APPENDIX

Center on Global Energy Policy at COLUMBIA SIPA | 10

TESTIMONY OF
ABRAHAM SILVERMAN
DIRECTOR OF THE NON-TECHNICAL BARRIERS TO THE CLEAN ENERGY TRANSITION INITIATIVE AT COLUMBIA UNIVERSITY'S CENTER ON GLOBAL ENERGY POLICY

June 8, 2023

Good morning Chairman Smith, members of the Committee.

My name is Abraham Silverman, and I lead the Non-Technical Barriers to the Clean Energy Transition initiative at Columbia University's Center on Global Energy Policy. Previously, I had the honor of serving as the General Counsel and then Executive Policy Counsel at the New Jersey Board of Public Utilities, working with President Fiordaliso and his excellent team. However, my comments today represent my own views.

I'm here this morning to discuss how we can affordably modernize New Jersey's electric grid and, in particular, efficiently connect new resources to the grid. My testimony this morning covers three main topics:

1. What is interconnection?
2. Why it matters?
3. What are the challenges & how can we do it better?

1. What is Interconnection?

Interconnection is the process of connecting a new electric generator to the grid safely and reliably. Any new generating facility is required to go through the interconnection process, whether it puts power out onto the grid, like offshore wind, a natural gas-fired generator or a large battery system, or whether it operates behind the customer's meter, like a rooftop solar system.

To make sure that the electrical grid can safely accommodate the new generator, the utility is required to conduct a series of studies, which can range from processing a single one-page application for a rooftop solar system to an extensive modeling process that can take several years. The type of study is determined by factors such as:

- The size and location of the new generating facility;
- The size of the utility line the facility is connecting to; and
- Expected conditions on the electric grid at various times during the year.

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All of these studies are set forth in the utility's tariff and are conducted on a non-discriminatory basis in the order that the application was received. Based on the results of the study, the utility may authorize the generator to connect to the grid or may identify upgrades to the grid that are necessary to safely accommodate that power.

Utilities that operate more rural systems or with lower voltage transmission and distribution lines often require more upgrades to interconnect new generation. It's this grid upgrade process that is responsible for many of the most severe bottlenecks in the interconnection process, and I'll come back to those later.

Now let me turn to two other pieces of the interconnection puzzle that make can this process confusing:

First, there is a federal-state jurisdictional divide over who is responsible for the interconnection process:

- Interconnections to the distribution system, that's the lower-voltage lines that power our businesses and homes, is subject to State jurisdiction, regulated by the Board of Public Utilities, and the study process is conducted exclusively by state public utilities.

- Interconnections to the transmission system, that's the higher-voltage lines, or that seek to sell power into the PJM grid, are subject to the jurisdiction of the Federal Energy Regulatory Commission and the studies are conducted by PJM Interconnection, the regional grid operator, with assistance from the utility in whose service territory the project is interconnecting.

Second, the term "interconnection" actually covers two different things: first, the "generator interconnection" process that we've been talking about, but also "load interconnection", which is the process for connecting new consumers of electricity, ranging from small customers, like a house, to enormous customers, like data centers or medium- and heavy-duty electrical vehicle charging depots.

While these are separate processes, at the end of the day, there's only one grid. And cost-effective grid modernization strategy needs to look at building out the grid to meet both our supply and demand objectives, including electrification of the transportation and building sectors. After all, nothing makes your constituents angrier (and wastes more money) than having the utility come in and close down a street to upgrade a wire and then do it again next month.

2. Why it Matters:

The interconnection process has become one of the most significant barriers to the deployment of clean and conventional generation resources. It's slowing down the energy transition, threatening grid reliability,[1] and costing consumers significantly more than necessary to meet our energy objectives.

[1] New Jersey's regional grid operator, PJM Interconnection, has identified the slow rate of completion of new generator interconnections, coupled with planned retirements of existing fossil fuel generation, as a major reliability

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- Nationally, there is enough generation to replace every generator in the country currently sitting in interconnection queues all over the country, ninety percent of which are clean energy or batteries.[2]

- Average processing times to complete interconnection studies have increased to over 4 years on average – even before construction of necessary grid upgrades begins.[3]

- Regionally, the grid operator for New Jersey and a dozen other states and the District of Columbia is experiencing multi-year delays in processing new generator interconnection requests, adding years to the timeline for deploying clean energy in New Jersey.[4]

Developers I talk to are concerned most about timeline and cost, as well as the *predictability* of the timeline and costs. The concerns over timeline apply both to how long it takes to complete the studies, as well as how long it takes the utility to procure and install the necessary equipment. As supply chain constraints have worsened over the past several years, the utility timeline for procuring key pieces of equipment, such as transformers, has increased, in some cases, by years.

While upgrade costs are always a concern, the *uncertainty* around cost allocation is often just as big a concern. Even the risk of a delay in the interconnection process directly increases costs to consumers. It is important to recognize that most generators going through the interconnection process today are clean energy resources receiving ratepayer funded incentives, such as Solar or Offshore Wind Renewable Energy Certificates. Thus, ratepayers are already (albeit indirectly) funding the necessary grid upgrades in the form of higher incentive costs. Further, lengthy interconnection timelines increase the risk of locking in outdated technology and slows down creation of green jobs in New Jersey.

3. What are the Challenges & How to Do Interconnection Better:

The interconnection story is a classic good news/bad news story. The bad news is that the interconnection process has become longer and more expensive over the past few years. But the good news – and I don't want to lose the good news – is that we're seeing an unprecedented amount of new generation being developed in New Jersey and throughout the PJM region. The overwhelming amount of this new generation are renewables and battery resources.

Regulators at every level are focused on making improvements. Here in New Jersey, the Board has several major proceedings dedicated to modernizing the grid, including its proceeding to

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concern. *See* https://www.pjm.com/-/media/library/reports-notices/special-reports/2023/energy-transition-in-pjm-resource-retirements-replacements-and-risks.ashx.

[2] The Lawrence Berkeley National Laboratory's "Queued Up: Characteristics of Power Plants Seeking Transmission Interconnection" initiative maintains an extensive database of interconnection queue data. *See* https://emp.lbl.gov/queues.

[3] *Id.*

[4] For additional details on the PJM interconnection reform process, *see* https://www.pjm.com/planning/services-requests/interconnection-process-reform.

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update the Board's decade-old interconnection rules. PJM is likewise in the midst of implementing the first phase of its "first ready, first served" interconnection queue reforms, with a second phase of reforms to start soon.

In addition to the reforms already in progress, there are a series of additional changes that could make the interconnection process faster, cheaper and more predictable, and may present the opportunity for legislative or regulatory reform.

- **Getting the grid ready.**

One of the most significant steps that we can take to accelerate the interconnection process is to identify the places where generators are likely to locate, and then proactively build the grid out to meet the needs of these interconnecting generators.[5] There is significantly evidence that a proactive buildout of the grid results in significantly lower total costs than the piecemeal approach to grid expansion that we have today.[6]

Tackling grid expansion needs up front avoids the problem of having utilities make multiple small upgrades when one larger project would be faster or achieve significant economies of scale. Further, getting the grid ready in advance results in faster deployment of generation projects and could enhance New Jersey's ability to access low-cost capital by reducing the risk profile of generation developments.

Solar development is one area that could be well-served by such a proactive approach. As the Committee knows, many of the best locations for solar development (as well as other energy-intensive economic growth) are located in rural parts of the state, where the grid often needs to be reinforced to accommodate new generation. Utilities in this situation could, under the careful oversight of the Board, proactively identify these renewable energy zones and begin the process of upgrading their grids even before a generator requests interconnection service. This model has been successfully deployed in a diverse array of states, including Texas,[7] and is currently being rolled out in California,[8] New York,[9] and as well as other states.

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[5] While my testimony today is focused on generator interconnections, the same holistic planning approach can be applied to reinforcing the grid to meet increased electricity usage, due to things like electrification of buildings and transportation.

[6] *See, e.g.*, Comments of the New Jersey Board of Public Utilities to the Federal Energy Regulatory Commission in Docket No. RM21-17-000 (filed August 17, 2022) (citing examples of cost savings attributable to planned transmission).

[7] For a history of Texas's Competitive Renewable Energy Zones, or CREZ initiative, *see* https://www.bakerinstitute.org/research/texas-crez-lines-how-stakeholders-shape-major-energy-infrastructure-projects.

[8] *See, e.g.*, https://www.canarymedia.com/articles/transmission/california-has-a-new-7-3b-plan-to-fix-its-transmission-problems.

[9] *See, e.g.*, New York Independent System Operator's "Proposed Public Policy Transmission Needs/Public Policy Requirements, As Defined Under the NYISO Tariff," (Filed Feb. 2023 and *available at*: https://www.nyiso.com/documents/20142/35671756/2023-02-21-NYISO-Comments-PPTN-2022-23-22E0633-CMPLT.pdf/f072e581-5cd2-5f21-c158-5322e61fef59).

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The Board's recent offshore wind transmission partnership with PJM is a key example of proactively planning the transmission grid to accommodate the power from offshore wind producers selling power into the PJM system. As part of that initiative the Board identified where the offshore wind generators were likely to locate, and where the grid needed to be reinforced to accommodate that power, potentially shaving years off the development process and saving New Jersey consumers millions.

- **Modernize our interconnection cost allocation policies.**

One of the most important issues around interconnection is who should pay for upgrades to the electric grid. Traditionally, costs have been assigned to the generation customer causing the upgrades, a concept known as "participant funding." The benefit of participant funding is that the cost-causer pays to upgrade the electric grid, and ratepayers are largely insulated from the increased costs.

However, participant funding also has several drawbacks. *First*, the participant funding model assumes that individual generators will be the primary means of funding utility system expansion. However, in a high renewable energy penetration system, this assumption may not be feasible as the scope of the necessary upgrades may simply be too large for any individual generator, creating a cycle where multiple generations of proposed projects fail as they run up against the same significant upgrade.

Second, because the costs of interconnection are not knowable in advance, the participant funding methodology represents a significant headwind for clean energy developers seeking to do business in New Jersey.

Third, under the participant funding model, the utility is required to do detailed studies to determine the costs associated with interconnecting each proposed generator, which adds significantly complexity and time to the process. Further, when one generator drops out, it often triggers cascading restudies of other generators and multiple rounds of shifting cost responsibilities. A revised cost allocation methodology could lessen that complexity and minimize the number of restudies.

There are several potential approaches to reforming the participant funding model that the Committee may wish to explore:

1. Socialize the costs of upgrading the distribution system for new clean energy generators (with stringent limits to ensure that projects do not lose the economic incentive to locate in the right places on the grid);

2. Make interconnection costs more predictable by authorizing the Board to establish a fixed interconnection fee per-megawatt of installed capacity, and then use the proceeds to contribute to grid modernization costs. A fixed-fee approach could be structured so that generators, in total, pay 100% of the upgrade costs (i.e., on a revenue-neutral basis) or some lesser percentage, with ratepayers making up the difference; or

3. Direct utilities to establish a list of the most significant limiting elements on their distribution systems and allow utilities to upgrade those elements with socialized rate recovery.

Various combinations of these approaches can also be utilized to ensure that interconnection customers retain the incentive to minimize interconnection costs, while reducing the risk and accelerating the interconnection process.

I appreciate the opportunity to testify before you today, and look forward to any questions.

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Senate Energy and Environment Committee
Grid Modernization
June 8, 2023

Good morning Chairman Smith, Vice-chair Greenstein and honorable members of the committee. We thank you for inviting the Board of Public Utilities (NJBPU or Board) to take part in today's discussion.

As a former colleague likes to say, the best time to invest in our infrastructure was 10 years ago. This is as true for utility infrastructure as it is for roads and bridges. This Administration however, under the leadership of Governor Murphy and in partnership with our colleagues in the Legislature, is taking the actions now that will benefit our future.

Strategically modernizing our electric grid is necessary in order to meet the state's clean energy goals and to enhance reliability. Effectively bringing a significant amount of new, clean energy resources online requires those installations to have access to New Jersey's power grid.

The New Jersey power grid was well designed to meet the needs of the past, where the output of large energy centers was delivered to load centers that were experiencing steady and predictable load growth. While electricity load in the long term is expected to grow as decarbonization and electrification efforts ramp up, today, load growth has flattened, and technology is enabling remaining load to be able to coordinate with increasingly local generation such that the distribution grid must adapt to maintain its balance and evolve to a much higher level of flexibility. Further, the grid itself is impacted by an increasing frequency of severe weather events, and therefore efforts to expand the reliability reinforcements to include grid resilience must be pursued. A modern energy delivery system must be one that efficiently and flexibly

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serves New Jersey customers with clean, affordable, and reliable energy, while keeping pace with the rapidly expanding adoption of distributed energy resources such as solar and storage.

In May of 2021 the Board approved a competitively bid contract with Guidehouse, Inc. to provide Grid Modernization program development services focusing initially on the reform of New Jersey's interconnection processes and technology. Conceptually, "interconnection" is typically understood to be the process of connecting new electricity generation to the grid, which comprises both the local distribution system and the larger transmission system. Practically speaking, interconnection today means connecting generating resources to the grid, including storage, as well as connecting load to the grid, whether that load is a new home or a large data center or other very large electricity consumer. In November of 2022, the Board accepted the Guidehouse report that included a set of recommendations from a grid modernization study and authorized the release of the report for public comment. The report, which was developed through a robust public process, outlines a framework for modernizing the grid. Its recommendations have the potential to significantly improve New Jersey's interconnection rules in order to absorb much higher levels of clean distributed energy resources (DERs) that are connected closer to the customer edge of the distribution grid.

