IBM Testimony on S.239 - Regulation of Toxic Substances
Senate Committee on Economic Development, Housing & General Affairs
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Thank you for the opportunity to testify regarding S.239, a bill proposing the restriction of chemicals in consumer products.

IBM is the largest for-profit employer in Vermont, and accounts for 69% of all Vermont exports.[1] The majority of the semiconductor chips manufactured in IBM Microelectronics' Essex Junction facility are incorporated into consumer products such as cell phones, tablets, televisions, routers, and GPS devices, sold here in Vermont and around the globe by our valued clients. While the semiconductor chips enclosed in these devices present virtually no exposure risk to consumers, S.239 would nonetheless subject these components to a high regulatory burden. We are very concerned about how this bill would affect our clients, and IBM as a key supplier.

IBM has a long history of proactively evaluating the chemicals proposed for or used in our processes and products; identifying potential substitutes that may have less impact on the environment, health and safety; and eliminating, restricting and/or prohibiting the use of substances for which a more preferable alternative is available that is capable of meeting quality and safety requirements of our processes and products. Our record of voluntary material restrictions and prohibitions stretches back over three decades, and is evidence of our commitment to and expertise in safe and responsible chemical use that is protective of human health and the environment.[2] IBM's product specification currently bans or restricts over 100 chemicals from our supply chain. As Product Stewardship Program Manager for IBM's Microelectronics Division, I ensure that our products meet worldwide chemical content regulations. I also served for several years as a member and as Chair of the Vermont Advisory Committee on Mercury Pollution. **Informed by our experience in this arena, we have several key concerns with S.239:**

1) The bill creates a regulatory structure triggered solely by the hazard of a chemical, regardless of the risk (or lack of risk) of exposure at potentially harmful levels.
2) The bill fails to focus on classes of products that present the greatest potential for chemical release or exposure to sensitive subpopulations. The scope exceeds that of any existing regulatory program of this type in other states.
3) The bill is not harmonized with existing global chemical management regulations and requirements. Moreover, there is no defined threshold level for chemicals of concern.
4) The current Confidential Business Information protection provisions are weak and do not offer adequate protection to manufacturers.
5) The bill does not provide reasonable timelines for action by manufacturers.
6) The resources required to implement the program have not been defined.

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[1] Based on 2012, the most recent statewide data available.

[2] For more information on IBM's record of environmental leadership and product stewardship, please see www.ibm.com/environment.

Lack of a Risk Based Approach

S.239 seeks to regulate any detectable presence of a listed chemical over a vast universe of consumer products, irrespective of the potential for exposure to harmful concentrations. Such an approach is wasteful and imposes regulatory burden where there may be little risk, and therefore scant prospect for actual health or environmental benefit. A product should not be subject to regulation in the absence of a credible exposure pathway. The exposure assessment should address whether the chemical is present in a form that would allow absorption by a human at a level of concern. For example, if the chemical in question is completely encapsulated in an impervious substance and is inaccessible during normal and foreseeable use of the product, it is not a risk factor (provided disposal is managed appropriately). S.239 ignores consideration of these criteria. Regulation should be focused on actual risks rather than perceived risks.

Risk must also be considered relative to that of an alternative. Section 1776(b)(2) states that "the Commissioner **may** consider whether a safer alternative to the priority chemical exists" when adopting a product ban. The Commissioner cannot make the best decision possible without knowing if a safer alternative is available, especially for some essential products, and thus should be required to consider that in the rulemaking process.

Harmonization with Existing Global Chemical Management Regulations & Requirements

The overall environment for the regulation of chemicals throughout the world has been one of significant activity in both the U.S. and globally. Regulations continue to identify chemicals for which regulatory restrictions are being tightened in different states. In addition, the House and Senate are actively engaged in Toxic Substances and Control Act (TSCA) reform along with the EPA and other stakeholders.

It is important for Vermont to clearly understand what these other laws and regulations require before legislating in this area. Otherwise, there is a strong likelihood that Vermont's requirements will conflict with the requirements of these other laws, create confusion for those tasked with compliance and enforcement, and unnecessarily restrict the provision of environmentally safe goods into Vermont.

Harmonizing proposed new Vermont chemical restrictions with other chemical regulatory programs is a more efficient way to implement chemical restrictions and avoids placing Vermont at a competitive disadvantage in the global marketplace.

Harmonizing legislation with other states should also include product scopes. The Vermont proposal is for all consumer products, while Washington State, for example, is a considerably smaller subset defined as children's products. Other important aspects of harmonization:

1) Threshold Levels for Chemicals of High Concern

The compliance level for the chemicals of concern should be consistent with other regulations, such as the European Union's REACH regulations that specify a threshold of 1000 ppm or 0.1% that applies as a weight percent of the final article. Any inconsistency is potentially problematic

for any Vermont manufacturer that exports. Many manufacturers of products design, manufacture, market and distribute on a global basis and do not separate products for sale in specific jurisdictions. Inconsistencies across jurisdictions represent a serious concern for compliance, market access and global flow of commerce. Vermont should recognize and not conflict with current regulatory requirements which are globally implemented and based on extensive review by chemical authorities.

