

Recent Federal Developments

January 15, 2015

Predictions And Outlook For EPA's Office Of Chemical Safety And Pollution Prevention (OCSPP) 2015: 2015 will be a very interesting year. There are two overarching considerations that will make the year more difficult to predict than merely assuming most of this year's issues will simply be extensions of past issues, with a few new initiatives sprinkled in. First, the new Republican majority in the Senate will change the dynamic between the Executive and Legislative branches. Second, the Obama Administration will begin its lame duck status as it enters the last two years of office. Corollary to the end of the Obama Administration is the jockeying for the 2016 Presidential election that also begins now. The Iowa Presidential caucus is, after all, only a little more than a year away. We can expect the year to be full of Congressional oversight hearings, candidate jockeying, and a focus on various "legacy issues" as those transitioning put effort into finishing or attaining objectives set out earlier in the Administration.

Most of the high profile fireworks, even in the chemical policy space, will not directly involve the regulation of chemicals and pesticides. High profile activities will center on climate change policies and initiatives, and attempts to hinder or foster them. At the same time, for the Office of Chemical Safety and Pollution Prevention (OCSPP), we can expect serious consideration of legislative amendments to the Toxic Substances Control Act (TSCA) and continued attempts to revitalize the toxic chemicals program even without legislation, along with continued emphasis on various pesticide issues, such as pollinator protection, endangered species, worker protection standards, and endocrine testing requirements. The full memorandum is available on Bergeson & Campbell, P.C.'s (B&C[®]) [website](#).

TSCA/FIFRA/IRIS/NTP/TRI

EPA Issues Final SNUR For Glymes: On December 16, 2014, the U.S. Environmental Protection Agency (EPA) issued a final significant new use rule (SNUR) for seven ethylene glycol ethers, also known as glymes. 79 Fed. Reg. 74639. The rule will require persons who intend to manufacture, including import, or process any of the seven ethylene glycol ethers for an activity that is designated as a significant new use by this rule to notify EPA at least 90 days before commencing such manufacture or processing. The required notifications would provide EPA with the opportunity to evaluate the intended use and, if necessary based on the information available at that time, an opportunity to protect against potential unreasonable risks, if any, from that activity before it occurs. This final SNUR will require persons to notify EPA at least 90 days before commencing the manufacture (including import) or processing of:

- Monoethylene glycol dimethyl ether (monoglyme, CASRN 110-71-4) for any use in a consumer product;

- Diethylene glycol dimethyl ether (diglyme, CASRN 111-96-6) for any use in a consumer product;
- Ethylene glycol diethyl ether (ethylglyme, CASRN 629-14-1) for any use in a consumer product;
- Diethylene glycol diethyl ether (ethyldiglyme, CASRN 112-36-7) for any use in a consumer product, except as a component of inks, coatings, and adhesives, and as a component of paint/graffiti removers;
- Triethylene glycol dimethyl ether (triglyme, CASRN 112-49-2) for any use in a consumer product, except as a solvent in consumer adhesives, in brake fluid, as a component of consumer paint/graffiti removers, and in consumer paints;
- Diethylene glycol dibutyl ether (butyldiglyme, CASRN 112-73-2) for any use in a consumer product, except as a component of inks, coatings, and adhesives, and as a component in soldering compounds; or
- Triethylene glycol dibutyl ether (butyltriglyme, CASRN 63512-36-7) for any use.

EPA also made a technical amendment to the codified list of control numbers for approved information collection activities. The list now includes the control number assigned by the Office of Management and Budget (OMB) to the information collection activities contained in this rule. The final rule is effective **February 17, 2015**.

Registration Review; Pesticide Dockets Opened For Review And Comment: On December 19, 2014, EPA opened the public comment period for 19 registration reviews. 79 Fed. Reg. 75801. The registrations are for: 3-methyl-cyclohexen-1-one (Case 6074); alkyl trimethylenediamines (ATMD) (Case 3014); boscalid (Case 7039); dikegulac sodium (Case 3061); ethoxyquin (Case 0003); fenpyroximate (Case 7432); flonicamid (Case 7436); fluazifop butyl, isomers (Case 2285); flufenpyr-ethyl (Case 7262); HHT (Grotan) (Case 3074); metolachlor & s-metolachlor (Case 0001); naphthaleneacetic acid (Case 0379); oxadiazon (Case 2485); oxyfluorfen (Case 2490); pentachlorophenol (Case 2505); sodium fluoride (Case 3132); sulfonic acid salts (Case 7619); triclopyr (Case 2710); and yellow mustard seed (Case 7618). EPA will accept comments and information until **February 17, 2015**.

Court Rejects EPA Rationale For Regulatory TSCA Section 21 Petition: On December 23, 2014, the U.S. Court of Appeals for the District of Columbia Circuit rejected EPA's and a 2013 federal District Court's decision that concluded EPA's determination that a TSCA Section 4 petition as not "cognizable" because it largely duplicated an earlier petition that EPA had rejected. *Trumpeter Swan Soc'y v. EPA*, D.C. Cir., No. 13-5228 (Dec. 23, 2014). In 2010, several environmental groups submitted a TSCA Section 21 petition seeking regulation of lead bullets under TSCA. EPA rejected the petition on the grounds that it explicitly cannot regulate bullets under that law. 75 Fed. Reg. 58377. In March 2012, several of the groups and an additional 100 groups petitioned EPA for similar relief. EPA concluded the new petition was not a "new petition cognizable under section 21" of TSCA. According to the court, "[h]ere, unlike the district court, we see nothing ambiguous about TSCA section 21. That provision allows '[a]ny person' to petition the agency for a rulemaking to regulate a toxic substance. 15 U.S.C. § 2620(a). Critically for our purposes, section 21 requires that a petition satisfy only two requirements: that it be filed in EPA's principal office and that it set forth facts establishing the need for the requested rule. *Id.* § 2620(b)(1). Equally critically, section 21 gives EPA only three options: grant the petition, deny the petition, or take no action at all (which has the same effect as a denial). *Id.* § 2620(b)(3)-(4). Nothing in section 21, however, empowers EPA to declare that a petition, which satisfies the two statutory requirements -- both of which EPA acknowledges were met here -- is nonetheless 'not cognizable.'"

