

Thyroid Cancer & Structural Coal Ash Facility

Iredell County Community Questions and NC Multi-Agency Response

Agency Response Key:

- Duke University = **(Duke)**
- Iredell County Health Department = **(ICHD)**
- North Carolina Department of Environmental Quality = **(DEQ)**
- North Carolina Occupational and Environmental Epidemiology Branch = **(OEEB)**
- North Carolina Representative John Fraley (Republican) John Fraley = **(Rep. John Fraley)**
- North Carolina Senator Vickie Sawyer = **(Senator Vickie Sawyer)**
- The Town of Mooresville = **(Mooresville)**
- UNC Chapel Hill - Department of Epidemiology – Gillings School of Public = **(UNC)**

I. Cancer in General

- A. Can you speak to rumors of high overall cancer rates in the area and specifically within the population who have attended Lake Norman High School?
1. OEEB: Information on overall cancer rates, including age-adjusted cancer incidence rates, is publicly available at the county-level and can be compared to the state average rate [here](#).
 2. OEEB: This info at this website shows that for the most recent time period (2013-2017), the age-adjusted rate of new cases of all types of cancer combined was 474.5 cases per 100,000 people for Iredell County, compared to 468.4 cases per 100,000 people for North Carolina. Although the Iredell County rate is slightly higher, statistically the difference is minimal. Both rates are currently falling.
 3. OEEB: Most of the focus in Iredell County has been on thyroid cancer. According to a [2019 NC DHHS report](#), the rate of new thyroid cancer diagnoses in Iredell County was higher than the rate in North Carolina as a whole during 2005–2016, especially in the southeastern and southwestern regions of the county. The rate of new thyroid cancer diagnoses has also increased statewide, nationally, and globally over the same time frame.
 4. OEEB: The 2019 NC DHHS report was prepared by staff from the NC Central Cancer Registry and the Epidemiology Section of the NC Department of Health and Human Services (NC DHHS) at the request of the Iredell County Health Department and citizens of Iredell County. It compares the rate of new diagnoses of thyroid cancer in Iredell County from 1995–2016 to the state as a whole, and then describes which groups are being diagnosed with thyroid cancer.
 5. OEEB: NC DHHS does not have a way to identify all the people who attended Lake Norman High School during a certain time-period so that we can identify the cancer cases within that population. This information would be needed to determine if there are higher cancer rates among people who have attended Lake Norman High School compared to other people of similar ages.

II. Thyroid Cancer

A. Has there been any other concerns of increasing benign nodules?

1. OEEB: NC DHHS does not have a data source to answer this question because benign thyroid nodules are not required to be reported to the NC Central Cancer Registry and do not typically require hospitalization.
2. OEEB: The UNC Cancer Information & Population Health Resource (CIPHR) is currently examining data from insurance claims to look at patterns of physician-patient interactions and thyroid procedures across the state. They hope to determine whether there is more screening in certain areas than others.

B. What general information do you have from any current studies or findings pertaining to Thyroid Cancer in the Mooresville, NC geographic area.

1. Duke: We have conducted statistical analyses for papillary thyroid cancer in zip codes 28115 and 28117 in Mooresville, NC. Our analyses do show that the rate of papillary thyroid cancer was elevated in these two zip codes between 2008-2016. We have not conducted analyses on more recent data (2017-2019) but hope to do so when the data has been finalized and cleared by the NC Cancer Registry.

C. Can you please publish a map with some method of indicating thyroid cancer rates by area?

1. Duke: We do have a paper under review with a scientific journal that will include maps of the entire state of NC. The maps will have color coding to indicate areas of elevated thyroid cancer and how it changes over time. We hope that the paper will be accepted and published in the journal within the next few months. Anyone with questions about the status of this report can feel free to email Dr. Heather Stapleton at heather.stapleton@duke.edu

III. Cluster

A. Clarification on whether this area has been confirmed officially as a cancer cluster?

1. OEEB: This area has not been designated as a cancer cluster by NCDHHS.
2. OEEB: The [2019 NC DHHS report](#) did find that the rate of new thyroid cancer diagnoses in Iredell County was higher than the rate in North Carolina as a whole during 2005–2016, especially in the southeastern and southwestern regions of the county. The rate of new thyroid cancer diagnoses has also increased statewide, nationally, and globally over the same time frame.

