

NORTH CAROLINA  
ENVIRONMENTAL MANAGEMENT COMMISSION

COUNTY OF BUNCOMBE

IN THE MATTER OF	)	
NORTH CAROLINA	)	SPECIAL ORDER BY CONSENT
NPDES PERMIT NC0000396	)	
	)	EMC SOC WQ S17-010
HELD BY	)	
DUKE ENERGY PROGRESS, LLC	)	

Pursuant to the provisions of North Carolina General Statutes (G.S.) 143-215.2, this Special Order by Consent is entered into by Duke Energy Progress, LLC, hereinafter referred to as Duke Energy, and the North Carolina Environmental Management Commission, an agency of the State of North Carolina created by G.S. 143B-282, and hereinafter referred to as the Commission. Duke Energy and the Commission are referred to hereafter collectively as the “Parties.”

1. **Stipulations:** Duke Energy and the Commission hereby stipulate the following:
  - a. This Special Order by Consent (“Special Order”) addresses issues related to the elimination of seeps (as defined in subparagraphs e, f, and g below) from Duke Energy’s coal ash basins during the separate and independent process of basin closure under the Coal Ash Management Act, G.S. 130A-309.200 through 130A-309.231 (“CAMA”) and the Federal Coal Combustion Residuals Rule, 40 CFR Parts 257 and 261. The Environmental Protection Agency first directed permitting authorities to consider potential impacts on surface water of seeps from earthen impoundments in 2010. At that time, Duke Energy began discussions with the North Carolina Department of Environmental Quality (“the Department”) regarding seeps at multiple Duke Energy facilities, including identifying certain seeps in permit applications and providing data to the Department regarding seeps. In 2014, Duke Energy provided a comprehensive evaluation of all areas of wetness and formally applied for NPDES permit coverage of all seeps. Since 2014, Duke Energy has performed periodic inspections and promptly notified the Department of new seeps and sought NPDES permit coverage where appropriate. On March 4, 2016, the Department issued Notices of Violation (“NOVs”) to Duke Energy related to seeps.

Decanting (i.e., removal of the free water on the surface of the coal ash basins) and dewatering (i.e. removal of sufficient interstitial water), which are required before ash basins can be closed, have already been observed to affect existing seeps at Duke Energy's Asheville Facility. Removal of remaining coal ash wastewater is expected to substantially reduce or eliminate the seeps. In order to accomplish this goal of substantially reducing or eliminating seeps, this Special Order affords certain relief to Duke Energy related to the non-constructed seeps (as defined in subparagraphs f and g below), while Duke Energy completes activities associated with closure of the ash basins at the Asheville Facility. Constructed seeps (as defined in subparagraphs e and f below) will be addressed in the NPDES permits. After completion of those activities, for any remaining seeps, whether constructed or non-constructed, Duke Energy must take appropriate corrective action as specified more fully below.

- b. Duke Energy has been issued a North Carolina NPDES permit for operation of an existing wastewater treatment works at the following coal fired, electric generation facility (the "Asheville Facility"):

Facility	Permit Number	County	Issuance Date	Receiving Water for Primary Outfall
Asheville	NC0000396	Buncombe	09/12/2007	French Broad River

- c. The Asheville Facility currently operates two-coal fired generating units and two combustion turbines. A gas-fired combined cycle combustion turbine is currently under construction and scheduled to begin operation in January 2020. At that time the coal-fired units will be decommissioned. The Asheville Facility historically operated two ash basins: the 1964 basin and the 1982 basin. The 1964 basin is currently undergoing excavation and the 1982 basin has been fully excavated.
- d. Wastewater treated at coal-fired electric stations includes water mixed with ash produced through the combustion of coal for the steam generation process. Ash is controlled and collected through the use of water, creating a slurry that is conveyed to impoundments or basins with earthen dike walls. In the ash basin, the solids separate from the liquid portion, with the resulting supernatant discharged under the terms of the NPDES permit.

