1.5 Interim survey data, as received from the monitoring team, should be provided to the Dose Assessment Supervisor (DAS).
- 6.1.6 When no further surveys are required, the Offsite Monitoring Team should be directed to return to the Emergency Operations Facility (EOF). Completed Form 1905.002A and any other completed survey record forms (e.g., 1905.031A should be turned in to the Offsite Monitoring Supervisor.)
- 6.1.7 The Offsite Monitoring Supervisor should review the returned survey record forms and provide the DAS with any relevant information.

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6.2 AIR SAMPLE ANALYSIS/EVALUATION

- 6.2.1 Initial Air Sample Analysis for radio-iodine will typically be performed in accordance with 1905.031 (Airborne Iodine 131 Determination using an RM-14/HP-210) and the results reported as quickly as possible to the Offsite Monitoring Supervisor.
- 6.2.2 Subsequent analysis of airborne radioactivity samples will be performed either in accordance with procedure 1012.018 "Administration of Radiological Surveys" or as instructed by the Offsite Monitoring Supervisor. Results of these analyses should be reported as quickly as possible to the Offsite Monitoring Supervisor on the applicable form.

6.3 SURVEY DATA DISTRIBUTION

- 6.3.1 Results from offsite monitoring area surveys and air sample analyses should be provided to the Dose Assessment Supervisor in the Emergency Operations Facility. Area survey and air sample analysis information should be provided to the Radiological/Environmental Assessment Manager (REAM) by the Dose Assessment Supervisor.

NOTE

The Arkansas Department of Health may provide field monitoring data to ANO representatives in order to facilitate information exchange between the two organizations. The REAM will provide the EOF Director with any relevant information. The REAM/EOF Director may then provide relevant information to the Arkansas Department of Health. Form 1905.002F may be used for this purpose).

- 6.3.2 The Offsite Monitoring Supervisor (or his designee) should provide the Dose Assessment Supervisor (DAS) the following information on Form 1905.002F as required for transmittal to the Arkansas Department of Health. The DAS should receive similar information from Arkansas Department of Health as it becomes available.
 - A. Date of Survey - Self-explanatory.
 - B. Time of Survey - Self-explanatory.
 - C. Survey Location - As determined from the ANO 10 Mile Emergency Planning Zone (EPZ) map and the ANO 1 Mile EPZ map. The maps to be used during an emergency are located in the emergency kits.

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The ANO 10 Mile Emergency Planning Zone (EPZ) is divided into sixteen 22½ degree sectors (designated as sectors 1-16) and ten lettered radial zones at one mile radii from the center of the plant (designated as radial zones A-J). The intersection of a sector with a radial zone is defined as a subsector. Each subsector typically contains two or three specific sampling points designated as 1, 2, or 3, as appropriate. Thus, in order to describe a specific sampling point, three designators are required; sector number, radial zone letter designator, and the number of the specific point within the subsector.

The ANO 1-Mile EPZ map is configured in the same fashion as the 10-Mile Map; however, more detail is included to accommodate the greater number of samples expected in proximity to the plant following an accident.

- D. "mRem/hr" - From dose rate surveys
- E. "µCi/cc" - From air sample analysis (if applicable)
- F. "mRem/hr Iodine equivalent" - calculate the iodine equivalent dose rate by multiplying: µCi/cc x 5.6 E8

6.4 ENVIRONMENTAL SAMPLES

- 6.4.1 Environmental samples should be collected in accordance with 1608.005, "Environmental Radiation Monitoring Program".
- 6.4.2 A Sample Label (Form 1905.002B) should be completed and affixed to each environmental sample container by the individual collecting the sample.

NOTE

The "Comments" Section of the sample label should include instrument types and serial numbers, methods of collection etc.

- 6.4.3 When sample is returned to the EOF by the monitoring team, the Offsite Monitoring Supervisor should:
 - A. Determine the laboratory which should analyze the sample;
 - B. Assign a sample number to the sample;
 - C. Determine and schedule the method of transportation from the EOF to the applicable laboratory;
 - D. Assign the analysis priority and parameters to be analyzed; and
 - E. Enter the applicable information in the Environmental Sample Log (Form 1905.002C).

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6.4.4 Analysis results should be transmitted to the Offsite Monitoring Supervisor by the analyst in accordance with the "Special Instructions" on the Sample Label.

6.4.5 Form 1905.002D, "Laboratory Analysis Report", should be used to document the results of environmental sample analyses.

A. One copy of the completed Laboratory Analysis Report should be filed with the associated Survey Report.

B. One copy of the Laboratory Analysis Report should be forwarded to the DAS.

C. Additional copies (as necessary) should be forwarded to the DAS if the requesting authority for the analysis is outside the ERO.

7.0 ATTACHMENTS AND FORMS

7.1 ATTACHMENTS

7.1.1 Attachment 1, "Radiation Protection Considerations/Plume Search Methods"

7.1.2 Attachment 2, "Monitoring/Sampling Points Physical Description"

7.1.3 Attachment 3, Deleted

7.1.4 Attachment 4, Deleted

7.2 Forms

NOTE

Completed Forms 1905.002A, C, D, and F shall be forwarded to the Dose Assessment Supervisor for review and submittal to the Emergency Planning.

7.2.1 Form 1905.002A, "Offsite Survey Log/Record"

7.2.2 Form 1905.002B, "Sample Label"

7.2.3 Form 1905.002C, "Environmental Sample Log"

7.2.4 Form 1905.002D, "Laboratory Analysis Report"

7.2.5 Form 1905.002E, "Offsite Radiation Monitoring Team Check for Personnel/Equipment Contamination"

7.2.6 Form 1905.002F, "ANO/ADH Survey Data Report"

7.2.7 Form 1905.002G, "Offsite Radiation Monitoring Team Checklist"

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"RADIATION PROTECTION CONSIDERATIONS/PLUME SEARCH METHODS"

The following guidelines should be considered by the Offsite Monitoring Supervisor when directing Offsite Monitoring Section Personnel in the performance of offsite monitoring activities.