In addition to not being harmonized, the Practical Quantification Limits (PQLs) used as threshold levels in S.239 are decidedly impractical. As analytical testing methods and detection limits improve over time, the PQL for a specific chemical also can change over time, resulting in uncertainty for industry in terms of compliance. Furthermore, the matrix of a product or component of the product can affect markedly the PQL for any given chemical. The matrix of microelectronics products can be vastly different from those of other products, e.g., formulated products, such as household cleaners. Therefore, a PQL established for one product may not be applicable to another product.

2) Definition of "Chemical"

It is important to align the S.239 definition of "chemical" in Section 1772[3] with that of "chemical substance" by the US Federal government (40 CFR 720.3 - Definitions)[4] for interstate commerce purposes. Any differences in these definitions could lead to different regulatory implications across jurisdictions. Therefore it is important to keep these definitions consistent.

Protection of Confidential Business Information

Section 1775 (d) states that the information submitted by the manufacturers to the State of Vermont on the presence of chemicals in products is exempt from public inspection and copying, subject to certain exemptions. **Some of the information requested in this section such as the type and amount of chemical, and the function of the chemical in the product may be considered proprietary by the manufacturer.** In the semiconductor industry, it is common for proprietary process information to be protected as trade secrets, since patenting that information may not offer adequate protection. **There must be consideration for the Confidential**

[3] S.239 - (1) "Chemical" means a substance with a distinct molecular composition or a group of structurally related substances and includes the breakdown products of the substance or substances that form through decomposition, degradation, or metabolism.

[4] 40 CFR 720.3 - (e) Chemical substance means any organic or inorganic substance of a particular molecular identity, including any combination of such substances occurring in whole or in part as a result of a chemical reaction or occurring in nature, and any chemical element or uncombined radical, except that "chemical substance" does not include:
(1) Any mixture.
(2) Any pesticide when manufactured, processed, or distributed in commerce for use as a pesticide.
(3) Tobacco or any tobacco product.
(4) Any source material, special nuclear material, or byproduct material.
(5) Any pistol, firearm, revolver, shells, or cartridges.
(6) Any food, food additive, drug, cosmetic, or device, when manufactured, processed, or distributed in commerce for use as a food, food additive, drug, cosmetic, or device.

Business Information (CBI) protection of intellectual property relating to the material and its use in the product. These protections must extend to the rulemaking process for priority chemicals, which is likely to involve even more specific and detailed proprietary process or product information. Release of such information could cause significant economic harm to businesses such as ours that rely on innovation to maintain a competitive edge over low cost offshore manufacturers, primarily in Asia.

Manufacturers should have the right to a prepublication review of the information that the State plans to release, to prevent the inadvertent disclosure of trade secrets. Currently, it is unclear who will determine what information is published and which portions will be exempted from disclosure.

On the issue of data sharing with other states, it is important that there is a clear understanding that such data sharing should only take place where confidential business information and trade secrets are protected, under conditions consistent with Vermont requirements. New York, North Carolina, and Massachusetts, for example, have not adopted the Uniform Trade Secrets Act. The Uniform Trade Secret Act could be more or less stringent than other state laws.

Reasonable time for action

Timelines for alternates assessment and phase out of priority chemicals in consumer products need to be realistic and practical keeping into consideration some of the activities the manufacturers of consumer products need to complete. Key steps in an alternates assessment and phase out process must include:

- Understanding the chemical composition of a product – many products contain hundreds if not thousands of individual components, each of which may be manufactured by a different supplier or suppliers. It can take six or more months just to contact and receive relevant information and assurances from each of those suppliers.
- Identifying alternate chemicals for evaluation.
- Determining whether those chemicals are available for purchase from a reliable, trustworthy source.
- Negotiating pricing and other terms with any such source.
- Purchasing those alternate chemicals.
- Conducting a regulatory, technical, and economic feasibility analysis of the alternate chemicals.
- Qualifying the selected, alternate chemicals.

For example, IBM's semiconductor facilities conducted a significant, technologically challenging, multi-year effort (over 7 years) to eliminate use of PFOS and PFOA compounds. The work was completed in January 2010. This effort required close collaboration with IBM's chemical suppliers, development partners, external vendors, and other IBM locations through a period of several years. Based on IBM's experience with this and other phase out efforts, we would like to re-emphasize that the assessment and the ultimate selection of an alternate chemical is an extremely complex and time consuming process that entails consideration of multiple factors.

Resources and Funding

The annual cost to implement S.239, the number of employees required, and the additional funding needed have yet to be determined. Section 3 would require this information to be submitted to the legislature in 2015. Yet Section 1775(f) imposes a fee on manufacturers for each disclosure of a chemical of concern present in a product. IBM is not aware of a similar fee structure within other state laws. The current version of the bill made the reporting requirement biennial, which is unnecessary unless it is intended to raise additional revenue. When combined with the lack of an effective de minimis level, and the broad product scope of the bill, it seems likely that a significant amount of revenue would be inequitably generated by this bill from products that pose little to no health or environmental risk.

The program outlined by S.239 is extremely ambitious in its scope, but many questions remain regarding how it will be implemented, how the intended benefits will be realized, and how much it will cost. We urge the Committee to vigorously pursue answers to these questions before advancing this bill.

Thank you for your consideration. For additional information or questions, please contact:

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