NUREG-0336

ARKANSAS NUCLEAR ONE
UNIT NO. 2
TECHNICAL SPECIFICATIONS

APPENDIX "B"
TO
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NUREG-0336

ENVIRONMENTAL TECHNICAL SPECIFICATIONS

ARKANSAS NUCLEAR ONE

UNIT NO. 2

ARKANSAS POWER AND LIGHT COMPANY

JULY 1978

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1.0 DEFINITIONS

Environmental Samples Samples of soil, air, water, biota, or biological material collected outside of the plant building for the purpose of analysis.

Gamma Isotopic Analysis Identification of gamma emitters plus quantitative results for radionuclides attributable to the station that contribute a significant amount to the total activity of the sample.

Radiation Monitor Checks, Tests, and Calibration

a. check - Visual inspection of monitor readout.

b. Test - Use of check source to determine operability.

c. Calibrate - Use of known source to determine accuracy.

RTD Resistance Temperature Detector.

Standard Methods "Standard Method for the Examination of Water and Wastewater," 14th Edition, published by the American Public Health Association.

Station and Unit: Station refers to ANO Units 1 and 2. Unit refers only to ANO-1 or ANO-2 as defined by its usage.

2.0 LIMITING CONDITIONS FOR OPERATION

2.1 Non-Radiological

Not Applicable

2.2 Radiological

Applicability

Applies to the controlled release of radioactive liquids and gases from Arkansas Nuclear One (ANO), Unit No. 2.

Objective

To define the limits and conditions for the controlled release of radioactive effluents to the environs and to ensure that these releases are as low as reasonably achievable (ALARA). These releases should not result in radiation exposures in unrestricted areas greater than a few percent of natural background exposure. The release rate for all effluent discharges should be within the limits specified in 10 CFR Part 20.

To assure that the release of radioactive material to unrestricted areas meet the as-low-as reasonably achievable concept, the following objectives apply:

For liquid wastes:

a. The annual total quality of radioactive materials in liquid waste released to unrestricted areas, excluding tritium and dissolved gases, should not exceed 5 curies.

b. The annual doses to an individual from the site in unrestricted areas shall not exceed 5 mrem to the whole body or to any organ.

The annual average concentration of radioactive materials in liquid waste upon release from the Restricted Area, excluding tritium and dissolved noble gases, should not exceed 2×10^{-8} uCi/ml.

The annual average concentration of dissolved gases in liquid waste, upon release from the Restricted Area, should not exceed 2×10^{-6} uCi/ml.

For gaseous wastes:

a. Averaged over a yearly interval, the release rate of noble gases and other radioactive isotopes, except I-131 and particulate radioisotopes with half-lives greater than eight days, discharged from the station should result in a dose rate at the site boundary of less than 10 mrem to the whole body or any organ of an individual.

b. Averaged over a yearly interval, the release rate of I-131 and other particulate radioisotopes with half-lives longer than eight days discharged from the station, should result in a dose in the unrestricted area of less than 15 mrem to the thyroid of a child through the grass-cow-milk chain; and the total annual quantity of iodine-131 discharged from ANO-2 should not exceed 1 Ci.

2.2.1 Liquid Discharge

Specification

1. The rate of release of radioactive materials in liquid waste from the station shall be controlled such that

the instantaneous concentrations of radioactivity in liquid waste in the Restricted Area, do not exceed the values listed in 10 CFR 20, Appendix B, Table II, Column 2.

2. If the cumulative release of radioactive materials in liquid effluents, excluding tritium and dissolved gases, over a calendar quarter, exceeds 2.5 curies the Licensee shall:

   a. Make an investigation to identify the causes for such release rates;

   b. Define and initiate a program of action to reduce such release rates to the design levels; and,

   c. Notify the Commission within 30 days, identifying the causes and describing the proposed program of action to reduce such release rates.

3. The total release of radioactive liquid effluents, excluding tritium and dissolved gases, shall not exceed 10 curies during any calendar quarter.

4. During release of liquid radioactive waste, the following conditions shall be met:

a. The effluent control monitor shall be set to alarm and automatically close the waste discharge valves such that the requirements of Specification 2.2.1 are met; and,

b. The gross liquid waste activity and flow rate shall be continuously monitored and recorded during release. If this reqirement cannot be met, continued release of liquid effluents shall be permitted only during the succeeding 48 hours provided that during this 48 hour period, two independent samples of each tank shall be analyzed and two station personnel shall independently check valving prior to the discharge.

