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INTERAGENCY COMMITTEE ON CHEMICAL MANAGEMENT

EXECUTIVE ORDER NO. 13-17

REPORT TO THE GOVERNOR

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Executive Summary

On July 1, 2018 the Interagency Committee on Chemical Management (ICCM) delivered its initial report to the Governor as directed by Executive Order No. 13-17 (EO). The report recommended how to: 1) create a centralized electronic reporting system; 2) create a review framework for evaluating necessary changes to State chemical reporting and recordkeeping and coordinating chemical management actions across state agencies; and 3) strengthen the Toxics Use Reduction Act (TURA). The EO further directed the ICCM to submit a report and recommendations on December 15, 2018 and biennially thereafter. Tasks for this report, identified in EO Sections III.B.(1) through (4) include providing a summary of chemical use and risks to human health and the environment from reported chemical inventories, a summary of any change under federal statute or rule affecting the regulation of chemicals in the State, and recommended legislative or regulatory action to reduce risks to human health and the environment from regulated and unregulated chemicals of emerging concern.

The ICCM met monthly to address these tasks and also established several subgroups to further this work. The ICCM then developed a draft report, which the CAP and other interested parties commented on. After review and consideration of comments, the ICCM finalized its findings and recommendations, which are included and explained fully in this report. These are:

- A process by which the ICCM would, on an ongoing basis, evaluate chemicals or classes of chemicals to determine whether to subject them to additional or new recordkeeping and reporting requirements. Under the proposed process, an Agency or Department, CAP member, or interested party could propose that the ICCM evaluate chemicals or classes of chemicals. The ICCM would then engage a technical team and citizen advisory panel to provide input and assistance in its review, culminating in the ICCM providing appropriate recommendations to the affected regulatory entities. Those entities would then work to incorporate recommended actions into the relevant State reporting statute or rule, as appropriate.
- A summary of chemical use in the State, found in Appendix C, based on reported chemical inventories, collected via the State's Tier II database.
- A summary of identified risks to human health and the environment, found in Appendix C, from reported chemical inventories, collected via the State's Tier II database.
- A summary of the federal chemical regulatory landscape, and a description of how these federal laws and regulations can have an impact on a State's authority to regulate chemicals.
- A recommendation that the ICCM, on an ongoing basis, serve as the entity to monitor federal actions that may have a limiting effect on Vermont's authority to regulate chemicals, coordinate with appropriate Vermont agencies in anticipation of such federal actions, and make recommendations to the legislature and/or appropriate regulatory entities to adopt legislation and/or regulatory requirements that may be appropriate in light of the federal change.
- A recommendation that legislative action be considered to prohibit the sale of consumer products that contain flame retardants banned by other states. This would reduce exposure to Vermonters to potentially toxic flame retardants. The ICCM will also continue work to evaluate potential opportunities to protect public health and the environment as information becomes available through the work of individual departments and agencies, and implementation of the processes recommended in this, and its previous report.

I. Introduction

In June 2016, at the direction of the Vermont General Assembly through Act No. 154 of 2016, the Agency of Natural Resources (ANR) convened a working group to develop recommendations related to regulation of chemicals of emerging concern, increasing the State's ability to prevent citizen exposure to harmful chemicals, and increasing public access to chemical information. The Act 154 Working Group's Report, submitted to the General Assembly in January 2017, recommended, among other things, establishment of an interagency committee to improve coordination among involved State regulatory agencies related to chemical management in the State, creation of a central electronic reporting system to assist businesses with compliance and provide access to chemical information, the amendment of existing requirements to ensure state agencies have complete chemical inventory information, and strengthening of the Toxic Use Reduction and Hazardous Waste Reduction Act (TURA).¹

On August 7, 2017, Governor Scott issued Executive Order No. 13-17 (EO), which directed the creation of an Interagency Committee on Chemical Management (ICCM). The ICCM consisted of a representative from the Agency of Natural Resources; Agency of Agriculture, Food, and Markets; Department of Health; Department of Labor; Agency of Commerce and Community Development; and Agency of Digital Services. The ICCM's tasks were to make initial recommendations to the Governor, after consultation with a citizen advisory panel, as to how the State should establish a centralized or unified electronic reporting system, amend existing recordkeeping and reporting requirements to ensure sufficient chemical inventory reporting, and strengthen TURA. The ICCM also convened a Citizen Advisory Panel (CAP) as directed by the EO to provide input and expertise to the ICCM on the stated tasks. The CAP consisted of a broad range of private, public, and academic organizations and individuals. The EO directed the ICCM to submit its initial recommendations on or before July 1, 2018, with additional reporting on December 15, 2018 and biennially thereafter.

Following submission of the July 1, 2018 report,² the ICCM continued to meet monthly to address the additional tasks in the EO for the December 15, 2018 Report. Its tasks for this report, identified in EO Sections III.B.(1) through (4), included providing a summary of chemical use and risks to human health and the environment from reported chemical inventories, a summary of any change under federal statute or rule affecting the regulation of chemicals in the State, and recommended legislative or regulatory action to reduce risks to human health and the environment from regulated and unregulated chemicals of emerging concern. The EO also required a continued review of the ICCM's recommendations for EO Section III.A.(3) (submitted in the July 1, 2018 report). The ICCM established several subgroups of ICCM members and additional technical staff which met routinely to work on various tasks and activities to further the ICCM's work for the December report. The ICCM developed a draft report, which the CAP and other interested parties reviewed and commented on. After review and consideration of those comments, the ICCM finalized its findings and recommendations,

¹ The complete Act 154 Chemical Use Working Group Report on Toxic Chemical Use in the State of Vermont (2016 Act 154, Section 10), dated January 13, 2017, can be found at ANR's website at the following link: https://anr.vermont.gov/about_us/special-topics/act-154-working-group

² The complete Interagency Committee on Chemical Management Report to the Governor (Executive Order No. 13-17), dated July 1, 2018, can be found at ANR's website at the following link: <https://anr.vermont.gov/about/special-topics/chemical-management-committee>

which are discussed in this report. This report also serves to build upon the work and recommendations found in the July 1, 2018 Report.

Throughout this process, the ICCM agreed to make decisions on its recommendations by seeking consensus, or general agreement, and where it could not, a majority vote would be utilized with opposing positions memorialized. Section II of this report specifically builds upon the ICCM's July 1, 2018 recommendation to create a review framework for evaluating necessary changes to State chemical reporting and recordkeeping and coordinating chemical management actions across state agencies. Section III of the report contains a summary of chemical use in the State, found in Appendix C, based on reported chemical inventories. Section IV of the report contains a summary of identified risks to human health and the environment, found in Appendix C, from reported chemical inventories. Section V of the report contains an overview of federal laws and regulations that regulate chemicals and chemical uses, require remediation, and/or focus on research and monitoring of chemicals and exposure. It also describes the effect of federal laws and regulations on State authority to regulate chemicals, focusing on preemption. This Section recommends that the ICCM play an ongoing role in the State to monitor federal actions that may have a limiting effect on Vermont's authority to regulate chemicals, coordinate with appropriate Vermont agencies in anticipation of such federal actions, and make recommendations to the legislature and/or appropriate regulatory entities based on any anticipated limitations to Vermont's authorities.

To address specific impacts on Vermont's ability to regulate chemicals posed by federal actions, future biennial reports will focus on specific changes in federal laws and rules that have been proposed or that became effective since submission of the prior biennial report, and will include any recommendations for legislative, regulatory, or other actions that may be appropriate in light of the federal change. Section VI of the report contains a recommendation that legislative action be considered to prohibit the sale of consumer products that contain flame retardants banned by other states. This would reduce exposure to Vermonters to potentially toxic flame retardant chemicals. The ICCM will also continue to evaluate potential opportunities to protect public health and the environment as information becomes available through the work of individual departments and agencies, and implementation of the processes recommended in its previous report.

The Appendices that follow contain background documents and supporting information as follows:

- [Appendix A](#) contains a copy of Executive Order No. 13-17.
- [Appendix B](#) contains a list of ICCM Members, CAP Members, and other staff and individuals who attended meetings, participated in discussions, and submitted comments.
- [Appendix C](#) contains a pdf version of the ICCM's Chemical Inventory Spreadsheet. The ICCM compiled this to help inform the summary of chemical use in the State based on reported chemical inventories collected via Tier II reporting, and to begin an evaluation of risks to human health and the environment from reported chemical inventories. Due to its size, the spreadsheet is not viewable in hard copy, but can be viewed fully in its electronic version by enlarging or zooming in on the text. In addition, a link to the document, which has been placed on the ICCM's website, is included in the Appendix.

The on-line document also contains separate tabs containing a further break down by Agency and program.

- [Appendix D](#) contains the comments from the CAP and other interested parties on the draft Report.

The ICCM also maintained a website throughout this process. Relevant information about the ICCM and its work on EO 13-17 can be found at: <http://anr.vermont.gov/about/special-topics/chemical-management-committee>

II. Recommended Statutory Amendments or Regulatory Changes to Existing Recordkeeping and Reporting Requirements that are Required to Facilitate Assessment of Risks to Human Health and the Environment Posed by Chemical Use in the State

EO 13-17, Section III.A(3) directs the ICCM to recommend any statutory amendments or regulatory changes to existing recordkeeping and reporting requirements for chemicals, hazardous materials, and hazardous wastes that are required to facilitate assessment of risks to human health and the environment posed by chemical use in the state.

In its July 1, 2018 report, the ICCM provided a recommendation to establish a general framework for State review, coordination, and analysis of risks to human health and the environment posed by a chemical, class of chemicals, or grouping of chemicals. Under the general framework, an Agency or Department, CAP member, or interested party would propose that the ICCM review the current applicable recordkeeping and reporting requirements pertaining to a chemical, class or grouping of chemicals. The ICCM would then engage a technical team and citizen advisory panel to provide input and assistance in its review, culminating in the ICCM providing recommendations to the affected regulatory entities. Following submission of the July 1, 2018 Report, the ICCM continued to examine and develop this recommendation further. The following is a more specific process by which the ICCM proposes to evaluate chemicals or classes of chemicals that may then be subject to additional or new recordkeeping and reporting requirements:

1. Nomination for review:

An Agency or Department, CAP member, or interested party can propose a chemical, class of chemicals or grouping of chemicals for review. A nomination would be accompanied by a rationale for nomination and references to relevant information. The rationale for nomination should include, to the extent available:

- Use and risk of adverse exposure in the State;
- Information about the potential hazards of a chemical or class of chemicals;

- Information related to releases to environmental media (e.g., air, water, soil), the extent to which the chemical is regulated by the State, the federal government, and/or other jurisdictions where the purpose of such regulation is to address the risks posed to human health or the environment; or
- Documentation of inclusion in an authoritative list by EPA, another U.S. state, or other established governmental body (e.g., EU- Reach substances of very high concern); and
- Any other information that the ICCM deems necessary to evaluate a chemical's use in the State and/or potential risk to human health and the environment.

A petition form will be developed for documentation of the rationale and other information that the ICCM needs to make an initial decision on the nomination.

2. Review Decision:

Based on the information submitted with the nomination, the ICCM will decide whether to initiate review of the nominated chemical, class of chemicals or grouping of chemicals. The ICCM may require the submission of additional information prior to making a determination. Based on resources and the number of nominations received, the ICCM may prioritize reviews. The ICCM may set a target number of reviews to perform annually or a cap on the number of reviews that can feasibly be done by the ICCM and supporting staff.

3. Technical Team Review:

Once the ICCM decides to review a chemical, class of chemicals or grouping of chemicals, it will task a Technical Team consisting of members from the ICCM agencies with review and preparation of a report detailing their findings. The Technical Team will include members from ICCM agencies who have relevant knowledge and experience. The Technical Team may bring in additional expertise as needed. The Technical Team will include the following topics in their assessment and report, and any other chemical-specific considerations that are relevant and to the extent available:

- a. The current scientific understanding (and quality of science) on the chemical, class of chemicals or group of chemicals':
 - i. Toxicity;
 - ii. Potential routes of exposure;
 - iii. Potential impact to public health, occupational health and the environment;
 - iv. Public safety and emergency response impact;
 - v. Existing federal or state regulations, standards, advisory assessments or guidance; and
 - vi. Other assessments (e.g. EPA's Drinking Water Unregulated Contaminant Monitoring Rule findings, or National Aquatic Resource Survey results).

- b. Use of the chemical, class of chemicals or group of chemicals globally, nationally, and in Vermont:
 - i. What quantities are typically used, stored, etc.;
 - ii. An estimate of who is using the substance, how it is used and how much is being used and produced as waste; and
 - iii. Commercial vs. Consumer usage.
- c. Recommendations, including:
 - i. Whether recordkeeping or reporting would be an effective way to monitor this chemical, looking at:
 - o Thresholds; and
 - o Impact of the compound.
 - ii. What reporting rule/statutory requirement is the right vehicle to track use of this chemical, which would include:
 - o Identification of the specific agency/department/program(s) that would implement the requirement; and
 - o Identification of the necessary changes to implement the statutory change, rule change, etc.
 - iii. For chemicals that are currently subject to recordkeeping/reporting requirements, whether those requirements are adequate. If not, suggested amended thresholds or requirements may be included.
- d. Impacts of a reporting/ recordkeeping requirement:
 - i. What facilities or entities might be impacted; and
 - ii. The potential for use and exposure reduction of this substance.

4. ICCM review of Technical Team Report:

Upon completion of their assessment and report, the Technical Team will submit their report to the ICCM for its review. The Technical Team (or representatives) will attend an ICCM meeting to answer questions about the report and their analysis. The ICCM will decide if the analysis is complete or if further information is required. The ICCM may obtain additional expertise or require the submission of additional information prior to making findings on a report. The ICCM may propose additional recommendations, including a recommendation for the collection of additional information or for further technical review. The ICCM shall issue its findings and a proposal for any additional recommendations in writing. The ICCM's findings shall be submitted to the technical team and the citizens advisory panel and shall be made public.

5. CAP Reviews Technical Team Report:

The citizens advisory panel may review the findings of the ICCM related to any technical report and may provide written comments to the ICCM. The panel shall coordinate the review and submission of comments with the ICCM prior to any final ICCM action on the report.

