It is certainly an interesting time to practice environmental law. This has been my sentiment for many years, but this remains especially true in 2018. While no longer a growth practice area as it was early in the careers of many of our colleagues in the environmental bar, environmental law is firmly rooted but ever changing. That is why it is now and will remain in the future a fascinating and challenging area of law. One has to look no further than the articles in this edition of the Environmental News to see that new issues, new scientific research and new government policies impact how environmental lawyers and consultants approach environmental problems. In this edition, there is a detailed update on the emerging contaminant GenX -- a substance generally unknown until recently -- and how state regulators are attempting to assess its risks to human health and the environment.

DHHS revised the DWE for GenX based on a subchronic toxicity study performed by DuPont on mice in 2010, which reported a no observable adverse effects limit (NOAEL) of 0.1 milligram per kilogram body weight per day (mg/kg bw/day), a 10-fold lower NOAEL than reported by ECHA. It should be noted that Chemours is a spin-off company of E. I. du Pont de Nemours and Company (DuPont).

Using a NOAEL from the subchronic toxicity study by DuPont, DHHS used EPA guidance methodology by applying default uncertainty factors (UFs) for interspecies variability (UF of 10), intraspecies variability (UF of 10, and subchronic to chronic extrapolation (UF=10) for a total UF of 1000. Using the NOAEL of 0.1 mg/kg bw/day and dividing by a UF of 1000 yielded a reference dose (RfD) value of 0.0001 mg/kg/day. The health goal was then calculated by multiplying the RfD by a relative source contribution (RSC) or 20 percent (0.2) and multiplying by the body weight of an infant divided by the intake rate [Health Goal = (0.0001 mg/kg bw/day \times 0.20 \times 7.8 kg) \div 1.113 \text{ liters/day}], which yielded a health goal of 0.00014 mil-

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The Chair’s Comments

Stanford D. Baird

Continued on page 2

GenX: Health Goals and On-going Investigations

By Edmund Woloszyn

The Chemours Company plant in Fayetteville produces a wide variety of films, fibers, and specialty chemicals. One of the byproducts found in their waste streams is ammonium 2,3,3,3-tetrafluoro-2-(heptafluoropropoxy) propanate or GenX, which was found in the Cape Fear River. GenX is included in a group of compounds referred to as per- and polyfluoroalkyl substances (PFAS). The regulatory reach of the N.C. Department of Environmental Quality (NCDEQ) as it relates to GenX was summarized in a November 2017 article written by Robin Smith for the North Carolina Bar Association's EENR Section newsletter.

No surface water or groundwater quality standards have been established in North Carolina for GenX. So DEQ requested the assistance of the Department of Health and Human Services (DHHS) to address the potential health effects of GenX as well as other PFAs. Few toxicity studies exist for GenX or other PFAs. With scant studies on the toxicological effects of GenX or other PFAs, DHHS developed a preliminary assessment on GenX consumption via drinking water based on the European Chemical Agency (ECHA) study titled Evaluation of substance used in the GenX technology by Chemours, Dordrecht that addressed a two-year rat chronic toxicity and cancer. ECHA reported a no observable adverse effects limit (NOAEL) of 1.0 milligrams of GenX per kilogram of body weight per day (mg/kg bw/day).

Based on U.S. risk assessment calculations for an infant's body weight and water intake rate, this corresponds to a concentration in drinking water equivalent (DWE) of 71,000 nanograms per liter (ng/L) or parts per trillion (ppt) of GenX, which was more than 100 times greater than the mean value of 631 ng/L detected in the Cape Fear River.

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The Chair’s Comments, continued from the front page

in years past. These are just some examples of relatively recent regulatory and policy developments that impact the environmental legal landscape in North Carolina. If you add these types of developments to major changes in environmental policy priorities and initiatives such as those we have seen with the change in administrations in Raleigh and Washington, D.C., I think you will agree that it truly is an interesting time to practice environmental law.