3. OEEB: To learn more, NC DHHS, Iredell County Health Department, and academic researchers statewide are investigating the factors that may be contributing to elevated rates of new thyroid cancers in Iredell County. This includes possible differences in thyroid cancer screening rates. A multidisciplinary research study is being designed to examine differences in environmental factors for thyroid cancer patients (cases) in Iredell County compared to other Iredell County residents (controls).

IV. Water Source

A. Is coal ash in Lake Norman?

1. DEQ: Coal ash has been stored at the Marshall Steam Station in two ways. First, the coal ash was stored in an impoundment. The coal ash was transported to the impoundment by mixing the coal ash with water and transporting the mixture to the impoundment. More recently, the company has stopped using the wet ash system and has switched to a dry ash system. The fly ash is transported from the plant to landfills or recycling facilities.
2. DEQ: Duke Energy has a wastewater discharge permit that allows it to discharge treated water into the lake. The wastewater may contain certain chemicals from the coal ash, but not at levels that would result in a water quality standard being violated. Industries that have this type of permit must comply with strict regulations to protect the environment and public health.
3. DEQ: The fly ash may be recycled into cement or construction products. The ash from the flue gas desulfurization process may be sold to a dry wall production company. Any remaining ash that could not be recycled was sent to a lined-on site landfill. Duke Energy has a wastewater discharge permit that allows it to discharge treated water into the lake. The wastewater may contain certain chemicals from the coal ash, but not at levels that would result in a water quality standard being violated. Industries that have this type of permit must comply with strict regulations to protect the environment and public health.
4. DEQ: It should be noted that the majority impounded coal ash at Marshall must be excavated as part of the coal ash impoundment closure process under the Coal Ash Management Act. Work has already begun on this process.

B. Can my daughter get cancer if there is coal ash in the water?

1. OEEB: Coal ash is a mix of waste left over after burning coal. Coal ash can contain heavy metals, like arsenic and cadmium, which are considered carcinogens. Exposure to these carcinogens, via coal ash or other sources, can increase the risk of getting cancer.
2. OEEB: It is difficult to determine whether an individual's cancer risks could be increased through coal ash exposure. The composition of coal ash varies, meaning the mix of waste and heavy metals can differ depending on the source of the coal ash. Exposures can also change over time.

3. OEEB: If residents are concerned about impacts of coal ash on their drinking water, they can take action to learn more. Public water supplies are tested regularly for contaminants covered by the National Primary Drinking Water Regulations. Residents on public water can contact their local water utility to receive a copy of the test results for their water supply.
 4. OEEB: Residents with wells can contact their local health department to request well testing for the same coal ash contaminants that were tested for under the Coal Ash Management Act (CAMA).
 5. OEEB: Based on test results, the local health department and the NC DHHS Occupational and Environmental Epidemiology Branch (919-707-5900) can provide recommendations and guidance to ensure safe drinking water at home.
 6. Rep. John Fraley:
 - a. There is no scientifically proven link between coal ash in water and cancer.
 - b. Duke University has tested the water in Lake Norman for metals and has not found anything elevated above a normal range.
 - c. An individual is generally responsible to have their water tested if they have a concern.
- C. Resident living downtown where water plumbed to house comes from STVL filtration plant that pulls from the Catawba River. Do the neighborhoods afflicted by Thyroid cancer obtain drinking water from the Catawba River/Lake Norman?**
1. DEQ: The majority of people in the two ZIP codes surrounding the Marshall Steam Station receive drinking water from public water systems. Thirty-eight systems are listed as community public water systems. Of those, 35 receive water from groundwater wells. Of the remaining three, one – Town of Mooresville – has its intake on Lake Norman. The Town of Mooresville can also purchase water from the City of Hickory through a consecutive connection, which source is listed as the southeast Catawba River. The remaining two public water systems – both subdivisions – have active groundwater wells but also can purchase from the Town of Mooresville.
- D. What sampling (PFAS, Heavy Metals) has been performed to confirm whether or not drinking water is a potential source resulting in elevated cancer incidents?**
1. DEQ: DEQ’s Division of Water Resources (DWR) identified 38 drinking water systems in the 28115 and 28117 zip codes in southern Iredell County, and reviewed monitoring records for releases of contaminants with potential to increase the risk of thyroid cancer. Of those 38, 31 Community Water Systems monitor for radionuclides and only one sample at one facility in 2010 measured an exceedance of Radium-226 + Radium-228 above the MCL.
 2. DEQ: The UNC Collaboratory sampled raw water intakes for the public water supply systems across the state in 2019. According to the North Carolina PFAS Testing Network, “our initial chemical analysis shows no significant (or high) levels of PFAS compounds in the Town of Mooresville’s water sample compared to typical background PFAS concentrations observed in drinking water sources. As defined here, high levels mean PFAS concentrations greater than 70 parts per trillion (PPT) for the sum of PFOS + PFOA (two legacy PFAS chemicals), and/or PFAS levels greater than 70 PPT for any single PFAS compound for which we are testing in our targeted analysis. The 70 PPT threshold is based on the US EPA’s health advisory limit for PFOA and PFOS (see more information here [epa.gov]).”