5. The equipment installed in the liquid radioactive waste system shall be maintained and operated to process all liquids prior to their discharge when it appears that the projected cumulative discharge rate excluding tritium and dissolved noble gases, released during any calendar quarter will exceed 1.25 curies.

6. The maximum activity to be contained in one liquid radwaste tank that can be discharged directly to the environs shall not exceed 10 curies.

Monitoring Requirements

1. Facility records shall be maintained of the radioactive concentrations and volume before dilution of each batch of liquid effluent released, and

of the average dilution flow and length of time over which each discharge occurred.

2. Prior to release of each batch of liquid effluent, a sample shall be taken from that batch and analyzed in accordance with Table 2-1 to demonstrate compliance with Specification 2.2.1.

3. Radioactive liquid waste sampling and activity analysis shall be performed in accordance with Table 2-1.

4. The liquid effluent radiation monitors shall be calibrated at least quarterly by means of a known radioactive source. Each monitor shall be tested monthly and when discharging checked daily.

5. The performance of automatic isolation valves and discharge tank selection valves shall be checked annually.

Bases

Releases of radioactivity in liquid wastes within the design objective levels provide reasonable assurance that the resulting annual exposure from liquid wastes to the whole body or any organ of an individual will not exceed 5 mrem per year. At the same time the Licensee is permitted the flexibility of operation, compatible with considerations of health and safety,

to assure that the public is provided a dependable source of power under unusual operating conditions which may temporarily result in releases higher than the design objective levels but still within the concentration limits specified in 10 CFR 20. It is expected that using this operational flexibility under unusual operating conditions, the Licensee shall exert every effort to keep levels of radioactive material as low as reasonably achieveable and that annual releases will not exceed a small fraction of the annual average concentration limits specified in 10 CFR 20.

2.2.2 Gaseous Discharge Specification

1. When the release rate of radioactive materials in gaseous wastes, averaged over a calendar quarter exceeds 4% of 2.2.2.3.a or 2% of 2.2.2.3.b, the licensee shall notify the Commission within 30 days, identifying the causes of the excessive activity, and describe the proposed program of action to reduce such releases to design objective levels.
2. The maximum activity to be contained in one Waste Gas Decay Tank shall be limited to 15,480 Ci.

3. a. The rate of release of radioactive materials and gaseous wastes from the station (except I-131 and particulate radioisotopes with half-lives greater than eight days) averaged over any one-hour period shall not exceed:

$$\Sigma \frac{Qi}{6.7 \times 10^4 \frac{m^3}{sec} \quad (MPC)i} \leq 1$$

Where Qi is the release rate in Ci/sec for isotope i and (MPC)i is the maximum permissible concentration of isotope as defined in Appendix B, Table II, Column 1, 10 CFR Part 20.

b. The release rate of I-131 and particulates with half-lives greater than eight days released to the environs from the station, as part of airborne effluents shall not exceed 0.96 uCi/sec.

4. a. The release rate of gross gaseous activity shall not exceed 16 % of the values specified in 2.2.2.3.a, when averaged over a calendar quarter.

b. The release rate of I-131 and particulates with half-lives greater than eight days shall not exceed 8% of the values specified in 2.2.2.2.b when averaged over a calendar quarter.

5. During release of radioactive gaseous wastes from the gaseous waste discharge header to the plant ventilation exhaust plenum, the following conditions shall be met:

   a. The gaseous radioactivity monitor, iodine and the particulate samplers in the plant vents shall be operating; and

   b. Automatic isolation devices capable of limiting gaseous release rates to within the values specified in 2.2.2.3.a shall be operating.

6. During containment purge, the effluent control monitor shall be set to alarm and automatically close the containment purge penetrations on a high activity alarm.

7. Gases discharged through the unit vent to the atmosphere shall be continuously monitored and recorded for gross (β,γ) activity.

Whenever these monitors are inoperable, appropriate grab samples shall be taken and analyzed each shift.

Monitoring Requirement

1. Radioactive gaseous waste sampling and analysis shall be performed in accordance with Table 2-1.

2. All waste gas monitors shall be calibrated at least quarterly by means of a known radioactive source. Each monitor shall have an instrument channel test at least monthly and when discharging checked at least daily.