- e. The coal ash basins at the Asheville Facility are unlined, having no impermeable barrier installed along their floors or sides. Earthen basins and dike walls are prone to the movement of liquid through porous features within those structures through a process known as seepage. The Asheville Facility exhibits locations adjacent to, but beyond the confines of, the coal ash basins where seepage of coal ash wastewater from the coal ash basins may intermix with groundwater, reach the land surface (or “daylight”), and may flow from that area. Once such seepage reaches the land surface, it is referred to as a “seep.” Each of the seeps identified at the Asheville Facility and addressed in this Special Order exhibits some indication of the presence of coal ash wastewater. Both (a) confirmed seeps and (b) areas identified as potential seeps that were later dispositioned, are identified in Attachment A.
- f. The coal ash impoundments at the Asheville Facility contain constructed features on or within the dam structures (i.e., toe drains) to collect seepage. This wastewater is conveyed via a pipe or a constructed channel directly to a receiving water. These discrete, identifiable, point source discharges are or will be covered and regulated by the respective NPDES permits and designated as outfalls therein. The characteristics of these wastewater flows are similar to those discharging from other permitted outfalls for ash basin effluent. In this Special Order, seeps that are (1) on or within the dam structures and (2) convey wastewater via a pipe or constructed channel directly to a receiving water are referred to as “constructed seeps.” Seeps that are not on or within the dam structure or that do not convey wastewater via a pipe or constructed channel directly to a receiving stream are referred to as “non-constructed seeps.”
- g. Non-constructed seeps at the Asheville Facility often exhibit low flow volume and may be both transient and seasonal in nature, and may, for example, manifest as an area of wetness that does not flow to surface waters, a point of origin of a stream feature, or flow to an existing stream feature. These circumstances of the non-constructed seeps make them difficult to discern, characterize, quantify and/or monitor as discrete point source discharges. This creates challenges in permit development and compliance monitoring because it is difficult to accurately monitor for flow and discharge characterization. Non-constructed seeps at the Asheville Facility present significant challenges to their inclusion in NPDES permits as point source discharges, but they do cause or contribute to pollution of classified waters of the State. Therefore, these non-constructed seeps are addressed in this Special Order rather than in an NPDES permit.

- h. A subset of these non-constructed seeps at the Asheville Facility do not flow directly to surface waters, but flow to some portion of an NPDES permitted wastewater treatment system. In such instances, the seeps may be referenced in NPDES permits as contributing flow to a permitted outfall. Any non-constructed seep that falls within this subset is identified in Attachment A by the following statement in its description: "This non-constructed seep flows to a portion of an NPDES wastewater treatment system."
- i. Investigations and observations conducted by the Department and U. S. Army Corps of Engineers staff have concluded that some seeps emanating from Duke Energy's coal ash ponds create and/or flow into features delineated as classified waters of the State or Waters of the United States.
- j. Collectively, the volume of non-constructed seeps is generally low compared to the volume of historical permitted wastewater discharges at the Asheville Facility.
- k. In 2014, Duke Energy conducted a survey of each coal-fired electric generation station to identify potential seeps from the coal ash surface impoundments. Duke Energy included all areas of wetness identified around the impoundments as seeps, and submitted applications to include those seeps in NPDES permits. Beginning in 2015, Duke Energy has implemented semi-annual surveys to identify new seeps in the vicinities of the coal ash basins. Additional seeps have been observed and documented during these surveys and reported to the Department pursuant to a Discharge Identification Plan mandated by CAMA. Additional investigation has determined that not all of areas identified in 2014 are seeps, but, excluding the Sutton Facility, each Duke Energy station, including the Asheville Facility, does have multiple seeps.
- l. The Department issued an NOV to Duke Energy on March 4, 2016 for the seeps that emanate from the unlined coal ash surface impoundments at the Asheville Facility.
- m. Non-constructed seeps create conditions such that certain surface water quality standards may not consistently be met at all Duke Energy monitoring sites.
- n. The presence of coal ash influenced water in the non-constructed seeps causes or contributes to pollution of the waters of this State, and Duke Energy is within the jurisdiction of the Commission as set forth in G.S. Chapter 143, Article 21.
- o. A list of seeps identified in the vicinities of the coal ash surface impoundments at the Asheville Facility, as well as their locations, and the bodies of water those seeps may flow into (if applicable), can be found in Attachment A to this Special Order.

- p. Duke Energy must close the coal ash surface impoundments at all North Carolina coal-fired electric generating stations in accordance with applicable requirements set out in CAMA and the Federal Coal Combustion Residuals Rule, requirements of which are independent of the resolution of seeps addressed in this Special Order. Duke Energy is required to excavate the Asheville Facility to meet CAMA requirements. This excavation is required to be complete by August 1, 2022 to meet the Mountain Energy Act of 2015, SL 2015-110.
  - q. Decanting of wastewater performed at Duke Energy's coal ash basins is expected to eliminate or substantially reduce the seeps from the ash basins at the Asheville Facility.
  - r. Since this Special Order is by consent, the Parties acknowledge that review of the same is not available to the Parties in the N.C. Office of Administrative Hearings. Furthermore, neither party shall file a petition for judicial review concerning the terms of this Special Order.
2. Duke Energy, desiring to resolve the matters causing or contributing to pollution of the waters of the State described above, hereby agrees to do the following:
- a. **Penalties**
    - 1) **Upfront Penalty.** As settlement of all alleged violations due to seepage at the Asheville Facility, pay the Department, by check payable to the North Carolina Department of Environmental Quality, a penalty in the amount of **\$138,000**, calculated based upon \$12,000 each for five constructed seeps identified prior to January 1, 2015 and \$6,000 each for thirteen non-constructed seeps identified prior to January 1, 2015.