EPA Issues Final SNUR For 11 Chemicals: On December 29, 2014, EPA issued final SNURs for 11 chemicals and chemical groups. 79 Fed. Reg. 77891. The rule also requires companies planning to import textiles, sofas, or other manufactured goods made with one or more of nine of the chemicals to notify EPA 90 days before doing so. EPA reportedly took the action due to human health and environmental concerns about the chemicals. The 11 chemicals covered by those provisions of the SNURs are:

- Nine benzidine-based chemicals, which had been used for the production of textiles, paints, printing inks, paper, pharmaceuticals, and other products but which may cause cancer in workers and consumers exposed to them;
- Di-n-pentyl phthalate (DnPP), one of a group of chemicals collectively known as phthalates and used to make polyvinylchloride (PVC) more flexible but also known to cause developmental and reproductive harm in laboratory animals; and
- Alkanes, C12-13, chloro (CAS No. 71011-12-6), part of a group of chemicals known as short-chain chlorinated paraffins that used to be used as lubricants and coolants in metal cutting and metal forming operations but also are highly toxic to aquatic invertebrates.

The rule is effective **February 27, 2015**. More information is available at <http://www.lawbc.com/regulatory-developments/entry/tsc-a-epa-signs-final-snurs-and-signals-narrowing-of-article-exemption/>.

NRDC Sues EPA Over Flea Collar Chemical: on January 5, 2015, the Natural Resources Defense Council (NRDC) petitioned a federal appeals court to reconsider its decision not to ban tetrachlorvinphos (TCVP), an insecticide commonly used in flea collars for pets. *Natural Res. Def. Council v. EPA*, 9th Cir., No. 15-70025 (Jan. 5, 2015). NRDC had petitioned EPA to revoke its registration of TCVP, arguing children who come into close contact with pets wearing TCVP collars could be exposed to the chemical. EPA denied the group's petition last November.

EPA Issues A SNUR For 13 Chemicals: On January 7, 2015, EPA issued a proposed rule applicable to 13 chemicals. 80 Fed. Reg. 838. According to EPA, the SNUR is needed to prevent respiratory problems and other hazards. The SNUR for the 12 diisocyanate-like chemicals would require individuals working with the chemicals to use a National Institute of Occupational Safety and Health (NIOSH)-certified particulate respirator with an assigned protection factor of at least ten when the potential exists for the worker to inhale the chemical. Employees also should have eye and face protection when dermal or ocular exposure is likely. Comments are due by **March 9, 2015**.

Environmentalists Sue EPA Over EPCRA Reporting: On January 7, 2015, a coalition of ten environmentalists sued EPA over its failure to respond to a petition filed in 2012 seeking a rulemaking requiring reporting under the Emergency Planning and Community Right-to-Know Act (EPCRA) of Toxics Release Inventory (TRI) chemicals. *Env'l. Integrity Project v. EPA*, D.D.C., 1:15-cv-00017 (Jan. 7, 2015). The petition specifically seeks oil and gas companies engaging in hydraulic fracturing, oil drilling, or natural gas processing to be added to the list of industries that must contribute information to the TRI. The plaintiffs are requesting the U.S. District Court for the District of Columbia, under the Administrative Procedure Act, to force EPA to decide whether to eliminate the oil and gas industry's TRI exemption within 60 days.

EPA Announces New Draft Guidance On Reducing Use Of Lab Animals And Increasing Relevant Acute Toxicity Data On Pesticides: On January 9, 2015, the EPA Office of Pesticide Programs (OPP) announced that it released a new draft guidance document in its efforts to expand the acceptance of alternative methods for acute toxicity testing. EPA states in the draft guidance that rapid advances in science and development of new technologies have expanded opportunities for the use of alternative methods in regulatory risk assessments.

EPA's goals for alternative testing approaches include:

- Assessing a broader range and potentially more human-relevant adverse effects;

- Generating and reviewing data more quickly and less expensively; and
- Reducing use of laboratory animals in regulatory testing.

The draft guidance, [Process for Establishing & Implementing Alternative Approaches to Traditional In Vivo Acute Toxicity Studies](#), describes the process for evaluating and implementing alternative methods of testing for acute oral, dermal, and inhalation toxicity, along with skin and eye irritation and skin sensitization. Additionally, EPA discusses the three major phases of the process and the implications for adverse effects reporting under Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Section 6(a)(2). Successfully putting this process into place will require an open dialogue with stakeholders, other regulatory organizations, and the scientific community, according to EPA. This draft guidance is one step in the application of OPP's [strategic vision](#) for implementing the 2007 National Research Council report on Toxicity Testing in the 21st Century. Comments on the draft guidance are due by **March 10, 2015**, and should be submitted to Christopher Schlosser at schlosser.christopher@epa.gov or regular mail at Christopher Schlosser, U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue, N.W., MC: 7509P, Washington, D.C. 20460.

EPA Announces Availability Of The 2013 Toxics Release Inventory National Analysis: On January 14, 2014, EPA announced that the [2013 Toxics Release Inventory National Analysis](#) is now available and in a new interactive, Web-based format. The report features charts and graphs with national-level analyses of toxic chemical waste management data, while the [new interactive mapping feature](#) gives you information for your state, county, city, zip code, or aquatic ecosystem. The new TRI data show that industrial facilities prevented 22 billion pounds of toxic chemicals from entering the environment in 2013 through the use of preferred practices such as recycling. You can find more information about industry efforts to reduce pollution in the [TRI Pollution Prevention \(P2\) Search Tool](#), which now includes a parent company comparison report. EPA also announced that it will hold a webinar on **January 21, 2015**, from 2:00-3:00 p.m. (EST) to talk about the report and the new website. The following is the login information for the webinar: <https://epa.connectsolutions.com/nationalanalysispublic/>; audio: 1-866-299-3188; code: 2025660279.

EPA Releases Revised Human Health Risk Assessment Of Chlorpyrifos: On January 14, 2015, EPA announced the availability of its revised human health risk assessment for the registration review of chlorpyrifos. 80 Fed. Reg. 1909. A preliminary human health risk assessment was completed and released for public comment in July 2011 (76 Fed. Reg. 39399) and is available in the chlorpyrifos registration review docket. Registration review is EPA's periodic review of pesticide registrations to ensure that each pesticide continues to satisfy the statutory standard for registration, that is, the pesticide can perform its intended function without unreasonable adverse effects on human health or the environment. As part of the registration review process, EPA has completed a comprehensive revised human health risk assessment for all chlorpyrifos uses. A Guide to Commenters document has been placed in the docket along with the revised human

health assessment. This document poses questions for the public to comment on. Such comments and input could address, among other things, EPA's risk assessment methodologies and assumptions, as applied to this revised risk assessment, as well as submitting suggestions for mitigating any risks identified in the revised risk assessment. EPA will consider all comments received during the public comment period and the responses to the questions and any other information that is provided will help in developing a proposed registration review decision on chlordifos. Through this program, EPA is ensuring that each pesticide's registration is based on current scientific and other knowledge, including its effects on human health and the environment. Comments must be received on or before **March 16, 2015**.