Radiation Protection Considerations:

- 1) Offsite Radiation Monitoring Section Personnel are not to exceed dose limits established in 10CFR20 without authorization from the Emergency Operations Facility Director in accordance with Procedure 1903.033, "Protective Action Guidelines for Rescue/Repair and Damage Control Teams".
- 2) Offsite Radiation Monitoring section personnel should be requested to check and report their accumulated doses periodically to the Offsite Monitoring Supervisor. SRDs are to be zeroed upon reaching 75% of full scale. Offsite Monitoring Team members shall report to the Offsite Monitoring Supervisor when SRDs are zeroed and their accumulated doses at that time. As a minimum, at the end of each shift, Offsite Monitoring Team members who have entered the plume shall have a whole-body count.
- 3) Administration of Potassium Iodide (KI) as a thyroid blocking agent will typically not be required. (FDA guidelines recommend KI Administration to individuals who may receive > 25 REM to the thyroid. See 1903.035 "Administration of KI")
- 4) The use of respirators (with iodine/particulate canisters) will typically not be required. Their use should be considered at concentrations exceeding 1 DAC (1DAC for I-131 = $2.0E-8$ μ Ci/cc), but their use will greatly hamper communications, decrease team efficiency, and alarm the public who may observe them.
- 5) The Offsite Monitoring Supervisor should instruct the Offsite Monitoring Section personnel in which routes to take to sample/survey points. (Proper route selection will greatly limit the dose they may receive.)
- 6) Offsite Monitoring section personnel should be instructed to keep their instruments "on" at all times and immediately report any unexpected radiation levels.
- 7) Location of the release plume center line may be necessary to relate downwind concentrations to plume projection models. However, repeated center line air samples will provide limited additional information and greatly increase dose received. Therefore, additional air samples should usually be taken in lower dose rate plume edges. When air samples are taken in areas with measurable dose rates, sample volume may be less than 100 liters. These samples will have a minimum detection limit significantly greater than 100 liter sample volumes but will generally assess the airborne iodine/particulate activity adequately.

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"RADIATION PROTECTION CONSIDERATIONS/PLUME SEARCH METHODS"

Plume Search Methods

- 1) If possible, prior to any known release, pre-position one Offsite Monitoring team in a near-site, downwind area and have them obtain a background air sample. (Note: This may allow earlier detection of an unmonitored/unknown release path.)
- 2) The offsite plume projection model is not highly accurate. The model will give general indications of dose rates and plume locations. The actual released plume may differ significantly from the offsite plume projection model.
- 3) The plume centerline location and dose rate should typically be located/evaluated to determine its relationship to the model projection. Subsequent measurements can typically be made at or near the plume edges.
- 4) As the released plume has no motive force outside of the prevailing wind and heating/cooling effects, the plume will typically travel downwind occasionally altering course with changes in wind direction or geographical factors. The plume may be elevated for a significant distance from the plant site. If so, no iodine/particulate radioactivity will be measurable, but "shine" will be measurable as an increase in general area readings.
- 5) The Offsite Monitoring Supervisor should give special consideration to evaluating the potential for an elevated radioactive plume. An air sample taken (with either silver zeolite or charcoal) while immersed within the plume will show an elevated count rate over a sample taken outside the plume, even if no radioiodine is present. If an air sample taken using a silver zeolite cartridge results in a reading of zero counts per minute above background, take a second sample in the same location using a charcoal cartridge. The result of the second sample, in effect, provides a more sensitive measurement and would either confirm the results of the first sample or indicate that the sample was, in fact, taken while immersed in the plume. The Offsite Monitoring Supervisor, in evaluating the elevated plume potential may solicit additional information from the Dose Assessment Supervisor regarding plume elevation, source term values, and projected dose rates and concentrations. This information can be very useful in determining whether or not the plume is elevated at a particular location.

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- 6) The plume may typically be located by requesting Offsite Monitoring teams to traverse the expected plume path at right angles. The initial plume crossings will typically take place near the plant site to determine the actual plume direction. When the plume edge is first encountered, notify the Offsite Monitoring Supervisor of the location and stop the vehicle. When directed to proceed, turn on the vehicle emergency flashers and commence plume traverse while maintaining a speed of approximately 10 mph. If dose rates of 100 mRem/hr or more are encountered, report the reading and location to the Offsite Monitoring Supervisor and exit the plume unless otherwise directed. Identify and report the locations of the highest reading encountered and the location of the opposite side of plume edge. Centerline plume air samples should typically not be taken during the initial, near-plant plume crossings as dose rates have not been adequately evaluated.
- 7) Radio "dead spots" occur occasionally throughout the 10-mile Emergency Planning Zone. Offsite Monitoring Teams should be reminded of this periodically and requested to check in frequently so as not to remain in such a "dead spot" inadvertently.
- 8) Certain areas within the 10-mile emergency planning zone are inaccessible by automobile. The offsite monitoring supervisor should direct offsite monitoring teams around these areas allowing time for them to arrive at the requested survey/sample point. Consideration should be given to dispatching an Offsite Monitoring team to the far side of some lake/ mountain areas well in advance of the expected plume arrival to allow the team adequate travel time.
- 9) Periodic weather conditions/wind direction information may be obtained by contacting the Dose Assessment Supervisor.

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"MONITORING/SAMPLING POINTS PHYSICAL DESCRIPTION"

- 1A1- On Hwy 333 West of Ritchie Nuclear Training Center at the dirt road that leads north to the old Bennett Farm. Home of Joy Keck, Rt. #3 Box 136. Across road from ANO sample site 3.
- 1B1- Club "64", east of London on the south side of Hwy. 64 at its intersection with three transmission lines.
- 1C1- Intersection of Bailey Loop Rd. (paved) and Sims Hollow Rd. (dirt). Sign for Adam's Attic. (Power pole marked.)
- 1D1- Intersection of Mill Creek Rd. and Mill Creek Drive near entrance to Gibson Dairy.
- 1E1- East Point Baptist Church and Price Cemetery. Intersection of Mill Creek Road and Bailey Loop Road. (Power pole is marked).
- 1E2- Take Meimerstorf Lane and turn right on Pine Twist Road then cross Sulphur Creek. Concrete bridge with guard rails. (Tree is marked)
- 1F1- Intersection of State Hwy. 333 and county road 18 at sign for Patterson's Strawberry Farm. (Pole #109 marked.)
- 1F2- Intersection of Hwy 333 and Smith Road. (County Rd. 79).
- 1F3- Intersection of county Road 79 (Smith Rd.) and county road 123. (Power pole 126207 #1 marked)
- 1G1- Intersection of Hwy. 333 and county road 119. County Rd. 119 goes West from Hwy. 333.
- 1H1- At the Augsburg Church west of Hwy. 333 near the 90 degree turn.
- 1H2- Intersection of Hwy 333 and county road 82. There is a small bridge west of the intersection. County road 82 is Eubanks Rd. at point 111.
- 1I1- Shale pit on Eubanks Rd. (County road 82) 1.8 miles southwest of the Rushing Church. (Power pole marked)
- 1J1- The intersection with Pipe Line Road. Approx. 1/2 mile north of 1J1 are some abandoned buildings and one appears to have been a commercial building. (Power pole is marked.)
- 1J2- Gravel area on south side of road, over looking Piney Creek. Two miles from 1J1 and one mile west of 1J3.
- 1J3- One mile northeast of 1J2 at a concrete bridge over a small stream. No rails on bridge.