A certified check in the amount of **\$138,000** must be made payable to the Department of Environmental Quality and sent to the Director of the Division of Water Resources (DWR) at 1617 Mail Service Center, Raleigh, North Carolina 27699-1617 by no later than thirty (30) days following the date on which this Special Order is approved and executed by the Commission, and received by Duke Energy.

No penalty shall be assessed for seeps identified after December 31, 2014, given Duke Energy's inclusion of seeps in permit applications and compliance with the Discharge Identification Plan required under CAMA. By entering into this Special Order, Duke Energy makes no admission of liability, violation or wrongdoing. Except as otherwise provided herein,<sup>1</sup> payment of the upfront penalty does not absolve Duke Energy of its responsibility for the occurrence or impacts of any unauthorized discharges in the area of the Asheville Facility that may be discovered in the future, nor does the payment preclude DWR from taking enforcement action for additional violations of the State's environmental laws.

- 2) **Stipulated Penalties.** Duke Energy agrees that unless excused under paragraph 6, Duke Energy will pay the Department, by check payable to the North Carolina Department of Environmental Quality, stipulated penalties according to the following schedule for failure to perform activities described in paragraphs 2(b, c, and d) and 3, or for failure to comply with interim action levels listed in Attachment A.

Failure to meet a deadline in the Compliance Schedule in 2(b) of this Special Order	\$1,000.00/day for the first seven days; \$2,000.00/day thereafter
Failure to meet any other deadline in this Special Order	\$1,000.00/day for the first seven days; \$2,000.00/day thereafter
Exceedance of an interim action level listed in Attachment A	\$4,500.00 per monitored exceedance
Monitoring frequency violations	\$1,000.00 per violation
Discharge from constructed seeps in violation of terms in paragraph 3 of this Special Order.	\$4,000.00 per day discharge occurs
Failure to submit, by the deadlines set forth herein, adequate amendments to groundwater Corrective Action Plans or Closure Plans to address all remaining seeps, whether constructed or non-constructed, through corrective action as applicable under paragraph 2(b)(3) of this Special Order. <sup>2</sup>	\$5,000.00 per day, to a maximum of \$1,000,000.00 per electric generating facility.

As long as Duke Energy remains in compliance with the terms of this Special Order, as well as CAMA and conditions of any approvals issued thereunder, the Department shall not assess civil penalties for newly identified seeps.

<sup>1</sup> See especially paragraph 2(a)(2) excepting newly identified seeps from future penalties under certain conditions.

<sup>2</sup> Failure to adequately implement any amended Corrective Action Plan or Closure Plan will be handled in the normal course.

- b. **Compliance Schedule.** Duke Energy shall undertake the following activities in accordance with the indicated time schedule. No later than fourteen (14) calendar days after any date identified for accomplishment of any activity, Duke Energy shall submit to the Director of DWR written notice of compliance or noncompliance therewith. In the case of compliance, the notice shall include the date compliance was achieved along with supporting documentation if applicable. In the case of noncompliance, the notice shall include a statement of the reason(s) for noncompliance, remedial action(s) taken, and a statement identifying the extent to which subsequent dates or times for accomplishment of listed activities may be affected.

As noted in 1(c), the 1982 ash basin has been fully excavated. Within the footprint of the 1964 ash basin, a modified rim ditch system has been installed to provide coal ash wastewater treatment. Decanting is largely complete at the 1964 basin, with the exception of wastewater processed through the rim ditch system. Removal of interstitial water (dewatering) is underway within the 1964 ash basin in order to complete the required excavation-based closure at Asheville.

- 1) Within ninety days after the Asheville coal fired generation ceases, and no later than April 30, 2020, Duke Energy shall conduct a comprehensive survey of areas downgradient of the ash basins identifying new seeps, and documenting the physical characteristics of previously documented seeps. All examinations of seeps must include identification of seeps by approximate latitude and longitude and date-stamped digital photographs of their appearance. A report summarizing the findings of the surveys, including a section analyzing the effect decanting of the basin(s) has on seep flows, accompanied by copies of the photographs noted above ("Interim Seep Report"), shall be submitted to the Director of DWR no later than April 30, 2020. This Interim Seep Report must list any seep that has been dispositioned (as described below) since the Special Order became effective, including an analysis of the manner of disposition. For purposes of this Special Order, "dispositioned" includes the following: (1) the seep is dry for at least three consecutive quarters; (2) the seep does not constitute, and does not flow to, waters of the State or Waters of the United States for three consecutive quarters; (3) the seep is no longer impacted by flow from any coal ash basin as determined by the Director of DWR in accord with applicable law and best professional judgment; or (4) the seep has been otherwise eliminated (e.g., through an engineering solution). If a seep that has been dispositioned through drying up reappears in any subsequent survey, such a seep will no longer be deemed dispositioned and can be subsequently re-dispositioned as specified above. Non-constructed seeps described in paragraph 1(h) of this SOC cannot be dispositioned through option (2) above.

