

# SOUTHERN ENVIRONMENTAL LAW CENTER

Telephone 919-967-1450

601 WEST ROSEMARY STREET, SUITE 220  
CHAPEL HILL, NC 27516-2356

Facsimile 919-929-9421

October 3, 2017

**Via Certified Mail – Return Receipt Requested**

Mr. Michael S. Regan, Secretary  
N.C. Department of Environmental Quality  
1601 Mail Service Center  
Raleigh, NC 27699-1601

Ms. Lynn J. Good, President and Chief Executive Officer  
Duke Energy Carolinas, LLC  
P. O. Box 1771  
Raleigh, NC 27602

**Notice of Intent to Sue  
Clean Water Act Section 505 - 33 U.S.C. § 1365**

RE: 60-Day Notice of Violations by Duke Energy Carolinas, LLC  
Belews Creek Steam Station  
NPDES Wastewater Permit No. NC0024406

To Whom It May Concern:

Pursuant to Section 505(b) of the Clean Water Act (33 U.S.C. § 1365(b)), Appalachian Voices, the North Carolina Conference of the National Association for the Advancement of Colored People (“NAACP”) Branches, and the Stokes County Branch of the NAACP (collectively, the “Citizen Groups”), through their undersigned counsel, provides notice of the violations of effluent standards and limitations and the Clean Water Act set forth below. 33 U.S.C. § 1365(f). After the expiration of 60 days, the Citizen Groups intend to bring suit for these violations pursuant to the citizen suit provision of the Clean Water Act, Section 505(a), 33 U.S.C. § 1365(a).

As set out below, Duke Energy Carolinas, LLC (“Duke Energy”) is dumping untreated coal ash pollution at its Belews Creek Steam Station (“Belews Creek”) directly into waters of the United States without a Clean Water Act permit authorizing these discharges, and also in violation of its existing permit.

First, Duke Energy is illegally polluting waters of the United States—including the Dan River, Belews Lake, and Little Belews Creek—by discharging coal ash pollutants into these waters through unpermitted seeps, without any authorization under its existing Clean Water Act permit.

Second, Duke Energy has unlawfully appropriated a portion of Little Belews Creek, a water of the United States and North Carolina and a tributary of the Dan River, to be part of its coal ash wastewater pollution system.

Third, Duke Energy is violating an express provision of its Clean Water Act permit which requires it to prevent pollutants and other materials removed during wastewater treatment from entering groundwater or surface waters. Instead, Duke Energy has allowed coal ash, coal ash pollutants, and other materials removed during its wastewater treatment to enter into the groundwater and surface waters at Belews Creek. Duke Energy is also failing to properly operate and maintain its coal ash wastewater treatment basin at Belews Creek, in violation of another express requirement of its permit.

Finally, Duke Energy is discharging pollutants without a permit from its coal ash basin to the Dan River, Belews Lake, Little Belews Creek, and other tributaries through hydrologically connected groundwater.

As a result, the Dan River, Belews Lake, Little Belews Creek, other tributary streams, groundwater, and downstream drinking water supplies are being polluted by the unpermitted and forbidden discharges of coal ash; raw, untreated coal ash water; leachate; heavy metals; carcinogens; and other contaminants. Duke Energy's contaminated coal ash discharges have also caused carcinogens to form in downstream drinking water intakes that tens of thousands of people rely on.

### **Background & Location of Violations**

#### **Belews Creek Coal Ash Pollution**

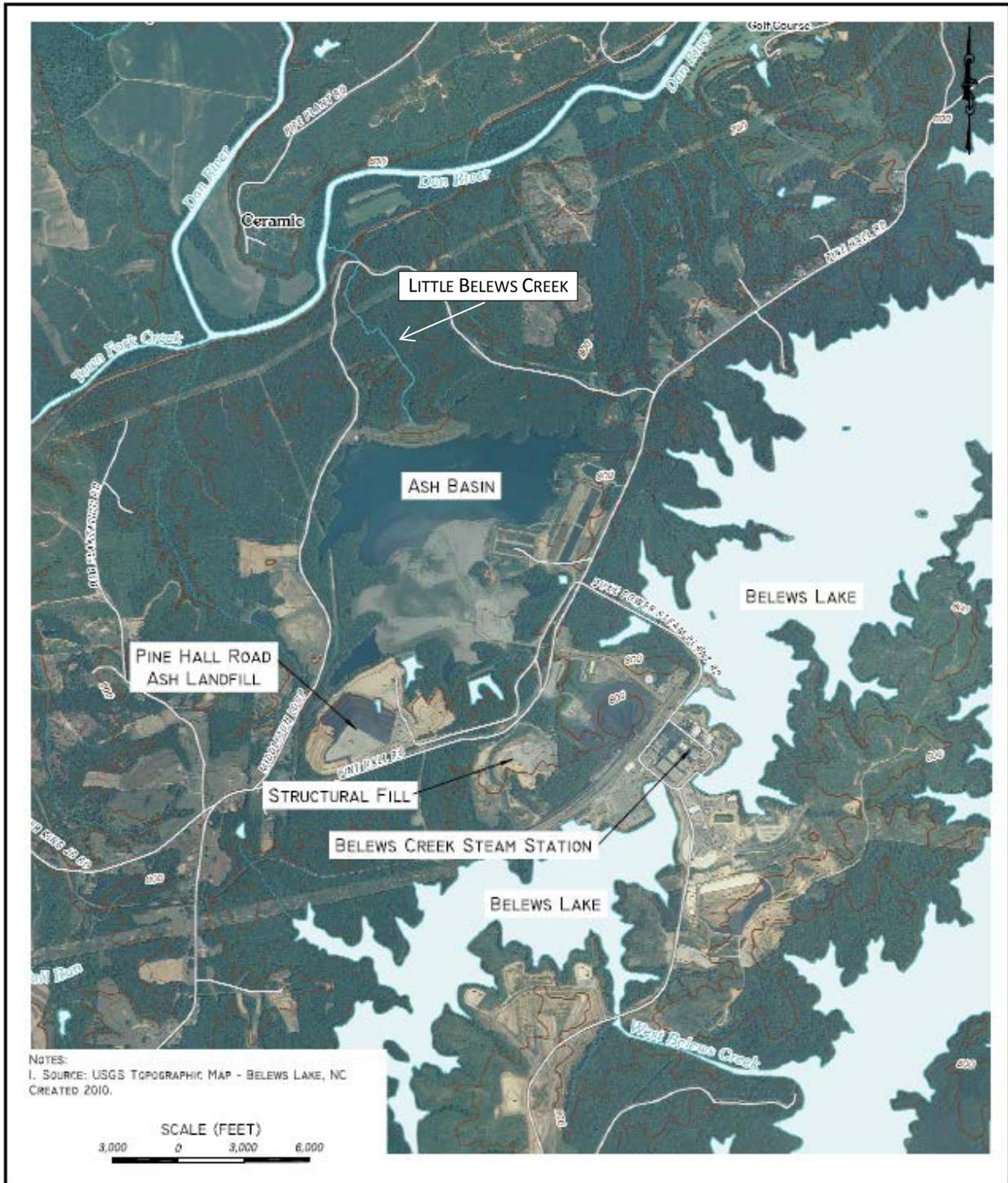
Duke Energy owns and operates Belews Creek, a coal-fired electricity generating plant in Stokes County near Walnut Cove and Walnut Tree, North Carolina. At Belews Creek, Duke Energy's unlined storage and unlawful management of millions of tons of coal ash and polluted wastewater are contaminating waters of the United States and of North Carolina, including the Dan River, Belews Lake (also known as West Belews Creek), Little Belews Creek, other tributary streams, and groundwater.

The coal ash in the unlined Belews Creek impoundment sits more than 60 feet deep in the groundwater, allowing pollutants to leach out into the groundwater and surrounding environment. This contaminated groundwater also flows directly into jurisdictional surface waters. Duke Energy is also polluting streams with unpermitted, illegal flows of coal ash pollution, and these streams flow into the Dan River and Belews Lake. In addition, Duke Energy has taken a segment of Little Belews Creek for its private use to fill with polluted wastewater.

Duke Energy's coal ash lagoon at Belews Creek is identified in Figure 1-1 from Duke Energy's Comprehensive Site Assessment, reproduced in Figure 1 below with a label added to identify the location of Little Belews Creek. See HDR, Comprehensive Site Assessment, Belews Creek Steam Station Ash Basin, Figures (Sept. 9, 2015), *available at* <http://edocs.deq.nc.gov/WaterResources/0/fol/307971/Row1.aspx> (last updated Sept. 11, 2015). Belews Lake is shown to the south and southeast of the ash basin. Little Belews Creek emerges as a blue-line stream from the north end of the ash basin, and flows into the Dan River to the north.

(continued on next page)

Figure 1: Belews Creek Site Map



**SITE LOCATION MAP  
DUKE ENERGY CAROLINAS, LLC  
BELEWS CREEK STEAM STATION ASH BASIN**

STOKES COUNTY, NORTH CAROLINA

DATE  
AUGUST 2016

FIGURE  
1-1

Duke Energy created the Belews Creek coal ash basin in 1972 by damming Little Belews Creek and sluicing wet coal ash and other substances into the impounded stream valley. The Belews Creek coal ash basin also receives other industrial waste streams from the chemical holding pond, power house and yard holding sumps, coal yard sumps, stormwater and remediated groundwater, and treated scrubber wastewater. In addition, groundwater and rain water flow through the coal ash pit. Duke Energy has dumped approximately 12 million tons of coal ash and other wastes into the unlined coal ash basin at Belews Creek.

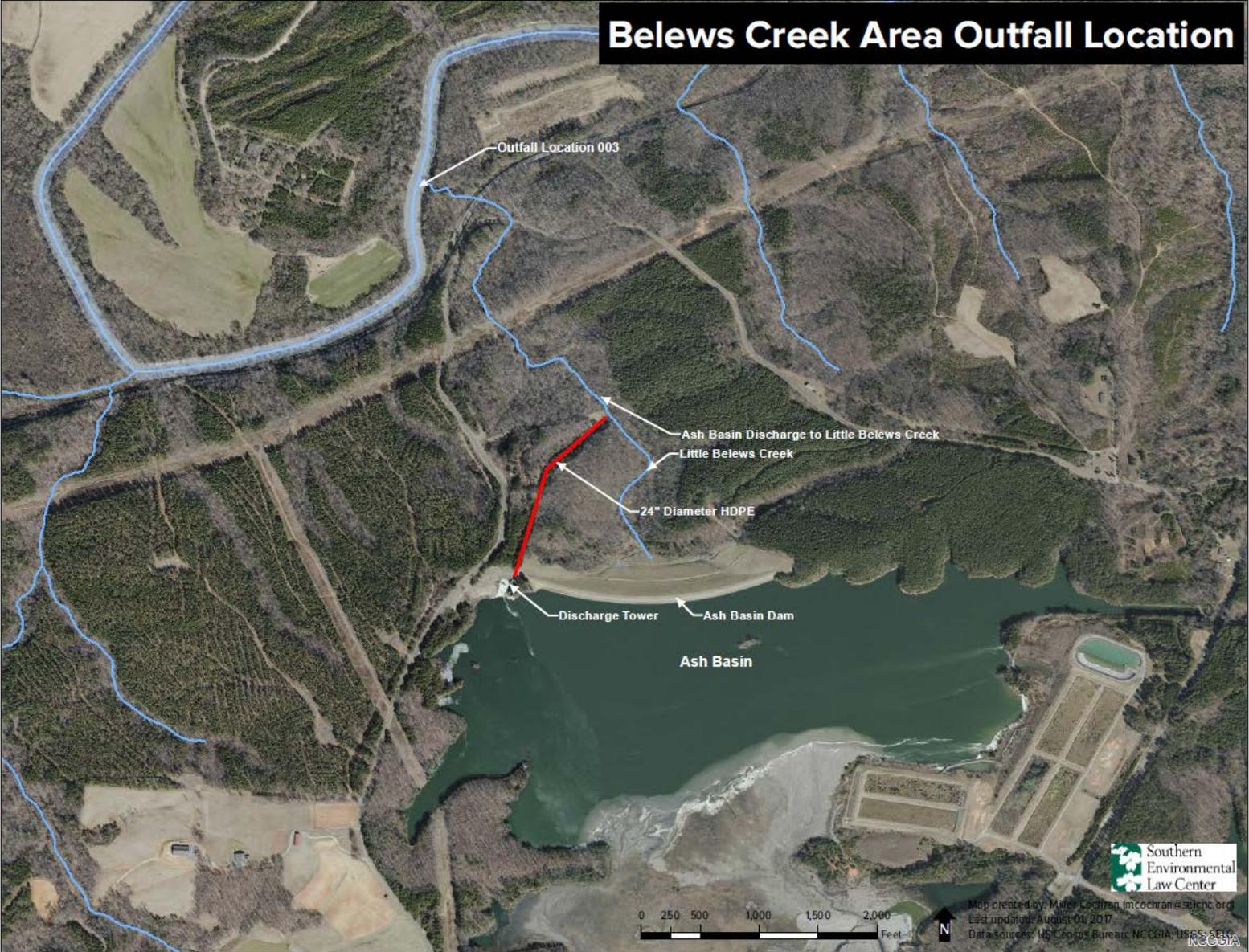
Duke Energy is authorized to operate the Belews Creek coal ash basin as a wastewater treatment facility under a National Pollution Discharge Elimination System (“NPDES”) Permit issued by the North Carolina Department of Environmental Quality (“DEQ”). Attachment 1, Duke Energy, NPDES Permit No. NC0024406 for the Belews Creek Steam Station (referred to throughout as the “NPDES permit” or “wastewater permit”). Duke Energy committed to treat the wastewater through a settling process, in which sediments, solids, and other pollutants settle to the bottom of the pit. Then, supposedly treated wastewater is discharged through a permitted “outfall.”

