



HAZ-MATTERS

Kentuckiana Chapter of Hazardous Materials Managers' Newsletter

January 2020

Welcome!

2019 Year in Review!

I have really enjoyed serving as your KCHMM President during 2019. Our chapter was formed in 1991 and is still active and growing in the greater Louisville and Southern Indiana community. Our mission is to represent the common interests of the members of the hazardous materials management profession; facilitate the exchange of ideas, and maintain the education of hazardous materials managers.

In 2019 our programs included insightful technical presentations that kept our members abreast of changes in our field and thought-provoking ways to utilize new technologies to improve operations. Our Board accomplished a key change in the Chapter Affiliation Agreement with our national organization, AHMP, that encourages partnership while minimizing liability for each organization. Our Board reviewed the Chapter's on-going legal obligations, conducted a financial review and ensured that we stayed within our annual budget. We have been happy to have many new members join our organization throughout the year, including several members new to the career field.

I have been fortunate to be supported by an extremely talented group of Officers and Directors who contributed their insights and kept the organization on track. The organization has benefited from their leadership, and I enjoyed our frank discussions. We always have room for more members, so please help us by reaching out to your contacts and inviting them to the next meeting.

Lastly, we continue to benefit from our many corporate sponsors. Their generous donations ensure that our Chapter continues to be one of the larger, more vibrant Chapters, with a thriving network. Please visit our website for additional information about the Kentuckiana Chapter ([http:// www.kchmm.org](http://www.kchmm.org)).

I am pleased to welcome our new 2020 leadership team led by Jennifer James Koenig, CHMM of Environmental Compliance Source. Jennifer has been a long-term member and I know her strong leadership will continue to move the Chapter forward into this next decade. Thank you all for your support during 2019. Sincerely,

Carla Givens, P.E., BAE Systems
President /2019 KCHMM Chapter
Carla.givens@baesystems.com

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The Kentuckiana Chapter of Hazardous Materials Managers (KCHMM) is a group of Environmental, Health and Safety Professionals from the Kentucky and Southern Indiana area. Many of our members hold the CHMM (Certified Hazardous Materials Managers) credential, but it is not a requirement for members. We welcome anyone interested in learning more about the environmental profession.

Stay connected via <http://www.kchmm.org> or 



The 2019 Award Winner is Zachary Schneider

By: Corinne M. Greenberg, CHMM, KCHMM Stewardship Chair

KCHMM's

Special Award in Environmental Science or Environmental Management

This award is presented each year to a single high school exhibitor in one of these two exhibit categories whose project shows ambition, sound understanding of scientific principles, adherence to the scientific method, and, ideally, intersects with the Chapter's mission and/or the nature of our members' professional work.

The KCHMM award includes a \$400 stipend of which half is funded by the Chapter treasury and half is funded by Chapter members' out-of-pocket contributions collected at Chapter meetings throughout the year.



2011- Emma Burch, Ballard High School "The Effects of Soil Type when Filtering Pollutants"

2012 - Cooper Sodano, Ballard High School 9th grader, "Oil and Feathers Don't Mix"

2013 - Jackson Benitez, Ballard High School 10th grader, "The Effects of Different Types of Water on Grass Growth"

2014 - Emma Landherr, Ballard High School 9th grader, "Grow Green"

2015 - Natasha Gupta, Ballard High School 9th grader, "Coal Ash Pond Management: Studying Groundwater Flow using Darcy's Law,"

2016 - Mariam Prieto-Perez, The Brown School 10th grade, "The Comparison of Different Types of Microbial Fuel Cells and their Energy Output"

2017 - William Schuhmann, Ballard High School 11th grader, "A New Method of Surfactant Delivery Utilizing the Marangoni Effect and Possible Application to Oil Spill Recovery"

2018 - Kaden Grant, Ballard High School 9th grader, "Reducing Pollution from Light Fixtures through Efficiency and Shielding"



Since CO₂ is not liquid at ambient temperatures, he hypothesized that if it could effectively be pressurized, the CO₂ would liquefy and could be extracted from an atmosphere. He developed his own condenser column to achieve this on a bench scale. While he was able to actually condense CO₂ out of the ambient atmosphere, he realized that it was not cost-effective but that it could be cost-effective in an emissions stack with higher concentrations of CO₂ in the effluent (such as on an electric generating utility stack). The KCHMM judges were impressed with both his hypothesis and his construction of a bench scale condenser column that did achieve the desired result of liquefying atmospheric CO₂.