3. During power operation, the condenser vacuum pump discharge shall be continuously monitored for gross radiogas activity. The monitor shall not be inoperable for more than 7 days. Whenever this monitor is inoperable, grab samples shall be taken and analyzed for gross (β,γ) radioactivity daily.

4. Records shall be maintained and reports of the sampling and analysis results shall be submitted in accordance with Specification 5.6.

5. The Waste Gas Decay Tank effluent monitor shall be tested prior to any release of radioactive gas from a decay tank and shall be calibrated at least once every 18 months.

Bases:

It is expected that the releases of radioactive materials and gaseous wastes will be kept within the design objective levels and will not exceed on an instantaneous basis the dose rate limits specified in 10 CFR 20.

These levels provide reasonable assurance that the resulting annual exposure from noble gases to the whole body or any organ of an individual will not exceed 10 mrem per year. At that same time the Licensee is permitted the flexibility of operation, compatible with considerations of health and safety, to assure that the public is provided a dependable

source of power under unusual operating conditions which may temporarily result in releases higher than the design objective levels but still within the concentration limits specified in 10 CFR 20. It is expected that using this operational flexibility under unusual operating conditions, the Licensee shall exert every effort to keep levels of radioactive materials and gaseous wastes as low as reasonably achievable and that annual releases will not exceed a small fraction of the annual average concentration limits specified in 10 CFR 20. These efforts shall include consideration of metorological conditions during releases.

TABLE 2-1
MINIMUM SAMPLING FREQUENCY

Item	Check	Frequency	Analysis in Lab(3)
1. Boric Acid condensate Tanks, Waste Condensate Tank. Regenerative Waste Tanks (5) Turbine Building Sump(6)	a. Gamma isotopic analysis	a. Prior to release of each batch	a. Gamma Nuclides 5×10^{-7} uCi/ml (4)
	b. Radiochemical analysis Sr-89,90	b. Sr-89 Quarterly Composite Sr-90 Quarterly Composite	b. 5×10^{-8} uCi/ml
	c. Dissolved Noble Gases	c. 1 Batch/Month	c. Dissolved Gases 10^{-5} uCi/ml
	d. Tritium	d. Monthly Proportional Composite(2)	d. 10^{-5} uCi/ml
	e. Ba-La-140, I-131	e. Weekly Proportional Composite (2)	e. 10^{-6} uCi/ml
	f. Gross Alpha Activity	f. Monthly Proportional Composite	f. 10^{-7} uCi/ml
2. Waste Gas Decay Tank	a. Gamma Isotopic Analysis	a. Prior to release of of each batch	a. 10^{-4} uCi/ml
	b. Tritium	b. Prior to release of each batch	b. 10^{-6} uCi/ml
3. Unit Vent Sampling	a. I-131(1)	a. Weekly Composite	a. 10^{-12} uCi/ml
	b. I-133 I-135	b. Monthly Composite	b. 10^{-10} uCi/cc
	c. Particulates(3) 1) Gross Alpha Activity	1) Quarterly on Weekly Sample	1) 10^{-11} uCi/cc

TABLE 2-1

(Continued)

Item	Check	Frequency	Analysis in Lab (3)
	2) Gamma Isotopic Analysis	2) Biweekly Composite	2) 10^{-11} uCi/cc
	3) Radiochemical Analysis Sr-89, 90	3) Quarterly Composite	3) 10^{-11} uCi/cc
	4) Ba-La-140, I-131	4) Weekly	4) 10^{-10} uCi/cc
	d. Gases		
	1) Tritium	2) Monthly	2) 10^{-6} uCi/cc
4. Containment Purge	a. Gamma Isotopic Analysis	a. Each Purge	a. 10^{-4} uCi/cc
	b. Tritium	b. Each Purge	b. 10^{-6} uCi/cc
5. Condenser Vacuum Pump	a. Gamma Isotopic Analysis	a. Monthly grab sample	a. 10^{-4} uCi/cc
	b. Tritium	b. Monthly grab sample	b. 10^{-6} uCi/cc

TABLE 2-1

(Continued)

(1) When activity level of I-131 exceeds 10 percent of the limits of Specification 2.2.2.3.b, the sampling frequency shall be increased to a minimum of once each day. When the gross activity release rate exceeds one percent of maximum release rate specified in Specification 2.2.2.3.a and the average gross activity release rate increases by 50 percent over the previous day, an analysis shall be performed for iodines and particulates.

