



**DIVISION OF  
ENVIRONMENTAL QUALITY**

Sarah Huckabee Sanders  
GOVERNOR

Shane E. Khoury  
SECRETARY

12/13/2023

Ms. Leslie E. Fuerschbach ([lefuerschbach@aep.com](mailto:lefuerschbach@aep.com))  
Southwestern Electric Power Company (SWEPCO)  
502 North Allen Avenue Shreveport, LA 71101

**Re: Issuance of Final Minor Permit Modification**  
**SWEPCO – John W. Turk, Jr. Power Plant, Class 3N Landfill**  
**Permit No: 0311-S3N-R1; AFIN: 29-00506**  
**Document ID: 84943; Reference Document ID: 84575**

Dear Ms. Fuerschbach:

The Division of Environmental Quality Office of Land Resources (DEQ) has decided to issue a final minor permit modification at the SWEPCO-John W. Turk, Jr. Power Plant, Class 3N Landfill. This permit modification reflects the revised Hazardous Waste Exclusion Plan and Operating Plan received in the minor permit modification application (Document ID 84575) which incorporates a new waste stream (spent catalyst plates) for disposal in the Class 3N landfill. Please find enclosed the final Permit 0311-S3N-R1. The monitoring parameters listed in Site Specific Condition 21 were revised to include Vanadium and Tungsten.

If you have any questions, or if we may be of service, please feel free to contact Greg Banic at (501) 682-0040 or [greg.banic@adeq.state.ar.us](mailto:greg.banic@adeq.state.ar.us).

Sincerely,

A handwritten signature in black ink, appearing to read "Jarrod Zweifel".

Jarrod Zweifel, P.G.  
Associate Director, Division of Environmental Quality

Enclosures: Permit  
Permit Summary and Rationale/Statement of Basis

CC: DEQ – Jones, Hurt, Krou, Greenwood, and Banic  
Tony Bardella, Terracon ([tony.bardella@terracon.com](mailto:tony.bardella@terracon.com))  
Dave McCormick, P.E., Terracon ([Dave.McCormick@terracon.com](mailto:Dave.McCormick@terracon.com))

**PERMIT  
FOR THE CONSTRUCTION AND OPERATION OF A  
SOLID WASTE DISPOSAL FACILITY  
ISSUED BY  
STATE OF ARKANSAS  
DIVISION OF ENVIRONMENTAL QUALITY  
OFFICE OF LAND RESOURCES**

**Class 3N Landfill**

Permit Number:	0311-S3N-R1
AFIN:	29-00506
Effective Date:	December 13, 2023
Original Issue Date:	July 15, 2011
Modifications:	June 29, 2018 (Minor Modification)
Permit Owner and Address:	Southwestern Electric Power Company (SWEPCO) 502 North Allen Avenue Shreveport, LA 71101
Facility Site Name and Address:	SWEPCO – John W. Turk, Jr. Power Plant 3711 Highway 3555, Fulton, AR 71838
Location:	General: About 4 miles north of Fulton, Arkansas in Hempstead County, Arkansas)  Power Plant: 2,800 acre site: Both sides of Hwy 355, T12S, R26W, portions of S32 and S33; T13S, R26W portions of S4 thru S9 and S16 thru S20; T13S, R27W, portions of S13 and S24.  Landfill site: T12S, R26W portions of S8 and S9. Lat: N 33 deg, 38', 59"; Long: W 93 deg, 48', 44"

This permit authorizes the construction and operation of the Class 3 N landfill as set forth in the permit application prepared by Southwestern Electric Power Company (SWEPCO), hereafter called "owner" or "permittee".

This minor permit modification was originally completed through a document furnished by the applicant on September 5, 2023 (DOC ID # 84575). The application was submitted to add a new waste stream (spent catalyst plates) for disposal in the landfill.

This permit is issued pursuant to the provisions of the Arkansas Solid Waste Management Act (Arkansas Code Annotated 8-6-201 et seq.) as amended, hereinafter called the "Act;" Rule No. 22, Arkansas Solid Waste Management Rules, as adopted by the Arkansas Pollution Control and Ecology Commission, hereinafter called "APC&EC Rule No. 22;" and all other applicable rules and regulations administered by the Division of Environmental Quality, hereinafter called "Division", and the following terms and conditions:

### **DESCRIPTION OF THIS PERMIT ACTION**

This minor permit modification pertains to the addition of a new waste stream (spent catalyst plates) for disposal in the landfill.

### **SITE SPECIFIC PERMIT CONDITIONS**

1. The permit will expire when the disposal area described in the final engineering plans for Cell 1 through Cell 5 have been filled to design capacity and is closed out in accordance with the approved closure and post-closure plans and provisions of APC&EC Rule No. 22. The final grades and elevations shown on the approved plans, which include components of the final cover system, shall not be exceeded in anticipation of settlement and consolidation of the waste mass.
2. The approved permit plans for the facility are as follows: (from Document ID 68754 and Document ID 73227)

<b>Drawing Number</b>	<b>Date</b>	<b>Title</b>	<b>Revision</b>
<b>1-30STE900</b>	12-17-2015	Preparation Abbreviations	1
<b>1-30STE901</b>	12-17-2015	Key Plan, Drawing Index, and General Notes	2
<b>1-30STE902</b>	12-17-2015	Bench Marks & Piezometers	1
<b>1-30STE903</b>	12-17-2015	Leachate Collection Excavation and Grading Plan	2
<b>1-30STE904</b>	12-17-2015	Typical Sections and Details	2
<b>1-30STE905</b>	12-17-2015	Disposal Cell 1 Excavation & Grading	1
<b>1-30STE906</b>	12-17-2015	Disposal Cell 1 Final Grading & Cover	1
<b>1-30STE907</b>	12-17-2015	Disposal Cell 2 Excavation & Grading	1
<b>1-30STE908</b>	12-17-2015	Disposal Cell 2 Final Grading & Cover	1
<b>1-30STE909</b>	12-17-2015	Disposal Cell 1 Cross Sections	2
<b>1-30STE910</b>	12-17-2015	Disposal Cells 1 & 2 Cross Sections	2
<b>1-30STE911</b>	12-17-2015	Typical Sections and Details	2
<b>1-30STE912</b>	12-17-2015	Typical Sections and Details	3
<b>1-30STE913</b>	12-17-2015	Typical Sections and Details	1
<b>1-30STE914</b>	12-17-2015	Disposal Cell 3 Excavation & Grading	0
<b>1-30STE915</b>	12-17-2015	Disposal Cell 3 Final Grading & Cover	1
<b>1-30STE916</b>	12-17-2015	Cross-Section All Cells	2
<b>1-30STE917</b>	12-17-2015	Disposal Cell 4 Excavation & Grading	1

<b>1-30STE918</b>	12-17-2015	Disposal Cell 4 Final Grading & Cover	1
<b>1-30STE919</b>	12-17-2015	Disposal Cell 5 Excavation & Grading	1
<b>1-30STE920</b>	12-17-2015	Disposal Cell 5 Final Grading & Cover	1
<b>1-30STE921</b>	12-17-2015	Cross Sections Cells 1 & 2	2
<b>1-30STE922</b>	12-17-2015	Cross Sections 3 - 5	2
<b>1-30STE923</b>	12-17-2015	Disposal Cells 1 & 2 Profiles	A
<b>1-30STE924</b>	12-17-2015	Disposal Cells 1, 2 & 3 Profiles	A
<b>1-30STE925</b>	12-17-2015	Disposal Cell 1 UG Systems Plan	A
<b>1-30STE926</b>	12-17-2015	Disposal Cell 2 UG Systems Plan	A
<b>1-30STE927</b>	12-17-2015	Disposal Cell 3 UG Systems Plan	A
<b>1-30STE928</b>	12-17-2015	Disposal Cell 4 UG Systems Plan	A
<b>1-30STE929</b>	12-17-2015	Disposal Cell 5 UG Systems Plan	A
<b>1-30STE930</b>	12-17-2015	Stormwater Management Plan	-
<b>1-30STE931</b>	12-17-2015	Chimney Drain & Stormwater Details	-
<b>1-30STE932</b>	12-17-2015	Makeup & Wastewater Pond DWG Index & General Notes	4
<b>1-30STE933</b>	12-17-2015	Makeup & Wastewater Pond Excavation & Grading Plan	5
<b>1-30STE934</b>	12-17-2015	Makeup & Wastewater Pond Sections and Notes	7
<b>1-30STE935</b>	12-17-2015	Makeup WW & Leachate Pond Access RD Plan & Sec's	6
<b>1-30STE936</b>	5-23-2018	Leachate Collection Pond (Document ID 73227)	1
<b>1-30STE937</b>	12-17-2015	Leachate Collection Pond Sections & Notes	5
<b>1-30STE938</b>	12-17-2015	Makeup & Wastewater Pond U/G Systems Plan	0
<b>1-30STE939</b>	12-17-2015	Sumps, Plans, and Sections	3
<b>1-30STE940</b>	12-17-2015	Leachate Sump Plan and Sections	C

3. The facility is permitted for 6,884,235 cubic yards of solid waste disposal including daily and intermediate cover material.
4. This permit is for the disposal of solid waste generated by Southwestern Electric Power Company at the John W. Turk, Jr. Power Plant. The authorized waste streams include bottom ash, economizer ash, fly ash (including flue gas desulfurization (FGD) waste ash), scrubber waste, waste coal, coal mill rejects, cooling tower sediments, cooling water screenings, construction and demolition debris, sump pit sediments, make-up water treatment sediment, fire brick and refractory materials, non-hazardous sand blast media, sediments from dredging operations, water treatment systems sediments, sand filter media, waste lime, waste activated carbon, demineralizer resins, box liners, bag filters, spent catalyst plates.
  - a. Additional waste items not mentioned above may be authorized by the Division for disposal at the facility on a case-by-case basis when requested by the permittee.

- b. Regulated PCBs and PCB items as defined in 40 CFR 761 or “Hazardous waste” as defined by APC&EC Rule No. 23 are not authorized for disposal in the facility.

All disposed materials or waste streams and their volumes shall be reported in the annual report that is to be submitted to the Office of Land Resources.

- 5. The permittee is exempted from implementing a routine methane monitoring program unless the Division determines that:
  - a. The nature and quantity of waste poses a significant potential for the generation of explosive gases; or
  - b. Explosive gases have been detected in concentrations exceeding the standards identified in APC&EC Rule 22.514 (a).
- 6. Salvage of disposed bottom and fly ash material for recycling purposes is authorized by the Division under the following conditions:
  - a. An area has been designated by the permittee for recovery of salvageable material.
  - b. The operations do not interfere with or otherwise delay the activities of the disposal working face.
  - c. The recovery of salvageable material must be conducted in an orderly manner and do not harm human health and the environment.
  - d. All salvaged material is removed from the landfill site daily, or properly stored so that they do not create a nuisance or unsightly appearance.

Salvage is otherwise prohibited in accordance with General Condition No. 33.

- 7. The permittee is granted an exemption from the minimum daily cover requirements contained in APC&EC Rule 22.512(a) provided that the exemption will control disease vectors, fires, odors, blowing litter, scavenging, and causes no harm to human health or the environment. However, the Division reserves the right to rescind this exemption if deemed necessary to provide for the control of disease vectors, fires, odors, blowing litter, scavenging, or to prevent harm to human health or the environment. APC&EC Rule 22.512(b) requires a compacted layer of cover soil of sufficient quality to ensure there is not exposed waste but, not less than twelve inches (12”) shall be applied upon surface that will not receive an additional application of waste or final cover within thirty (30) days. The modification application dated February 23, 2018 presents acceptable alternatives to the twelve inches (12”) intermediate cover. The Permittee may utilize these alternatives as presented or suitable approved equivalent.

8. The permittee is permitted to spray fly ash and bottom ash with water in order to encourage the pozzolanic reaction and develop the cementitious property of the ash material, and to control dust. Collected landfill leachate may be used as described herein only over permitted lined landfill areas.
  - a. The permittee shall take all the necessary steps to prevent the generation of standing water.
  - b. No waste shall be deposited in standing water.
9. The permittee is granted an exemption from providing aeration of leachate in the Leachate Pond. From the Leachate Pond the leachate shall be conveyed to the power block area, subsequently used in the power generation operations. The leachate shall not be discharged from the landfill facility. Visual high leachate level alarms shall be installed and maintained at the Leachate Pond. High leachate levels shall be immediately corrected. Leachate Pond levels shall be recorded daily and made part of Operating Record as required by the General Permit Conditions.
10. The following bottom liner system configurations are approved for Cells 1 through 5 as shown on Drawings 1-30STE905, 1-30STE907, 1-30STE914, 1-30STE917, and 1-30STE919 of the Permit Application, Document ID 68754. The bottom liner system (including the bottom sideslopes) consists of, listed from bottom to top,  
  
Cell 1 Liner System:
  - compacted prepared subgrade
  - 2 feet compacted clay liner soil with maximum hydraulic conductivity of  $1 \times 10^{-7}$  cm /s
  - 60 mil high density polyethylene (HDPE) geomembrane
  - woven monofilament geotextile fabric (8-oz / yd<sup>2</sup>)
  - 12 inches leachate collection drainage layer on disposal cell bottom with minimum hydraulic conductivity of  $3.0 \times 10^{-1}$  [side slopes consists of composite geonet in-lieu of drainage layer material]
  - woven monofilament geotextile fabric (8-oz / yd<sup>2</sup>) over the drainage layer
  - 12 inches of soil protective layer  
Cell 2 to 5 Liner System:
  - compacted prepared subgrade
  - 2 feet compacted clay liner soil with maximum hydraulic conductivity of  $1 \times 10^{-7}$  cm /s
  - 60 mil high density polyethylene (HDPE) geomembrane
  - double-sided geocomposite
  - 12 inches of protective soil or bottom ash layer with hydraulic conductivity of  $0.5 \times 10^{-4}$  cm/s
  - Chimney drains located in the protective layer with a maximum 85-foot separation
11. The following landfill final cover system configurations are approved for Cells 1 through 5 as shown on Drawings 1-30STE906, 1-30STE908, 1-30STE915, 1-30STE918, and 1-

30STE920 of the Permit Application, Document ID 68754. The final cover liner system consists of, listed from bottom to top.

The final cover liner system consists of, listed from bottom to top.