3. DEQ: Additionally, when the Iredell study (a multi-agency effort led by the Iredell County Health Department) first began, there were approximately 15 compounds identified as possibly having a linkage to papillary thyroid cancer. Several of those compounds are included in the periodic testing of public water supplies. Of the 38 community water systems, 31 of them monitor for radionuclides. There has been a limited number of exceedances for those compounds.
 - a. One facility has had one sample in 2010 with combined Radium (Radium-226 + Radium-228) above the Maximum Contaminant Level (MCL). This is one exceedance for one sample of 13 samples collected over a 15-year period. There were no further exceedances after the 2010 sample.
 - b. Another facility had nine samples from 2003 to 2005 with Uranium above the MCL. This is nine exceedances of 33 samples collected over an 18-year period. There have been no exceedances since 2005.
 - c. The third facility had 21 samples from 2000 to 2013 with Uranium above the MCL; this was 21 exceedances out of 74 samples collected over a 21-year period. There have been no exceedances since 2013.
4. DEQ: Researchers from Duke Cancer Institute and Duke University Heather Stapleton, Kate Hoffman and Avner Vengosh stated in a 2019 presentation that they have not measured anything in the drinking water that is believed to be related to the increased risk for thyroid cancer while also noting that there are areas of North Carolina with elevated incidence of papillary thyroid cancer that could be driven by different variables.

E. Is coal ash in Lake Norman?

5. DEQ: Coal ash has been stored at the Marshall Steam Station in two ways. First, the coal ash was stored in an impoundment. The coal ash was transported to the impoundment by mixing the coal ash with water and transporting the mixture to the impoundment. More recently, the company has stopped using the wet ash system and has switched to a dry ash system. The fly ash is transported from the plant to landfills or recycling facilities.
6. DEQ: Duke Energy has a wastewater discharge permit that allows it to discharge treated water into the lake. The wastewater may contain certain chemicals from the coal ash, but not at levels that would result in a water quality standard being violated. Industries that have this type of permit must comply with strict regulations to protect the environment and public health.

F. I live in a neighborhood that has lake access - is my neighborhood at risk from the water?

1. DEQ: The majority of people in the two ZIP codes surrounding the Marshall Steam Station received drinking water from public water systems. If you receive your drinking water from a private water well and have concerns, you can contact the county health department for further well sampling guidance.
2. DEQ: DEQ's Division of Water Resources (DWR) identified 38 drinking water systems in the 28115 and 28117 zip codes in southern Iredell County, and reviewed monitoring records for releases of contaminants with potential to increase the risk of thyroid cancer. Of those 38, 31 Community Water Systems monitor

for radionuclides and only one sample at one facility in 2010 measured an exceedance of Radium-226 + Radium-228 above the MCL.