(2) A proportional sample is one in which the quantity of liquid sampled is proportional to the quantity of liquid waste discharged from the plant.

(3) The detectability limits for activity analysis are based on the technical feasibility and on the potential significance in the environment of the quantities released. For some nuclides, lower detection limits may be readily achievable and when nuclides are measured below the stated limits, they should also be reported.

(4) For certain mixtures of gamma emitters, it may not be possible to measure radionuclides in concentrations near their sensitivity limits when other nuclides are present in the sample in much greater concentrations. Under these circumstances, it will be more appropriate to calculate the concentration of such radionuclides using observed ratios with those radionuclides which are measurable.

(5) Analyses of the Regenerative Waste Tanks is required when there is primary-to-secondary system leakage. The absence of leaks is verified by measurements indicating a gross activity (beta and gamma) of less than 10^{-5} uCi/ml in the regenerative waste effluents.

(6) Analysis of the turbine building sumps is not applicable when there are no primary-to-secondary system leaks. The absence of leaks is verified by measurements indicating a gross activity (beta and gamma) of less than 10^{-5} uCi/ml in the secondary coolant.

3.0 ENVIRONMENTAL SURVEILLANCE

3.1 Surveillance for ANO

The surveillance program associated with ANO-1 (Docket No. 50-313) operation provides an examination of the adequatic ecosystem of Lake Dardanelle in the Vicinity of the plant as well as providing information on air, precipitation, ground water, soil, vegetation and milk by radiological analysis of samples in the area of the plant. That program will provide adequate information for ANO-2 operation and shall be carried out at all times that the ANO-2 Environmental Technical Specifications apply.

3.2 Additional Environmental Surveillance for Unit 2

3.2.1 Dilution of ANO-2 Discharges During ANO-1 Outages

Objective:

To assure that waste streams from Unit 2 are diluted before entering the discharge embayment on Dardanelle Reservoir.

Environmental Monitoring Requirements When Unit 2 is making discharges during Unit 1 outages, the licensee will record the number of Unit 1 circulating pumps in operation. Unit 2 releases and Unit 1 circulating water pump operation during Unit 1 outages shall be summarized, and reported in accordance with Subsection 5.6.1.

Action:

A non-routine report, as specified in Subsection 5.6.2.b, shall be made if less than two Unit 1 circulating water pumps are operated while Unit 2 releases or discharges are occurring.

Bases:

Unit 2 circulating water is concentrated by evaporation to a concentration factor ranging from 3 to 14 (FES p. 5-2). In order to minimize impact of the blowdown during Unit 1 outages, and to minimize impact of other low volume discharges and of waste heat from Unit 2 during such outages, a minimum dilution flow equivalent to one-half (approximately 383,000 gpm) the full-flow of the Unit 1 circulating water pumps should be maintained during all Unit 2 releases or discharges (FES p.5-2).

3.2.2 Chemical Release Inventory

Environmental Monitoring Requirement

1. The chemicals used at the station, excluding chemicals used in station laboratories, shall be tabulated from station inventory and operating records. The tabulation shall indicate the chemical name, the amount of chemical used during the report period, and a qualitative description of the chemical release.
2. The licensee shall estimate to the amount practicable the types, amounts, duration, and timing of chemical discharges from Unit 2 to the receiving waters. The number, dates, and average duration of the releases for each chemical shall be summarized over the smallest discrete usage interval practical and tabulated.

This monitoring program shall commence at initial attainment of normal operation (operation at greater than 2% of rated thermal power) of Unit 2 subsequent to issuance of the operating license and shall continue until approval for termination or modification of this monitoring requirement is obtained from NRC as per Subsection 5.7.1.

Action:

1. The results of the Environmental Monitoring Program under paragraph 1 above shall be reported in accordance with Subsection 5.6.1. If the discharge of a chemical is greater than that addressed in the FES or subsequent NRC Environmental Impact Appraisals, an evaluation of the environmental impact of the discharge shall be included in the annual report.
2. Maintain the information documented by the Environmental Monitoring Program under paragraph 2 above in station records and report with evaluations provided in the annual report as required by item 1.