FDA

FDA Center For Devices And Radiological Health Issues Draft Guidance To Industry: On December 23, 2014, the U.S. Food and Drug Administration (FDA) Center for Devices and Radiological Health (CDRH) issued draft guidance to industry entitled *Transfer of a Premarket Notification (510(k)) Clearance – Questions and Answers*. The guidance was created to clarify the process for modification of a 510(k) submission when the specific device is sold or transferred from one entity or person to another. For more details, see [Transfer of a Premarket Notification \(510\(k\)\) Clearance](#).

FDA Announces New Guidance Document Search Feature: On January 2, 2015, FDA announced a new guidance search feature on its website. The feature allows users to search guidance documents across the entire site using multiple searching criteria, including date the guidance document was issued, by topic, by organizational unit, etc. For more details, see http://www.fda.gov/RegulatoryInformation/Guidances/default.htm?source=govdelivery&utm_medium=email&utm_source=govdelivery.

FDA CDRH Posts FY 2015 Proposed Guidance Development: FDA CDRH announced on January 8, 2015, the list of guidance documents it intends to issue this fiscal year (FY). CDRH issued three lists in the announcement. The first list is the list of documents CDRH intends to publish this year; the second list contains documents CDRH intends to publish, resources permitting; and the final list contains previously published final guidances that are subject to review and for which CDRH is seeking external feedback. For more details on each of these three lists, see http://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/Overview/MDUFAIII/ucm321367.htm?source=govdelivery&utm_medium=email&utm_source=govdelivery.

RCRA/CERCLA

EPA Issues RCRA Final Rule On Regulatory Status Of Coal Ash: On December 19, 2014, EPA issued a much anticipated and controversial final rule under the Resource Conservation and Recovery Act (RCRA) on the RCRA regulatory status of coal combustion residues (CCR) from

coal-fired power plants. EPA issued the final rule largely in an effort to protect communities from coal ash impoundment failures, like the Kingston, Tennessee, spill in 2008. The rule establishes the first-ever federal regulations for the management of CCRs and is intended to prevent groundwater contamination and air emissions from coal ash disposal. In the final rule, however, EPA chose to regulate CCRs as non-hazardous solid waste under RCRA, opting to not regulate the large volumes of CCRs as hazardous waste. In the wake of the failure of the coal ash pond in Kingston, EPA began a multi-year effort to help ensure the safety of the nation's coal ash disposal facilities, including assessing more than 500 facilities across the country. According to the final rule, improperly constructed or managed coal ash disposal units have been linked to nearly 160 cases of harm to surface or ground water or to the air. Consequently, the final rule imposes the following requirements:

- The closure of surface impoundments and landfills that fail to meet engineering and structural standards specified in the rule;
- Requiring regular inspections of the structural safety of surface impoundments;
- Restrictions on the location of new surface impoundments and landfills so that they cannot be built in sensitive areas such as wetlands and earthquake zones;
- Protecting groundwater by requiring monitoring, immediate cleanup of contamination, and closure of unlined surface impoundments that are polluting groundwater;
- Protecting communities using fugitive dust controls to reduce windblown coal ash dust; and
- Requiring liner barriers for new units and proper closure of surface impoundments and landfills that will no longer receive CCRs.

In response to comments on the proposal, the final rule makes a number of changes by providing greater clarity on technical requirements for coal ash landfills and surface impoundments under RCRA Subtitle D. Implementation of these technical requirements will be reported through comprehensive and regular disclosure to states and communities to enable them to monitor and oversee these requirements. The rule requires that power plant owners and operators provide detailed information to citizens and states to understand how their communities may be impacted. The rule sets out new transparency requirements, including recordkeeping and reporting requirements, as well as the requirement for each facility to post specific information to

a publicly-accessible website. This will provide the public with information such as annual groundwater monitoring results, and corrective action reports, coal ash fugitive dust control plans, and closure completion notifications. EPA also tries to promote the responsible recycling of CCRs in the final rule. In 2012, almost 40 percent of all CCRs was recycled rather than disposed. EPA states that beneficial use of coal ash can produce positive environmental, economic, and performance benefits such as reduced use of virgin resources, lower greenhouse gas (GHG) emissions, reduced cost of coal ash disposal, and improved strength and durability of materials.

RCRA Definition Of Solid Waste Final Rule Published In Federal Register: On January 13, 2015, EPA published its final rule revising the Definition of Solid Waste (DSW) under RCRA. 80 Fed. Reg. 1693. The rule overturns or significantly revises several hazardous waste recycling exclusions previously contained in a 2008 EPA final rule. 73 Fed. Reg. 64688 (Oct. 30, 2008). Perhaps the biggest revision in the rule is EPA's withdrawal of the transfer-based exclusion codified in the 2008 rule. In its place, EPA created the "verified recycler exclusion." This new provision requires that all recyclers operating under this provision have RCRA permits or obtain variances prior to reclaiming hazardous secondary materials. The rule retains the exclusion for hazardous secondary materials that are legitimately reclaimed under the control of the generator (generator-controlled exclusion), but adds several conditions to the exclusion, including notification and recordkeeping requirements and emergency preparedness and response conditions. EPA also modified the transfer-based exclusion by adding several conditions, including one that recyclers have financial assurance in place to manage the materials left behind when the facility closes. An addition to the rule is the remanufacturing exclusion, which exempts certain higher-value solvents transferred from one manufacturer to another for the purpose of extending the useful life of the solvent by remanufacturing the spent solvent back into commercial grade solvent. Another major change in the rule is the codification of legitimacy criteria that all recyclers of hazardous secondary materials must meet. These criteria are: (1) the hazardous secondary material must provide a useful contribution to the product or recycling process; (2) the recycling process must produce a valuable product or intermediate; (3) the hazardous secondary material must be managed as a valuable commodity; and (4) the recycled product must be comparable to a legitimate product or intermediate. The rule will become effective on **July 13, 2015**. Because most states are authorized by EPA to administer the RCRA hazardous waste program, however, the changes in the rule will not become effective in RCRA-authorized states until those states revise their programs to adopt the changes, and after EPA approves the states' revised programs.