The determination of whether a seep is dispositioned rests with the Director of DWR. At, or at any time prior to, submission of the Interim Seep Report, Duke Energy shall seek formal certification from the Director of DWR, certifying the disposition of any seep that Duke Energy has characterized as dispositioned. Any seeps not certified as dispositioned by the Director of DWR shall not be deemed as dispositioned.

- 2) If any seeps (including both constructed and non-constructed seeps) have not been certified by the Director of DWR as dispositioned (as described in subparagraph 1) above), Duke Energy shall conduct a characterization of those seeps.<sup>3</sup> Duke Energy shall submit a report on the findings of these characterizations (“Seep Characterization Report”) to the Director of DWR no later than June 30, 2020. The Seep Characterization Report must include all sampling data for each remaining seep as well as Duke Energy’s evaluation of the jurisdictional status of all seeps at the Asheville Facility. The determination regarding whether a surface water feature is a classified water of the State rests with DWR.
- 3) No later than August 31, 2020, Duke Energy shall submit a complete and adequate proposed amendment to the groundwater Corrective Action Plan and/or Closure Plan as appropriate for the Asheville Facility describing how any seeps identified in the Seep Characterization Report will be managed in a manner that will be sufficient to protect public health, safety, and welfare, the environment, and natural resources. This proposed amendment will go to public comment. Duke Energy shall submit documentation that the proposed modification has been submitted to the appropriate division within the Department that has authority for approving modification of the groundwater Corrective Action Plan and/or Closure Plan. The content of, and DEQ’s review of, an amendment to a groundwater Corrective Action Plan shall be consistent with Title 15A, Chapter 2L of the N.C. Administrative Code (specifically including 2L.0106(h)-(o)). The amendment to the Corrective Action Plan and/or Closure Plans shall be implemented by Duke Energy in accordance with the deadlines contained therein, as approved or conditioned by the Department. Failure by Duke Energy to implement the amendment will be handled in the normal course by the Department in accordance with its enforcement procedures (i.e., outside this Special Order).

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<sup>3</sup> If any seep is dispositioned between the time that the Interim Seep Report is submitted and the time the Seep Characterization Report is submitted, an analysis of the manner of disposition must be included in the Seep Characterization Report, and Duke Energy must seek certification of such a disposition from the Director of DWR. Only if such certification is received prior to the due date of the proposed amendment described in paragraph 2(b)(3) may such a seep, certified as dispositioned, be omitted from the proposed amendment.



For clarity, listed below is a summary of the timetable for the documents due after completion of steps above:

<b>Document</b>	<b>Due Date</b>
Interim Seep Report	April 30, 2020
Seep Characterization Report	June 30, 2020
Proposed amendment to groundwater Corrective Action Plan and/or Closure Plan	August 31, 2020

4) **Termination of Special Order**

This Special Order shall terminate 30 days following the approval of an amended groundwater Corrective Action Plan and/or Closure Plan, as appropriate (if an amendment is submitted in compliance with subparagraph 2(b)(3) above).

c. **Additional Compliance Measures.** Duke Energy shall undertake the following additional compliance measures:

- 1) If the monitoring of any classified water of the State receiving flow from seeps regulated by this Special Order indicates exceedance of any interim action level established by the Special Order, Duke Energy shall increase monitoring at that location from quarterly to monthly until concentrations of monitored characteristics return to those observed at the initiation of the Special Order. If any interim action level established by the Special Order is exceeded by more than 20% in a single sampling event, or exceeded for two (2) consecutive monitoring events, in addition to paying the associated stipulated penalty, Duke Energy shall conduct a re-assessment of the contributing seep(s), including, but not limited to, evaluation of proposed remedial actions for treatment and/or control of the seep such that impacts to the receiving waters are quickly mitigated. A report compiling the findings of the re-assessment, including proposed remedial actions, shall be provided to the Director of DWR within 60 days of any applicable exceedance. Following its review, DWR shall notify Duke Energy of its concurrence or disapproval of Duke Energy's proposed remedial actions.
- 2) During the time this Special Order is in effect, Duke Energy shall provide quarterly reports on the status of decanting and dewatering work, and other activities undertaken with respect to closure of its Asheville Facility to DWR. The quarterly reports are due by April 30, July 30, October 30 and January 30 while this Special Order is in effect. The reports are to be submitted as follows: one copy must be mailed to the appropriate Regional Office Supervisor for the Asheville Facility and one copy must be mailed to the Water Quality Permitting Program, Division of Water Resources, 1617 Mail Service Center, Raleigh, NC 27699-1617.