3. DEQ: The UNC Collaboratory sampled raw water intakes for the public water supply systems across the state in 2019. The PFAST Network's initial chemical analysis shows no significant (or high) levels of PFAS compounds in the Town of Mooresville's water sample compared to typical background PFAS concentrations observed in drinking water sources.
 4. DEQ: Additionally, when this study first began, there were approximately 15 compounds identified as possibly having a linkage to papillary thyroid cancer. Several of those compounds are included in the periodic testing of public water supplies. Of the 38 community water systems, 31 of them monitor for radionuclides. There has been a limited number of exceedances for those compounds.
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 7. DEQ: The third facility had 21 samples from 2000 to 2013 with Uranium above the MCL; this was 21 exceedances out of 74 samples collected over a 21-year period. There have been no exceedances since 2013.
 8. DEQ: Researchers from Duke Cancer Institute and Duke University Heather Stapleton, Kate Hoffman and Avner Vengosh stated in a 2019 presentation that they have not measured anything in the drinking water that is believed to be related to the increased risk for thyroid cancer while also noting that there are areas of North Carolina with elevated incidence of papillary thyroid cancer that could be driven by different variables.
- G. Who is responsible to check my water to see we high levels of radiation or other chemicals in our drinking water?**
1. DEQ: If you receive your water from a public water system, the system routinely samples for a list of regulated contaminants and is subject to state and federal regulation. To find out more, you can contact your water provider.
 2. DEQ's Division of Water Resources (DWR) identified 38 drinking water systems in the 28115 and 28117 zip codes in southern Iredell County, and reviewed monitoring records for releases of contaminants with potential to increase the risk of thyroid cancer. Of those 38, 31 Community Water Systems monitor for radionuclides and only one sample at one facility in 2010 measured an exceedance of Radium-226 + Radium-228 above the MCL.
 3. DEQ: DWR also reviewed wastewater monitoring data for other permitted facilities in its programs in the 28115 and 28117 zip codes in southern Iredell County and no wastewater treatment plants or pre-

treatment facilities were identified with detectable discharges of the regulated chemicals on the thyroid cancer target analyte list.

4. DEQ: If you receive your drinking water from a private water well, the owner of the well should contact a certified testing laboratory to ensure it is safe. The local health department has guidance about what should be tested for and how often. County health department staff can assist with sampling as well as send samples to the NCDHHS laboratory. NCDHHS also maintains a searchable database list of state-certified testing laboratories:
<https://slphreporting.ncpublichealth.com/Certification/CertifiedLaboratory.asp>

H. How can we have our water tested for coal ash contaminants?

1. OEEB: If residents are concerned about impacts of coal ash on their drinking water, they can take action to learn more. Public water supplies are tested regularly for contaminants covered by the National Primary Drinking Water Regulations. Residents on public water can contact their local water utility to receive a copy of the test results for their water supply.
2. OEEB: Residents with wells can contact their local health department to request well testing for the same coal ash contaminants that were tested for under the Coal Ash Management Act (CAMA).
3. OEEB: Based on test results, the local health department and the NC DHHS Occupational and Environmental Epidemiology Branch (919-707-5900) can provide recommendations and guidance to ensure safe drinking water at home.

I. Would the town consider water filtration systems for the public schools? Osmosis?

1. Mooresville: The Town of Mooresville regularly tests for more than 50 contaminants, including arsenic, chromium, lead and mercury which can be found in coal ash. Test results have continually indicated a "non-detect" for these contaminants, therefore the Town does not consider additional treatment necessary to protect against coal ash in its water system. Likewise, there are no recommendations from the State or the EPA to provide an additional level treatment at schools or other facilities at this time.