Joining the KCHMM is Informative & Fun!

WHY JOIN
KCHMM?

HOW TO
JOIN?

Membership News

Hello, my name is Dylan Valdez and I am the Membership Committee Chair for the Kentuckiana Chapter for Hazardous Materials Management (KCHMM). I first joined KCHMM when I was an intern at Kroger in their Environmental Compliance & Ethics Department. KCHMM gave me a great opportunity to network with professionals in the environmental industry.

The KCHMM is an affiliated chapter of the Alliance of Hazardous Materials Professionals (AHMP) providing our diverse membership an opportunity for continuing education, networking, community service, and social events. Our membership includes, but is not limited to attorneys; engineers; consultants; educators; environmental, health, and safety professionals; sales professionals; and scientists. Student memberships are also available and provide a great networking opportunity prior to entering the workforce.

First and foremost, as is obvious with me, you don't have to be a credentialed CHMM or a member of the national AHMP to join the Chapter. Any local professional or student involved or interested in a related field of work or study is welcome. Chapter membership dues are only \$35 per year and \$10 for full-time students. To join, go to www.kchmm.org click the "About" tab and then click "How to Join"; this will provide and application and instructions.

I highly encourage current members to invite colleagues and friends to our chapter events throughout the year. I would be glad to answer any questions pertaining to membership and organizational events. I can be reached at dylan.valdez@kroger.com.

CHAPTER EVENTS

The KCHMM holds membership meetings throughout the year that include a wide range of interesting technical presentations.

2019 Regular Meetings & Technical Presentations		Dates
KCHMM Regular Meeting		January 9
Technical Presentation:	<i>William Chlebowy - Waste Management High BTU Gas Waste to Energy</i>	
KCHMM Regular Meeting		March 13
Technical Presentation:	<i>Pete Flood - Jefferson County 10 Year Solid Waste Management Plan</i>	
KCHMM Regular Meeting		May 8
Technical Presentation:	<i>Nathan Ecklund – Per and Polyfluoroalkyl Substances (PFAS)</i>	
KCHMM Regular Meeting		September 11
Technical Presentation:	Emerging Technologies Panel	
KCHMM Regular Meeting		November 13
Technical Presentation:	Jennifer Koenig – Pathways to Certification	

KCHMM Celebrates 10 Years as a KY EXCEL Advocate!

Corinne Greenberg, CHMM

For the past nine years, KCHMM has been a strong supporter of the Louisville Regional Science & Engineering Fair (LRSEF), contributing to its success each year with our gifts of *time*, *talent*, and *treasure*. Every year, on the first Saturday in March, a half dozen or so Chapter members will volunteer as judges or day-of-fair volunteers. Additionally, the Chapter sponsors an annual special award for a high school exhibitor whose work demonstrates exceptional achievement in either Environmental Engineering or Earth & Environmental Science—an award that is funded with a base \$200 gift from the Chapter treasury and augmented by meeting attendees' personal contributions. For the past nine years, we've sponsored awards for these accomplished student scientists:

2011 – Emma Burch, Ballard H.S., 10th gr, Env Sci, “The Effects of Soil Type when Filtering Pollutants,” received the Chapter's initial \$300 stipend.

2012 – Cooper Sodano, Ballard H.S., 9th gr, Env Mgt, “Oil and Feathers Don't Mix,” received a \$300 stipend.

2013 – Jackson Benitez, Ballard H.S., 10th gr, Env Mgt, “The Effects of Different Types of Water on Grass Growth,” received a \$300 stipend.

2014 – Emma Landherr, Ballard H.S., 9th gr, Env Sci, “Grow Green,” received an increased stipend of \$400 as supported by an increase in members' personal donations.

2015 – Natasha Gupta, Ballard H.S., 9th gr, Env Mgt, “Coal Ash Pond Management: Studying Groundwater Flow using Darcy's Law,” received a \$400 stipend.