6. ICCM Determination on Technical Report Recommendations:

The ICCM shall approve or deny, in whole or in part, any recommendations in a technical report and shall issue a written decision including findings supporting the actions taken. The ICCM shall consider any comments submitted by the citizens advisory panel and the public and may address such comments in writing or in the ICCM's written decision. A copy of the ICCM's decision shall be sent to the nominating entity, relevant executive agencies, and any other applicable entities, and shall be made public.

7. Implementation of final recommendation:

Individual Agencies/Departments will propose incorporation of recommended actions into the relevant State reporting requirements following their respective processes for statutory and rulemaking changes.

8. ICCM tracks progress of implementation:

The ICCM representative for the implementing Agency (or their designate) will report annually to the ICCM on progress, and progress will be included in the biennial report.

The ICCM believes the proposed process will provide a rational, deliberative and transparent framework for evaluating chemicals, classes of chemicals and groups of chemicals for potential changes to recordkeeping and reporting requirements and allow ICCM members to make fact-based decisions about recommended changes and implement approved actions expeditiously.

III. Summary of Chemical Use in the State Based on Reported Chemical Inventories

EO 13-17, Section III.B(1) directs the ICCM to include a summary of chemical use in the State based on reported chemical inventories. The ICCM utilized the Tier II reporting database for purposes of this task, and though it does not include a list of all chemicals used or managed in the State, it represents the most comprehensive database containing information on chemical use required to be reported in Vermont. The ICCM notes that its July 1, 2018 Report contains an overview of the current state of chemical reporting and recordkeeping across State Agencies. It also contains recommendations for creating a central, unified location for electronically reporting, analyzing, and accessing information related to chemical management and use in the

State, which the ICCM believes will help to address the shortcomings found with Tier II, and other reporting and recordkeeping systems and processes as discussed in the July 1 Report.

Tier II reports are required by the Environmental Protection Agency (EPA) under the Emergency Planning and Community Right-to-Know Act (EPCRA), which Vermont adopted in 20 V.S.A. § 31. The Tier II reports capture information about the types, quantities, and locations of hazardous chemicals stored at facilities in the State. The reporting thresholds include substances which are highly explosive regardless of any amount, and petroleum (fuel) products in quantities of 10,000 lbs. or more. Vermont's Tier II reporting also require reporting of all other chemicals in quantities of 100 lbs. or more, which is not required by (and is therefore more stringent than) EPA requirements.

During the last reporting period, 2,632 facilities in Vermont reported under Tier II. Reporting is required annually, and is due by March 1st of each year. Reports are backward-looking in that they include chemical information for the previous year. The information collected is shared with each of the State's Local Emergency Planning Committees, so they can assist their local response agencies with emergency planning.

A subgroup of the ICCM met to review the Tier II data, and as further described below in Section IV, developed a spreadsheet found in Appendix C, which contains an inventory of chemical use in the state as reported under Tier II.

IV. Summary of Identified Risks to Human Health and the Environment from Reported Chemical Inventories

EO 13-17, Section III.B(2) directs the ICCM to include a summary of identified risks to human health and the environment from reported chemical inventories. To respond to this task, a subgroup of the ICCM met to review the risks associated with chemicals reported to the Tier II database. The subgroup included the Agency of Agriculture, Food, and Markets (AAFM) Department of Public Safety (DPS), Department of Labor (DOL), Department of Environmental Conservation (DEC), and the Department of Health (VDH). The subgroup identified approximately 10,756 entries submitted in the last Tier II reporting cycle. Those entries were exported to an excel spreadsheet from the Tier II database, found in Appendix C. The subgroup then filtered entries with incomplete, confusing, or inconsistent information, which was a considerable portion of entries. All entries without Chemical Abstract Numbers (CAS numbers), which totaled 2,952 entries were removed, and duplicate CAS numbers were also removed from the entries. This left 719 unique CAS numbers in the Tier II inventory. Each representative of the subgroup reviewed the 719 CAS numbers to determine if they presented a risk to human health and the environment. Chemicals were ranked with Yes, No, or Unsure. Each agency represented by the subgroup has differing jurisdiction over chemicals used or managed in the State, and therefore, employed differing perspectives and methods in reviewing the entries for potential risk. The methods used by each representative to conduct this review are outlined further below.

The spreadsheet, found in Appendix C, represents an approach that State Agencies can use to assess potential gaps and areas where further action is needed to protect health and the environment. While this approach was applied to the current inventory of chemical use in the state as reported under Tier II, this approach could also be extended to a wider universe of regulated or unregulated chemicals that are not reported under Tier II. In the coming year, the ICCM will continue meeting to review and refine the approach used to classify chemicals by each Agency, and will prioritize chemicals based on the approach. If warranted, chemicals may be submitted to the full ICCM for review for further action as described in Section II.

Review Methods:

Agency of Agriculture (AAFM): AAFM reviewed the pesticides. All chemicals that the Agency evaluated are marked. Pesticides that are currently in use are regulated by AAFM. Pesticides are evaluated for human health and environmental impacts in the product's registration processes. These pesticides were therefore marked as "N" for "No" (indicating no risk). AAFM has the ability to further restrict sales and use of products. Some pesticides that are no longer registered for use were identified in the Tier II inventory, and were marked as "Y" for "Yes." AAFM believes that these may have been a mis-reporting by an entity, as it is unlikely they have the reporting threshold of these, but this should be confirmed. AAFM did not review the other chemicals.

Department of Public Safety (DPS): The DPS evaluation of the chemicals and whether they constituted a high level of concern was based on two factors. The first consideration was whether the chemical represented an acute and high level of risk to first responders. The second consideration was whether the chemical would constitute a substantial risk over time if there was chronic or long-term exposure.

Department of Labor (DOL): DOL took the perspective of an industrial hygienist in evaluating entries. Where feasible, DOL used the Occupation Safety and Health Administration (OSHA), Computer Aided Management of Emergency Operation (CAMEO), and National Institute of Occupational Safety and Health (NIOSH) databases. DOL also searched international safety cards and other scientific community pages.

DOL considered the Health rating of National Fire Protection Association (NFPA) 4 as a trigger for "Y." Some NFPA 3s were also considered "Y" depending on acute toxicity, sensitizers, cancer potential, being unstable or highly reactive and the actual potential to get into the body to do harm. Included as "Y" are any chemicals that have a Vermont Occupational Safety and Health Administration (VOSHA) expanded Health Standard. The "N" designation was used to indicate not a concern. The "U" designation was used to indicate unsure. Further reasoning for each chemical is available in the detailed excel attachment.

Department of Environmental Conservation (DEC): Several programs within DEC reviewed the list and used the following scoring criteria: "N-R:" means we are not concerned with it, because it's already regulated and we understand it; "N:" this chemical is not a concern; "Y-R:" we are concerned with this chemical even though we regulate it; "Y:" we are concerned with this chemical and we don't regulate it; and "U:" which means, we're unsure. Within DEC, the following programs reviewed the list:

Watershed Management Division (WSMD): The WSMD group indicated “Y,” for most pesticides/ herbicides used outdoors – as there is generally risk/concern with pesticides entering waterways. However, the use and Hazard Based Risk for surface waters in Vermont is unknown. WSMD considered a chemical regulated if it is listed on the Priority Pollutant List (126) , VWQS and EPA National Water Quality Criteria.

Waste Management and Prevention Division (WMPD): WMPD utilized several lists such as the VOC EPA Method 8260 analytical compounds since it is the most commonly used laboratory sampling method; EPA and VT Soil Screening Levels list; EPA and VT Air Screening Levels list; and the Primary Groundwater Quality Standards list from the Groundwater Protection Rule and Strategy and the Residuals regulated metals list. For chemicals reported using trade names, or for chemical compounds not included on these lists WMPD searched European Chemicals Agency website (echa.europa.eu), Guide Chem (guidechem.com), NIH PubChem (pubchem.ncbi.nlm.nih.gov) and EPA ACToR (actor.epa.gov) for chemical information. If the compound was listed to potentially be carcinogenic and/or toxic to aquatic life, WMPD indicated “Y” or “U.” The unsure was used to indicate uncertainty of the application, or amounts used in Vermont.

DEC Pollution Prevention (P2): The P2 program compared the chemicals in the Tier II list against the 690+ chemicals regulated under VT TUR program using the CAS number. There were 145 CAS #s/Chemicals that were in both lists and they were marked as follows: “N-R” if the chemical was on the list of TUR reporting chemicals AND the P2 programs is satisfied that the current reporting threshold is sufficient, and “Y-R” to when a chemical was on the list of TUR reporting chemicals AND P2 believes that the reporting threshold should be lower (because the chemical is on one or more of these lists: Toxics Release Inventory (TRI) PBTs, TRI carcinogens, TSCA first 10, or MA TURA Higher Hazard chemicals).

Air Quality (AQ): AQ compared the CAS numbers from the Tier II list and those in the Appendix B and C lists from VT Air Pollution Control Regulations (VAPCR). Appendix B is the list of Hazardous Air Contaminants subject to reporting, and Appendix C is the list of Hazardous Air Contaminants that are regulated. AQ used “Y-R” for chemicals that were on the VAPCR Appendix C list; “Y” for chemicals that were on the Appendix B and that were also on the federal list of hazardous air pollutants; and “U” for those in Appendix B that were not listed on the federal list of hazardous air pollutants.

Department of Health (VDH): For many chemicals on the Tier II list, there is little exposure information available to VDH. To designate chemicals in the Tier II list as presenting as identified risk to human health, VDH compared the Tier II list to four lists of chemicals: The Chemicals of High Concern to Children, the chemicals on the Health Department’s Drinking Water Guidance Values and Soil Screening Values, and chemicals on a subset of lists on the EPA’s CompTox dashboard. Chemicals designated “Y” for “Yes” from the Health Department’s Drinking Water Guidance are blue, Soil Screening guidance are green, Chemicals of High Concern to Children are red, CompTox Dashboard are black, and chemicals considered on a case-by-case basis are purple. Chemicals not designated as “Y” for “Yes” after comparison

to the lists were considered on an individual basis. Chemicals were labelled “U” for “Unsure,” if some toxicity information was available (such as GSH or NIOSH classification). Chemicals that are blank were either considered familiar (such as calcium chloride), or no toxicity information was found. No chemicals were labelled “N” for “No,” as any chemical can be toxic depending on the dose. For example, an average adult could die after drinking 6L of water.

V. Summary of any change under Federal Statute or Rule affecting the Regulation of Chemicals in the State

EO 13-17, Section III.B(3) directs the ICCM to include a summary of any change under federal statute or rule affecting the regulation of chemicals in the State. The United States chemical regulatory landscape consists of a multitude of federal, state, and local laws, regulations, and standards. These requirements create a complex regulatory framework that apply to a variety of entities and activities, and address various aspects of the use, management, clean-up, safety, and reporting of chemicals and toxic substances. This section focuses on the relationship between state and federal chemical requirements and, more specifically, the impact that federal requirements can have on Vermont’s ability to create state-specific requirements for chemical use and management.

For purposes of this December 15, 2018 report submission, this section provides background on the federal regulatory chemical landscape (subsection V.A), and the ways in which federal requirements related to chemical use and management can impact or limit state regulation of chemicals (subsection V.B). This report also makes recommendations regarding the ongoing role of the ICCM to monitor federal actions that may have a limiting effect on Vermont’s authority to regulate chemicals and to coordinate with appropriate Vermont agencies in anticipation of such federal actions.

Future bi-ennial report submissions as required by the Executive Order (III.B) are intended to focus on specific changes in federal laws and rules that have been proposed or that became effective since submission of the prior biennial report that may affect the regulation of chemicals in Vermont. Biennial reports may also include a summary of the federal change, summarize the potential effect of the change on Vermont’s authority to regulate chemicals, and make recommendations for legislative, regulatory, or other actions that may be appropriate in light of such federal changes.

A. Federal Regulatory Landscape

In its work to develop recommendations to close the gaps in chemical regulations to increase the State’s ability to prevent citizens from being exposed to harmful chemical and toxic substances, the Act 154 Work Group (created by Act No. 154 of 2016) reviewed and summarized both federal and state regulatory programs that address chemicals and other toxic substances. In

terms of regulating chemicals, federal requirements fall into several categories. Examples of these laws and categories are listed below.³

- **Several federal laws regulate chemicals and chemical uses (whether and how chemical substances may be used):**

- [Federal Insecticide, Fungicide, and Rodenticide Act \(FIFRA\)](#) – provides for federal regulation of pesticide distribution, sale, and use.
- [Toxic Substances Control Act \(TSCA\)](#) – includes requirements for the production, import, use, and disposal of specific chemicals and chemical mixtures.
- [Food, Drug, and Cosmetic Act \(FFDCA\)](#) – sets maximum limits (residue limits) for pesticide use on foods, and rules for drug safety and effectiveness.
- [Food Quality Protection Act \(FQPA\)](#) – requires EPA to make certain findings and consider certain risks when setting pesticide tolerances.
- [Pollution Prevention Act \(PPA\)](#) – aimed at reducing the amount of pollution through changes to amounts of chemicals used and wastes generated in production, operations, and raw materials use.
- [Consumer Product Safety Improvement Act \(CPSIA\)](#) – creates chemical safety standards for manufacturers and retailers of consumer products.
- [Hazardous Communication Standard \(HCS\)](#) – requires information about chemical and toxic substance hazards in the workplace and associated protective measures are disseminated to workers.

- **Many federal laws and regulations focus on activities to remediate chemicals and pollutants that are released into the environment:**

- [Federal Water Pollution Control Act \(Clean Water Act\) \(CWA\)](#) – establishes the system for regulation of discharges of pollutants into the waters of the United States and regulates quality standards for surface waters.
- [Resource Conservation and Recovery Act \(RCRA\)](#) – regulates generation, transportation, storage, and disposal of hazardous waste.
- [Safe Drinking Water Act \(SDWA\)](#) – establishes minimum standards to protect drinking water through the implementation of primary health-related standards.
- [Clean Air Act \(CAA\)](#) – regulates air emissions from stationary and mobile sources.
- [Comprehensive Environmental Response, Compensation, and Liability Act \(CERCLA\)](#) – requires clean up of hazardous waste sites and releases of pollutants and contaminants into the environment.
- [Oil Pollution Act \(OPA\)](#) – requires specific operating procedures and removal, remediation, and restoration of damages from spilled oil from vessels and facilities.
- [Emergency Planning and Community Right-to-Know Act \(EPCRA\)](#) – imposes requirements for emergency planning and public “right to know” reporting on hazardous and toxic chemicals.