Ordinarily, a riser system would be used to skim the relatively cleaner wastewater from the top of a coal ash lagoon and then discharge it through multiple settling basins and ultimately through a pipe to a jurisdictional waterbody, in some cases after additional wastewater treatment to remove pollutants. However, due to the serious and unlawful deficiencies in Duke Energy’s operations, that is not how the Belews Creek coal ash system operates.

Instead, untreated coal ash wastes leak through the sides and bottom of the coal ash basin in multiple unlawful ways. First, pollutants from untreated coal ash wastes discharge through leaks in a dam at the north end of the coal ash basin, where they then flow through Little Belews Creek and into the Dan River; through leaks in a dam at the northeast end of the coal ash basin, where they flow into Belews Lake; and through the sides of the ash basin into the Dan River and Belews Lake. These leaks seep out through unpermitted, engineered drains and non-engineered drains into Little Belews Creek, the Dan River, Belews Lake, and other tributaries.

Second, Duke Energy has also impermissibly appropriated a segment of Little Belews Creek as a wastewater disposal channel, polluting this waterbody without limit. Duke Energy has arbitrarily chosen as its fictional “outfall” a point in the middle of the Dan River far downstream from the point where the coal ash basin discharge structure empties into Little Belews Creek, as shown in Figure 2 below. From the point at which Little Belews Creek flows past Duke Energy’s discharge structure until it reaches the Dan River, Duke Energy is illegally using a segment of this jurisdictional water as part of its private coal ash wastewater system.

Figure 2: Belews Creek Outfall Location



This arrangement violates the Clean Water Act. The Act regulates “*any addition* of any pollutant *to* navigable waters *from* any point source.” 33 U.S.C. § 1362(12) (emphasis added). A valid Clean Water Act discharge permit must regulate the discharge of pollutants at the point where they *enter* navigable waters, not at some other arbitrarily-chosen point downstream within the navigable waters. The discharge occurs when pollutants are added to a jurisdictional waterbody, such as Little Belews Creek. Because the permitted outfall at the Belews Creek wastewater treatment facility is far downstream of the point where the discharge from the coal ash basin enters navigable waters, it is not a valid point at which to regulate the addition of pollutants to navigable waters of the United States under the Clean Water Act.

As a result, currently there is no validly authorized discharge into any waters of the United States and North Carolina at the Belews Creek site from Duke Energy’s coal ash pond. The current Belews Creek wastewater permit does not validly authorize the discharge of pollutants into Little Belews Creek. And for the same reason, it does not validly authorize the discharge of pollutants into the Dan River, because Duke Energy’s coal ash pollutants have already entered jurisdictional waters of the United States prior to reaching the Dan River.

In a situation virtually identical to this one, the U.S. District Court for the Eastern District of North Carolina rejected Duke Energy’s attempt to use its wastewater permit as a shield that allowed it to treat a jurisdictional waterbody as part of its wastewater treatment system, polluting it without limit. *Cape Fear River Watch, Inc. v. Duke Energy Progress, Inc.*, 25 F. Supp. 3d 798 (E.D.N.C. June 9, 2014), *amended*, No. 7:13-CV-200-FL, 2014 WL 10991530 (E.D.N.C. Aug. 1, 2014). The court noted that the permit itself “may violate the CWA” and ruled that the conservation groups were not required to administratively challenge the issuance of the wastewater permit “where the state agency fails to uphold fundamental requirements of the CWA.” *Id.* at 811 (citing *Dubois v. U.S. Dep’t of Agric.*, 102 F.3d 1273, 1300 (1st Cir.1996)).

It should be noted that to avoid enforcement against obvious violations of the Clean Water Act in the future, Duke Energy is seeking to do to a number of other jurisdictional streams and tributaries at Belews Creek what it has done to this segment of Little Belews Creek: make them part of its private wastewater system in an attempt to shield itself from liability for ongoing, illegal pollution. Duke Energy is attempting to do this by seeking a new wastewater permit that treats these jurisdictional streams as Duke Energy’s private wastewater discharge channels. As set out above, however, that maneuver will not protect Duke Energy from its illegal pollution, because Duke Energy cannot deny a water of the United States and of North Carolina the protections of the Clean Water Act and turn that stream into a dump for its wastewater.

Third, apart from these unpermitted discharges of coal ash polluted water into waters of the United States, Duke Energy is also violating an express provision of its wastewater permit for the Belews Creek coal ash pit. The ‘Removed Substances’ provision of that permit expressly requires Duke Energy to prevent pollutants and other materials removed during the course of

wastewater treatment from entering waters of the state, including groundwater, and waters of the United States. The Removed Substances provision provides: “Solids, sludges, . . . or other pollutants removed during the course of treatment or control of wastewaters shall be utilized/disposed of . . . in a manner such as *to prevent any pollutant from such materials from entering waters of the State or navigable waters of the United States.*” Attachment 1, Belews Creek Wastewater Permit, Part II, Section C.6 (emphasis added). Duke Energy is also violating a provision of its permit that requires the company to “at all times properly operate and maintain all facilities and systems of treatment and control”. *Id.* at Part II, Section C.2.

Finally, Duke Energy’s unlined coal ash lagoon also discharges unpermitted, untreated flows of pollutants via hydrologically connected groundwater from the unlined coal ash lagoons directly into the Dan River, Belews Lake, Little Belews Creek, and other tributaries.

This illegal coal ash pollution has contaminated the groundwater, seeps, and surface waters—including the Dan River, Belews Lake, and Little Belews Creek—with elevated levels of numerous pollutants, including aluminum, arsenic, barium, boron, bromide, chloride, chromium (total and hexavalent), copper, iron, manganese, mercury, molybdenum, nickel, radionuclides, selenium, sulfate, strontium, TDS, vanadium, and zinc. *See* DEQ, Comprehensive and Ongoing Sample Results from Duke for Belews Creek, *available at* <http://edocs.deq.nc.gov/WaterResources/0/fol/591502/Row1.aspx> (last updated Sept. 27, 2017). These unpermitted discharges and their locations are described in more detail in the “Description of Violations” section below.

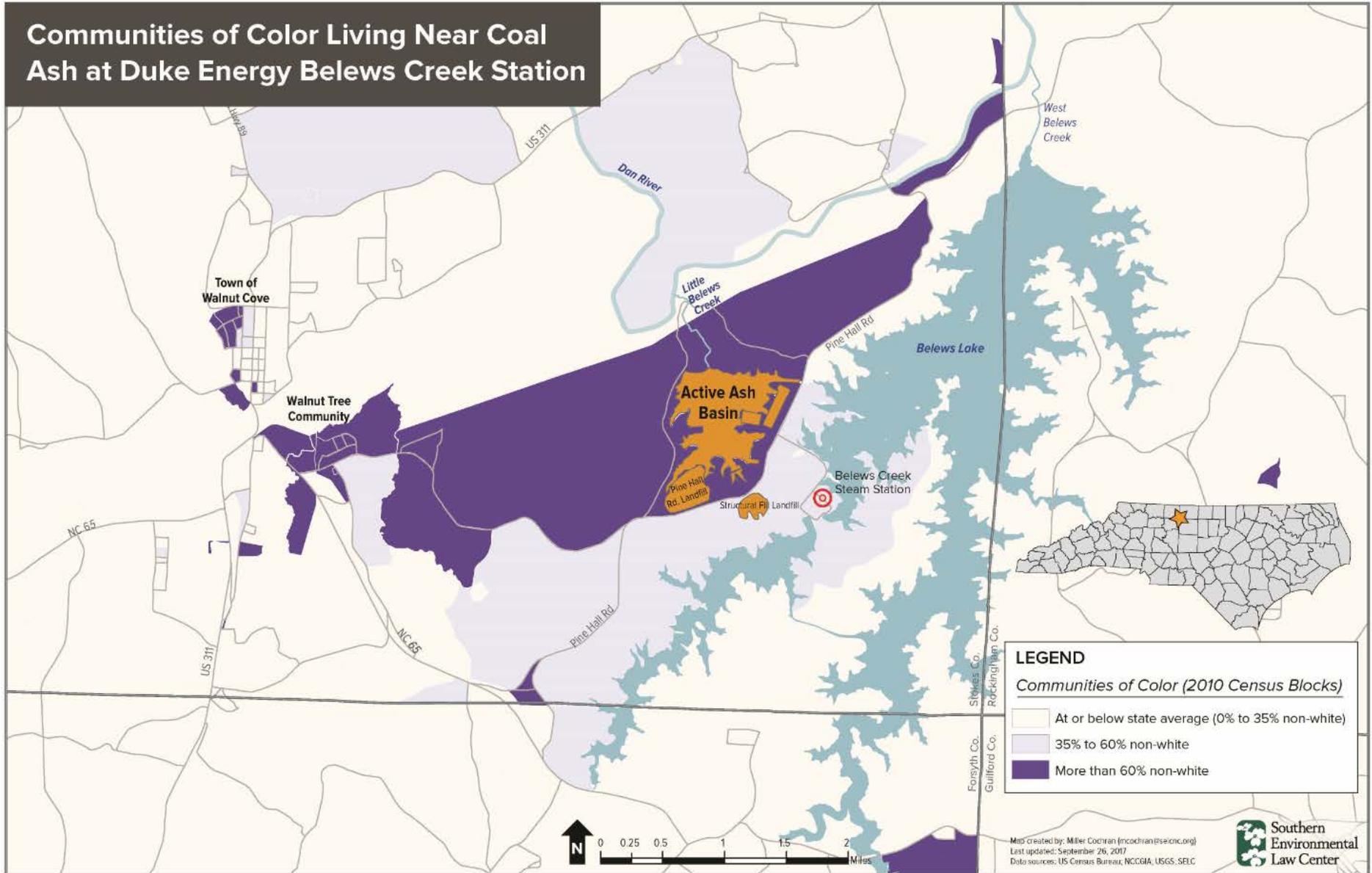
This contaminated groundwater also flows in the direction of neighboring drinking wells to the northeast and west of the Belews Creek coal ash basin. *See* HDR, Comprehensive Site Assessment Supplement 2, Belews Creek Steam Station Ash Basin, fig.3-3 (Aug. 11, 2016), *available at* <http://edocs.deq.nc.gov/WaterResources/0/fol/399036/Row1.aspx> (last modified Aug. 12, 2016); Attachment 2, HDR, Revised Groundwater Flow and Transport Model, Belews Creek Steam Station Ash Basin Figures, fig.13 (Sept. 30, 2016). In 2015, residents who rely on more than two dozen drinking wells near the Belews Creek site were told by the State not to use their water for drinking or cooking due to elevated levels of arsenic and other pollutants. Belews Creek is the only one of Duke Energy’s coal ash sites that is not being excavated where Duke Energy has admitted that there are “demonstrated offsite groundwater impacts.” Attachment 3, Settlement Agreement at 6, *Duke Energy v. DEQ*, 15 EHR 02581 (Sept. 29, 2015).

The communities beside the Belews Creek coal ash site, including the Walnut Tree community and other neighboring communities, are predominantly African-American. Figure 3 below shows the proximity of the leaking Belews Creek coal ash lagoon to communities of color. In response to testimony on the dangers posed by Duke Energy’s coal ash storage and advice from the North Carolina Advisory Committee following a hearing near the Belews Creek site, the U.S. Commission on Civil Rights concluded that “*the minimum standard for all coal ash storage is in lined, watertight landfills away from drinking water sources.*” U.S. Commission

on Civil Rights, *Environmental Justice: Examining the Environmental Protection Agency's Compliance and Enforcement of Title VI and Executive Order 12,898* at 201 (Sept. 2016), available at [http://www.usccr.gov/pubs/Statutory\\_Enforcement\\_Report2016.pdf](http://www.usccr.gov/pubs/Statutory_Enforcement_Report2016.pdf) (emphasis added).

(continued on next page)

Figure 3: Communities of Color Living Near Coal Ash at Duke Energy's Belews Creek Station



Pollution from the Belews Creek coal ash basin is also contaminating municipal drinking water supplies downstream along the Dan River. Coal ash and scrubber wastes in the Belews Creek coal ash basin contain bromides, which interact with chlorine in water treatment plants to form dangerous carcinogens known as brominated trihalomethanes. Elevated levels of bromides have been detected in Little Belews Creek immediately downstream of Duke Energy's unpermitted seeps, as well as downstream in the Dan River. As a result of Duke Energy's bromide discharges from the Belews Creek ash basin, numerous municipal water systems have experienced problems with elevated levels of trihalomethanes in their drinking water.

If Duke Energy ceased its unpermitted discharges into waters of the United States and complied with all of the provisions of its existing permit, then the ongoing, unlawful pollution from the coal ash basin to these waters would be eliminated.