Bases:

Documentation of the chemical releases from the station will enable the NRC to determine whether the facility is being operated, with respect to chemical use and discharge, in the

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manner evaluated in the Environmental Statement. This program also is required by the NRC for evaluation of unusual occurrences revealed by other programs conducted under these ETS.

Spent chemical reagents from the chemical laboratories are not to be included in the reporting requirement because of their small quantities and insignificant concentrations in the liquids released.

3.3 Aerial Remote Sensing

Objective

Vegetation communities of the site and vicinity shall be aerially photographed annually to detect and assess the significance of damage, or lack thereof, as related to cooling tower drift dispersions.

Environmental Monitoring Requirements

Photography shall be done by aerial overflight. Aerial photography shall be conducted once per year during late summer or early fall. Timing of aerial photography and ground truthing should be selected to coincide with periods of maximum predicted drift deposition damage, preferably from August 15 to September 15, meteorological conditions permitting. This surveillance program shall commence at initial criticality of Unit 2 and shall continue for two years.

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One of the following aerial photographic techniques shall be utilized:

Color infrared photography.

Multispectral or multiband photography.

Selection of either or both of the above techniques shall include the following parameter:

The scale for full coverage shall be adequate to enable identification of vegetative damage over relatively small areas of terrain. Some circumstances may warrant inspection of photographs discerning individual trees. Such scale should be in the interval between 1:1000 and 1:10,000 as appropriate to resolve impacted features.

Photographic interpretations which indicate vegetation stress shall be supplement by ground truthing for purposes of verification of results and interpretation.

Action:

Description of the program, results, and interpretive analyses of environmental impacts shall be reported in accordance with Section 5.6.1. Results reported shall contain but not be limited to: Sampling date; time of day; film type(s); spectral band(s); and scale.

Bases

The environmental assessments, as defined in the FES-OL of 1977 (Section 5.4.1.1 and 6.4.), determined that the Arkansas Nuclear One-Unit 2 cooling tower will not cause any unacceptable

damage to onsite or offsite vegetation. This program will verify that the cooling tower will have no adverse effects on the surrounding vegetation. Reconnaissance and aerial photographic inspection of biota in the drift field is the means recommended for detection of possible adverse effects of drift.

Such adverse effects may most often be associated with either episodic high level dosages of chlorine or chronic low level chlorine dosages. Aerial photography will monitor and record the presence or absence of vegetative effects due to cooling tower drift deposition.

4.0 SPECIAL STUDIES

4.1 Unusual or Important Environmental Events - Excessive Bird Impaction Events

Objective:

To detect and report large scale episodic occurrences of bird impaction events on cooling tower structures, if any.

Environmental Monitoring Requirement

The licensee shall be alert to excessive bird impaction events on cooling tower structures (FES-OL Section 6.4).

This special requirement shall commence with the date of issuance of the operating license for Unit 2 and continue for 2 years. (See Appendix 4.1.A)

Action:

Should an excessive bird impaction event occur the licensee shall make a prompt report to the NRC in accordance with the provisions of Subsection 5.6.2.a.

Bases:

Prompt reporting to the NRC of unusual or important events as described above is necessary for responsible and orderly regulation of the nation's system of nuclear power reactors. Prompt knowledge and action may serve to alleviate the magnitude of the environmental impact or to place it into a perspective broader than that available to the licensee (FES-OL, Section 11.1.5). The information thus provided may be useful

or necessary to others concerned with the same environmental resources. NRC also has an obligation to be responsive to inquiries from the public and the news media concerning potentially significant environmental events at nuclear power stations.

5.0 ADMINISTRATIVE CONTROLS

5.1 Responsibility

Corporate responsibility for implementation of the Environmental Technical Specifications, and for assuring that station operations are controlled to provide protection for the environment has been assigned to the Executive Director of Generation and Construction.

The ANO Plant Manager, through the Assistant Plant Manager, and Technical Support Engineer shall be responsible for compliance with the Environmental Technical Specifications at the plant level.

The Manager of Technical Analysis shall be responsible for radiological analysis of environmental samples.

5.2 Organization

Figure 5-1 shows the organization chart at both plant and corporate levels relative to environmental matters.