It has also been an interesting time for the Environment, Energy & Natural Resources Section, which has been active on several fronts worth noting here. First, on January 12, members of the Section Council and the Section Membership Committee hosted a reception for law students at the University of North Carolina School of Law to promote the Section and generate interest in legal careers in environmental and energy law. Members of the UNC Environmental Law Project and Section attendees chatted about legal career opportunities in government, the private sector, and non-governmental organizations. Special thanks to Section members Greg Icenhour, Jeff Tyburski and Adrian Velazquez for putting this event together. Second, the Section will sponsor the Fourth Annual EENR Section Sustainability Essay Competition for high school students across North Carolina with a prize of $500. The topic this year involves the tradeoffs associated with the use and promotion of biomass renewable energy resources in North Carolina. Inquiries should be directed to Professor Maria Savasta-Kennedy at mskenned@email.unc.edu. Third, members of the Section CLE Committee have been very busy planning the EENR Section Annual Meeting and CLE, which will be a joint program with members of the Georgia and South Carolina Bar Associations in Asheville, NC on May 11-12, 2018. Please save that date and be on the lookout for the forthcoming brochure for the program. A portion of the program will be state-specific programming for each state in separate rooms, but the majority of the program will focus on federal and regional environmental topics in plenary session. The program will include our annual North Carolina legislative and case law updates as well as remarks from NCDEQ General Counsel Bill Lane. Special thanks to Amy Wang, Mary Katherine Stukes, and Alex Elkan for their work on this program.

I look forward to seeing a large contingent of Section members and sponsors at the Annual Meeting in May. It will be a unique opportunity to network with peers in Georgia and South Carolina and could set the groundwork for similar joint programs in the future.
ligrams per liter (mg/L) or 140 ppt as a baseline on which to use for developing an action level for GenX in drinking water sources. The action taken by DEQ on Chemours was to provide alternative water sources, typically bottled water, to the community where GenX was found at concentrations above 140 ppt.

With the findings of GenX so prevalent in the Cape Fear, DEQ began a phased approach for investigating groundwater for GenX. The first phase of DEQ’s groundwater initiative was to sample groundwater at the Chemours plant and water supply wells within a one-and-a-half-mile buffer from the center of the Chemours plant. Groundwater samples collected from monitor wells located on the Chemours property were found to contain GenX ranging from 32,000 to 50,000 micrograms per liter (µg/L) or 32x10⁶ to 50x10⁶ ppt and at neighboring properties’ water supply wells greater than the 140 ppt health goal. After finding concentrations of GenX in groundwater at water supply wells near the plant, DEQ directed Chemours to expand the investigation to water supply wells located within a one-mile buffer from the Chemours property boundary. It should be noted that the size of Chemours’ property is 2,150 acres, so the buffer for the second Phase of the study extended beyond the buffer for the first phase of sampling. The results of the second phases of well sampling conducted by both Chemours and DEQ identified 121 out of 381 wells that had GenX concentrations above 140 ppt. The remaining number of well samples with reported concentrations of GenX above the detection level of 2 ppt but below the public health goal of 140 ppt were 141, with 119 well samples showing no detectable concentrations. A third phase of sampling is nearing completion. The third phase extended the buffer around Chemours’ property boundaries to 2.5 miles.

The public health goal of 140 ppt is not enforceable for surface water or for drinking water. However, the presence of GenX, a non-naturally occurring chemical in groundwater, provides DEQ an enforcement mechanism through the North Carolina groundwater quality standard under Title 15A of the North Carolina Administrative Code Subchapter 2L, whereby any detectable concentration of a non-naturally occurring chemical is in violation of the groundwater quality standards. The current detection limit using solid-phase extraction with liquid chromatography/mass spectrometry/mass spectrometry (LS/MS/MS) is 2 ppt (formerly 10 ppt). Therefore, any concentration 2 ppt or higher for GenX is in exceedance of the groundwater quality standard. DEQ also emphasizes that GenX is only one of many other PFAs that are also being investigated by DEQ and DHHS.