- **Other federal regulatory programs focus on research and monitoring of chemicals and exposures:**

³ For a more extensive list of federal, state, and international chemical requirements and programs, please refer to the Act 154 Chemical Use Working Group Report on Toxic Chemical Use in the State of Vermont, Appendix C, at the following link: https://anr.vermont.gov/about_us/special-topics/act-154-working-group

- [Agency for Toxic Substances and Disease Registry \(ATSDR\)](#) – investigates exposures to hazardous substances at sites nationwide and provides information concerning health impact information about specific chemicals and risk levels.
- [National Center for Environmental Health/Centers for Disease Control and Prevention](#) – conducts biomonitoring, reports on human exposures to chemicals, conducts studies, and provides technical assistance during emergency events/releases.
- [National Toxicology Program](#) – coordinates toxicological research efforts and collaborates with other agencies to increase data sharing.

B. Effect of Federal Laws and Regulations on State Authorities to Regulate Chemicals

Federal requirements applicable to chemical use and management in the United States are adopted pursuant to various federal authorities. In some cases, those federal authorities authorize or delegate states to administer certain federal requirements or regulatory programs.

Additionally, states may adopt laws and promulgate regulations under state-specific authority (right and powers “not delegated to the United States,” referred to as state “police powers”). A brief description of federal authorization/delegation and state police powers are addressed below.

Where the division between state and federal authorities is less clear, certain consequences may arise. For example, where federal and state laws intersect or overlap, regulated entities may employ duplicated efforts and resources to demonstrate compliance with both regulatory schemes. Another potential consequence of intersecting or overlapping federal and state laws is preemption, which is further explained below. Broadly speaking, preemption applies when a state law and federal law conflict, and the potential result is the displacement or limitation of the state law. The doctrine of preemption applies to requirements regardless of source of authority (i.e., whether the laws are created by state legislatures, courts, administrative agencies, etc.). The practical effect of preemption for purposes of this report is a limitation on the state’s ability to regulate certain activities because federal law imposes the same or similar requirements.

• Federal Authorization/Delegation (“Cooperative federalism”)

Federal agencies can authorize or delegate primary authority to states and territories to administer federal regulatory programs that govern chemical use and management. In some cases, states may expand on the federal program by adopting additional regulatory requirements that are more stringent or protective in scope, but states must administer a program that is “no less stringent” than the federal regulatory requirements. This process ensures national consistency in minimum standards while providing flexibility to states in implementing more protective rules.

E.g., Provisions of the Resource Conservation and Recovery Act (RCRA)⁴ and Clean Water Act (CWA)⁵ allow for authorization or delegation of a state the ability to administer provisions under these federal laws within the state’s boundaries.

⁴ RCRA § 3006; 40 C.F.R. Part 271.

⁵ Clean Water Act § 402(b); 40 C.F.R. Part 123.

- **Police Powers of the State**

Federal powers that are not specifically delegated to the federal government by the U.S. Constitution are reserved to the states. One such category of rights and powers reserved to the states includes the ability to establish and enforce laws to promote the public health, safety, and welfare of the public – these are typically referred to as state “police powers”. State environmental laws are typically linked to these purposes. Examples are listed below.

E.g., Waste Management; General Provisions – “...*Inefficient and improper methods of management of solid and hazardous waste result in scenic blights, hazards to the public health, cause pollution of air and water resources, increase the numbers of rodents and vectors of disease, have an adverse effect on land values, create public nuisances, and otherwise interfere with proper community life and development.*”⁶

E.g., Chemicals in Children’s Products – “*The purpose of this chapter is to complement the enforcement of federal statutes and decisions governing unfair methods of competition, unfair or deceptive acts or practices, and anti-competitive practices in order to protect the public and to encourage fair and honest competition.*”⁷

E.g., Toxics Use Reduction Act (TURA) – “*It is the intent of this subchapter to encourage reduction of toxic substances and to reduce the generation of hazardous waste whenever technically and economically practicable, without shifting risks from one part of a process, environmental medium or product to another.*”⁸

- **Federal Preemption**

Despite the breadth of powers that are reserved to states, any state’s law or regulation deemed to conflict or otherwise be inconsistent with the federal law may be challenged as preempted by the overarching federal authority. There are several types of federal preemption and associated legal analysis (“express”, “implied”, or “conflict preemption”), but whatever the type, preemption establishes a priority of federal rights whenever there is a conflict between federal and state law. The result can be a limitation on states’ ability to enact laws and set standards that are inconsistent with federal authority.

E.g., Frank R. Lautenberg Chemical Safety for the 21st Century Act (2016) - “*Except as provided...beginning on the date on which [EPA] defines the scope of a risk evaluation for a chemical substance under section 6(b)(4)(D) and ending on the date on which the deadline established pursuant to section 6(b)(4)(G) for completion of the risk evaluation expires, or on the date on which the [EPA] publishes the risk evaluation under section 6(b)(4)(C), whichever is earlier, no State or political subdivision of a State may establish a statute, criminal penalty, or administrative action prohibiting or otherwise restricting the manufacture, processing, distribution in commerce, or use of such chemical substance that is [designated as] a high-priority substance.*”⁹

⁶ 10 V.S.A. § 6601.

⁷ 9 V.S.A. § 2451.

⁸ 10 V.S.A. § 6623(b).

⁹ 15 U.S.C.A. § 2617(b)(1). See also § 2617(b)(2) (Effect of Subsection) and § 2617(c) (Scope of Preemption).

The most significant example of a recent change in federal law that may affect Vermont's regulation of chemicals in the State was the 2016 Lautenberg Amendments to the Toxic Substance Control Act (TSCA). These amendments created mandatory requirements for EPA to evaluate and test already-existing chemicals. EPA must now make affirmative findings on the safety of a new chemical before the chemical is allowed in commerce.

Once EPA takes certain actions to evaluate a chemical substance for regulation, such action can temporarily preempt new state prohibitions or restrictions on that chemical substance until EPA publishes the evaluation or reaches a statutory deadline for publication of the evaluation. State action can also be preempted permanently when EPA makes either a determination to regulate a chemical substance due to any unreasonable risk posed or determines that a chemical substance does not pose an unreasonable risk. In these cases, TSCA can preempt a state action on a chemical-specific basis for the same uses and the same risks.¹⁰ Final action by EPA on a substance – whether by determining it does not present an unreasonable risk, or by imposing a risk management regulation to address identified risks – may block states from imposing similar or inconsistent restrictions on the same chemical.¹¹

E.g., Federal Consumer Product Safety Act – *“Whenever a consumer product safety standard under this Act is in effect and applies to a risk of injury associated with a consumer product, no State or political subdivision of a State shall have any authority either to establish or to continue in effect any provision of a safety standard or regulation which prescribes any requirements as to the performance, composition, contents, design, finish, construction, packaging, or labeling of such product which are designed to deal with the same risk of injury associated with such consumer product, unless such requirements are identical to the Federal standard.”*

C. Recommendation for Ongoing Monitoring; Biennial Reporting on Federal Changes Affecting Vermont's Regulation of Chemicals

In Vermont, as in most states, several state agencies share authority – sometimes overlapping – over chemical regulation, and there is no single agency charged with evaluating potential risks from unregulated chemicals and identifying actions to minimize risk.¹² Additionally, there is no single agency or state entity that is charged with tracking proposed federal changes in law or in rule regarding chemical regulation, exploring the potential effect (preemptive or otherwise) on Vermont's authority to regulate chemicals, or coordinating with regulatory agencies that may be affected by any federal change. The current structure is appropriate given the broad mission of state government, and yet the ICCM can serve an important role to heighten coordination and information sharing across state government.

¹⁰ A state may seek a waiver to impose restrictions on a substance following final EPA action. 15 U.S.C.A. § 2617(f) (Waivers).

¹¹ There are limited exceptions to the preemption rule. Activities not preempted include: state actions already taken by states before 22 April 2016; past or future actions taken under laws that were in effect before 31 August 2003 (which effectively safeguards California's Proposition 65 law); information-seeking requirements, such as reporting, monitoring or disclosure rules; and most state regulations imposed under water quality, air quality, waste treatment or disposal laws. 15 U.S.C.A. § 2617(d) (Exceptions).

¹² See Act 154 Report, Section III (Recommendations to General Assembly), p. 16.

The ICCM can play an important role in monitoring the effect of proposed federal actions and coordinate State planning efforts in light of or in response to such federal actions. Specifically, the ICCM (or subgroup thereof) can serve the following roles:

- Track the proposal of federal laws and regulations (e.g., through publications in federal register, etc.) that would regulate, deregulate, or modify state standards and requirements related to chemical use and management;
- Coordinate notification to state agencies (and the public) on the federal change and solicit feedback on the potential effect of the federal action on the State's ability to regulate chemicals; and
- Make recommendations to the legislature and/or appropriate regulatory entities to adopt legislation and/or regulatory requirements in accordance with such recommended state action.

For ongoing biennial reporting of federal changes that may affect regulation of chemicals in Vermont pursuant to Section III.B(3) of the Executive Order, the ICCM may submit a report to the Governor on any major federal actions that have been proposed or that have become effective in the time since the last report submission. The report may be used to:

- Identify federal programs and actions (laws, regulations, policies, etc.) that are being monitored by the ICCM;
- Include a summary of any proposed federal action that may affect Vermont's ability to regulate chemicals, including the activities and stakeholders likely to be affected by the action;
- Identify the effect on Vermont's ability to regulate chemicals or similar activities including the regulatory entities likely to be affected; and
- Propose changes to existing laws or regulations in response to the federal action.

VI. Recommended Legislative or Regulatory Action to Reduce Risks to Human Health and the Environment from Regulated and Unregulated Chemicals of Emerging Concern

EO 13-17, Section III.B(4) directs the ICCM to include recommended legislative or regulatory action to reduce risks to human health and the environment from regulated and unregulated chemicals of emerging concern.

The ICCM made several recommendations to improve chemical management in Vermont in its July 1, 2018 Report. The Committee determined that its priority would be to make additional

progress on the recommendations made in the previous report and contained within this report. With greater knowledge derived from that implementation process, the departments and agencies will be better equipped with the data necessary to make future recommendations.

Individual departments and agencies will continue to manage the chemical controls under their purview, but successful implementation of existing recommendations will take priority for the ICCM as a whole. Additionally, the ICCM will evaluate potential opportunities to protect public health and the environment as information becomes available. Along those lines, the Department of Health has identified one potential area for statutory change:

The ICCM recommends a statutory change to prohibit the sale of consumer products that contain certain flame retardants in order to reduce exposure to Vermonters from potentially toxic chemicals. The ICCM recommends the prohibition of flame retardants be consistent with those prohibited by other states in order to create harmony among state requirements.

Flame retardants are found in foam and casings of consumer products such as couches, chairs, ottomans, futons, sofa beds, pillows, mattresses and mattress pads and children's products including baby strollers, car seats, changing table pads, sleep positioners, portable mattresses, nursing pillows, rocking chairs, infant bath mats and baby carriers and walkers.¹³ Flame retardants have also been detected in house dust.¹⁴ Flame retardants are not chemically bonded to the consumer products, and often migrate out of the products into house dust. House dust is a known exposure pathway to chemicals. Flame retardants have come under scrutiny for potential adverse effects including cancer, impacts to the immune and endocrine systems, reproductive toxicity, and adverse effects on development and neurological function. Certain flame retardants are characterized by authoritative bodies as carcinogenic.¹⁵ Some are characterized as developmental and or reproductive toxicants.¹⁶ Others are characterized as immune system toxicants or endocrine disruptors.¹⁷

¹³ Stapleton, H. M., Klosterhaus, S., Keller, A., Ferguson, P. L., van Bergen, S., Cooper, E., Webster, T. F., ... Blum, A. (2011). Identification of flame retardants in polyurethane foam collected from baby products. *Environmental science & technology*, 45(12), 5323-31. <https://pubs.acs.org/doi/10.1021/es2007462>

¹⁴ Stapleton, H.M., Klosterhaus, S., Eagle, S., Fuh, J., Meeker, J.D., Blum, A., Webster, T.F. (2009). Detection of organophosphate flame retardants in furniture foam and U.S. house dust. *Environmental Science and Technology*, 43, 7490-7495. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/19848166>

¹⁵ See State of California OEHHA (2016). Chemicals known to the state to cause cancer or reproductive toxicity. 2016 August. Retrieved from: <http://oehha.ca.gov/proposition-65/proposition-65-list>; ECHA (2016). Brief Profile: Tributyl phosphate. August 2016. Retrieved from <https://echa.europa.eu/brief-profile/-/briefprofile/100.004.365>; and U.S. Department of Health and Human Services, National Toxicology Program (2014). Two year bioassay study – Tetrabromobisphenol A – M200033. Retrieved from ntp.niehs.nih.gov/ntp/htdocs/lt_rpts/tr587_508.pdf

¹⁶ U.S. Environmental Protection Agency (EPA) (2015). Flame retardants used in flexible polyurethane foam: An alternatives assessment update. U.S. Environmental Protection Agency. Retrieved from https://www.epa.gov/sites/production/files/2015-08/documents/ffr_final.pdf; U.S. Environmental Protection Agency (2014). Design for the environment; Flame retardant alternatives for hexabromocyclododecane (HBCD). Retrieved from https://www.epa.gov/sites/production/files/2014-06/documents/hbcd_report.pdf

¹⁷ Agency for Toxic Substances and Disease Registry (2004). ATSDR Toxicological profile for polybrominated biphenyls and polybrominated diphenyl ethers. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Services. Retrieved from <http://www.atsdr.cdc.gov/tfacts68-pbde.pdf>; European Commission DG Environment (2002). Endocrine disruptors: study on gathering information on 435 substances with insufficient data

Vermont prohibits a narrow set of flame retardants in some furniture (brominated and chlorinated flame retardants).¹⁸ EPA is currently assessing risks from some flame retardants through the TSCA program.¹⁹ In 2017, the US Consumer Product Safety Commission issued guidance to alert the public to the potential toxic effects of exposure to harmful organohalogen flame retardants.²⁰ California recently enacted legislation to prohibit a manufacturer from selling or distributing new juvenile products, mattresses or upholstered furniture that contain flame retardant chemicals.²¹ This legislation will take effect on January 1, 2020. Maine also enacted similar legislation that went into effect on January 1, 2018.²²

VII. Final Thoughts

The ICCM appreciates the opportunity to contribute to the State's chemical management efforts. It is likewise the ICCM's hope that this report provides useful information to further those efforts, and that its findings and recommendations will serve to build upon the collective knowledge base and understanding of chemical use, risks, and management throughout the State. The ICCM sees continual monitoring, review, and assessment of chemical regulation and use, combined with collaboration amongst State Agencies and external stakeholders as a viable and worthy path to pursue. In that way, the goals of increased protection of Vermonters from exposure to unsafe chemicals, better compliance assistance for the regulated community, and improvement of public availability of information, can be realized.