5.3 Review

5.3.1 Plant Safety Committee

The Plant Safety Committee (PSC) shall be responsible for review of the following:

a. Proposed changes to the Environmental Technical Specifications and the evaluated impact of the changes.

b. Proposed written procedures, as described in Specification 5.5, and proposed changes thereto which affect the plant's environmental impact.

c. Proposed changes or modifications to plant systems or equipment which would affect the plant's environmental impact.

d. Results of the Environmental Monitoring Programs.

e. Investigation of all reported instances of violations of Environmental Technical Specifications. Where investigation Warrants, instances shall be evaluated and recommendations formulated to prevent recurrence.

5.3.2 Safety Review Committee

The Safety Review Committee (SRC) shall be responsible for review of the following:

a. The environmental evaluations for 1) changes to procedures, equipment or systems and 2) tests or experiments completed under Section 5.7.3, to verify that such actions did not constitute an unreviewed environmental question.

b. Proposed changes to procedures, equipment or system which involve an unreviewed environmental question as defined in Section 5.7.3.B.

c. Proposed changes to the Environmental Technical Specifications and the evaluated impact of the changes.

d. Results of the Environmental Monitoring Programs.

e. Investigation of all reported instances of violations of Environmental Technical Specifications.

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5.4 State and Federal Permits and Certificates

Copies of reports to federal and state agencies regarding compliance of limitations on quality of liquid effluent from ANO-2 shall be sent to Director of Regional Inspection and Enforcement Office (cc Director, NRR).

5.5 Procedures

Detailed written procedures shall be prepared and followed for all activities performed by Arkansas Power and Light involved in carrying out the sampling, instrument calibration, analysis, and actions to be taken when limits are approached or exceeded. Testing frequency of any alarms shall be included. These frequencies shall be determined from experience with similar instruments in similar environments and from manufacturers' technical manuals.

Plant standard operating procedures shall include provisions to ensure the plant and all its systems and components are operated in compliance with the limiting conditions for operations established as part of the environmental technical specifications.

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5.6 Station Reporting Requirements

5.6.1 Routine Reports

Annual Environmental Operating Report

A single report on the environmental monitoring programs conducted in association with ANO-1 (Docket No. 50-313) and ANO-2 (Docket No. 50-368) operations for the previous calendar year shall be submitted to the NRC by May 1 of each year. The report shall include summaries, analyses, interpretations, and, where appropriate, statistical evaluation of the results of the environmental monitoring and an assessment of the observed impacts of the station operation on the environment. If harmful effects or evidence of irreversible damage are suggested by the monitoring or special programs, the licensee shall provide a more detailed analysis of the data and a proposed course of action to alleviate the problem.

The Annual Report shall also include a summary of:

1) All ETS noncompliances and the corrective actions taken to remedy them.
2) Changes made to state and federal permits and certificates.
3) Changes made to the procedures or design described in accordance with Subsection 5.7.3.
4) Changes in ETS.

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5.6.2 Nonroutine Reports

A report shall be submitted in the event that a "Limiting Condition for Operation" (Section 2), is exceeded, a report level as specified in Section 3, "Environmental Monitoring," is reached or if an "Exceptional Occurrence" as specified in Section 4 occurs. Reports shall be submitted under one of the report schedules described below.

5.6.2.a Prompt Report

Those events specified as prompt report occurrences shall be reported within 24 hours by telephone, telegraph, or facsimile transmission to the NRC followed by a written report to the NRC within 30 days.

5.6.2.b Thirty Day Report

Non-routine events not requiring a prompt report as described in Subsection 5.6.2.a, shall be reported to NRC within 30 days of their occurrence.

5.6.2.c Content of Non-routine Reports

Written 30-day reports and, to the extent possible, the preliminary telephone, telegraph, or facsimile reports shall (a) describe, analyze, and evaluate the occurrence, including extent and magnitude of the impact, (b) describe the cause of occurrence, and (c) indicate the corrective action (including any significant changes made in procedures) taken to preclude repetition of the occurrence and to prevent similar occurrences involving similar components or systems.

5.7 Changes

5.7.1 Changes in Environmental Technical Specifications

Request for changes in environmental technical specifications shall be submitted to the NRC for review and authorization per 10 CFR 50.90. The request shall include an evaluation of the environmental impact of the proposed changes and a supporting justification.