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"MONITORING/SAMPLING POINTS PHYSICAL DESCRIPTION"

- 2A1- South parking lot of Ritchie Nuclear Training Center.
- 2B1- On Hwy 64 at its intersection with small single transmission line east of London and east of Club "64". ANO and NRC TLD #3 on north side of Hwy 64 at this point.
- 2B2- North of Hwy 64 on asphalt loop of Chimney Rock Road. Pavement ends at this point. The loop is approximately 0.7 miles west of Mill Creek. (AP&L power pole 601 #8.)
- 2C1- On Bailey Loop Rd at a small cemetery on north side of road. Approx. one half mile west of Mill Creek Road.
- 2C2- Intersection of Mill Creek Rd. and Fairview Drive. Fairview Drive is a loop to the west of Mill Creek Road which intersects Mill Creek Rd. at two points. There is a rock fence on the east side of Mill Creek Rd. (Power pole #36 between two intersections marked)
- 2D1- Intersection of Mill Creek Rd. and Ball Hill Road. State TLD site. There are two story houses on north and south side of point. (Power pole 996 #1 marked)
- 2E1- East end of Meimerstorf Lane. Mobile Home at end of road and frame house near end on south side of road. (Power Pole is marked)
- 2F1- County Rd. 141 makes 90 degree turn from northsouth to eastwest on west side of loop. Jeep trail continues to south across Huckleberry Creek. (Power pole off road marked)
- 2F2- County Road 141 makes 90 degree turn from eastwest to northsouth on east side of loop. Jeep Road continues south.
- 2G1- "T" intersection of county road 79 (Smith Rd.) and county road 141. (Power pole marked)
- 2G2- At the residence of J. D. Pratt which is a reddish-gray brick house with green shutters on east side of road.
- 2H1- Intersection of Hwy 333 and county roads 141 and 143. (Power pole marked)
- 2H2- North New Hope Assembly of God Church and Cemetery. Church is approx. 100 yds. north of Hwy 333. (Power pole marked on 333)

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"MONITORING/SAMPLING POINTS PHYSICAL DESCRIPTION"

- 2I1- 0.9 mile north of Hwy 333 on county road 143. Road crosses cattle guard. Monitoring point is at a small brick house with a bell on a 1214 feet tall cedar post in the front yard.
- 2J1- At Rushing Church on Rushing Road at Eubanks Road.
- 2J2- Intersection of Rushing Road and Lee Mtn. Road.
- 2J3- Intersection of Rushing Road and Laffoon Drive.
- 3A1- East side of Ritchie Nuclear Training Center at paved parking area under transmission line.
- 3B1- Intersection of 333 and Hwy 64 east of London. There is a small sign on north side of Hwy. 64 for Arkansas Nuclear One.
- 3C1- Intersection of Pleasant View Road and Mill Creek Rd. (Power pole marked)
- 3D1- Intersection of Davie Road and Ball Hill Road. NRC TLD #3. (Power pole marked)
- 3E1- Follow Wheeler Bend Road to north end. Cross cattle guard then follow private drive to left to top of the hill where road turns to north. (No marker)
- 3F1- West end of Tucker Mtn Rd.
- 3F2- Intersection of Tucker Mtn Road and Isbel Lane.
- 3G1- West end of Linker Mtn. Rd. at gas pipe line. (Power pole marked)
- 3G2- Intersection of Linker Mtn. Road and Owen Waite Road. (Power pole marked)
- 3G3- Intersection of Linker Mt Road and Tucker Mtn. Road where pavement ends. (AP&L Power pole #13 marked)
- 3H1- North Linker Road makes 90 degree turn. (Power pole marked)
- 3H2- Intersection of Singleton Road and Quail Hollow Road. (Power pole marked)
- 3I1- Bridge over stream on Hwy 333 one half mile east of Jorgenson's Swine Farm. Sheet metal building near northwest end of the bridge. (Power pole marked on east end of bridge.

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"MONITORING/SAMPLING POINTS PHYSICAL DESCRIPTION"

- 3I2- Hwy 7 north of Dover at the Illinois Bayou Bridge.
- 3I3- At the bridge over Linker Creek on Hwy 7 approx. 1 mile south of Dover. Citgo station and pulp wood yard on east side of Hwy 7. (Power pole marked.)
- 3J1- Intersection of Hwy 7 and Rushing Road north of Dover. (Power pole marked)
- 3J2- intersection of Hwy 7 and Hwy 27 in Dover. Parking at grocery and cafe west of intersection.
- 3J3- Intersection of Hwy 164 and Humphrey Rd. east of Dover. Two story frame house south of intersection. (Power pole marked)
- 4A1- Intersection of 333 and May Road at the ANO sign.
- 4B1- Turn east from 333 at Tyson Management Development facility. Use East parking lot of Tyson management Development and VIP center.
- 4B2- Intersection Hwy 333 and Gum Lane northeast of ANO.
- 4C1- North of I-40 on Dwight Mission Road at intersection with Lake Ridge Drive. Dwight Mission Road crosses I-40 and then turns east to parallel I-40 at the monitoring point.
- 4D1- Pleasant View Road at Ball Hill Road near NRC TLD #8 and siren 3z9. Single transmission line crosses Pleasant View Road at this point. (Power pole 986 #30 is marked)
- 4E1- Pleasant View Road and Wheeler Bend Road at the Pleasant View Baptist Church. (Power pole marked)
- 4F1- At the tennis courts of the Russellville Country Club west of Hwy 7 on Country Club Road.
- 4F2- Russellville water works. West of Hwy 7 at end of Water Works Road.
- 4G1- Linker Mtn. Fire Station on south side of Linker Mtn. Rd. at Quail Hollow Rd.
- 4G2- Intersection of Hwy. 7 (north of Russellville, next to barber shop) and Round Rock at the Round Rock Church. (Power pole marked.)
- 4G3- On Baker's Creek Rd. at intersection of Bakers Creek Road and Hidden Valley Lane. There are several large metal portable buildings east of intersection.