- 18 inches of low permeability clay soil with maximum permeability  $1 \times 10^{-7}$  cm/sec
- 60 mil high density polyethylene (HDPE) geomembrane
- double-sided geocomposite
- 18 inches of common fill (soil protective layer)
- 6 inches of topsoil

12. The permittee shall implement the Hazardous Waste and Unauthorized Waste Exclusion Plan presented in Attachment C of the Permit Application (Document ID 84575). In addition to the implementation of the approved Hazardous Waste and Unauthorized Waste Exclusion Plan, the facility shall fully meet all requirements of APC&EC Rule No. 22.412 regarding the exclusion of all unauthorized waste streams.
13. The permittee shall implement the requirements detailed in the Operating Plan and Narrative presented in Appendix D of the Permit Application (Document ID 84575). In addition to the implementation of the approved Operating Plan and Narrative, the facility shall fully meet all operating requirements of APC&EC Rule No. 22 unless specifically addressed by a permit condition.
14. Landfill cells shall be constructed in accordance with the approved CQA Plan located in Volume 3 of 4, Appendix A of Document ID 59305 and furthermore in accordance with APC&EC Rule No. 22 and permitted designs. Before construction of a new landfill cell, notification shall be submitted in accordance with APC&EC Rule No. 22.428.
15. The permittee shall maintain closure and post-closure care plans that describes the steps necessary to close all landfill units at any point during its active life and to maintain the integrity and effectiveness of the closure system to minimize infiltration and erosion, as required by APC&EC Rule No. 22.1301, *et seq.* As such, the permittee shall implement the requirements detailed in the Closure and Post-Closure Plan presented in Volume 2 of 4, Appendix H of the Permit Application (Document ID 59305).
16. The initial total amount of financial assurance is \$4,972,823. Of this amount, \$1,602,500 dollars will be required for closure costs and \$3,370,323 will be required for the post-closure costs. This amount shall be subject to annual adjustments and may be increased at the discretion of the Division based upon the estimated cost for a third party to close the largest area requiring final cover during the active life of the facility and the cost for a third party to perform post closure care.
  - a. The instruments used must be in one of the forms set forth in APC&EC Rule No. 22 or as otherwise approved by the Division.
  - b. Operations allowed under this permit shall not commence until all financial

assurance is satisfactorily filed with the Division.

- c. A portion or all of the financial assurance may be held by the Division beyond the time of cessation of disposal operations at the site to ensure satisfactory closure and post closure care in accordance with APC&EC Rule No. 22.

### **GROUNDWATER MONITORING PERMIT CONDITIONS**

17. The groundwater monitoring program at the site shall follow the provisions of APC&EC Rule No. 22.
18. A groundwater monitoring system shall be established and maintained at the landfill and leachate pond that consists of a sufficient number of wells or sampling points, installed at appropriate locations and depths that will yield representative samples of groundwater quality. The monitoring system shall be designed, installed, operated, and maintained in accordance with the approved design specifications throughout the active life of the facility and the post-closure care period.
19. The initial groundwater monitoring system shall utilize, at a minimum, nine (9) monitoring wells (MW-1 through MW-9D). Monitoring wells MW-1 through MW-8 will be screened in the upper Arkadelphia Marl while well MW-9D will be screened in the upper Nacatoch Formation. The monitoring well locations are shown on Figure 2, Volume 2 of 4, Appendix J, in the document titled *Groundwater Sampling and Analysis Plan* (Document ID 59305). These initial nine wells are to monitor waste in Cell 1 and 2 of the landfill and the leachate pond. Additional wells will be required to monitor Cells 3, 4, and 5 of the landfill at a future date. Additional wells must be installed and sampled at least one year prior to placing waste into each of the cells after Cell 2 (Cells 3, 4, or 5).
20. The facility will follow the approved Sampling and Analysis Plan (SAP). The SAP shall comply with the requirements of APC&EC Rule No. 22. The currently approved SAP is contained within Appendix J, Volume 2 of 4 of Document ID 59305. Changes to this approved SAP will be accomplished following the provisions of APC&EC Rule No. 22.1203.
21. Monitoring Frequency & Reporting: Per APC&EC Rule No. 22, the groundwater monitoring frequency shall be at least semiannual during the active life of the facility and the post-closure period. During the first year of monitoring, four quarterly samples from each well shall be collected. A groundwater monitoring report shall be submitted to the DEQ within 90 calendar days from the date of the monitoring event.

Monitoring Parameters: During detection monitoring, groundwater samples shall be analyzed for the following:

Arsenic, Barium, Boron, Cadmium, Chromium, Fluoride, Iron, Lead, Manganese, Mercury, Molybdenum, Selenium, Silver, Strontium, Tungsten, Vanadium, Chloride,



Sulfate, Total Dissolved Solids (TDS), pH, Specific Conductance, and Turbidity.

All parameter concentrations above the Method Detection Limit (MDL) must be reported. The Division may modify the monitoring frequency or parameters required under this permit per APC&EC Rule No. 22 Chapter 12.

Leachate from the landfill will be sampled at the same frequency and for the same parameters as groundwater monitoring except that turbidity is not a required parameter. [APC&EC Rule No. 22.529 (i.e. APC&EC Rule No. 22.429)].

**GENERAL PERMIT CONDITIONS FOR A CLASS 3N LANDFILL**

22. This permit is issued in reliance upon the statements and representations made in the application, operating narrative, plans, specifications, correspondence, and other related documents. The Division bears no responsibility for the adequacy or proper functioning of the disposal facility. Nothing contained herein shall be construed as releasing the permittee from any liability from damage to persons or property due to the installation, maintenance, or operation of the disposal facility or any act of the permittee, or the permittee's employees or agents.
23. The disposal facility shall be constructed, operated and maintained in accordance with the final plans, specifications and operation narrative as approved by the Division and in compliance with applicable provisions of the Arkansas Solid Waste Management Act A.C.A. 8-6-201 et seq., APC&EC Rule No. 22.510, and all other applicable rules.
24. At all times the disposal facility shall be maintained in good condition and operations shall be conducted by licensed, qualified, on-site operators holding the appropriate license in accordance with APC&EC Rule No. 27, Licensing of Solid Waste Management Facilities and Illegal Dump Control Officers.
25. This permit may be revoked or modified whenever, in the opinion of the Division, the facility is no longer in compliance with the Arkansas Solid Waste Management Act A.C.A. 8-6-201 et seq., APC&EC Rule No. 22, or other applicable rules and regulations (APC&EC Rule No. 22.308). Except where expressly authorized by the Division, this permit shall not relieve the permittee, or the permittee's employees or agents, from compliance with the provisions of the Act and APC&EC Rule No. 22.
26. The Division may issue modifications or amendments to this permit governing the design, operation, maintenance, closure or post-closure of the facility during the term of this permit. Such modifications or amendments will be incorporated to this permit and shall be fully maintained and enforceable as a condition or conditions of this permit.
27. The Division has received an initial permit fee from the permittee. Annual permit fees due thereafter shall be assessed in accordance with APC&EC Rule No. 9, Fee System for Environmental Permits. The facility shall also be responsible for quarterly payments for disposal fees no later than January 15, April 15, July 15, and October 15 following the quarter to which the payments pertain (APC&EC Rule No. 11.207(a)). Failure to pay annual fees or quarterly payments when due may result in revocation of this permit (APC&EC Rule No. 22.309(e)).
28. The permittee shall maintain an Operating Record at the location indicated in the permit application, or at an alternate location approved in writing by the Division.
  - a. At a minimum, the following documents and materials shall be retained in the facility operating record for review by authorized representatives of the Division:

- i. The approved facility operating plan, approved permit plans and specifications, CQA reports, site inspection reports, operator licenses, this disposal permit and written authorizations issued by the Division that provide modifications to the facility or its operations, all environmental monitoring (including leachate pond levels) or test results, and other pertinent records, certifications and correspondence as required by APC&EC Rule No. 22 or other permit conditions herein;
    - ii. All construction test results, certifications, acceptances, construction reports, photographs, layout drawings, record (as-constructed) drawings, shop drawings, construction drawings, and other documentation required by the specifications, and CQA/QC plans, reports and documents; and
    - iii. Other documents that pertain to the operation, maintenance, closure or post-closure of the facility, or as directed by the DEQ.
  - b. The permittee shall forward a copy of information from the Operating Record when requested by the Division.
29. Transactions that affect the ownership of the facility must be fully disclosed to the Division.
- a. For purposes of evaluating whether a change in ownership occurs, ownership or control may result from a change in the equity of the permittee of five percent (5%) or more.
  - b. If applicable, the permittee shall submit to the Division annual and quarterly reports required by the Securities and Exchange Commission (SEC) that provide information regarding legal proceedings in which the permittee has been involved in order to determine whether any change in ownership or control of the operation of this landfill has occurred.
  - c. A permit transfer will not be required when a change in ownership or control of the facility is among the persons and/or entities previously disclosed to the Division in Section E of the Disclosure Statement or similar disclosure.
30. The permittee shall furnish the Division annual engineering inspection reports no later than June 30 of the following year in accordance with APC&EC Rule No. 22.522.
31. A survey control system shall be established and maintained at the landfill site that complies with APC&EC Rule No. 22.426.
32. The landfill working face shall be confined to the smallest practicable area.

33. The permittee shall not engage in or allow salvage operations at the facility except with written authorization from the Division or as may be provided in the section titled Site Specific Permit Conditions. The Division may review and approve requests for future salvage of disposed materials for recycling purposes on a case-by-case basis.
34. Disposal of bulk liquid waste in the landfill is prohibited. Liquid waste is waste that contains “free liquids” as defined by Method 9095 (Paint Filter Liquids Test) in EPA Publication No. SW-846.
35. Measures to control and prevent storm water run-on from running through or into the active disposal area shall be constructed and maintained. Grading, dikes, diversion ditches, silt fencing, silt, traps, and other best management practices (BMP) for storm water control shall be provided as necessary to control/prevent off-site sediment accumulation from landfill related operations.
36. Appropriate NPDES construction/storm water permit(s) shall be obtained for storm water discharges from the landfill site and borrow sites. A Storm Water Pollution Prevention Plan (SWPPP), which outlines erosion and sediment control measures, shall be prepared and implemented in accordance with applicable NPDES requirements. A copy of the SWPPP shall be maintained on-site for reference by operating staff.
37. The permittee shall comply with the air criteria requirements of APC&EC Rule No. 22.515. Those requirements include meeting the State Implementation Plan (SIP) pursuant to Section 110 of the Clean Air Act; prohibiting open burning of solid waste, unless authorized by the Division; and establishing fire safety procedures.
38. Litter control measures shall be implemented, if necessary, to confine litter to the smallest practicable extent and prevent litter from leaving the site.
39. The permittee shall implement a Class 3N unauthorized waste exclusion screening and detection program at the facility in accordance with the approved Hazardous Waste and Unauthorized Waste Exclusion Plan and APC&EC Rule No. 22.511(b). The program shall include procedures for evaluation of any questionable wastes prior to disposal to determine whether the waste complies with the APC&EC Rule No. 22 requirements for disposal in the facility.
40. The permittee must cover disposed waste with at least six inches of soil at the end of each operating day, or at more frequent intervals if necessary, to control disease vectors, fires, odors, blowing litter, and scavenging as required by APC&EC Rule No. 22.512. No portion of the waste is to be left exposed at the end of the operating day. Alternative materials for daily cover, such as synthetic materials, shall only be used when specifically authorized in writing by the Division. Any alternative daily cover that is proposed by the permittee must comply with Division guidelines and include specific written operating procedures that will be implemented to control disease vectors, fires, odors, blowing litter, and scavenging. The use of synthetic material will not be authorized unless it is

incorporated within operating procedures that also rely on use of at least six inches of soil cover for daily cover on some days; any proposal for daily cover based solely upon full-time use of synthetic material will not be approved.

The permittee has been granted a variance from the daily cover requirements. Details of the variance are outlined in the Site Specific Permit Conditions. The Division reserves the right to rescind this exemption if deemed necessary to provide for the control of disease vectors, fires, odors, blowing litter, scavenging, or to prevent harm to human health or the environment.

41. The final grades and elevations shown on the plans shall not be exceeded at any time or in anticipation of settlement and consolidation of the waste mass.
  - a. Timely initiation and completion of closure of landfill cells or units shall be made in accordance with APC&EC Rule No. 22.1301(f) and (g).
  - b. Proper construction of the final cover system shall be observed and certified in writing to the Division by a Registered Professional Engineer in a Construction Certification Report in accordance with the approved CQA Plan whenever a cell, area or phase of the landfill is closed-out.
  - c. The Certification Report shall include CQA/QC test results as indicated in the approved CQA Plan; drawings indicating the location, designation and extent of closed area(s); and test locations.
42. Any statements in the operational narrative, specifications, and/or engineering plans that conflict with APC&EC Rule No. 22, permit conditions herein, or other applicable laws and regulations shall not be considered authorized by the Division.
43. This permit authorizes one (1) active disposal area at the facility per APC&EC Rule No. 22. Multiple working faces shall not be utilized at the facility unless the permittee can provide adequate justification for more than one working face and specific authorization for such is granted in writing by the Division. It is not anticipated that such authorization will be granted except on a temporary basis for highly unusual or emergency situations.
44. The Division, its employees, agents, or any authorized person shall have the right to enter the property at any time for any reason as set out in APC&EC Rule No. 22 for the purposes of, including but not limited to, taking samples, reviewing the operating record, inspecting the facility, and perform other enforcement or engineering action without interference or delay from the permittee.
45. The Division's decision to issue this permit is final for purposes of appeal as of the date indicated in the Effective Date of the Permit. If any provision of these conditions or the application of these conditions thereof to any person or circumstance is held invalid, such invalidity shall not affect other provisions or applications of these conditions that can be

given effect without the invalid provision or application. Therefore, to this end, the provisions of these conditions are declared to be severable.

**APPROVED BY:**    **Division of Environmental Quality**  
5301 Northshore Drive  
North Little Rock, Arkansas 72218-5317



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Jarrod Zweifel, P.G.  
Associate Director, Office of Land Resources

12/13/2023  
Date

**CERTIFICATE OF SERVICE**

I, Greg Banic, hereby certify that a copy of this permit has been transmitted electronically to Leslie Fuerschbach at [lefuerschbach@aep.com](mailto:lefuerschbach@aep.com) on or before this 13<sup>th</sup> day of December, 2023.



## PERMIT MODIFICATION APPLICATION SUMMARY AND RATIONALE

**SWEPCO- John W. Turk, Jr. Power Plant**  
**Permit No. 0311-S3N-R1;**  
**AFIN: 29-00506**  
**September, 2023**

### PERMIT MODIFICATION APPLICATION SUMMARY

This summary form consists of information submitted during the permitting process. It represents basic information from the administrative record utilized in forming recommendations from the Solid Waste Management Division. The entire file for the solid waste permit application specified below should be reviewed for complete details on the proposed facility.