The Guidehouse report effectively framed the research areas, organized and facilitated a comprehensive series of stakeholder meetings, and delivered a Final Report with nine Findings and Recommendations. Those recommendations are broken down into near-term and long-term recommendations.

Near-term recommendations from the Report include:

- Ensure New Jersey is aligned with the latest grid interconnection standards of the Institute of Electrical and Electronics Engineers (IEEE) (guarding against obsolescence);
- Streamline and automate the interconnection application process including an interconnection dispute resolution process and consistency across the state's Electric Distribution Companies (EDC) (predictability and efficiency);
- Enhance hosting capacity methodology, hosting capacity and map data granularity, minimum update intervals, and presentation consistency. This would include the EDC providing a uniform cost data guide for system upgrades (transparency and predictability); and
- Design and implement an EDC pre-application process in accordance with NJBPU requirements, which will provide the opportunity to expedite renewables and storage interconnection. The process should enable key information affecting project viability and cost to be exchanged between the EDC and the customer prior to initiating a standard interconnection review (clarity on costs and time to reach commercial operation).

Long-term recommendations from the Report include:

- NJBPU should develop a steering committee and convene working groups and task forces to further reform the interconnection and grid modernization process. The steering committee should recommend tools and an approach for a "regulatory sandbox" to test for "fail or scale" of new technologies and processes;

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- Informed by a stakeholder process initiated by NJBPU, NJ EDCs should implement a streamlined flexible queue process across EDCs which would include a mechanism to
- prioritize a "first ready, first through" approach. This would support more viable projects increase equity and fairness in the function of the queue and avoid clogging the queue.
- NJBPU should establish a steering committee and working groups to research and recommend additional cost recovery options beyond the legacy cost-causer approach under which the resource connecting to the grid is responsible for the full cost of any needed system upgrades. Alternatives that comply with the concept of prudently incurred costs and do not systematically favor private, unregulated developers at ratepayers' expense should be researched;
- NJBPU should direct the EDCs to develop Integrated Distribution Plans (IDPs) per the NJ Energy Master Plan (NJEMP) and should provide direction to the EDCs regarding information to be included as minimum filing requirements in their IDP / IDER (Integrated Distributed Energy Resource) Plans. Historically, electric utilities have conducted their system planning studies with little formal input from customers or state regulators. In today's evolving energy marketplace, more stakeholder involvement, more transparency, and more formal acknowledgment of policy goals such as clean energy generation, storage, and electrification is needed and that is what this recommendation is geared toward;
- NJBPU should develop rules for separate metering of non-renewable fuel sources that does not allow combined net metering. This will allow renewable generation owners to receive full credit without penalty for co-located non-renewable sources, and without sacrificing resource sufficiency.

The Draft Report was issued to the public and written comments were received and incorporated into the Final Report before the Board action. The Board has now ordered the development of Rules based on the accepted final recommendations, with the understanding that the rules will be updated immediately with simpler and collaboratively derived near-term recommendations being implemented in the initial rules updates (Rules 1), while the longer-term recommendations will be moved through workgroups to address complexities and contention before subsequent rule changes are introduced (Rules 2).

At the Board's request, Staff has taken the first four recommendations and translated these into draft rules which were released for stakeholder comment and Staff is currently evaluating that stakeholder feedback. The Rules 1 revision calls for more efficient interconnection application processing, and improves transparency, uniformity, and accountability of the interconnection process across the Electric Distribution Companies (EDCs).

The five remaining longer-term recommendations require a more deliberate and focused approach prior to consideration by the Board for possible adoption. This additional effort requires the design and implementation of several working groups to further develop these recommendations into proposed Rules 2 submission. The Guidehouse contract has been extended for the purpose of advisory consulting on the establishment, operation, and coordination of the workgroups. These workgroup charters have been defined based on the Recommendations #5-9

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and we have begun recruiting to fill out the working groups. Simultaneously, a preliminary "Innovation Pilot" program concept is being developed and the BPU has applied for and is receiving U.S. Department of Energy Technical Assistance for several of these activities.

The Grid Modernization program aims to introduce, through these collective rule changes, a more cost effective and balanced method for rapidly expanding our distribution grid DER hosting capacity through several innovative and coordinated efforts:

- Requiring EDCs to develop and file highly proactive (and adaptive) Integrated Plans that will enable more rational and streamlined attachment, fuller utilization, and fair compensation of privately-invested DER resources.
- Recognizing and enabling the potential for aggregated DER resources under the coming FERC 2222-driven PJM tariff by standardizing these under a "Grid Flexibility Services" architecture and future tariff.
- Realizing that distribution grid upgrades may be more broadly implemented through more rigorous cost estimation, allocation, and recovery and better recognition of ratepayer benefits that may help justify socialization of *some* cost elements.
- Aligning and better integrating grid impact studies to include both Load and Generation together, and allowing export limiting and other smart grid control mechanisms to factor into approvals.

NJBPU will continue our work to strengthen the grid and modernize interconnection and implement the Guidehouse report recommendations. These changes will better capture the value of integration of clean generation and intelligent load management. The end result will be a grid that is far more resilient and ready to meet the needs of tomorrow's clean energy resources.

We appreciate the opportunity to take part in today's discussion and welcome any questions you may have.

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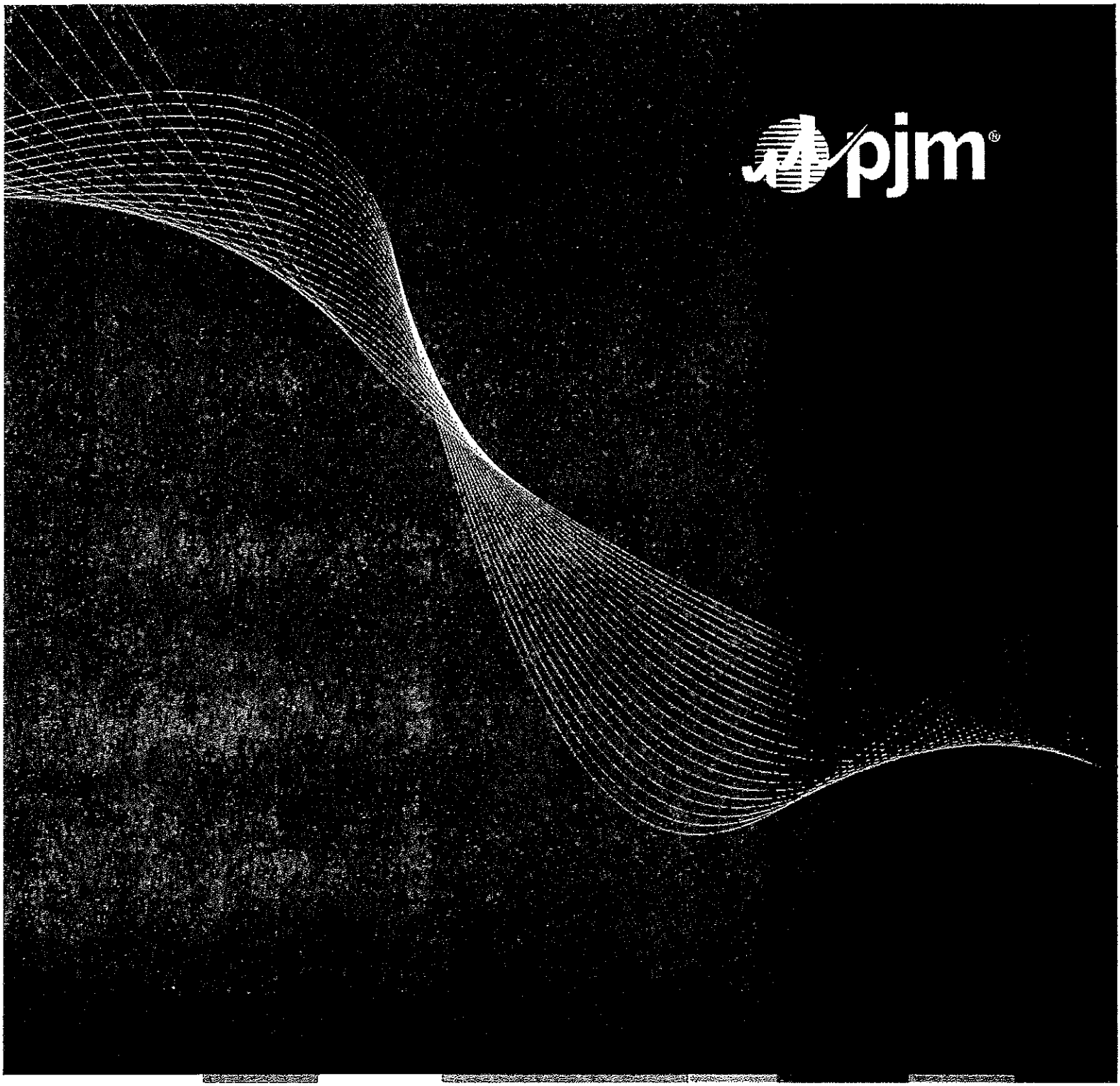

NEW JERSEY SENATE ENVIRONMENT AND ENERGY COMMITTEE

Statement of Asim Haque on behalf of PJM Interconnection, L.L.C.

June 8, 2023

For Public Use

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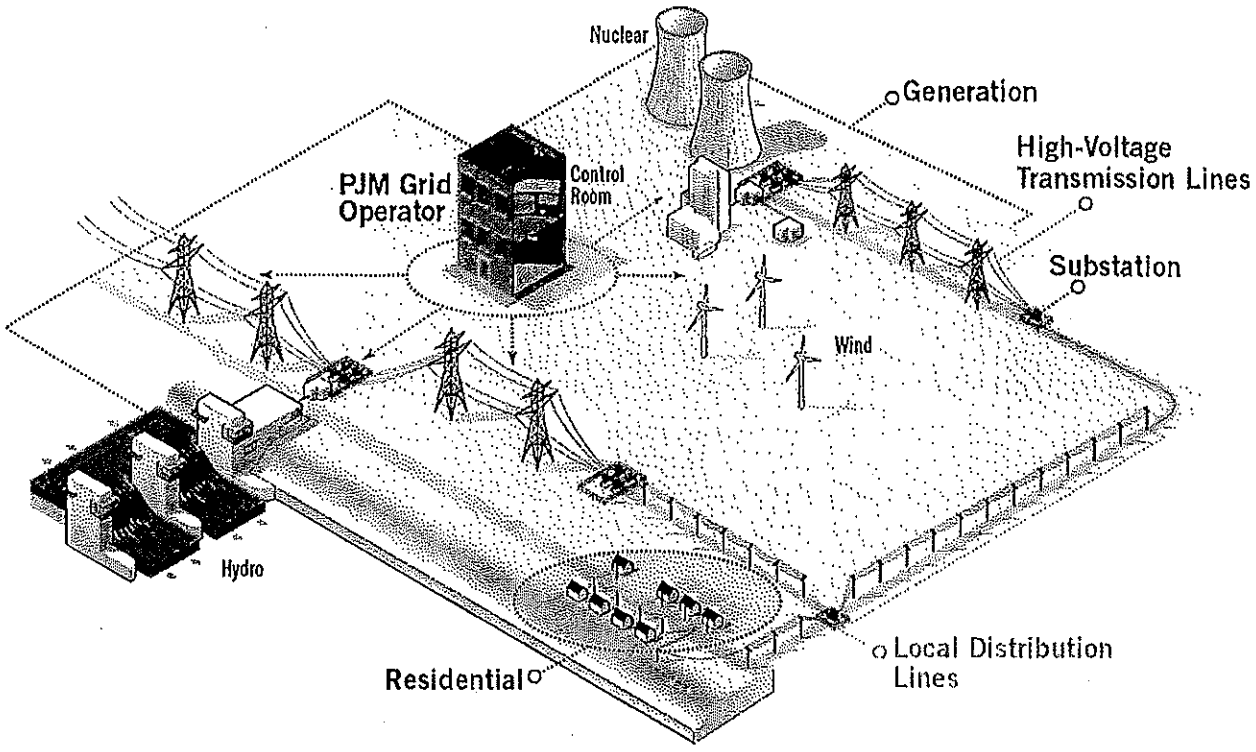
I. Introduction

Good morning, Committee Chair Senator Smith, Vice-Chair Senator Greenstein, and Committee Members Governor Codey, Senator Durr, and Senator Stanfield. Thank you for the opportunity to appear before you today. My name is Asim Haque, and I am the Vice President of State and Member Services for PJM.

PJM Interconnection (PJM) is a regional transmission organization (RTO) responsible for the reliable operation of the electric grid serving 65 million customers in 13 states and the District of Columbia, including all of New Jersey. Ensuring a safe and reliable bulk power system – keeping the lights on – is PJM's most important priority. This requires constant system monitoring by skilled operators and real-time coordination with other operating entities and industry sectors. PJM also strives to utilize its scale and competitive processes to keep costs low for consumers. **Reliability and affordability are cornerstones for what PJM does on a day-to-day basis.**

Below is a very basic diagram of how the power grid functions. Watts are generated, are then transmitted across high voltage transmission lines, and eventually find their way to distribution substations where New Jersey's local utilities distribute them to consumers. PJM oversees the generation and transmission of power, which is generally referred to as the "bulk" electric system.