(Final report B4-3040/2001/325850/MAR/C2). Retrieved from ec.europa.eu/environment/chemicals/endocrine/pdf/bkh_report.pdf

¹⁸ 9 VSA Section 2973, 2974, 2976

¹⁹ <https://www.epa.gov/sites/production/files/2016-01/documents/flamefaq.pdf>

²⁰ <https://www.gpo.gov/fdsys/pkg/FR-2017-09-28/pdf/2017-20733.pdf>

²¹ https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201720180AB2998

²² https://www.mainelegislature.org/legis/bills/bills_128th/billtexts/HP013801.asp

Appendices

Appendix A

Executive Order No. 13-17

STATE OF VERMONT
EXECUTIVE DEPARTMENT
EXECUTIVE ORDER NO. 13-17

[Interagency Committee on Chemical Management]

WHEREAS, Vermont citizens may be exposed to harmful chemicals in drinking water, food supplies, outdoor and indoor air, and in consumer products; and

WHEREAS, the State does not have sufficient information—use, volume, location and toxicity—about chemicals present in the State; and

WHEREAS, sufficient information about chemicals present in the State is critical to the State's ability to effectively respond to emergencies and threats to human health posed by harmful chemicals; ensure the safety of first responders; prioritize limited resources to address those chemicals that pose the greatest risk to Vermonters; assist Vermont businesses with compliance with federal and State laws related to chemical reporting and management requirements; and provide information to citizens about chemical use in the State; and

WHEREAS, Act 154 of 2016 directed the Agency of Natural Resources to convene a working group to provide recommendations to the General Assembly to close regulatory gaps related to chemicals of emerging concern like perfluorooctanoic acid (PFOA), increase the State's ability to prevent citizens from exposure to harmful chemicals, and increase public access to information about chemicals in their community; and

WHEREAS, the Act 154 report to the General Assembly recommended, among other things, the establishment of an interagency committee to improve coordination and collaboration among agencies charged with oversight of chemical regulation; the creation of a central or unified electronic reporting system to assist businesses with compliance and provide state agencies and the public access to information about chemicals; the amendment of existing recordkeeping and reporting requirements to ensure state agencies have complete chemical inventory information; and the amendment of the Toxic Use Reduction and Hazardous Waste Reduction Act to strengthen planning requirements; and

WHEREAS, in order to better protect Vermonters from exposure to unsafe chemicals in drinking water and the environment and assist businesses with compliance with federal and State laws related to chemical reporting and management requirements, there is a need to (1) ensure coordination and collaboration among State agencies charged with oversight of chemical regulation; (2) create a central or unified electronic reporting system for businesses that use, manufacture, distribute, and release chemicals; and (3) ensure existing State laws and regulations provide state agencies with sufficient chemical inventory information.

NOW THEREFORE, BE IT RESOLVED, that I, Philip B. Scott, by virtue of the authority vested in me as Governor, do hereby create the Interagency Committee on Chemical Management (Committee), as follows:

I. Composition

The Committee shall consist of the following members:

- A. the Secretary of the Agency of Natural Resources or designee;
- B. the Secretary of the Agency of Agriculture, Food and Markets or designee;
- C. the Secretary of the Agency of Commerce and Community Development or designee;
- D. the Commissioner of the Department of Health or designee;
- E. the Commissioner of the Department of Labor or designee;
- F. the Commissioner of the Department of Public Safety or designee; and
- G. the Secretary of the Agency of Digital Services or designee.

II. Chair of Committee and Committee Support

The Chair of the Committee shall be the Secretary of the Agency of Natural Resources.

The Committee shall have the administrative, technical, and legal assistance of the Agency of Natural Resources. The Committee shall have technical assistance from the Agency of Agriculture, Food and Markets; the Department of Health; the Department of Public Safety; and the Department of Labor.

III. Committee Charge and Process

The Committee shall make initial recommendations to the Governor to improve and strengthen existing recordkeeping and reporting processes and regulatory requirements. The Committee shall (1) evaluate chemical inventories in the State on an annual basis; (2) identify potential risks to human health and the environment from regulated and unregulated chemicals in the State; and (3) make recommendations to the Governor to address these risks. The Committee shall meet at least monthly until July 1, 2018 and at least semiannually thereafter.

A. On or before July 1, 2018, the Committee shall make initial recommendations to the Governor, after consultation with a citizen advisory panel, as to how the State should establish a centralized or unified electronic reporting system, amend existing recordkeeping and reporting requirements to ensure sufficient chemical inventory reporting, and strengthen the Toxic Use Reduction and Hazardous Waste Reduction Act. The Committee shall:

(1) Convene a citizen advisory panel to provide input and expertise to the Committee. The citizen advisory panel shall consist of persons available to the Committee on an as-needed basis to provide the following expertise:

- One individual with expertise in toxicology;
- One individual with expertise in environmental health;
- One individual with expertise in maternal and child health;
- One individual with expertise in industrial hygiene or occupational health;
- One individual with expertise in human health and environmental risk assessment;
- One individual with expertise in manufacturing products, located in Vermont and subject to Vermont recordkeeping and reporting requirements;
- One individual with expertise in retail sales, located in Vermont;
- One individual associated with a small business, located in Vermont and subject to Vermont recordkeeping and reporting requirements;
- One individual associated with an academic institution with expertise in chemical management or chemical policy;
- One individual with expertise in environmental law;
- One individual with expertise in public policy, with a focus on chemical policy; and
- One individual with expertise in development and administration of information reporting technology or databases.

(2) Recommend how the State should establish a centralized or unified electronic reporting system to facilitate compliance by businesses and other entities with chemical reporting and other associated regulatory requirements in the State. The recommendation shall:

- a. identify a State agency or department to establish and administer the reporting system;
- b. estimate the staff and funding necessary to establish and administer the reporting system;

- c. propose how businesses and the public can access information submitted to or maintained as part of the reporting system(s), including whether public access to certain information or categories of information should be limited due to applicable statutory requirements, regulatory requirements, trade secret protection, or other considerations;
 - d. propose how information maintained as part of the reporting system can be accessed, including whether the information should be searchable by: chemical name; common name; brand name; product model; Global Product Classification (GPC) product brick description; standard industrial classification; chemical facility; geographic area; zip code; address; other criteria; or a combination thereof;
 - e. propose a method for displaying information or filtering or refining search results so that information maintained on the reporting system can be easily accessed; and
 - f. estimate a time line for establishment of the reporting system.
- (3) Recommend any necessary statutory amendments or regulatory changes to existing State recordkeeping and reporting requirements for chemicals, hazardous materials, and hazardous wastes that are required to facilitate assessment of risks to human health and the environment posed by chemical use in the State. The recommendations shall consider:
- a. the thresholds or amounts of chemicals used, manufactured, or distributed, and hazardous materials and hazardous wastes generated or managed, in the State that require recordkeeping and reporting;
 - b. the persons or entities using, manufacturing, or distributing chemicals and generating or managing hazardous materials and hazardous wastes that are subject to recordkeeping and reporting requirements; and
 - c. any changes required to streamline and modernize existing recordkeeping and reporting requirements to facilitate compliance by business and other entities.
- (4) Recommend any necessary statutory amendments or regulatory changes to the Toxic Use Reduction and Hazardous Waste Reduction Act under 10 V.S.A. Chapter 159, Subchapter 2. The recommendations shall consider:
- a. a list of chemicals or materials subject to the reporting and planning requirements;
 - b. the thresholds or amounts of chemicals used or hazardous waste generated by a person that require reporting and planning;

- c. the persons or entities using chemicals or generating hazardous waste that are subject to reporting and planning;
- d. proposed revisions to the toxic chemical or hazardous waste reduction planning requirements, including conditions or criteria that qualify a person to complete a plan;
- e. any changes to streamline and modernize the program to improve its effectiveness;
- f. estimate the staff and funding necessary to implement and administer any recommended statutory changes or regulatory changes; and
- g. other state programs to reduce the use of toxic and hazardous waste, including the staff and funding required to implement the programs.

- (5) Draft any necessary legislation to implement the Committee's recommendations under sections (2), (3), and (4) above.

B. The Committee shall issue a report and make recommendations to the Governor as to any necessary legislative or regulatory actions to reduce risks to Vermonters from unsafe chemicals on December 15, 2018 and biennially thereafter. The report shall include:

- (1) a summary of chemical use in the State based on reported chemical inventories;
- (2) a summary of identified risks to human health and the environment from reported chemical inventories;
- (3) a summary of any change under federal statute or rule affecting the regulation of chemicals in the State; and
- (4) recommended legislative or regulatory action to reduce risks to human health and the environment from regulated and unregulated chemicals of emerging concern.

IV. Authority of Agencies

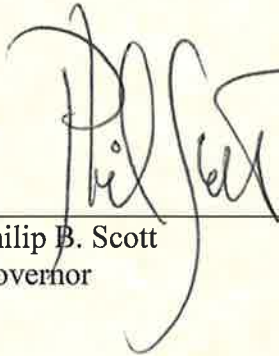
This Executive Order shall not limit the independent authority of a State agency to promulgate regulations related to the reporting, use, distribution, manufacture, or release of chemicals or take other actions under existing State or applicable federal law.

V. Effective Date

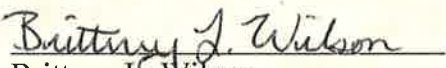
This Executive Order shall take effect upon signing.



WITNESS my name hereunto subscribed and the Great Seal of the State of Vermont hereunto affixed at Montpelier this 7th day of August, 2017.


Philip B. Scott
Governor

By the Governor:


Brittney L. Wilson
Secretary of Civil and Military Affairs

Executive Order No. 13-17

Appendix B

Acknowledgements and List of ICCM and CAP Members

Acknowledgements and List of ICCM and CAP Members

The Agency of Natural Resources would like to thank all the members of the ICCM and CAP for their participation, time, and contributions to this initiative.

ICCM Members:

Sarah Vose, Department of Health
Carey Giguere, Agency of Agriculture, Food and Markets
Chris Herrick, Department of Public Safety
Scott Meyer, Department of Labor
Ken Jones, Agency of Commerce and Community Development
Peter Telep, Agency of Digital Services
Peter Walke, Agency of Natural Resources

Citizen Advisory Panel:

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Rick Bibens, Bibens Ace Hardware
Terese Churchill, EverGreen Environmental Health & Safety
Wolfgang Dostmann, University of Vermont
Jon Groveman, Vermont Natural Resources Council
Deborah Hirtz, University of Vermont
Ruma Kohli, Global Foundries
Bindu Panikkar, University of Vermont
Barb Patterson, Stone Environmental
Adam Rainville, Maple Landmark
Ken Rumelt, Vermont Law School
Jessica Wignall, ICF

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Linda Boccuzzo, Agency of Agriculture, Food and Markets
Bridget O'Brien, Department of Health
Karen Clark, Department of Health
Todd Cosgrove, Department of Public Safety
Sarah Vose, Department of Health
Vernon Nelson, Department of Health
John Hunt, Agency of Digital Services
Justin Kenney, Department of Finance and Management
Ed Antczak, Agency of Natural Resources
Mary Borg, Agency of Natural Resources
Jessica Bulova, Agency of Natural Resources

Mary Clark, Agency of Natural Resources
Wendy Edwards, Agency of Natural Resources
Doug Elliott, Agency of Natural Resources
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Chuck Schwer, Agency of Natural Resources
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John Wakefield, Agency of Natural Resources
Tami Wuestenberg, Agency of Natural Resources
John Zaikowski, Agency of Natural Resources

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participating in discussions, and submitting comments:**

Alison Crowley DeMag, American Chemistry Council
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Mitch Krauss, Burton Snowboards
Matt McMahon, MMRVT
Nat Shambaugh, Interested Citizen
Erin Sigrist, VTRGA
Martin Wolf, Seventh Generation
John Brabant, Vermonters for a Clean Environment

Appendix C

ICCM's Chemical Inventory Spreadsheet

Link to Full ICCM Chemical Inventory Spreadsheet:

<http://anr.vermont.gov/about/special-topics/chemical-management-committee>

Appendix D

Comments on draft Report

Interagency Committee on Chemical Management

December 15, 2018 Biennial Report

DRAFT

Executive Summary

On July 1, 2018 the Interagency Committee on Chemical Management (ICCM) delivered its initial report to the Governor as directed by Executive Order No. 13-17 (EO). The report recommended how to: 1) create a centralized electronic reporting system; 2) create a review framework for evaluating necessary changes to State chemical reporting and recordkeeping and coordinating chemical management actions across state agencies; and 3) strengthen the Toxics Use Reduction Act (TURA). The EO further directed the ICCM to submit a report and recommendations on December 15, 2018 and biennially thereafter. Tasks for this report, identified in EO Sections III.B.(1) through (4) include providing a summary of chemical use and risks to human health and the environment from reported chemical inventories, a summary of any change under federal statute or rule affecting the regulation of chemicals in the State, and recommended legislative or regulatory action to reduce risks to human health and the environment from regulated and unregulated chemicals of emerging concern.