PERMIT APPLICATION SUMMARY	
1. Name of Applicant:	Southwestern Electric Power Company (SWEPCO) 502 North Allen Avenue Shreveport, LA 71101
2. Type of Facility:	Class 3N Landfill
3. Engineering Firm:	Terracon Consultants, Inc., Bryant, Arkansas
4. Application Date:	September 5, 2023 - Minor Permit Modification
5. Site Location	General: The site is located between McNab and Fulton, Arkansas in Hempstead County.
6. Permit Area:	Permitted Landfill Area: 73 acres
7. Residences Within 2 Miles:	Approximately 500 dwellings identified from USGS 7.5 minute quadrangle
8. Water Supplies Within 2 Miles:	Thirty one (31) water wells were identified within 2 miles of the proposed landfill. The wells were identified through well construction records on file at the Arkansas Geological Commission and by sending a well survey questionnaire to locations within ½ mile of the proposed landfill. The water well inventory is documented in Section 2.6 and Appendix A of the Hydrogeologic and Geotechnical Report (Document #59305)
9. Wetlands	Landfill footprint changed to prevent disturbance of preliminarily identified adjacent wetlands.
10. Geology:	This Class 3N landfill sits on the Cretaceous Age Arkadelphia Marl. The marl consists of a limy clay with variable amounts of silt and gravel at shallow depths and grading into a firm shaley clay/clayey shale. Variable amounts of rounded chert gravel occurs within the upper clay unit especially in the northern portion of the site. Gypsum veins are present within the marl. The weathered upper marl unit ranged in thickness from approximately 30 to 45 feet. Dark gray shaley clay/clayey shale (shale) of the Arkadelphia Marl is present below the

	<p>weathered upper marl. The lower shale unit of the Arkadelphia Marl ranges in thickness from approximately 65 to 95 feet. The total thickness of the Arkadelphia Marl beneath the proposed landfill ranges from 110 to 135 feet.</p> <p>The Nacatoch formation is located below the Arkadelphia Marl and is represented by a hard sandstone layer overlying a fine grained, loosely cemented sand. The sandstone is generally medium to light gray with a calcareous cement and is 3 to 15 feet thick.</p>
11. Groundwater:	<p>Groundwater within the upper Arkadelphia Marl appears to flow within the gravelly units, the gypsum veins, and fissile zones due to the blocky nature of the marl. Groundwater within the marl appears connected and to represent the uppermost aquifer. The depth to groundwater ranges from 10 to 30 feet below ground surface. The general direction of groundwater flow across the site within the intermediate wells in the Arkadelphia Marl was to the east with components northeast and southeast during the Hydrogeologic Investigation (Document #59305).</p> <p>Beneath the Arkadelphia Marl, at 110 to 135 feet below ground surface, the Nacatoch Sand is present and is used as a water supply aquifer in the area. The groundwater in the Nacatoch Sand is under confined conditions at the site. The general direction of groundwater movement in the Nacatoch Sand was to the southwest during the Hydrogeologic Investigation (Document #59305).</p>
12. Surface Drainage Sequence:	<p>Bridge Creek is a natural drainageway approximately bisecting the permittee's property between the power block and solid waste landfill area. The topography of the proposed landfill site is relatively flat with approximately 20 feet of relief. The existing generalized overland flow conditions within the north portion of the landfill drains to the perennial Bridge Creek, while the southeast drainage is through an intermittent drainage way to Bridge Creek. Bridge Creek flows into Bois d'Arc Creek approximately five miles southeast of the landfill site within the Bois d' Arc Creek Wildlife Management Area. Surface water from the south portion of the proposed landfill drains through an unnamed intermittent drainage way to the Red River near the town of Fulton.</p>
13. Waste Streams:	Eligible Class 3N waste generated at the site.
14. Capacity	Total Capacity = 6,884,235 Cubic Yards
15. Disposal Rate (estimation)	114,940 cubic yards per year (2022 AEIR)
16. Projected Active Life (estimation)	34 years
17. Bottom Liner System:	The bottom liner system includes a leachate collection and recovery system (LCRS) consisting of lateral permeable drainage layer (12" of



	drainage material on bottom landfill areas and geosynthetic geonet on landfill side slopes), and a series of pipes designed to remove leachate from the waste mass. Overlaying the LCRS is a geosynthetic geotextile and a 12" protective soil cover to shield the LCRS. Underlying the LCRS, the liner design consists of a 60 mil high density polyethylene (HDPE) geomembrane above a two foot thick layer of select, low permeable clay soil material placed and compacted to achieve the required maximum $1 \times 10^{-7}$ cm/sec hydraulic conductivity.
18. Final Cover:	Overlying the waste mass is designed a final cover consisting of an 18" low permeable clay constructed to achieve a maximum hydraulic conductivity of $1 \times 10^{-7}$ cm/sec. The clay is overlain by a 60 mil high density polyethylene (HDPE) geomembrane and a geosynthetic geotextile fabric. Over the geotextile is a 12" sand drainage layer which directs any rainfall percolation to an 8" diameter slotted drain pipe installed along the perimeter of the final cover area, and then to 12" diameter outfall pipes periodically spaced at the toe of the final cover slope. A geosynthetic geotextile and an 18" layer of common soil fill are placed atop the sand drainage layer, and finally a 6" topsoil layer is placed for vegetative growth.

### PERMIT RATIONALE

The following information was considered during the preparation of a draft permit for the proposed facility:

- Original Permit Application dated February 25, 2011 (Doc #59305).
- Correspondence from the Permittee; the Arkansas Solid Waste Management Code, as Amended; Rule Number 22; and all other applicable rules and regulations of the Department of Environmental Quality.

Condition No.	Site Specific Permit Conditions
1	Refers to the landfill disposal area for the Class 3N facility as shown in the approved application and operational narrative plans (APC&EC Rule No. 22.309)
2	Lists the approved design plans. (APC&EC Rule No. 22.303)
3	Permitted disposal volume as calculated by design engineer based on permitted bottom and waste grades (APC&EC Rule No. 22.303)
4	Concerns the types of wastes that can be accepted at the facility. The facility is permitted as a Class 3N landfill and may accept nonhazardous industrial, commercial, non-putrescible waste generated only by the permittee. Hazardous and/or toxic waste materials, liquid or semi-liquid waste, household garbage, and putrescible wastes are not authorized for acceptance and disposal at the facility

<b>Condition No.</b>	<b>Site Specific Permit Conditions</b>
	(APC&EC Rule No. 22.102)
5,6,7,8&9	Concerns various exemptions granted to permittee.
10	The minimum requirements of the approved bottom liner system (APC&EC Rule No. 22.524). Permittee requested geomembrane component to enhance liner performance.
11	The minimum requirements of the approved final cover liner system (APC&EC Rule No. 22.528). Permittee requested geomembrane component to enhance liner performance.
12	Concerns the approved hazardous waste exclusion plan (APC&EC Rule No. 22.511)
13	Concerns the approved operating plan and narrative (APC&EC Rule No. 22.510)
14	CQA Plan requirements (APC&EC Rule No. 22.524)
15	Closure and Post-Closure Plan requirements and implementation (APC&EC Rules No. 22.1301 and No. 22.1302)
16	Specifies the initial amount of financial assurance. (APC&EC Rules 22.1402 and No. 22.1403).

<b>Condition No.</b>	<b>Groundwater Monitoring Permit Conditions</b>
17	Statement requiring the facility to follow the provisions of APC&EC Rule No. 22 for groundwater monitoring. In addition, no groundwater monitoring conditions in this permit or currently approved Sampling and Analysis Plan (Volume 2 of 4, Appendix J (Doc #59305) are intended to conflict with APC&EC Rule No. 22.
18	A general summary of APC&EC Rules No. 22.1202(a); No. 22.1201(d); and No. 22.1202(c). Monitoring of groundwater around the leachate pond is based on the clause “landfills and other facilities” in APC&EC Rule No. 22.1201(a) – <i>Applicability</i> ; and on the definition of “facility” in APC&EC Rule No. 22.102 - <i>Definitions</i> .
19	Defines the initial groundwater monitoring system to be installed for Cells 1 and 2 of the landfill and the leachate pond. The upper portion of the Arkadelphia Marl has been defined as the uppermost aquifer in the Hydrogeological Investigation of the site (Volume 2 of 4, Document ID 59305). Monitoring wells MW-1 through MW-8 will be screened in the same zone as the intermediate wells in the Hydrogeological Investigation. Monitoring well MW-9D will be screened in the Nacatoch Formation because of the importance of this formation as a source of drinking water.
20	Requires the permittee to monitor in accordance with the approved Sampling and Analysis Plan (SAP). Defines the current SAP. An approved SAP is required in APC&EC Rule No. 22.1203.
21	Defines the frequency, parameters, and some reporting aspects for groundwater

<b>Condition No.</b>	<b>Groundwater Monitoring Permit Conditions</b>
	monitoring during background sampling and detection monitoring. Frequency and reporting are based on APC&EC Rules No. 22.1203(k), No. 22.1203(h)(5), and No. 22.11204(b). Parameters are based on leaching and leachate results from the SWEPCO Flint Creek plant and other coal combustion plants. Leachate sampling requirements are based on APC&EC Rule No. 22.529 (i.e. APC&EC Rule No. 22.429).

<b>Condition No.</b>	<b>General Conditions for Class 3N Facilities</b>
22	States the Division has no responsibility for the proper functioning of the disposal facility and the permittee is not exempt from liability to third parties per APC&EC Rule No. 8.
23	Concerns the requirements for construction and operation of the disposal facility in accordance with the approved plans/specifications/operation narrative are in accordance with APC&EC Rule No. 22.
24	Concerns requirements to maintain the disposal facility in good operating condition under licensed, qualified, on-site landfill operators is in accordance with APC&EC Rule No. 22 and with APC&EC Rule No. 27.
25	Concerns the right of the Division to revoke or modify the permit in the event the facility is no longer in compliance with the Arkansas Solid Waste Management Act, APC&EC Rule No. 22, or any other applicable regulations.
26	Concerns issuance of modifications to the permit by the Division is in accordance with APC&EC No. Rule 22.
27	Concerns payment of permit fees in accordance with APC&EC Rule No. 9.
28	Concerns requirements for maintenance of landfill related documents in an Operating Record are in accordance with appropriate Sections of APC&EC Rule No. 22.
29	Concerns permit transfer and disclosure is in accordance with Act 454 of 1991.
30	Concerns requirements for submittal of an annual engineering inspection report are in accordance with APC&EC Rule No. 22.
31	Outlines the requirements for implementation and maintenance of a survey control system at the landfill site for horizontal and vertical control of landfill construction/operation is in accordance with APC&EC Rule No. 22.
32	Outlines requirements for disposal in a single working area of the smallest practicable extent are in accordance with APC&EC Rule No. 22.
33	Regards salvage operations are not allowed in accordance with APC&EC Rule No. 22.
34	Concerns the prohibition of the disposal of bulk liquid waste in the landfill is in accordance with APC&EC Rule No. 22.
35 & 36	Concerns measures to control and prevent stormwater run through or into the active face and requirements for appropriate NPDES permit(s) and a Storm Water Pollution

<b>Condition No.</b>	<b>General Conditions for Class 3N Facilities</b>
	Prevention Plan (SWPPP) is in accordance with Sections 22.517, 22.518 and 22.527 of APC&EC Rule No. 22, and the Clean Water Act.
37	Concerns requirements for compliance with applicable air criteria is in accordance with Section 22.515 of APC&EC Rule No. 22 and the Clean Air Act.
38	Concerns with litter control fences and other control measures for blowing litter.
39	Concerns requirements for implementation of a Class 3N Exclusion Screening and Detection Program at the facility is in accordance with APC&EC Rule No. 22.
40	Concerns the application of six inches of soil at the end of each operating day.
41	Concerns requirements to fill within the final grades and elevations indicated on the approved plans, timely initiation and completion of closure, and proper CQA monitoring and certification are in accordance with Sections 22.308, 22.510, 22.528, and 22.1301 of APC&EC Rule No. 22
42	Concerns the requirements for the permittee to comply with APC&EC Rule No. 22 or permit conditions in the event of a conflict between them and representations in the permit application documents is in accordance with Section 22.308 of APC&EC Rule No. 22.
43	Concerns the permit authorizes only one (1) working face. APC&EC Rule No. 22.510
44	Concerns the right of Division employees to enter the permittee's property to inspect the facility at any time without interference or delay is in accordance with Section 22.1501 of APC&EC Rule No. 22.
45	Concerns providing notice for the purpose of appeal of the final permit in accordance with Section 22.306 of APC&EC Rule No. 22 and in accordance with Rule 8. Provisions regarding severability are in accordance with Section 22.1601 of APC&EC Rule No. 22.



June 29, 2018

Mr. Terry Wehling, P.E.  
Southwestern Electric Power Company (SWEPCO)  
502 North Allen Avenue  
Shreveport, LA 71101

**Re: Approval of Minor Permit Modification and Transmittal of Permit**  
**SWEPCO – John W. Turk, Jr. Power Plant, Class 3N Landfill**  
**Permit No: 0311-S3N-R1; AFIN: 29-00506**  
**Document ID: 74049; Reference Document ID: 73268**

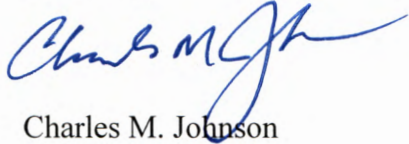
Dear Mr. Wehling:

The Arkansas Department of Environmental Quality Office of Land Resources (ADEQ) Regulated Waste Operations staff has completed the review of a minor permit modification application to modify the west side slope and add additional gravel drains to the leachate collection pond and to replace the twelve inches (12') of intermediate cover with an alternative intermediate cover option. The ADEQ hereby approves the minor permit modification and transmits the attached updated permit and permit modification application summary and rationale.

This approval is being given in reliance upon the statements and representations made to the ADEQ, and the ADEQ has no responsibility for ultimate proper functioning of the disposal facility. The ADEQ also reserves the right to request additional information if it is deemed necessary. This approval shall not remove any liability nor hold Southwestern Electric Power Company (SWEPCO) harmless in the event of any adverse environmental or public health conditions resulting from the disposal of the material. SWEPCO shall be solely and fully responsible for implementing any corrective action necessary to remediate any adverse condition resulting from the disposal at the site based on this authorization.

If you have any questions or need further assistance, please contact Cristina Coker of my staff at (501) 682-0603 or [coker@adeq.state.ar.us](mailto:coker@adeq.state.ar.us).

Sincerely,

A handwritten signature in blue ink, appearing to read "Charles M. Johnson", is written over a light blue rectangular background.

Charles M. Johnson  
Senior Manager  
Office of Land Resources

Enclosures: Updated Permit  
Permit Modification Application Summary and Rationale

cc: ADEQ – C. Johnson, Rich, Cusher, Greenwood, and Coker  
Mr. Dave McCormick, P.E., Terracon Consultant, Inc.



**PERMIT  
FOR THE CONSTRUCTION AND OPERATION OF A  
SOLID WASTE DISPOSAL FACILITY**

**ISSUED BY  
STATE OF ARKANSAS  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
OFFICE OF LAND RESOURCES**

**Class 3N Landfill**

Permit Number: 0311-S3N-R1

AFIN: 29-00506

Effective Date: June 29, 2018

Original Issue Date: July 15, 2011

Modifications: April 11, 2016 (Minor Modification)

Permit Owner and Address: Southwestern Electric Power Company (SWEPCO)  
502 North Allen Avenue  
Shreveport, LA 71101

Facility Site Name and Address: SWEPCO – John W. Turk, Jr. Power Plant  
3711 Highway 3555,  
Fulton, AR 71838

Location: General: About 4 miles north of Fulton, Arkansas in  
Hempstead County, Arkansas)

Power Plant: 2,800 acre site: Both sides of Hwy 355,  
T12S, R26W, portions of S32 and S33; T13S, R26W  
portions of S4 thru S9 and S16 thru S20; T13S,  
R27W, portions of S13 and S24.