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"MONITORING/SAMPLING POINTS PHYSICAL DESCRIPTION"

- 4H1- Intersection of Hwy 7 north of Russellville and Morgan Rd. at Hwy 7 Auto Salvage, Parker Real Estate, Country Convenience and Animal Medical Center.
- 4H2- Center Valley Road at Golden Pond road. Power pole is approximately 100 yds. east of Golden Pond road.
- 4I1- Intersection of Morgan Rd. and Slab Town Rd. (Power pole #69 marked).
- 4I2- Intersection of Homer Roach Lane and Roy Taylor Rd. (Power pole marked)
- 4J1- On Morgan Road at intersection of Morgan Road and Coffman Drive. (Power pole marked)
- 4J2- Take Roy Taylor Road, Turn right on Homer Roach Lane. Pole located north of intersection. (Power pole #32 is marked)
- 5A1- ANO met tower and air sampling site.
- 5A2- Intersection of Hwy 333 and Bibler Lane. Across Hwy 333 from siren 3z2.
- 5C1- Intersection of Sunset Drive and Marina Road (Hwy 326). (Power pole marked)
- 5D1- First parking area on North side of Dike Rd. when proceeding east on Dike Rd. from Hwy. 64.
- 5E1- West end of bridge across Illinois Bayou on Pleasant View Road, approximately 1/2 mile west of Hwy. 7.
- 5E2- Parking lot for Bona Dea Trail on south side of Hwy 326.
- 5F1- Town and Country Vet. Clinic at Hwy 7 (north of Russellville) and Pleasant View Road.
- 5F2- Intersection of Dike Rd. (326) and Hwy. 7. Use Shoney Parking lot.
- 5G1- Intersection of Shiloh Road and Bakers Creek Road at Carr's Fruit Farm. (Power pole marked)
- 5G2- Hwy. 124 overpass of I-40.
- 5H1- Entrance to Carr's Grape and Berry Farm on Hwy 124 at Shiloh Rd. (Power pole marked)
- 5H2- Intersection of Sparksford Drive, Crow Mt. Road, and Hwy 124 at the Calvary Temple Church. (Power pole marked)

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"MONITORING/SAMPLING POINTS PHYSICAL DESCRIPTION"

- 5H3- Intersection of Hob Nob Road and Hwy 326 north of I-40. (Power pole marked)
- 5I1- Intersection of Hwy 124 and Center Valley Road at the Center Valley Elementary School. Light colored brick with blue brick decoration.
- 5I2- Intersection of Crow Mtn. Road and Cagle Rock Road at the Cagle Rock Grocery and Crow Mtn Grocery. (Power poles marked)
- 5I3- Intersection of Hwy. 331 and Bradely Cove Road. 100 yards northwest of Hob-Nob Restaurant on north side of I-40.
- 5J1- On Hwy 124 at Gum Creek Bridge, approximately 0.2 miles west of where transmission line crossing Hwy 124.
- 5J2- Intersection of North Sherman Drive and Crow Mtn. Rd. (Power pole marked)
- 5J3- Intersection of Pullen Road and Bradley Cove Road. (Power pole marked.)
- 6A1- ANO Access Road at May Road, on south side of intake canal. Monitoring point is on West side of May Road at stop sign. (Power pole marked)
- 6A2- East end of Scott Lane. Road forms a Y intersection at this point.
- 6C1- Intersection of Cedar Shore Drive and Marina Road (Power pole marked)
- 6D1- 600 Block of Hill Top Drive at residence of James Bibler. There is a wooden mailbox at Bibler three building complex.
- 6E1- Saint Mary's Hospital. 1800 block of West Main (Hwy. 64 west and south Seattle). Parking lot on north side of hospital.
- 6F1- Intersection of Hwy. 7 and 124. Use Tucker coliseum parking lot
- 6F2- Sequoyah Elementary School. Intersection of West Twelfth St. and Phoenix Ave.
- 6G1- Hughes Center. One block north of Hwy. 64 east of Russellville at the intersection of Knoxville and D streets.
- 6G2- Intersection of Hwy 7 South and Nineteenth Street. Quonset Hut with blue brick face on south east side of intersection. Near Phil Wright Chevrolet.
- 6H1- Parking lot of K-mart and Food 4 Less on north side of Hwy 64 East of Russellville.

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- 6H2- Russellville High School on east side of Hwy 7T at Ninteenth Street.
- 6I1- Tyler Road at the intersection with Hwy 64 east of Russellville at the Tyson Tyler Road Plant sign. Odisco truck repair on north side of Hwy 64 at this intersection.
- 6I2- Parking lot on Northeast side of Russellville Airport. (NRC TLD #46 on power pole).
- 6I3- Parking lot of Russellville Sewer Treatment facility on Jimmy Lile Road. (Power pole marked.)
- 6J1- Intersection of Pullen Road and Furniture Road north of I-40.
- 6J2- Intersection of Hwy 331 and Sweeden Road at the western Pottsville city limits sign and Antioch Freewill Baptist church sign. (Power pole marked)
- 6J3- Turn north on Sweeden Road at Tyson Research farm. Monitoring point is at the intersection of Sweeden with Sweet Road. (Power pole #23 1/2 marked).
- 7A1- Intersection of May Road and Bunker Hill Lane (unmarked). 100 yards south of intersection of Scott Lane and May Road.
- 7A2- Monitoring point is at the end of Bunker Hill Lane. Near home of D. H. Douglas at Rt #3 Box 316. (AP&L power pole #540 with NRC Tld #33)
- 7C1- Near Entrance to Lake Dardanelle State Park off Marina Rd. (Hwy 326).
- 7C2- Closed entrance to Lake Dardanelle State Park off Marina Road (Hwy 326) near south end of the park, metal pole across entrance. (Power pole on east side of Marina Road at state TLD site is marked.)
- 7D1- 200 yds from siren 2z10 on south side of Marina Way (Hwy 326). Transmission line from dam crosses at this point. Wrought iron fence 100 yards east of site on north side of the road. (Power pole with NRC TLD #13 and ANO TLD on south side of Road).
- 7E1- Intersection of Skyline Drive and Turrentine Way. (Power pole on north side of road marked.)
- 7F1- Intersection of Skyline Drive and Shepard Drive. (Power pole at intersection with night light marked.)
- 7F2- At Lock and Dam Parking lots approximately 2 miles west of Hwy 7.