V. Air

A. Is coal ash in the air?

1. Duke: We have not been able to test the air for chemicals associated with coal ash at this time due to limited resources.
2. DEQ: There are two primary ways for coal ash to become airborne: release from the plant or movement of dry ash to the landfill. The release of coal ash during excavation from the impoundment is unlikely since the ash would have to be dry for it to become airborne. Institutional controls to reduce emissions as well as permit restrictions, including dust control measures, have limited the potential for either of these from occurring.
3. DEQ: With regard to the air emissions controls on the coal combustion units, the facility now has state of the art controls in place to reduce particulate matter, sulfur dioxide (SO₂) and nitrogen oxides (NO_x). For Marshall, particulate matter control, in the form of electrostatic precipitators (ESPs) was installed in the

1970s, between 1978 and 1980. After the 2002 Clean Smoke Stacks Act, Marshall installed Selective Non-Catalytic Reduction controls for NOx, Wet Flue gas desulfurization systems for SO2, and continued to employ ESPs to capture/reduce particulate matter emissions.

4. DEQ: With regard to the management of dry ash, including transporting the ash to the landfill, the ash excavation plans for each of the Duke facilities will contain a dust management plan. In addition, the construction policies will require cleaning of roads and watering of roads to prevent dust generation. The ash is often wet and will have moisture which will prevent it from blowing as it is excavated and transported from the impoundment to the landfill.
5. DEQ: Given thyroid cancer incidence appears to decline with distance from the Marshall plant, fly ash would seem to be the potential cause?
6. DEQ: Ionizing radiation is the only confirmed environmental cause of thyroid cancer in humans. At this time, there are no chemicals with clear linkages to thyroid cancer, though certain compounds continue to be studied by researchers in North Carolina and around the world. Additionally, the control equipment and procedures described above are designed to ensure there is no airborne fly ash, eliminating the likelihood of inhalation exposure. So based on the existing evidence it is not possible to draw a causal link to fly ash.
7. OEEB: Ionizing radiation is the only environmental exposure that has been clearly linked to thyroid cancer. Natural sources of ionizing radiation include radionuclides like radon from rocks and soil as well as cosmic rays, particularly at high altitude. According to the [EPA](#), the amount of natural radiation in fly ash and other waste from coal-fired power plants is only slightly more than what is typically found in the average U.S. soil.
8. OEEB: Human-made sources of ionizing radiation include nuclear power generation and medical devices like X-ray machines. No evidence of increased exposure to ionizing radiation has been identified in Iredell County through routine monitoring of the area around the McGuire Nuclear Site during the past 40 years.
9. OEEB: NC DHHS cannot compare the incidence rate of thyroid cancer by exposure to pollutants due to a lack of currently available data, however we are helping to design a multidisciplinary research study to examine differences in environmental factors for thyroid cancer patients (cases) in Iredell County compared to other Iredell County residents (controls).

B. How does the cancer incidence compare to pollutant concentrations?

1. Duke: There are many pollutants in the environment (several thousand) and we do not have the resources to evaluate them all. We have examined a few types of pollutants (e.g. radon, pesticides, dioxins, flame retardants, PFAS and disinfection byproducts), but our data does not suggest these are elevated in the area around Marshall, with the exception of radon. Indoor radon levels are elevated in some areas of southern Iredell county; however, it is important to note that indoor radon levels are also high in other parts of NC which do not have elevated rates of thyroid cancer.