2016 – Mariam Prieto-Perez, The Brown School (H.S.), 10th gr, Env. Eng. “The Comparison of Different Types of Microbial Fuel Cells and their Energy Output,” received a \$400 stipend.

2017 – Will Schuhmann, Ballard H.S., 12th gr, Env. Eng. “A New Method of Surfactant Delivery Utilizing the Marangoni Effect and Possible Application to Oil Spill Recovery,” received an increased stipend of \$500 as supported by an increase in members' personal donations.

2018 – Kaden Grant, Ballard H.S., 9th gr, Env. Sci. “Reducing Pollution from Light Fixtures through Efficiency and Shielding,” received a \$500 stipend.

2019 – Zachary Schneider, St. Xavier H.S., 12th gr, Env. Eng. “Pressure-Assisted Cryogenic Carbon Dioxide Extraction,” received a \$500 stipend.

On March 7, 2020, KCHMM will send its tenth group of judges and volunteers to work the Fair, and we'll sponsor our tenth special award. And these contributions have not gone unnoticed.

Since 2011, the Chapter has received annual recognition from the Kentucky Department for Environmental Protection (KDEP) as a “KY EXCEL Advocate”—recognizing “KY Excellence in Environmental Leadership.” This program was designed by the KDEP Division of Compliance Assistance (DCA) to recognize, encourage, and promote the work of individuals, organizations, and companies who undertake *voluntary* environmental improvement or environmental education initiatives above and beyond what they may be required to do to achieve regulatory compliance. As a professional organization, KCHMM does not have regulatory obligations to KDEP, but its work in promoting STEM education through support of the science fair has been enough to earn continuous recognition as an Advocate, a badge that the Chapter wears proudly.

Additionally, this past year, KCHMM was singled out by DCA for a KY EXCEL “Beacon Award” for their “Resource Support” category. KCHMM Stewardship Committee Chair Corinne M. Greenberg, CHMM, attended the annual KY EXCEL members' meeting (dubbed the “KY EXCELebration!”) to accept the Beacon Award on behalf of the Chapter directly from DCA Director Amanda LeFevre. This honor only further motivates and encourages KCHMM and its members to keep its commitment to the cause of STEM education through our ongoing support of LRSEF. With this incentive, we are looking forward to our tenth science fair, and to the next ten as well!





The Rachel Davis Award

History

This award was established by the Chapter in 2003 to honor the memory of our 1996

KCHMM President, environmental colleague, and friend Rachel Davis.

The ***Rachel Davis Award*** is presented to individuals who have demonstrated distinction in their service to the Chapter and community. Rachel was KCHMM's sixth Chapter President in 1996 but died of acute leukemia in 1999. In the ensuing years, the KCHMM has honored many with the award that bears her name, each one being judged to honor Rachel's name through their work, leadership and stewardship.

Qualifications

- Candidates shall be nominated by a fellow KCHMM member (no self-nominations).
- Nominees must be credentialed Chapter members in good standing as of September 1.
- Nominees shall have publicly demonstrated commitment to the Chapter and its mission.
- Preferred candidates will show civic involvement.

Past Award Winners

2003	Brent Fryear	2009	Al Goodman
2004	Jim Plum	2010	Corinne Greenberg
2005	Evelyn Crooks	2012	Vickie Sammons
2006	Jennifer Koenig	2014	Celeste Sutter
2007	Karen Blake	2015	Mark Hussung
2008	Cheri Hildreth	2018	Patricia Mason

2019 Kenny Reutlinger

- Nominated by a fellow KCHMM member (no self-nominations);
- Credentialed Chapter members in good standing;
- Members who have publicly demonstrated commitment to the Chapter and its mission;
- Members who have shown civic involvement/leadership in environmental, safety, and humanitarian causes.

Rachel Davis Endowment Fund

To further honor her legacy, KCHMM volunteered to be the last Chapter to co-host ACHMM's National Conference in 2002, a labor of love undertaken specifically to earn the Chapter a share of proceeds, a \$20,000 sum. The entirety of these earnings was given to the University of Louisville in 2003 to establish the Rachel Davis Endowment Fund.