The U.S. District Court for the Middle District of Tennessee recently held that the Tennessee Valley Authority was similarly violating the Clean Water Act and its Clean Water Act permit at its Gallatin coal ash site, and ordered the utility to excavate all of its coal ash at that site to remedy those violations. In that case, the Tennessee Valley Authority was violating the Clean Water Act by releasing unpermitted discharges of coal ash wastes through leaks from two coal ash sites into the Cumberland River, and by discharging coal ash wastes in violation of the removed substances provision of its permit—violations that are also occurring at Duke Energy's Belews Creek coal ash basin. The court concluded that excavation of the coal ash from unlined pits to lined storage “is the only adequate resolution to an untenable situation that has gone on for far too long. . . . While the decision to build the Ash Pond Complex is in the past, the consequences of that decision continue today, and it now falls on the Court to address them. The way to do so is not to cover over those decades-old mistakes, but to pull them up by their roots.” Findings of Fact and Conclusions of Law, *Tenn. Clean Water Network v. Tenn. Valley Auth.*, No. 3:15-cv-00424, 2017 WL 3476069 at \*63 (M.D. Tenn. Aug. 4, 2017).

### **State Court Enforcement Action**

In 2013, citizen conservation groups represented by the Southern Environmental Law Center sent 60-Day Notices of Intent to Sue under the Clean Water Act to Duke Energy companies, the U.S. Environmental Protection Agency (“EPA”), and DEQ. These notices set out violations of the Clean Water Act as a result of coal ash pollution by Duke Energy companies at their Asheville, Riverbend, and Sutton stations in North Carolina. In response to these notices, DEQ filed a series of enforcement actions in North Carolina Superior Court purporting to take enforcement action against Duke Energy companies for violating North Carolina anti-pollution laws through their coal ash pollution at every site in North Carolina where Duke Energy companies store coal ash. See Michael Biesecker and Mitch Weiss, *N.C. Regulators Shielded Duke's Coal Ash Pollution*, Associated Press (Feb. 9, 2014), available at <http://bigstory.ap.org/article/nc-regulators-shielded-dukes-coal-ash-pollution>.

In August 2013, DEQ filed an enforcement action against Duke Energy Carolinas, LLC, for violations of North Carolina’s anti-pollution statutes at a number of its plants, including Belews Creek. Attachment 4, Complaint, *State of North Carolina ex rel. N.C. DEQ v. Duke Energy Carolinas*, No. 13-CVS-14661 (Mecklenburg Co. Super. Ct.). DEQ set out, under oath, that Duke Energy had illegal, unpermitted discharges from the Belews Creek coal ash pit in violation of its wastewater permit. *Id.* ¶¶ 130-33. DEQ also set out, under oath, that groundwater monitoring wells at the Belews Creek coal ash site showed exceedances of state groundwater standards. *Id.* ¶¶ 134-38. DEQ stated under oath that Duke Energy’s violations of law at Belews Creek “pose a serious danger to the health, safety, and welfare of the people of the State of North Carolina and serious harm to the water resources of the State.” *Id.* ¶ 197.

However, DEQ’s state court action does not recognize that a segment of Little Belews Creek is being used improperly by Duke Energy as a wastewater discharge channel, and thus it does not recognize that this segment of Little Belews Creek is protected by the prohibitions against unpermitted discharges at issue in the state court action. DEQ also did not take enforcement action against any of Duke Energy’s violations of federal law at the Belews Creek plant, and DEQ’s state court enforcement action did not seek to enforce various specific provisions of the wastewater permit, including the Removed Substances provision set out above. DEQ’s action also did not take enforcement action against Duke Energy’s violation of the Clean Water Act due to its unpermitted and illegal pollution of waters of the United States by coal ash pollution conveyed through groundwater in close hydrologic connection to waters of the United States.

Even as to the claims it did set out in the enforcement action, DEQ has not diligently prosecuted this action at all as to any site and specifically not as to Belews Creek. DEQ’s purported enforcement action as to Belews Creek has been pending for well over three years. DEQ sought to stay its own enforcement action, but the Superior Court refused. Attachment 5, Order Denying Plaintiff’s Motion to Stay, 13 CVS 14661 and 13 CVS 11032 (N.C. Super. Ct. Sept. 22, 2015). DEQ entered into an agreement with Duke Energy to conduct no discovery for an extended period of time. It entered into a settlement agreement in another proceeding that purported to eliminate the pending enforcement of state groundwater laws. DEQ has not filed any motions to ask the Court to require Duke Energy to take any action as to any site or as to the Belews Creek site in particular. And recently DEQ filed a brief in which it agreed with Duke Energy that its groundwater enforcement claims at Belews Creek and other sites should be “terminated,” and Duke Energy has appealed the Superior Court’s rejection of that argument. In short, DEQ has done nothing over the ensuing years to pursue this enforcement action as to Belews Creek—or any other site, for that matter—and in fact has actively attempted to hamper the enforcement of water pollution laws at these sites.

DEQ has brought an enforcement action for civil penalties related to violations at Duke Energy's Sutton coal ash site. In the settlement of that action, because of the "demonstrated offsite groundwater impacts" from Duke Energy's coal ash pollution at Belews Creek, Duke Energy agreed to implement "accelerated remediation" at Belews Creek—not to clean up pollution or even stop ongoing and future pollution, but rather to try to prevent groundwater contamination from spreading beyond Duke Energy's property boundary in certain limited locations. In addition, that civil penalty action did not seek to enforce the violations of federal law outlined in this notice, and in fact did not even mention Belews Creek. The North Carolina Superior Court also noted that DEQ and Duke Energy may have had an "ulterior motive" in reaching the settlement agreement.

The United States District Court for the Middle District of North Carolina has concluded that DEQ has not diligently prosecuted its enforcement actions. In rejecting the motion of Duke Energy Carolinas, LLC, to dismiss a federal Clean Water Act suit over coal ash pollution at the Buck facility in Salisbury, North Carolina, the U.S. District Court found that in the year following the filing of the enforcement action, DEQ "appears to have done little, if anything, to move the case forward" and that "there appeared little likelihood that [DEQ's] action would proceed expeditiously to a final resolution." The Court ruled that it "is unable to find that [DEQ] was trying diligently or that its state enforcement action was calculated, in good faith, to require compliance with the Act." *Yadkin Riverkeeper, Inc. v. Duke Energy Carolinas, LLC*, 141 F. Supp. 3d 428, 442 (M.D.N.C. Oct. 20, 2015).

Following this ruling, in 2016 Duke Energy settled the Buck federal action with conservation groups by agreeing to excavate all the coal ash from the Buck site and either recycle it for concrete or place it in a lined landfill separated from groundwater and surface waters.

On April 26, 2017, the Middle District of North Carolina again denied Duke Energy's motion to dismiss claims regarding release of removed substances and failure to properly operate and maintain its coal ash wastewater treatment system at its Mayo coal ash site. The Court granted Duke Energy's motion to dismiss other claims without prejudice based on the Court's belief that there was insufficient evidence to show that DEQ was not diligently prosecuting the claims in state court. However, since that time, DEQ's counsel made clear on the record before the North Carolina Superior Court that "our position is that remedy is not before the Court," and that DEQ has no intention of diligently prosecuting its enforcement actions against Duke Energy:

THE COURT: All right. So I gather by that your position is that this case -- you continue to be of the position that effectively no trial should be held in this matter, but rather the administrative process should continue. DEQ should continue making decisions on the time table set out by statute and that as issues arise, they

would go through the administrative appellate process, and ultimately may end up back in this Court, but that remains to be seen.

MR. BENZONI [Counsel for DEQ]: Yes, Your Honor, that is correct.

Hr'g Tr. 9:17-18; 11:23-12:6 (May 11, 2017).

In sum, DEQ is not enforcing at all and/or is not diligently enforcing any claims as to Duke Energy's coal ash pollution, including at the Belews Creek facility. In addition, as set out above, the state court enforcement action does not seek to enforce any federal claims and does not enforce the Removed Substances provision of the permit and other permit violations noticed in this letter. And it does not recognize as jurisdictional waters a segment of Little Belews Creek, which is being unlawfully polluted by numerous unpermitted seeps and used by Duke Energy as a wastewater dump with no water quality standard protections.

### **Toxic Effects of Pollutants**

According to the U.S. Agency for Toxic Substances and Disease Registry ("ATSDR"), some studies show that people exposed to high levels of aluminum may develop Alzheimer's disease. People with kidney disease have trouble removing aluminum from their system.

Arsenic is a known carcinogen that causes multiple forms of cancer in humans. It is also a toxic pollutant, 40 C.F.R. § 401.15, and a priority pollutant, 40 C.F.R. Part 423 App'x A. Arsenic is also associated with non-cancer health effects of the skin and the nervous system.

Antimony is listed as a toxic pollutant, 40 C.F.R. § 401.15, and is associated with reduced lifespan, decreased blood glucose, and altered cholesterol in rodents, and with vomiting and cardiac and respiratory effects in humans.

Barium can cause gastrointestinal disturbances and muscular weakness. Ingesting large amounts, dissolved in water, can change heart rhythm and can cause paralysis and possibly death. Barium can also cause increased blood pressure.

Drinking water containing beryllium in excess of the maximum contaminant level of 4 parts per billion (ppb) can lead to intestinal lesions, according to EPA. Beryllium in drinking water may also pose a cancer risk in humans. Beryllium is a toxic pollutant, 40 C.F.R. § 401.15.

Oral exposure to boron has led to developmental and reproductive toxicity in multiple species. Specific effects include testicular degeneration, reduced sperm count, reduced birth weight, and birth defects.

Bromides mix with chlorine in downstream drinking water intakes to form dangerous carcinogens known as trihalomethanes. EPA set a maximum contaminant level goal of zero for

some of these brominated trihalomethanes, meaning that people should not be exposed to any level of these carcinogens because they are unsafe for human health at any level.

Chronic exposure to cadmium, a toxic pollutant, 40 C.F.R. § 401.15, can result in kidney disease and obstructive lung diseases such as emphysema. Cadmium may also be related to increased blood pressure (hypertension) and is a possible lung carcinogen. Cadmium affects calcium metabolism and can result in bone mineral loss and associated bone loss, osteoporosis, and bone fractures.

Chromium is a toxic pollutant, 40 C.F.R. § 401.15, and oral exposure to hexavalent chromium, a human carcinogen, has been found to cause cancers of the stomach and mouth. Exposure to the skin may cause dermatitis, sensitivity, and ulceration of the skin.

The International Agency for Research on Cancer (IARC) has determined that cobalt is possibly carcinogenic to humans. Short-term exposure of rats to high levels of cobalt in the food or drinking water resulted in effects on the blood, liver, kidneys, and heart. Longer-term exposure of rats, mice, and guinea pigs to lower levels of cobalt in the food or drinking water results in effects on the same tissues (heart, liver, kidneys, and blood) as well as the testes, and also caused effects on behavior. Sores were seen on the skin of guinea pigs following skin contact with cobalt for 18 days.

Copper is a toxic pollutant, 40 C.F.R. § 401.15, and according to EPA, people who consume drinking water with high levels of copper can experience gastrointestinal distress, and with long-term exposure may experience liver or kidney damage.

Iron can render water unusable by imparting a rusty color and a metallic taste and causing sedimentation and staining; to prevent these effects the EPA has set a secondary drinking water standard of 300 ug/L.

Lead is a very potent neurotoxicant that is highly damaging to the nervous system. Health effects associated with exposure to lead include, but are not limited to, neurotoxicity, developmental delays, hypertension, impaired hearing acuity, impaired hemoglobin synthesis, and male reproductive impairment. Importantly, many of lead's health effects may occur without overt signs of toxicity. Lead is also classified by the EPA as a "probable human carcinogen."

Manganese is known to be toxic to the nervous system. Manganese concentrations greater than 50 ug/L render water unusable by discoloring the water, giving it a metallic taste, and causing black staining. Exposure to high levels can affect the nervous system; very high levels may impair brain development in children.

According to EPA and ATSDR, nausea, vomiting, diarrhea and neurological effects have been reported in those who ingested water contaminated with nickel. Nickel is a toxic pollutant, 40 C.F.R. § 401.15. Exposure to nickel on the skin causes dermatitis. And animal studies have reported reproductive and developmental effects from ingestion of soluble nickel.

Selenium is an essential element, but it is also a toxic pollutant, 40 C.F.R. § 401.15, and excess exposure can cause a chemical-specific condition known as selenosis, with symptoms that include hair and nail loss.

Exposure to high levels of strontium during infancy and childhood can affect bone growth and cause dental changes. Infants and young children who ingest too much strontium can develop a condition called strontium rickets. Strontium rickets is a disease in which bones are thicker and shorter than normal and may be deformed.

High concentrations of sulfates in drinking water can cause diarrhea; the U.S. EPA has established a secondary maximum contaminant level (“MCL”) of 250 mg/L and a health-based advisory of 500 mg/L. Groundwater with sulfate concentrations above the North Carolina groundwater standard of 250 mg/L is therefore unusable and potentially unsafe.

Radionuclides cause cancer and toxic effects to the kidney. Radioactive particles emitted by radionuclides can damage cells, leading to the death of the cell or to unnatural reproduction of the cell that causes cancer. Certain types of radionuclides accumulate in people’s bones. Radionuclides include gross alpha, uranium, radium-226, radium-228, uranium-233, uranium-234, and uranium-236.

Thallium is a toxic pollutant, 40 C.F.R. § 401.15, and exposure to high levels of thallium can result in harmful health effects. Studies in rats have shown adverse developmental effects from exposure to high levels of thallium, and some adverse effects on the reproductive system after ingesting thallium for several weeks.

According to the ATSDR, vanadium can cause nausea, diarrhea, and stomach cramps. And IARC has determined that vanadium is possibly carcinogenic to humans.