- A. Are there records of coal ash being distributed to contractors/landscapers/builders etc. from Duke?**
1. Rep. John Fraley: There are records of where coal ash was used as structural fill above a certain number of tons. Smaller amounts used by landscapers, single home builders, etc. are not recorded.
 2. DEQ: The Department of Environmental Quality has records of who received coal ash from Duke facilities; however, these records may have limited information based on reporting requirements at the time of receipt. The Division of Water Resources' permit records, which date back to 1987, required companies to report who received the ash, location, amount distributed and date. State Laws and rules did not require documentation of what the recipient did with the ash. The Division of Waste Management has since 1994, when the Requirements for Beneficial Use of Coal Combustion Products rule became effective, regulated the use of coal ash byproducts as replacement materials, as in structural fills. Records relating to structural fills regulated under these rules can be found in the Division of Waste Management.
- B. With NC 150 expansion project and numerous fill sites being impacted does NC DOT have an awareness of the fill sites and do they have a mitigation strategy?**
1. DEQ: Yes, the state's Department of Transportation does have an awareness of coal ash being used as structural fill. When contractors encounter coal ash fill, they are directed to notify DEQ's Mooresville Regional Office.
- C. Have any of these people tested the coal ash KNOWN structural fill sites in Mooresville? Specifically, NEXT to the high school where 40,000 tons of coal ash was left abandoned in 2001 due to a project that was never completed? Has anyone tested these sites for radium 226/228?**
1. DEQ: The site beside Lake Norman High School has not been tested by DEQ for radionuclides. There has been liquid phase testing for Radium 226 and 228 associated with the groundwater assessment at Marshall Steam Station. Since the coal ash in the structural fill came from the Marshall impoundment, the makeup should be consistent with the ash at the facility.
- D. Has Duke Energy provided you with all of the records of where this coal ash was sold for fill, landscaping, and other construction projects for decades?**
1. DEQ: Duke Energy provided the State records required by the applicable rules in effect at the time of the distribution of ash.
- E. How are the 40,000 tons of coal ash discovered near LNHS being handled to protect our children from being exposed to the air contaminants?**
1. Rep. John Fraley: The coal ash has been tested near Lake Norman High School and no problems have been found. The presence of coal ash at the surface was detected during an inspection by DEQ after a significant rain

event. Corrective actions were taken and enforced by DEQ to correct the coal ash surface exposure. The site is now in compliance with the current law and being regularly monitored for compliance.

2. DEQ: It should be noted that the disturbed area of the soil covering to protect the integrity of the structural fill was along a fire access road. Approximately 75 truckloads of ash mixed with sediment were removed from the site and the cover was restored. The majority of the structural fill was maintained as originally designed. DEQ staff have regularly visited the site and continue to monitor the situation. Corrective actions were required to bring the site back into compliance with applicable rules. Such corrective actions include: over-excavating the sediment basin, adding soil cover over the fire access road, rerouting storm runoff, seeding hillslopes and laying straw for slope stabilization. Those measures have been completed, and the site is currently in compliance. DEQ staff continue to monitor the site to ensure compliance.

F. Was the coal ash spill cleaned up?

1. DEQ: Assuming this question is about the exposure of the structural fill site near the high school, yes, the soil cover has been repaired. Approximately 75 truckloads of soil and ash were taken to an approved landfill, and the soil cover has been repaired. The site is now in compliance and continues to be inspected regularly.

G. Are the practices shown on that page still approved (using coal ash in agriculture, on roads, burning it) and what needs to be done to change the local use of coal ash- and have you initiate paperwork to repel these practices?

1. State rules and the Coal Ash Management Act allow for coal ash to be used as structural fill and for other uses. However, that does not mean the uses are currently in practice. For example, DOT does not use coal ash for traction during snow or ice events.

2. Changes to the existing rules would have to go through the proper rule-making process, including a public hearing and an opportunity for public comment.

H. How can we have our ground soil near our home tested for coals ash contaminants?

1. DEQ: DEQ does not have a residential soil sampling program. To test soil for presence or absence of coal ash particles, a lab must perform a polarized light microscope (called a PLM) test. The only lab that currently tests for coal ash particles is located in Pennsylvania. It costs approximately \$125 per soil sample to be tested. Information about testing can be found on the Iredell County Health Department Coal Ash page at: <https://www.co.iredell.nc.us/1380/Coal-Ash>.

I. Where is the location of the homes who had lots filled in with coal ash?

1. DEQ: DEQ has compiled a map of known structural fill sites in the state, however, that list is only based on DEQ records and may not include all locations. The map is searchable and available at: <https://deq.nc.gov/about/divisions/waste-management/solid-waste-section/coal-ash-structural-fills>.