The ICCM met monthly to address these tasks and also established several subgroups to further this work. The ICCM then developed a draft report, which the CAP and other interested parties commented on. After review and consideration of comments, the ICCM finalized its findings and recommendations, which are included and explained fully in this report. These are:

- A process by which the ICCM would, on an ongoing basis, evaluate chemicals or classes of chemicals to determine whether to subject them to additional or new recordkeeping and reporting requirements. Under the proposed process, an Agency, Department or interested individual could propose that the ICCM evaluate chemicals or classes of chemicals. The ICCM would then engage a technical team and citizen advisory panel to provide input and assistance in its review, culminating in the ICCM providing appropriate recommendations to the affected regulatory entities. Those entities would then work to incorporate recommended actions into the relevant State reporting statute or rule, as appropriate.
- A summary of chemical use in the State, found in Appendix C, based on reported chemical inventories, collected via the State's Tier II database.
- A summary of identified risks to human health and the environment, found in Appendix C, from reported chemical inventories, collected via the State's Tier II database.
- A summary of the federal chemical regulatory landscape, and a description of how these federal laws and regulations can have an impact on a State's authority to regulate chemicals.
- A recommendation that the ICCM, on an ongoing basis, serve as the entity to monitor federal actions that may have a limiting effect on Vermont's authority to regulate chemicals, coordinate with appropriate Vermont agencies in anticipation of such federal actions, and make recommendations to the legislature and/or appropriate regulatory entities to adopt legislation and/or regulatory requirements that may be appropriate in light of the federal change.
- A recommendation that legislative action be considered to prohibit the sale of consumer products that contain flame retardants banned by other states. This would reduce exposure to Vermonters to potentially toxic chemicals contained in flame retardants. The ICCM will also continue work to evaluate potential opportunities to protect public health and the environment as information becomes available through the work of individual departments and agencies, and implementation of the processes recommended in this, and its previous report.

I. Introduction

In June 2016, at the direction of the Vermont General Assembly through Act No. 154 of 2016, the Agency of Natural Resources (ANR) convened a working group to develop recommendations related to regulation of chemicals of emerging concern, increasing the State's ability to prevent citizen exposure to harmful chemicals, and increasing public access to chemical information. The Act 154 Working Group's Report, submitted to the General Assembly in January 2017, recommended, among other things, establishment of an interagency committee to improve coordination among involved State regulatory agencies related to chemical management in the State, creation of a central electronic reporting system to assist businesses with compliance and provide access to chemical information, the amendment of existing requirements to ensure state agencies have complete chemical inventory information, and strengthening of the Toxic Use Reduction and Hazardous Waste Reduction Act (TURA).¹

On August 7, 2017, Governor Scott issued Executive Order No. 13-17 (EO), which directed the creation of an Interagency Committee on Chemical Management (ICCM). The ICCM consisted of a representative from the Agency of Natural Resources; Agency of Agriculture, Food, and Markets; Department of Health; Department of Labor; Agency of Commerce and Community Development; and Agency of Digital Services. The ICCM's tasks were to make initial recommendations to the Governor, after consultation with a citizen advisory panel, as to how the State should establish a centralized or unified electronic reporting system, amend existing recordkeeping and reporting requirements to ensure sufficient chemical inventory reporting, and strengthen TURA. The ICCM also convened a Citizen Advisory Panel (CAP) as directed by the EO to provide input and expertise to the ICCM on the stated tasks. The CAP consisted of a broad range of private, public, and academic organizations and individuals. The EO directed the ICCM to submit its initial recommendations on or before July 1, 2018, with additional reporting on December 15, 2018 and biennially thereafter.

Following submission of the July 1, 2018 report,² the ICCM continued to meet monthly to address the additional tasks in the EO for the December 15, 2018 Report. Its tasks for this report, identified in EO Sections III.B.(1) through (4), included providing a summary of chemical use and risks to human health and the environment from reported chemical inventories, a summary of any change under federal statute or rule affecting the regulation of chemicals in the State, and recommended legislative or regulatory action to reduce risks to human health and the environment from regulated and unregulated chemicals of emerging concern. The EO also required a continued review of the ICCM's recommendations for EO Section III.A.(3) (submitted in the July 1, 2018 report). The ICCM established several subgroups of ICCM members and additional technical staff which met routinely to work on various tasks and activities to further the ICCM's work for the December report. The ICCM developed a draft report, which the CAP and other interested parties reviewed and commented on. After review

¹ The complete Act 154 Chemical Use Working Group Report on Toxic Chemical Use in the State of Vermont (2016 Act 154, Section 10), dated January 13, 2017, can be found at ANR's website at the following link: https://anr.vermont.gov/sites/anr/files/specialtopics/Act154ChemicalUse/2017_1_13_FINAL_Act%20154%20Legislative%20Report%20and%20Appendices.pdf

² The complete Interagency Committee on Chemical Management Report to the Governor (Executive Order No. 13-17), dated July 1, 2018, can be found at ANR's website at the following link: <https://anr.vermont.gov/about/special-topics/chemical-management-committee>

and consideration of those comments, the ICCM finalized its findings and recommendations, which are included in this report.

Throughout this process, the ICCM agreed to make decisions on its recommendations by seeking consensus, or general agreement, and where it could not, a majority vote would be utilized with opposing positions memorialized. Section II of this report builds upon the ICCM's July 1, 2018 recommendation to create a review framework for evaluating necessary changes to State chemical reporting and recordkeeping and coordinating chemical management actions across state agencies. Section III of the report contains a summary of chemical use in the State, found in Appendix C, based on reported chemical inventories. Section IV of the report contains a summary of identified risks to human health and the environment, found in Appendix C, from reported chemical inventories. Section V of the report contains an overview of federal laws and regulations that regulate chemicals and chemical uses, require remediation, and/or focus on research and monitoring of chemicals and exposure. It also describes the effect of federal laws and regulations on State authority to regulate chemicals, focusing on preemption. This Section recommends that the ICCM play an ongoing role in the State to monitor federal actions that may have a limiting effect on Vermont's authority to regulate chemicals, coordinate with appropriate Vermont agencies in anticipation of such federal actions, and make recommendations to the legislature and/or appropriate regulatory entities based on any anticipated limitations to Vermont's authorities.

To address specific impacts on Vermont's ability to regulate chemicals posed by federal actions, future biennial reports will focus on specific changes in federal laws and rules that have been proposed or that became effective since submission of the prior biennial report, and will include any recommendations for legislative, regulatory, or other actions that may be appropriate in light of the federal change. Section VI of the report contains a recommendation that legislative action be considered to prohibit the sale of consumer products that contain flame retardants banned by other states. This would reduce exposure to Vermonters to potentially toxic chemicals that are contained in these flame retardants. The ICCM will also continue to evaluate potential opportunities to protect public health and the environment as information becomes available through the work of individual departments and agencies, and implementation of the processes recommended in its previous report.

The Appendices that follow contain background documents and supporting information as follows:

- [Appendix A](#) contains a copy of Executive Order No. 13-17.
- [Appendix B](#) contains a list of ICCM Members, CAP Members, and other staff and individuals who attended meetings, participated in discussions, and submitted comments.
- [Appendix C](#) contains a pdf version of the ICCM's Chemical Inventory Spreadsheet. The ICCM compiled this to help inform the summary of chemical use in the State based on reported chemical inventories collected via Tier II reporting, and to begin an evaluation of risks to human health and the environment from reported chemical inventories. Due to its size, the spreadsheet is not viewable in hard copy, but can be viewed fully in its electronic version by enlarging or zooming in on the text. In addition, a link to the document, which has been placed on the ICCM's website, is included in the Appendix.

The on-line document also contains separate tabs containing a further break down by Agency and program.

- [Appendix D](#) contains the comments from the CAP and other interested parties on the draft Report.

The ICCM also maintained a website throughout this process. Relevant information about the ICCM and its work on EO 13-17 can be found at: <http://anr.vermont.gov/about/special-topics/chemical-management-committee>

II. Recommended Statutory Amendments or Regulatory Changes to Existing Recordkeeping and Reporting Requirements that are Required to Facilitate Assessment of Risks to Human Health and the Environment Posed by Chemical Use in the State

EO 13-17, Section III.A(3) directs the ICCM to recommend any statutory amendments or regulatory changes to existing recordkeeping and reporting requirements for chemicals, hazardous materials, and hazardous wastes that are required to facilitate assessment of risks to human health and the environment posed by chemical use in the state.

In its July 1, 2018 report, the ICCM provided a recommendation to establish a general framework for State review, coordination, and analysis of risks to human health and the environment posed by a chemical, class of chemicals, or grouping of chemicals. Under the general framework, an Agency or Department would propose that the ICCM review the current applicable recordkeeping and reporting requirements pertaining to a chemical, class or grouping of chemicals. The ICCM would then engage a technical team and citizen advisory panel to provide input and assistance in its review, culminating in the ICCM providing recommendations to the affected regulatory entities. Following submission of the July 1, 2018 Report, the ICCM continued to examine and develop this recommendation further. The following is a more specific process by which the ICCM proposes to evaluate chemicals or classes of chemicals that may then be subject to additional or new recordkeeping and reporting requirements:

1. Nomination for review:

Any of the ICCM member agencies can propose a chemical, class of chemicals or grouping of chemicals for review. A nomination by an ICCM agency would be accompanied by a rationale for nomination and references to relevant information. The rationale for nomination should include:

- documented use and risk of adverse exposure in the State,
- current information about the potential hazards of a chemical or class of chemicals,

Commented [WJ1]: In the executive summary, “an interested individual” is also an option here...I see it mentioned almost as an afterthought at the end of the steps below, but suggest considering bringing that up top to here as well.

“an Agency, Department or interested individual”

- documentation of releases to environmental media (e.g., air, water, soil), or
- inclusion in an authoritative list by EPA, another U.S. state, or other established governmental body (e.g., EU- Reach substances of very high concern), and
- Any other information that the ICCM deems necessary to evaluate a chemical's use in the State and/or potential risk to human health and the environment.

A petition form will be developed for documentation of the rationale and other information that the ICCM needs to make an initial decision on the nomination. Members of the CAP or other stakeholders can also nominate a chemical, class of chemicals or grouping of chemicals for review using the form noted above.

2. Review Decision:

Based on the information submitted with the nomination, the ICCM will decide whether to initiate review of the nominated chemical, class of chemicals or grouping of chemicals. Based on resources and the number of nominations received, the ICCM may prioritize reviews. The ICCM may set a target number of reviews to perform annually or a cap on the number of reviews that can feasibly be done by the ICCM and supporting staff.

3. Technical Team Review:

Once the ICCM decides to review a chemical, class of chemicals or grouping of chemicals, it will task a Technical Team consisting of members from the ICCM agencies with review and preparation of a report detailing their findings. The Technical Team will include members from ICCM agencies who have relevant knowledge and experience. The Technical Team may bring in additional expertise as needed. The technical team will include the following topics in their assessment and report, and any other chemical-specific considerations that are relevant:

- a. The current scientific understanding (and quality of science) on the chemical, class of chemicals or group of chemicals':
 - i. Toxicity,
 - ii. Potential routes of exposure,
 - iii. Potential impact to public health, occupational health and the environment,
 - iv. Public safety and emergency response impact,
 - v. Existing federal or state standards or guidance, and
 - vi. Other assessments (e.g. EPA's Drinking Water Unregulated Contaminant Monitoring Rule findings, or National Aquatic Resource Survey results).
- b. Use of the chemical, class of chemicals or group of chemicals globally, nationally, and in Vermont:
 - i. What quantities are typically used, stored, etc.,
 - ii. An estimate of who is using the substance, how it is used and how much is being used and produced as waste, and

Commented [WJ2]: This seems difficult to do on the petition form (as in, right up front in the process), unless this is referencing "any other info" that might be added to the form as it's being developed. If that's the case, consider adding some language noting that while some requirements may be unknown at this time, they will be specified in the petition for.

Commented [WJ3]: Some of the content outlined above is very technical. Is the expectation that in order for a petition to be taken seriously, it needs to have all the components and be accurate? Or is this an indication of just the breadth of information that might be helpful to the ICCM in making its decision?

I could see interested stakeholders with valid petitions not knowing all of the information required, but don't think that should disqualify a petition.

I know this is fairly late in the process of developing this document, but it seems like it'd make sense to allow for an initial petition and review, and the ability for the ICCM to ask more info from the petitioner if warranted. So for example, petition comes in → not much information but unlikely to be reviewed by the ICCM → no further action vs. petition comes in → not much information but looks of interest → ask for more specific info that's missing → review again and decide

This also relates to the last bullet and my comment above, which would allow for the exchange of "any other info" that might be of interest specific to a given chemical/class of chemicals.

Commented [WJ4]: Is there already a rubric for this, or is that in development? It might be good to outline what kinds of elements would trigger a review so petitioners can understand what kinds of information to focus on in the form to address ICCM requirements effectively.

Commented [WJ5]: Consider adding this to allow for extra information?

Commented [WJ6]: This type of information is notoriously hard to find. I don't have an actionable comment here, just wanted to acknowledge that.

I could see Vermont agencies knowing about Vermont, but knowing global/national data would be very difficult, especially if the chemical is not already required to be reported.

- iii. Commercial vs. Consumer usage.
 - c. Impacts of a reporting/ recordkeeping requirement:
 - i. What facilities might be impacted, and
 - ii. The potential for use-reduction of this substance.
 - d. Recommendations, including:
 - i. Whether recordkeeping or reporting would be an effective way to monitor this chemical, looking at:
 - o Thresholds, and
 - o Impact of the compound.
 - ii. What reporting rule/statutory requirement is the right vehicle to track use of this chemical, which would include:
 - o Identification of the specific agency/department/program(s) that would implement the requirement, and
 - o Identification of the necessary changes to implement the statutory change, rule change, etc.
 - iii. For chemicals that are currently subject to recordkeeping/reporting requirements, whether those requirements adequate. If not, suggested amended thresholds or requirements.
- 4. **ICCM review of Technical Team Report:**
Upon completion of their assessment and report, the Technical Team will submit their report to the ICCM for its review. The Technical Team (or representatives) will attend an ICCM meeting to answer questions about the report and their analysis. The ICCM will decide if the analysis is complete or if further information is required. If further information is required, the Technical Team will provide the additional information and re-submit the report to the ICCM.
- 5. **ICCM votes to approve the Technical Team Report:**
Upon receipt of the Technical Team Report, the ICCM will vote whether to approve the Report. If denied, the ICCM will document the basis for denial, and notify the nominating entity of its denial. If approved, the Technical Team Report is sent to the Citizen's Advisory Panel (CAP).
- 6. **CAP Reviews Technical Team Report:**
Cap provides comments and recommendations, either in writing and/or in person.
- 7. **ICCM reviews CAP comments/recommendations and amends Technical Team Report (and recommendations) as appropriate, and issues responsiveness summary.**
- 8. **ICCM votes on final recommendation.**
- 9. **Implementation of final recommendation:**

Commented [WJ7]: Also entities in general? What stakeholders would be impacted?