**d. Interim Action Levels.**

- 1) Duke Energy shall perform representative monitoring of waters receiving flow from non-constructed seeps in accordance with the schedules listed in Attachments A and B, except as noted in paragraph 2(c)(1) above.
  - 2) Upon the complete execution of this Special Order, with regard to non-constructed seeps, interim action levels for the receiving waters which are minor tributaries are hereby established as noted in Attachment A. The interim action levels are site-specific. Duke Energy shall monitor at approved sampling sites to ensure interim action levels are met. Interim action levels shall remain effective in the designated surface waters until the applicable termination date in paragraph 2(b)(4) is reached.
  - 3) Monitoring associated with seeps covered by this Special Order is exempt from the electronic reporting requirements associated with NPDES permits. Results of monitoring required exclusively per the terms of this Special Order shall be reported to the Director of DWR in a spreadsheet/worksheet format agreed to by Duke Energy and DWR. Monitoring data shall be submitted to the Director of DWR in a digital format no later than 30 days following the end of each calendar quarter for as long as the Special Order is in effect. Monitoring data shall be sent to the following email address: [desocdata@ncdenr.gov](mailto:desocdata@ncdenr.gov). Data from those sites with monitoring required exclusively per the terms of the Special Order will be posted on DWR's website to provide the public with the opportunity for viewing.
3. Duke Energy shall continue to pump discharges from constructed seeps 64EO-1, 64EO-2 and 64EO-3 (toe drains and engineered seep collection) back into the 1964 ash basin until the commencement of decanting from the rim ditch treatment system. At that time, Duke Energy may commence direct discharge of wastewater via outfall 101 per the terms of NPDES permit NC000396.
- During the time when Duke Energy is pumping constructed seep flows to the ash basin, it shall not be liable for the occurrence of discharges from those seeps to surface waters if such discharge is caused by an unanticipated power outage or mechanical failure of pump equipment, provided that interruptions of pumping are addressed expeditiously, and in no instance does a discharge event last for longer than 72 hours.
4. Duke Energy will continue to operate the 1964 coal ash surface impoundment in such a manner that its performance is optimized, and potential for surface waters to be affected by seeps is minimized.
  5. Duke Energy shall make available on its external website the NPDES permit, this Special Order and all reports required under this Special Order for the Asheville Facility no later than thirty (30) days following their effective or submittal dates.

6. Duke Energy and the Commission agree that the stipulated penalties specified in paragraphs 2(a)(2) and 3 are not due if Duke Energy satisfies DWR that noncompliance was caused solely by:
  - a. An act of God;
  - b. An act of war;
  - c. An intentional act or omission of a third party, but this defense shall not be available if the act or omission is that of an employee or agent of Duke Energy or if the act or omission occurs in connection with a contractual relationship with Duke Energy;
  - d. An extraordinary event beyond the Duke Energy's control, specifically including any court order staying the effectiveness of any necessary permit or approval. Contractor delays or failure to obtain funding will not be considered as events beyond Duke Energy's control; or
  - e. Any combination of the above causes.
7. Failure within thirty (30) days of receipt of written demand by DWR to pay the stipulated penalties, or challenge them by a contested case petition pursuant to G.S. 150B-23, will be grounds for a collection action, which the Attorney General is hereby authorized to initiate. The only issue in such an action will be whether the thirty (30) days has elapsed.
8. Any non-constructed seeps causing or contributing to pollution of waters of the State associated with the coal ash impoundments at Duke Energy's Asheville electric generation station, and listed in Attachment A to this Special Order, are hereby deemed covered by this Special Order. Any newly-identified, non-constructed seeps discovered during the time this Special Order is in effect, and timely reported to the Department per the terms of CAMA and this Special Order, shall be deemed covered by the terms of the Special Order, retroactive to the time of their discovery. Newly-identified non-constructed seeps must be sampled for the presence of those characteristics listed in Attachment B to this Order. Newly-identified non-constructed seeps found to be causing or contributing to pollution of the waters of the State, with the effect of causing a violation of water quality standards in surface waters not already referenced in the Special Order, may require modification of the Special Order to address those circumstances.
9. Noncompliance with the terms of this Special Order is subject to enforcement action in addition to the above stipulated penalties, including, but not limited to injunctive relief pursuant to G.S. 143-215.6C or termination of this Special Order by the Director of DWR upon ten (10) days' notice to Duke Energy. Noncompliance with the terms of this Special Order will not be subject to civil penalties in addition to the above stipulated penalties.