EPA Proposes Revisions To National Contingency Plan: On January 13, 2015, EPA released a proposed rule that would amend requirements under the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) that are intended to improve the nation's ability to plan for and respond to oil spills. The proposed rule has not yet been published in the *Federal Register*, but a pre-publication copy is available [online](#) from EPA. This proposal addresses issues raised by the public, responders, government, and industry officials in the wake of the 2010 Deepwater

Horizon Oil Spill. Over the past several years, EPA has conducted research on improved laboratory protocols for dispersant and bioremediation efficacy. As a result of this research and the lessons learned during the Deepwater Horizon event, EPA is proposing several amendments to Subpart J. The proposed Subpart J amendments seek to ensure that chemical and biological agents have met efficacy and toxicity requirements, product manufacturers provide important use and safety information, and the planning and response community is equipped with the proper information to authorize and use the products in a judicious and effective manner. With respect to toxicity and efficacy, the proposed amendments would require that only products that perform effectively in laboratory testing would be listed on the NCP Product Schedule. Manufacturers would be required to provide more detailed product application materials, ecological toxicity data, and human health and safety information, including more detailed instructions for product application in the field. The proposed amendments are intended to ensure that On-Scene Coordinators (OSC), Regional Response Teams (RRT), and Area Committees (AC) have sufficient information to support agent preauthorization or authorization of use decisions. RRTs and ACs generally develop “preauthorization plans” that address the specific context in which products can be used under OSC direction. The proposed rule will assist OSCs, RRTs, and ACs in their advanced planning activities. The goal is to ensure that preauthorization or expedited decision-making plans are developed and maintained to effectively result in the greatest environmental protection. The proposed rule also addresses the comprehensive monitoring of dispersant use in the field. The proposed amendments establish monitoring requirements for underwater application of dispersants, dispersants used for an extended period of time, and in cases of major oil discharges. EPA will take comments on the rule for 90 days after its publication in the *Federal Register*.

CAA/CWA/SDWA

EPA Reviews National Ambient Air Quality Standards For Ozone: On December 17, 2014, EPA issued a proposed rule revising the air quality criteria for ozone (O₃) and related photochemical oxidants and National Ambient Air Quality Standards (NAAQS) for O₃. 79 Fed. Reg. 75234. EPA proposed to revise the primary standard to a level within the range of 0.065 to 0.070 parts per million (ppm), and to revise the secondary standard to within the range of 0.065 to 0.070 ppm, which air quality analyses indicate would provide air quality, in terms of three-year average W126 index values, at or below a range of 13-17 ppm-hours. EPA proposed to make corresponding revisions in data handling conventions for O₃ and conforming changes to the Air Quality Index (AQI); to revise regulations for the prevention of significant deterioration (PSD) program to add a transition provision for certain applications; and to propose schedules and convey information related to implementing any revised standards. EPA proposed changes to the O₃ monitoring seasons, the Federal Reference Method (FRM) for monitoring O₃ in the ambient air, Federal Equivalent Method (FEM) procedures for testing, and the Photochemical Assessment Monitoring Stations (PAMS) network. Along with proposing exceptional event schedules related to implementing any revised O₃ standards, EPA proposed to apply this same schedule approach to other future revised NAAQS and to remove obsolete regulatory language

for expired exceptional event deadlines. EPA is proposing to make minor changes to the procedures and time periods for evaluating potential FRMs and equivalent methods (including making the requirements for nitrogen dioxide consistent with the requirements for O₃) and to remove an obsolete requirement for the annual submission of documentation by manufacturers of certain particulate matter monitors. For additional information, *see* the Executive Summary, Section I.A. Comments on the proposed rule are due **March 17, 2015**.

Obama Administration Unveils Strategy For Reducing Methane Emissions: The Obama Administration on January 14, 2015, unveiled the first regulations targeting methane emissions from industrial sources. Seeking to augment the President's legacy on climate change, the Administration is setting a new goal to cut methane emissions from the oil and gas sector by 45 percent by **2025** from 2012 levels. In announcing the package of actions, the White House stated that methane emissions accounted for nearly 10 percent of U.S. GHG emissions in 2012, of which nearly 30 percent came from the production transmission and distribution of oil and natural gas. Emissions from the oil and gas sector are projected to rise more than 25 percent by 2025 without additional steps to lower them, the White House stated, adding that a strategy for cutting methane emissions from the oil and gas sector is an important component of efforts to address climate change. The Administration stated that its actions would save up to 180 billion cubic feet of natural gas in 2025, enough to heat more than two million homes for a year and continue to support businesses that manufacture and sell cost-effective technologies to identify, quantify, and reduce methane emissions. The methane reduction strategy is intended to be a coordinated, cross-agency effort that incorporates federal and state utility commissions and environmental agencies. The centerpiece of the strategy is standards EPA will issue to reduce methane and volatile organic compound (VOC) emissions from new and modified oil and gas production sources, and natural gas processing and transmission sources. EPA will issue a proposed rule in the **Summer of 2015** and a final rule will follow in **2016**. The standards will focus on in-use technologies, current industry practices, emerging innovations, and streamlined and flexible regulatory approaches to ensure that emissions reductions can be achieved as oil and gas production and operations continue to grow. EPA will also develop new guidelines to assist states in reducing ozone-forming pollutants from existing oil and gas systems in areas that do not meet the ozone health standard and in states in the Ozone Transport Region. These guidelines will also reduce methane emissions in these areas. The guidelines will help states that are developing clean air ozone plans by providing a ready-to-adopt control measure that they can include in those plans. EPA will also explore potential regulatory opportunities for applying remote sensing technologies and other innovations in measurement and monitoring technology to further improve the identification and quantification of GHG emissions and improve the overall accuracy and transparency of reported data cost-effectively. The strategy calls for the Department of Interior's (DOI) Bureau of Land Management (BLM) to update its decades-old standards to reduce wasteful venting, flaring, and leaks of natural gas, which is primarily methane, from oil and gas wells. These standards, to be proposed **Spring 2015**, will address both new and existing oil and gas wells on public lands. The Department of Transportation's (DOT) Pipeline and Hazardous Materials Safety Administration (PHMSA) also has a role in the

strategy. PHMSA will propose natural gas pipeline safety standards in 2015. While the standards will focus on safety, they are expected to lower methane emissions as well. The Department of Energy (DOE) will be tasked with developing and demonstrating more cost-effective technologies to detect and reduce losses from natural gas transmission and distribution systems. This will include efforts to repair leaks and develop next generation compressors. And DOE will continue to take steps to encourage reduced emissions, particularly from natural gas transmission and distribution, including issuing energy efficiency standards for natural gas and air compressors, advancing research and development to bring down the cost of detecting leaks, and working with the Federal Energy Regulatory Commission (FERC) to modernize natural gas infrastructure.