After reviewing groundwater data generated during the first two phases of sampling, DEQ has yet to discern an obvious distribution pattern of GenX in groundwater, suggesting that groundwater transport is not the only mechanism for presence of GenX in water supply wells. DEQ believes that GenX may also be emitted from the plant stacks at the Chemours plant and deposited onto surrounding areas. DEQ collaborated the possibility of air transport by finding GenX in soil. Given this possibility, GenX distribution is not likely to be entirely distributed by surface water or by transport via groundwater contaminant plume but distributed and deposited on the ground where GenX leaches through the soil and into the groundwater table. DEQ directed the Division of Air Quality to perform air modeling of GenX distribution and directed Chemours to perform stack testing in January 2018.

Other evidence that GenX is being distributed through the air was discovered when a Bladen County apiary found concentrations of GenX in honey at a reported concentration of 2,000 ppt. DEQ is fostering an option to extend sampling to food-production operations in the area. They have also sampled surface water at a nearby recreational lake at Camp Dixie, a non-profit camp and retreat center located south of the Chemours plant and in Mash Wood Lake, which is located north of the Chemours property boundary.

The state’s investigation will continue to focus on protection of public health and drinking water and additional data is being generated for the distribution of GenX and PFSAs through stack testing and air distribution modeling and through the third phases of wells sampling. The SAB will meet on March 19 to continue their evaluation of health risks posed by GenX and to talk about progress made by DEQ and DHHS on the GenX study.

Edmund Woloszyn has over 28 years of experience in environmental consulting and is currently a Principal Scientist at S&ME, Inc., an employee-owned, ENR Top 100 engineering firm headquartered in Raleigh. He received his undergraduate in Marine Biology at the College of Charleston and his Master’s degree from North Carolina State University’s graduate school of Marine, Earth and Atmospheric Sciences.
Risk-Based Site Closure: Not Just for Toxicologists and Risk Assessors

By Kaitlyn Rhonehouse

Following passage of Session Law 2015-286 in 2015, the North Carolina Department of Environmental Quality (NCDEQ) published a risk calculator to support consultants in evaluating cumulative human health risks. An updated version of the Risk Calculator was made available in October 2017. At the same time, DEQ also promulgated guidance and tools to assist environmental consultants, attorneys, and their clients to efficiently and safely close out sites. Over the past several months, practitioners in North Carolina have begun using the program with more frequency and success, and it is likely to become ever more popular with time.

Traditionally, environmental site assessments and remediation have relied upon the use of human health-based soil screening levels and groundwater cleanup standards to obtain site closure. In North Carolina, the DEQ follows the EPA Regional Screening Levels (RSLs) in establishing preliminary soil remediation goals (PSRGs). The NCDEQ PSRGs are generally five times more conservative than the EPA RSLs. The North Carolina groundwater quality standards were developed and promulgated in Title 15A of the North Carolina Administrative Code, Subchapter 2L (commonly referred to as “2L Standards”). The 2L groundwater standards are similarly established following conservative human health-based risk assumptions and represent an inflexible end goal irrespective of groundwater use, land use, or actual site exposure risk factors. In the past, remediating contaminated sites to these conservative criteria meant expensive remedial actions and/or decades of groundwater monitoring. In 2015, the State Legislature paved the way for a risk-based evaluation approach to groundwater remediation with the passage of Session Law 2015-286 (Session Law). The Session Law empowered NCDEQ to promulgate procedures to implement site specific objectives based upon acceptable risk. This risk-based approach obviates the need for extensive and expensive monitoring and active remediation at numerous low-risk sites state-wide.