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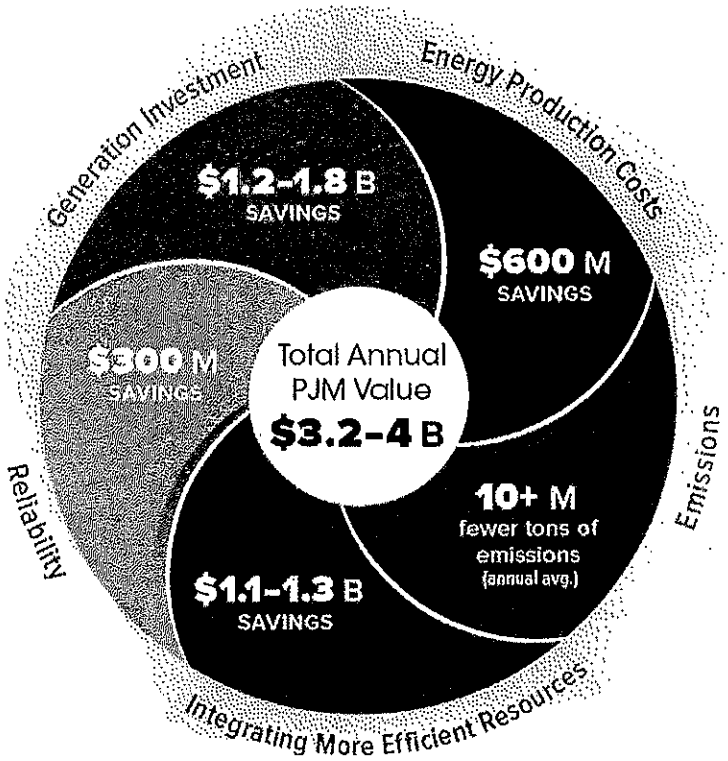
The scale of the PJM system provides tremendous value for grid reliability. Electrons do not know state boundaries and travel across a vast network of interstate transmission. PJM plans for and operates this system in a manner that is both reliable and cost-effective. PJM has a diverse portfolio of resources and a footprint that spans multiple states and time zones. Operating our region as one cohesive system affords us the flexibility to rely on these resources across different locations and allows us to better absorb abrupt disturbances to the system. Further, using competitive processes for the construction of transmission and competitive markets for the procurement of power, PJM is able to derive significant cost savings for consumers. **All in all, through the use of our regional scale and competition, PJM is able to save consumers approximately $3.2–$4.0 billion annually.**



[1]

PJM is a "public utility" under the Federal Power Act and is regulated by the Federal Energy Regulatory Commission (FERC). It is also effectively a non-profit in that we are mission driven with predetermined rates that do not allow for PJM to retain earnings. **PJM has no-profit motive, and its mission is clear: to ensure reliable power delivery on the bulk system and keep costs affordable for the 65 million consumers in our footprint.**

[1] All numbers are estimates.

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II. Facilitating Decarbonization Policies Reliably and Cost-Effectively

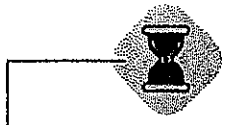
As with the entire U.S. electric grid, PJM is experiencing an accelerating transition toward intermittent renewable generation. Policies, economics and consumer choices are shifting the grid away from dispatchable, emitting generation resources toward intermittent generation with little-to-no carbon emissions. Driven by industry trends and their associated challenges, **PJM developed the following strategic pillars to ensure an efficient and reliable energy transition: facilitating decarbonization policies reliably and cost-effectively; planning/operating the grid of the future; and fostering innovation.**

PJM is committed to these strategic pillars, and has undertaken multiple initiatives in coordination with our stakeholders and state and federal governments to further this strategy. These include:

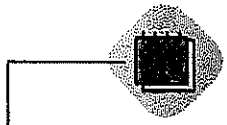
- Deployment of the first-ever use of the State Agreement Approach[2] to facilitate 7,500 MW of offshore wind in New Jersey, with an additional 3,500 MW of capacity being investigated
- Coordination with state and federal governments on maintaining system reliability while developing and implementing specific energy policies
- Reform of the interconnection process to help accelerate the entry of new generation
- Reform of the Minimum Offer Price Rule to support competitive procurement of resources
- Transmission studies to determine system upgrades needed to enable state policy objectives
- Reforms of our energy market rules to accurately value the reserves needed to operate a system more reliant on intermittent resources
- Exploring market enhancements to enable states and other willing buyers to procure clean resource attributes, on a voluntary basis, through a regional and centralized procurement or market

At the same time, PJM has embarked on research to evaluate the anticipated changes to the system and any challenges they may present. Building on a foundation of this research, analysis and stakeholder exchange over the past several years, and further informed by lessons learned from Winter Storm Elliott in December 2022, PJM recently outlined a set of emerging risks to reliable electrical supply.

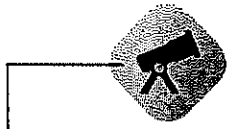
[2] The State Agreement Approach (SAA) was incorporated into the PJM Operating Agreement in 2013, with the implementation of the Federal Energy Regulatory Commission's Order 1000. With that order, FERC required regional grid operators to "provide for the consideration of transmission needs driven by public policy requirements in the regional transmission planning processes." The SAA may be used by any state, or combination of states, to advance state public policy goals, as long as the state (or states) agrees to pay all costs of the project's build-out included in the PJM Regional Transmission Expansion Plan.



The Immediate Concern: Support Resource Performance



The Near-Term Concern: Ensure Resource Adequacy



The Upcoming Concern: Maintain & Attract Essential Reliability Services

From purely a reliability perspective, PJM is well-positioned today. We have enough resources and enough essential reliability services. However, Winter Storm Elliott presented challenges for our generator fleet, and we need to support better performance of our generators going forward. This is the **immediate concern: support generator performance.**

Our near-term concern relates to a paper we released this year entitled "Energy Transition in PJM: Resource Retirements, Replacements & Risks." That paper concludes, based upon specific and quantifiable trends,[3] that we may not have supply to power homes and businesses toward the end of this decade. This is the **near-term concern: ensure resource adequacy.**

Finally, all generating resources do not have the same physical properties. We need our thermal resources (nuclear, gas, coal) to provide what the North American Electric Reliability Corporation (NERC) calls essential reliability services. This includes properties like inertia, flexibility and a host of other physics and grid engineering properties that we need to deliver electrons. Currently, these essential reliability services can only be provided by our thermal resources. We will continue to need these thermal resources until a replacement technology is deployable at scale. Currently, solely renewable resources cannot provide these attributes. This is the **upcoming concern: maintain & attract essential reliability services.**

PJM has launched a multiyear reliable energy transition initiative to address the identified challenges and potential solutions. The initiative proposes an initial set of actions to support reliability that PJM can take with its stakeholders, government and industry over the immediate, near-term and upcoming time frames to keep pace with these trends. **Ensuring a Reliable Energy Transition** is the name of this multi-year effort, and we encourage you to visit PJM's website where you can see PJM's initial proposed set of actions to try and help alleviate the immediate, near-term and upcoming reliability concerns identified.

[3] These trends include: (i) increased demand due to data centers and electrification; (ii) significant generation plant retirements due primarily to policy drivers; and (iii) new entry of mostly renewable resources not matching the pace of these retirements. *See Energy Transition in PJM: Resource Retirements, Replacements & Risks* https://www.pjm.com/-/media/library/reports-notices/special-reports/2023/energy-transition-in-pjm-resource-retirements-replacements-and-risks.ashx

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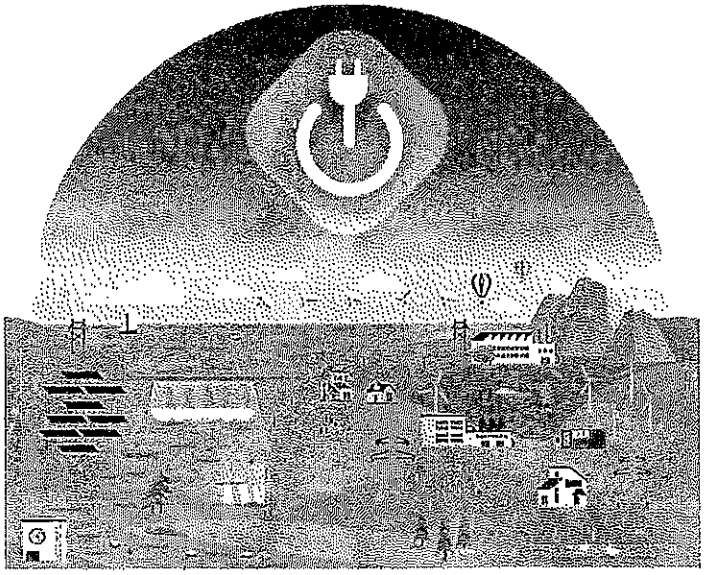
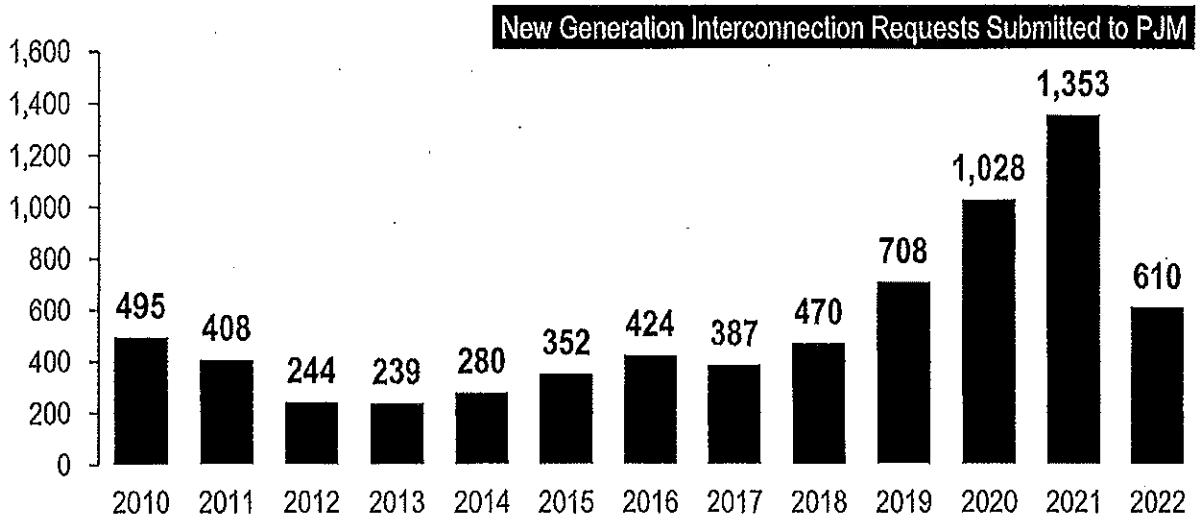


The need to maintain reliability into the future does not mean that PJM is opposed to or wary of decarbonizing the grid. PJM is very encouraged by the amount of renewable resources seeking operation in our footprint and have worked with our stakeholders to implement new planning processes that can better accommodate the volume of renewables seeking interconnection. However, maintaining an adequate level of generation resources, with the right operational and physical characteristics, is essential for PJM's ability to serve electrical demand through the energy transition.

III. Interconnection Queue Reform

As renewable generation development has soared, the type of new projects has shifted from a limited number of large resources to hundreds of smaller, more dispersed, renewable energy projects. As a result, the number of projects entering PJM's New Services Queue has significantly increased over the past four years.