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- 7G1- Kroger parking lot at the intersection of Hwy. 7 & 7T and Hwy 326.
- 7G2- Road to International Paper, where Hwy. 7 Spur turns south to International Paper complex. At sign for Old Post Road Park.
- 7G3- Catfish Inn Dardanelle.
- 7H1- At a one lane bridge across Whig Creek. (Power pole marked).
- 7H2- Hwy 247 and Hwy. 7 south, parking at the corner or at convenience store 0.2 miles east of Hwy. 7 on Hwy. 247.
- 7H3- Courthouse parking lot in Dardanelle. North side of Hwy. 7 near west end of the Arkansas River Bridge.
- 7I1- At the intersection of a gravel road and Hwy 247, approximately 1.2 miles east of Hwy. 7 south. (Power pole marked).
- 7I2- One-half mile south of Hwy 247 at Robinson Sand and Gravel. Sign on Hwy 247 for Robinson Sand and Gravel.
- 7J1- Intersection of Hutchinson Road and Hwy 247. (AP&L power pole #5 on north side of road marked.)
- 7J2- On a road leading south from Hwy. 247 to the South New Hope Assembly of God Church, at its intersection with Hutchinson Road. (Power pole marked)
- 8A1- Residence of M. A. Wood, overlooking Lake Dardanelle. There is private asphalt drive extending south from the end of Bunker Hill Lane.
- 8D1- Follow dirt road south along east side of Bay Ridge Golf Course to top of hill. (Road is probably impassable in bad weather). Monitoring point is at the top of the hill where there is an intersection with 3 jeep trails.
- 8D2- Top of hill overlooking Bay Ridge golf course and club at the large white concrete cross. Stay to right as you go up the hill.
- 8E1- At Richey's Curve Inn and Gulf Station on the north side of Hwy 22 approximately 3 miles west of Dardanelle.
- 8E2- Off Hwy 22 at the road leading to the Lake Dardanelle State Park. State Park signs are visible from either direction on Hwy 22. (Power pole marked)

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"MONITORING/SAMPLING POINTS PHYSICAL DESCRIPTION"

- 8F1- South intersection of Pfeifer Lane and Hwy 22. There is a brick house on either side of the intersection and a white frame house across Hwy 22 from the intersection.
- 8F2- Turn north from Hwy 155 on dirt road. Monitoring point is at the end of the road at a large two story rock and cedar residence of J. D. Byrd Jr. (AP&L pole 150 yards south of gate.)
- 8G1- Intersection of Pfeifer Lane with Hwy. 155 (Mt. Nebo Road). Pfeifer Lane is a north-south dirt section line road approximately 1.2 miles west of Hwy 22. (power pole marked)
- 8G2- Turn south from Hwy 155 on to dirt road which is approximately 2.5 miles west of Hwy 22. Intersection is between a brown frame and red brick house. Follow road south across Smiley Creek to end of road and residence of Eidson.
- 8H1- Intersection of 155 (Mt. Nebo Road) and Hwy 22 north of Dardanelle.
- 8H2- Parking lot of Dardanelle Vet. Clinic. Southside of Hwy 27 approx. 1 mile west of intersection of Hwy 7 and Hwy 27.
- 8H3- 1.5 miles west of Dardanelle Vet. Clinic on Hwy. 27 (2.5 miles west of intersection of Hwy. 7 and Hwy 27) Sign on north side of Hwy 27 for ABBA (American Brahma Breeders Association).
- 8I1- Intersection of Arkansas Hwy. 7 and Hwy. 28. Parking at Dardanelle High School and National Guard Armory complex.
- 8I2- 100 feet off Hwy. 28. Turn south from Hwy. 28 approx. 1.4 miles south of Hwy 7 on gravel road after crossing Smiley Creek. Large unfenced area SW of intersection. (Power pole marked).
- 8I3- Turn west on dirt road off Hwy 28. approx. 2.2 miles southwest of the intersection of Hwy 7 and Hwy 28. Sign for Osbone Farms on northwest side of road. (This sign may be removed).
- 8J1- Turn east on dirt road that is 0.6 miles north of intersection of Hwy. 155 and Hwy. 7 south of Dardanelle. Travel east 0.8 miles to old home place where road makes 90 degree turn to south. Area is 0.3 miles north of Dardanelle Sewage Treatment Plant. Road is 1.2 miles south of intersection of Hwy 28 and Hwy. 7. (There is another eastwest road 0.7 miles south of intersection of Hwy. 28 and Hwy 7. This road is a private drive.)
- 8J2- Intersection of Arkansas Hwy. 155 and Arkansas Hwy. 7 south of Dardanelle. Parking is available at southwest corner of the intersection.

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- 8J3- Intersection of dirt road with Hwy. 28 south of Pole Pin Creek. Intersection is on the east side and Hwy. 28. (Power pole #77 marked)
- 9A1- On south side of May Road at the May Cemetery. Cemetery is at the intersection of May Road and dirt road running to the south.
- 9D1- North side of Hwy 22 near intersection with Wildcat Hollow Road at the Thomas V. Jones place. White Barn with brown roof with Thos. V. Jones painted on side of roof.
- 9D2- 3/4 mile west of Hwy. 22 on Wildcat Hollow Road. Monitoring point is on a dirt road which loops off Wildcat Hollow Road on southside. Four (4) brick houses and frame rock and cedar on north side of Wildcat Hollow road sightly east of monitoring point. (Power pole #16 marked)
- 9E1- Intersection of Hwy 22 and paved road running south, approx. 5 miles west of Dardanelle. Monitoring point is off north side of Hwy 22 on the old highway 22 at the east end of causway that crosses Jones Creek.
- 9E2- Turn west on a dirt road which is located north of Arkansas 155 and 1 mile south of Hwy 22. Monitoring point is at intersection of two dirt roads approx. 0.5 miles from siren 1z7. Rock house on northeast corner, mobile home and house at west end of intersection. (Marked power pole in northwest corner of intersection.)
- 9F1- 0.5 miles north of Arkansas 155 on blacktop road at double culvert bridge over Hayes Creek. Wrought iron gate sign with WESLEY on it on east side of road. (Marker on power pole REA #10.)
- 9G1- 0.7 mile south of Hwy 155 (Mt. Nebo Rd.) on north-south dirt road at wooden bridge across Smiley Creek.
- 9G2- Picnic area in Mt. Nebo Park on north side of road. Turn right at stop sign at top of Mt. Nebo.
- 9H1- 0.5 miles north of Hwy 27 on north-south blacktop road marked with small sign for ASH Homestead. Road turns from back top to dirt. There are no good places to get off road at this monitoring point. (Power pole 28 marked).
- 9I1- At the Oak Grove Methodist Church and cemetery. Church is white frame with red roof on west side of back top road approx. 1/2 mile south of Hwy 27. Sign on Hwy 27 for church. Monitoring point can be reached from Hwy 28 by turning on road to New Hope Church and staying to right on the back top.