Rachel Davis' Legacy Lives On

Corinne Greenberg, CHMM



*Eight of Uof L's 14 Fulbright Scholars (Spring 2016)
2014-15 Rachel Davis Scholar Ariel Weaver in yellow*

After several years of growth, the Rachel Davis Fund was first tapped in 2010 to underwrite a unique and absolutely appropriate environmental project. The University of Louisville Dean of the College of Arts & Sciences, in consultation the Chapter, honored Rachel's legacy by furnishing the first "green" conference room at the University, a space deliberately developed using sustainably-sourced and energy efficient materials. The Chapter dedicated that room in November 2010.



*Rachel Davis Green Room Dedication
University of Louisville*

More recently, the Fund has been dedicated exclusively to the ongoing funding of the Rachel Davis Memorial Scholarship. The Davis Scholarship is earmarked for U of L undergraduate students majoring in geology, biology, chemistry, microbiology, physics, or related sciences, with preference given to those who demonstrate environmental stewardship in extracurricular activities.

There were two recipients of the Rachel Davis Memorial Scholarship in the 2014-15 academic year. **Jordan Anthony Maiden** majored in Ecology & Environmental Sustainability with a focus in Environmental Analysis. The second recipient, **Ariel Elizabeth Weaver**, earned her Bachelor of Arts degree in Geography/GIS.

Ms. Weaver has since continued her graduate studies at U of L, and KCHMM is pleased to share that she was recently awarded a Fulbright Scholarship to pursue her graduate research in Nambia; she is one of only 14 Fulbright Scholars recently recognized at U of L (see photo above).

Acquiring and Maintaining your CHMM

Jennifer James Koenig, CHMM

Before I get into the how, why and what portion of this article, I'd like to take a moment and focus on the players – the organizations – involved in this process and the role of each.



The IHMM is the owner of the Certified Hazardous Materials Manager credential. You **MUST** be a member of this organization in order to acquire and maintain your certification. Initial application fee is \$175 and annual maintenance is \$160.

CHMMs comprise the credentialing review board. They create content for the exam, review the applications to determine if the criteria are met. They consider any appeals or exceptions. And they also review the recertification applications.

Hopefully you know this one. The KCHMM is the local chapter serving the Kentucky and Southern Indiana areas. We are the local promoter of professional development for the CHMM and other certifications including the CHMP, PE and PG among others.

While membership is not required, it is essential for us to keep operating. At \$35/year – it's the cheapest thing you'll do to support your skill set and credential.

The CHMM or other professional certification (PE, PG) are required for the President and Vice President positions.



The AHMP is the National Membership Organization. They are the promoters of the CHMM credential at the national level. They create the "value add" component to the CHMM.

You are not required to be a member to get or stay certified however this group needs financial support to continue helping us to make the credential recognized in the marketplace. Membership is \$125/year.

CHMMs make up the AHMP board. They create content for the Essentials of Hazardous Materials Management course. They establish and direct lobbying efforts to promote the credential at the state and federal levels. They provide guidance and support for local chapters. And they create the annual conference for professional development.

Now that we have all the players and their roles established – you may be asking yourself, “why bother getting my CHMM?” I have several reasons for you to consider as you start your 2020 self improvement list. These include:

- Peer certifications such as the CHMM demonstrate practical competency
- It is recognized as the next stage of professional growth after you’ve gotten your college degree
- It demonstrates a commitment to self-improvement and helps in developing your career path
- It is supported nationally by IHMM and AHMP – you’re not “rowing alone”
- Maintains connections to changes in the environmental field
- Certifications build onto each other – such as ISO 14K or 45K build onto the CHMM
- Connectivity to other CHMMs through Linked In groups, AHMP blogs, AHMP conference

Hopefully – I have piqued your interest and you’re considering becoming a CHMM. So you’re probably asking – what does it take to get this done?