Landfill site: T12S, R26W portions of S8 and S9.  
Lat: N 33 deg, 38', 59"; Long: W 93 deg, 48', 44"

This permit authorizes the construction and operation of the Class 3 N Inafill as set forth in the permit application prepared by Southwestern Electric Power Company (SWEPCO), hereafter called "owner" or "permittee".

This minor permit modification was originally completed thought a document furnished by the applicant on February 23, 2018 (DOC ID # 73227). The application was submitted to modify the west side slope and to add additional gravel drains to the leachate collection pond, and to replace the twelve inches (12”) of intermediate cover with an alternative intermediate cover option.

This permit is issued pursuant to the provisions of the Arkansas Solid Waste Management Act (Arkansas Code Annotated 8-6-201 et seq.) as amended, hereinafter called the "Act;" Regulation No. 22, Arkansas Solid Waste Management Rules, as adopted by the Arkansas Pollution Control and Ecology Commission, hereinafter called "APC&EC Regulation No. 22;" and all other applicable rules and regulations administered by the Arkansas Department of Environmental Quality, hereinafter called "Department", and the following terms and condition:

### DESCRIPTION OF THIS PERMIT ACTION

This permit modification is to modify the west side slope of the leachate collection pond by replacing the geotextile and 12-inch protective soil cover with a 60 mil HDPE sheet, rub sheet. Add additional gravel drains on the south and southeast side slope of the leachate collection pond. And, to replace the twelve inches (12”) of intermediate cover with an alternative intermediate cover option.

### SITE SPECIFIC PERMIT CONDITIONS

1. The permit will expire when the disposal area described in the final engineering plans for Cell 1 through Cell 5 have been filled to design capacity and is closed out in accordance with the approved closure and post-closure plans and provisions of APC&EC Regulation No. 22. The final grades and elevations shown on the approved plans, which include components of the final cover system, shall not be exceeded in anticipation of settlement and consolidation of the waste mass.
2. The approved permit plans for the facility are as follows: (from Document ID 68754 and Document ID 73227)

Drawing Number	Date	Title	Revision
1-30STE900	12-17-2015	Preparation Abbreviations	1
1-30STE901	12-17-2015	Key Plan, Drawing Index, and General Notes	2
1-30STE902	12-17-2015	Bench Marks & Piezometers	1
1-30STE903	12-17-2015	Leachate Collection Excavation and Grading Plan	2
1-30STE904	12-17-2015	Typical Sections and Details	2
1-30STE905	12-17-2015	Disposal Cell 1 Excavation & Grading	1
1-30STE906	12-17-2015	Disposal Cell 1 Final Grading & Cover	1
1-30STE907	12-17-2015	Disposal Cell 2 Excavation & Grading	1
1-30STE908	12-17-2015	Disposal Cell 2 Final Grading & Cover	1
1-30STE909	12-17-2015	Disposal Cell 1 Cross Sections	2
1-30STE910	12-17-2015	Disposal Cells 1 & 2 Cross Sections	2
1-30STE911	12-17-2015	Typical Sections and Details	2



<b>1-30STE912</b>	12-17-2015	Typical Sections and Details	3
<b>1-30STE913</b>	12-17-2015	Typical Sections and Details	1
<b>1-30STE914</b>	12-17-2015	Disposal Cell 3 Excavation & Grading	0
<b>1-30STE915</b>	12-17-2015	Disposal Cell 3 Final Grading & Cover	1
<b>1-30STE916</b>	12-17-2015	Cross-Section All Cells	2
<b>1-30STE917</b>	12-17-2015	Disposal Cell 4 Excavation & Grading	1
<b>1-30STE918</b>	12-17-2015	Disposal Cell 4 Final Grading & Cover	1
<b>1-30STE919</b>	12-17-2015	Disposal Cell 5 Excavation & Grading	1
<b>1-30STE920</b>	12-17-2015	Disposal Cell 5 Final Grading & Cover	1
<b>1-30STE921</b>	12-17-2015	Cross Sections Cells 1 & 2	2
<b>1-30STE922</b>	12-17-2015	Cross Sections 3 - 5	2
<b>1-30STE923</b>	12-17-2015	Disposal Cells 1 & 2 Profiles	A
<b>1-30STE924</b>	12-17-2015	Disposal Cells 1, 2 & 3 Profiles	A
<b>1-30STE925</b>	12-17-2015	Disposal Cell 1 UG Systems Plan	A
<b>1-30STE926</b>	12-17-2015	Disposal Cell 2 UG Systems Plan	A
<b>1-30STE927</b>	12-17-2015	Disposal Cell 3 UG Systems Plan	A
<b>1-30STE928</b>	12-17-2015	Disposal Cell 4 UG Systems Plan	A
<b>1-30STE929</b>	12-17-2015	Disposal Cell 5 UG Systems Plan	A
<b>1-30STE930</b>	12-17-2015	Stormwater Management Plan	-
<b>1-30STE931</b>	12-17-2015	Chimney Drain & Stormwater Details	-
<b>1-30STE932</b>	12-17-2015	Makeup & Wastewater Pond DWG Index & General Notes	4
<b>1-30STE933</b>	12-17-2015	Makeup & Wastewater Pond Excavation & Grading Plan	5
<b>1-30STE934</b>	12-17-2015	Makeup & Wastewater Pond Sections and Notes	7
<b>1-30STE935</b>	12-17-2015	Makeup WW & Leachate Pond Access RD Plan & Sec's	6
<b>1-30STE936</b>	5-23-2018	Leachate Collection Pond (Document ID 73227)	1
<b>1-30STE937</b>	12-17-2015	Leachate Collection Pond Sections & Notes	5
<b>1-30STE938</b>	12-17-2015	Makeup & Wastewater Pond U/G Systems Plan	0
<b>1-30STE939</b>	12-17-2015	Sumps, Plans, and Sections	3
<b>1-30STE940</b>	12-17-2015	Leachate Sump Plan and Sections	C

3. The facility is permitted for 6,884,235 cubic yards of solid waste disposal including daily and intermediate cover material.
4. This permit is for the disposal of solid waste generated by Southwestern Electric Power Company at the John W. Turk, Jr. Power Plant. The authorized waste streams include bottom ash, economizer ash, fly ash (including flue gas desulfurization (FGD) waste ash), scrubber waste, waste coal, coal mill rejects, cooling tower sediments, cooling water screenings, construction and demolition debris, sump pit sediments, make-up water treatment sediment, fire brick and refractory materials, non-hazardous sand blast media, sediments from dredging operations, water treatment systems sediments, sand filter media, waste lime, waste activated carbon, demineralizer resins, box liners, bag filters.

- a. Additional waste items not mentioned above may be authorized by the Department for disposal at the facility on a case-by-case basis when requested by the permittee.
- b. Regulated PCBs and PCB items as defined in 40 CFR 761 or “Hazardous waste” as defined by APC&EC Regulation No. 23 are not authorized for disposal in the facility.

All disposed materials or waste streams and their volumes shall be reported in the annual report that is to be submitted to the Office of Land Resources.

5. The permittee is exempted from implementing a routine methane monitoring program unless the Department determines that:
  - a. The nature and quantity of waste poses a significant potential for the generation of explosive gases; or
  - b. Explosive gases have been detected in concentrations exceeding the standards identified in APC&EC Regulation 22.514 (a).
6. Salvage of disposed bottom and fly ash material for recycling purposes is authorized by the Department under the following conditions:
  - a. An area has been designated by the permittee for recovery of salvageable material.
  - b. The operations do not interfere with or otherwise delay the activities of the disposal working face.
  - c. The recovery of salvageable material must be conducted in an orderly manner and do not harm human health and the environment.
  - d. All salvaged material is removed from the landfill site daily, or properly stored so that they do not create a nuisance or unsightly appearance.

Salvage is otherwise prohibited in accordance with General Condition No. 12.

7. The permittee is granted an exemption from the minimum daily cover requirements contained in APC&EC Regulation 22.512(a) provided that the exemption will control disease vectors, fires, odors, blowing litter, scavenging, and causes no harm to human health or the environment. However, the Department reserves the right to rescind this exemption if deemed necessary to provide for the control of disease vectors, fires, odors, blowing litter, scavenging, or to prevent harm to human health or the environment. APC&EC Regulation 22.512(b) requires a compacted layer of cover soil of sufficient quality to ensure there is not exposed waste but, not less than twelve inches (12”) shall be applied upon surface that will not receive an additional application of waste or final cover within thirty (30) days. The modification application dated February 23, 2018 presents

acceptable alternatives to the twelve inches (12”) intermediate cover. The Permittee may utilize these alternatives as presented or suitable approved equivalent.

8. The permittee is permitted to spray fly ash and bottom ash with water in order to encourage the pozzolanic reaction and develop the cementitious property of the ash material, and to control dust. Collected landfill leachate may be used as described herein only over permitted lined landfill areas.
  - a. The permittee shall take all the necessary steps to prevent the generation of standing water.
  - b. No waste shall be deposited in standing water.
9. The permittee is granted an exemption from providing aeration of leachate in the Leachate Pond. From the Leachate Pond the leachate shall be conveyed to the power block area, subsequently used in the power generation operations. The leachate shall not be discharged from the landfill facility. Visual high leachate level alarms shall be installed and maintained at the Leachate Pond. High leachate levels shall be immediately corrected. Leachate Pond levels shall be recorded daily and made part of Operating Record as required by the General Permit Conditions.
10. The following bottom liner system configurations are approved for Cells 1 through 5 as shown on Drawings 1-30STE905, 1-30STE907, 1-30STE914, 1-30STE917, and 1-30STE919 of the Permit Application, Document ID 68754. The bottom liner system (including the bottom sideslopes) consists of, listed from bottom to top,

Cell 1 Liner System:

- compacted prepared subgrade
- 2 feet compacted clay liner soil with maximum hydraulic conductivity of  $1 \times 10^{-7}$  cm /s
- 60 mil high density polyethylene (HDPE) geomembrane
- woven monofilament geotextile fabric (8-oz / yd<sup>2</sup>)
- 12 inches leachate collection drainage layer on disposal cell bottom with minimum hydraulic conductivity of  $3.0 \times 10^{-1}$  [side slopes consists of composite geonet in-lieu of drainage layer material]
- woven monofilament geotextile fabric (8-oz / yd<sup>2</sup>) over the drainage layer
- 12 inches of soil protective layer

Cell 2 to 5 Liner System:

- compacted prepared subgrade
- 2 feet compacted clay liner soil with maximum hydraulic conductivity of  $1 \times 10^{-7}$  cm /s
- 60 mil high density polyethylene (HDPE) geomembrane
- double-sided geocomposite
- 12 inches of protective soil or bottom ash layer with hydraulic conductivity of  $0.5 \times 10^{-4}$  cm/s
- Chimney drains located in the protective layer with a maximum 85 foot separation

11. The following landfill final cover system configurations are approved for Cells 1 through

5 as shown on Drawings 1-30STE906, 1-30STE908, 1-30STE915, 1-30STE918, and 1-30STE920 of the Permit Application, Document ID 68754. The final cover liner system consists of, listed from bottom to top.

The final cover liner system consists of, listed from bottom to top.

- 18 inches of low permeability clay soil with maximum permeability  $1 \times 10^{-7}$  cm/sec
- 60 mil high density polyethylene (HDPE) geomembrane
- double-sided geocomposite
- 18 inches of common fill (soil protective layer)
- 6 inches of topsoil

12. The permittee shall implement the Hazardous Waste and Unauthorized Waste Exclusion Plan presented in Attachment H of the Permit Application (Document ID 68754). In addition to the implementation of the approved Hazardous Waste and Unauthorized Waste Exclusion Plan, the facility shall fully meet all requirements of APC&EC Regulation No. 22.412 regarding the exclusion of all unauthorized waste streams.
13. The permittee shall implement the requirements detailed in the Operating Plan and Narrative presented in Volume 2 of 4, Appendix D of the Permit Application (Document ID 59305). In addition to the implementation of the approved Operating Plan and Narrative, the facility shall fully meet all operating requirements of APC&EC Regulation No. 22 unless specifically addressed by a permit condition.
14. Landfill cells shall be constructed in accordance with the approved CQA Plan located in Volume 3 of 4, Appendix A of Document ID 59305 and furthermore in accordance with APC&EC Regulation No. 22 and permitted designs. Before construction of a new landfill cell, notification shall be submitted in accordance with APC&EC Regulation No. 22.428.
15. The permittee shall maintain closure and post-closure care plans that describes the steps necessary to close all landfill units at any point during its active life and to maintain the integrity and effectiveness of the closure system to minimize infiltration and erosion, as required by APC&EC Regulation No. 22.1301, *et seq.* As such, the permittee shall implement the requirements detailed in the Closure and Post-Closure Plan presented in Volume 2 of 4, Appendix H of the Permit Application (Document ID 59305).
16. The initial total amount of financial assurance is \$4,972,823. Of this amount, \$1,602,500 dollars will be required for closure costs and \$3,370,323 will be required for the post-closure costs. This amount shall be subject to annual adjustments and may be increased at the discretion of the Department based upon the estimated cost for a third party to close the largest area requiring final cover during the active life of the facility and the cost for a third party to perform post closure care.
  - a. The instruments used must be in one of the forms set forth in APC&EC Regulation No. 22 or as otherwise approved by the Department.
  - b. Operations allowed under this permit shall not commence until all financial assurance is satisfactorily filed with the Department.

- c. A portion or all of the financial assurance may be held by the Department beyond the time of cessation of disposal operations at the site to ensure satisfactory closure and post closure care in accordance with APC&EC Regulation No. 22.

### **GROUNDWATER MONITORING PERMIT CONDITIONS**

17. The groundwater monitoring program at the site shall follow the provisions of APC&EC Regulation No. 22.
18. A groundwater monitoring system shall be established and maintained at the landfill and leachate pond that consists of a sufficient number of wells or sampling points, installed at appropriate locations and depths that will yield representative samples of groundwater quality. The monitoring system shall be designed, installed, operated, and maintained in accordance with the approved design specifications throughout the active life of the facility and the post-closure care period.
19. The initial groundwater monitoring system shall utilize, at a minimum, nine (9) monitoring wells (MW-1 through MW-9D). Monitoring wells MW-1 through MW-8 will be screened in the upper Arkadelphia Marl while well MW-9D will be screened in the upper Nacatoch Formation. The monitoring well locations are shown on Figure 2, Volume 2 of 4, Appendix J, in the document titled Groundwater Sampling and Analysis Plan (Document ID 59305). These initial nine wells are to monitor waste in Cell 1 and 2 of the landfill and the leachate pond. Additional wells will be required to monitor Cells 3, 4, and 5 of the landfill at a future date. Additional wells must be installed and sampled at least one year prior to placing waste into each of the cells after Cell 2 (Cells 3, 4, or 5).
20. The facility will follow the approved Sampling and Analysis Plan (SAP). The SAP shall comply with the requirements of APC&EC Regulation No. 22. The currently approved SAP is contained within Appendix J, Volume 2 of 4 of Document ID 59305. Changes to this approved SAP will be accomplished following the provisions of APC&EC Regulation No. 22.1203.
21. Monitoring Frequency & Reporting: Per APC&EC Regulation No. 22, the groundwater monitoring frequency shall be at least semiannual during the active life of the facility and the post-closure period. During the first year of monitoring, four quarterly samples from each well shall be collected. A groundwater monitoring report shall be submitted to the ADEQ within 90 calendar days from the date of the monitoring event.