The risk-based approach facilitates “No Further Action” determinations at many sites by implementing engineering controls and/or land use restrictions in lieu of remediating the site to the soil and groundwater criterion. For example, practitioners often encounter scenarios where the chemicals in site soils exceed the “residential use” screening levels for a site intended for residential redevelopment. Historically, this has required practitioners to remediate the soils until chemical concentrations were below the “residential use” screening levels for a site intended for residential redevelopment or land use restrictions in lieu of remediating the site to the soil and groundwater criterion. Following passage of Session Law 2015-286 in 2015, the North Carolina Department of Environmental Quality (NCDEQ) published a risk calculator to support consultants in evaluating cumulative human health risks. An updated version of the Risk Calculator was made available in October 2017. At the same time, DEQ also promulgated guidance and tools to assist environmental consultants, attorneys, and their clients to efficiently and safely close out sites. Over the past several months, practitioners in North Carolina have begun using the program with more frequency and success, and it is likely to become ever more popular with time.

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The risk-based approach facilitates “No Further Action” determinations at many sites by implementing engineering controls and/or land use restrictions in lieu of remediating the site to the soil and groundwater criterion. For example, practitioners often encounter scenarios where the chemicals in site soils exceed the “residential use” screening levels for a site intended for residential redevelopment. Historically, this has required practitioners to remediate the soils until chemical concentrations were below the “residential use” guidance values. The Session Law recognizes the conservative nature of the PSRGs and provides an avenue for environmental professionals to more appropriately consider the human health risks prior to enacting intrusive remedial actions. Specifically, this risk-based alternative is referred to as a human health risk evaluation, which is often performed by toxicologists and professional risk assessors.

The Session Law offers a platform for non-toxicologists to estimate the human health risks and facilitate site closure in a more time and cost-efficient manner. The risk-based approach to site assessment also allows for a three-tiered screening of site risk, including i) a screening level comparison; ii) a cumulative risk evaluation; and iii) a target-organ specific risk evaluation. The screening level comparison and initial cumulative risk evaluation can now be performed by non-toxicological professionals, while target-organ specific evaluations should still be conducted under the oversight of a professional risk assessor.

To support Session Law and the associated risk-based remedial option, the NCDEQ published a risk calculator to support consultants in evaluating cumulative human health risks. The risk calculator is a Microsoft Excel-based program that quantifies cumulative chemical exposure risks based upon the assumed receptor (e.g., residential or commercial occupancy, recreational use, or a construction worker scenario) and environmental media (e.g., soil, groundwater, surface water) using default exposure assumptions (e.g., exposure duration, frequency, body weight). The calculator is simple to operate, at a minimum only requiring practitioners to input the site-specific data, such as the maximum detected soil concentrations. The calculator then quantifies the estimated carcinogenic and non-carcinogenic risks and provides insight as to whether acceptable cumulative risk levels have been exceeded. The most recent NCDEQ risk calculator was released in October 2017 and is posted to the Risk Evaluation Resources page on the NCDEQ Risk-Based Remediation website, along with a technical user guidance document.

There are many case studies of sites with numerous exceedances of both the residential and commercial PSRGs, but the risk calculator revealed the cumulative human health risks are within acceptable levels. This is due to the conservative nature of the preliminary soil screening levels in relation to the risk assumptions implicit in the NCDEQ risk calculator. The risk calculator uses factors corresponding to the EPA RSLs, which are less conservative than the PSRGs and thus quantify a more accurate risk estimate. In this scenario, where the risk calculator suggests cumulative risks are within acceptable levels, site closure may be obtained with minimal, if any, land use restrictions. Prior to the enactment of Session Law 2015-286, the sites that exceeded the PSRGs would often require a costly intrusive investigation, and/or unnecessary land use restrictions. In some cases, back-calculation of site-specific cleanup goals can be conducted to design a targeted excavation or remedial action that would result in acceptable risk, while leaving some soil exceedance areas onsite.

As it relates to groundwater, the rules previously required remediation to the 2L standards. This was costly and time-consuming, often resulting in years of routine monitoring prior to receiving eligibility for site closure. The new regulations allow closure for sites with groundwater impacts above the 2L standards assuming certain criteria are met, such as demonstrating that the groundwater plume is stable or shrinking; instituting land-use restrictions prohibiting groundwater use; and obtaining acknowledgement and acceptance from affected property owner(s). Long-term monitoring of low-level...
groundwater impacts is no longer required to obtain site closure. Since the Session Law was passed in 2015, NCDEQ promulgated guidance and tools to assist environmental consultants, attorneys, and their clients to efficiently and safely close out sites in almost every environmental cleanup program (e.g., the UST program has already established risk-based guidance). Risk-based remedial goals focus remediation efforts and resources where they are truly needed, reduce overall costs to our clients, and lower the burden on the regulatory community while retaining protection of human health and the environment.