- Education: 4 year degree in science or an engineering related field
- Experience: 4 years of full time employment in the environmental field
- Preparation: Study and take the exam (and pass)
- Recertify every 5 years

Some of you may not have the correct type of degree or any degree at all and for you there is another certification track called the CHMP (Certified Hazardous Materials Practitioner). Here’s the criteria for the CHMP:

- Education: 2 year degree in science or an engineering related field
- Option 1 Experience: 3 years of full time employment in the environmental field
- Option 2 Experience only (no degree): 5 years of full time employment in the environmental field
- Preparation: Study and take the exam (and pass)
- Recertify every 5 years

There are several options to choose from on the study and pass the exam part of this process. At the November KCHMM meeting we discussed several which I will summarize here:

- Take the EHMM Course (Essentials of Hazardous Materials Management) which is a 3 day course planned in March or April 2020 by our chapter (details to be coming soon)
- Acquire the EHMM hard copy book or e-book from the AHMP (we will also have some copies available through KCHMM) and plan your self-study schedule
- Get a mentor! Self-study will always be more effective when you have an accountability partner and someone you can ask questions of.

Some of you may think you’re already ready to proceed. So your next step is to get a User name and Password on the IHMM website (ihmm.org) and start the on-line application process. Several things you’ll need prior to doing the application.

- You will need to have an official copy of your college transcript ready to upload.
- Get evidence of your employment history for the required timeframe (something on company letterhead from HR or your boss will work)
- Get 2 written references from others in your field – preferably CHMMs
- Pay your \$175 fee
- Once your application is approved you'll be given information to schedule your proctored exam at the local testing center
- Once the 3 hour test is concluded you will receive an unofficial pass/fail and get the official notice in the mail a few weeks later
- If all of your other criteria is completed (including years of experience) then you should get your certificate in the mail or email in a few weeks

Now that I have the CHMM – What about Maintaining it? Good question and I have an excellent report to provide on this topic. The AHMP has established a terrific professional development page on your personal profile to maintain all of your training records. You can certainly also do this through having a file folder or using a spreadsheet as well.

What do you need for recertification? You need a total of 200 CMPs over the 5 year certification period. (Note a CMP is 1 contact hour of classroom time)

- 100 CMPs come from your full time employment in the field for the 5 years
- The remaining 100 CMPs can come from a variety of professional development activities including:
 - KCHMM meetings = 0.5 CMP per meeting (total of 7.5 if you come to all of them over 5 years)
 - Attending the AHMP conference = 20 CMPs X 5 years = 100 CMPs and you're done!
 - Attending Webinars (with certificates of attendance)
 - OSHA 10 hour = 10 CMPs
 - OSHA 30 hour = 30 CMPs
 - HAZWOPER 8 hour = 8 CMPs
 - ISO 14001 or 45001 training
 - Regulation instruction courses
 - Attending the 2019 DOT HazMat course = 8 CMPS
 - Attending the EHMM course = 24 CMPs
 - Attending an exercise drill = 1 CMP/hr
 - Passing a college credit course = 5 CMPs/credit
 - Teaching a college credit course (not claimed as employment) = 8 CMPs/credit
 - Developing a training course (not employment) = 3 CMPs/contact hour of course
 - Preparing and delivering an original presentation (such as for the AHMP conference) = 5 CMPs/presentation
 - Serving on the IHMM Board = up to 20 CMPs/year

- Participating on a government standards, industry or advisory committee = up to 10 CMPs/year
- Submitting a potential CHMM exam item = 1 CMP/item
- Obtaining a new certification or state license (including ISO 14K or 45K auditor, PG, PE, etc.) = 15 CMPs/license
- Serving as the President of KCHMM = 20 CMPs/year
- Serving on the KCHMM Board or as an officer = 10 CMPs/year
- Writing an article (for a professional publication) 10 CMPs/article

After reading some of these lists of how to acquire CMPs – I suspect some of you will be surprised. If you'd like to get the official document from IHMM (IHMM Recertification Claims Rev 6/2018) – please email me (Jennifer@ecshelp.com) and I'll forward a copy to you.

So now you have your list of professional development – what next? You log into your IHMM site with user ID and password and go to the recertification tab. The system will prompt you to enter specific information in a tab. Note that there is no place to upload certificates!!!! This is a huge time saver! A few years back IHMM started using the audit philosophy for recertifications. Unless you're selected for an audit – they will accept your self-certification. I always recommend listing at least 10 CMPs more than what you need for certification to hedge your bets! My last certification in 2015 took me 2 hours to complete. If I'd had the AHMP training list at that time, it probably would have cut it down at least 30 minutes.