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"MONITORING/SAMPLING POINTS PHYSICAL DESCRIPTION"

- 9I2- Intersection of Hwy 27 with dirt road leading to the Gum Springs Cumberland Presbyterian Church. Dirt road runs south from Hwy 27. (Power pole marked).
- 9I3- 0.6 miles north of Hwy 27 and Slo Fork Grocery. Monitoring point is marked on power pole #872-02 at end of road.
- 9J1- Intersection of eastwest black top and Hwy 27. Turn west at sign for New Hope Church and Cemetery.
- 9J2- Turn south on dirt road and travel 1.2 miles south of Hwy 27 toward Gum Springs Cumberland Presbyterian Church. Monitoring point is at a Y intersection with two chicken houses near intersection and wooden bridge across southeast fork in road.
- 9J3- Slo Fork Grocery located on north side of Hwy 27.
- 10A1- West end of May Road at water sampling site. Watch for yellow and black CAUTION sign. (100 yards west of emergency siren)
- 10C1- On south side of Hwy 22 west of Causway. Bridge is 1.24 miles east of Logan county line. Green 1 mile marker on south side of road.
- 10D1- At the end of a dirt road which runs north from Wildcat Hollow road approx. 1.2 miles from Hwy 22. Monitoring point is near a blue gray house with rock trim. There is a small pond south of house. Three mail boxes at intersection of road to point 10D1 and Wildcat Hollow Road, one mail box is on a brick stand. Look for sign for RICHEY'S QUAIL FARM on Southside of Wildcat Hollow Road. (Power pole marked.)
- 10E1- South side of Wildcat Hollow Road approx. 2 miles west of Hwy 22. There is a gray frame with brick trim house on south side of road east of monitoring point and two green houses west of monitoring point. (Power pole marked).
- 10F1- Follow the road past the Mt. Nebo Park Headquarters to the northwest end of the park. ANO should be visible to the north. (Pole by transmitter station)
- 10J1- Parking lot of Robinson Point Church. Turn north from Hwy. 27 at Slo Fork Store and take west fork approx. 1 mile to church. Road turns from asphalt to gravel a few yards west of church. Church is located in forks of Chickalah Creek.
- 10J2- Approx. 1 mile west of Robinson Point Church where double transmission lines cross dirt road. (Marker is on power pole #872 on north side of road.)

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- 10J3- In the Sulphur Spring community at a Y intersection of dirt roads. Abandoned unpainted house on north side of intersection and two white houses southwest of intersection. (Power pole #872-341.)
- 11A1- At old AP&L lodge site. Near air sample site. Turn south at back gate of ANO and take west fork of road to open meadow.
- 11C1- East end of Delaware Recreation area. Power plant is visible to east-northeast. Monitoring point is near overlook shelter and restrooms.
- 11D1- Durvin Cemetery. Turn north from Hwy 22 at sign for River Oaks and wrought iron gate marked for DURVIN CEMETERY. Follow road approx. 0.2 miles to cemetery.
- 11E1- At a bluegray and white mobile home on north side of dirt road approximately 0.7 miles south of Hwy 22. There are several mobile homes near point. (Power pole on south side.)
- 11E2- Approximately 2 miles south of Hwy 22 at end of dirt road. Rock and frame house at end of road. (Power pole 11167225 with private property sign on power pole.)
- 11F1- Intersection of double transmission lines and Wildcat Hollow Road approx. 4 miles west of Hwy. 22. (Marker on power pole.)
- 11G1- 1 mile west of 11F1 at a gray and green concrete block building with metal roof and steel shutters on windows on south side of Wildcat Hollow Road. (Power pole 11139 #81 marked.)
- 11I1- Three miles south of Hwy 22 at home of Bruce Burris. House is unpainted frame on east side of road with numerous non-working vehicles in the yards. Road may be blocked at house and there are numerous no trespassing signs. (Power pole with night watcher).
- 12A1- CAUTION LAKE AHEAD sign at the south west end of Flatwood Rd. A frame house on north side of road and mobile home and other frame buildings on south side. (AP&L power pole 62510 #30 marked.)
- 12C1- Where state maintenance of Hwy 393 ends at the home of Darrill Berry. Monitoring point is west of sign for Delaware Recreation Area.
- 12D1- Turn East on the dirt road from Arkansas 393 approximately 0.6 miles north of Hwy 22. Follow road to a cut stone home within sight of the lake.

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"MONITORING/SAMPLING POINTS PHYSICAL DESCRIPTION"

- 12D2- Intersection of Hwy 393 and River Mountain Road. (Marked AP&L power pole.)
- 12E1- Delaware Store. Intersection of Hwy 22 and Arkansas Hwy 393.
- 12E2- At the Delaware Assembly of God Church which is 0.2 miles north of Hwy 22 on a dirt road.
- 12F1- 0.7 miles south of Hwy 22 on Johnson Road at a large unpainted frame house on east side. County road ends at house.
- 12F2- Delaware Baptist church and Graves Cemetery.
- 12G1- At John Graves broiler farm. Several large chicken houses on north side of road. (Power pole on south side of Hwy 22 marked)
- 12H1- Bridge across Delaware Creek approximately 1.2 miles south of Hwy 22. There is a concrete bridge with low guard rail. (Power pole south of bridge marked.)
- 12H2- Monitoring point is at the intersection of Nichols Road and Hwy 22. There is a small white frame house on south side of Hwy 22. (Power pole 1100 206 A marked).
- 12I1- Monitoring point is at the New Liberty Church which is a small white frame church on north side of Hwy 22. (Power pole with night watcher marked).
- 12J1- Approximately 1.1 miles south of Hwy 22 at end of dirt road. There is a white frame house and barn at end of road. (Power pole 0.1 mile north of end of road is marked).
- 13A1- Y intersection with Flatwood Rd. One road turns east to ANO and the other continues south.
- 13A2- Top of Round Mountain. Continue north and west from site 12A1 on gravel road to cul-de-sac at end of road.
- 13D1- Monitoring point is 0.7 miles north of Hwy. 393 on a dirt road at its intersection with a gas well road. Hwy 393 turns east near its intersection with the dirt road. Edsel Farnam's two chicken houses are slightly east of intersection on Hwy. 393.
- 13E1- Intersection of River Mountain Road and double transmission lines. (Power pole 11174 #33 is marked.)