EPA Proposes To Retain Current Lead NAAQS: EPA on January 5, 2015, proposed to retain, without revision, the NAAQS for lead of 0.15 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). 80 Fed. Reg. 278. EPA states that the existing primary (health based) standard provides health protection for at-risk groups, especially children, and the existing secondary (welfare based) standard provides protection against adverse effects to public welfare, including harm to aquatic and terrestrial ecosystems. The Clean Air Act (CAA) requires EPA to set NAAQS for criteria pollutants (lead, ozone, nitrogen oxides, carbon monoxide, sulfur oxides, and particulate matter) and to review the standards every five years. In EPA's prior review of the lead NAAQS, completed in 2008, EPA significantly strengthened the standard based on a dramatic expansion and greater understanding of the scientific evidence about lead and health that had occurred since EPA issued the initial standard in 1978. The evidence from health studies available in the 2008 review showed that adverse effects occur at much lower levels of lead in blood than had been previously thought. In the current proposal, EPA states that "the evidence available in this review is consistent with the EPA Administrator's conclusions in the last review. The health effects evidence continues to support the conclusion that lead damages developing nervous systems in young children. In addition, lead can damage cardiovascular and reproductive systems and red blood cell production." EPA specifically proposes to retain the current standard of $0.15\mu\text{g}/\text{m}^3$ (as a three-month average in total suspended particles). EPA concludes that the current standard provides protection of public health with an adequate margin of safety. The standard provides protection for children and other at-risk populations against a variety of adverse health effects, most notably effects on the developing nervous system. EPA also proposes to retain the current secondary standard, which is identical to the existing primary standard. EPA concludes that the current standard "provides the requisite protection from adverse environmental effects to public welfare, including effects on aquatic and terrestrial ecosystems. Currently there are 21 areas designated as nonattainment for the 2008 lead NAAQS. EPA will accept comments on the proposed rule until April 6, 2015.

NANOTECHNOLOGY

CFS Files Suit To Compel EPA To Respond To 2008 Petition: The Center for Food Safety (CFS) [filed suit](#) on December 16, 2014, in the U.S. District Court for the District of Columbia

against EPA over its failure to regulate novel nanomaterial pesticides. CFS states in its [press release](#) that in 2008, it filed a legal petition requesting that EPA regulate nanosilver products as pesticides. EPA opened a public comment period on November 19, 2008, in response to the petition, but according to CFS, “nearly six years later the agency has still failed to respond to Plaintiffs’ 2008 Petition, a failure that violates the mandates of the Administrative Procedure Act (APA).” The petition states that since the 2008 petition was filed, “hundreds of new pesticidal nano-silver products have reached the market without any pesticide oversight from EPA.” CFS asks the court to order EPA to respond to its petition “without further unlawful delay.” The plaintiffs represented by CFS legal counsel in the lawsuit are CFS, its sister non-profit, the International Center for Technology Assessment, as well as Beyond Pesticides, the Center for Environmental Health, Clean Production Action, and the Institute for Agriculture and Trade Policy.

EPA Withdraws Direct Final SNUR For Functionalized Carbon Nanotubes (Generic): In a December 23, 2014, *Federal Register* notice, EPA is withdrawing several direct final SNURs promulgated on October 27, 2014, including one for functionalized carbon nanotubes (generic) (PMN No. P-13-793). 79 Fed. Reg. 76900. EPA states that it received notice of intent to submit adverse comments on the direct final SNURs. EPA intends to publish proposed SNURs for the chemical substances listed in the notice.

SCENIHR Publishes Final Opinion On Guidance On The Determination Of Potential Health Effects Of Nanomaterials Used In Medical Devices: On January 13, 2015, the European Commission (EC) and its Scientific Committee on Emerging and Newly Identified Health Risks (SCENIHR) published the final opinion [“Guidance on the Determination of Potential Health Effects of Nanomaterials Used in Medical Devices.”](#) According to the EC, the Guidance provides information on how to evaluate the risk when a nanomaterial is used in a medical device. The EC states that the Guidance addresses the use of nanomaterials in medical devices regarding specific aspects that need to be considered in the safety evaluation of nanomaterials and it should be considered in conjunction with the International Organization for Standardization (ISO) 10993-1:2009 standard “Biological evaluation of medical devices.” The SCENIHR Guidance highlights the need for special considerations in relation to the safety evaluation of nanomaterials, in view of the possible distinct properties, interactions, and effects that may differ from conventional forms of the same materials. SCENIHR recommends a phased approach based on potential release and characteristics of the nanomaterials.

NNCO Will Hold Series Of Webinars In 2015: The National Nanotechnology Coordination Office (NNCO), on behalf of the Nanoscale Science, Engineering, and Technology Subcommittee of the Committee on Technology, National Science, and Technology Council, will hold a series of webinars in 2015 focusing on the experiences, successes, and challenges for small- and medium-sized enterprises (SME) working in nanotechnology and on issues of interest to the business community. The first webinar, which will address [“Roadblocks to Success in Nanotechnology Commercialization -- What Keeps the Small and Medium Enterprise](#)

Community Up at Night?,” will be held **January 15, 2015**. Questions of interest to the SME community may be submitted to webinar@nnco.nano.gov. A moderator will identify relevant questions and pose them to the panelists. Registration for the webinar is required and is on a first-come, first-served basis. Registration will open approximately two weeks prior to each event and will be capped at 200 participants.

UK Health And Safety Laboratory Will Hold Course On Nanotechnology Health And Safety: On **January 27, 2015**, the United Kingdom (UK) Health and Safety Laboratory (HSL) will hold a one-day course on “[Nanotechnology Health & Safety -- A Practical Approach](#).” The course is intended to help participants gain an understanding of the techniques and methods available to identify and control exposure to airborne nanomaterials. HSL states that the course will include:

- Practical advice and tools on the measures that may be needed to control adequately exposure to airborne nanoparticles during their manufacturing, or during the use and disposal of these materials;
- Current best practice with references to the new Health and Safety Executive (HSE) and the UK NanoSafety Group guidance “Working Safely with Nanomaterials in Research and Development”;
- Formal presentations and case studies with opportunities to discuss these issues with experienced HSL scientists; and
- Hands-on practical training on assessing and implementing control measures and exposure monitoring that allows theory to be put into practice.

The course is aimed at health and safety advisors, occupational hygienists, and users of nanomaterials in universities, research organizations, and industry.

BIOBASED/RENEWABLE PRODUCTS

BRAG Biobased Products News And Policy Report: B&C’s consulting affiliate, B&C Consortia Management, L.L.C. (BCCM), manages the Biobased and Renewable Products Advocacy Group (BRAG®). For access to a weekly summary of key legislative, regulatory, and business developments in biobased chemicals, biofuels, and industrial biotechnology, go to <http://www.braginfo.org>.