Zinc is a toxic pollutant, 40 C.F.R. § 401.15, and according to ATSDR, ingesting high levels of zinc may cause stomach cramps, nausea, and vomiting. Ingesting high levels of zinc for several months may cause anemia, damage the pancreas, and decrease levels of high-density lipoprotein (HDL) cholesterol.

High concentrations of total dissolved solids can make drinking water unpalatable and can cause scale buildup in pipes, valves, and filters, reducing performance and adding to system maintenance costs.

Concurrent exposure to multiple contaminants may intensify existing effects of individual contaminants, or may give rise to interactions and synergies that create new effects. Where several coal ash contaminants share a common mechanism of toxicity or affect the same body organ or system, exposure to several contaminants concurrently produces a greater chance of increased risk to health.

## **Description of Violations**

### **I. Duke Energy Is Discharging Unpermitted, Contaminated Seeps to Waters of the United States Without a Permit.**

Section 301(a) of the Clean Water Act, 33 U.S.C. § 1311(a), prohibits the discharge of pollutants from a point source to waters of the United States except in compliance with, among other conditions, a NPDES permit (also known as a wastewater permit) issued pursuant to § 402 of the Clean Water Act, 33 U.S.C. § 1342. Each violation of the permit—and each discharge that is not authorized by the permit—is a violation of the Clean Water Act.

Under the Clean Water Act, the term “pollutant” “is broadly defined to include, among other things, solid waste; industrial, municipal, and agricultural waste; sewage sludge; biological or radioactive materials; wrecked or discarded equipment; heat; rock; sand; and cellar dirt.” *Nat. Res. Def. Council, Inc. v. EPA*, 822 F.2d 104, 109 (D.C. Cir. 1987); 33 U.S.C. § 1362(6). “Coal ash and its constituents fall under the Clean Water Act definition of ‘pollutants.’” Findings of Fact and Conclusions of Law, *Tenn. Clean Water Network v. Tenn. Valley Auth.*, No. 3:15-cv-00424, 2017 WL 3476069 at \*51 (M.D. Tenn. Aug. 4, 2017).

The Clean Water Act defines a “point source” as “*any* discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, [or] container ... from which pollutants are or may be discharged.” 33 U.S.C. § 1362(14) (emphasis added). Under this broad definition, the discharge of pollutants from coal ash lagoons, mining pits, slurry ponds, sediment basins, and mining leachate collection systems have been held to be point sources. *E.g., Yadkin Riverkeeper, Inc. v. Duke Energy Carolinas, LLC*, 141 F. Supp. 3d 428, 443-44 (M.D.N.C. Oct. 20, 2015); *U.S. v. Earth Sciences, Inc.*, 599 F.2d 368, 374 (10th Cir. 1979) (“[W]hether from a fissure in the dirt berm or overflow of a wall, the escape of liquid from the confined system is from a point source.”); *Consolidation Coal Co. v. Costle*, 604 F.2d 239, 249-50 (4th Cir. 1979) (finding regulation of “discharges from coal preparation plant associated areas,” which in turn included slurry ponds, drainage ponds, and coal refuse piles, was within Clean Water Act definition of point source), *rev’d on other grounds*, 449 U.S. 64 (1980).

In addition, a “point source need not be the original source of the pollutant; it need only convey the pollutant to ‘navigable waters.’” *S. Fla. Water Mgmt. Dist. v. Miccosukee Tribe of Indians*, 541 U.S. 95, 105 (2004); *accord W. Va. Highlands Conservancy v. Huffman*, 625 F.3d 159, 168 (4th Cir. 2010) (permits are required for discharges from point sources that “merely

convey pollutants to navigable waters”). Thus, ditches and channels that convey pollutants but are themselves not the original source constitute point sources. This includes unintentional conveyance of pollutants, for example, through naturally-formed ditches, gullies, or fissures. *See Sierra Club v. Abston Constr. Co.*, 620 F.2d 41, 45 (5th Cir. 1980) (discharge from mining pits and spoil piles through naturally formed ditches caused by gravity flow at a coal mining site are point sources); *Earth Sciences*, 599 F.2d 368 (holding unintentional discharges of pollutants from a mine system designed to catch runoff from gold leaching site during periods of excess melting met the statutory definition of a point source); *N.C. Shellfish Growers Ass’n v. Holly Ridge Assocs., LLC*, 278 F. Supp. 2d 654, 679 (E.D.N.C. 2003) (“Notwithstanding that it may result from such natural phenomena as rainfall and gravity, the surface run-off of contaminated waters, once channeled or collected, constitutes discharge by a point source.”); *O’Leary v. Moyer’s Landfill, Inc.*, 523 F. Supp. 642, 655 (E.D. Pa. 1981) (intent of the discharging entity is irrelevant).

The U.S. District Court for the Middle District of North Carolina recently confirmed that “[a]s confined and discrete conveyances, [coal ash] lagoons fall within the CWA’s definition of ‘point source.’” *Yadkin Riverkeeper*, 141 F. Supp. 3d at 444.

The Belews Creek coal ash pit is discharging in violation of the Clean Water Act because there are multiple unpermitted surface flows of wastewater leaving the pit and contaminating waters of the United States—both jurisdictional waters that are being improperly treated as part of Duke Energy’s wastewater system (a segment of Little Belews Creek), and other portions of Little Belews Creek, the Dan River, and Belews Lake. These discharges include the seeps identified in Duke Energy’s site assessment (S-1 through S-11, HD-7A, HD-11A, HD-21, HD-26, TF-1, TF-2, TF-3, ABW, BCSW018A, BCSW019), as well as additional seeps identified by DEQ (S-12 through S-15). *See* HDR, Comprehensive Site Assessment Supplement 2, Belews Creek Steam Station Ash Basin, fig.1-2 (Aug. 11, 2016), *available at* <http://edocs.deq.nc.gov/WaterResources/0/doc/399038/Page1.aspx>; Attachment 6, DEQ Belews Draft NPDES Permit Seeps Map (Jan. 15, 2017). Many of the contaminated seeps are themselves jurisdictional tributaries of Little Belews Creek, the Dan River, and Belews Lake. The unauthorized discharges also include the ash basin’s discharge structure, which empties without a permitted outfall into Little Belews Creek. These surface flows are all point sources under the Clean Water Act that convey unpermitted discharges of pollutants into waters of the United States and of North Carolina.

These unauthorized discharges consist of coal ash and coal ash sluice water, as well as waste streams from the chemical holding pond, power house and yard holding sumps, coal yard sumps, stormwater and remediated groundwater, and treated scrubber wastewater. They contain pollutants including aluminum, antimony, arsenic, barium, beryllium, boron, bromide, cadmium, calcium, chloride, chromium (both total and hexavalent), cobalt, copper, iron, lead, manganese, mercury, molybdenum, nickel, pH, selenium, strontium, sulfate, thallium, total dissolved solids,

vanadium, and zinc. When the ash comes into contact with water, these metals and pollutants leach or dissolve into the water and are discharged from the ash basin.

**A. Duke Energy Is Polluting the Dan River, Belews Lake, Little Belews Creek, and Downstream Drinking Water Systems with Unpermitted Discharges of Coal Ash Pollution.**

Duke Energy is discharging pollutants from its Belews Creek coal ash basin through numerous unpermitted seeps leaking into the Dan River, Belews Lake, Little Belews Creek, and downstream drinking water supplies.

**Contaminated Seeps.** These unpermitted seeps include those identified in Duke Energy's site assessment (S-1 through S-11, HD-7A, HD-11A, HD-21, HD-26, TF-1, TF-2, TF-3, ABW, BCSW018A, BCSW019), as well as additional seeps identified by DEQ (S-12 through S-15). *See* HDR, Comprehensive Site Assessment Supplement 2, Belews Creek Steam Station Ash Basin, fig.1-2 (Aug. 11, 2016), *available at* <http://edocs.deq.nc.gov/WaterResources/0/doc/399038/Page1.aspx>; Attachment 6, DEQ Seeps Map.<sup>1</sup> Many of these seeps are non-engineered leaks that emerge from the Belews Creek coal ash basin's earthen dam and surrounding areas (e.g., S-1 through S-15, BCSW018A, BCSW019). Others are engineered seeps such as horizontal drains, toe drains, and flumes that Duke Energy has intentionally constructed without a permit (e.g., HD-7A, HD-11A, HD-21, HD-26, TF-1, TF-2, TF-3, ABW).

Many of these seeps are themselves jurisdictional tributaries that are being illegally polluted by Duke Energy with unpermitted discharges of coal ash pollutants into these jurisdictional waters. For example, DEQ has recognized that seeps S-2 (which flows into the Dan River), S-6 (which flows into Belews Lake), and S-15 (which flows into Little Belews Creek) are jurisdictional waters. Attachment 7, DEQ, Belews Creek Draft Wastewater Permit Fact Sheet at 2 (Jan. 15, 2017). Other seeps are likely jurisdictional waters as well. Duke Energy describes seeps S-1 through S-11 as water bodies with "continuous" flow, many of which are "tributar[ies]" and "well defined stream[s]," and most of which range from three to six feet in width. Duke Energy, NPDES Permit Modification, Belews Creek Steam Station Application at tbl.1 (July 29, 2014). Any seeps that are not themselves jurisdictional waters are still contaminating jurisdictional waters through unpermitted discharges.

According to measurements by Duke Energy's own consultants, the contaminated seepage flowing from the Belews Creek coal ash basin totals over 200,000 cubic feet per day, which translates to well over half a billion gallons per year. *See* Attachment 8, HDR, Revised Groundwater Flow and Transport Model, Belews Steam Station Ash Basin, tbl.5 (Sept. 27,

---

<sup>1</sup> Although the seeps are identified by single points in these documents, these points merely represent single locations on the maps that the seeps intersect, rather than the entire length of the seep.

2016). These measurements include only some of the seeps identified above (S-1 through S-11), meaning that the total seepage flow is even greater.

As described above, the coal ash wastewater treatment facility is designed to work by discharging only the uppermost, least polluted water over the top of a riser structure after treatment by sedimentation has occurred. Instead, these seeps discharge completely untreated wastewater through the bottom and sides of the ash basin.

Duke Energy’s unpermitted seeps are contaminated with high levels of numerous pollutants, including aluminum, arsenic, barium, boron, bromide, chloride, copper, iron, manganese, mercury, molybdenum, nickel, selenium, sulfate, strontium, TDS, vanadium, and zinc. *See* DEQ, Comprehensive and Ongoing Sample Results from Duke, <http://edocs.deq.nc.gov/WaterResources/0/fol/591502/Row1.aspx> (last updated Sept. 27, 2017); HDR, Comprehensive Site Assessment Tables, tbl.7-12, 7-13 (Sept. 9, 2015), *available at* <http://edocs.deq.nc.gov/WaterResources/0,0,0,0,0,0,0/doc/307991/Page1.aspx>; Attachment 9, Pace Analytical, Analytical Results from Little Belews Creek Sample Taken Dec. 9, 2016 (Jan. 11, 2017). The contamination in these seeps has been detected at levels as high or higher than those shown below in Table 1. Table 1 also presents a comparison to surface water standards to illustrate the magnitude of this pollution. As explained above, many of these contaminated seeps are themselves jurisdictional tributaries that are being polluted above surface water quality standards.

Table 1: Levels of Certain Contaminants in Seeps and Comparison to Surface Water Quality Standards

	Surface Water Quality Standard (ppb)	Contamination Level (ppb)
Aluminum	87	6,400
Arsenic	10	17
Boron	Narrative	13,200
Cobalt	3	268
Chloride	230,000	456,000
Iron	1,000	13,400
Manganese	Narrative	22,700
Mercury	0.012	4.36
Nickel	25	47
Selenium	5	12
Sulfate	250,000	475,000
Thallium	0.24	0.6
Total Dissolved Solids	250,000	1,360,000

Duke Energy’s contaminated seeps flow into the Dan River (e.g., S-1, S-2, S-3, S-4, S-5, S-10, S-11, HD-7A, HD-11A, HD-21, HD-26, TF-1, TF-2, TF-3), Belews Lake (e.g., S-6, S-7, S-8, S-9, BCSW018A, BCSW019), and Little Belews Creek (e.g., S-10, S-11, HD-7A, HD-11A, HD-21, HD-26, TF-1, TF-2, TF-3). All of these are protected waters of the United States and of North Carolina. Indeed, many of the seeps themselves are jurisdictional waters. Contamination from these seeps also flows into downstream drinking water supplies, causing carcinogens to form.

**Impacts to Little Belews Creek.** These unpermitted seeps continue to cause significant surface water contamination and exceedances of surface water quality standards for numerous pollutants. Immediately downstream of seeps leaking from the coal ash basin into Little Belews Creek, exceedances of surface water quality standards for pollutants such as selenium, thallium, mercury, cobalt, aluminum, chloride, and total dissolved solids have been detected. Attachment 9, Pace Analytical, Analytical Results from Little Belews Creek Sample Taken Dec. 9, 2016 (Jan. 11, 2017); DEQ, Comprehensive and Ongoing Sample Results from Duke (results for SW-10), <http://edocs.deq.nc.gov/WaterResources/0/fo1/591502/Row1.aspx> (last updated Sept. 27, 2017). High levels of boron and bromide have also been detected in Little Belews Creek. These contaminants have been discovered at levels as high or higher than the levels in Table 2 below. All of these pollutants were found in samples collected downstream of the coal ash basin and its seeps, but upstream of the permitted discharge structure at Belews Creek, meaning that the sole source of this pollution is the unpermitted seeps and groundwater contamination leaking into Little Belews Creek.