10. This Special Order and any terms or conditions contained herein, hereby supersede any and all previous Special Orders, Enforcement Compliance Schedule Letters, terms, conditions, and limits contained therein issued in connection with NPDES permit NC0000396.
11. This Special Order may be modified at the Commission's discretion, provided the Commission is satisfied that Duke Energy has made good faith efforts to secure funding, complete all construction, and achieve compliance within the dates specified. In accordance with applicable law, modification of this Special Order will go to public notice prior to becoming effective.
12. Failure to pay the up-front penalty within thirty (30) days of execution of this Special Order will terminate this Special Order.
13. In addition to any other applicable requirement, each report required to be submitted by Duke Energy under this Special Order shall be signed by a plant manager or a corporate official responsible for environmental management and compliance, and shall include the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.
14. This Special Order shall become effective in accordance with state law, and once effective, Duke Energy shall comply with all schedule dates, terms, and conditions herein.

**This Special Order by Consent shall expire no later than June 30, 2022.**

For Duke Energy Progress, LLC:

\_\_\_\_\_  
Paul Draovitch  
Senior Vice President, Environmental, Health & Safety

\_\_\_\_\_  
Date

For the North Carolina Environmental Management Commission:

\_\_\_\_\_  
J. D. Solomon, P.E.  
Chair of the Commission

\_\_\_\_\_  
Date

Attachment A  
S17-010  
Duke Energy Progress, LLC - Asheville Plant, p.1

**Constructed Seeps**

Seep ID Number	Approximate Location Coordinates		Description	Receiving Waterbody	Receiving Waterbody Classification	SOC Monitoring	Interim Action Levels
	Latitude	Longitude					
64EO-01	35.468319	-82.549104	Easternmost of two engineered drain pipes from 1964 Ash Basin. All flow is currently being collected and pumped back into ash basin. Any discharge would flow into UT, through culvert under I-26, into wetland area draining to C-01. Will become permitted outfall in upcoming NPDES permit renewal.	Unnamed tributary (UT) to French Broad River	B	N/A – Monitoring Established per Terms of NPDES Permit	Seep initially collected at engineered outfall and pumped back to basin; afterwards, see C-01
64EO-02	35.468319	-82.549104	Westernmost of two engineered drain pipes from 1964 Ash Basin. All flow is currently being collected and pumped back into ash basin. Any discharge would flow into UT, through culvert under I-26, into wetland area draining to C-01. Will become permitted outfall in upcoming NPDES permit renewal.	UT to French Broad River	B	N/A – Monitoring Established per Terms of NPDES Permit	Seep initially collected at engineered outfall and pumped back to basin; afterwards, see C-01
64EO-03	35.466943	-82.548502	Engineered drain from 1964 Ash Basin at black corrugated culvert. Flow infiltrates downstream. All flow is currently being collected and pumped back into ash basin. Any discharge would flow into UT, through culvert under I-26, into wetland area draining to C-01. Will become permitted outfall in upcoming NPDES permit renewal.	UT to French Broad River	B	N/A – Monitoring Established per Terms of NPDES Permit	Seep initially collected at engineered outfall and pumped back to basin; afterwards, see C-01

\*Location previously investigated as a seep. Monitoring has not indicated the presence of coal combustion residuals.

\*\* Seep dispositioned via repair and/or non-flowing condition to potentially reach WOTUS, or other, as noted.

Monitoring shall be conducted at the approximate locations indicated on the attached site map.

All monitoring shall be conducted per the requirements found in Attachment B of this Order.

Attachment A  
S17-010  
Duke Energy Progress, LLC - Asheville Plant, p.2

**Non-Constructed Seeps**

Seep ID Number	Approximate Location Coordinates		Description	Receiving Waterbody	Receiving Waterbody Classification	SOC Monitoring	Interim Action Level
	Latitude	Longitude					
A-01	35.471253	-82.552914	Point of drainage to French Broad River from wetland/braided flow west of I-26. Northernmost of sample locations near river.	Wetlands draining to French Broad River	B	Monitoring at location A-01 prior to entering French Broad River	pH 5-10 s.u. Mercury 50 ng/L Selenium 10 µg/L
A-02	35.471155	-82.552596	Minor seep in wet area just upstream of A-01. Channelled flow drains toward A-01 location.	Wetlands draining to French Broad River	B	Monitoring at location A-01	See A-01
B-01	35.468595	-82.551418	Point of drainage to French Broad River from wetland/braided flow west of I-26 and south of A-01.	Wetlands draining to French Broad River	B	Monitoring at location B-01 prior to entering French Broad River	Mercury 50 ng/L Chlorides 600 mg/L TDS 2100 mg/L
C-01	35.466042	-82.549701	Point of drainage to French Broad River from wetland/braided flow west of I-26 and south of B-01	UT to French Broad River	B	Monitoring at location C-01 prior to entering French Broad River	Molybdenum 300 mg/L TDS 1500 mg/L Nickel 50 µg/L
C-02	35.466891	-82.548651	Monitoring location of UT below 1964 Ash Basin for effects of general area seepage; site is located just east of culvert under I-26. Stream flow is conveyed into wetland area draining toward C-01 location.	UT to French Broad River	B	Monitoring at location C-01	See C-01
C-03	35.469383	-82.549293	Seep near base of northwest side of 1964 Ash Basin. Any flow drains to 64EO-3, the 1964 engineered outfall collection system. This non-constructed seep flows to a portion of an NPDES wastewater treatment system.	UT to French Broad River	B	N/A – Monitoring Established per Terms of NPDES Permit	Seep initially collected at engineered outfall and pumped back to basin; afterwards, see C-01