Commented [WJ8]: I would encourage expansion of this to general "exposure" reduction, as potential mitigation measures can include changing handling requirements, labeling requirements, or other measures that do not necessarily reduce use.

Commented [WJ9]: Based on the sub-bullets here, this section seems like it should lead into the "impacts" section. As in, it seems like "the potential for use-reduction" might depend on the necessary changes to the requirements. Depending on how the requirements change, that would impact the potential for use-reduction... same with facilities I think, as which ones would be impacted would depend on the recommended changes.

It's not clear to me how C can be filled out without knowing what's in D.

Commented [WJ10]: Should this be explicit about what the comments and recommendations should touch on (e.g., agreement or disagreement with recommended recordkeeping changes)?

Commented [WJ11]: What is a responsiveness summary?

Agencies/Departments work to incorporate recommended actions into the relevant State reporting rule. Any recommendation for statutory change will be communicated in writing to the Legislature (to appropriate committees of jurisdiction).

Commented [WJ12]: I recognize this process is yet to be defined, but stands out as very vague and unspecific in light of the rest of the steps. Would it be possible to add more detail of what this might look like?

10. ICCM tracks progress of implementation:

The ICCM representative for the implementing agency (or their designate) will report annually to the committee on progress and progress will be included in the biennial report.

The ICCM believes the proposed process will provide a rational, deliberative and transparent framework for evaluating chemicals, classes of chemicals and groups of chemicals for potential changes to recordkeeping and reporting requirements and allow ICCM members to make fact-based decisions about recommended changes and implement approved actions expeditiously.

III. Summary of Chemical Use in the State Based on Reported Chemical Inventories

EO 13-17, Section III.B(1) directs the ICCM to include a summary of chemical use in the State based on reported chemical inventories. The ICCM utilized the Tier II reporting database for purposes of this task, and though it does not include a list of all chemicals used or managed in the State, it represents the most comprehensive database containing information on chemical use required to be reported in Vermont.

Tier II reports are required by the Environmental Protection Agency (EPA) under the Emergency Planning and Community Right-to-Know Act (EPCRA), which Vermont adopted in 20 V.S.A. § 31.

The Tier II reports capture information about the types, quantities, and locations of hazardous chemicals stored at facilities in the State. The reporting thresholds include substances which are highly explosive regardless of any amount, and petroleum (fuel) products in quantities of 10,000 lbs. or more. Vermont's Tier II reporting also require reporting of all other chemicals in quantities of 100 lbs. or more, which is not required by (and is therefore more stringent than) EPA requirements.

In Vermont 2,632 facilities are required to report under Tier II. Reporting is required annually, and is due by March 1st of each year. Reports are backward-looking in that they include chemical information for the previous year. The information collected is shared with each of the State's Local Emergency Planning Committees, so they can assist their local response agencies with emergency planning.

A subgroup of the ICCM met to review the Tier II data, and as further described below in Section IV, developed a spreadsheet found in Appendix C, which contains an inventory of chemical use in the state as reported under Tier II.

Commented [WJ13]: My comments about the spreadsheet include:
-Double check CAS RNs – Excel interprets some as dates and those would need to be updated

IV. Summary of Identified Risks to Human Health and the Environment from Reported Chemical Inventories

EO 13-17, Section III.B(2) directs the ICCM to include a summary of identified risks to human health and the environment from reported chemical inventories. To respond to this task, a subgroup of the ICCM met to review the risks associated with chemicals reported to the Tier II database. The subgroup included the Agency of Agriculture, Food, and Markets (AAFM), Department of Public Safety (DPS), Department of Labor (DOL), Department of Environmental Conservation (DEC), and the Department of Health (VDH). The subgroup identified approximately 10,756 entries submitted in the last Tier II reporting cycle. Those entries were exported to an excel spreadsheet from the Tier II database, found in Appendix C. The subgroup then filtered entries with incomplete, confusing, or inconsistent information, which was a considerable portion of entries. All entries without Chemical Abstract Numbers (CAS numbers), which totaled 2,952 entries were removed, and duplicate CAS numbers were also removed from the entries. This left 719 unique CAS numbers in the Tier II inventory. Each representative of the subgroup reviewed the 719 CAS numbers to determine if they presented a risk to human health and the environment. Chemicals were ranked with Yes, No, or Unsure. Each agency represented by the subgroup has differing jurisdiction over chemicals used or managed in the State, and therefore, employed differing perspectives and methods in reviewing the entries for potential risk. The methods used by each representative to conduct this review are outlined further below.

The spreadsheet, found in Appendix C, represents an approach that State Agencies can use to assess potential gaps and areas where further action is needed to protect health and the environment. While this approach was applied to the current inventory of chemical use in the state as reported under Tier II, this approach could also be extended to a wider universe of regulated or unregulated chemicals that are not reported under Tier II. In the coming year, the ICCM will continue meeting to review and refine the approach used to classify chemicals by each Agency, and will prioritize chemicals based on the approach. If warranted, chemicals may be submitted to the full ICCM for review for further action [as described in Section II](#).

Review Methods:

Agency of Agriculture (AAFM): AAFM reviewed the pesticides. All chemicals that the Agency evaluated are marked. Pesticides that are currently in use are regulated by AAFM. Pesticides are evaluated for human health and environmental impacts in the product's registration processes. These pesticides were therefore marked as "No" (indicating no risk). AAFM has ability to further restrict sales and use of products. Some pesticides that are no longer registered for use were identified in the Tier II inventory, and were marked as "Yes." AAFM believes that these may have been a mis-reporting by an entity, as it is unlikely they have the reporting threshold of these, but this should be confirmed. The Agency did not review the other chemicals.

Department of Public Safety (DPS): The DPS evaluation of the chemicals and whether they constituted a high level of concern was based on two factors. The first consideration was whether the chemical represented an acute and high level of risk to first responders. The second

consideration was whether the chemical would constitute a substantial risk over time if there was chronic or long-term exposure.

Department of Labor (DOL): DOL took the perspective of an industrial hygienist in evaluating entries. Where feasible, DOL used the Occupation Safety and Health Administration (OSHA), Computer Aided Management of Emergency Operation (CAMEO), and National Institute of Occupational Safety and Health (NIOSH) databases. DOL also searched international safety cards and other scientific community pages.

DOL considered the Health rating of National Fire Protection Association (NFPA) 4 as a trigger for “Y.” Some NFPA 3s were also considered “Y” depending on acute toxicity, sensitizers, cancer potential, being unstable or highly reactive and the actual potential to get into the body to do harm. Included as “Y” are any chemicals that have a Vermont Occupational Safety and Health Administration (VOSHA) expanded Health Standard. The “U” designation was used to indicate unsure. Further reasoning for each chemical is available in the detailed excel attachment.

Department of Environmental Conservation (DEC): Several programs within DEC reviewed the list and used the following scoring criteria: “**No – R:**” means we are not concerned with it, because it’s already regulated and we understand it; “**No:**” this chemical is not a concern; “**Yes - R:**” we are concerned with this chemical even though we regulate it; “**Yes:**” we are concerned with this chemical and we don’t regulate it; and “**Unsure:**” which means, we’re unsure. Within DEC, the following programs reviewed the list:

Watershed Management Division (WSMD): The WSMD group indicated “Yes,” for most pesticides/ herbicides used outdoors – as there is generally risk/concern with pesticides entering waterways. However, the use and Hazard Based Risk for surface waters in Vermont is unknown. WSMD considered a chemical regulated if it is listed on the Priority Pollutant List (126) , VWQS and EPA National Water Quality Criteria.

Waste Management and Prevention Division (WMPD): WMPD utilized several lists such as the VOC EPA Method 8260 analytical compounds since it is the most commonly used laboratory sampling method; EPA and VT Soil Screening Levels list; EPA and VT Air Screening Levels list; and the Primary Groundwater Quality Standards list from the Groundwater Protection Rule and Strategy and the Residuals regulated metals list. For chemicals reported using trade names, or for chemical compounds not included on these lists WMPD searched European Chemicals Agency website (echa.europa.eu), Guide Chem (guidechem.com), NIH PubChem (pubchem.ncbi.nlm.nih.gov) and EPA ACToR (actor.epa.gov) for chemical information. If the compound was listed to potentially be carcinogenic and/or toxic to aquatic life, WMPD indicated “Yes” or “unsure.” The unsure was used to indicate uncertainty of the application, or amounts used in Vermont.

DEC Pollution Prevention (P2): The P2 program compared the chemicals in the Tier II list against the 690+ chemicals regulated under VT TUR program using the CAS number. There were 145 CAS #s/Chemicals that were in both lists and they were marked as follows: “**No-R**” if the chemical was on the list of TUR reporting chemicals AND the P2

programs is satisfied that the current reporting threshold is sufficient, and “**Yes-R**” to when a chemical was on the list of TUR reporting chemicals AND P2 believes that the reporting threshold should be lower (because the chemical is on one or more of these lists: Toxics Release Inventory (TRI) PBTs, TRI carcinogens, TSCA first 10, or MA TURA Higher Hazard chemicals).

Air Quality (AQ): AQ compared the CAS numbers from the Tier II list and those in the Appendix B and C lists from VT Air Pollution Control Regulations (VAPCR). Appendix B is the list of Hazardous Air Contaminants and Appendix C is the list of Hazardous Ambient Air Standards. AQ used “**Yes-R**” for chemicals that were on the VAPCR Appendix C list; “**unsure**” for chemicals that were on the Appendix B list but not the Appendix C list; and “**Yes**” for those listed on the federal list of hazardous air pollutants.

Department of Health (VDH): For many chemicals on the Tier II list, there is little exposure information available to VDH. To designate chemicals in the Tier II list as presenting as identified risk to human health, VDH compared the Tier II list to four lists of chemicals: The Chemicals of High Concern to Children, the chemicals on the Health Department’s Drinking Water Guidance Values and Soil Screening Values, and chemicals on a subset of lists on the EPA’s CompTox dashboard. Chemicals not designated as “Yes” after comparison to the lists were considered on an individual basis. Chemicals were labelled “U” for “Unsure,” if some toxicity information was available (such as GSH or NIOSH classification). Chemicals that are blank were either considered familiar (such as calcium chloride), or no toxicity information was found. No chemicals were labelled “N” for “no,” as any chemical can be toxic depending on the dose. For example, an average adult could die after drinking 6L of water.

V. Summary of any change under Federal Statute or Rule affecting the Regulation of Chemicals in the State

EO 13-17, Section III.B(3) directs the ICCM to include a summary of any change under federal statute or rule affecting the regulation of chemicals in the State. The United States chemical regulatory landscape consists of a multitude of federal, state, and local laws, regulations, and standards. These requirements create a complex regulatory framework that apply to a variety of entities and activities, and address various aspects of the use, management, clean-up, safety, and reporting of chemicals and toxic substances. This section focuses on the relationship between state and federal chemical requirements and, more specifically, the impact that federal requirements can have on Vermont’s ability to create state-specific requirements for chemical use and management.

For purposes of this December 15, 2018 report submission, this section provides background on the federal regulatory chemical landscape (subsection V.A), and the ways in which federal requirements related to chemical use and management can impact or limit state regulation of chemicals (subsection V.B). This report also makes recommendations regarding the ongoing role of the ICCM to monitor federal actions that may have a limiting effect on Vermont’s

authority to regulate chemicals and to coordinate with appropriate Vermont agencies in anticipation of such federal actions.

Future bi-ennial report submissions as required by the Executive Order (III.B) are intended to focus on specific changes in federal laws and rules that have been proposed or that became effective since submission of the prior biennial report that may affect the regulation of chemicals in Vermont. Biennial reports may also include a summary of the federal change, summarize the potential effect of the change on Vermont's authority to regulate chemicals, and make recommendations for legislative, regulatory, or other actions that may be appropriate in light of such federal changes.

A. Federal Regulatory Landscape

In its work to develop recommendations to close the gaps in chemical regulations to increase the State's ability to prevent citizens from being exposed to harmful chemical and toxic substances, the Act 154 Work Group (created by Act No. 154 of 2016) reviewed and summarized both federal and state regulatory programs that address chemicals and other toxic substances. In terms of regulating chemicals, federal requirements fall into several categories. Examples of these laws and categories are listed below.³

- **Several federal laws regulate chemicals and chemical uses (whether and how chemical substances may be used):**

- [Federal Insecticide, Fungicide, and Rodenticide Act \(FIFRA\)](#) – provides for federal regulation of pesticide distribution, sale, and use.
- [Toxic Substances Control Act \(TSCA\)](#) – includes requirements for the production, import, use, and disposal of specific chemicals and chemical mixtures.
- [Food, Drug, and Cosmetic Act \(FFDCA\)](#) – sets maximum limits (residue limits) for pesticide use on foods, and rules for drug safety and effectiveness.
- [Food Quality Protection Act \(FQPA\)](#) – requires EPA to make certain findings and consider certain risks when setting pesticide tolerances.
- [Pollution Prevention Act \(PPA\)](#) – aimed at reducing the amount of pollution through changes to amounts of chemicals used and wastes generated in production, operations, and raw materials use.
- [Consumer Product Safety Improvement Act \(CPSIA\)*](#) – creates chemical safety standards for manufacturers and retailers of consumer products.
- [Hazardous Communication Standard \(HCS\)](#) – requires information about chemical and toxic substance hazards in the workplace and associated protective measures are disseminated to workers.

- **Many federal laws and regulations focus on activities to remediate chemicals and pollutants that are released into the environment:**

³ For a more extensive list of federal, state, and international chemical requirements and programs, please refer to the Act 154 Chemical Use Working Group Report on Toxic Chemical Use in the State of Vermont, Appendix C, at the following link:
https://anr.vermont.gov/sites/anr/files/specialtopics/Act154ChemicalUse/2017_1_13_FINAL_Act%20154%20Legislative%20Report%20and%20Appendices.pdf.