Monitoring Parameters: During detection monitoring, groundwater samples shall be analyzed for the following:

Arsenic, Barium, Boron, Cadmium, Chromium, Fluoride, Iron, Lead, Manganese, Mercury, Molybdenum, Selenium, Silver, Strontium, Chloride, Sulfate, Total Dissolved Solids (TDS), pH, Specific Conductance, and Turbidity.

All parameter concentrations above the Method Detection Limit (MDL) must be reported. The Department may modify the monitoring frequency or parameters required under this permit per APC&EC Regulation No. 22 Chapter 12.

Leachate from the landfill will be sampled at the same frequency and for the same parameters as groundwater monitoring except that turbidity is not a required parameter. [APC&EC Regulation No. 22.529 (i.e. APC&EC Regulation No. 22.429)].



## GENERAL PERMIT CONDITIONS FOR A CLASS 3N LANDFILL

22. This permit is issued in reliance upon the statements and representations made in the application, operating narrative, plans, specifications, correspondence, and other related documents. The Department bears no responsibility for the adequacy or proper functioning of the disposal facility. Nothing contained herein shall be construed as releasing the permittee from any liability from damage to persons or property due to the installation, maintenance, or operation of the disposal facility or any act of the permittee, or the permittee's employees or agents.
23. The disposal facility shall be constructed, operated and maintained in accordance with the final plans, specifications and operation narrative as approved by the Department and in compliance with applicable provisions of the Arkansas Solid Waste Management Act A.C.A. 8-6-201 et. seq, APC&EC Regulation No. 22.510, and all other applicable rules and APC&EC Regulations.
24. At all times the disposal facility shall be maintained in good condition and operations shall be conducted by licensed, qualified, on-site operators holding the appropriate license in accordance with APC&EC Regulation No. 27, Licensing of Solid Waste Management Facilities and Illegal Dump Control Officers.
25. This permit may be revoked or modified whenever, in the opinion of the Department, the facility is no longer in compliance with the Arkansas Solid Waste Management Act A.C.A. 8-6-201 et. seq, APC&EC Regulation No. 22, or other applicable rules and regulations (APC&EC Regulation No. 22.308). Except where expressly authorized by the Department, this permit shall not relieve the permittee, or the permittee's employees or agents, from compliance with the provisions of the Act and APC&EC Regulation No. 22.
26. The Department may issue modifications or amendments to this permit governing the design, operation, maintenance, closure or post-closure of the facility during the term of this permit. Such modifications or amendments will be incorporated to this permit and shall be fully maintained and enforceable as a condition or conditions of this permit.
27. The Department has received an initial permit fee from the permittee. Annual permit fees due thereafter shall be assessed in accordance with APC&EC Regulation No. 9, Fee System for Environmental Permits. The facility shall also be responsible for quarterly payments for disposal fees no later than January 15, April 15, July 15, and October 15 following the quarter to which the payments pertain (APC&EC Regulation No. 11.207(a)). Failure to pay annual fees or quarterly payments when due may result in revocation of this permit (APC&EC Regulation No. 22.309(e)).
28. The permittee shall maintain an Operating Record at the location indicated in the permit application, or at an alternate location approved in writing by the Department.
  - a. At a minimum, the following documents and materials shall be retained in the facility operating record for review by authorized representatives of the

Department:

- i.) The approved facility operating plan, approved permit plans and specifications, CQA reports, site inspection reports, operator licenses, this disposal permit and written authorizations issued by the Department that provide modifications to the facility or its operations, all environmental monitoring (including leachate pond levels) or test results, and other pertinent records, certifications and correspondence as required by APC&EC Regulation No. 22 or other permit conditions herein;
    - ii.) All construction test results, certifications, acceptances, construction reports, photographs, layout drawings, record (as-constructed) drawings, shop drawings, construction drawings, and other documentation required by the specifications, and CQA/QC plans, reports and documents; and
    - iii.) Other documents that pertain to the operation, maintenance, closure or post-closure of the facility, or as directed by the ADEQ.
  - b. The permittee shall forward a copy of information from the Operating Record when requested by the Department.
29. Transactions that affect the ownership of the facility must be fully disclosed to the Department.
- a. For purposes of evaluating whether a change in ownership occurs, ownership or control may result from a change in the equity of the permittee of five percent (5%) or more.
  - b. If applicable, the permittee shall submit to the Department annual and quarterly reports required by the Securities and Exchange Commission (SEC) that provide information regarding legal proceedings in which the permittee has been involved in order to determine whether any change in ownership or control of the operation of this landfill has occurred.
  - c. A permit transfer will not be required when a change in ownership or control of the facility is among the persons and/or entities previously disclosed to the Department in Section E of the Disclosure Statement or similar disclosure.
30. The permittee shall furnish the Department annual engineering inspection reports no later than June 30 of the following year in accordance with APC&EC Regulation No. 22.522.
31. A survey control system shall be established and maintained at the landfill site that complies with APC&EC Regulation No. 22.426.
32. The landfill working face shall be confined to the smallest practicable area.
33. The permittee shall not engage in or allow salvage operations at the facility except with



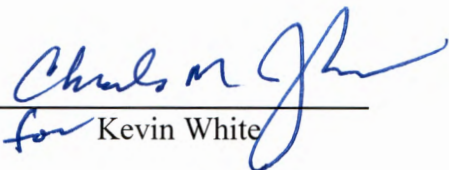
written authorization from the Department or as may be provided in the section titled Site Specific Permit Conditions. The Department may review and approve requests for future salvage of disposed materials for recycling purposes on a case-by-case basis.

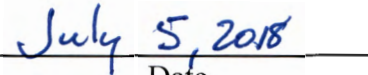
34. Disposal of bulk liquid waste in the landfill is prohibited. Liquid waste is waste that contains “free liquids” as defined by Method 9095 (Paint Filter Liquids Test) in EPA Publication No. SW-846.
35. Measures to control and prevent storm water run-on from running through or into the active disposal area shall be constructed and maintained. Grading, dikes, diversion ditches, silt fencing, silt, traps, and other best management practices (BMP) for storm water control shall be provided as necessary to control/prevent off-site sediment accumulation from landfill related operations.
36. Appropriate NPDES construction/storm water permit(s) shall be obtained for storm water discharges from the landfill site and borrow sites. A Storm Water Pollution Prevention Plan (SWPPP), which outlines erosion and sediment control measures, shall be prepared and implemented in accordance with applicable NPDES requirements. A copy of the SWPPP shall be maintained on-site for reference by operating staff.
37. The permittee shall comply with the air criteria requirements of APC&EC Regulation No. 22.515. Those requirements include meeting the State Implementation Plan (SIP) pursuant to Section 110 of the Clean Air Act; prohibiting open burning of solid waste, unless authorized by the Department; and establishing fire safety procedures.
38. Litter control measures shall be implemented, if necessary, to confine litter to the smallest practicable extent and prevent litter from leaving the site.
39. The permittee shall implement a Class 3N unauthorized waste exclusion screening and detection program at the facility in accordance with the approved Hazardous Waste and Unauthorized Waste Exclusion Plan and APC&EC Regulation No. 22.511(b). The program shall include procedures for evaluation of any questionable wastes prior to disposal to determine whether the waste complies with the APC&EC Regulation No. 22 requirements for disposal in the facility.
40. The permittee must cover disposed waste with at least six inches of soil at the end of each operating day, or at more frequent intervals if necessary, to control disease vectors, fires, odors, blowing litter, and scavenging as required by APC&EC Regulation No. 22.512. No portion of the waste is to be left exposed at the end of the operating day. Alternative materials for daily cover, such as synthetic materials, shall only be used when specifically authorized in writing by the Department. Any alternative daily cover that is proposed by the permittee must comply with Department guidelines and include specific written operating procedures that will be implemented to control disease vectors, fires, odors, blowing litter, and scavenging. The use of synthetic material will not be authorized unless it is incorporated within operating procedures that also rely on use of at least six inches of soil cover for daily cover on some days; any proposal for daily cover based solely upon full-time use of synthetic material will not be approved.

The permittee has been granted a variance from the daily cover requirements. Details of the variance are outlined in the Site Specific Permit Conditions. The Department reserves the right to rescind this exemption if deemed necessary to provide for the control of disease vectors, fires, odors, blowing litter, scavenging, or to prevent harm to human health or the environment.

41. The final grades and elevations shown on the plans shall not be exceeded at any time or in anticipation of settlement and consolidation of the waste mass.
  - a. Timely initiation and completion of closure of landfill cells or units shall be made in accordance with APC&EC Regulation No. 22.1301(f) and (g).
  - b. Proper construction of the final cover system shall be observed and certified in writing to the Department by a Registered Professional Engineer in a Construction Certification Report in accordance with the approved CQA Plan whenever a cell, area or phase of the landfill is closed-out.
  - c. The Certification Report shall include CQA/QC test results as indicated in the approved CQA Plan; drawings indicating the location, designation and extent of closed area(s); and test locations.
42. Any statements in the operational narrative, specifications, and/or engineering plans that conflict with APC&EC Regulation No. 22, permit conditions herein, or other applicable laws and regulations shall not be considered authorized by the Department.
43. This permit authorizes one (1) active disposal area at the facility per APC&EC Regulation No. 22. Multiple working faces shall not be utilized at the facility unless the permittee can provide adequate justification for more than one working face and specific authorization for such is granted in writing by the Department. It is not anticipated that such authorization will be granted except on a temporary basis for highly unusual or emergency situations.
44. The Department, its employees, agents, or any authorized person shall have the right to enter the property at any time for any reason as set out in APC&EC Regulation No. 22 for the purposes of, including but not limited to, taking samples, reviewing the operating record, inspecting the facility, and perform other enforcement or engineering action without interference or delay from the permittee.
45. The Department's decision to issue this permit is final for purposes of appeal as of the date indicated in the Certificate of Service below. If any provision of these conditions or the application of these conditions thereof to any person or circumstance is held invalid, such invalidity shall not affect other provisions or applications of these conditions that can be given effect without the invalid provision or application. Therefore, to this end, the provisions of these conditions are declared to be severable.

APPROVED BY: **Arkansas Department of Environmental Quality**  
5301 Northshore Drive  
North Little Rock, Arkansas 72118-5317

  
for Kevin White

  
Date

#### CERTIFICATE OF SERVICE

I, Karen Blue, hereby certify that a copy of this permit has been mailed by first-class mail to Mr. Terry Wehling at 502 North Allen Avenue, Shreveport, LA. 71101, on or before this 6<sup>th</sup> day of July, 2018.

## PERMIT MODIFICATION APPLICATION SUMMARY AND RATIONALE

**SWEPCO- John W. Turk, Jr. Power Plant**  
**Permit No. 0311-S3N-R1;**  
**AFIN: 29-00506**  
**June, 2018**

### PERMIT MODIFICATION APPLICATION SUMMARY

This summary form consists of information submitted during the permitting process. It represents basic information from the administrative record utilized in forming recommendations from the Solid Waste Management Division. The entire file for the solid waste permit application specified below should be reviewed for complete details on the proposed facility.

PERMIT APPLICATION SUMMARY	
1. Name of Applicant:	Southwestern Electric Power Company (SWEPCO) 502 North Allen Avenue Shreveport, LA 71101
2. Type of Facility:	Class 3N Landfill
3. Engineering Firm:	Terracon Consultants, Inc., Bryant, Arkansas
4. Application Date:	February 22, 2018 - Minor Permit Modification
5. Site Location	General: The site is located between McNab and Fulton, Arkansas in Hempstead County.
6. Permit Area:	Permitted Landfill Area: 73 acres
7. Residences Within 2 Miles:	Approximately 500 dwellings identified from USGS 7.5 minute quadrangle
8. Water Supplies Within 2 Miles:	Thirty one (31) water wells were identified within 2 miles of the proposed landfill. The wells were identified through well construction records on file at the Arkansas Geological Commission and by sending a well survey questionnaire to locations within ½ mile of the proposed landfill. The water well inventory is documented in Section 2.6 and Appendix A of the Hydrogeologic and Geotechnical Report (Document #59305)
9. Wetlands:	Landfill footprint changed to prevent disturbance of preliminarily identified adjacent wetlands.
10. Geology:	This Class 3N landfill sits on the Cretaceous Age Arkadelphia Marl. The marl consists of a limy clay with variable amounts of silt and gravel at shallow depths and grading into a firm shaley clay/clayey shale. Variable amounts of rounded chert gravel occurs within the upper clay unit especially in the northern portion of the site. Gypsum veins are present within the marl. The weathered upper marl unit ranged in thickness from approximately 30 to 45 feet. Dark gray shaley clay/clayey shale (shale) of the Arkadelphia Marl is present below the weathered upper marl. The lower shale unit of the Arkadelphia Marl ranges in thickness from approximately 65 to 95 feet. The total thickness of the Arkadelphia Marl beneath the proposed landfill ranges from 110 to 135 feet.

PERMIT APPLICATION SUMMARY	
	The Nacatoch formation is located below the Arkadelphia Marl and is represented by a hard sandstone layer overlying a fine grained, loosely cemented sand. The sandstone is generally medium to light gray with a calcareous cement and is 3 to 15 feet thick.
11. Groundwater:	<p>Groundwater within the upper Arkadelphia Marl appears to flow within the gravelly units, the gypsum veins, and fissile zones due to the blocky nature of the marl. Groundwater within the marl appears connected and to represent the uppermost aquifer. The depth to groundwater ranges from 10 to 30 feet below ground surface. The general direction of groundwater flow across the site within the intermediate wells in the Arkadelphia Marl was to the east with components northeast and southeast during the Hydrogeologic Investigation (Document #59305).</p> <p>Beneath the Arkadelphia Marl, at 110 to 135 feet below ground surface, the Nacatoch Sand is present and is used as a water supply aquifer in the area. The groundwater in the Nacatoch Sand is under confined conditions at the site. The general direction of groundwater movement in the Nacatoch Sand was to the southwest during the Hydrogeologic Investigation (Document #59305).</p>
12. Surface Drainage Sequence:	Bridge Creek is a natural drainageway approximately bisecting the permittee's property between the power block and solid waste landfill area. The topography of the proposed landfill site is relatively flat with approximately 20 feet of relief. The existing generalized overland flow conditions within the north portion of the landfill drains to the perennial Bridge Creek, while the southeast drainage is through an intermittent drainage way to Bridge Creek. Bridge Creek flows into Bois d'Arc Creek approximately five miles southeast of the landfill site within the Bois d' Arc Creek Wildlife Management Area. Surface water from the south portion of the proposed landfill drains through an unnamed intermittent drainage way to the Red River near the town of Fulton.
13. Waste Streams:	Eligible Class 3N waste generated at the site.
14. Capacity	Total Capacity = 6,884,235 Cubic Yards
15. Disposal Rate (estimation)	177,927 cubic yards per year.
16. Projected Active Life (estimation)	34 years
17. Bottom Liner System:	The bottom liner system includes a leachate collection and recovery system (LCRS) consisting of lateral permeable drainage layer (12" of drainage material on bottom landfill areas and geosynthetic geonet on landfill side slopes), and a series of pipes designed to remove leachate from the waste mass. Overlaying the LCRS is a geosynthetic geotextile and a 12" protective soil cover to shield the LCRS. Underlying the LCRS, the liner design consists of a 60 mil high density polyethylene



<b>PERMIT APPLICATION SUMMARY</b>	
	(HDPE) geomembrane above a two foot thick layer of select, low permeable clay soil material placed and compacted to achieve the required maximum $1 \times 10^{-7}$ cm/sec hydraulic conductivity.
18. Final Cover:	Overlying the waste mass is designed a final cover consisting of an 18" low permeable clay constructed to achieve a maximum hydraulic conductivity of $1 \times 10^{-7}$ cm/sec. The clay is overlain by a 60 mil high density polyethylene (HDPE) geomembrane and a geosynthetic geotextile fabric. Over the geotextile is a 12" sand drainage layer which directs any rainfall percolation to an 8" diameter slotted drain pipe installed along the perimeter of the final cover area, and then to 12" diameter outfall pipes periodically spaced at the toe of the final cover slope. A geosynthetic geotextile and an 18" layer of common soil fill are placed atop the sand drainage layer, and finally a 6" topsoil layer is placed for vegetative growth.