\*Location previously investigated as a seep. Monitoring has not indicated the presence of coal combustion residuals.

\*\* Seep dispositioned via repair and/or non-flowing condition to potentially reach WOTUS, or other, as noted. Monitoring shall be conducted at the approximate locations indicated on the attached site map. All monitoring shall be conducted per the requirements found in Attachment B of this Order.

Attachment A  
S17-010  
Duke Energy Progress, LLC - Asheville Plant, p.3

Seep ID Number	Approximate Location Coordinates		Description	Receiving Waterbody	Receiving Waterbody Classification	SOC Monitoring	Interim Action Level
	Latitude	Longitude					
C-05	35.46887	-82.54915	AOW near base of northwest side of 1964 Ash Basin. Any flow drains to 64EO-3, the 1964 engineered outfall collection system. This non-constructed seep flows to a portion of an NPDES wastewater treatment system.	UT to French Broad River	B	N/A – Monitoring Established per Terms of NPDES Permit	Seep initially collected at engineered outfall and pumped back to basin; afterwards, see C-01
D-01	35.466013	-82.549584	Seep to established channel within wetlands west of I-26. Channel flows to C-01 location.	Wetlands draining to French Broad River	B	Monitoring at location C-01	See C-01
E-01	35.465061	-82.54944	Point of drainage to French Broad River from wetland/braided flow west of I-26 and south of C-01 drainage.	Wetlands draining to French Broad River	B	Monitoring at location E-01 prior to entering French Broad River	pH 5-10 s.u. Nickel 60 ug/L TDS 600mg/L
F-01	35.463581	-82.54854	Point of drainage to French Broad River from wetland/braided flow west of I-26 and south of E-01 drainage.	Wetlands draining to French Broad River	B	Monitoring at location F-01 prior to entering French Broad River	pH 5-10 s.u. Copper 15 µg/L Mercury 50 ng/L Nickel 100 µg/L TDS 1000 mg/L
F-02	35.462533	-82.547499	Point of drainage to French Broad River from wetland/braided flow west of I-26 and south of F-01 drainage.	Wetlands draining to French Broad River	B	Monitoring at location F-02	pH 5-10 s.u.
F-03	35.463114	-82.547177	Monitoring location within wetland area west of I-26, at outlet of culvert under I-26. May be remnant beaver pond. Flows toward F-01 location, then to French Broad River.	Wetlands draining to French Broad River	B	Monitoring at location F-01	See F-01

\*Location previously investigated as a seep. Monitoring has not indicated the presence of coal combustion residuals.

\*\* Seep dispositioned via repair and/or non-flowing condition to potentially reach WOTUS, or other, as noted.

Monitoring shall be conducted at the approximate locations indicated on the attached site map.

All monitoring shall be conducted per the requirements found in Attachment B of this Order.



**Attachment A**  
**S17-010**  
**Duke Energy Progress, LLC - Asheville Plant, p.4**

Seep ID Number	Approximate Location Coordinates		Description	Receiving Waterbody	Receiving Waterbody Classification	SOC Monitoring	Interim Action Level
	Latitude	Longitude					
K-01	35.463051	-82.545751	Monitoring location of UT below the 1982 Ash Basin dam, just east of culvert under I-26, conveying flow to wetlands west of I-26. Flows drain through wetlands past locations F-03 and F-01 before entering French Broad River.	UT to wetlands and French Broad River	B	Monitoring at location F-01	See F-01
K-02**	35.463581	-82.544577	Seep emerging southeast of 1982 basin dam. Flows through wetlands to sampling location F-01 before entering French Broad River.	Wetlands draining to French Broad River	B	N/A – Seep Dispositioned	N/A – Seep Dispositioned
M-01	35.464266	-82.546712	Monitoring location for coalescence of seep flows prior to entering culvert under I-26. Flow drains through wetlands to sampling location F-01 before entering French Broad River.	Wetlands draining to French Broad River	B	Monitoring at location F-01	See F-01
N-01	35.474088	-82.551532	Seep to small channel upstream of its confluence with Powell Creek.	Unnamed tributary (UT) to Powell Creek	C	Monitoring of UT prior to confluence with Powell Creek	Cadmium 5 µg/L Mercury 50 ng/L
P-01*	35.46185	-82.544625	Monitoring site of small drainage channel south of 1982 ash basin prior to entering culvert beneath I-26. From sampling – No CCR impacts.	UT to the French Broad River	B	N/A – Seep Dispositioned	N/A – Seep Dispositioned
Ponded Water F	35.467232	-82.550521	Ponded water near dry channel between locations B-01 and C-01	Wetlands draining to French Broad River	B	Monitoring at locations B-01 and C-01	See B-01 and C-01