- [Federal Water Pollution Control Act \(Clean Water Act\) \(CWA\)](#) – establishes the system for regulation of discharges of pollutants into the waters of the United States and regulates quality standards for surface waters.
- [Resource Conservation and Recovery Act \(RCRA\)](#) – regulates generation, transportation, storage, and disposal of hazardous waste.
- [Safe Drinking Water Act \(SDWA\)](#) – establishes minimum standards to protect drinking water through the implementation of primary health-related standards.
- [Clean Air Act \(CAA\)](#) – regulates air emissions from stationary and mobile sources.
- [Comprehensive Environmental Response, Compensation, and Liability Act \(CERCLA\)](#) – requires clean up of hazardous waste sites and releases of pollutants and contaminants into the environment.
- [Oil Pollution Act \(OPA\)](#) – requires specific operating procedures and removal, remediation, and restoration of damages from spilled oil from vessels and facilities.
- [Emergency Planning and Community Right-to-Know Act \(EPCRA\)](#) – imposes requirements for emergency planning and public “right to know” reporting on hazardous and toxic chemicals.

- **Other federal regulatory programs focus on research and monitoring of chemicals and exposures:**

- [Agency for Toxic Substances and Disease Registry \(ATSDR\)](#) – investigates exposures to hazardous substances at sites nationwide and provides information concerning health impact information about specific chemicals and risk levels.
- [National Center for Environmental Health/Centers for Disease Control and Prevention](#) – conducts biomonitoring, reports on human exposures to chemicals, conducts studies, and provides technical assistance during emergency events/releases.
- [National Toxicology Program](#) – coordinates toxicological research efforts and collaborates with other agencies to increase data sharing.

B. Effect of Federal Laws and Regulations on State Authorities to Regulate Chemicals

Federal requirements applicable to chemical use and management in the United States are adopted pursuant to various federal authorities. In some cases, those federal authorities authorize or delegate states to administer certain federal requirements or regulatory programs. Additionally, states may adopt laws and promulgate regulations under state-specific authority (right and powers “not delegated to the United States, referred to as state “police powers”). A brief description of federal authorization/delegation and state police powers are addressed below.

Where the division between state and federal authorities is less clear, certain consequences may arise. For example, where federal and state laws intersect or overlap, regulated entities may employ duplicated efforts and resources to demonstrate compliance with both regulatory schemes. Another potential consequence of intersecting or overlapping federal and state laws is preemption, which is further explained below. Broadly speaking, preemption applies when a state law and federal law conflict, and the potential result is the displacement or limitation of the state law. The doctrine of preemption applies to requirements regardless of source of authority (i.e., whether the laws are created by state legislatures, courts, administrative agencies, etc.). The practical effect of preemption for purposes of this report is a limitation on the state’s ability to regulate certain activities because federal law imposes the same or similar requirements.

- **Federal Authorization/Delegation (“Cooperative federalism”)**

Federal agencies can authorize or delegate primary authority to states and territories to administer federal regulatory programs that govern chemical use and management. In some cases, states may expand on the federal program by adopting additional regulatory requirements that are more stringent or protective in scope, but states must administer a program that is “no less stringent” than the federal regulatory requirements. This process ensures national consistency in minimum standards while providing flexibility to states in implementing more protective rules.

E.g., Provisions of the Resource Conservation and Recovery Act (RCRA)⁴ and Clean Water Act (CWA)⁵ allow for authorization or delegation of a state the ability to administer provisions under these federal laws within the state’s boundaries.

- **State Police Powers**

Federal powers that are not specifically delegated to the federal government by the U.S. Constitution are reserved to the states. One such category of rights and powers reserved to the states includes the ability to establish and enforce laws to promote the public health, safety, and welfare of the public – these are typically referred to as state “police powers”. State environmental laws are typically linked to these purposes. Examples are listed below.

E.g., Waste Management; General Provisions – “...*Inefficient and improper methods of management of solid and hazardous waste result in scenic blights, hazards to the public health, cause pollution of air and water resources, increase the numbers of rodents and vectors of disease, have an adverse effect on land values, create public nuisances, and otherwise interfere with proper community life and development.*”⁶

E.g., Chemicals in Children’s Products – “*The purpose of this chapter is to complement the enforcement of federal statutes and decisions governing unfair methods of competition, unfair or deceptive acts or practices, and anti-competitive practices in order to protect the public and to encourage fair and honest competition.*”⁷

E.g., Toxics Use Reduction Act (TURA) – “*It is the intent of this subchapter to encourage reduction of toxic substances and to reduce the generation of hazardous waste whenever technically and economically practicable, without shifting risks from one part of a process, environmental medium or product to another.*”⁸

- **Federal Preemption**

Despite the breadth of powers that are reserved to states, any state’s law or regulation deemed to conflict or otherwise be inconsistent with the federal law may be challenged as preempted by the overarching federal authority. There are several types of federal preemption and associated legal analysis (“express”, “implied”, or “conflict preemption”), but whatever the type, preemption establishes a priority of federal rights whenever there is a conflict between federal and state law.

⁴ [citation placeholder]

⁵ [citation placeholder]

⁶ 10 V.S.A. § 6601.

⁷ 9 V.S.A. § 2451.

⁸ 10 V.S.A. § 6623(b).

The result can be a limitation on states' ability to enact laws and set standards that are inconsistent with federal authority.

E.g., Frank R. Lautenberg Chemical Safety for the 21st Century Act (2016)

The most significant example of a recent change in federal law that may affect Vermont's regulation of chemicals in the State was the 2016 Lautenberg Amendments to the Toxic Substance Control Act (TSCA). These amendments created mandatory requirements for EPA to evaluate and test already-existing chemicals. EPA must now make affirmative findings on the safety of a new chemical and set risk-based safety standards before the chemical is allowed in commerce.

Once EPA takes certain actions to evaluate a chemical substance for regulation, such action can temporarily preempt new state prohibitions or restrictions on that chemical substance until EPA publishes the evaluation or reaches a statutory deadline for publication of the evaluation. State action can also be preempted permanently when EPA makes either a determination to regulate a chemical substance due to any unreasonable risk posed or determines that a chemical substance does not pose an unreasonable risk. In these cases, TSCA can preempt a state action on a chemical-specific basis for the same uses and the same risks.⁹ Final action by EPA on a substance – whether by determining it does not present an unreasonable risk, or by imposing a risk management regulation to address identified risks – may block states from imposing similar or inconsistent restrictions on the same chemical.¹⁰

E.g., Federal Consumer Product Safety Act – *“Whenever a consumer product safety standard under this Act is in effect and applies to a risk of injury associated with a consumer product, no State or political subdivision of a State shall have any authority either to establish or to continue in effect any provision of a safety standard or regulation which prescribes any requirements as to the performance, composition, contents, design, finish, construction, packaging, or labeling of such product which are designed to deal with the same risk of injury associated with such consumer product, unless such requirements are identical to the Federal standard.”*

C. Recommendation for Ongoing Monitoring; Biennial Reporting on Federal Changes Affecting Vermont's Regulation of Chemicals

Currently in Vermont, several state agencies share authority – sometimes overlapping – over chemical regulation, and there is no single agency charged with evaluating potential risks from unregulated chemicals and identifying actions to minimize risk.¹¹ Additionally, there is no single agency or state entity that is charged with tracking proposed federal changes in law or in

⁹ A state may seek a waiver to impose restrictions on a substance following final EPA action. [Citation placeholder].

¹⁰ There are limited exceptions to the preemption rule. Activities not preempted include: state actions already taken by states before 22 April 2016; past or future actions taken under laws that were in effect before 31 August 2003 (which effectively safeguards California's Proposition 65 law); information-seeking requirements, such as reporting, monitoring or disclosure rules; and most state regulations imposed under water quality, air quality, waste treatment or disposal laws. [Citation placeholder].

¹¹ See Act 154 Report, Section III (Recommendations to General Assembly), p. 16.

rule regarding chemical regulation, exploring the potential effect (preemptive or otherwise) on Vermont's authority to regulate chemicals, or coordinating with regulatory agencies that may be affected by any federal change. As explained further herein, ongoing monitoring and reporting by the ICCM can serve to fill this information and coordination gap.

The ICCM can play an important role in monitoring the effect of proposed federal actions and coordinate State planning efforts in light of or in response to such federal actions. Specifically, the ICCM (or subgroup thereof) can serve the following roles:

- Track the proposal of federal laws and regulations (e.g., through publications in federal register, etc.) that would regulate, deregulate, or modify state standards and requirements related to chemical use and management;
- Coordinate notification to state agencies (and the public) on the federal change and solicit feedback on the potential effect of the federal action on the State's ability to regulate chemicals; and
- Make recommendations to the legislature and/or appropriate regulatory entities to adopt legislation and/or regulatory requirements in accordance with such recommended state action.

For ongoing biennial reporting of federal changes that may affect regulation of chemicals in Vermont pursuant to Section III.B(3) of the Executive Order, the ICCM may submit a report to the Governor on any major federal actions that have been proposed or that have become effective in the time since the last report submission. The report may be used to:

- Identify federal programs and actions (laws, regulations, policies, etc.) that are being monitored by the ICCM;
- Include a summary of any proposed federal action that may affect Vermont's ability to regulate chemicals, including the activities and stakeholders likely to be affected by the action;
- The effect on Vermont's ability to regulate chemicals or similar activities including the regulatory entities likely to be affected; and
- Proposed changes to existing laws or regulations in response to the federal action.

VI. Recommended Legislative or Regulatory Action to Reduce Risks to Human Health and the Environment from Regulated and Unregulated Chemicals of Emerging Concern

EO 13-17, Section III.B(4) directs the ICCM to include recommended legislative or regulatory action to reduce risks to human health and the environment from regulated and unregulated chemicals of emerging concern.

The ICCM made several recommendations to improve chemical management in Vermont in its July 1, 2018 Report. The Committee determined that its priority would be to make additional progress on the recommendations made in the previous report and contained within this report. With greater knowledge derived from that implementation process, the departments and agencies will be better equipped with the data necessary to make future recommendations.

Individual departments and agencies will continue to manage the chemical controls under their purview, but successful implementation of existing recommendations will take priority for the ICCM as a whole. That said, the ICCM will evaluate potential opportunities to protect public health and the environment as information becomes available. Along those lines, the Department of Health has identified one potential area for statutory change:

Flame retardants are often added to foam and casings of consumer products. Flame retardants are not chemically bonded to the consumer products, and often migrate out of the products into house dust. House dust is a known exposure pathway to chemicals. Flame retardants have come under scrutiny for potential adverse effects in children. Vermont prohibits a narrow set of flame retardants in some furniture (brominated and chlorinated flame retardants).¹² EPA is currently assessing risks from flame retardants through the TSCA program.¹³ In 2017, the US Consumer Product Safety Commission issued guidance to alert the public to the potential toxic effects of exposure to harmful organohalogen flame retardants.¹⁴ California recently enacted legislation to prohibit a manufacturer from selling or distributing new juvenile products, mattresses or upholstered furniture that contain flame retardant chemicals.¹⁵ This legislation will take effect on January 1, 2020. Maine also enacted similar legislation that went into effect on January 1, 2018.¹⁶ Legislative action could be taken to prohibit the sale of consumer products that contain the flame retardants banned by other states. This would reduce exposure to Vermonters to potentially toxic chemicals.

VII. Final Thoughts

The ICCM appreciates the opportunity to contribute to the State's chemical management efforts. It is likewise the ICCM's hope that this report provides useful information to further those efforts, and that its findings and recommendations will serve to build upon the collective knowledge base and understanding of chemical use, risks, and management throughout the State. The ICCM sees continual monitoring, review, and assessment of chemical regulation and use, combined with collaboration amongst State Agencies and external stakeholders as a viable and worthy path to pursue. In that way, the goals of increased protection of Vermonters from exposure to unsafe chemicals, better compliance assistance for the regulated community, and improvement of public availability of information, can be realized.

¹² 9 VSA Section 2973, 2974, 2976

¹³ <https://www.epa.gov/sites/production/files/2016-01/documents/flamefaq.pdf>

¹⁴ <https://www.gpo.gov/fdsys/pkg/FR-2017-09-28/pdf/2017-20733.pdf>

¹⁵ https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201720180AB2998

¹⁶ https://www.mainelegislature.org/legis/bills/bills_128th/billtexts/HP013801.asp



Dear ICCM Committee,

Re: GLOBALFOUNDRIES comments on the Interagency Committee on Chemical Management Biennial Report

GLOBALFOUNDRIES (GF) is very pleased to be able to participate and provide the following comments and recommendations on the draft ICCM Biennial report:

Section II: Recommended Statutory Amendments or Regulatory Changes to Existing Recordkeeping and Reporting Requirements that are Required to Facilitate Assessment of Risks to Human Health and the Environment Posed by Chemical Use in the State

Chemical review process comments:

- GF recommends making this process as transparent and inclusive as possible as the Committee starts thinking about taking action on a chemical, class of chemical or groupings of chemicals for review.
- In addition to the criteria already listed under Section 1: Nomination for Review, GF recommends adding documentation of current Federal, State and/or local regulation of the chemical, class of chemicals or groupings of chemicals.
- It is further recommended that the chemical/class of chemicals/chemical grouping meet some initial threshold to get on the Agenda where the ICCM wants to take action on it. The ICCM could establish screening criteria to ensure that recommendations for review are based on a set of minimum standards.
- Who is on the technical review team? GF recommends that a balanced team of experts is critical. In addition, engagement and dialogue with affected stakeholders will be critical at all stages of this process.
- The stakeholder process must include potentially impacted chemical manufacturers and consumer products manufacturers in the overall process:

- The group of experts from businesses and other entities that are subject to, and have expertise in, compliance with existing chemical reporting and environmental regulations and currently use the chemicals of concern and have an understanding of the use, storage and safe use practices currently in place, should take an active part in the Chemical review process.
- The technical team also needs to understand the regulatory regime currently in place at other States, Federal and Global level for the chemical of concern.
- GF requests that the final ICCM decision-making process needs to be elaborated. For instance, how will voting work? GF recommends that a final recommendation to proceed with review require a 2/3 vote. In addition, minority positions and CAP recommendations should be documented to get a better picture of all positions. Finally, we recommend that the timing of CAP review be adjusted so that the CAP comments and recommendations are provided before the final ICCM vote.
- The criteria of the decision making needs to be clearly defined.

Section IV: Summary of Identified Risks to Human Health and the Environment from Reported Chemical Inventories:

Toxics Use Reduction (TUR) program expansion:

GF notes that Toxics Use Reduction (TUR) expansion (both in threshold and chemical listing) would likely significantly increase the administrative burden and compliance costs for the regulated entities, without achieving additional safeguards for human health or the environment. By way of example:

- GLOBALFOUNDRIES' Vermont campus currently has 10 chemicals and 3 hazardous waste streams in our TUR plan
- Annually, the campus expends approximately 2 to 2.5 person years to implement our TUR efforts developed under the existing requirements
- Further reporting would not alter or add to GF's compliance with RCRA and other chemicals management requirements that safeguard human health and the environment.