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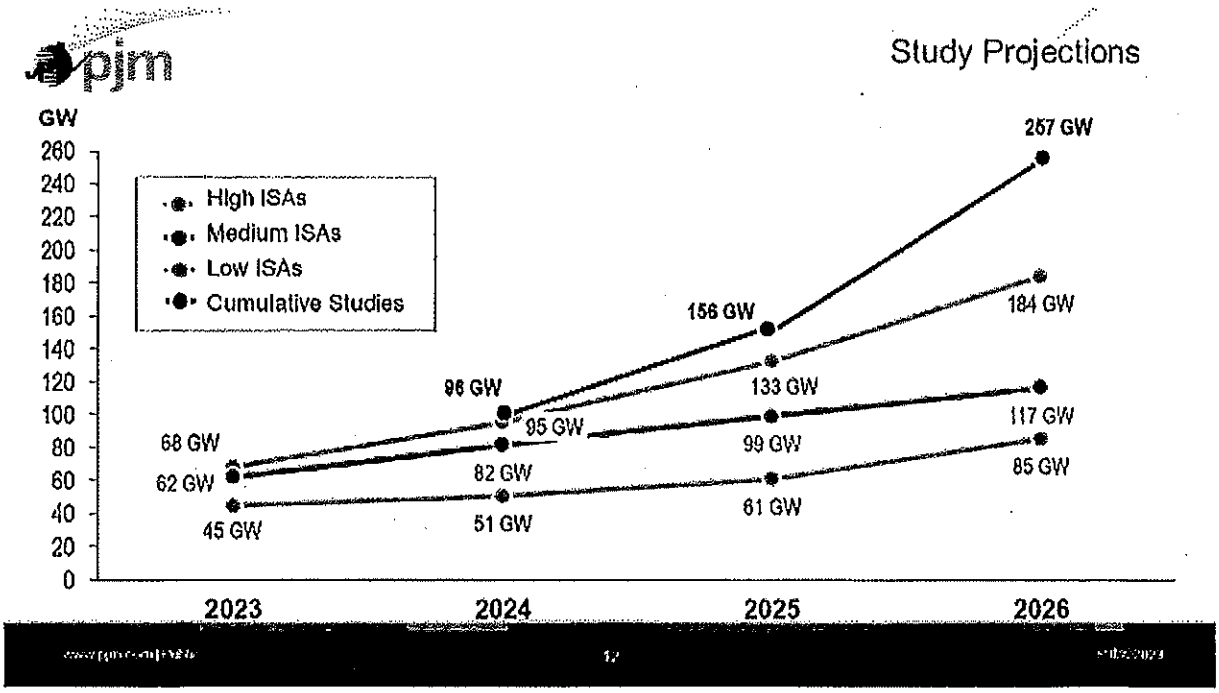
Recognizing the recent tripling of projects entering its queue, in October 2020, PJM and stakeholders began working together to create a plan that streamlines generation interconnection requests, improves project cost certainty, and significantly improves the process by which new and upgraded generation resources are introduced onto the electrical grid. The PJM Planning Committee held four workshops, and the Interconnection Process Reform Task Force held 21 meetings during which PJM and stakeholders worked through solutions for these problems.

This work culminated in a vote on a proposal for reform with overwhelming stakeholder support. That proposal was approved by FERC on November 29, 2022, and the transition to the new rules will begin in July as PJM continues to clear the backlog of projects. Moreover, to tackle this work, PJM has invested significantly in tools and automation, as well as in the staffing of both employees and outside contractors.

The transition that starts in the third quarter is expected to process interconnection applications that cumulatively represent about 260,000 MW worth of resources over the next three years. PJM anticipates having about 100,000 MW of projects complete the PJM study process by the end of 2025. Further, there are about 44,000 MW of projects that have come through the study process with either signed or pending Interconnection Service Agreements (ISAs) and should be moving to construction; that should grow to about 62,000 MW by year's end.



However, PJM continues to be concerned about the rate of new build actually coming online. In 2022, there were only 2,000 MW of projects built, of which only 700 MW were renewables, when there were over 30,000 GW of generation with signed ISAs. In 2023 thus far, only 250 MW (all renewables) have been built. PJM continues to work with developers to understand what is holding these projects back. External variables potentially affecting build-out include local opposition, cost of capital, developer financing challenges, supply chain issues, siting and permitting, and market signals. We need to solve that problem together as an industry if we want to preserve reliability amid this transition.

17x

PJM and stakeholders continue to look at measures to improve queue throughput and efficiencies in the Interconnection Process Subcommittee. On June 6, 2023, stakeholders approved an issue charge to examine how to enhance the transfer of Capacity Interconnection Rights, the rights to input generation as a capacity resource, from resources that are deactivating to new projects.

IV. Grid of the Future

PJM is planning for the grid of the future and embraces innovation in-house and fosters collaboration with our members and other key players in the power industry to explore new and advanced technologies. A few examples include:

- PJM is enhancing long-term regional transmission planning. Large-scale changes in the resource mix and load growth are observed and expected to continue over the coming decades. By adding an enhanced layer to its transmission planning processes, PJM can maintain reliability by potentially identifying and implementing more efficient and cost-effective transmission facilities.
- In the past, PJM has partnered with companies including BMW North America and General Motors OnStar to demonstrate the potential of aggregated fleets of electric vehicles to respond to certain types of grid signals, such as demand response events, locational marginal prices or the real-time generation profile of renewable energy resources. Given that electric vehicles will be a significant part of our future transportation systems, PJM looks forward to playing a role in powering these vehicles and enabling their ability to interact with the grid in innovative ways to maintain reliable and cost-efficient electricity.
- Dynamic Line Rating (DLR) technology uses advanced sensors and software to monitor real-time conductor temperature along a transmission line. It then uses this data to calculate an actual rating for the line based on environmental conditions, as opposed to modeled scenarios. In this way, DLR technology can identify additional capacity on transmission lines that could potentially relieve congestion and create economic efficiencies. Such technology also can contribute to system resilience by providing better monitoring of the real-time capabilities of transmission assets. To better understand the overall impact of DLR technology, PJM undertook a one-year study of a hypothetical installation on one of its most congested lines. The analysis found that use of the technology could reduce system congestion payments by more than $4 million.
- With the aid of a $14 million U.S. Department of Energy stimulus grant, PJM and its member transmission owners have installed more than 750 phasor measurement units (PMUs), or Synchrophasors, in more than 245 substations. Synchrophasors provide time-synchronized data at a higher resolution and much higher reporting frequency than traditional SCADA (supervisory control and data acquisition) systems, painting a more detailed picture of the status of the grid at any given moment. Advanced monitoring will be key during the energy transition. PJM is developing advanced applications of this technology to improve the efficiency, reliability and resilience of the power system.

V. Conclusion

PJM is a mission-driven organization whose primary focus is to keep the lights on. PJM and the entire U.S. electric grid are experiencing an accelerating transition toward intermittent renewable generation. PJM has embraced this transition through its five-year strategy, producing intensive research and analysis on the opportunities and challenges presented by such a seismic shift.

PJM and its stakeholders from throughout the energy industry have been hard at work smoothing the way for the transition by evolving our market rules, streamlining the planning process for new generators and engaging with states to put their clean-energy policies into action. This includes the interconnection queue reform initiatives to accommodate the shift from a limited number of large resources entering the queue to hundreds of smaller, more dispersed, renewable energy projects. It also includes the first-ever use of the State Agreement Approach to facilitate 7,500 MW of offshore wind in New Jersey, with an additional 3,500 MW of capacity being investigated. This work will continue.

PJM's role as an independent regional transmission organization necessitates identifying reliability challenges and crafting solutions to those challenges amid the ongoing shift to solar, wind and other generators that increasingly rely on renewable energy sources. PJM has clearly articulated its concerns and has proposed an initial set of actions to be taken to keep the power flowing through this energy transition. Development and implementation of these solutions can only be accomplished in concert with all stakeholders and government partners.

Moreover, PJM will continue to plan for the grid of the future. This includes initiatives like enhancing the long-term transmission planning process for a changing landscape and collaborating with key industry players to study technology that is on the horizon. Initiatives vary by topic and scope, but they have a common theme of contributing to the reliable and cost-efficient operation of the electric grid into the future.

As we continue on this transition, it is important to recall that the grid has successfully endured energy transitions in the past. PJM has reliably and effectively weathered these transitions due in large part to the value that comes with being a regional transmission organization with a robust planning process, efficient capacity market design, access to fuel and geographically diverse generating resources, and a highly resilient network of transmission facilities.

PJM embraces the challenge ahead. Working together with our governmental partners such as the BPU and utility transmission and generation owners, PJM is committed to facilitating the energy transition reliably and cost-effectively for the 65 million consumers in our footprint.

I thank you for the opportunity to present my testimony today. I look forward to any questions you may have.

New Jersey Senate Environment and Energy Committee
Hearing on Utility Interconnection and Grid Modernization

Testimony of James Fakult
President, Jersey Central Power and Light

June 8, 2023

Chairman Smith and members of the Senate Environment and Energy Committee, thank you for the opportunity to provide testimony related to electric interconnection and grid modernization.

The electrical grid is essential to the provision of electric service for millions of customers in New Jersey. It is paramount that the State of New Jersey proceeds with caution to avoid sacrificing the safety, integrity, power quality and reliability of the electric grid for the sake of an "accelerated pace".

The interconnection process should first and foremost be about protecting the integrity and maintaining reliability of the grid, as we work together to simultaneously make the interconnection process more efficient, achieve the Energy Master Plan's ("EMP") ambitious goals, accommodate customers' growing interest in distributed energy resources ("DER"), and ensure thorough and comprehensive planning that accommodates those goals and interests.

Regarding interconnections, JCP&L measures this based on new net meters, or meters that read both electricity consumed, and electricity generated by the customer's equipment, such as solar panels.

We, along with the other New Jersey electric distribution companies ("EDCs"), are an active participant in the BPU stakeholder process about proposed changes to the BPU rules governing interconnection in New Jersey. JCP&L is currently keeping up with the steady flow of applications and meeting regulatory required processing times for applications. However, we believe having more resources and a broader stakeholder engagement process would be beneficial to improving the efficiency of the interconnection process and allow better foresight into what the future holds.

In the first quarter of 2023, JCP&L processed 1,450 applications for interconnection and provided final approval for 1,381 applications. Approximately 95% of applications are small interconnections sized at less than 25KW (generally residential installations). The contractors know and understand the process, allowing for more efficient reviews. A detailed study and/or construction by JCP&L is generally not required for these smaller interconnections. Approximately 1% (or approximately 40-50 applications per year) are large interconnections sized at more than 500kW. The processing times are longer, as interconnections may require detailed study and circuit modeling, replacement of service transformers and circuit improvements, or substation

20x

modifications. Equipment lead-time and the scheduling of necessary forced outages to complete the work can cause further delays.

As we continue to advance with interconnection, JCP&L has worked to build a more resilient system using smart grid technology. The Company constructed distribution automated ("DA") loop schemes with automatic reclosers, primarily as part of our Reliability Plus program, which was completed in early 2021. Customers on a loop scheme that experience an outage can be automatically transferred to an adjacent circuit to restore service.

JCP&L has a total of 112 automatic distribution circuit tie schemes in place, with 96 of these tie schemes also having system control and data acquisition ("SCADA") control, which allows for real time system monitoring and remote-control capability. The remaining 16 will have SCADA added as well.

Additionally, in late 2022 JCP&L, along with all of FirstEnergy, transitioned our outage management system to a distribution automated ready Network Management System. This new system will allow for more advanced automation capability in the future.

The Company expects to implement a total of 42 automatic distribution circuit tie schemes affecting 80 circuits over the next 5 years. We expect to commission approximately 8-9 schemes per year for the next 5 years. Please note, however, the Company anticipates filing an IIP, or Infrastructure Investment Program, this year (2023) and this project is anticipated to be part of the plan to be filed.

Regarding our smart meter project, also known as AMI, right now the project is going well.

The installation of AMI network communications equipment commenced in January 2023. Mass deployment of AMI meters began on March 15, 2023. To date, 82,000 AMI meters have been installed with 37,000 AMI meters certified, - meaning they are connected to the network and functioning as smart meters. AMI meters that are not yet "certified" will be connected to the AMI network once the network is built out to those areas. AMI network deployment typically precedes AMI meter installation by three months.

Emergency repairs are a pinch point that has the potential to slow a customer's installation. We have experienced situations where pulling the old meter exposes an unsafe condition on the customer's side of the equipment. Instead of leaving customers without power, we are proactively covering the cost of repairs to bring them back in power asap. The Company will not recover these costs from ratepayers.

Also, in situations where our installers can see the customer's equipment is in a deteriorated condition prior to pulling the old meter, we are not covering the costs. Customers are sent a series of letters and are responsible for those repairs within 40-80 days, or the customer will be disconnected.

We are seeing a very low percentage of customers opting out of installation of smart meters (~0.5%), which is in line with what we expected in looking at the other states

21x

we operate in that deployed prior to NJ. We are not experiencing supply chain issues at this point related to AMI.

Full deployment of AMI meter installations will continue through December 2025 with approximately 99% of all AMI meters installed. The remaining 1% of meters in challenging locations will continue to be addressed through December 2027.

On the topic of offshore wind, JCP&L is proud to have been awarded the transmission solicitation for connecting offshore wind-generated electricity to the grid, through the State Agreement Approach, and we are continuing to execute on that award. The overall award consists of dozens of smaller projects, and work is currently in the Engineering and Procurement Phase.

All projects have been assigned and we have started engineering reviews for all phases of the project.

As part of the procurement phase, we are anticipating placing major equipment orders by the end of 2023 to ensure that these materials are received on time.

Like our neighboring utilities, we are also experiencing supply chain issues with major electrical equipment. What we are seeing is the larger the piece of equipment, the longer the lead time. We are constantly meeting with multiple vendors about availability and lead times to get materials in a timely manner.

For instance, transformer lead times started at 150 weeks, then went to 180 weeks, and is now at 200 weeks for the largest of transformers we will need to order. Because we began these discussions early with our vendors, we are getting into the queues and will be at the front of the line to receive these and still hit our deliverable dates.

As a subsidiary of FirstEnergy, we can take advantage of inventory stored across our five-state footprint in the event of any supplier delays. Delayed units are used to restock equipment used. When placing orders, additional quantities of parts are included to provide reserves.