### PERMIT RATIONALE

The following information was considered during the preparation of a draft permit for the proposed facility:

- Original Permit Application dated February 25, 2011 (Doc #59305).
- Correspondence from the Permittee; the Arkansas Solid Waste Management Code, as Amended; Regulation Number 22; and all other applicable rules and regulations of the Arkansas Department of Environmental Quality.

<b>Condition No.</b>	<b>Site Specific Permit Conditions</b>
1	Refers to the landfill disposal area for the Class 3N facility as shown in the approved application and operational narrative plans (APC&EC Regulation No. 22.309)
2	Lists the approved design plans. (APC&EC Regulation No. 22.303)
3	Permitted disposal volume as calculated by design engineer based on permitted bottom and waste grades (APC&EC Regulation No. 22.303)
4	Concerns the types of wastes that can be accepted at the facility. The facility is permitted as a Class 3N landfill and may accept nonhazardous industrial, commercial, non-putrescible waste generated only by the permittee. Hazardous and/or toxic waste materials, liquid or semi-liquid waste, household garbage, and putrescible wastes are not authorized for acceptance and disposal at the facility (APC&EC Regulation No. 22.102)
5,6,7,8&9	Concerns various exemptions granted to permittee.
10	The minimum requirements of the approved bottom liner system (APC&EC Regulation No. 22.524). Permittee requested geomembrane component to enhance liner performance.

Condition No.	Site Specific Permit Conditions
11	The minimum requirements of the approved final cover liner system (APC&EC Regulation No. 22.528). Permittee requested geomembrane component to enhance liner performance.
12	Concerns the approved hazardous waste exclusion plan (APC&EC Regulation No. 22.511)
13	Concerns the approved operating plan and narrative (APC&EC Regulation No. 22.510)
14	CQA Plan requirements (APC&EC Regulation No. 22.524)
15	Closure and Post-Closure Plan requirements and implementation (APC&EC Regulations No. 22.1301 and No. 22.1302)
16	Specifies the initial amount of financial assurance. (APC&EC Regulations 22.1402 and No. 22.1403).

Condition No.	Groundwater Monitoring Permit Conditions
17	Statement requiring the facility to follow the provisions of APC&EC Regulation No. 22 for groundwater monitoring. In addition, no groundwater monitoring conditions in this permit or currently approved Sampling and Analysis Plan (Volume 2 of 4, Appendix J (Doc #59305) are intended to conflict with APC&EC Regulation No. 22.
18	A general summary of APC&EC Regulations No. 22.1202(a); No. 22.1201(d); and No. 22.1202(c). Monitoring of groundwater around the leachate pond is based on the clause “landfills and other facilities” in APC&EC Regulation No. 22.1201(a) – <i>Applicability</i> ; and on the definition of “facility” in APC&EC Regulation No. 22.102 - <i>Definitions</i> .
19	Defines the initial groundwater monitoring system to be installed for Cells 1 and 2 of the landfill and the leachate pond. The upper portion of the Arkadelphia Marl has been defined as the uppermost aquifer in the Hydrogeological Investigation of the site (Volume 2 of 4, Document ID 59305). Monitoring wells MW-1 through MW-8 will be screened in the same zone as the intermediate wells in the Hydrogeological Investigation. Monitoring well MW-9D will be screened in the Nacatoch Formation because of the importance of this formation as a source of drinking water.
20	Requires the permittee to monitor in accordance with the approved Sampling and Analysis Plan (SAP). Defines the current SAP. An approved SAP is required in APC&EC Regulation No. 22.1203.
21	Defines the frequency, parameters, and some reporting aspects for groundwater monitoring during background sampling and detection monitoring. Frequency and reporting are based on APC&EC Regulations No. 22.1203(k), No. 22.1203(h)(5), and No. 22.11204(b). Parameters are based on leaching and leachate results from the SWEPCO Flint Creek plant and other coal combustion plants. Leachate sampling requirements are based on APC&EC Regulation No. 22.529 (i.e. APC&EC Regulation No. 22.429).



Condition No.	General Conditions for Class 3N Facilities
22	States the Department has no responsibility for the proper functioning of the disposal facility and the permittee is not exempt from liability to third parties per APC&EC Regulation No. 8.
23	Concerns the requirements for construction and operation of the disposal facility in accordance with the approved plans/specifications/operation narrative are in accordance with APC&EC Regulation No. 22.
24	Concerns requirements to maintain the disposal facility in good operating condition under licensed, qualified, on-site landfill operators is in accordance with APC&EC Regulation No. 22 and with APC&EC Regulation No. 27.
25	Concerns the right of the Department to revoke or modify the permit in the event the facility is no longer in compliance with the Arkansas Solid Waste Management Act, APC&EC Regulation No. 22, or any other applicable regulations.
26	Concerns issuance of modifications to the permit by the Department is in accordance with APC&EC No. Regulation 22.
27	Concerns payment of permit fees in accordance with APC&EC Regulation No. 9.
28	Concerns requirements for maintenance of landfill related documents in an Operating Record are in accordance with appropriate Sections of APC&EC Regulation No. 22.
29	Concerns permit transfer and disclosure is in accordance with Act 454 of 1991.
30	Concerns requirements for submittal of an annual engineering inspection report are in accordance with APC&EC Regulation No. 22.
31	Outlines the requirements for implementation and maintenance of a survey control system at the landfill site for horizontal and vertical control of landfill construction/operation is in accordance with APC&EC Regulation No. 22.
32	Outlines requirements for disposal in a single working area of the smallest practicable extent are in accordance with APC&EC Regulation No. 22.
33	Regards salvage operations are not allowed in accordance with APC&EC Regulation No. 22.
34	Concerns the prohibition of the disposal of bulk liquid waste in the landfill is in accordance with APC&EC Regulation No. 22.
35 & 36	Concerns measures to control and prevent stormwater run through or into the active face and requirements for appropriate NPDES permit(s) and a Storm Water Pollution Prevention Plan (SWPPP) is in accordance with Sections 22.517, 22.518 and 22.527 of APC&EC Regulation No. 22, and the Clean Water Act.
37	Concerns requirements for compliance with applicable air criteria is in accordance with Section 22.515 of APC&EC Regulation No. 22 and the Clean Air Act.
38	Concerns with litter control fences and other control measures for blowing litter.
39	Concerns requirements for implementation of a Class 3N Exclusion Screening and Detection Program at the facility is in accordance with APC&EC Regulation No. 22.
40	Concerns the application of six inches of soil at the end of each operating day.
41	Concerns requirements to fill within the final grades and elevations indicated on the approved plans, timely initiation and completion of closure, and proper CQA



<b>Condition No.</b>	<b>General Conditions for Class 3N Facilities</b>
	monitoring and certification are in accordance with Sections 22.308, 22.510, 22.528, and 22.1301 of APC&EC Regulation No. 22
42	Concerns the requirements for the permittee to comply with APC&EC Regulation No. 22 or permit conditions in the event of a conflict between them and representations in the permit application documents is in accordance with Section 22.308 of APC&EC Regulation No. 22.
43	Concerns the permit authorizes only one (1) working face. APC&EC Regulation No. 22.510
44	Concerns the right of Department employees to enter the permittee's property to inspect the facility at any time without interference or delay is in accordance with Section 22.1501 of APC&EC Regulation No. 22.
45	Concerns providing notice for the purpose of appeal of the final permit in accordance with Section 22.306 of APC&EC Regulation No. 22 and in accordance with Regulation 8. Provisions regarding severability are in accordance with Section 22.1601 of APC&EC Regulation No. 22.

This document was prepared by Clark McWilliams, Engineer P.E. and Bill Sadler, P.G., Geologist Supervisor.



ARKANSAS  
Department of Environmental Quality

April 11, 2016

Mr. Terry Wehling, P.E.  
Southwestern Electric Power Company (SWEPCO)  
502 North Allen Avenue  
Shreveport, LA 71101

**RE: Approval of Minor Permit Modification and Transmittal of Revised Permit  
SWEPCO – John W. Turk, Jr. Power Plant Class 3N Landfill  
Permit Number: 0311-S3N-R1; AFIN: 29-00506  
Document Number: 68900; Cross Reference Numbers: 68754**

Dear Mr. Wehling:

The Arkansas Department of Environmental Quality – Office of Land Resources (ADEQ) has completed review of a minor permit modification application regarding the leachate collection system, final cover configuration, replacing the twelve inches (12”) of intermediate cover with alternative intermediate cover options, and expanding the eligible waste streams listing for more plant operational flexibility. ADEQ has made a decision to approve the minor permit modification, which is included in this transmittal.

This authorization is given in reliance upon the statements and representations made to the Department, and the Department has no responsibility for ultimate proper functioning of the disposal facility. The Department also reserves the right to request additional information if deemed necessary. This approval shall not remove any liability nor hold SWEPCO-John W. Turk, Jr., Power Plant Class 3N Landfill harmless in the event of any adverse environmental or public health conditions resulting from this authorization. SWEPCO shall be solely and fully responsible for implementing any corrective action necessary to remediate any adverse condition at the site based on this authorization.

If you have any questions or need additional information, please contact Ali Dorobati of my staff at (501) 682-0603 or [ali@adeq.state.ar.us](mailto:ali@adeq.state.ar.us).

Sincerely,

A handwritten signature in blue ink, appearing to read "Tammie J. Hynum", with a stylized flourish extending to the right.

Tammie J. Hynum, Senior Manager  
Regulated Waste Program  
Office of Land Resources

cc: ADEQ – Cusher, Sadler, Greenwood, Love, Hynum, Rich, Leamons, S. McWilliams, and  
Dorobati

Enclosures: Fact Sheet, Proposed Permit, and Permit Sign-off Sheet

Arkansas Department of Environmental Quality (ADEQ)

**PROPOSED PERMIT MODIFICATION FACT SHEET**

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**Permittee:** Southwestern Electric Power Company (SWEPCO)  
**Location:** 3711 Highway 355S, Fulton, AR 71838 (About 4 miles north of Fulton, Arkansas in Hempstead County, Arkansas)  
**AFIN:** 29-00506  
**Permit Number:** 0311-S3N

**Action:** The Arkansas Department of Environmental Quality (ADEQ) reviewed the Permit Modification Application submitted by Southwestern Electric Power Company (SWEPCO) on January 12, 2016, to ensure compliance with Arkansas Pollution Control and Ecology Commission (APC&EC) Regulation No. 22 and the Arkansas Solid Waste Management Act A.C.A. 8-6-201 et. seq. ADEQ proposes to issue a Class 3N Minor Permit Modification to SWEPCO for modifying the leachate collection system, final cover configuration, replacing the twelve inches (12") of intermediate cover with alternative intermediate cover options, and expanding the eligible waste streams listing for more plant operational flexibility. No capacity increase, change in estimated site-life, or change in waste unit boundary is permitted by this minor modification.

**Statement of Basis for Permit Conditions:** The basis for the conditions for this Permit Modification can be found in general in APC&EC Regulation No. 22, the Arkansas Solid Waste Management Act A.C.A. 8-6-201 et. seq. A copy of APC&EC Regulation No. 22 is available from the Department for the cost of printing the document or on the ADEQ web site: [www.adeq.state.ar.us](http://www.adeq.state.ar.us)

**Facility Description:** Southern Electric power Company (SWEPCO) owns and operates a coal-fired power plant (John W. Turk, Jr. Power Plant) with a Class 3 Non-Commercial (3N) solid waste facility (Class 3N Landfill) associated with the Power Plant. The site is located approximately 2.2 miles north of Fulton (Hempstead County), Arkansas. The Class 3N Landfill is used for disposal of fly ash, bottom ash, and other byproducts from the existing coal-fired Power Plant. The waste materials are non-hazardous and non-putrescible.

This permit modification provides SWEPCO the authority to construct and operate the Solid Waste Disposal Facility set forth in this modification application received on January 12, 2016 (Doc ID#68754) for the leachate collection system, final cover configuration, replacing the twelve inches (12") of intermediate cover with alternative intermediate cover options, and expanding the eligible waste streams listing for more plant operational flexibility.

The change include: 1) modify the leachate collection system to allow the option to utilize a double sided geocomposite with chimney drains, and on site protective cover material (soils and/or bottom ash); 2) to modify the final cover system by replacing the twelve inches (12") of drainage sand with a double sided geocomposite; 3) to modify the final cover with storm water drainage swales and let down structures in order to better control the run-off from the final cover system; 4) to replace the twelve inches (12") of intermediate cover with alternative intermediate cover option; 5) to expand the eligible waste streams listing for more plant operational

flexibility. These waste streams are from the operation of the facility.

No capacity increase, change in estimated site-life, or change in waste unit boundary is permitted by this minor modification.

**Facility Location:** Power Plant: 2,800 acre site: Both sides of Hwy 355, T12S, R26W, portions of S32 and S33; T13S, R26W portions of S4 thru S9 and S16 thru S20; T13S, R27W, portions of S13 and S24. Landfill site: T12S, R26W portions of S8 and S9. Lat: N 33 deg, 38', 59 ; Long: W 93 deg, 48', 44".

**Documents On File:** Individuals may review the administrative record in the ADEQ Records Management Section located at 5301 Northshore Drive, North Little Rock, Arkansas. In addition, the public may also review the administrative record at [http://www.adeg.state.ar.us/sw/permits/p\\_facil\\_report.asp?PermitNumber=0311-S3N](http://www.adeg.state.ar.us/sw/permits/p_facil_report.asp?PermitNumber=0311-S3N)

**Variances Or Waivers:** The Permittee is granted an exemption from the minimum daily cover requirement contained in APC&EC Regulation 22.512(a) as allowed by APC&EC Regulation 22.512(d). Condition 7 of this permit modification explains in detail about this exemption.