VII Testing

- A. **Why does the message “there’s no link to coal ash and thyroid cancer” continually pushed out when there has NEVER been any testing to rule it out?**
 1. OEEB: While this message is correct and reflects the current science, it could be revised so that it is clearer: “there has been no study showing a link between coal ash and thyroid cancer.” If new science becomes available that provides evidence of a link, we will update this message.
- B. **If the state believes the coal ash fill is not a concern, why not take steps to prove that?**
 1. Rep. John Fraley: Neither the state nor science has proven if coal ash structural fill is or is not a concern. NC DEQ continually monitors areas where structural fill is known to have been used. We also know the structural fill that was uncovered near Doolie Road and Highway 150 has not impacted well water or Lake Norman water in that area based on state operated and privately-operated laboratories. We are also testing soil from several schools in Iredell County in the Duke University and UNC Collaboratory related labs to see if coal ash fill was used in these locations and if there are any testing issues to be followed up on. Unfortunately, the COVID pandemic closed these labs when our universities were closed in March.
- C. **How can we test our soils for coal ash?**
 1. DEQ: DEQ does not have a residential soil sampling program. To test soil for presence or absence of coal ash particles, a lab must perform a polarized light microscope (called a PLM) test. The only lab that currently tests for coal ash particles is located in Pennsylvania. It costs approximately \$125 per soil sample to be tested. Information about testing can be found on the Iredell County Health Department Coal Ash page at: <https://www.co.iredell.nc.us/1380/Coal-Ash>.

VIII Protecting Duke Energy

- A. **Why does the state care more about protecting Duke than the residents?**
 1. Rep. John Fraley: There is no statement that could be further from the truth. Every result of testing, every meeting held and every conversation held firmly committed to presenting the facts and only the facts. Anyone thinking differently is uninformed.

IX What Should Residents Do?

- A. **What Should Residents Do?**

1. OEEB: If residents are concerned about impacts of coal ash on their drinking water, they can take action to learn more. Public water supplies are tested regularly for contaminants covered by the National Primary Drinking Water Regulations. Residents on public water can contact their local water utility to receive a copy of the test results for their water supply.
2. OEEB: Residents with wells can contact their local health department to request well testing for the same coal ash contaminants that were tested for under the Coal Ash Management Act (CAMA).
3. OEEB: Based on test results, the local health department and the NC DHHS Occupational and Environmental Epidemiology Branch (919-707-5900) can provide recommendations and guidance to ensure safe drinking water at home.
4. DEQ: If you receive your water from a public water system, the system routinely samples for a list of regulated contaminants. To find out more, you can contact your water provider. If you receive your drinking water from a private water well, the health department has guidance about what you should test for and how often.

X. How to Access Information & Updates

- A. How to Access Information & Updates &
- B. What is the best way to stay informed?

1. Please visit the Iredell County Health Department for updated information regarding thyroid cancer at <https://www.co.iredell.nc.us/1255/Thyroid-Cancer-Information> and <https://www.co.iredell.nc.us/1255?Thyroid-Cancer-Information>

- C. Why was the web page taken down showing uses of coal ash the day it went viral in local groups showing that coal ash is still approved to use as a “soil nutrient additive” and on roads to add traction?

1. DEQ: The NCDOT does not use coal ash for snow/ice traction; it is not a current NCDOT practice. The page was out-of-date and had not been updated since 2015, so when it came to our attention it was removed. DEQ has one of the largest websites in the state government system and is constantly working to find/delete orphan or out-of-date pages.

XI Real Estate

I would like to know which Housing locations are filled with coal ash before I buy our home.

1. Rep John Fraley: It is unlikely records exist for any individual home location where coal ash may have been used as fill. A potential buyer or seller would have to have an independent soil test taken.
2. UNC: The NC Cancer Advisory Panel, formed in response to Senate Bill 297, is continuing to meet with the goal of developing recommendations regarding strategies to assess NC cancer incidence and mortality rates regard to patterns over time and geography. The Panel will review methods to investigate cancer patterns and potential underlying etiologies. Finally, the panel will make recommendations regarding strategies to communicate cancer rate patterns and interpretations with community members and other stakeholders. The panel's report can be found at <https://collaboratory.unc.edu/files/2020/07/cancer-research-panel-policy-brief.pdf>
3. DEQ: DEQ has compiled a map of known structural fill sites in the state, however, that list is only based on DEQ records and may not include all locations. The map is searchable and available here: <https://deq.nc.gov/about/divisions/waste-management/solid-waste-section/coal-ash-structural-fills>

XII What Steps Are You Taking

A. Need ideas to fix the problem. AND

B. Susan Wind took the bull by the horns to address coal ash concerns. What active steps outside of committee and meeting are occurring?