Our team is also working on developing a robust environmental and non-environmental permit matrix. We will collaborate with local, county, state, and federal entities to identify lead times for permits to ensure that we hit construction on schedule. We will be working with stakeholders at every level of government to review our project scope and timeline to listen to their concerns so that we are aware now of what permits will be needed and we can begin that process. (14 municipalities)

We are exploring tax, grant, and rebate initiatives through state and federal means to help offset costs for New Jersey ratepayers. We are in constant communication with stakeholders, such as neighboring transmission operators, BPU, PJM, and other companies, that were awarded pieces of the SAA solicitation to ensure all our scopes and schedules align.

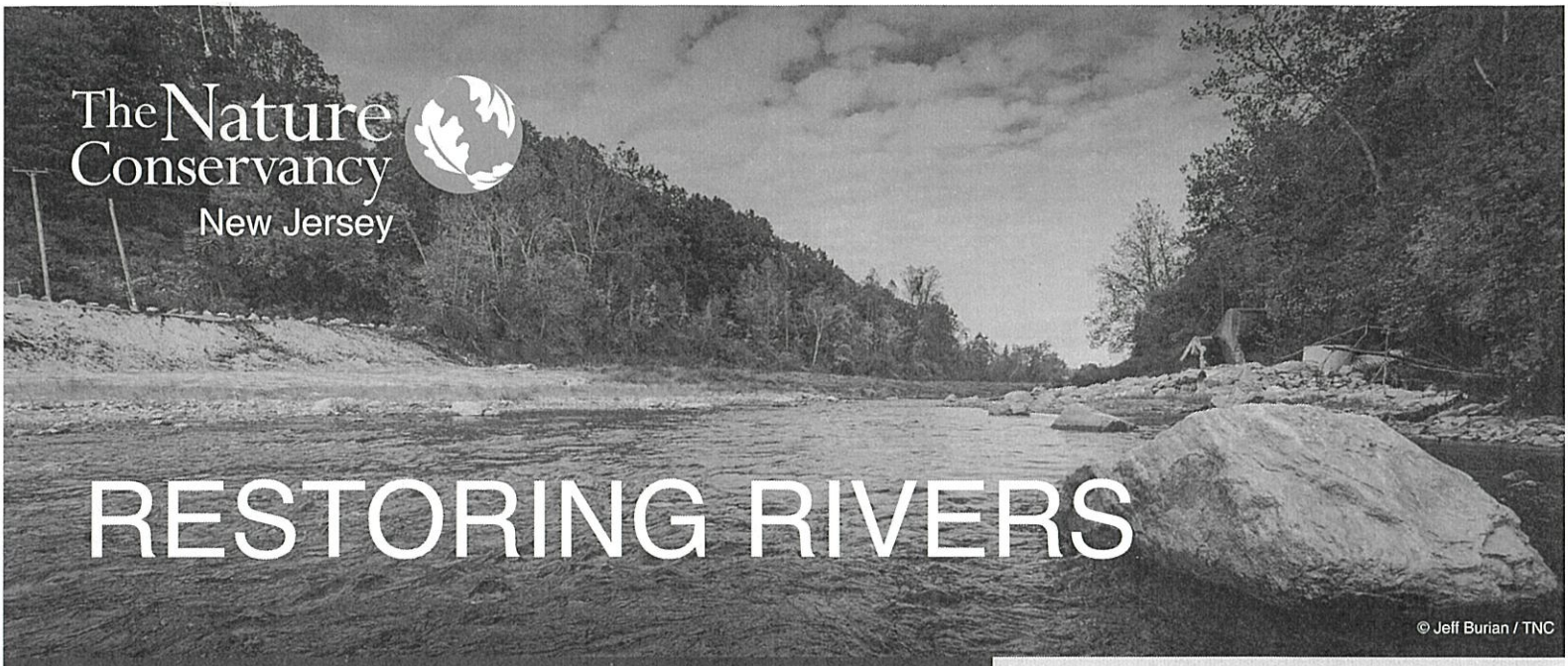
In closing, our Company will continue to work diligently with our industry peers, regulators, and government partners to ensure that the efficiency and integrity of the electric grid is maintained as we continue to advance to a clean energy future. We

22x

appreciate the opportunity to discuss these very important issues, and the proactive measures in place to best serve our customers with safe, affordable and reliable power.

23x

The Nature Conservancy
New Jersey



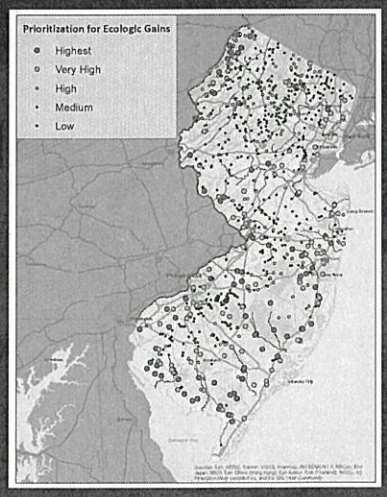
RESTORING RIVERS

© Jeff Burian / TNC

The Nature Conservancy is taking out antiquated dams in New Jersey and leading a Statewide Dam Removal Partnership that provides education, resources and policy advocacy to promote removal of outdated dams as a river restoration technique.

WHY REMOVE DAMS

Outdated dams can push an ecosystem dangerously out of balance, degrading water quality and impeding natural movement of fish and wildlife. The aging structures are also drowning hazards for people and are more likely to fail catastrophically under the stresses of climate change-related storms and flooding.



njdams.org

STATEWIDE DAM REMOVAL PARTNERSHIP

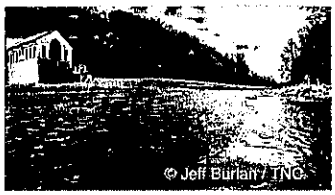
The Nature Conservancy is leading a collaboration of nonprofits, government agencies, and community leaders to advance the removal of antiquated, dangerous, or ecologically detrimental dams across New Jersey. We work to:

- Develop consensus around and direct limited funding and resources to priority dams whose removal will provide the greatest benefit for people and wildlife
- Improve the factors that will allow for more dam removals to happen, including sharing expertise, building project management capacity, increasing funding, influencing public opinion, and streamlining the regulatory process

24x

RESTORING THE PAULINS KILL

The Paulins Kill is an important tributary to the Delaware River, the longest free-flowing river east of the Mississippi River. A key strategy to improve migratory fish populations in the Delaware River is to restore connectivity and water quality in its tributaries.

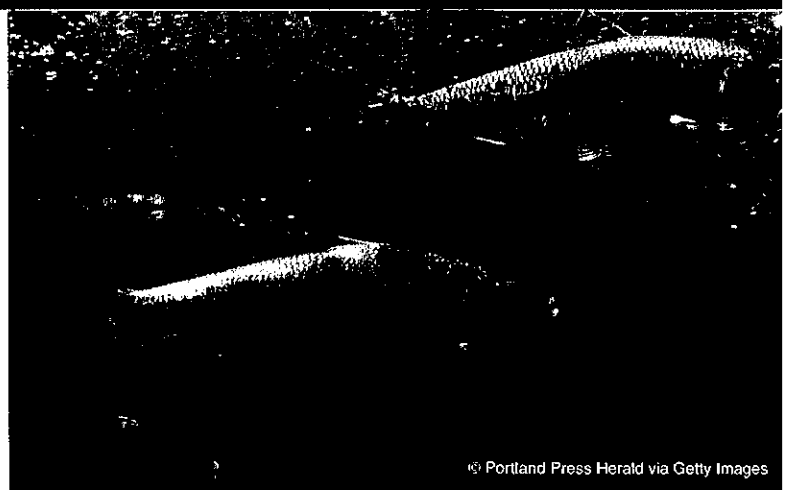


2023: COLUMBIA AND COUNTY LINE DAM REMOVED

In 2019, TNC completed the removal of the Columbia Dam near the Delaware River, opening nearly 21 miles of habitat for migratory fish. In 2022 several miles upstream, the County Line Dam was removed allowing for migratory fish passage and positively impacting river habitat.

NEXT: REMOVAL OF PAULINA DAM

As the next dam upstream from the former Columbia dam site, removal of the Paulina Dam, which is classified as a "Significant Hazard," would reconnect an additional seven miles of habitat for migratory fish.



After removing the Columbia, Paulina and County Line Dams, we will have reconnected **nearly 45 miles** of the Paulins Kill and its tributaries to the Delaware River.

THE PEQUEST RIVER drains into the Delaware River south of the Paulins Kill. TNC has begun to advance the removal of the Upper and Lower E.R. Collins Dams on the Pequest River, which will help reconnect three miles of stream for migratory fish and mitigate flooding in downtown Belvidere. TNC also proposes to remove the next two dams upstream, the Cedar Grove Dams and another unnamed structure, opening an additional 57.8 miles of habitat.

The Nature Conservancy
New Jersey

The Nature Conservancy in New Jersey
Elizabeth D. Kay Environmental Center
200 Pottersville Road
Chester, NJ 07930
[908] 879-7262

nature.org/newjersey

facebook.com/NJConservancy
instagram.com/nature_nj
twitter.com/nature_NJ

Date: June 7, 2023

To: Members, Senate Environment and Energy Committee

From: Philip Echevarria, New Jersey Director of Government Relations

Cc: Joseph Gurrentz, Senate Democratic Committee Aide
Matthew Peterson, Senate Democratic Committee Aide
Rebecca Panitch, Senate Republican Committee Aide
Eric Hansen, Senate OLS Committee Aide

Re: S2708 - Requires DEP to consider potential impacts to natural resources when classifying dams according to hazard potential.

The Nature Conservancy (TNC) is one of the leading conservation organizations in the world, with a presence in all 50 states and over 70 countries worldwide. Our mission is to conserve the land and waters on which all life depends by working in a collaborative, science- based manner with a variety of partners. We **strongly** support S-2708 which would require DEP to consider potential impacts to natural resources when classifying dams according to hazard potential.

New Jersey currently classifies a dam's hazard potential based on potential loss of life and property damage. This legislation would require that the impact on a critical third component – natural resources – be considered as well. **According to the Association of State Dam Safety Officials, this best practice is currently used by eleven states, including neighbors like New York and Delaware and more rural states like Nebraska and Alaska.**

The New Jersey Chapter of The Nature Conservancy (TNC-NJ) has helped to preserve over 60,000 acres of open space to protect habitat for biodiversity, removed dams to restore 30 miles of riverine habitat, restored coastal marsh habitat by thin-spreading sediment to promote growth, and promoted at the state and local levels the use of nature-based solutions to reduce impacts of climate change. As our state experiences the increasing impacts of climate change, we want to ensure that New Jersey's iconic forests, rivers, and coasts are healthy, resilient, and connected, which is why we have invested in the health of our waterways by ensuring the removal of obsolete dams.

New Jersey currently has 1700 regulated dams in the state. Like all infrastructure, dams have an expected lifetime which is 50 years without regular maintenance. **Our 1700 dams are on average close to 60 years old, with many of them 100 years old or older. New Jersey's dams receive a grade of D on the American Society of Civil Engineers Infrastructure Report Card. According to the 2017 report card** *"Of the 1,702 New Jersey dams regulated by the Bureau of Dam Safety, 558 dams are high and significant hazard potential dams, meaning nearly 1 in every 3 dams in New Jersey carries potential risk. The poor condition of the dams combined with increasing downstream development and frequent severe weather events make potential dam failure a public safety risk as well as an economic liability."*

Only 6% of New Jersey's dams were designed to control flooding. In fact, because they elevate the water surface, many dams can contribute to flooding. Despite the commonly held idea that dams play a key role in water supply, **only 8% of New Jersey's dams are used for water supply**. Every dam is designed to discharge a certain amount of water. Most of the state's dams were built a half century ago or more with d**esigns based upon rainfall amounts and patterns that are quite different than what the state is currently experiencing**. This obsolete infrastructure puts our communities and the environment at risk.

To date, TNC-NJ has brought into the state $1.3 million in funding from the Bipartisan Infrastructure Law for dam removal related projects. TNC-NJ and its partners at the New Jersey Statewide Dam Removal Partnership (SDRP) have demonstrated the benefits of these projects through multiple removals that have proven that this type of river restoration works. Several rivers that drain to the Raritan and the Delaware, where migratory fish including American Shad, American eel, Sea Lamprey and Brook Lamprey were absent for over 100 years, have seen the return of these fish to these ecosystems.

As we continue to build a stronger, more resilient, and ecologically thriving state, we must ensure that our infrastructure not only benefits its residents, but our wildlife as well. We owe it to future generations to build multi-disciplinary teams able to work together to safeguard New Jersey's people and its biodiversity. We must seize the moment to maximize the use of nature-based solutions, fight climate change, and adequately fund the removal of obsolete and dangerous infrastructure.

We thank you for your time and consideration and urge you to support S-2708.

If you have any questions, please do not hesitate to contact me at (908) 812-0435.

Sincerely,

Phil Echevarria

Philip Echevarria
Director of Government Relations
The Nature Conservancy, New Jersey

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NJAPA

Testimony Presented to The New Jersey Senate Environment & Energy Committee

By: Kevin Monaco, Executive Director

June 8, 2023

Good morning, Mr. Chairman and Members of the Committee. I am Kevin Monaco, Executive Director of the New Jersey Asphalt Pavement Association (NJAPA). NJAPA represents more than 100 companies throughout New Jersey engaged in the manufacture of asphalt, roadway paving and related industries. Our membership represents one hundred percent market share of asphalt production in the state. I am appearing before you today to address a critically important issue for our industry and to ask your support for Senate Bill 3255.