The TUR expansion would subject companies and entities that are not currently regulated and who may have no knowledge and expertise in the area of chemical

management and pollution prevention to a significant expense in order to comply. GF notes that providing outreach, assistance and support to those smaller companies who don't have current knowledge or expertise in the area of chemicals management might yield far greater returns than simply adding to reporting requirements.

States that have expanded their TUR Program have devoted significant funding and infrastructure to ensure compliance. By way of example, the Massachusetts TUR Program is supported by the following agencies:

- Office of Technical Assistance and Technology
- The Massachusetts Lowell Toxic Use Reduction Institute
- The Administrative Council on Toxic Use Reduction
- Massachusetts Department of Environmental Protection

Please note that Massachusetts program has State-sponsored workshops, technical assistance, grants, and targeted research for companies. The program has implemented a phased-in approach to expanding the chemical list covered under the TUR regulations since its adoption in 1989.

Careful consideration should be given to the above factors prior to proposing the expansion of the TUR list, both by lowering threshold and expanding the TUR chemicals list.

Section V: Summary of any change under Federal Statute or Rule affecting the Regulation of Chemicals in the State

As new and emerging regulations are reviewed at the State, Federal and global level on emerging contaminants and new Chemical regulations are proposed, the following key considerations need to be factored in:

- Harmonization
 - Avoid duplication of reporting requirements
 - Avoid creating more stringent requirements in Vermont than in other countries and/or areas of US for companies already complying with regulations in multiple jurisdictions
 - Supply chain will resist strongly if state requirements are more stringent than other country/US locations

- More stringent regulations will place Vermont in a less competitive environment
 - Current regulatory environment is highly volatile: embarking on a singular environmental initiative will create market uncertainty and conflicting regulatory requirements
- Risk Based Approach and consideration of Potential Exposure to Chemicals need to be factored in.
 - Toxicity determination must consider clear identification of the chemical, the minimum concentration of the chemical which may create risk, and the types of exposures to humans which can cause harm.

Section VI: Recommended Legislative or Regulatory Action to Reduce Risks to Human Health and the Environment from Regulated and Unregulated Chemicals of Emerging Concern

Legislative action to prohibit the sale of consumer products that contain the flame retardants in consumer products:

- Harmonization and Risk based approach
 - Proposed legislation should pay close attention to definitions of flame retardants, consumer products, juvenile products, thresholds of bans in other states. Consistency and harmonization with other state definitions and criteria is a must, plus mere presence vs exposure.

Additional comments:

Electronic reporting:

As we have stated in our earlier comments on electronic reporting, electronic reporting is a welcome addition to the ICCM recommendations. It should be an overall improvement in efficiency.

There would be significant benefits to reforming and streamlining chemical reporting to lower compliance costs and burdens for manufacturers and other

businesses, improve the pooling or sharing of information across state agencies, and facilitate access to information currently available to the public.

The IT solution being developed should be mindful of the following:

- Business confidential information has to be honored on public website
- Mindful of CFATS chemical security information
- Information needs to be framed in the proper context
- The suggested headcount for the IT management is woefully inadequate

We appreciate your consideration of our view and look forwards to working with the Committee. Please feel free to contact me at 1-802-769-4269 or Ruma.Kohli@globalfoundries.com with any questions or concerns.

Thank you,

Ruma Kohli

Product Stewardship Program Manager

Corporate EHS and CSR

Comments:

Interagency Committee on Chemical Management December 15, 2018 Biennial Report

Dr Ian Balcom, PhD. Northern Vermont University, Lyndonville Vermont.

General Comments:

The chemical review process recommended in this report evaluates one chemical at a time, through a thorough review process housed across the state agencies, without dedicated funding or staffing will likely result in a process that will proceed very slowly. If meaningful change is expected as a result of these reviews, there should be a dedicated entity or staff member(s) (with dedicated funding), whose role it is to usher these reviews through the evaluation process and produce recommendations in a timely manner. Given the number and diversity of unregulated chemicals of emerging concern the approach, outlined here, that assesses chemical one at a time, will not significantly alter the toxic chemical burden in the State of Vermont.

Specific Comments:

1. Page 5. Section II, Part 1 Nomination for review (chemical) process.

Process for nominating a chemical for review by the Interagency Committee on Chemical Management (ICCM) outlined in the biennial report identifies criteria for selecting chemical for the review process. This list, as written, appears to require that all the conditions be met before a chemical can be selected for review. If it is the intention of ICCM to allow for selection of a chemical for comprehensive review if it meets one, but not all of the criteria, then the work "AND" (bullet number #4) should be replaced with "OR". Conversely, if a chemical is required to meet all of these conditions prior to being selected for a review, then it represents an overly burdensome process that will likely result in very few chemicals being reviewed by the ICCM. For example, it is highly unlikely that there is documented use and documentation of releases to environmental media for any given unregulated chemical of emerging concern.

For clarity, "OR" should be inserted at the end of each of the nomination criteria on the list.

2. Process for nominating a chemical for review by the ICCM section also states "a cap on the number of reviews that can feasibly be done by the ICCM and supporting staff." Given the current staffing levels and the absence of dedicated

funding for this evaluation process, how many reviews does the ICCM expect are feasibly in a given year? What is the cap that the ICCM is considering? This should be clearly stated in this section.

3. Section 3. Technical Review Team: "Once the ICCM decides to review a chemical, class of chemicals or grouping of chemicals, it will task a Technical Team consisting of members from the ICCM agencies with review and preparation of a report detailing their findings". Given current staffing levels can this work be completed without dedicated FTE? What is the likelihood that a comprehensive review will be completed in a timely fashion? What is the expected timeframe of this review process? Do the agencies have the expertise on staff to conduct toxicological reviews? Currently staffed positions within each agency represented on the ICCM capable (technically and availability) of completing this work should accompany this report.
4. Section III. The ICCM utilized Tier II data to evaluate the current knowledge of chemical inventories in the state of Vermont. Each member agency of the ICCM ranked the chemicals reported under Tier II requirements. However, the ICCM did not address how the proposed reporting system outlined in the July 1 report to the Governor addresses the significant shortcomings of the currently available data on chemical inventories in the State of Vermont. Specifically, how would the proposed centralized electronic reporting system and inventory (CERSI) address the significant gaps identified during the Tier II data evaluation process? The shortcomings of the Tier II data should be clearly outlined in this report, followed by outlining of the remedies contained in the CERSI proposal.
5. Section V. Part C. The report states: "there is no single agency or state entity that is charged with tracking proposed federal changes in law or in rule regarding chemical regulation, exploring the potential effect (preemptive or otherwise) on Vermont's authority to regulate chemicals, or coordinating with regulatory agencies that may be affected by any federal change." This is a significant issue that may render this the efforts to prevent human health and environmental hazards posed by unregulated toxic chemicals in Vermont ineffective. The paragraphs that follow the above statement outline the ways in which the ICCM can fill this gap. However, without specifically requesting funding and staffing is this realistic? Can the ICCM provide statewide oversight of unregulated chemicals with current staff and funding levels?

6. Section VI. While the recommendation that "Legislative action could be taken to prohibit the sale of consumer products that contain the flame retardants banned by other states" is an important action that will avoid unnecessary exposure to toxic brominated flame retardants to citizens of the state of Vermont, it should serve as an example of the limitations of the proposed chemical one-chemical-at-a-time review process. Specifically, if a comprehensive review, evaluation, recommendation and legislative action is required for every individual chemical that presents unnecessary risks to Vermonters it is highly unlikely that widespread environmental contamination and deleterious human health impacts will be prevented.

While the work completed by the ICCM as outlined in this report and the July 1 report are an important first step in identifying opportunities for preventing the release and exposure to unregulated toxic chemicals in the State of Vermont, missing from these reports are a discussion of the limitations of these recommendations. Inclusion of these limitations, as well as possible remedies, regardless of budgetary implications, should be included in this report.

***VERMONT NATURAL RESOURCES OF COUNCIL, VERMONT LAW SCHOOL
ENVIRONMENT AND NATURAL RESOURCES LAW CLINIC, VERMONT PUBLIC
INTEREST RESEARCH GROUP, TOXIC ACTION CENTER AND VERMONT
CONSERVATION VOTERS COMMENTS ON THE VERMONT INTERAGENCY
COMMITTEE ON CHEMICAL MANAGEMENT DRAFT BIENNIAL REPORT***

I. INTRODUCTION

On November, 13, 2018, the Interagency Committee on Chemical Management (ICCM) forwarded a draft **biennial report** to members of the ICCM Citizens Advisory Panel (CAP) for comments. This letter serves as the joint comments of five members of the CAP, Jon Groveman, Lauren Hierl, Samantha Hurt, Shaina Kaspar, and Ken Rumelt.

The November 2018 Draft Biennial Report address three aspects of the Executive Order 13-17: (1) Section III.A(3), which directs the ICCM to recommend any statutory amendments or regulatory changes to existing recordkeeping and reporting requirements that are “required to facilitate assessment of risks to human health and the environment posed by chemical use in the State”; (2) Section III.B(1), which directs the ICCM to include a summary of “chemical use in the State based on reported chemical inventories”; and (3) Section III.B(2), a summary of “identified risks to human health and the environment from reported chemical inventories;” Section III.B(3), a summary of any change in federal law affecting the regulation of chemicals in the State; (4) and Section III.B(4), requiring “recommended legislative or regulatory action to reduce risks to human health and the environment from regulated and unregulated chemicals of emerging concern. We address each of these sections below.

II. COMMENTS

A. The ICCM’s Proposed General Framework for Recommending Statutory Amendments or Regulatory Changes to Existing Recordkeeping and Reporting Requirements Pursuant to EO 13-7, Section III.A(3).

This section of EO 13-7 ultimately asks the ICCM to answer whether recordkeeping and reporting requirements are adequate for the purpose of assessing risks to human health and the environment in Vermont. The Draft Biennial ICCM Report proposes a 9-step process to determine whether a chemical or class of chemicals should be subject to additional recordkeeping and reporting requirements. We believe the process is still too onerous and flawed.

One significant concern is that the proposed framework creates a “chicken and the egg” problem. Under the proposed framework, the Technical Team will assess the “[u]se of the chemical, class of chemicals or group of chemicals” in Vermont, including what quantities are typically used and stored, an estimate of who is using the substance, how it is used and how much is being used and produced as waste, and commercial versus consumer use, and what facilities use the chemicals. ICCM Draft at 6–7. This is, of course, the kind of information that recordkeeping and reporting

requirements are meant to create. This aspect of the framework should be revised or eliminated so that the lack of chemical use information does not interfere with the State's ability to require additional recordkeeping and reporting on chemical uses.

We also remain concerned that the process for simply requiring companies to report chemicals is tremendously burdensome and time consuming. Again, it appears that the proposed framework may take several years to establish new recordkeeping and reporting requirements. There is sufficient justification today, for example, to require additional recordkeeping and reporting for the use of PFAS chemicals in Vermont.

B. Summary of Chemical Use in the State Based on Reported Chemical Inventories

The Draft Report notes that the ICCM relied on the Tier II reporting database to summarize chemical uses in the state. As noted in the draft report, the database “represents the most comprehensive database containing information on chemical use required to be reported in Vermont.” ICCM Draft at 8. However, during the last meeting, members of the ICCM seemed to indicate that information in the database may not be very accurate. The Draft does not reflect these concerns. The final report should describe these concerns and other sources of error and inaccuracies in the Tier II database.

C. Summary of Identified Risks to Human Health and the Environment from Reported Chemical Inventories

The draft report includes an array of responses and methodologies employed by the various ICCM members in their review of the risks of chemicals reported in the Tier II database. Our general comment is that any review of the risks to human health and the environment of chemicals used in this state should not rely solely on existing regulatory determinations. In the Draft Report, for example, the Agency of Agriculture indicated that any registered pesticide presents “no risk” to human health and the environment. Draft Report at 9. This approach is problematic. As one court recently held, “[o]ver nearly two decades, the U.S. Environmental Protection Agency . . . has documented the likely adverse effects . . . of the pesticide chlorpyrifos on the physical and mental development of American infants and children, often lasting into adulthood.” *League of United Latin Am. Citizens v. Wheeler*, 899 F.3d 814, 817 (9th Cir. 2018). Yet it made every effort to delay action to ban the pesticide. *Id.* A summary of risks to human health should not rely solely on existing regulatory determinations.

Chemical Reporting - As previously noted, we strongly support the creation of a centralized reporting system; in particular, one that minimizes the burden on Vermont businesses to comply with the law. As noted in our last written comments, reporting chemical uses should not be an onerous task, particularly in a modern world filled with electronic devices and tracking systems. Our ultimate hope is that reporting will become as simple as scanning a barcode using a smartphone app.

The online system proposed in the initial ICCM report appears to be the blueprint for a useful tool that if implemented correctly will help realize the goals of allowing both Agencies and the

public to know where dangerous chemicals are located. We are concerned that in this annual report, the ICCM has not indicated a timetable for when the centralized reporting system will be in place, and the level of funding that the Administration will dedicate to this effort.

Toxic Use Reduction - As previously noted, ICCM's recommendations for improving the effectiveness of Vermont's Toxic Use Reduction Act (TURA) are insufficient. ICCM continues to propose that steps that facilities take only voluntary steps to evaluate alternatives to the use of toxic chemicals. We continue to recommend that the ICCM propose a program modeled off the Massachusetts law and regulation that at a minimum: funds certified planners hired or approved by the state who are experts in toxic use reduction; raises fund for the program with a fee on users of toxic substances in Vermont; requires large users of toxic substances to prepare a toxic use reduction plan, that is reviewed by state certified planners, and have the plan submitted to the state and made available on the enhanced toxic chemical data base and public facing web portal.

Flame Retardants – We support the Department of Health's recommendation to ban all flame retardants that have been banned for use in consumer products in other states. We urge the ICCM to work with the legislature to develop and support a bill that defines the class of flame retardant chemicals covered by the ban in a way that is as protective of Vermonters' health as possible, as well as broadly define the product categories to which the ban will apply to minimize Vermonters' unnecessary exposure to these harmful chemicals.