DOT/HAZMAT DEVELOPMENTS

DOT Issues Final Rule Harmonizing HMRs With International Standards: On January 8, 2015, DOT’s PHMSA issued a final rule harmonizing the U.S. Hazardous Materials Regulations

(HMR) with international standards. 80 Fed. Reg. 1075. PHMSA is amending the HMRs to incorporate changes adopted in the International Maritime Dangerous Goods (IMDG) code, the International Civil Aviation Organization's (ICAO) Technical Instructions for the Safe Transport of Dangerous Goods by Air, and the United Nations Recommendations on the Transport of Dangerous Goods. And PHMSA is also making regulatory changes in response to three petitions for rulemaking that it received. The regulatory changes address transportation of lithium ion batteries, exceptions for marine pollutants, transportation of adsorbed gases, non-bulk packaging, and vessel stowage and segregation changes. The rule is effective **January 1, 2016**, although PHMSA is authorizing voluntary compliance as of January 1, 2015.

LEGISLATIVE DEVELOPMENTS

114th Congress Convenes: At noon on January 6, 2015, the 114th United States Congress gaveled itself into session. For the first time since 2006, both the Senate and House will be under full Republican control, with Senator Mitch McConnell (KY) reaching the pinnacle of Senate majority leader and Representative John Boehner (OH) elected to a third term as Speaker of the House. With an eight seat majority in the Senate and a broadened majority in the House, Republicans are under pressure to deliver on their promises and move a raft of legislation to President Obama's desk in the first few months of the year. McConnell stated that legislation authorizing construction of the Keystone XL pipeline will be the first bill to reach the Senate floor under his leadership. In the House, the Regulatory Accountability Act sponsored by Representative Bob Goodlatte (R-VA) is expected to be brought to a House vote. The bill would require agencies to conduct cost-benefit analyses of proposed regulations. In one of its first orders of business, the House on January 6, 2015, passed a rules package for the 114th Congress crafted by GOP leadership after weeks of negotiations. One controversial provision expected to be included in the rules package would require the Congressional Budget Office (CBO) to apply "dynamic" scoring to major bills and include macroeconomic effects of legislation in their analysis if a significant economic impact is expected. It was a busy first day for the introduction of bills; 28 bills were introduced in the Senate and 161 in the House.

Membership For Senate Environment And Public Works Committee Set For 114th Congress: With Republicans in control of the Senate, the GOP takes over the gavel for the Environment and Public Works (EPW) Committee. Republicans serving on the Committee are:

- James Inhofe (OK) -- Chair;
- David Vitter (LA);
- John Barrasso (WY);
- Shelley Moore Capito (WV);
- Mike Crapo (ID);
- John Boozman (AR);

- Jeff Sessions (AL);
- Roger Wicker (MS);
- Deb Fischer (NE);
- Mike Rounds (SD); and
- Dan Sullivan (AK).

The Democrats who will serve on the Committee are:

- Barbara Boxer (CA) -- Ranking Member;
- Thomas Carper (DE);
- Ben Cardin (MD);
- Bernard Sanders (VT);
- Sheldon Whitehouse (RI);
- Jeff Merkley (OR);
- Kirsten Gillibrand (NY);
- Cory Booker (NJ); and
- Edward Markey (MA).

Regulatory Accountability Act Introduced In House: House Judiciary Committee Chair Bob Goodlatte (R-VA) and Representative Collin Peterson (D-MN) on January 6, 2015, introduced H.R. 185, the Regulatory Accountability Act (RAA). This legislation would require federal agencies to adopt the least costly method to implement federal law. Last Congress, the House of Representatives passed the RAA as part of a jobs and economic growth package. Goodlatte stated that the bill “addresses the problem of escalating, excessive federal regulatory costs in a clear, commonsense way.” The legislation directs the Executive Branch to fulfill its statutory goals set by Congress and requires that they reach those goals in the least costly way with public input to find the most efficient regulatory solutions.

Senator Boxer Will Not Seek Reelection: Senator Barbara Boxer (D-CA), Ranking Member on the EPW Committee, on January 8, 2015, announced that she will not seek reelection in 2016. The announcement came in a [YouTube video](#) where Boxer stated that Congressional gridlock was not a factor in her decision to retire from the Senate. She stated environmental policies and other liberal causes are a “fight worth making, so that is not a factor in my decision,” and vowed to continue working to promote progressive candidates. She served as EPW Chair from 2007 to 2014 and during her tenure, the Obama Administration released some of the most sweeping environmental regulatory programs in EPA’s history. Boxer posted a list of her [legislative accomplishments](#) on her website.

House Passes Keystone Pipeline Approval Bill Despite White House Veto Threat: In what is likely the first of many salvos between the GOP-controlled Congress and the White House, the House of Representatives on January 9, 2015, passed legislation that would approve the construction of the Keystone XL pipeline. In a [Statement of Administration Policy](#), the White House stated it strongly opposes the bill (H.R. 3) and that the President would veto it if it passes both houses. The White House stated that “H.R. 3 seeks to circumvent longstanding and proven processes for determining whether cross-border pipelines serve the national interest by authorizing the Keystone XL pipeline project prior to the completion of the Presidential Permitting process. In doing so, it would cut short consideration of important issues relevant to the national interest. The bill also would authorize the project despite uncertainty due to ongoing litigation in Nebraska.” The House’s 266-153 vote fell short of the two-thirds that would be required to override a veto. All but one Republican voted for the measure, joined by 28 Democrats. The bill now moves to the Senate, where it is likely the new Republican majority will pass the bill and send it to the Oval Office. The Senate’s Keystone XL pipeline bill passed a key procedural hurdle on January 12, 2015, when Senators voted 63-32 to formally start floor debate on the measure. The cloture vote starts the amendment process, which Senate Majority Leader Mitch McConnell (R-KY) promised would be completely open. The Senate debate could drag on for weeks. Democrats are likely to bring up amendments on climate change, clean energy jobs, and banning the export of oil from the pipeline; Republicans will probably propose energy efficiency provisions or even perhaps seek to attach the bill to key legislation that would make it difficult for President Obama to veto.