Asphalt is among the most recycled products in the world, however here in New Jersey our ability to utilize recycled content in our asphalt mixes is extremely limited. New Jersey is one of the most progressive environmental States, yet we are significantly behind many others when it comes to recycled asphalt.

Senate Bill 3255 will allow New Jersey asphalt producers the opportunity to increase the recycled content of their material to 35% specifically on county and municipal road projects. While NJDOT currently has a default limit of 15%, many Counties and Municipalities require NO Recycled content at all.

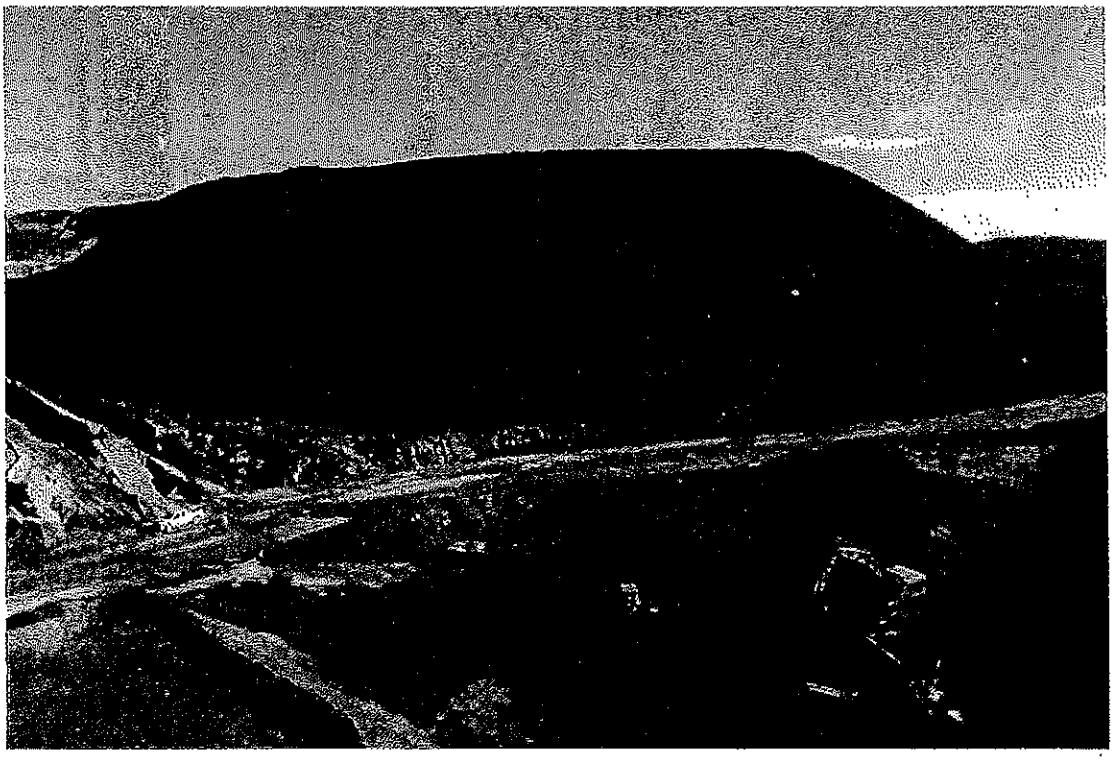
47 states currently use a higher percentage of recycled material in their pavements than New Jersey. New York City requires a minimum of 30% and the Port Authority of New York and New Jersey is undertaking a new initiative to increase their use of recycled asphalt.

The economic and environmental consequences of New Jersey's limitation on recycled asphalt are very real.

NJAPA members currently have more than 15 million tons of reclaimed asphalt millings stored at our facilities and it is growing every day. For context, this is equivalent to 600,000 dump trucks and is enough material to pave the circumference of the earth with a 10-foot lane at 2-inch depth.

28X

Right now, when there is a road resurfacing project, instead of utilizing the 15 million tons of reclaimed asphalt, we need to mine and transport new aggregates and extract and transport new oil, while millions of tons of perfectly good and valuable asphalt remains ready and available for use.



The solution to this is to do what the Federal Highway Administration encourages and what many other States do, allow more recycled asphalt to be utilized. It is safe, it is reliable, it will save money and it will reduce global warming impacts.

In fact, the Environmental Benefits of passing this legislation are significant:

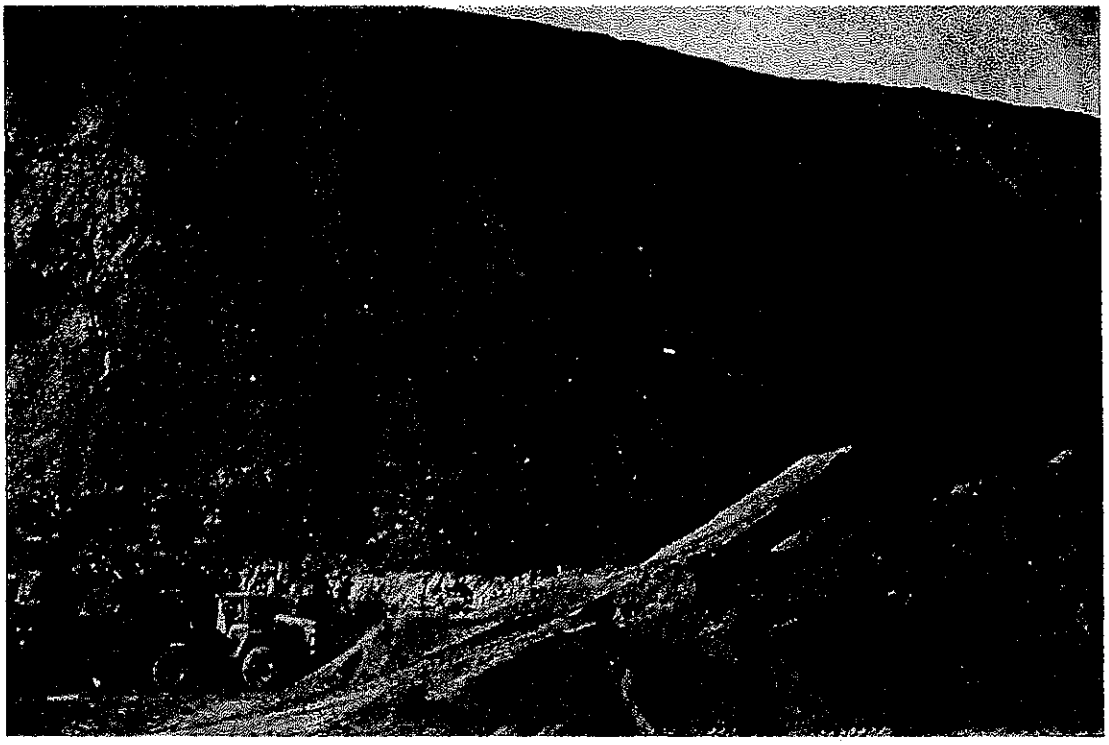
Across the country, current usage of recycled asphalt saves 24 million barrels of oil, 82 million tons of aggregate and 2.3 million metric tons of carbon emissions annually – the equivalent of removing more than 500,000 vehicles from the road each year.

In addition to the environmental benefits, approval of S3255 will provide other key benefits to the public.

Cost Savings: Studies show that national usage of recycled asphalt saves over $3 billion a year and reduces costs 5% to 7% per ton of asphalt. That is real money for State and local government to put back into other desperately needed projects.

29x

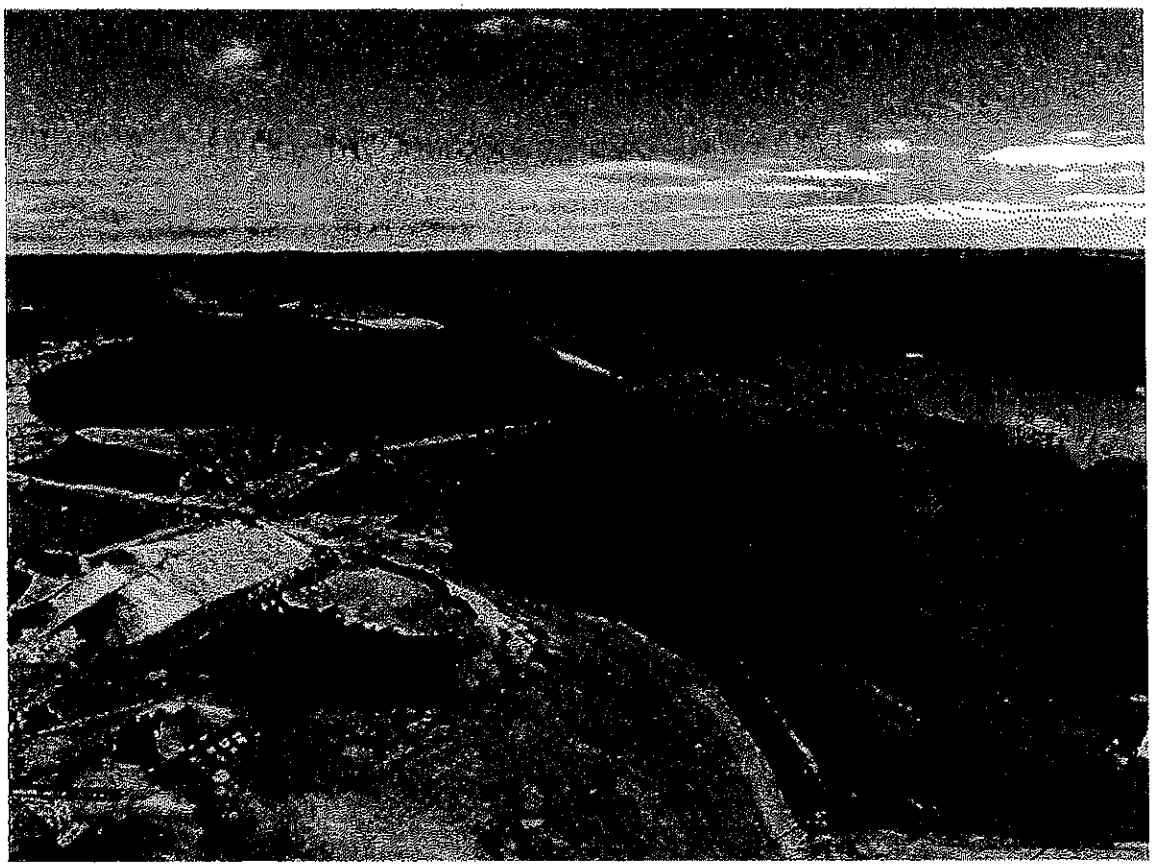
The Nebraska DOT estimates their savings over the last twelve years at $408 million and Illinois, an urban, cold weather state like New Jersey estimates they have saved more than $65 million since they increased recycling by 36% in 2019



Many studies also demonstrate that recycled Asphalt is just as safe and reliable as virgin asphalt mixes, The experience of other states using increased recycled materials and numerous academic & engineering studies have proven there is no degradation of quality with up to 35% recycled material.

- According to an FHWA report, "RAP mixes performed better than or equal to virgin mixes for the majority of the data obtained. It can be concluded that in most cases, using at least 30 percent recycled materials in asphalt pavement can provide the same overall performance as virgin pavement."
- Another recent FHWA study showed participating state DOTs reporting success with 30% to 50% recycled content
- A recent study by Rowan University recommends 35% recycled material for local aid projects.
- A recent Texas A&M Study conducted for Delaware concluded that "low cost, high performing, high RAP mixtures are feasible"
- Additional Studies from FHWA and Auburn University support the fact that a well-designed high RAP mix can perform as satisfactorily as one produced with virgin materials.

30x



Our industry understands and supports the premise that the public deserves good quality, long-lasting roadways and we are prepared to follow all appropriate best practices to achieve that outcome. We are simply asking for the flexibility to better manage the production and manufacture of our product in a manner that will provide quality roadways, cost savings to the taxpayer and significant environmental benefit to the public.

I respectfully ask that the Committee vote in favor of S3255 today.

Thank you, Mr. Chairman. I appreciate the opportunity to address this issue.

31x

Hansen, Eric

From: Mary Ellen Peppard <mpeppard@njfoodcouncil.com>
Sent: Wednesday, June 7, 2023 10:03 AM
To: Mary Ellen Peppard
Subject: NJFC Concerns with S-3177 - PFAS Restrictions

Follow Up Flag: Follow up
Flag Status: Flagged

NEW JERSEY FOOD COUNCIL

429 Riverview Plaza
Trenton, NJ 08611
609-392-8899/609-396-6571
njfc@njfoodcouncil.com

Date: June 8, 2023

To: Members of the Senate Environment and Energy Committee

From: Mary Ellen Peppard, Vice President

Re: NJFC Concerns with S-3177 - PFAS Restrictions

The New Jersey Food Council (NJFC) is a trade association representing food retailers, including supermarkets, independent grocers and convenience stores, and their supplier partners. We appreciate the opportunity to relay our concerns with this legislation, which prohibits the sale of certain products, including food packaging, containing intentionally added perfluoroalkyl and polyfluoroalkyl substances (PFAS).