Table 2: Levels of Certain Contaminants in Little Belews Creek, Downstream of Seeps and Upstream of Permitted Discharge Structure

	Surface Water Quality Standard (ppb)	Contamination Level (ppb)
Aluminum	87	440
Boron	Narrative	9,860
Bromide	Narrative	5,200
Calcium	Narrative	172,000
Chloride	230,000	437,000
Total Dissolved Solids	500,000	1,210,000
Cobalt	3	69
Manganese	Narrative	7,740
Mercury	0.012	90
Selenium	5	12.7
Thallium	0.24	0.56

Duke Energy has also buried parts of Little Belews Creek with roughly 12 million tons of coal ash at the Belews Creek site. In 1972, Duke Energy created the Belews Creek coal ash basin by constructing a dam (known as the main dam) across the upper reaches of Little Belews Creek. And as described in Section I.B below, Duke Energy is illegally using the segment of Little Belews Creek downstream of the main dam as a wastewater discharge channel, essentially treating it as an extension of the ash basin’s discharge structure in violation of the Clean Water Act.

**Impacts to the Dan River.** The unpermitted seeps also contribute to exceedances of surface water quality standards in the Dan River. Downstream of Duke Energy’s contaminated seeps, there are persistent water quality standard exceedances for pollutants such as thallium, manganese, and total dissolved solids. Elevated levels of arsenic, boron, calcium, chloride, strontium, sulfate, cobalt, and selenium have also been detected in the Dan River downstream of Duke Energy’s unlawful seepage. *See* DEQ, Comprehensive and Ongoing Sample Results from Duke, *available at* <http://edocs.deq.nc.gov/WaterResources/0/fol/591502/Row1.aspx> (last updated Sept. 27, 2017). In the sampling location on the Dan River that Duke Energy identifies as upstream, these pollutants are generally either not detected or detected at far lower levels, as shown in the chart below (from Duke Energy’s latest, July 2017 sampling results). *Id.*

Table 3: Levels of Certain Contaminants Upstream and Downstream in the Dan River

	Upstream Contamination Level (SW-DR-U) (ppb)	Downstream Contamination Level (SW-DR-D) (ppb)
Arsenic	0.16	3.7
Boron	Not Detected	6,320
Calcium	5.36	104
Chloride	3.7	216
Strontium	41.6	455
Sulfate	2.5	70.8
Total Dissolved Solids	35	609
Cobalt	0.16	1
Manganese	29.1	201
Selenium	Not Detected	6
Thallium	Not Detected	0.43

Although Duke Energy has collected samples of bromide—which causes carcinogens to form in downstream drinking water systems—upstream and downstream in the Dan River, it has not disclosed those sample results to the public or to DEQ. Attachment 10, Duke 30(b)(6) Testimony of Zachary Hall at 24:2-25:3 (Feb. 10, 2017). However, Duke Energy has testified

that it believes that concentrations of bromide in the Dan River upstream of the Belews Creek coal operations are approximately 20 to 25 parts per billions, compared to 90 to 110 parts per billion downstream. *Id.* at 77:8-78:8.

The Dan River has already suffered significant harm from Duke Energy's coal ash pollution through the years. In February 2014, Duke Energy's Dan River coal ash site failed, dumping millions of gallons of polluted water and 39,000 tons of coal ash into the Dan River. Duke Energy removed less than 10 percent of the coal ash it spilled, leaving the rest in the river. An advisory by the North Carolina Department of Health and Human Services warning people not to eat the fish downstream of the spill remains in place. Fish Consumption Advisories, Current Advisories for N.C., <http://epi.publichealth.nc.gov/oeefish/advisories.html> (last updated Sept. 26, 2017). And as described below, downstream drinking water providers along the Dan River continue to struggle with elevated levels of carcinogens resulting from Duke Energy's Belews Creek coal ash discharges.

**Impacts to Belews Lake.** The seeps also discharge high levels of pollutants directly into Belews Lake. For example, in the seeps that discharge into Belews Lake, boron has been detected as high as 3,900 parts per billion; aluminum as high as 6,400 parts per billion; cobalt as high as 2.9 parts per billion; iron as high as 8,200 parts per billion; manganese as high as 500 parts per billion; mercury as high as 4.36 parts per billion; selenium as high as 6.2 parts per billion; and sulfate as high as 342,000 parts per billion.

In past decades, coal ash pollution from the Belews Creek site has devastated the fish population in Belews Lake, eliminating 19 of the 20 fish species present in Belews Lake. In 2007, EPA classified Belews Lake a "proven ecological damage case" due to selenium poisoning from leaking coal ash pits at the Belews Creek plant. Attachment 11, USEPA Office of Solid Waste, Coal Combustion Waste Damage Case Assessments at 25 (July 9, 2007). Selenium bioaccumulates and persists in the environment, and birds that feed in Belews Lake continue to experience adverse effects from selenium poisoning. According to Duke Energy's own studies, selenium concentrations in fish tissue continue to be two to three times higher downstream of the Belews Creek coal ash site, compared to upstream concentrations. Duke Energy, Belews Creek Steam Station, 2013 Dan River Summary at 2-3 (Dec. 2014).

**Impacts to Downstream Drinking Water Supplies.** In 2011, downstream drinking water providers along the Dan River traced spikes in carcinogens to bromide discharges from the Belews Creek coal ash basin. Attachment 12, Joint Factual Statement at 52-53, *United States of America v. Duke Energy*, No. 5:15-CR-62-H (May 14, 2015). These carcinogens are called trihalomethanes, and form when bromide mixes with chlorine in drinking water supplies. For two types of trihalomethanes that are formed by bromide, bromodichloromethane and bromoform, EPA set a maximum contaminant level goal of zero—meaning that people should not be exposed to any level of these carcinogens because no level is safe for human health.

At the time that downstream drinking water providers discovered this contamination, Duke Energy had not even informed DEQ that bromide was present in its coal ash basin discharges. Bromide is present in coal itself; in the coal combustion residuals captured by air pollution scrubbers; and in scrubber wastewater. As a result, high levels of bromide are present in Duke Energy's Belews Creek coal ash basin and in its illegal coal ash discharges.

In conjunction with its criminal plea agreement and in subsequent testimony, Duke Energy has admitted that its bromide discharges at Belews Creek have contributed to trihalomethane formation in downstream drinking water systems, including the drinking water systems for Madison, NC and Eden, NC. *Id.*; Attachment 10, Duke 30(b)(6) Testimony of Zachary Hall at 38:21-25. Elevated levels of trihalomethanes have also been found in other drinking water systems downstream of the Belews Creek coal ash site, such as Danville, NC and Halifax County, VA. These drinking water systems downstream of Belews Creek collectively serve approximately 90,000 people.

Duke Energy was required by its criminal plea agreement with the federal government to provide funding to resolve the carcinogen contamination at Madison and Eden. Attachment 13, Plea Agreement, Exhibit B at 10, *United States v. Duke Energy Carolinas, LLC*, No. 5:15-CR-62-H (May 14, 2015). However, it was not required to stop discharging bromide as part of this agreement through its illegal seeps or through any other point source discharge, and it has in no way eliminated its discharges of bromide. Nor has Duke Energy been able to eliminate the bromide-caused carcinogens in these drinking water systems. In the past several years, trihalomethane levels were detected as high as 100 parts per billion in the City of Eden's water supply; as high as 111 parts per billion in the City of Danville's water supply; and as high as 139 parts per billion and with an average of 90 parts per billion in Halifax County's water supply. These levels are much higher—in some cases double—the levels of trihalomethanes present in these water supplies prior to the time that Duke Energy installed a scrubber at its Belews Creek coal plant, greatly increasing its bromide discharges.

Importantly, Duke Energy has been operating the Belews Creek coal plant less in recent years. If Duke Energy increases its operations at Belews Creek, bromide levels could rise as well. *See* Attachment 10, Duke 30(b)(6) Testimony of Zachary Hall at 72:20-73:16.

**Other Downstream Impacts.** Duke Energy's own consultants determined that recreational and subsistence fishers are exposed to elevated health risks downstream of the Belews Creek coal ash site. HDR, Belews Creek Corrective Action Plan Part 2, Appx. F, Baseline Human Health and Ecological Risk Assessment at 53 (Mar. 4, 2016), *available at* <http://edocs.deq.nc.gov/WaterResources/0/doc/360898/Page1.aspx> (“*With the exception of a recreational and subsistence fisher*, off-site surface water and sediment pose no unacceptable risk or hazard for recreational receptors . . .”). Duke Energy's ecological risk assessment for Belews Creek shows that the contamination at Belews Creek exceeds the hazard quotient for mammals and birds, such as the great blue heron. *Id.* at 50. DEQ recently concluded that Duke

Energy has not provided information showing that a balanced, indigenous population of fish and other aquatic life exists downstream of the Belews Creek site. Attachment 7, DEQ, Belews Creek Draft Wastewater Permit Fact Sheet at 5 (Jan. 15, 2017).

In sum, Duke Energy is discharging significant quantities of pollutants through numerous unpermitted seeps—many of which are themselves jurisdictional tributaries—from its Belews Creek coal ash basin into the Dan River, Belews Lake, and Little Belews Creek, in violation of the Clean Water Act.

Because these discharges are continuous and ongoing, they will continue after the date of this letter and the subsequent filing of a lawsuit.

**B. Duke Energy Is Illegally Polluting Jurisdictional Waters by Treating a Segment of Little Belews Creek As Part of Its Private Coal Ash Pollution System.**

Duke Energy is violating the Clean Water Act by using a water of the United States as its private coal ash wastewater system. This jurisdictional water is a segment of Little Belews Creek, which Duke Energy and DEQ are failing to protect as a water of the United States because Duke Energy is treating it as a component of its coal ash wastewater system.

(continued on next page)

Figure 4: Little Belews Creek As It Flows Under a Bridge Toward the Dan River



Little Belews Creek flows out of Duke Energy’s coal ash basin to the north and discharges into the Dan River. Little Belews Creek is a perennial, blue line tributary of the Dan River. The entirety of Little Belews Creek is therefore a jurisdictional water of the United States. 40 C.F.R. § 122.2; 33 C.F.R. § 328.3(a). It is also a water of North Carolina. N.C. Gen. Stat. § 143–212(6) (“‘Waters’ means any stream, river, brook, swamp, lake, sound, tidal estuary, bay, creek, reservoir, waterway, or other body or accumulation of water, whether surface or underground, public or private, or natural or artificial, that is contained in, flows through, or borders upon any portion of this State . . .”). The U.S. Army Corps of Engineers has recognized Little Belews Creek as a jurisdictional water of the United States. Attachment 14, Army Corps of Engineers 404 Permit for Belews Creek (Mar. 9, 2015) (explaining that repairs to the main dam, which was constructed across the upper reaches of Little Belews Creek, resulted in “impacts to the jurisdictional waters”).

Yet Duke Energy is illegally using a segment of Little Belews Creek as a wastewater discharge channel with no water quality protections. The Clean Water Act regulates “*any addition* of any pollutant *to* navigable waters *from* any point source.” 33 U.S.C. § 1362(12)

(emphasis added). A wastewater permit issued under the Clean Water Act must regulate the discharge of pollutants at the point where they *enter* navigable waters, such as Little Belews Creek. Duke Energy’s wastewater permit wrongly places the coal ash basin outfall not at the end of the discharge structure—which empties into Little Belews Creek at a location approximately midway between the coal ash basin and the Dan River—but instead approximately half a mile downstream in the middle of the Dan River. This arrangement violates the Clean Water Act.

Duke Energy’s own reports recognize that at Belews Creek, the “discharge from the ash basin is through a concrete discharge tower located in the northwest portion of the ash basin. The concrete discharge tower drains through a 24-inch diameter Standard Dimension Ratio (SDR) 17 high-density polyethylene (HDPE) conduit for approximately 1,600 feet and then discharges into a concrete flume box. . . . ***The discharge is to a tributary, locally known as Little Belews Creek,*** that flows northward to the Dan River.” HDR, Comprehensive Site Assessment, Belews Creek Steam Station Ash Basin, Appendix I at A-23 (Sept. 9, 2015), *available at* <http://edocs.deq.nc.gov/WaterResources/0/doc/307984/Page1.aspx> (emphasis added). The location of the discharge tower and the point where it empties into Little Belews Creek, as well as the fictitious outfall 003 location, are shown in Figure 5 below. All labels and other identifiers in Figure 5 are reproduced from Duke Energy’s site assessment maps and its wastewater permit. *See* HDR, Comprehensive Site Assessment for Belews Creek fig.2-4 (identifying the location of “Little Belews Creek,” “Ash Basin,” “Ash Basin Discharge to Little Belews Creek,” and the “Discharge Tower”) and fig.4-3 (identifying the location of the 24” Diameter HDPE Discharge Structure) (Sept. 9, 2015), *available at* <http://edocs.deq.nc.gov/WaterResources/0/doc/308094/Page1.aspx>; Attachment 15, Duke Energy, Belews Creek NPDES Permit Map (last revised Nov. 2016) (identifying the geospatial coordinates of the permitted outfall 003 as 36°18’22.0”, - 80°04’50.7”).