Since the Session Law enactment, practitioners colloquially may refer to this new risk-based guidance as a tool to “risk a site away” or “risk a site to closure,” rather than “remediating the site to closure.” This tends to have the negative connotation, suggesting that the regulations now allow for unprotective levels of contaminants to remain in the environment. However, it is important to recognize that the risk-based remedial approach principally addresses sites where the existing contaminant levels do not pose an unacceptable risk to the environment. This change in policy will refocus remedial actions and resources to sites where an unacceptable cumulative risk level exists, and intrusive remedial alternatives are more appropriate to retain protection of human health and the environment.

Kaitlyn Rhonehouse is a senior engineer for Geosyntec Consultants in Raleigh with more than 12 years working as an environmental consultant. Kaitlyn’s practice focuses on the assessment and remediation of contaminated properties, property transaction environmental due diligence, compliance and permitting evaluations, valuation of environmental liability, brownfields negotiations and redevelopment, and vapor intrusion assessment and mitigation.

AEG’s Vapor Intrusion: The Conference II a Big Success

By Rick Kolb

The Carolinas Chapter of the Association of Environmental & Engineering Geologists (AEG) held its second vapor intrusion (VI) conference at the Hilton Charlotte University Place on Oct. 5 and 6, 2017. During our 2014 conference in Raleigh, which we held after the U.S. EPA had released their draft guidance for VI, we had 225 registrants, speakers, exhibitors, sponsors, and planners, and numerous registrants requested a follow-up conference. The 2017 conference drew a total registration of 241, including many members of the NCBA Environmental, Energy and Natural Resources Law Section. Grady Shields of Wyrick Robbins was one of the eight conference planners.

We had 23 speakers from across the United States. Our keynote speakers were Henry Schuver of the U.S. EPA in Washington, D.C., Dr. Blayne Harman of Hartman Environmental Geoscience in Solana Beach, California, and Rod Thompson of August Mack Environmental in Indianapolis. On Thursday afternoon, we had a special session on trichloroethene, with four speakers of varying backgrounds who presented the latest on this topic. At the end of their four presentations, they convened a panel and took questions from the audience. Representatives from the North Carolina Department of Environmental Quality (NCDEQ) presented the new Vapor Intrusion Calculator, and discussed the impact of vapor intrusion on risk-based closure in North Carolina. Several speakers also addressed the role of VI in redevelopment (and particularly in the Brownfields context). Finally, some of the other panels included speakers in the consulting and legal fields who addressed recent legal cases related to VI and vapor intrusion considerations in business and real estate transactions. The presentation slides for all of our speakers at the conference are in a public Dropbox: https://www.dropbox.com/sh/nooF3qkzaix6ji/AADMmuAJl6jcDK9qwXPbSmzUa?dl=0

We offered 50% discount of the registration fee for employees in the public sector and as a result, we had over 55 employees from local, state, and federal governments, due in large part to the support Jim Bateson, chief of the Superfund Section of the NCDEQ, and Michael Scott, Director of the Division of Waste Management of NCDEQ.

Our conference attracted 18 exhibitors and three sponsors, whose fees helped keep the registration cost down, much like the sponsors do for the annual meeting of the Environment, Energy and Natural Resources Section of the NCBA. While many of the exhibitors and sponsors were already yearly sponsors of the Carolinas Chapter of AEG, others came from other Mid-Atlantic and Eastern states. We offered 12 continuing education units for licensed geologists and professional engineers, and with Grady’s help, continuing legal education units for attorneys in five states. The 12 hours of continuing education credit fulfilled the recently implemented annual requirement for licensed geologists in North Carolina.