Food and beverage manufacturers are in the process of transitioning to alternative packaging which does not contain intentionally added PFAS. We are seeking amendments which would clarify certain provisions and mitigate some requirements which are not feasible to implement.

- **Removal of the notification requirements**

While we appreciate the amendment extending the timeframe for reporting, the manufacturer notification requirements are onerous and, in some cases, not feasible, particularly the requirements pertaining to the submission of the amount of PFAS in each product. There are some substances that do not have chemical abstract registry numbers. Food and beverage manufacturers often do not manufacture the packaging for their products, and in these circumstances, do not have access to quantity amounts. There is not an adequate number of lab facilities that could test every product for every company. Further, since the industry is already phasing out intentionally added PFAS, it is unclear how it would be beneficial to attempt to catalog products that are being eliminated. Both manufacturers and regulators would be burdened by unnecessary requirements that would no longer be relevant once the phaseout occurs.

- **Clarity regarding definitions and scope of packaging ban**

32x

Food and beverage manufacturers have less control over secondary and tertiary packaging. We would request confirmation that the definition of food packaging refers to packaging that comes into direct contact with food.

Additionally, the definition of "intentionally added" is broad and could include PFAS used in processing but not included in the final product/packaging.

- **Sell-through period for products**

It is important for retailers to have a period of time to sell their products which are already in inventory after manufacturers ship their final products to retailers prior to the ban. Many shelf stable products remain at optimal quality for several years. If retailers need to discard products because they are noncompliant, this results in food and packaging waste. We would request that the ban not apply to a product that is part of retail inventory as of the effective date of the ban.

- **Clarity and certainty surrounding the registration fees**

Manufacturers may produce hundreds of thousands of different products. We would request confirmation that the $1,000 fee is levied per manufacturer, not per product or ingredient. Additionally, the amendment language allows DEP to modify the amount of the fees if they deem it necessary. If manufacturers do not know what their costs will be they will be unable to plan and budget properly.

We would encourage the Legislature to carefully consider possible unintended consequences of this legislation. Maine is currently advancing bipartisan "clean-up" legislation to clarify and provide some relief to both PFAS manufacturers and the Maine DEP, which had to issue over 2,400 extensions to companies who were unable to meet the reporting requirements of the law. One of the challenges noted by the DEP was the "high demand on limited laboratory capacity."

Thank you for considering the views of the New Jersey Food Council. Please contact me at 609-203-0168 or via email at mpeppard@njfoodcouncil.com for additional information about this issue.

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33x

Honeywell

New Jersey Senate Environment and Energy Committee

S.3177: Protecting Against Forever Chemicals Act

Atashi Bell, PhD
Senior Director, Global Policy & Government Relations

Public Testimony

June 8, 2023

10:00 AM

Chairman Smith and distinguished members of the New Jersey State Senate Environment and Energy Committee, thank you for providing Honeywell with the opportunity to address you today on S3177. My name is Dr. Atashi Bell and I am the Senior Director for Global Government Relations at Honeywell. I am also a trained material scientist and regulatory professional.

As a company with values deeply rooted in human safety and wellness, protecting the heath, safety, and wellbeing of our employees, their families, and communities in which we operate is at the core of Honeywell's priorities. As such, Honeywell strongly supports New Jersey's efforts through S.3177 to establish a source reduction program for PFAS materials that through risk-assessments have shown to have negative impacts on human health and the environment. We also support alignment with the science- and risk-based definition being employed federally by the US EPA's Toxic Substances Control Act (TSCA) as well as the National PFAS Testing strategy roadmap. However, **the definition of PFAS being proposed in S.3177 is inconsistent with the federal approach presently and could lead to potential compliance challenges for the regulated community as well as a lack of clarity around those compounds most critically of concern for New Jersey.**

Morris Plains, New Jersey is home to our Advanced Materials business - and its approx. 700 employees - which, among many other essential technologies, has led the research and development of hydrofluroolefins – HFOs for short. **Under S.3177 as currently drafted, HFOs would be wrongly included in the state's definition of PFAS.**

HFOs are innovative gases that were developed to replace high-global-warming-potential (GWP) substances and have been categorized as having negligible Ozone Depletion Potential (ODP), low GWP, and **are non-toxic, non-bioaccumulative and degrade in the environment in a number of days, compared to predecessors that remain there for years.** HFOs are essential to sustainably heating, cooling, and insulating commercial and residential

34x

buildings, and enabling automotive air conditioning, retail and supermarket refrigeration, and household and consumer products. To date, use of Honeywell HFOs has helped to avoid the potential release of more than 329 million metric tons of CO2e into the atmosphere – equal to the carbon emissions from nearly 70 million gasoline-powered passenger vehicles *per year*.

HFOs have been heavily studied and rigorously evaluated, pursuant the U.S. Clean Air Act and other environmental review programs including U.S. EPA's Significant New Alternatives Policy (SNAP) program – the most recent SNAP guidance (SNAP25) was released only two months ago. As outlined in both SNAP as well as in EPA's Strategic PFAS Roadmap, **EPA does not consider HFOs to be PFAS.** In fact, EPA **encourages HFOs as an alternative to higher global warming gases in accordance with global sustainability agreements.**

To effectively craft balanced and science-supported PFAS legislation, policy definitions should not apply to products that contain intentionally added PFAS with uses that are currently listed as acceptable under EPA's SNAP program, as long as the product containing PFAS are being used as substitutes for ozone-depleting substances under the conditions specified in the rule.

With a policy definition that aligns with SNAP, New Jersey has the opportunity to be the model for producing protective and science-based PFAS legislation. We appreciate the opportunity to continue this dialog and look forward to working with the bill sponsor and committee. Thank you for the opportunity to testify, and please don't hesitate to reach out with any comments or questions.

35x

Headquarters	750 sites	~99,000 employees	~$34	150 research &	38,000+
Charlotte, NC	70 countries	18,000 engineers 9,000 software engineers	billion in sales	engineering facilities	patents pending

Aerospace

Our products are used on virtually every commercial and defense aircraft platform and include aircraft propulsion, cockpit systems and satellite communications.

Honeywell Building Technologies

We create products, software and technologies found in more than 10 million buildings worldwide. Commercial building owners and occupants use our technologies to ensure their facilities are safe, energy efficient, sustainable and healthy.

Honeywell Connected Enterprise

[illegible]

Performance Materials & Technologies

[illegible]

Safety & Productivity Solutions

[illegible]

90% of commercial air transport use our navigation solutions

we have been part of every NASA human space mission.

80% of satellites in orbit have Honeywell components

60% percent of the world's gasoline uses Honeywell UOP technology

every 5 seconds an airliner with Honeywell Wheels & Braking system lands around the world

Over 10 Million Buildings worldwide operate with Honeywell platforms and technologies

Honeywell Customers Have Saved $6B in Energy & Operational Saving since 1979.

Honeywell | THE FUTURE IS WHAT WE MAKE IT BUSINESS OVERVIEW

Honeywell invents and manufactures technologies that address some of the world's most critical challenges.

POLICY PRIORITIES

Connected Flight Data & Cockpit Voice Recorders

Currently, the FAA requires that Cockpit Voice Recorders (CVR) be capable of recording only two hours before overriding recorded data. The CVR and Flight Data Recorder (FDR) are among the most valuable tools used for accident investigations, and Honeywell technology can extend their capability to 25 hours and connect them to the cloud.

Honeywell's streaming technology guarantees timely recovery of crucial data and extended recording time to help ensure airplane passenger safety.

- 1150% increase in recording time
- VR Cloud connectivity

Trade

Honeywell supports fair and free trade, including free trade agreements like the United States-Mexico-Canada Agreement, that:

- Opens US-made goods to new markets
- Enhances the rules of trade with established economies

80% of the world's purchasing power is outside the US. → Jobs and economic growth depend on expanding trade and investment.

Honeywell is a net-exporter that operates and sells technologies all around the world.

US Sustainability/Innovation and Manufacturing

We support policies that drive Sustainability/Innovation and Manufacturing

Solstice – Support policies that phasedown HFC's to drive adoption of Solstice low-global-warming-potential refrigerants, foam blowing agents, propellants, and solvents.

Sustainable Aviation Fuels – Advance the global use of Sustainable Aviation Fuels through regulatory and legislative efforts in key markets.

CCUS/Hydrogen – Support deployment of CCUS and hydrogen technologies through key policies.

Methane – Drive adoption of methane monitoring technology through regulations.

Healthy Buildings and Cities

Our new normal means new expectations. Honeywell is making building infrastructure healthier, more intelligent and more responsive so occupants feel safer and more secure. We're preparing cities and their buildings for the future by enhancing sustainability, resilience, efficiency and operational performance. Honeywell helps deliver safer buildings and more reliable urban infrastructure so residents know their cities are working and that it's safer to get back to regular activities from school to sporting events. We also help cities work toward meeting sustainability targets with guaranteed efficiency programs that save taxpayer money and data-driven insights for accountability analysis and reporting.

- Commercial & Residential Building Efficiency
- Industrial Operations
- Smart Grid

Honeywell Forge

Honeywell Forge, an Enterprise Performance Management for Operations Technology software, will help customers improve the way they collect, analyze and act on data from their operations. It leverages predictive analytics to help identify maintenance issues before they happen; enables workers to be more productive, proficient and safe; reduces costs; and increases productivity. According to a Honeywell survey, more than 80 % of C-suite executives believe it is important to implement a holistic solution as companies look to digitize and better connect their operations.

Industrial/Worker Safety

Honeywell is one of the world's largest producers of Personal Protective Equipment (PPE) used to help protect frontline workers from virus and other hazards including N95 masks with global annual production reaching over 1B, from key locations such as Phoenix, AZ.

We support policies that promote and support domestic US production including:

- Reforming Strategic National Stockpile long term supply plan
- Updating guidance to further protect the healthcare workers by limiting use of non-NIOSH approved imported products

36x

Honeywell in New Jersey

Quick Facts

Employees Living Here: 653
Employees Working Here: 720
Facilities: 5
Total Payroll: $288,171,831
Purchases & Contracts to State Suppliers: $581,495,579

Top Suppliers

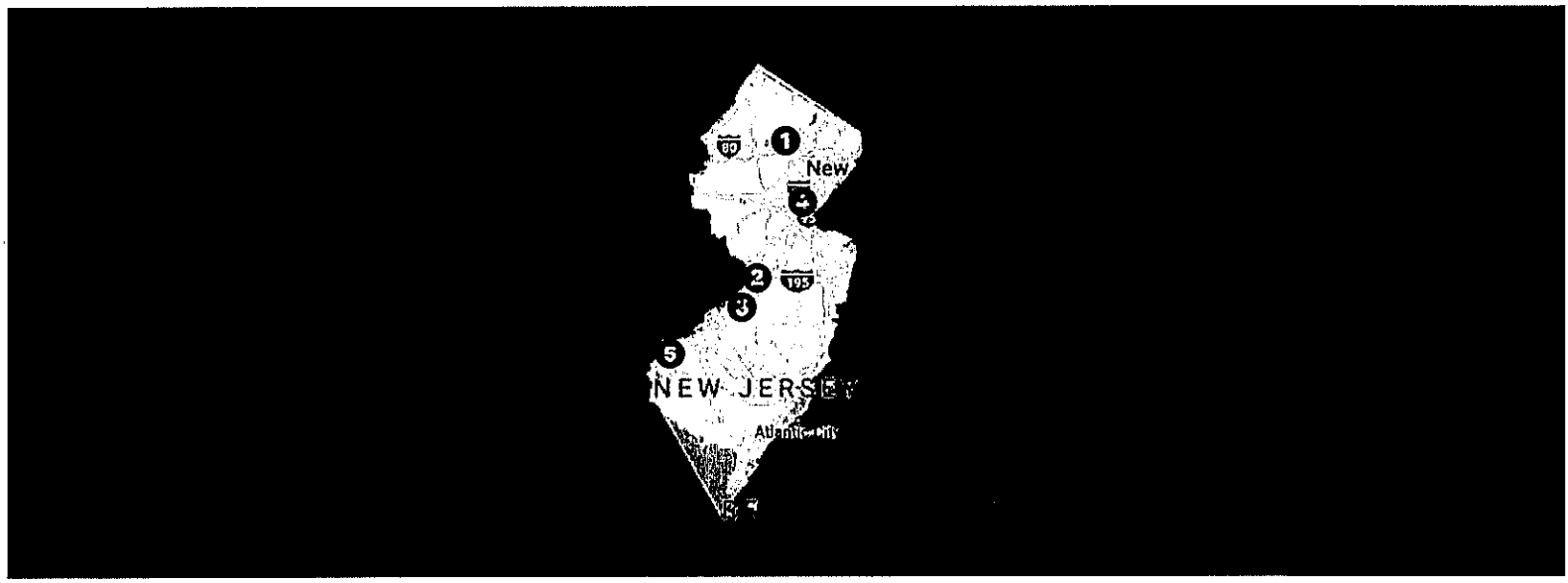
TE/CONCUR - RESTAURANT
Edison, NJ: $37,927,810.00