\*Location previously investigated as a seep. Monitoring has not indicated the presence of coal combustion residuals.

\*\* Seep dispositioned via repair and/or non-flowing condition to potentially reach WOTUS, or other, as noted.

Monitoring shall be conducted at the approximate locations indicated on the attached site map.

All monitoring shall be conducted per the requirements found in Attachment B of this Order.

**Attachment A**  
**S17-010**  
**Duke Energy Progress, LLC - Asheville Plant, p.5**

Seep ID Number	Approximate Location Coordinates		Description	Receiving Waterbody	Receiving Waterbody Classification	SOC Monitoring	Interim Action Level
	Latitude	Longitude					
SD-01*	35.474121	-82.552079	Storm Drain location at north end of site near Powell Creek. From sampling – No CCR impacts.	Powell Creek	C	N/A – Seep Dispositioned	N/A – Seep Dispositioned
82EO-01	35.464058	-82.544848	Western drain (Drain 1) from 1982 ash basin. Basin has been excavated and repurposed. Any flow would drain to K-01 and F-01 locations.	UT to wetlands draining to French Broad River	B	Monitoring at location F-01	See F-01
82EO-02	35.464058	-82.544848	Eastern drain (Drain 2) from 1982 ash basin; east weir. Basin has been excavated and repurposed. Any flow would drain to K-01 and F-01 locations.	UT to wetlands draining to French Broad River	B	Monitoring at location F-01	See F-01
DD-Pipe	35.466724	-82.544403	French drain below divider dike between '64 and past '82 basin. Flow is into past '82 basin footprint which is requested for removal from NPDES permit. Flow would drain toward M-01 location and then to sample point at F-01.	UT to wetlands draining to French Broad River	B	Monitoring at location F-01	See F-01

**Instream Monitoring**

Description	Receiving Waterbody	Receiving Waterbody Classification	SOC Monitoring	Interim Action Levels
Instream Monitoring to evaluate potential impacts from seeps	French Broad River	B	Upstream & Downstream Monitoring of the French Broad River	N/A – 2B Standards Apply

\*Location previously investigated as a seep. Monitoring has not indicated the presence of coal combustion residuals.  
 \*\* Seep dispositioned via repair and/or non-flowing condition to potentially reach WOTUS, or other, as noted.  
 Monitoring shall be conducted at the approximate locations indicated on the attached site map.  
 All monitoring shall be conducted per the requirements found in Attachment B of this Order.

# Asheville Plant - Water Quality Monitoring Locations



- ★ Stream Monitoring
- ★ Upstream Monitoring – French Broad River
- ★ Downstream Monitoring – French Broad River

SOC S17-010  
Duke Energy Progress, LLC – Asheville Plant  
Attachment B  
Monitoring Requirements

The following represents the parameters to be analyzed and reported at all monitoring locations designated within this Special Order.

Parameter	Reporting Units	Monitoring Frequency
TSS	mg/L	Annually
Oil and Grease	mg/L	Annually
pH	Standard Units (s. u.)	Quarterly
Fluoride	µg/L	Quarterly
Total Mercury	ng/L	Quarterly
Total Barium	µg/L	Quarterly
Total Zinc	µg/L	Quarterly
Total Arsenic	µg/L	Quarterly
Total Boron	µg/L	Quarterly
Total Cadmium	µg/L	Quarterly
Total Chromium	µg/L	Quarterly
Total Copper	µg/L	Quarterly
Total Thallium	µg/L	Quarterly
Total Lead	µg/L	Quarterly
Total Nickel	µg/L	Quarterly
Total Selenium	µg/L	Quarterly
Nitrate/Nitrite as N	mg/L	Quarterly
Bromides	mg/L	Quarterly
Sulfates	mg/L	Quarterly
Chlorides	mg/L	Quarterly
TDS	mg/L	Quarterly
Total Hardness	mg/L	Quarterly
Temperature	° C	Quarterly
Conductivity, µmho/cm	µmho/cm	Quarterly