5.7.2 Changes in Permits and Certifications

Changes or additions to required Federal, State, local, and regional authority permits and certificates for the protection of the environment that pertain to the requirements of these ETS shall be reported to the NRC within 30 days. In the event that the licensee initiates or becomes aware of a request for changes to any of the water quality requirements, limits or values stipulated in any certification or permit issued pursuant to Section 401 or 402 of PL 92-500 which is also the subject of an ETS reporting requirement under Section 2, 3 or 4 of this ETS, NRC shall be notified within 30 days. If the proposed change is initiated by the licensee, the notification to the NRC shall include an evaluation of the environmental impact of the revised requirement, limit or value being sought.

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5.7.3 Changes in Procedures, Station Design or Operation

A. The licensee may 1) make changes in the station design and operation, 2) make changes in the procedures described in Subsection 5.5. and 3) conduct tests and experiments not described in accordance with Subsection 5.5, without prior Commission approval, unless the proposed change, test or experiment involves a change in the objectives of the ETS, or an unreviewed environmental question of substantive impact.

B. A proposed change, test or experiment shall be deemed to involve an unreviewed environmental question if it concerns 1) a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the final environmental impact statement as modified by staff's testimony to the Atomic Safety and Licensing Board, supplements thereto, environmental impact appraisals, or in initial or final adjudicatory decisions; or 2) a significant change in effluents or power level as specified in 10 CFR 51.5(b)(2); or 3) a matter not previously reviewed and evaluated in the documents specified in 1) of this section which may have a significant adverse environmental impact.

C. The licensee shall maintain records of changes in procedures and in facility design or operation made pursuant to this Subsection, to the extent that such changes constitute changes

in procedures as described in accordance with Subsection 5.5. The licensee shall also maintain records of tests and experiments carried out pursuant to paragraph "A" of this Subsection. These records shall include a written evaluation which provides the bases for the determination that the change, test, or experiment does not involve an unreviewed environmental question of substantive impact or constitute a change in the objectives of these ETS. The licensee shall furnish to the Commission, annually or at such shorter intervals as may be specified in the license, a report containing descriptions, analyses, interpretations, and evaluations of such changes, tests and experiments.

5.7.4 NRC Authority to Require Revisions

The NRC may require modification or revisions of changes made by the licensee as a result of NRC reviews of the results of these programs, if such modifications or revisions are judged necessary to maintain consistency with the initially approved programs or with the intent of these ETS. The NRC may also require modifications or revisions of procedures and programs as a result of changes in station operation or changes in environmental conditions or concerns associated with station operation.

5.8 Records Retention

5.8.1 Records and logs relative to the following areas shall be retained for the life of the plant:

a. Records and drawing changes reflecting plant design modifications made to systems and equipment as described in Specification 5.6.3.

b. Records of environmental surveillance data.

c. Records to demonstrate compliance with the limiting conditions for operation in Section 2.

5.8.2 All other records and logs relating to the environmental technical specifications shall be retained for five years.

5.9 Special Requirements

The ANO-2 transmission line rights-of-way have low growing species of cedar, sumac, oak and shrubs as a screen and to assist with erosion control.

Planting of grass and clover shall be carried out to further prevent erosion. Further plantings of game food and clover shall be made in cooperation with landowners and the Arkansas Game and Fish Commission. No herbicides shall be used for land management on transmission line right-of-way.

The grounds in the immediate vicinity of the plant building shall be landscaped. Remaining portions of the plant site shall be allowed to remain in their present wild state with the exception of the area on which the visitors center will be located. This area is located approximately 0.7 miles north east of the Containment on a hill overlooking the plant.