(continued on next page)

Figure 5: Map of Coal Ash Basin Discharge to Little Belews Creek and Permitted Outfall



Despite the fact that the discharge structure indisputably empties into Little Belews Creek, Duke Energy's wastewater permit wrongly identifies the permitted outfall as being one-half mile downstream in the middle of the Dan River. Attachment 15, Duke Energy, Belews Creek NPDES Permit Map (last revised Nov. 2016). Because of this error, ***the entire segment of Little Belews Creek flowing from the permitted discharge structure to the Dan River receives no Clean Water Act or surface water quality protections.***

Duke Energy uses this jurisdictional waterbody to transport and absorb pollutants before they reach Duke Energy's arbitrarily chosen "outfall" location. Duke Energy does not attempt to comply with the Clean Water Act or surface water quality standards for any of its discharges into these waters. Instead, Duke Energy illegally treats this water of the United States as a wastewater dump by discharging pollutants into it through the coal ash basin's discharge structure; through engineered and non-engineered leaks in the man dam at the north end of the Belews Creek coal ash basin; and through unpermitted flows of pollutants via hydrologically connected groundwater from the unlined coal ash lagoon directly into Little Belews Creek.

Duke Energy employed a similar arrangement at its Sutton coal ash facility in Wilmington, N.C. There, Duke Energy's coal ash impoundments similarly discharged into a jurisdictional water—a lake that Duke Energy created by impounding a jurisdictional stream—under a permit that purported to allow Duke Energy to contaminate this waterbody without limit.

At Sutton, Duke Energy had wrongly obtained a wastewater permit that purported to allow Duke Energy to treat this lake as an "internal" component of its wastewater system, with no water quality protections. Conservation groups represented by the Southern Environmental Law Center challenged Duke Energy's illegal pollution of Sutton Lake, and the U.S. District Court for the Eastern District of North Carolina ruled that the lake falls squarely within the "conventionally identifiable waters," of the United States protected by the Clean Water Act. *Cape Fear River Watch, Inc. v. Duke Energy Progress, Inc.*, 25 F. Supp. 3d 798 (E.D.N.C. 2014), *amended*, No. 7:13-CV-200-FL, 2014 WL 10991530 (E.D.N.C. Aug. 1, 2014).

Duke Energy argued that its wastewater permit, which purported to allow the "internal" discharges to Sutton Lake, should shield it from liability under the Clean Water Act. The Court rejected that argument, stating that the permit itself "may violate the CWA" and ruling that the conservation groups were not required to administratively challenge the issuance of the wastewater permit "where the state agency fails to uphold fundamental requirements of the CWA." *Id.* at 811 (citing *Dubois v. United States Dep't of Agric.*, 102 F.3d 1273, 1300 (1st Cir.1996)).

At Sutton, the federal district court's ruling prompted DEQ to acknowledge that Sutton Lake was a water of the state and forced Duke Energy to obtain a new wastewater permit that recognizes Sutton Lake as a water of the United States. For the first time, the permit requires

Duke Energy to treat its discharges into the lake by putting in place technology-based effluent limits and extensive wastewater treatment. Moreover, the North Carolina Superior Court issued an order directing Duke Energy to remove all the coal ash from the unlined impoundments at Sutton to dry, lined, landfill storage. Excavation of the coal ash at Sutton is now well underway.

Instead of implementing this solution at Belews Creek, Duke Energy is repeating its mistake at Sutton by treating the downstream segment of Little Belews Creek, a jurisdictional water just like Sutton Lake, as Duke Energy's wastewater discharge channel rather than a water of the United States.

This segment of Little Belews Creek is contaminated by Duke Energy's coal ash basin in several ways. First, Duke Energy discharges without limit from its permitted discharge structure into Little Belews Creek. The discharge structure for Belews Creek coal ash basin previously discharged directly into Belews Lake, which EPA designated as a 'proven environmental damage case' due to coal ash contamination. Duke Energy relocated its discharge structure "due to environmental concerns within Belews Lake," so that the contaminated discharges from the outfall structure now flow into Little Belews Creek. Attachment 16, CHA, Assessment of Dam Safety Coal Combustion Surface Impoundments, Belews Creek Steam Station at 7 (Dec. 8, 2009). Second, Duke Energy has constructed horizontal drains, toe drains, and flumes at the base of the main dam, as described in Section I.A above, and contaminated wastewater flows through these seeps and ultimately into this segment of Little Belews Creek without a wastewater permit. These illegal discharge points allow polluted wastewater to discharge into Little Belews Creek, despite the fact that the Belews Creek wastewater permit has never purported to allow these discharges. Non-engineered seeps also discharge into Little Belews Creek, as described in Section I.A above. These engineered and non-engineered seeps allow pollutants and untreated wastewater from the coal ash basin to pass through openings in the dam and discharge to the north into Little Belews Creek. Finally, Duke Energy also discharges pollutants from the coal ash lagoons via hydrologically connected groundwater into Little Belews Creek, as described in Section III below.

Before the construction of the Belews Creek coal ash basin, community members enjoyed fishing in Little Belews Creek. According to Duke Energy's own ecological assessment for Belews Creek, a "variety of small and large fish and benthic macroinvertebrates were observed within the perennial flowing systems," including Little Belews Creek. HDR, Comprehensive Site Assessment, Belews Creek Steam Station Ash Basin, Appendix I at A-27 (Sept. 9, 2015), *available at* <http://edocs.deq.nc.gov/WaterResources/0/doc/307984/Page1.aspx>. Duke Energy's ecological risk assessment for Belews Creek shows that the contamination in the vicinity of Little Belews Creek exceeds the hazard quotient for species such as the great blue heron. HDR, Belews Creek Corrective Action Plan Part 2, Appx. F, Baseline Human Health and Ecological Risk Assessment at 50, fig.2-5 (Mar. 4, 2016), *available at* <http://edocs.deq.nc.gov/WaterResources/0/doc/360898/Page1.aspx>.

As described above, sampling shows numerous surface water quality standard exceedances in Little Belews Creek, as well as further downstream in the Dan River. These surface water quality standards are designed to protect fish and other aquatic life, as well as human health. Yet Duke Energy is blatantly disregarding these surface water quality standards in the segment of Little Belews Creek downstream of the coal ash basin's permitted discharge structure.

Because these discharges are continuous and ongoing, they will continue after the date of this letter and the subsequent filing of a lawsuit.

**C. Duke Energy's Wastewater Permit Does Not and Cannot Authorize These Discharges Into Waters of the United States.**

The Belews Creek wastewater permit authorizes only one point source discharge for its coal ash pollution into waters of the United States: Outfall 003. Attachment 1, Belews Creek Wastewater Permit at 2. The Belews Creek wastewater permit identifies no authorized discharge point for the point source discharges from the coal ash basin into Little Belews Creek, the Dan River, Belews Lake, or any other tributaries.

Accordingly, Duke Energy's point source discharges identified above from its coal ash lagoon into Little Belews Creek, the Dan River, Belews Lake, and other tributaries are not authorized under the Clean Water Act. These point source discharges include all of the seeps described above, as well as the ash basin discharge structure that empties into Little Belews Creek.

The discharges from the Belews Creek coal ash basin discharge structure into Little Belews Creek are not permitted, and the wastewater permit's identification of the discharge point in the middle of the Dan River is unlawful. Duke Energy's wastewater permit does not protect the segment of Little Belews Creek downstream of the discharge structure, and instead treats it as a component of a wastewater treatment system.

As a result, the wastewater permit does not and cannot validly authorize Duke Energy's highly contaminated toxic discharges to this water of the United States. *Cape Fear River Watch, Inc. v. Duke Energy Progress, Inc.*, 25 F. Supp. 3d 798, 810-11 (E.D.N.C. 2014) (NPDES permit does not shield polluter for use of jurisdictional waters as component of private coal ash wastewater system). Where the permitting authority "has failed to fulfill its duties under the Act by issuing NPDES permits that do not comply with the Clean Water Act and its implementing regulations," the permit is not valid. *Miccosukee Tribe of Indians of Fla. v. U.S.*, 706 F. Supp. 2d 1296, 1302 (S.D. Fla. 2010), *aff'd* 498 Fed. App'x 899 (11th Cir. 2012) (per curiam).

It is beyond dispute that a wastewater permit cannot deliberately fail to protect water quality by erroneously declaring waters of the United States to be a waste treatment facility. Such an absurd result would directly contradict the Clean Water Act's objective of restoring and maintaining the chemical, physical, and biological integrity of the Nation's waters and the NPDES permitting program's goal of eliminating discharges of pollutants into navigable waters. 33 U.S.C. § 1251(a).

Yet Duke Energy has submitted a permit application to treat even more of the jurisdictional streams at Belews Creek as wastewater discharge channels, eliminating the water quality protections for these natural waters. DEQ has noticed a draft permit that acquiesces to Duke Energy's request and treats a number of these streams as wastewater discharge channels, despite admitting that many of these streams are jurisdictional waters. *See* Attachment 7, DEQ, Belews Creek Draft Wastewater Permit Fact Sheet at 2 (Jan. 15, 2017).

There is nothing in the Clean Water Act that would allow a jurisdictional stream to be labeled by the polluter and a compliant state agency as an outfall and somehow removed from the definition of waters of the United States. Duke Energy cannot paper over its ongoing, illegal pollution of jurisdictional waters. By a DEQ permit or otherwise, Duke Energy cannot remove this stream from the waters of the United States.

However, under Duke Energy's permit as it now exists, these maneuvers have not been put into place and these additional streams remain protected waters of the United States and of North Carolina under the Clean Water Act. Moreover, if Duke Energy and DEQ subsequently issue a renewed permit that attempts to make these streams part of Duke Energy's wastewater treatment facility, that attempt will be unlawful and these streams will remain protected by the Clean Water Act as waters of the United States and of North Carolina.

Consequently, unpermitted discharges into these streams violate the Clean Water Act, regardless of whether Duke Energy and its permit treat these streams as waters of the United States and of North Carolina.

In sum, Duke Energy is unlawfully co-opting part of Little Belews Creek as internal components of its wastewater treatment system. As a result, Duke Energy has no permit issued under the Clean Water Act validly authorizing discharges into this water of the United States. Duke Energy is also discharging pollutants through seeps into other portions of Little Belews Creek, the Dan River, Belews Lake, and other natural streams—all without any permit authorization to do so. Accordingly, Duke Energy's point source discharges of toxic and harmful pollutants into these waters are unpermitted and do not comply with the Clean Water Act.

Because these discharges are continuous and ongoing, they will continue after the date of this letter and the subsequent filing of a lawsuit.

## **II. Duke Energy Is Violating Conditions of Its Wastewater Permit, In Violation of the Clean Water Act.**

### **A. Duke Energy Is Violating Its ‘Removed Substances’ Permit Provision.**

Duke Energy has violated the Clean Water Act by violating an express condition in its wastewater permit for Belews Creek requiring that Duke Energy prevent the pollutants from the coal ash lagoons from entering North Carolina waters and navigable waters.

Duke Energy’s Belews Creek wastewater permit recognizes that “[t]he Permittee must comply with all conditions of this permit. *Any permit noncompliance constitutes a violation of the CWA and is grounds for enforcement action*”. Attachment 1, Belews Creek Wastewater Permit, Part II.B.1. The Clean Water Act provides that citizen suits may be brought for violations of “an effluent standard or limitation,” which is defined to include “a permit or condition thereof”. Clean Water Act § 505(f), 33 U.S.C. § 1365(f). By violating an express condition of the wastewater permit for the Belews Creek coal ash site, Duke Energy has violated the Clean Water Act.

Duke Energy continues to violate the provision of its wastewater permit requiring it to prevent the entrance of pollutants from the coal ash lagoons into North Carolina waters or navigable waters, known as the Removed Substances provision. Part II.C.6 of the permit requires that:

Solids, sludges, . . . or other pollutants removed in the course of treatment or control of wastewaters shall be utilized/disposed of . . . in a manner such as to *prevent any pollutant from such materials from entering waters of the State or navigable waters of the United States* except as permitted by the Commission.”

Attachment 1, Belews Creek Wastewater Permit (emphasis added).

The U.S. District Court for the Middle District of Tennessee recently held that the Tennessee Valley Authority’s unauthorized discharges of coal ash wastes violated the removed substances provision of the permit for the Gallatin coal ash site. Findings of Fact and Conclusions of Law, *Tenn. Clean Water Network v. Tenn. Valley Auth.*, No. 3:15-cv-00424, 2017 WL 3476069 at \*58 (M.D. Tenn. Aug. 4, 2017). The court ordered the utility to excavate all of its coal ash at the Gallatin site to remedy this violation of the Clean Water Act. *Id.* at 117-23.

The ash basin at Belews Creek receives and treats various waste streams, including coal ash, coal ash sluice water, and other substances from the burning of coal, as well as waste streams from the chemical holding pond, power house and yard holding sumps, coal yard sumps, stormwater and remediated groundwater, and treated scrubber wastewater. These waste streams are treated by sedimentation in the ash basin. Pollutants that have been removed in the course of treatment are disposed of in the Belews Creek coal ash basin.

The Removed Substances provision requires the permittee to prevent coal ash contaminants removed in the course of treatment (*i.e.*, settling) as well as coal ash and other substances from the burning of coal, chemical holding pond wastes, waste from the sumps, and scrubber wastes—and pollutants, solids, sediments, and sludge from them—from entering the waters of North Carolina and of the United States. Groundwater is included in North Carolina’s definition of waters of the state. N.C. Gen. Stat. § 143-212(6). So are the Dan River, Belews Lake, Little Belews Creek, and other tributary streams at the Belews Creek site, and they are also navigable waters of the United States.