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"MONITORING/SAMPLING POINTS PHYSICAL DESCRIPTION"

- 13E2- Turn north from River Mountain Road onto Flurry Rd. (unmarked). Monitoring point is 0.8 miles north of River Mountain Road at top of hill. ANO is visible to East. White frame house belonging to Keith Flurry in north of point.
- 13F1- River Mountain Road at TLD site. There is a brown house 100 yds. south of road slightly east of the monitoring point. (Power pole marked).
- 13G1- Large gray frame building on east side of road which is being used as a dog kennel. There is a mobile home with rock trim next door.
- 13H1- Monitoring point is at a one story, flat roof, concrete block, pink and yellow house. Chicken house south of monitoring point.
- 13I1- Power line is going to Coleman Whitecotton home. Black painted mail box on south side of road. This point may be hard to find at night. Power line crosses River Mountain Road at the Monitoring point. Marker on power pole off south side of road.
- 13I2- Turn north on dirt road from River Mt. Road and proceed approx. 0.5 miles to 90 degree turn to west fork in road.
- 13J1- Intersection of Hwy 22 and River Mountain Road. There is a green and white street sign at northeast corner of intersection.
- 14A1- On Flatwood Road at causway south of siren 3z4 and J. A. Shriver Home. (Power pole on east side of road marked.)
- 14A2- Intersection of Round Mountain Road and Flatwood Road. This is the second dirt road leading west after crossing the causway. At NRC TLD #25
- 14B1- West end of Round Mountain Lane overlooking Lake Dardanelle. Parking on north side of road. Road turns sharply to the left and starts up hill. Parking and turn around area is on right side. Be cautious at this point at night.
- 14C1- At the intersection of McDonald Blvd. and Pine Hill Drive in the Price's Point section of London. From Hwy 333 turn south at the London Baptist church, turn north on London Cove Drive and follow it to top of the hill to McDonald Blvd. (Power pole #7 marked)
- 14C2- South of Hwy. 64 where Laddy Lane makes a 90 degree turn to east at a blue-gray frame house.

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- 14D1- Intersection of Cedar Lane and Hwy. 64 at a mailbox marked Rt. 1, Box 653 on mail box. (Power pole to mark)
- 14E1- Brock's Cemetery on the north side of Hwy. 64 approx. 0.5 miles east of the intersection of Hwy 64 and Hwy 359. (Power pole marked)
- 14F1- At the Piney Bible Church. A small white frame church on the north side of Hwy 64 in Piney. There is a western cedar sign for the church.
- 14F2- Intersection of a dirt road with Hwy 359. Monitoring point is approx. 0.2 miles south of the Flat Rock Fire Station, Community Building and Riding Club.
- 14G1- On Hwy. 64 approx. 0.5 miles west of Piney Creek Bridge, near the residence of Stan Rennie, Rt. 1, Box 97, Knoxville. Railroad marker 431 on south side of Hwy 64.
- 14H1- At the first green sign for the Lake Dardanelle Nursery Pond. Sign is on left (north) side of road a few feet before the crest of a hill.
- 14H2- Off Hwy 64 at the Nulyne, Inc. Pallets and Skids mill.
- 14I1- Home of R. A. Meyer which is a light color brick and brown trim house with detached garage and fence with brick posts. (Power pole with night watch 42 645 #6.)
- 14I2- At the intersection with a dirt road running west, there is a dark brick house with orange trim and shutters.
- 14I3- At the Knoxville Fire Station, City Hall and Community Center. Across railroad tracks from I-40 and Hwy. 64.
- 14J1- Monitoring point is at a cemetery. There is a DEAD END sign on road and a chicken house on east side of the road near the cemetery.
- 14J2- Entrance to the Cabin Creek Park area at the Corps of Engineers sign.
- 15B1- Intersection of 333 and Flatwood Road 200 yds. west of railroad spur to ANO. (Power pole marked.)
- 15B2- London City Hall. Between Hwy 64 and railroad tracks on west side of Hwy 333.
- 15C1- Intersection of Hwy 333 and transmission lines north of I-40. ANO is clearly visible to the southeast.

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- 15D1- Intersection of Will Baker Rd. (paved) an Georgetown Rd. (dirt) and Whorton Mtn. Rd (paved). There is a sign to Roberts Hereford Range. (Power pole marked.)
- 15E1- Will Baker Rd. at the Pope-Johnson Co. Line. Pope county side is paved. NRC TLD 30 is 0.1 mile to east.
- 15E2- Monitoring point is where Whorton Mtn. Rd. makes a 90 degree turn at its intersection with Martin Chapel School Road.
- 15F1- On a small dirt road that runs north 0.5 miles east of Hwy 359. Monitoring point is at a Y in the road with a cattle guard on the north leg of the intersection.
- 15F2- On Whorton Mtn. Rd, at a concrete bridge 0.3 miles north of the intersection with Stormett Rd. (Power pole 122R2714#1 marked)
- 15G1- On Hwy. 359 at the red brick residence of Arval Lee Parker (Tyson sign). Sheet metal barn and two chicken houses on west side of Hwy 359. Approx. 0.1 miles north of Parker's Country Parlor.
- 15G2- 0.9 miles east of Hwy 359. State TLD on power pole #15. There are two brick houses on south side of the road and two old barns and a frame house on north side of the road. (Power pole marked)
- 15H1- Turn west from Hwy. 359 at a Tyson sign for Earl Sanderson poultry farm. There is a little green frame house on the southwest side of the intersection. Monitoring point is at the west end of a loop overlooking Piney Creek. (Power pole marked)
- 15H2- Monitoring point is at the Piney Bay Recreation area off Hwy 359 at the park sign.
- 15I1- North side of I-40 on Hwy. 315 near underpass. Hwy 315 is parallel to I-40.
- 15I2- At the end of a private drive overlooking Piney Creek. There is a C shaped gray frame house with a carport connecting to a smaller building.
- 15I3- Intersection of 359 and dirt road leading to Hickeytown Cemetery. (Power pole across road marked)
- 15J - At the Knoxville Boat factory off Hwy 64 west of Knoxville. A dirt road is on the north side of Hwy. 64 at the boat factory. (Power pole marked)

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"MONITORING/SAMPLING POINTS PHYSICAL DESCRIPTION"

- 15J2- Cross under I-40 and go east 1.2 miles from Hwy 64 to a "T" intersection of paved road and dirt road. (Power pole marked)
- 16A1- North side of Hwy 333 at sign for Bennett Orchard Estate (sign is attached to rock pillar.) (Power pole with state TLD west of site is marked.)
- 16B1- Intersection of Hwy 64 and old Hwy 64. 0.7 miles east of London. (AP&L power pole #15 in meadow on south side of the road is to be marked).
- 16B2- London Elementary School. North of Hwy 64 and East of 333.
- 16C1- Intersection of Sims Hollow Road and Chimney Rock Rd.
- 16D1- Intersection of Hwy 333 and Will Baker Rd. There is sign for the Parker Ranch. (Power pole is marked)
- 16D2- Intersection of Bailey Loop Rd and Dug Rd.
- 16E1- Martin Chapel Assembly of God Church on Hwy 333. Red brick building with white trim on east side of road. (Power pole is marked)
- 16E2- Intersection of Mill Creek Road and Hwy 333. There is a sign for East Point Church. South of intersection is two story home with a swimming pool. (Power pole marked).
- 16F1- Intersection of county road 6 (paved) and county road 105 (gravel). (Power pole marked)
- 16G1- Intersection of county roads 6 (paved) and county road 79.
- 16G2- Intersection of County roads 80 and 70 at the Mt. Carmel Cumberland Presbyterian Church and Cemetery. (Power pole marked)
- 16H1- The western intersection of county rds. 6 and 113 at the Pope-Johnson county line. There is an old house with sheet metal roof and a rock retaining wall on the south side of the intersection. (Power pole is marked)
- 16H2- 1 mile north of County Road 70 on County Rd. 113. Where County Rd. 113 makes 90 degree turn. There are two mail boxes at the turn. One is Box 394. The road continues to the north but is not shown on the map.