House Passes Regulatory Accountability Act; White House Threatens Veto: The House of Representatives on January 13, 2015, passed the Regulatory Accountability Act of 2015 (H.R. 185) in the face of a Presidential veto threat. Passed by a 250-175 vote, the bill would amend the Administrative Procedure Act to revise and expand the requirements for federal agency rulemaking by requiring agencies, in making a rule, to base all preliminary and final factual determinations on evidence and to consider the legal authority under which the rule may be proposed, the specific nature and significance of the problem the agency may address with the rule, any reasonable alternatives for the rule, and the potential costs and benefits associated with such alternatives. The bill requires agencies to publish an advance notice of proposed rulemaking (ANPR) in the *Federal Register* for major rules and for high-impact rules. The bill defines major rules as those having an annual cost on the economy of \$100 million and high-impact rules as those having an annual cost on the economy of \$1 billion or more. It would also require ANPRs be published for rules having a negative impact on jobs and wages and those that involve a novel legal or policy issue arising out of statutory mandates. The ANPR must include a written statement identifying the nature and significance of the problem the agency may address with a rule, the legal authority under which the rule may be proposed, the nature of and potential reasons to adopt a novel legal or policy position, and a solicitation for written data, views, or arguments from interested persons. Additionally, the bill: (1) sets forth criteria for issuing major guidance (agency guidance that is likely to lead to an annual cost on the economy of \$100 million or more, a major increase in cost or prices, or significant adverse effects on competition,

employment, investment, productivity, innovation, or ability to compete) or guidance that involves a novel legal or policy issue arising out of statutory mandates; and (2) expands the scope of judicial review of agency rulemaking by allowing immediate review of rulemaking not in compliance with notice requirements and establishing a substantial evidence standard for affirming agency rulemaking decisions. The day before the House vote, the White House issued a veto threat in the form of a [Statement of Administration Policy](#). The White House stated that the bill would impose unprecedented and unnecessary procedural requirements on federal agencies and create needless regulatory and legal uncertainty. The statement cautioned that President Obama would veto the bill if presented with it.

Water In The 21st Century Act Introduced: On January 13, 2015, Representatives Grace Napolitano (D-CA), John Garamendi (D-CA), Lois Capps (D-CA), and Jared Huffman (D-CA) joined 22 of their Democratic colleagues to reintroduce H.R. 291, W21: Water in the 21st Century; the bill is intended to help communities nationwide better prepare for the future by providing new incentives and investments to help local water agencies, residents, and businesses to conserve, recycle, and manage limited water supplies. Senator Barbara Boxer (D-CA) on the same day introduced companion legislation (S. 176) in the Senate. The legislation would expand rebates and grants for water conservation and efficiency; support local investments in water recycling and improved groundwater management and storage; invest in research into water-saving technologies and desalination; and establish an open water data system. The measure would also help local communities take steps to become better prepared for drought.

Environmental Protection Agency Accountability Act Introduced In Senate: Senator Dean Heller (R-NV) on January 7, 2015, introduced legislation seeking to penalize EPA for failing to meet certain requirements related to notification on regulatory impacts. The Environmental Protection Agency Accountability Act (S. 110) would remove \$20,000 per week from funding for the EPA Administrator's office for every week EPA fails to comply with federal laws and Executive Orders that impose notification requirements for rules that could bring significant costs on small businesses, or require reviews of whether some existing regulations are still necessary. Penalties are limited to seven percent of the EPA Administrator's annual budget. Representative Sean Duffy (R-WI) introduced a companion bill (H.R. 352) on January 14, 2015.

Regulatory Fairness Act Senate Bill Would Clarify EPA's Scope of Authority Under The Clean Water Act: Senator David Vitter (R-LA) on January 7, 2015, introduced a bill that would significantly limit EPA's scope of authority under the Clean Water Act (CWA). The Regulatory Fairness Act (S. 54) would amend CWA Section 404(c) to limit EPA's ability to block the use of permits to the window between when the Army Corps of Engineers (the Corps), which has the responsibility to issue CWA Section 404 permits, first issues a draft permit and before it is issued in final. The bill would revise the current CWA language allowing EPA to exercise its 404(c) authority whenever it finds harm, an authority that has been upheld by the courts. S. 54 would also add a new requirement for EPA to make any proposed action under 404(c) available for public comment before issuing a decision. Currently, EPA must only provide an opportunity for

public hearing on its permit revocations. The bill would also invalidate any previous CWA Section 404(c) decisions EPA made where the determination was made in the absence of the Corps having issued a notice of draft permit, and any decisions made after a final permit had been issued. Vitter's bill is aimed at blocking EPA from vetoing Section 404(c) permits, as it has for the Pebble Mine in Alaska and the Mingo Mine in West Virginia.

Senate Bill Would Block Climate Change Regulations: Senator David Vitter (R-LA), a staunch opponent to global warming regulations, on January 7, 2015, introduced legislation that would block EPA's GHG reduction rules from taking effect. The bill, S. 66, would "prohibit any regulation regarding carbon dioxide or other greenhouse gas emissions reduction in the United States until China, India, and Russia implement similar reductions."

Senate Bill Would Block EPA Regulations That Exceed Specified Economic Costs: Senator Dean Heller (R-NV) and Representative William Cassidy (R-LA) on January 14, 2015, introduced legislation in the Senate and House intended to block EPA rules that exceed certain economic costs. The Energy Consumers Relief Act would ban EPA from promulgating any final rule that is energy-related and that would result in more than \$1 billion impact on the economy. The bill is identical to one introduced in the 113th Congress; that bill garnered strong support from the GOP. It is almost certain that the White House would issue a veto threat of the legislation, as it did in the last Congress.

Frank Lautenberg Memorial Secure Chemical Facilities Act Introduced In House: Representative Sheila Jackson Lee (D-TX) on January 6, 2015, introduced a bill seeking to shore up vulnerabilities in the chemical facility sector. The Frank Lautenberg Memorial Secure Chemical Facilities Act (H.R. 54) seeks to address the security and defense of chemical facilities through the mediation of security vulnerabilities. The bill was referred to the Energy and Commerce Committee.