Far from preventing the entrance of these pollutants into state and United States waters, for years Duke Energy has knowingly discharged pollutants, solids, and sludges from its Belews Creek coal ash basin into these waters. For years, pollutants from coal ash have been found in ground water under, at, and around the Belews Creek site. In addition, for years, coal ash, sediments, sludges, and pollutants actually have been disposed of in the groundwater at Belews Creek. Measurements of the groundwater table elevation and surveys of the depth of the coal ash in the Belews Creek basin reveal that the coal ash sits approximately 60 feet deep in the groundwater table in some places. Thus, coal ash itself has been placed in groundwater, in violation of this permit provision.

In addition, monitoring well data from the site shows Duke Energy’s storage of coal ash in the unlined lagoons has caused pollutants such as aluminum, arsenic, barium, boron, bromide, chloride, copper, iron, manganese, mercury, molybdenum, nickel, radionuclides, selenium, sulfate, strontium, total dissolved solids, vanadium, and zinc to enter the groundwater. *See* DEQ, Comprehensive and Ongoing Sample Results from Duke for Belews Creek, *available at* <http://edocs.deq.nc.gov/WaterResources/0/fol/591502/Row1.aspx> (last updated Sept. 27, 2017). Table 4 below shows examples of high levels of these pollutants found in Duke Energy’s groundwater monitoring wells. To illustrate the magnitude of this contamination, the table also includes a comparison to the respective groundwater standards. Table 4 also shows that these levels are much higher than the highest background value that Duke Energy has calculated for the area, confirming that Duke Energy’s coal ash is the source of this pollution. *See* Duke Energy Background Values, *available at* <http://edocs.deq.nc.gov/WaterResources/0,0,0,0,0,0,0,0,0/edoc/573786/TABLE%20%20%20-%20Belews%20Creek%20GW%20BG%20Threshold%20Values.xlsx>. Many of the wells that

Duke Energy has designated as background wells may in reality be impacted by coal ash contamination, meaning that the level of contamination compared to true background levels may be even higher.

Table 4: High Levels of Contamination in Groundwater and Comparison to Groundwater Quality Standards and Background Levels

	Groundwater Quality Standard (ppb)	Highest Background Value (ppb)	Contamination Level (ppb)
Aluminum	50-200	860	11,700
Arsenic	10	1	134
Barium	700	58	1,510
Boron	700	50	31,100
Chloride	250,000	21	487,000
Chromium	10	5	269
Copper	Narrative	10	215
Hexavalent Chromium	0.07	2	79
Iron	300	750	92,200
Manganese	50	55	21,300
Molybdenum	Narrative	4	38.3
Nickel	100	5	139
Radium-226 and -228	5 pCi/L	9 pCi/L	19 pCi/L
Selenium	20	1	378
Sulfate	250,000	10	1,676,000
Strontium	Narrative	100	15,900
Thallium	0.2	0.2	4
Total Dissolved Solids	500,000	148	5,480,000
Vanadium	0.3	2	218

This contaminated groundwater in turn flows to Little Belews Creek, the Dan River, Belews Lake, and other tributary streams. Sampling results for these waters show elevated levels of coal ash pollutants including bromide, boron, selenium, thallium, mercury, cobalt, aluminum, chloride, and total dissolved solids, and in many cases surface water quality standard violations for these pollutants, as described in Section I.A above.

The contaminated groundwater also flows in the direction of neighboring drinking wells to the northeast and west of the Belews Creek coal ash basin. *See* HDR, Comprehensive Site Assessment Supplement 2, Belews Creek Steam Station Ash Basin, fig.3-3 (Aug. 11, 2016), *available at* <http://edocs.deq.nc.gov/WaterResources/0/fol/399036/Row1.aspx> (last modified

Mar. 7, 2017); Attachment 2, HDR, Revised Groundwater Flow and Transport Model, Belews Creek Steam Station Ash Basin Figures, fig.13 (Sept. 30, 2016). In 2015, residents who rely on more than two dozen drinking wells near the Belews Creek site were told by the State not to use their water for drinking or cooking due to elevated levels of arsenic and other pollutants.

Belews Creek is the only one of Duke Energy's coal ash sites that is not being excavated where Duke Energy has admitted that there are "demonstrated offsite groundwater impacts." Attachment 3, Settlement Agreement at 6, *Duke Energy v. DEQ*, 15 EHR 02581 (Sept. 29, 2015).

The coal ash settling basin at Belews Creek is a wastewater treatment system; its purpose is to treat and remove solids, sludges, and pollutants and keep them out of public waters. As a result, Duke Energy has an express permit obligation to prevent these materials and pollutants from entering public waters after they have been removed during the course of treatment. Instead, Duke Energy continues to allow the unpermitted and uncontrolled entrance of solids, sludges, and pollutants into the waters of the State and navigable waters of the United States. And Duke Energy has intentionally placed coal ash in the groundwater and created unpermitted channels to funnel polluted seeps into waters of North Carolina and the United States. Duke Energy's actions and failures are a straightforward violation of this straightforward provision of the permit.

Accordingly, by not preventing the entrance of its removed solids, sludges, and pollutants to State waters and of the United States—including the groundwater of North Carolina, the Dan River, Belews Lake, Little Belews Creek, and other unnamed streams around and beneath the ash basin—Duke Energy has violated and is violating its wastewater permit and thus the Clean Water Act.

This permit requirement to prevent the entrance of pollutants into waters of North Carolina and the United States is enforceable through a citizen suit under the Clean Water Act. *See* 33 U.S.C. § 1370 (allowing states to adopt and enforce more stringent limitations in CWA permits than the federal government); 33 U.S.C. § 1311(b)(1)(B) (stating that more stringent state limitations in furtherance of the objective of the CWA include "those necessary to meet water quality standards"); *Sierra Club v. Virginia Elec. & Power Co.*, No. 2:15CV112, 2015 WL 6830301, at \*6-7 (E.D. Va. Nov. 6, 2015) (allowing citizen suit claims for violation of Removed Substances permit provision for surface and groundwater discharges); *Yadkin Riverkeeper v. Duke Energy Carolinas*, 141 F.Supp.3d at 446-47 (allowing citizen suit claims for violation of Removed Substances permit provision for surface and groundwater discharges); *Cape Fear River Watch, Inc. v. Duke Energy Progress, Inc.*, 25 F. Supp. 3d 798, 810-11 (E.D.N.C. 2014) *amended*, No. 7:13-CV-200-FL, 2014 WL 10991530 (E.D.N.C. Aug. 1, 2014) (allowing citizen suit claims for violation of Removed Substances permit provision for surface

and groundwater discharges). *See also Friends of the Earth, Inc. v. Gaston Copper Recycling Corp.*, 204 F.3d 149, 152 (4th Cir. 2000) (confirming citizens are “authorized to bring suit against any NPDES permit holder who has allegedly violated its permit”); *Nw. Envtl. Advocates v. City of Portland*, 56 F.3d 979, 986 (9th Cir. 1995) (“The plain language of CWA § 505 authorizes citizens to enforce all permit conditions”); *Culbertson v. Coats Am.*, 913 F. Supp. 1572, 1581 (N.D. Ga. 1995) (holding that “[t]he CWA authorizes citizen suits for the enforcement of all conditions of NPDES permits”).

Because these permit violations and entrance of pollutants from the unlined coal ash lagoon to the waters of the State and to navigable waters of the United States are continuous and ongoing, they will continue after the date of this letter and the subsequent filing of a lawsuit.

### **B. Failure to Properly Operate and Maintain the Belews Creek Coal Ash Basin.**

Duke Energy’s Belews Creek wastewater permit provides that “The Permittee shall at all times provide the operation and maintenance resources necessary to operate the existing facilities at optimum efficiency. The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this individual permit.” Attachment 1, Belews Creek Wastewater Permit, Part II, Section C.2.

As set out above, Duke Energy has repeatedly and in a variety of ways violated this provision of its permit. Its wastewater treatment facility and systems improperly leak, malfunction, pollute, and otherwise violate the conditions of the permit. All the permit violations set out above are also violations of these basic permit requirements to properly operate and maintain a wastewater facility and systems.

Because these violations are continuous and ongoing, they will continue after the date of this letter and the subsequent filing of a lawsuit.

### **III. Duke Energy Is Discharging Illegally Through Close Hydrologic Flow into Waters of the United States.**

According to documents prepared by Duke Energy’s own consultant, and the testimony of Duke Energy itself, the contaminated groundwater at Belews Creek flows directly into Little Belews Creek and ultimately the Dan River. Attachment 17, Excerpt of Duke 30(b)(6) Testimony of Sean DeNeale at 124:4-22 (Feb. 7, 2017). The contaminated groundwater also flows into Belews Lake. These groundwater flows into surface waters contain numerous pollutants from the Belews Creek coal ash lagoon, including aluminum, arsenic, barium, boron, bromide, chloride, chromium (total and hexavalent), copper, iron, manganese, mercury, molybdenum, nickel, radionuclides, selenium, sulfate, strontium, TDS, vanadium, and zinc.

These unpermitted discharges of pollutants via hydrologically connected groundwater from the Belews Creek coal ash lagoon to navigable surface waters constitute additional violations of the Clean Water Act.

First, these hydrologically connected discharges to jurisdictional waters constitute an additional violation of the “Removed Substances” provision of the Belews Creek wastewater permit addressed in Section II above.

In addition, these discharges via hydrologically connected groundwater from the ash basin to navigable surface waters of the United States are unpermitted point source discharges of pollutants and thus constitute an additional, independent violation of the Clean Water Act.

As discussed above, the Clean Water Act prohibits “any addition of any pollutant to navigable waters from any point source.” 33 U.S.C. § 1362(12)(A). “[T]he touchstone for finding a point source is the ability to identify a discrete facility from which pollutants have escaped.” *Wash. Wilderness Coal. v. Hecla Mining Co.*, 870 F. Supp. 983, 987 (E.D. Wash. 1994).

Because there is a direct hydrologic connection between the coal ash lagoons and Little Belews Creek, the Dan River, and Belews Lake, Duke Energy’s discharges from the lagoons via the groundwater to these waters, as well as the lagoons themselves, are point sources that violate the Clean Water Act.

“The majority of courts have held that groundwaters that are hydrologically connected to surface waters are regulated waters of the United States, and that unpermitted discharges into such groundwaters are prohibited under section 1311.” *Friends of Santa Fe County v. LAC Minerals, Inc.*, 892 F. Supp. 1333, 1358 (D.N.M. 1995).

These rulings include three recent decisions of United States District Courts in the Fourth Circuit. *Sierra Club v. Virginia Elec. & Power Co.*, 145 F. Supp. 3d 601 (E.D. Va. Nov. 6, 2015); *Yadkin Riverkeeper, Inc. v. Duke Energy Carolinas, LLC*, 141 F. Supp. 3d 428 (M.D.N.C. Oct. 20, 2015); *Ohio Valley Env’tl. Coal. Inc. v. Pocahontas Land Corp.*, No. CIV.A. 3:14-11333, 2015 WL 2144905 (S.D.W. Va.) (May 7, 2015). In a virtually identical case to this one, the United States District Court for the Middle District of North Carolina held that the Clean Water Act applies to Duke Energy’s coal ash pollution of hydrologically connected groundwater discharges. *Yadkin Riverkeeper*, 141 F.Supp.3d 428.

Numerous courts nationwide support this reasoning. Findings of Fact and Conclusions of Law at 81-86, 102, 112-13, *Tenn. Clean Water Network v. Tenn. Valley Auth.*, No. 3:15-cv-00424 (M.D. Tenn. Aug. 4, 2017) (concluding that discharges from coal ash basins through hydrologically connected groundwater are violations of the Clean Water Act); *Waterkeeper All., Inc. v. U.S. E.P.A.*, 399 F.3d 486, 515 (2d Cir. 2005) (upholding EPA’s case-by-case approach to regulating feedlot pollutant discharges to surface waters through connected groundwater); *Quivira Mining Co. v. U.S. EPA*, 765 F.2d 126, 130 (10th Cir. 1985) (finding CWA coverage where discharges ultimately affected navigable-in-fact streams via underground flows); *U.S. Steel Corp. v. Train*, 556 F.2d 822, 852 (7th Cir. 1977) (CWA “authorizes EPA to regulate the disposal of pollutants into deep wells, at least when the regulation is undertaken in conjunction with limitations on the permittee’s discharges into surface waters.”); *San Francisco Herring Ass’n v. Pac. Gas & Elec. Co.*, 81 F. Supp. 3d 847, 863 (N.D. Cal. 2015) (CWA jurisdiction over pollutant discharges through groundwater conduit to navigable waters); *Hawai’i Wildlife Fund v. Cty. of Maui*, 24 F. Supp. 3d 980, 996 (D. Haw. 2014) (where groundwater acts as a conduit conveying point source pollution, discharge “is functionally one into navigable water” subject to CWA liability); *Raritan Baykeeper, Inc. v. NL Indus., Inc.*, No. 09-CV-4117 JAP, 2013 WL 103880, at \*15 (D.N.J. Jan. 8, 2013) (CWA covers hydrologically connected groundwater); *Ass’n Concerned Over Res. & Nature, Inc. v. Tennessee Aluminum Processors, Inc.*, No. 1:10-00084, 2011 WL 1357690, at \*17 (M.D. Tenn. Apr. 11, 2011) (groundwater impacting federal waters is subject to the CWA); *Greater Yellowstone Coal. v. Larson*, 641 F. Supp. 2d 1120, 1138 (D. Idaho 2009) (“there is little dispute that if the ground water is hydrologically connected to surface water, it can be subject to” the CWA); *Nw. Env’tl. Def. Ctr. v. Grabhorn, Inc.*, 2009 U.S. Dist. LEXIS 101359, \*34 (D. Or. 2009) (“In light of the EPA’s regulatory pronouncements, this court concludes that . . . the CWA covers discharges to navigable surface waters via hydrologically connected groundwater.”); *Hernandez v. Esso Std. Oil Co. (P.R.)*, 599 F. Supp. 2d 175, 181 (D.P.R. 2009) (“the CWA extends federal jurisdiction over groundwater that is hydrologically connected to surface waters that are themselves waters of the United States”); *Coldani v. Hamm*, 2007 U.S. Dist. LEXIS 62644, \*25 (E.D. Cal. Aug. 14, 2007) (a claim that pollution of groundwater that is hydrologically connected to navigable surface waters falls within the purview of the CWA); *N. Cal. Riverwatch v. Mercer Fraser Co.*, 2005 U.S. Dist. LEXIS 42997, \*7 (N.D. Cal. Sept. 1, 2005) (“the regulations of the CWA do encompass the discharge of pollutants from wastewater basins to navigable waters via connecting groundwaters”); *Sierra Club, Mineral Policy Ctr. v. El Paso Gold Mines, Inc.*, No. CIV.A.01 PC 2163 OES, 2002 WL 33932715, at \*10 (D. Colo. Nov. 15, 2002) (citing EPA policy statement that “discharges from mine adits at historic or active mines [including seeps and other groundwater discharges hydrologically connected to surface water from mines] are point sources subject to CWA liability for any amount of unpermitted discharge); *Idaho Rural Council v. Bosma*, 143 F. Supp. 2d 1169, 1180 (D. Idaho 2001) (“the CWA extends federal jurisdiction over groundwater that is hydrologically connected to surface waters that are themselves waters of the United States”); *Williams Pipe Line Co. v. Bayer Corp.*, 964 F. Supp. 1300, 1319-20 (S.D. Iowa 1997) (where