The correspondence consists of the following documents:

- |                   |                      |                                       |
|-------------------|----------------------|---------------------------------------|
| 1. <u>Doc #</u>   | <u>Received/Sent</u> |                                       |
| 68754             | 01/12/2016           | Minor Permit Modification Application |
| 2. Sign off Sheet |                      |                                       |

**End of Fact Sheet**



**PERMIT  
FOR THE CONSTRUCTION AND OPERATION OF A  
CLASS 3N SOLID WASTE DISPOSAL FACILITY**

**ISSUED BY  
STATE OF ARKANSAS  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
REGULATED WASTE PROGRAMS**

PERMIT NUMBER: 0311-S3N-R1  
AFIN: 29-00506  
PERMIT CLASS: Class 3N Landfill

PERMIT OWNER AND ADDRESS: Southwestern Electric Power Company (SWEPCO)  
502 North Allen Avenue  
Shreveport, LA 71101

PERMIT LOCATION: 3711 Highway 355, Fulton, AR 71838 (About 4 miles north of Fulton, Arkansas in Hempstead County, Arkansas)

LEGAL DESCRIPTION: Power Plant: 2,800 acre site: Both sides of Hwy 355, T12S, R26W, portions of S32 and S33; T13S, R26W portions of S4 thru S9 and S16 thru S20; T13S, R27W, portions of S13 and S24.

Landfill site: T12S, R26W portions of S8 and S9. Lat: N 33 deg, 38', 59"; Long: W 93 deg, 48', 44"

**DESCRIPTION OF THIS PERMIT ACTION :** This minor permit modification application was submitted to revise the leachate collection system, final cover configuration, replacing the 12 inches of intermediate cover with alternative intermediate cover options, and expanding the eligible waste streams listing for more plant operational flexibility.

**PERMIT CONDITIONS:** This permit modification provides SWEPCO the authority to construct and operate the Solid Waste Disposal Facility set forth in this modification application revised on January 12, 2016, to include: 1) modify the leachate collection system to allow the option to utilize double sided geocomposite with chimney drains, and on-site protective cover material (soils and/or bottom ash); 2) to modify the final cover system by replacing the twelve inches (12") of drainage sand with a double-sided geocomposite; 3) to modify the final cover with storm water drainage swales and let down structures in order to better control the run-off from the final cove system; 4) to replace the twelve inches (12") of intermediate cover with alternative intermediate cover option; 5) to expand the eligible waste streams listing for more plant operational flexibility. These waste streams are from the operation of the facility. Based in this modification, original conditions 2, 3, 7, 10, 11 and 12 of the original permit have been revised. No capacity increase, change in estimated site-life, or change in waste unit boundary is permitted by this minor modification.



This permit modification is issued pursuant to the provisions of the Arkansas Solid Waste Management Act (Arkansas Code Annotated 8-6-201 et seq.) as amended, hereinafter called the "Act;" Regulation No. 22, Arkansas Solid Waste Management Rules, as adopted by the Arkansas Pollution Control and Ecology Commission, hereinafter called "APC&EC Regulation No. 22;" and all other applicable rules and regulations administered by the Arkansas Department of Environmental Quality, hereinafter called "Department", and the following terms and conditions:

## PERMIT CONDITIONS

1. The permit will expire when the disposal area described in the final engineering plans for Cell 1 through Cell 5 have been filled to design capacity and is closed out in accordance with the approved closure and post-closure plans and provisions of APC&EC Regulation No. 22. The final grades and elevations shown on the approved plans, which include components of the final cover system, shall not be exceeded in anticipation of settlement and consolidation of the waste mass.
2. The approved permit plans for the facility are as follows: (from Document ID 68754)

Drawing Number	Date	Title	Revision
1-30STE900	12-17-2015	Preparation Abbreviations	1
1-30STE901	12-17-2015	Key Plan, Drawing Index, and General Notes	2
1-30STE902	12-17-2015	Bench Marks & Piezometers	1
1-30STE903	12-17-2015	Leachate Collection Excavation and Grading Plan	2
1-30STE904	12-17-2015	Typical Sections and Details	2
1-30STE905	12-17-2015	Disposal Cell 1 Excavation & Grading	1
1-30STE906	12-17-2015	Disposal Cell 1 Final Grading & Cover	1
1-30STE907	12-17-2015	Disposal Cell 2 Excavation & Grading	1
1-30STE908	12-17-2015	Disposal Cell 2 Final Grading & Cover	1
1-30STE909	12-17-2015	Disposal Cell 1 Cross Sections	2
1-30STE910	12-17-2015	Disposal Cells 1 & 2 Cross Sections	2
1-30STE911	12-17-2015	Typical Sections and Details	2
1-30STE912	12-17-2015	Typical Sections and Details	3
1-30STE913	12-17-2015	Typical Sections and Details	1
1-30STE914	12-17-2015	Disposal Cell 3 Excavation & Grading	0
1-30STE915	12-17-2015	Disposal Cell 3 Final Grading & Cover	1
1-30STE916	12-17-2015	Cross-Section All Cells	2
1-30STE917	12-17-2015	Disposal Cell 4 Excavation & Grading	1



<b>1-30STE918</b>	12-17-2015	Disposal Cell 4 Final Grading & Cover	1
<b>1-30STE919</b>	12-17-2015	Disposal Cell 5 Excavation & Grading	1
<b>1-30STE920</b>	12-17-2015	Disposal Cell 5 Final Grading & Cover	1
<b>1-30STE921</b>	12-17-2015	Cross Sections Cells 1 & 2	2
<b>1-30STE922</b>	12-17-2015	Cross Sections 3 - 5	2
<b>1-30STE923</b>	12-17-2015	Disposal Cells 1 & 2 Profiles	A
<b>1-30STE924</b>	12-17-2015	Disposal Cells 1, 2 & 3 Profiles	A
<b>1-30STE925</b>	12-17-2015	Disposal Cell 1 UG Systems Plan	A
<b>1-30STE926</b>	12-17-2015	Disposal Cell 2 UG Systems Plan	A
<b>1-30STE927</b>	12-17-2015	Disposal Cell 3 UG Systems Plan	A
<b>1-30STE928</b>	12-17-2015	Disposal Cell 4 UG Systems Plan	A
<b>1-30STE929</b>	12-17-2015	Disposal Cell 5 UG Systems Plan	A
<b>1-30STE930</b>	12-17-2015	Stormwater Management Plan	-
<b>1-30STE931</b>	12-17-2015	Chimney Drain & Stormwater Details	-
<b>1-30STE932</b>	12-17-2015	Makeup & Wastewater Pond DWG Index & General Notes	4
<b>1-30STE933</b>	12-17-2015	Makeup & Wastewater Pond Excavation & Grading Plan	5
<b>1-30STE934</b>	12-17-2015	Makeup & Wastewater Pond Sections and Notes	7
<b>1-30STE935</b>	12-17-2015	Makeup WW & Leachate Pond Access RD Plan & Sec's	6
<b>1-30STE936</b>	12-17-2015	Leachate Collection Pond Excavation & Grading Plan	4
<b>1-30STE937</b>	12-17-2015	Leachate Collection Pond Sections & Notes	5
<b>1-30STE938</b>	12-17-2015	Makeup & Wastewater Pond U/G Systems Plan	0
<b>1-30STE939</b>	12-17-2015	Sumps, Plans, and Sections	3
<b>1-30STE940</b>	12-17-2015	Leachate Sump Plan and Sections	C

3. The facility is permitted for 6,884,235 cubic yards of solid waste disposal including daily and intermediate cover material.

4. This permit is for the disposal of solid waste generated by Southwestern Electric Power Company (SWEPCO) at the John W. Turk, Jr. Power Plant. The authorized waste streams include bottom ash, economizer ash, fly ash (including flue gas desulfurization (FGD) waste ash), scrubber waste, waste coal, coal mill rejects, cooling tower sediments, cooling water screenings, construction and demolition debris, sump pit sediments, make-up water treatment sediment, fire brick and refractory materials, non-hazardous sand blast media, sediments from dredging operations, water treatment systems sediments, sand filter media, waste lime, waste activated carbon, demineralizer resins, box liners, bag filters.
  - a. Additional waste items not mentioned above may be authorized by the Department for disposal at the facility on a case-by-case basis when requested by the permittee.
  - b. Regulated PCBs and PCB items as defined in 40 CFR 761 or "Hazardous waste" as defined by APC&EC Regulation No. 23 are not authorized for disposal in the facility.

All disposed materials or waste streams and their volumes shall be reported in the annual report that is to be submitted to the Office of Land Resources.

5. The permittee is exempted from implementing a routine methane monitoring program unless the Department determines that:
  - a. The nature and quantity of waste poses a significant potential for the generation of explosive gases; or
  - b. Explosive gases have been detected in concentrations exceeding the standards identified in APC&EC Regulation 22.514 (a).
6. Salvage of disposed bottom and fly ash material for recycling purposes is authorized by the Department under the following conditions:
  - a. An area has been designated by the permittee for recovery of salvageable material.
  - b. The operations do not interfere with or otherwise delay the activities of the disposal working face.
  - c. The recovery of salvageable material must be conducted in an orderly manner and do not harm human health and the environment.
  - d. All salvaged material is removed from the landfill site daily, or properly stored so that they do not create a nuisance or unsightly appearance.

Salvage is otherwise prohibited in accordance with General Condition No. 12.

7. The permittee is granted an exemption from the minimum daily cover requirements contained in APC&EC Regulation 22.512(a) provided that the exemption will control disease vectors, fires, odors, blowing litter, scavenging, and causes no harm to human health or the environment. However, the Department reserves the right to rescind this exemption if

- deemed necessary to provide for the control of disease vectors, fires, odors, blowing litter, scavenging, or to prevent harm to human health or the environment. APC&EC Regulation 22.512(b) requires a compacted layer of cover soil of sufficient quality to ensure there is not exposed waste but, not less than twelve inches (12") shall be applied upon surface that will not receive an additional application of waste or final cover within thirty (30) days. The modification application dated January 12, 2016 (Doc ID 68754) presents acceptable alternatives to the twelve inches (12") intermediate cover. The Permittee may utilize these alternatives as presented or suitable approved equivalent.
8. The permittee is permitted to spray fly ash and bottom ash with water in order to encourage the pozzolanic reaction and develop the cementitious property of the ash material, and to control dust. Collected landfill leachate may be used as described herein only over permitted lined landfill areas.
- a. The permittee shall take all the necessary steps to prevent the generation of standing water.
  - b. No waste shall be deposited in standing water.
9. The permittee is granted an exemption from providing aeration of leachate in the Leachate Pond. From the Leachate Pond the leachate shall be conveyed to the power block area, subsequently used in the power generation operations. The leachate shall not be discharged from the landfill facility. Visual high leachate level alarms shall be installed and maintained at the Leachate Pond. High leachate levels shall be immediately corrected. Leachate Pond levels shall be recorded daily and made part of Operating Record as required by the General Permit Conditions.
10. The following bottom liner system configurations are approved for Cells 1 through 5 as shown on Drawings 1-30STE905, 1-30STE907, 1-30STE914, 1-30STE917, and 1-30STE919 of the Permit Application, Document ID 68754. The bottom liner system (including the bottom sideslopes) consists of, listed from bottom to top,
- Cell 1 Liner System:
- compacted prepared subgrade
  - 2 feet compacted clay liner soil with maximum hydraulic conductivity of  $1 \times 10^{-7}$  cm /s
  - 60 mil high density polyethylene (HDPE) geomembrane
  - woven monofilament geotextile fabric (8-oz / yd<sup>2</sup>)
  - 12 inches leachate collection drainage layer on disposal cell bottom with minimum hydraulic conductivity of  $3.0 \times 10^{-1}$  [side slopes consists of composite geonet in-lieu of drainage layer material]
  - woven monofilament geotextile fabric (8-oz / yd<sup>2</sup>) over the drainage layer
  - 12 inches of soil protective layer

Cell 2 to 5 Liner System:

- compacted prepared subgrade
- 2 feet compacted clay liner soil with maximum hydraulic conductivity of  $1 \times 10^{-7}$  cm /s
- 60 mil high density polyethylene (HDPE) geomembrane
- double-sided geocomposite
- 12 inches of protective soil or bottom ash layer with hydraulic conductivity of  $0.5 \times 10^{-4}$  cm/s
- Chimney drains located in the protective layer with a maximum 85 foot separation

11. The following landfill final cover system configurations are approved for Cells 1 through 5 as shown on Drawings 1-30STE906, 1-30STE908, 1-30STE915, 1-30STE918, and 1-30STE920 of the Permit Application, Document ID 68754. The final cover liner system consists of, listed from bottom to top.

The final cover liner system consists of, listed from bottom to top.

- 18 inches of low permeability clay soil with maximum permeability  $1 \times 10^{-7}$  cm/sec
- 60 mil high density polyethylene (HDPE) geomembrane
- double-sided geocomposite
- 18 inches of common fill (soil protective layer)
- 6 inches of topsoil

12. The permittee shall implement the Hazardous Waste and Unauthorized Waste Exclusion Plan presented in Attachment H of the Permit Application (Document ID 68754). In addition to the implementation of the approved Hazardous Waste and Unauthorized Waste Exclusion Plan, the facility shall fully meet all requirements of APC&EC Regulation No. 22.412 regarding the exclusion of all unauthorized waste streams.
13. The permittee shall implement the requirements detailed in the Operating Plan and Narrative presented in Volume 2 of 4, Appendix D of the Permit Application (Document ID 59305). In addition to the implementation of the approved Operating Plan and Narrative, the facility shall fully meet all operating requirements of APC&EC Regulation No. 22 unless specifically addressed by a permit condition.
14. Landfill cells shall be constructed in accordance with the approved CQA Plan located in Volume 3 of 4, Appendix A of Document ID 59305 and furthermore in accordance with APC&EC Regulation No. 22 and permitted designs. Before construction of a new landfill cell, notification shall be submitted in accordance with APC&EC Regulation No. 22.428.
15. The permittee shall maintain closure and post-closure care plans that describes the steps necessary to close all landfill units at any point during its active life and to maintain the integrity and effectiveness of the closure system to minimize infiltration and erosion, as required by APC&EC Regulation No. 22.1301, *et seq.* As such, the permittee shall implement the requirements detailed in the Closure and Post-Closure Plan presented in Volume 2 of 4, Appendix H of the Permit Application (Document ID 59305).
16. The initial total amount of financial assurance is \$4,972,823. Of this amount, \$1,602,500 dollars will be required for closure costs and \$3,370,323 will be required for the post-closure costs. This amount shall be subject to annual adjustments and may be increased at the discretion of the Department based upon the estimated cost for a third party to close the

largest area requiring final cover during the active life of the facility and the cost for a third party to perform post closure care.