I hope that this article has inspired many of you to consider 2020 the year that you'll get off the couch and get onto getting your CHMM or CHMP. As your incoming President for 2020, I am committed to helping as many of you as possible to make that possible. The board has established a scholarship fund to support those of you that don't have financial support from your employer (or not full support). We will be advertising the EHMM course in early 2020 and have scholarship information available as well. Please don't let financial issues be what prevents you from getting your CHMM or CHMP!

Compliance Plans – 102

Kenny Reutlinger, CHMM

A number of years ago I wrote an article regarding compliance plans focusing on the specific wording included in the plans. Many plans I have reviewed over the decades are written as if they are guidance or instructions on how to comply. Most clients don't think twice about the manner in which a plan is written as long as it possessed the regulatory required elements to pass an audit. That brings me to a different issue. What purpose should a compliance plan serve?

To quickly summarize the way this works, we start by having an environmental problem that needs to be addressed. Our elected officials, with the assistance of those who understand the problem, pass an environmental law, statute, or similar legal mandate that only lawyers can fully understand. Regulators at some level of government translate the legal language into regulations that are less difficult to understand but may still require additional guidance to grasp. The regulations are meant to provide a basis and in some cases a roadmap for compliance with the minimum legal requirements.

When the environmental problem involves hazardous substances or materials, the typical requirement includes the preparation and implementation of a management plan. The plan requirements may be spelled out in the regulation, a permit required by the regulation, or a guidance document prepared by a regulatory agency. The substance or materials "management" may be for normal operations or for an emergency action. A regulator therefore believes the purpose of an environmental compliance plan as to protect the environment as prescribed by the legal requirements.

Through my auditing experiences, I have noticed many compliance plans are written and even formatted for the express purpose of passing an environmental audit or inspection. The easier it is for the auditor to find what they are looking for, the less time the auditor is going to be involved in your day-to-day activities. It is also more likely that fewer negative findings will result with a regulatory-friendly format, an obvious positive for everyone involved. As an auditor, I appreciate these types of documents because it does make the audit easier, but do these types of plans meet the real goal of the legal requirements?

I believe there are two ways to view the purpose of compliance plans. If the facility regularly reviews compliance plans and implements their routine requirements (e.g., inspections and training), then how the document is written should not matter. Staff will know the plan provisions through these reviews. However, for some facilities, the only time a compliance plan is taken off the shelf is during an audit. This is especially true of plans that are used only in the event of an emergency. These plans are higher risk because they address emergency actions that may never have been conducted at a facility.

The next time you review a compliance plan through an audit, training, or because you are just trying to put yourself to sleep, think about the purpose of the plan and ask yourself is the plan meeting that purpose. To have them written in a manner to pass an audit might cause them to fail in an emergency.

Emerging Concerns

Mark S. Edmonson, PE LLC

I'm not certain how you feel about it, but I've come to think that 2019 has been the year of PFAS – that's per- and polyfluoroalkyl substances for those fortunately uninitiated. If for no other reason (and there are others), the numerous presentations I've seen at various local environmental group meetings (including KCHMM). However, this article is not about PFAS (in particular), but instead concerns a broader group of chemicals being referred to as Contaminants of Emerging Concern (CECs). Admittedly, PFAS fall into this category (more like today's poster child for the group), but they are far from the only contaminants troubling environmentalists these days. Consider the following quote from the California Department of Toxic Substances Control,

"The U.S. currently has more than 80,000 chemicals in commerce. Of these, approximately 2,500 are "high production volume" (HPV) chemicals, which are manufactured at a rate of more than one million pounds annually, with nearly 45 percent of these HPV chemicals lacking adequate toxicological studies conducted to evaluate their health effects on humans and on wildlife. Further, about 2,000 new chemicals are introduced into commerce annually in the U.S., at a rate of about seven new chemicals a day" (<https://dtsc.ca.gov>).