The conference was a huge success. The Carolinas Chapter of AEG will host AEG’s 3-day annual meeting in Asheville in September 2019. A one-day symposium on emerging contaminants is among the topics planned for this meeting.

Rick Kolb is a Senior Geologist at Duncklee & Dunham and has been a consulting geologist for 27 years in the Triangle. He currently manages environmental projects and serves as peer reviewer for all the reports the company prepares. He has been a member of the Environment, Energy and Natural Resources Section since the mid-1990’s, is past chair of the section’s Consultants and Membership committees, and is now a co-chair of the Cleanup & Waste Programs Committee.
Spotlight: Charles Case

By Rick Kolb

After the recent profile on one of the section’s younger members, we switch back to one of the veterans, Charles Case, like Amos Dawson, whom we profiled in 2014, has been practicing environmental law since its beginnings in North Carolina. Charles is one of the premiere environmental attorneys in the Old North State and now practices in the Raleigh office of McGuireWoods, but followed a meandering path to get there.

Charles didn’t start out on the common attorney track of an undergraduate degree in English or history. He attended N.C. State University and had planned to major in physics and physical chemistry, and eventually focused on physics. Charles received his BS in physics with high honors in 1973, graduating in only three years. That summer, he had what he called a “typical physics summer job,” working at Harry Diamond Labs for U.S. Army Materiel Command on a project to harden the North American Aerospace Defense Command (NORAD) system against electromagnetic pulses that could disable NORAD. He helped develop a model to predict vulnerability of electrical circuits to electrical pulses. Yes, a typical summer job for a college student. However, the summer of 1973 was not a typical summer in the U.S. Watergate was the major topic of news and Harry Diamond Labs were located just outside D.C. where the Watergate hearings were being held and local interest was high.

Although studying as a scientist at State, Charles had shown signs of interest in law and policy. He was a debater in high school. At N.C. State, he was a Student Senator and Student Lt. Governor. Not being certain his future lay in science, N.C. State allowed him to return to school in the Master’s program in physics, where he continued to work on high energy electron physics, but also took non-science courses, including an advanced composition class at Meredith College and a timely seminar on Congress and the Presidency taught by Professor Abraham Holtzman at State. North Carolina Senator Samuel Ervin, Jr., who was heavily involved in the Watergate investigation, and was a seminar speaker, and Professor Holtzman hosted a dinner at his house that evening in the Senator’s honor. Professor Holtzman located Charles between himself and Senator Ervin at the dinner table. Professor Holtzman, having received graduate degrees from Harvard, proceeded to lobby for Charles to attend its law school, and Senator Ervin contributed his story about his being the only graduate to have gone through Harvard Law “backwards” (starting with the third year, then second and first). Their encouragement echoed what he had already gotten from Charlie Dixon, a Hickory lawyer, Harvard alum, and family friend.

Charles attended Harvard and found the students to be “ultra-competitive.” He had a summer job after his first year of law school in Raleigh working on utility and insurance cases, and after his second year of law school, a summer job with Cleary Gottlieb in Washington, D.C., which had an established environmental law practice. Charles received his J.D. from Harvard in 1977, a year that saw amendments to major environmental statutes and a scandal at the U.S. EPA, which pushed initiatives in environmental law to the states.

Returning to Raleigh after receiving his degree, Charles taught law courses as an adjunct professor at Campbell University Law School and began to focus on environmental law. He served as chair of the Wake County Board of Zoning Adjustments and was a part-time hearing officer for the state’s OSHA program, being appointed by Governor Jim Hunt. Charles met his wife-to-be, Margie Toy, when she represented a client in a hearing on one of the first cases he heard. A mutual friend brought them together at a party the next week. The after-party discussion they had convinced Charles she was the one. They dated two weeks and a day, and Charles proposed to Margie in a park next to the PULSTAR nuclear reactor at N.C. State.