groundwater flows toward surface waters, there is “more than the mere possibility that pollutants discharged into groundwater will enter ‘waters of the United States,’” and discharge of petroleum into this hydrologically connected groundwater violates the CWA); *Wash. Wilderness Coal. v. Hecla Mining Co.*, 870 F. Supp. 983, 990 (E.D. Wash. 1994) (“since the goal of the CWA is to protect the quality of surface waters, any pollutant which enters such waters, whether directly or through groundwater, is subject to regulation” under the CWA); *Sierra Club v. Colo. Ref. Co.*, 838 F. Supp. 1428, 1434 (D. Colo. 1993) (“discharge of any pollutant into ‘navigable waters’ includes such discharge which reaches ‘navigable waters’ through groundwater”); *McClellan Ecological Seepage Situation v. Weinberger*, 707 F. Supp. 1182, 1195-96 (E.D. Cal. 1988) (groundwater that is “naturally connected to surface waters that constitute ‘navigable waters’” is covered by CWA), *vacated on other grounds*, 47 F.3d 325 (9th Cir. 1995); *State of N.Y. v. United States*, 620 F. Supp. 374, 381 (E.D.N.Y. 1985) (groundwater discharges threatening navigable waters subject to CWA).

The reasoning behind these decisions is straightforward:

Congress has explicitly stated that the objective of the CWA “is to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” Therefore, *it would hardly make sense for the CWA to encompass a polluter who discharges pollutants via a pipe running from the factory directly to the riverbank, but not a polluter who dumps the same pollutants into a man-made settling basin some distance short of the river and then allows the pollutants to seep into the river via the groundwater.*

*N. Cal. Riverwatch*, 2005 U.S. Dist. LEXIS 42997 at \*7-8 (internal citation omitted) (emphasis added). That is precisely the situation at Belews Creek, and accordingly the Clean Water Act applies to Duke Energy’s unpermitted discharges from the coal ash basin that discharge contaminated groundwater into Little Belews Creek, the Dan River, Belews Lake, and other unnamed tributaries.

EPA has also stated repeatedly that the CWA applies to such hydrologically connected groundwater discharges. 66 Fed. Reg. 2960, 3015 (Jan. 12, 2001) (“EPA is restating that the Agency interprets the Clean Water Act to apply to discharges of pollutants from a point source via ground water that has a direct hydrologic connection to surface water.”). *Accord* 56 Fed. Reg. 64,876, 64,892 (Dec. 12, 1991) (“the Act requires NPDES permits for discharges to groundwater where there is a direct hydrological connection between groundwaters and surface waters.”); 55 Fed. Reg. 47,990, 47,997 (Nov. 16, 1990) (announcing stormwater runoff rules and explaining that discharges to groundwater are covered by the rule where there is a hydrological connection between the groundwater and a nearby surface water body).

In a 1998 site report, EPA stated that “[a] documented ground water hydrological connection between a source and surface water discharge may be viewed as a conduit; or a discernible, confined, and discrete conveyance,” *i.e.*, a point source. U.S. EPA, Report on Hydrological Connection Associated with Molycorp Mining Activity, Questa, New Mexico, at 3 (Feb. 13, 1998). As a result, EPA has identified and regulated as point sources impoundments leaching into groundwater that discharge directly to a neighboring river, exactly as with the situation at Belews Creek.

In its response to a comment questioning EPA’s jurisdiction to regulate such discharges, EPA stated, “[t]hat a point source may transmit the pollutants to those surface waters through directly connected groundwater does not deprive EPA of jurisdiction over that addition . . . to protect jurisdictional surface waters from discharges through groundwater, not to protect groundwater quality *per se*.” U.S. EPA, Response to Comments on the NPDES General Permit for Discharges from Concentrated Animal Feeding Operations (CAFOs) in New Mexico (NMG010000) (emphasis added).

In its fact sheet for another wastewater permit, EPA explained, “[i]n most surface waters flow is sustained throughout much of the year by groundwater inflow. As a result, pollutants which may leak from containment structures . . . to the groundwater will typically move toward nearby surface waters where they will be discharged and [a]ffect water quality in the receiving waters.” U.S. EPA, NPDES Permit # LA0068420 Statement of Basis. As a result, EPA reiterated its authority to regulate such groundwater discharges “[t]o protect surface water quality from the deleterious effects of these discharges.” *Id.* (emphasis added).

Moreover, because the Clean Water Act prohibits “any addition of any pollutant to navigable waters from any point source,” 33 U.S.C. § 1362(12) (emphasis added), EPA has exercised its Clean Water Act authority to regulate the leaching of contaminants from impoundments to hydrologically connected groundwater even where the receiving surface water did not exceed applicable surface water quality standards and insufficient information existed to document that direct discharges to those surface waters exceeded the applicable standards. *See* U.S. EPA, Report on Hydrological Connection Associated with Molycorp Mining Activity, Questa, New Mexico, at 3 (Feb. 13, 1998).

Because these hydrologically connected discharges from the unlined coal ash lagoons to navigable waters of the United States are continuous and ongoing, they will continue after the date of this letter and the subsequent filing of a lawsuit.

## **Persons Responsible for Violations**

The Belews Creek coal ash site is owned and operated by Duke Energy, a North Carolina corporation. Duke Energy is responsible for all violations at the Belews Creek coal ash site.

## **Persons Giving Notice**

### **Appalachian Voices**

Appalachian Voices is a § 501(c)(3) non-profit public interest organization with members in North Carolina and Virginia, around and downstream of Duke Energy's Belews Creek coal ash site.

Appalachian Voices and its members have been harmed by Duke Energy's unpermitted discharges and unlawful activities. They swim, fish, boat, drink water, and own property around and downstream of the Belews Creek coal ash site, including at and around the Dan River, Belews Lake, and areas supplied by downstream drinking water intakes. They fear contamination of drinking water, wildlife, and surface waters by discharges from Duke Energy's coal ash lagoon. Duke Energy's discharges of pollutants and contaminants from the Belews Creek coal ash lagoon are reducing the use and enjoyment of the Dan River, Belews Lake, downstream drinking water supplies, and water supply wells by Appalachian Voices and its members.

### **North Carolina Conference of NAACP Branches and the Stokes County Branch of the NAACP**

The North Carolina Conference of NAACP Branches and the Stokes County Branch of the NAACP are non-profit public interest organizations with members in North Carolina, Stokes County, and other counties around and downstream of Duke Energy's Belews Creek coal ash site. The NAACP is the nation's oldest and largest civil rights organization whose mission is to ensure the political, educational, social and economic equality of rights of all persons and to eliminate racial hatred and discrimination. The North Carolina and Stokes County NAACP work to promote this mission by engaging in local issues across the state and in Stokes County. The NAACP has also long been involved in seeking environmental justice for low income communities and for people of color. This work has happened at the state level and locally. At the state level, the N.C. Conference of NAACP Branches made achieving environmental justice a part of its 14 point plan. In the wake of the Dan River coal ash spill, the North Carolina NAACP hosted a Moral Monday Town Hall in Eden, NC and called for action to protect residents from the harmful effects of coal ash.

Locally, the North Carolina and Stokes County NAACPs and their members have been actively engaged in public hearings, meetings, and forums to urge state leaders and Duke Energy to take appropriate action to halt the ongoing, unlawful coal ash pollution at Belews Creek. In March of 2016, the Stokes County Branch held a community prayer vigil outside of the county courthouse before a state regulatory hearing on coal ash. The North Carolina Advisory Committee to the United States Civil Rights Commission held an April 7<sup>th</sup> 2016 hearing in Stokes County concerning Duke Energy's coal ash pollution and its effects on surrounding communities. Members of the North Carolina and Stokes County NAACP participated in that hearing, and the Commission later issued a report recommending that Duke Energy be required to excavate its coal ash from its polluting unlined pits at Belews Creek.

These NAACP groups and their members have been harmed by Duke Energy's unpermitted discharges and unlawful activities related to coal ash. They swim, fish, boat, drink water, and own property around and downstream of the Belews Creek coal ash site, including at and around the Dan River, Belews Lake, and areas served by downstream drinking water intakes. They fear contamination of drinking water, wildlife, and surface waters by discharges from Duke Energy's coal ash lagoon. Duke Energy's discharges of pollutants and contaminants from the Belews Creek coal ash lagoon are reducing the use and enjoyment of the Dan River, Belews Lake, downstream drinking water supplies, and water supply wells by the North Carolina and Stokes County NAACPs and their members, and the value and use and enjoyment of their property.

The name, address, and phone number of the persons giving notice are:

Amy Adams, North Carolina Programs Manager  
Appalachian Voices  
589 West King Street  
Boone, NC 28607  
828-262-1500

Prof. Irving Joyner, Legal Counsel  
North Carolina Conference of NAACP Branches  
P.O. Box 374  
Cary, North Carolina 27512  
919-319-8353

Rev. Gregory Hairston, President  
Stokes County NAACP  
1070 Brookridge Drive  
Walnut Cove, NC 27052  
919-682-4700

The Citizen Groups believe that a negotiated settlement of these violations, codified through a court-approved consent decree, would be preferable to protracted litigation. However, if we are unable to reach an enforceable settlement agreement, the Citizen Groups are prepared to file suit in the United States District Court for the Middle District of North Carolina, or other appropriate court, pursuant to § 505(a) of the Clean Water Act, 33 U.S.C. § 1365(a)(1), after sixty days from the date of this letter. This lawsuit will seek injunctive relief, appropriate monetary penalties, fees and costs of litigation, and such other relief as the Court deems appropriate.

If you have any questions concerning this letter or the described violations, or if you believe this notice is incorrect in any respect, please contact the undersigned counsel, the Southern Environmental Law Center, at (919) 967-1450 (tel.), (919) 929-9421 (fax). During the notice period, we are available to discuss this matter with you, but suggest if you desire to institute negotiations in lieu of a civil action that you do so immediately as we do not intend to delay prosecution of this suit once the notice period has expired. Please be advised that the failure to remedy any of the violations set forth in this letter can result in a court order enjoining further violations and imposing civil penalties of \$37,500 per violation per day for each violation of the Clean Water Act occurring on or before November 2, 2015, and \$52,414 per violation per day for each violation of the Clean Water Act occurring after November 2, 2015. In addition, upon the successful prosecution of this suit, the Citizen Groups intend to seek compensation for attorneys' fees and the costs of litigation under the citizen suit provisions of the Clean Water Act, 33 U.S.C. § 1365.

Thank you for your prompt attention to this matter.

Sincerely,

A handwritten signature in black ink, appearing to read "Frank S. Holleman III". The signature is fluid and cursive, with the first name "Frank" and last name "Holleman" being the most prominent parts.

Frank S. Holleman III  
fholleman@selcnc.org

Myra Blake  
mblake@selcnc.org

Nicholas S. Torrey  
ntorrey@selcnc.org

Leslie Griffith  
lgriffith@selcnc.org

Enclosures

cc:

*Via certified mail – return receipt requested (w/encl.):*

Scott Pruitt, Administrator, U.S. EPA  
V. Anne Heard, Acting Regional Administrator, U.S. EPA, Region 4  
Josh Stein, North Carolina Attorney General  
CT Corporation System

*Via e-mail (w/encl.):*

Mary Wilkes, U.S. EPA, Region 4  
Mark Nuhfer, U.S. EPA, Region 4  
Karrie-Jo Shell, U.S. EPA, Region 4  
Gina Fonzi, U.S. EPA, Region 4  
Matthew Hicks, U.S. EPA, Region 4  
Bill Lane, North Carolina DEQ General Counsel