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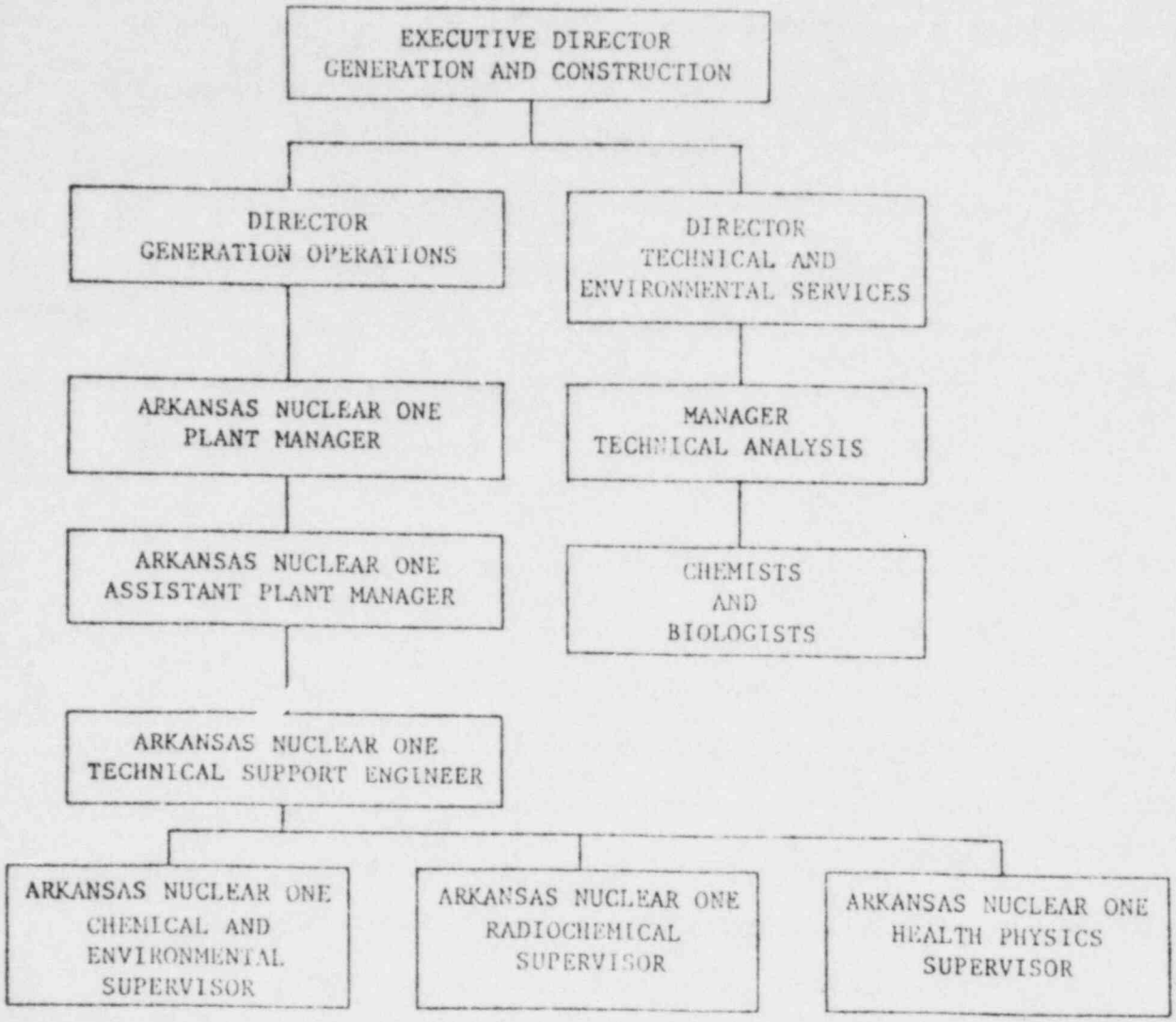

ARKANSAS POWER & LIGHT CO. ARKANSAS NUCLEAR ONE	ENVIRONMENTAL SURVEILLANCE ORGANIZATION CHART	FIG. NO. 5-1

APPENDIX 4.1.A

DESCRIPTION OF BIRD COLLISION MONITORING
ON ANO-2 COOLING TOWER

The objective of this program will be to detect and assess large scale, episodic events of important game birds colliding with the ANO-2 cooling tower during their migratory seasons.

The area around the base of the cooling tower out to the far edge of the surrounding road will be surveyed for dead birds twice weekly during the period October 15 to April 15.

A log will be kept and entries made each day the survey is conducted. Information including, but not limited to, species found, the compass quadrant in which they were found, general meteorological conditions, (e.g., clear, overcast) and the number of each species found will be recorded in the log.

All recorded information will be reported to the NRC in accordance with Section 5.6.1 of the Environmental Technical Specifications.

If 20 birds are found, the survey will be extended to include all areas within 50 feet of the cooling tower basin. If a total of 100 birds in one day's survey are found, a prompt report in accordance with Environmental Technical Specification 5.6.2.a will be made.

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