1. Rep John Fraley: Susan Wind did the community a service by highlighting this concern and worked with local health officials and elected officials to get NCDHHS, NCDEQ, multiple academic partners and other experts involved.
2. Rep. John Fraley: Steps undertaken have been extensive water testing in the lake and in approximately 800 private wells, consultations with experts in the US, studies of any possible industrial exposures to chemicals that could be linked to coal ash or thyroid cancer, extensive work done to identify how to best study potential cancer clusters in NC, initial soil sampling in several local schools, coordinated work between Duke University, UNC Healthcare, UNC Linebarger Cancer Center and the UNC Policy Collaboratory to name a few of the local and state activities. Please visit this link to view the detailed timeline of events. <https://www.co.iredell.nc.us/DocumentCenter/View/15030/UPDATE-Website-Thyroid-Cases-Timeline--060820>
3. DEQ: The Department of Environmental Quality is working with the Iredell County Health Department, Department of Health and Human Services and research partners at the Collaboratory to sample areas of concern.

C. While various groups search for answers what is being done now, in spite of no definitive answers, to take precautionary steps in case coal ash is the issue?

1. DEQ: The Department of Environmental Quality is working with the Iredell County Health Department, Department of Health and Human Services and research partners at the Collaboratory to sample areas of concern.

D. I understand Erin Brockovich is on our case. While various groups search for answers what is being done now, in spite of no definitive answers, to take precautionary steps in case coal ash is the issue?

1. DEQ: The Department of Environmental Quality is working with the Iredell County Health Department, Department of Health and Human Services and research partners at the Collaboratory to sample areas of concern.

2. Senator Vickie Sawyer: My office contacted her via email on 2/11/2020 and 2/26/2020, with no response. I am also unaware of her involvement with NCDHHS or NCDEQ. We welcome any insight she may bring to our efforts, but to date, I have seen nothing more than an article in the paper about her involvement.

XIII Geographical Location

A. Where exactly do the people, who have contracted thyroid cancer live in the county.

I know of one housing development where coal ash was used as a filler, but this area is not listed as one of the sites.

1. OEEB: The NC Central Cancer Registry cannot disclose the addresses of thyroid cancer cases due to privacy concerns. The Registry must maintain confidentiality and only publishes non-identifiable information.

2. OEEB: There has been no study showing a link between exposure to coal ash and thyroid cancer.

3. OEEB: According to the [2019 NC DHHS report](#), the rate of new thyroid cancer diagnoses in Iredell County was higher than the rate in North Carolina as a whole during 2005–2016, especially in the southeastern and southwestern regions of the county. This doesn't mean that thyroid cancer doesn't occur elsewhere, only that thyroid cancer rates were not elevated compared to the state rate. If people in other locations are concerned about exposures to coal ash through groundwater or structural fills, they can look into testing their drinking water and limiting exposure. The NC DHHS Occupational and Environmental Epidemiology Branch can answer questions at 919-707-5900.

XIV. Health Care Provider Coordination

A. How will information be shared between health care providers who diagnose patients with of Thyroid Cancer and live in Mooresville?

1. OEEB: The local health department has held community meetings with physicians in the community to educate them on the results of the [2019 NC DHHS report](#) as well as the importance of reporting thyroid cancer cases to the NC Central Cancer Registry.

XV Consent

- A. Will health care providers be obligated to share this information or do patients have to consent, even if they remain unidentified by name.
 1. OEEB: State law requires that all health care providers that diagnose or treat cancer report cases to the NC Central Cancer Registry. This includes hospitals, physician offices, radiation oncology centers and laboratories. The NC Central Cancer Registry must maintain confidentiality and only publishes non-identifiable information.

Published Date: 9/28/2020