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- 16I1- 2.2 miles east of Hwy. 359 on an eastwest dirt road (may be paved). Monitoring point is near a sheet metal barn and green frame house. (Power pole marked)
- 16I2- Intersection of county roads 81 and 80. 81 is being black topped and 80 runs north-south.
- 16J1- At the Madden Cemetery on west side of Hwy. 359. Cemetery is approx. 1.5 miles south of the one lane bridge across Big Piney Creek.
- 16J2- Piney Creek Ranch and Tree of Life Camp Grounds at south end of one lane bridge across Big Piney Creek on Hwy 359. (Power pole across Hwy 359 is marked)
- 16J3- On Pipeline Road, 1.6 miles west of 1J1 at an abandoned house with asphalt shingles. (Power pole marked)

TEAM DESIGNATION:

TEAM MEMBERS:

SPECIAL INSTRUCTIONS/PRECAUTIONS: _____

DATE: _____

<u>TIME:</u>	<u>LOCATION:</u>	<u>SURVEY TYPE:</u>	<u>INST. USED/ SERIAL #</u>	<u>SURVEY RESULTS/COMMENTS:</u>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

- 1) Location may be described by map coordinates (e.g., sector A-1, E-3, etc.) or by other readily identifiable points (e.g., intersection of Highway 64 and 333)
- 2) Survey Type =
 - 1) General Radiation Levels (mRem/hr)
 - 2) Airborne - particulates and/or iodine ($\mu\text{Ci/cc}$)
 - 3) Contamination Levels (dpm/100 cm^2)
 - 4) Other - specify
- 3) Reference other applicable Forms completed as portion of survey (e.g., 1905.031A) and describe survey conditions.

FORM TITLE:

OFFSITE SURVEY LOG/RECORD

FORM NO.

1905.002A

REV.

13

ARKANSAS NUCLEAR ONE

Survey Number _____

Sample Number _____

Collection Date/Time _____

Location _____

Sample Type _____

Quantity _____

Comments _____

By _____

Analysis Priority _____

Parameters _____ Conc.

_____ γ Spec.

Special Instructions _____

FORM TITLE:

SAMPLE LABEL

FORM NO.

1905.002B

REV.

13

Sample I.D.#: _____ Survey No: _____
Sample Type: _____ Quantity: _____
Location: _____ Analyst: _____
Laboratory: _____ Report Date/Time: _____
Collection Date/Time: _____ Received By: _____
Analysis Date/Time: _____

• • • • •

ISOTOPES

CONCENTRATION (pCi/)

[illegible]

FORM 1905.002D FOR RECORDS RETENTION.

FORM TITLE	FORM NO.	REV.
LABORATORY ANALYSIS REPORT	1905.002D	13

[illegible]

PREPARED BY _____

DATE/TIME _____

REVIEWED BY _____

DATE/TIME _____

RECEIVED BY _____

DATE/TIME _____

*Survey Location - As determined from the ANO 10 Mile EPZ Map or the ANO 1 Mile EPZ Map.

Survey Data Source (Check One):

ANO ☐

ADH ☐

*mRem/hr Iodine equivalent = $\mu\text{Ci/cc} \times 5.6 \text{ E8}$.

FORM TITLE:	FORM NO.	REV.
ANO/ADH SURVEY DATA REPORT	1905.002F	13

OFFSITE RADIATION MONITORING TEAM CHECKLIST

Page 1 of 2

NOTE

An inventory of the Emergency Kit is not required prior to use.

I. Perform/check the following items upon initial arrival at the EOF.

Team Designation _____
 Team Members (1) _____ (2) _____
 (3) _____ (4) _____

- ☐ 1. Dosimeters issued to Team Members
☐ 2. Respirators issued to Team Members. Extra respirators are in the EOF kit.
☐ 3. Pick-up a set of anti-contamination clothing for each field team member.
☐ 4. Pick-up hand-held radio (from EOF Emergency Kit)
☐ 5. Instruments:

	Serial No.	Batt Check	Source Check
RM-14	_____	<input type="checkbox"/>	<input type="checkbox"/>
E-530 or E-130	_____	<input type="checkbox"/>	<input type="checkbox"/>
PIC-6A	_____	<input type="checkbox"/>	<input type="checkbox"/>

- ☐ 6. Check fuel level (Fuel Key available in OSC Emergency Kit)
☐ 7. Air sampler checked for operation and flow indication
☐ 8. Radios tested - hand-held ☐ vehicle ☐
☐ 9. Reported to Offsite Monitoring Supervisor that team is ready for assignment

Date _____

Time _____

The above items have been performed, checked

Team Leader _____
 Signature _____ Date _____ Time _____

II. Perform/check the following items upon return to EOF or turn over to succeeding Offsite Monitoring team.

- ☐ 1. Equipment replaced in kit
☐ 2. Vehicle, equipment, and team member(s) monitored for contamination (Form 1905.002E)
☐ 3. Samples labeled and turned over to Offsite Monitoring Supervisor (or designee)
☐ 4. Team member doses recorded and turned over to Offsite Monitoring Supervisor (or designee)

FORM TITLE

OFFSITE RADIATION MONITORING TEAM CHECKLIST

FORM NO.

1905.002G

REV.

13

- ☐ 5. Paperwork complete and turned over to Offsite Monitoring Supervisor (or designee)
- ☐ 6. Handheld radio and vehicle key turned over to Offsite Monitoring Supervisor (or designee)
- ☐ 7. Turnover this completed form to the Offsite Monitoring Supervisor

The above items have been performed/checked.

Team Leader _____
Signature Date

Offsite Monitoring Supervisor _____
Signature Date

Form #1905.002G to be forwarded to Emergency Planning for Record Retention.

FORM TITLE: OFFSITE RADIATION MONITORING TEAM CHECKLIST	FORM NO. 1905.002G	REV. 13
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