While the State of North Carolina was setting up environmental programs, Charles worked with the North Carolina Chamber of Commerce on the necessary legislation. As manufacturers expressed a desire to form a group focused on environmental matters, Charles and his firm, Moore & Van Allen, worked to form the Manufacturers and Chemical Industry Council of North Carolina (MCICNC), which is now the North Carolina Manufacturers Alliance (NCMA); Charles has worked with them and other groups to propose and comment on laws and rules regarding protection of the environment, health and safety. Charles worked with Moore & Van Allen from 1977 to 1992, but his clients increasingly needed access to EPA’s offices, principally its Region 4 office in Atlanta, as well as its headquarters in DC, so Charles and his team of attorneys moved to Hunton & Williams, which had offices and environmental practitioners in both locations. The team continued their work on legislation and rule-making, as well as the developing work in permitting, compliance and enforcement that was coming from these new environmental programs.

In 2016, Charles joined the Raleigh office of McGuireWoods, along with other attorneys and staff from Hunton’s Raleigh office. He welcomed the opportunity to join in a new, growing office with an active environmental litigation practice, as well as work with Benne Hutson and other McGuireWoods environmental attorneys to grow the firm’s practice, which has included such recent issues as coal ash, unregulated pollutants and water transfers.

Charles’ wife, Margie, received her BA in Latin and Greek from Dickinson College and a Masters in classics from McMaster University in Canada, after which she received a J.D. from the University of Pittsburgh Law School. After practicing in the Pittsburgh area for several years, she moved to Raleigh to join the Maupin Taylor & Ellis law firm, where she practiced labor and employment law, and later became a partner. Margie retired from law practice and worked as a legal recruiter for several years. Margie and Charles have two sons, Everett, a Penn State alumnus, and Elliot, a Purdue alumnus. Everett is a dentist living in Charlotte, and Elliot works in the executive training program at Hendrick Automotive Group in Cary. Margie and Charles live in Hayes Barton neighborhood in Raleigh and have a house at Holden Beach.

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While the State of North Carolina was setting up environmental programs, Charles worked with the North Carolina Chamber of Commerce on the necessary legislation. As manufacturers expressed a desire to form a group focused on environmental matters, Charles and his firm, Moore & Van Allen, worked to form the Manufacturers and Chemical Industry Council of North Carolina (MCICNC), which is now the North Carolina Manufacturers Alliance (NCMA); Charles has worked with them and other groups to propose and comment on laws and rules regarding protection of the environment, health and safety. Charles worked with Moore & Van Allen from 1977 to 1992, but his clients increasingly needed access to EPA’s offices, principally its Region 4 office in Atlanta, as well as its headquarters in DC, so Charles and his team of attorneys moved to Hunton & Williams, which had offices and environmental practitioners in both locations. The team continued their work on legislation and rule-making, as well as the developing work in permitting, compliance and enforcement that was coming from these new environmental programs.

In 2016, Charles joined the Raleigh office of McGuireWoods, along with other attorneys and staff from Hunton’s Raleigh office. He welcomed the opportunity to join in a new, growing office with an active environmental litigation practice, as well as work with Benne Hutson and other McGuireWoods environmental attorneys to grow the firm’s practice, which has included such recent issues as coal ash, unregulated pollutants and water transfers.

Charles’ wife, Margie, received her BA in Latin and Greek from Dickinson College and a Masters in classics from McMaster University in Canada, after which she received a J.D. from the University of Pittsburgh Law School. After practicing in the Pittsburgh area for several years, she moved to Raleigh to join the Maupin Taylor & Ellis law firm, where she practiced labor and employment law, and later became a partner. Margie retired from law practice and worked as a legal recruiter for several years. Margie and Charles have two sons, Everett, a Penn State alumnus, and Elliot, a Purdue alumnus. Everett is a dentist living in Charlotte, and Elliot works in the executive training program at Hendrick Automotive Group in Cary. Margie and Charles live in Hayes Barton neighborhood in Raleigh and have a house at Holden Beach.