- a. The instruments used must be in one of the forms set forth in APC&EC Regulation No. 22 or as otherwise approved by the Department.
- b. Operations allowed under this permit shall not commence until all financial assurance is satisfactorily filed with the Department.
- c. A portion or all of the financial assurance may be held by the Department beyond the time of cessation of disposal operations at the site to ensure satisfactory closure and post closure care in accordance with APC&EC Regulation No. 22.



## GROUNDWATER MONITORING PERMIT CONDITIONS

17. The groundwater monitoring program at the site shall follow the provisions of APC&EC Regulation No. 22.
18. A groundwater monitoring system shall be established and maintained at the landfill and leachate pond that consists of a sufficient number of wells or sampling points, installed at appropriate locations and depths that will yield representative samples of groundwater quality. The monitoring system shall be designed, installed, operated, and maintained in accordance with the approved design specifications throughout the active life of the facility and the post-closure care period.
19. The initial groundwater monitoring system shall utilize, at a minimum, nine (9) monitoring wells (MW-1 through MW-9D). Monitoring wells MW-1 through MW-8 will be screened in the upper Arkadelphia Marl while well MW-9D will be screened in the upper Nacatoch Formation. The monitoring well locations are shown on Figure 2, Volume 2 of 4, Appendix J, in the document titled Groundwater Sampling and Analysis Plan (Document ID 59305). These initial nine wells are to monitor waste in Cell 1 and 2 of the landfill and the leachate pond. Additional wells will be required to monitor Cells 3, 4, and 5 of the landfill at a future date. Additional wells must be installed and sampled at least one year prior to placing waste into each of the cells after Cell 2 (Cells 3, 4, or 5).
20. The facility will follow the approved Sampling and Analysis Plan (SAP). The SAP shall comply with the requirements of APC&EC Regulation No. 22. The currently approved SAP is contained within Appendix J, Volume 2 of 4 of Document ID 59305. Changes to this approved SAP will be accomplished following the provisions of APC&EC Regulation No. 22.1203.
21. Monitoring Frequency & Reporting: Per APC&EC Regulation No. 22, the groundwater monitoring frequency shall be at least semiannual during the active life of the facility and the post-closure period. During the first year of monitoring, four quarterly samples from each well shall be collected. A groundwater monitoring report shall be submitted to the ADEQ within 90 calendar days from the date of the monitoring event.

Monitoring Parameters: During detection monitoring, groundwater samples shall be analyzed for the following:

Arsenic, Barium, Boron, Cadmium, Chromium, Fluoride, Iron, Lead, Manganese, Mercury, Molybdenum, Selenium, Silver, Strontium, Chloride, Sulfate, Total Dissolved Solids (TDS), pH, Specific Conductance, and Turbidity.

All parameter concentrations above the Method Detection Limit (MDL) must be reported. The Department may modify the monitoring frequency or parameters required under this permit per APC&EC Regulation No. 22 Chapter 12.

Leachate from the landfill will be sampled at the same frequency and for the same parameters as groundwater monitoring except that turbidity is not a required parameter. [APC&EC Regulation No. 22.529 (i.e. APC&EC Regulation No. 22.429)].

### **GENERAL PERMIT CONDITIONS FOR A CLASS 3N LANDFILL**

22. This permit is issued in reliance upon the statements and representations made in the application, operating narrative, plans, specifications, correspondence, and other related documents. The Department bears no responsibility for the adequacy or proper functioning of the disposal facility. Nothing contained herein shall be construed as releasing the permittee from any liability from damage to persons or property due to the installation, maintenance, or operation of the disposal facility or any act of the permittee, or the permittee's employees or agents.
23. The disposal facility shall be constructed, operated and maintained in accordance with the final plans, specifications and operation narrative as approved by the Department and in compliance with applicable provisions of the Arkansas Solid Waste Management Act A.C.A. 8-6-201 et. seq, APC&EC Regulation No. 22.510, and all other applicable rules and APC&EC Regulations.
24. At all times the disposal facility shall be maintained in good condition and operations shall be conducted by licensed, qualified, on-site operators holding the appropriate license in accordance with APC&EC Regulation No. 27, Licensing of Solid Waste Management Facilities and Illegal Dump Control Officers.
25. This permit may be revoked or modified whenever, in the opinion of the Department, the facility is no longer in compliance with the Arkansas Solid Waste Management Act A.C.A. 8-6-201 et. seq, APC&EC Regulation No. 22, or other applicable rules and regulations (APC&EC Regulation No. 22.308). Except where expressly authorized by the Department, this permit shall not relieve the permittee, or the permittee's employees or agents, from compliance with the provisions of the Act and APC&EC Regulation No. 22.
26. The Department may issue modifications or amendments to this permit governing the design, operation, maintenance, closure or post-closure of the facility during the term of this permit. Such modifications or amendments will be incorporated to this permit and shall be fully maintained and enforceable as a condition or conditions of this permit.
27. The Department has received an initial permit fee from the permittee. Annual permit fees due thereafter shall be assessed in accordance with APC&EC Regulation No. 9, Fee System for Environmental Permits. The facility shall also be responsible for quarterly payments for disposal fees no later than January 15, April 15, July 15, and October 15 following the quarter to which the payments pertain (APC&EC Regulation 11.207(a)). Failure to pay annual fees or quarterly payments when due may result in revocation of this permit (APC&EC Regulation No. 22.309(e)).
28. The permittee shall maintain an Operating Record at the location indicated in the permit application, or at an alternate location approved in writing by the Department.
  - a. At a minimum, the following documents and materials shall be retained in the facility operating record for review by authorized representatives of the Department:



- i.) The approved facility operating plan, approved permit plans and specifications, CQA reports, site inspection reports, operator licenses, this disposal permit and written authorizations issued by the Department that provide modifications to the facility or its operations, all environmental monitoring (including leachate pond levels) or test results, and other pertinent records, certifications and correspondence as required by APC&EC Regulation No. 22 or other permit conditions herein;
    - ii.) All construction test results, certifications, acceptances, construction reports, photographs, layout drawings, record (as-constructed) drawings, shop drawings, construction drawings, and other documentation required by the specifications, and CQA/QC plans, reports and documents; and
    - iii.) Other documents that pertain to the operation, maintenance, closure or post-closure of the facility, or as directed by the ADEQ.
  - b. The permittee shall forward a copy of information from the Operating Record when requested by the Department.
29. Transactions that affect the ownership of the facility must be fully disclosed to the Department.
- b. For purposes of evaluating whether a change in ownership occurs, ownership or control may result from a change in the equity of the permittee of five percent (5%) or more.
  - c. If applicable, the permittee shall submit to the Department annual and quarterly reports required by the Securities and Exchange Commission (SEC) that provide information regarding legal proceedings in which the permittee has been involved in order to determine whether any change in ownership or control of the operation of this landfill has occurred.
  - d. A permit transfer will not be required when a change in ownership or control of the facility is among the persons and/or entities previously disclosed to the Department in Section E of the Disclosure Statement or similar disclosure.
30. The permittee shall furnish the Department annual engineering inspection reports no later than June 30 of the following year in accordance with APC&EC Regulation No. 22.522.
31. A survey control system shall be established and maintained at the landfill site that complies with APC&EC Regulation No. 22.426.
32. The landfill working face shall be confined to the smallest practicable area.
33. The permittee shall not engage in or allow salvage operations at the facility except with written authorization from the Department or as may be provided in the section titled Site Specific Permit Conditions. The Department may review and approve requests for future

salvage of disposed materials for recycling purposes on a case-by-case basis.

34. Disposal of bulk liquid waste in the landfill is prohibited. Liquid waste is waste that contains "free liquids" as defined by Method 9095 (Paint Filter Liquids Test) in EPA Publication No. SW-846.
35. Measures to control and prevent storm water run-on from running through or into the active disposal area shall be constructed and maintained. Grading, dikes, diversion ditches, silt fencing, silt, traps, and other best management practices (BMP) for storm water control shall be provided as necessary to control/prevent off-site sediment accumulation from landfill related operations.
36. Appropriate NPDES construction/storm water permit(s) shall be obtained for storm water discharges from the landfill site and borrow sites. A Storm Water Pollution Prevention Plan (SWPPP), which outlines erosion and sediment control measures, shall be prepared and implemented in accordance with applicable NPDES requirements. A copy of the SWPPP shall be maintained on-site for reference by operating staff.
37. The permittee shall comply with the air criteria requirements of APC&EC Regulation No. 22.515. Those requirements include meeting the State Implementation Plan (SIP) pursuant to Section 110 of the Clean Air Act; prohibiting open burning of solid waste, unless authorized by the Department; and establishing fire safety procedures.
38. Litter control measures shall be implemented, if necessary, to confine litter to the smallest practicable extent and prevent litter from leaving the site.
39. The permittee shall implement a Class 3N unauthorized waste exclusion screening and detection program at the facility in accordance with the approved Hazardous Waste and Unauthorized Waste Exclusion Plan and APC&EC Regulation No. 22.511(b). The program shall include procedures for evaluation of any questionable wastes prior to disposal to determine whether the waste complies with the APC&EC Regulation No. 22 requirements for disposal in the facility.
40. The permittee must cover disposed waste with at least six inches of soil at the end of each operating day, or at more frequent intervals if necessary, to control disease vectors, fires, odors, blowing litter, and scavenging as required by APC&EC Regulation No. 22.512. No portion of the waste is to be left exposed at the end of the operating day. Alternative materials for daily cover, such as synthetic materials, shall only be used when specifically authorized in writing by the Department. Any alternative daily cover that is proposed by the permittee must comply with Department guidelines and include specific written operating procedures that will be implemented to control disease vectors, fires, odors, blowing litter, and scavenging. The use of synthetic material will not be authorized unless it is incorporated within operating procedures that also rely on use of at least six inches of soil cover for daily cover on some days; any proposal for daily cover based solely upon full-time use of synthetic

material will not be approved.

The permittee has been granted a variance from the daily cover requirements. Details of the variance are outlined in the Site Specific Permit Conditions. The Department reserves the right to rescind this exemption if deemed necessary to provide for the control of disease vectors, fires, odors, blowing litter, scavenging, or to prevent harm to human health or the environment.

41. The final grades and elevations shown on the plans shall not be exceeded at any time or in anticipation of settlement and consolidation of the waste mass.
  - a. Timely initiation and completion of closure of landfill cells or units shall be made in accordance with APC&EC Regulation No. 22.1301(f) and (g).
  - b. Proper construction of the final cover system shall be observed and certified in writing to the Department by a Registered Professional Engineer in a Construction Certification Report in accordance with the approved CQA Plan whenever a cell, area or phase of the landfill is closed-out.
  - c. The Certification Report shall include CQA/QC test results as indicated in the approved CQA Plan; drawings indicating the location, designation and extent of closed area(s); and test locations.
42. Any statements in the operational narrative, specifications, and/or engineering plans that conflict with APC&EC Regulation No. 22, permit conditions herein, or other applicable laws and regulations shall not be considered authorized by the Department.
43. This permit authorizes one (1) active disposal area at the facility per APC&EC Regulation No. 22. Multiple working faces shall not be utilized at the facility unless the permittee can provide adequate justification for more than one working face and specific authorization for such is granted in writing by the Department. It is not anticipated that such authorization will be granted except on a temporary basis for highly unusual or emergency situations.
44. The Department, its employees, agents, or any authorized person shall have the right to enter the property at any time for any reason as set out in APC&EC Regulation No. 22 for the purposes of, including but not limited to, taking samples, reviewing the operating record, inspecting the facility, and perform other enforcement or engineering action without interference or delay from the permittee.
45. The Department's decision to issue this permit is final for purposes of appeal as of the date indicated in the Certificate of Service below. If any provision of these conditions or the application of these conditions thereof to any person or circumstance is held invalid, such invalidity shall not affect other provisions or applications of these conditions that can be given effect without the invalid provision or application. Therefore, to this end, the provisions of these conditions are declared to be severable.

**ARKANSAS DEPARTMENT OF ENVIRONMENTAL QUALITY  
PERMIT  
FOR A SOLID WASTE MANAGEMENT FACILITY**

PERMITTEE: Southwestern Electric Power Company (SWEPCO)

OWNER: Southwestern Electric Power Company (SWEPCO)

OPERATOR: Southwestern Electric Power Company (SWEPCO), John W. Turk, Jr Power Plant

FACILITY LOCATION: 3711 Highway 355S, Fulton, AR 71838 (About 4 miles north of Fulton, Arkansas in Hempstead County, Arkansas)

DOCUMENT ID NUMBER: 68900

ACTIVITY: Minor Modification

AFIN: 29-00506

PERMIT NUMBER: 0311-S3N

Pursuant to the provisions of the Arkansas Solid Waste Management Act (Arkansas Code Annotated 8-6-201 et seq.) as amended, hereinafter called the "Act;" Regulation No. 22, Arkansas Solid Waste Management, as adopted by the Pollution Control and Ecology Commission, hereinafter called "APC&EC Regulation No. 22, a Permit is issued by the Arkansas Department of Environmental Quality (ADEQ) to SWEPCO(Permittee), to operate a solid waste management facility located in Fulton, Hempstead County, Arkansas.

The Permittee's location is summarily described as follows:

Power Plant: 2,800 acre site: Both sides of Hwy 355, T12S, R26W, portions of S32 and S33; T13S, R26W portions of S4 thru S9 and S16 thru S20; T13S, R27W, portions of S13 and S24.

Landfill site: T12S, R26W portions of S8 and S9. Lat: N 33 deg, 38', 59"; Long: W 93 deg, 48', 44"

The Permittee shall comply with all terms and conditions of this Permit. This Permit consists of the conditions contained in APC&EC Regulation No. 22, as specified in the Permit. Applicable regulations are those which are in effect on the date of issuance of the Permit Modification, in accordance with APC&EC Regulation No. 22. Nothing contained herein shall negate the Permittee's duty to comply with the regulations and this Permit, or ADEQ's ability to enforce the regulations and this Permit. This Permit is based on the assumption that the information submitted in the Application of February 20, 2009, revised February 25, 2011 and revised on January 12, 2016 is accurate, and the facility will be operated as specified in the Applications and this Permit.

The Permittee shall inform ADEQ of any deviation from or changes in the information in the Application which would affect the Permittee's ability to comply with the applicable regulations or Permit conditions.

The Director reserves the right to amend or add conditions to this Permit, as necessary to be protective of human health and the environment.

This Permit shall be effective on service of notice of the permit modification decision, as specified in APC&EC Regulation No. 8 (Administrative Procedures), Part 2, Section 2.1.10(b).

For the purposes of resolving conflicts between requirements to which the Permittee is subject, the following hierarchy and order of authority will govern in the Permittee's duty to comply: Regulations promulgated under APC&EC Regulation No. 22; General Permit Conditions; Permit Conditions/standards specific to activities, and the Permit Modification Application(s).

Issued this 15<sup>th</sup> day of April, 2016



Tammie J. Hynum  
Senior Manager  
Regulated Waste Programs; Office of Land Resources  
Arkansas Department of Environmental Quality

Date of Service: \_\_\_\_\_

(Certificate of Mailing of Notice of Decision)

Effective Date: \_\_\_\_\_

**END OF PERMIT SIGN-OFF SHEET**