MISCELLANEOUS

ATSDR Announces Availability Of Draft Toxicological Profiles: On December 15, 2014, the Department of Health and Human Services Agency for Toxic Substances and Disease Registry (ATSDR) announced the availability of Set 26 Toxicological Profiles for review and comment. 79 Fed. Reg. 74093. The chemicals on which profiles have been proposed are:

Name	CAS
Trichloroethylene(UPDATE)	79-01-6
Tetrachloroethylene (UPDATE)	127-18-04
Hydrogen Sulfide/Carbonyl Sulfide (UPDATE)	7783-06-4/463-58-1
Parathion (NEW)	56-38-2

Comments can include additional information or reports on studies about the health effects of Set 26 substances. Although ATSDR considered key studies for each of these substances during the profile development process, this *Federal Register* notice solicits any relevant, additional studies, particularly unpublished data. ATSDR will evaluate the quality and relevance of such data or studies for possible inclusion into the profile. ATSDR remains committed to providing a public comment period for this document as a means to best serve public health and its clients. The Set 26 Toxicological Profiles are available online at <http://www.atsdr.cdc.gov/toxprofiles/index.asp> and <http://www.regulations.gov/#!home>, docket number ATSDR-2014-0001. Comments are due by **March 16, 2015.**

UN Issues Report On Supply Chain Responsibilities: On December 16, 2014, the United Nations Environment Program (UNEP) and Clean Production Action, a nonprofit organization, issued a report urging international corporations to take a more active role in managing the chemicals that are used in the manufacture of their products to avert unexpected hazards. The report cites examples of companies whose “passive chemical monitoring programs led to fines, recalls or other regulatory burdens that cost them hundreds of millions of dollars.” For example, between 2011 and 2014, Costco Wholesale Corp., CVS Health Corp., Target Corp., Walgreens Co., and Wal-Mart Stores Inc. paid a collective sum of \$138 million in fines stemming from hazardous chemicals in their products, according to the report. The report, *The Business Case for Knowing Chemicals in Products and Supply Chains*, is available at <http://bit.ly/1wTLNYC>.

CEQ Issues Final Guidance On Preparing NEPA Reviews: On December 18, 2014, the White House Council on Environmental Quality (CEQ) issued final guidance on preparing programmatic reviews under the National Environmental Policy Act (NEPA). The guidance was developed to assist federal departments and agencies, and entities using federal funding, in developing programmatic NEPA reviews for large-scope actions and programs. The guidance is intended to encourage a more consistent approach to programmatic NEPA reviews so that the analyses and documentation will allow for the efficient completion of any necessary tiered reviews.

The final guidance is available at http://www.whitehouse.gov/sites/default/files/docs/effective_use_of_programmatic_nepa_reviews_18dec2014.pdf.

CPSC Proposes To Ban Phthalates In Toys: On December 30, 2014, the U.S. Consumer Product Safety Commission (CPSC) proposed to ban certain phthalates in toys and child care products. 79 Fed. Reg. 78324. The Consumer Product Safety Improvement Act of 2008 (CPSIA) directed the Chronic Hazard Advisory Panel (CHAP) to issue a report advising whether phthalates, or combinations of phthalates, should be banned due to health risks to children. The CPSC is required to issue a rule based on the CHAP report. The CHAP report concluded that phthalates in children’s toys do not pose as much of a risk to children as do phthalates in food and drink products. The CPSC decision to proceed with the proposed is, therefore, not without controversy. The proposed rule recommends permanent bans of diisobutyl phthalate (DINP), diisobutyl phthalate (DIBP), di-n-pentyl phthalate (DENP), di-n-hexyl phthalate (DHEXP), and

dicyclohexyl phthalate (DCHP) in toys and child care products. It also recommends lifting the current bans for diisodecyl phthalate (DIDP) and di-n-octyl phthalate (DNOP). Comments are due by **March 16, 2015**. The briefing document for the phthalates proposed rule is available at <http://op.bna.com/pslr.nsf/r?Open=rken-9rdn7v>.

Chemical Safety Board Issues Safety Bulletin On Risks Of Anhydrous Ammonia In Refrigeration Operations: On January 15, 2014, the U.S. Chemical Safety Board (CSB) released a [Safety Bulletin](#) intended to inform industries that utilize anhydrous ammonia in bulk refrigeration operations on how to avoid a hazard referred to as hydraulic shock. CSB derived the safety lessons from its investigation into a 2010 anhydrous ammonia release that occurred at Millard Refrigerated Services Inc., in Theodore, Alabama. Two international ships were being loaded when the facility's refrigeration system experienced "hydraulic shock," which CSB defines as a sudden, localized pressure surge in piping or equipment resulting from a rapid change in the velocity of a flowing liquid. The highest pressures often occur when vapor and liquid ammonia are present in a single line and are disturbed by a sudden change in volume. This abnormal transient condition results in a sharp pressure rise with the potential to cause catastrophic failure of piping, valves, and other components. The incident at Millard caused a roof-mounted 12-inch suction pipe to fail, resulting in the release of more than 32,000 pounds of anhydrous ammonia. The release injured an employee and a cloud of ammonia traveled a quarter mile from the facility south toward an area where 800 contractors were working outdoors at a clean-up site for the Deepwater Horizon oil spill. A total of 152 offsite workers and ship crew members reported symptomatic illnesses from ammonia exposure. Thirty-two of the offsite workers required hospitalization, four of them in an intensive care unit. Entitled *Key Lessons for Preventing Hydraulic Shock in Industrial Refrigeration Systems*, the bulletin describes that on the day before the incident, the Millard facility experienced a loss of power that lasted over seven hours. During that time, the refrigeration system was shut down. The next day, the system regained power and was up and running, though operators reported some problems. While doing some troubleshooting, an operator cleared alarms in the control system, which reset the refrigeration cycle on a group of freezer evaporators that were in the process of defrosting. The control system reset caused the freezer evaporator to switch directly from a step in the defrost cycle into refrigeration mode while the evaporator coil still contained hot, high-pressure gas. The reset triggered a valve to open and low temperature liquid ammonia was fed back into all four evaporator coils before removing the hot ammonia gas. This resulted in both hot, high-pressure gas and extremely low temperature liquid ammonia to be present in the coils and associated piping at the same time. This caused the hot high-pressure ammonia gas to rapidly condense into a liquid. Because liquid ammonia takes up less volume than ammonia gas, a vacuum was created where the gas had been. The void sent a wave of liquid ammonia through the piping, causing the "hydraulic shock." The pressure surge ruptured the evaporator piping manifold inside one of the freezers and its associated 12-inch piping on the roof of the facility. An estimated 32,100 pounds of ammonia were released into the surrounding environment. CSB also found that the evaporators at the Millard facility were designed so that one set of valves controlled four separate evaporator coils. As a result, the contents of all four coils connected to

that valve group were involved in the hydraulic shock event, leading to a larger, more hazardous pressure surge. As a result, CSB notes that when designing ammonia refrigeration systems, each evaporator coil should be controlled by a separate set of valves. CSB also found that immediately after discovering the ammonia release, a decision was made to isolate the source of the leak while the refrigeration system was still operating instead of initiating an emergency shutdown. Shutting down the refrigeration system may have resulted in a smaller release, since all other ammonia-containing equipment associated with the failed rooftop piping continued to operate. The bulletin further states that an emergency shutdown should be activated in the event of an ammonia release if a leak cannot be promptly isolated and controlled, as doing so can greatly reduce the amount of ammonia released during an accident.

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