CEC is a general term referring to a wide class of different types of chemicals. As defined by EPA a CEC is *"a chemical or material that is characterized by a perceived, potential, or real threat to human health or the environment or by a lack of published health standards. A contaminant may also be emerging because a new source or a new pathway to humans has been discovered, or a new detection method or treatment technology has been developed."* Many CECs fall into the following broad classes:

- Pharmaceuticals and Personal Care Products (PPCP)
- Disinfection by-products
- Endocrine disruptors
- Industrial Chemicals
- Persistent Organic Pollutants (POPs)

This leaves a lot of room for worry, especially about chemicals for which we don't understand the occurrence, fate (including reactions with other chemicals and transformation/degradation products), transport, or toxicity with respect to ecological and/or human health effects. There are thousands of CECs - consider that our society is teeming with the products containing these chemicals and you'll get an idea of how many CECs there are, and how ubiquitous several appear to be. Further consider their sources in the foods we consume and products we use with myriad additives (preservatives, hormones, antibiotics, etc.) and it is easy to understand the emerging concern.

Since 1998 EPA has identified and updated a Chemical Candidate List (CCL). The fifth CCL was initiated in 2018 and is still ongoing. CCL 4 has been published and included a total of 97 chemicals (six of these are naturally occurring elements). The CCL is updated every five years, and EPA must evaluate five chemicals from the CCL for potential regulatory action. Although encouraging to know, it doesn't appear that this process is keeping up with the pace of emerging contaminants.

Among other programs addressing CECs, EPA's Federal Facilities Cleanup Program, EPA has published technical fact sheets for 9 such CECs at Federal Facilities. Many environments particularly affected by wastewater effluents and/or landfill leachate are by necessity addressing CECs. The Narraganset Bay (Narraganset Bay Estuary Program, 2017 Technical Report) has found increased presence of CECs that appear to be displacing legacy contaminants. They are working on ways to identify and analyze these CECs and to evaluate their impact.

I'm sure you'll be familiar with at least a few of these CECs (in addition to the PFAS) currently getting attention:

- 1,3-Butadiene (rubber & plastics)
- Acetochlor (herbicide)
- Butylated hydroxyanisole (food additive/antioxidant)
- Equilin (estrogenic hormone)
- Erythromycin (antibiotic)
- Ethylene Glycol (antifreeze)
- Methyl tert-butyl ether (gasoline additive)
- Nitroglycerin (explosive ingredient, pharmaceutical for angina)
- Nonylphenol (industrial products, consumer products - laundry detergents, cleaners, degreasers, paints/coatings, etc.)

While it's impossible to provide more than a quick sketch of the depth and breadth of CECs. I leave you with these thoughts for the coming year(s)...

1. Although there are many and various CECs, our most prevalent methods of disposal via wastewater and landfills can result in concentrating these compounds in the effluent and leachate from these systems. Some CECs are spread far and wide, but many (if not a majority) appear to be at least a somewhat isolated.
2. There is increasing recognition and perhaps alarm regarding CECs. It's important to temper response with reason – there is still a lot of science to be done regarding these constituents.
3. It appears there will be continuing emphasis on and requirements for evaluation of these substances; e.g., calls for substitutions, new treatment options/management methods, regulatory requirements/limits, legal challenges, monitoring, analysis, record keeping, reporting, remediation, etc.

THANK YOU!

KCHMM THANKS ITS CORPORATE SPONSORS WHOSE ANNUAL INVESTMENT UNDERWRITES THE COST OF CHAPTER PROGRAMS AND ACTIVITIES.



To become a corporate sponsor, please contact Jeff Perry,

JPerry@republicservices.com

Mission Statement

The purposes of the KCHMM Chapter are:

- To collectively represent and to safeguard the common interests of the members of the hazardous materials management profession;
- To cultivate, promote and sustain the profession of hazardous materials management;
- To elevate and maintain the professional character and education of hazardous materials managers;
- To contribute toward the protection of human health and of the environment; and,
- To facilitate the exchange of ideas to improve administration of hazardous materials management programs.

KCHMM Officers & Board of Directors, 2019

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Carla Givens, P.E., BAE Systems

Vice President

Jennifer James Koenig, C.H.M.M. ECS Audit and Compliance Service

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