TATA CONSULTANCY SERVICES LIMITED
Marlton, NJ: $37,638,933.00

KUHNE HOLDING AG
East Brunswick, NJ: $24,826,580.00

TE/CONCUR - AIRLINES
Rockaway, NJ: $20,122,737.00

BERKSHIRE HATHAWAY INC.
Morristown, NJ: $17,280,681.00



Top New Jersey Facilities

1. Morris Plains – PMT ADM
   Employees: ~483
   115 Tabor Road
   Morris Plains, NJ 07950
   Congressional District 11: Mikie Sherrill (Dem)
   Senate District 26: Joseph Pennacchio (Rep)
   House District 26: Christian Barranco (Rep)
   House District 26: Jay Webber (Rep)

2. Hamilton - HCE SPS
   Employees: ~134
   2000 Waterview Drive, Suite 300
   Hamilton, NJ 8691
   Congressional District 3: Andy Kim (Dem)
   Senate District 14: Linda Greenstein (Dem)
   House District 14: Wayne DeAngelo (Dem)
   House District 14: Daniel Benson (Dem)

3. Mount Laurel - SPS PPR
   Employees: ~96
   534 Fellowship Road
   Mount Laurel, NJ 08054
   Congressional District 3: Andy Kim (Dem)
   Senate District 7: Troy Singleton (Dem)
   House District 7: Herb Conaway (Dem)
   House District 7: Carol Murphy (Dem)

4. Carteret - SPS IGS
   Employees: ~6
   1001 West Middlesex Ave
   Carteret, NJ 07064
   Congressional District 6: Frank Pallone, Jr. (Dem)
   Senate District 19: Joseph Vitale (Dem)
   House District 19: Craig Coughlin (Dem)
   House District 19: Yvonne Lopez (Dem)

5. Swedesboro - SPS PSS
   Employees: ~1
   2279 Center Square Road
   Swedesboro, NJ 08085
   Congressional District 2: Jeff Van Drew (Rep)
   Senate District 3: Edward Durr (Dem)
   House District 3: Bethanne McCarthy Patrick (Rep)
   House District 3: Beth Sawyer (Rep)

37x

Honeywell

General Overview of SNAP and HFOs

Balanced Policy Solution: In order to craft balanced and science-supported PFAS legislation, policy definitions should not apply to products that contain intentionally added PFAS with uses that are currently listed as acceptable, acceptable subject to use conditions, or acceptable subject to narrowed use limits in the Environmental Protection Agency's rules under the Significant New Alternatives Policy (SNAP) program, as long as the product containing PFAS are being used as substitutes for ozone-depleting substances under the conditions specified in the rule.

In addition to SNAP review, many of the compounds essential to modern life that would be regulated in New Jersey under S3177 have undergone modern toxicological testing, and have been deemed acceptable for their intended use by other federal government agencies, including by the Toxic Substances Control Act of 1976 (TSCA) (most recently amended in 2016).

S3177 also contains critical language instructing the Commissioner to "prioritize the prohibition of the sale of product categories or uses that, in the department's judgment, pose the greatest risk to public health or are most likely to cause contamination of the State's air, land, or water resources if they contain intentionally added PFAS." This prioritization of PFAS management based on risk to the environment and human health should be encouraged.

HFOs - the Safe and Sustainable Alternative: HFOs (hydrofluoro-olefins) and HFO blends are innovative and energy efficient materials that enable a rapid, cost effective and responsible transition away from chlorofluorocarbons (CFC – responsible for ozone depletion), hydroflurocarbons (HFCs – responsible for significant global warming), and other historically used refrigerants.

Beyond refrigeration, HFOs have a broad suite of critical applications that support emissions reduction objectives. From foam blowing agents that provide superior insulation for homes, buildings, appliances, and many other uses, to solvents that are both low global warming potential (low-GWP) and VOC-exempt, HFOs play a critical role in enabling key industries to meet their sustainability goals.

The Importance of Scientific Review: The U.S. EPA's Significant New Alternatives Program (SNAP) was established under the auspices of the federal Clean Air Act for the purpose of reviewing substitutes to legacy ozone depleting substances within a comparative risk framework to reduce risk to human health and the environment. Through these evaluations, SNAP generates lists of acceptable and unacceptable substitutes to promote a smooth transition for industries to safer alternatives. As supported by SNAP evaluations, not all PFAS are the same in terms of toxicity or bioaccumulation potential. Some PFAS have been shown to have extremely low toxicity, for example. If a chemical has been found to present lower overall risk to human health or the environment than its predecessors, it may be found acceptable under SNAP regardless of whether or not it falls under a particular definition of PFAS.

Other States: States such as Delaware, Virginia, and West Virginia have adopted a PFAS definition that addresses PFOA and PFOS as well as their analogue substances, but also allows for the continued use of HFOs. This approach is the best way to address the need to regulate harmful chemicals from the past, while embracing new technologies, like HFOs, for the future.

38x

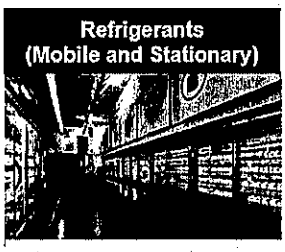
HFOs have been heavily studied and are rigorously regulated, pursuant the U.S. Clean Air Act, other U.S. EPA programs including TSCA and FIFRA, and California CARB. To-date, more than 75 third party studies, including Good Laboratory Practice-compliant OECD in vitro, acute and chronic toxicology reports, and environmental properties research that evaluates persistence and global warming potential, have been conducted on HFOs to ensure they are non-PBT (non-persistent, non-bioaccumulate, and non-toxic) and safe for human and environmental health. These oversight agencies rely upon the best, most accurate testing methods available, and have consistently listed HFOs as acceptable and safe alternatives to other less climate-friendly substances.

HFOs are critical and essential for a strong and sustainable future. They have a tangible, and positive environmental impact; are safe and pose a very low risk or impact to human health when used as intended.

Everyday Benefits of HFOs: **HFOs have obvious benefits to our national security, climate, and sustainability goals.** HFOs are a strong piece of the puzzle in meeting the White House's climate goals of reducing U.S. greenhouse gas emissions 50-52% below 2005 levels in 2030 and achieving a net-zero emissions economy by 2050. As U.S. HFC users look to prepare for the eminent drop in total U.S. HFC supply to 60% of baseline in 2024 as outlined in The American Innovation and Manufacturing (AIM) Act, transitioning to low-GWP HFOs is of paramount importance.

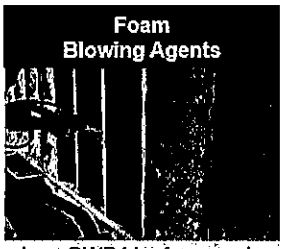
Key Essential Uses of HFOs

SUSTAINABLE HFO APPLICATIONS



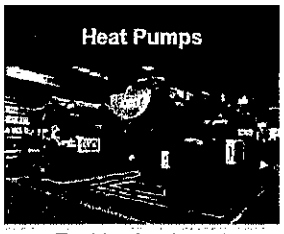
Energy-efficient, ultra-low GWP refrigerant

Uses: Residential AC, Supermarkets, Cars, Data Centers, etc.



Low GWP blowing agents produce superior spray foam that reduces energy usage

Uses: Residential and Commercial Building Insulation



Enables heat pump technology that is more energy efficient than air conditioning units and furnaces

Uses: District, Residential, and Commercial Heating and Cooling

To date, use of Honeywell HFO technology has helped avoid the potential release of the equivalent of more than 326 million metric tons of carbon dioxide into the atmosphere, equal to the carbon emissions from nearly 70 million gasoline-powered passenger vehicles per year.

The Challenge: Honeywell supports regulation of harmful PFAS compounds such as PFOA and PFOS, as well as other compounds with proven harmful characteristics. **According to the U.S. EPA's structural definition, HFOs or their degradation products should not be considered PFAS.**

39x

Given that HFOs are non-toxic, non bioaccumuative and non-persistent, and the U.S. EPA does not categorize HFOs as PFAS, HFOs should not be categorized as PFAS. In fact, the **EPA approves use of HFOs as an alternative to higher global warming gases.**

While it is a commendable policy priority to ban harmful compounds like PFOA and PFOS, we mustn't over-correct and eliminate essential, sustainable uses and applications of HFOs.

More About PFAS: PFAS is a broad category of more than 4,000 chemical structures, with thousands of unique properties and varying applications. The category was formed/termed for academic purposes only - this category is neither a legal or regulatory definition. According to the Organization for Economic Cooperation and Development (OECD), "PFAS" is a broad, general, non-specific term, and does not inform whether a compound is harmful nor is it a basis for regulation.[1]

Recently, certain PFAS materials, in particular perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS), have been under increasing global scrutiny due to human toxicity and environmental concerns of these specific molecules. Because of a need to address these toxic substances to protect human health, the U.S. EPA recently announced a new National Primary Drinking Water Regulation (NPDWR) for the most harmful PFAS compounds, including perfluorooctanoic acid (PFOA), perfluorooctane sulfonic acid (PFOS), perfluorononanoic acid (PFNA), hexafluoropropylene oxide dimer acid (HFPO-DA, commonly known as GenX Chemicals), perfluorohexane sulfonic acid (PFHxS), and perfluorobutane sulfonic acid (PFBS).[2] EPA expects that if fully implemented, the rule will prevent thousands of deaths and reduce tens of thousands of serious PFAS attributable illnesses.

More About TFA: One of the breakdown products of HFOs is trifluoroacetic acid (TFA, which usually shows up in the world as salts), the yield of which varies by specific HFO compound, with some HFOs only generating a very small amount of TFA. Multiple United Nations Environment Program (UNEP) evaluations of peer-reviewed literature conclude that current concentrations of TFA from the degradation of HFOs do not present a risk to humans and the environment.

TFA (trifluoroacetic acid and its salts) is a naturally occurring substance: it has been present in our environment for millions of years with no indication of impact on human health or the environment. Currently, about 95% of TFA comes from natural sources. Manmade sources of TFA come from various industries: pharma, pesticides and herbicides, intentional production (for instance as a reagent in analytical chemistry, such as COVID-19 testing) or fluorocarbons.[3]

The Environmental Effects Assessment Panel (EEAP) of the Montreal Protocol's first mandate was to assess the various effects of ozone layer depletion of the predecessors of HFOs. As refrigerants have evolved, so has the EEAP's mandate – it now includes specific studies on TFA resulted from emissions of fluorinated gases such as HFOs. The EEAP's members are scientists from many countries, working in universities and research institutes studying environmental chemistry, photobiology, and

[1] ECD, Reconciling Terminology of the Universe of Perand Poly-fluoroalkyl Substances: Recommendations and Practical Guidance, Series on Risk Management No. 61, https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=ENV/CBC/

[2] Per- and Polyfluoroalkyl Substances (PFAS) | US EPA

[3] An Inventory of Fluorspar Production, Industrial Use, and Emissions of Trifluoroacetic Acid (TFA) in the Period 1930 to 1999, https://www.scirp.org/pdf/gep_2023031011280100.pdf

40x

photochemistry. Every year since 2014, the EEAP has consistently concluded that TFA linked to HFO emissions does not pose risks to human health or the environment.[4]

Approximately 200 million tons of TFA existed in oceans in 2000.[5] This is equivalent to a TFA concentration of 200 ng/L (0.00000002%). If HFOs are fully adopted across all applications in the world, the TFA level in the ocean is projected to increase to a maximum of 251 ng/L in 2100.[6] This means that in 2100 the maximum concentration of TFA in the ocean due to maximum HFO adoption worldwide would change from 0.00000002% to 0.000000025%.

Available independent scientific data confirm that TFA, and in particular TFA resulting from HFO atmospheric degradation processes, will not pose risks to human health or the environment in the foreseeable future.

[4] Environmental Effects Assessment Panel (EEAP) | Ozone Secretariat (unep.org)
[5] Trifluoroacetate profiles in the Arctic, Atlantic, and Pacific Oceans - PubMed (nih.gov)
[6] Scientific Assessment of Ozone Depletion 2022: Executive Summary (noaa.gov)

41x

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Advanced Medical Technology Association

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June 8, 2023

Senator Bob Smith, Chair
Senate Environment and Energy Committee
216 Stelton Rd., Suite E-5
Piscataway, NJ 08854

Senator Linda Greenstein, Vice Chair
Senate Environment and Energy Committee
1249 South River Rd., Suite 105
Cranbury, NJ 08512

RE: S 3177 -- "Protecting Against Forever Chemicals Act"; establishes requirements, prohibitions, and programs for regulation of perfluoroalkyl and polyfluoroalkyl substances (PFAS).

Dear Chair Smith, Vice Chair Greenstein, and Honorable Members of the Committee,

The Advanced Medical Technology Association (AdvaMed) submits this letter in opposition to Senate Bill 3177 as introduced. We support the amendments offered before the committee exempting FDA regulated medical devices and request added clarifications that will ensure patients won't be at risk for losing access to life-saving medical device and products. AdvaMed is the largest national trade association representing nearly 450 of the world's leading innovators and manufacturers of medical devices, diagnostic products, digital health technologies, and health information systems. Medical devices made by AdvaMed members help patients stay healthier longer, expedite recovery, allow earlier detection of disease, and improve effectiveness and efficiency of treatment.

As introduced, S 3177 would effectively ban access to FDA regulated devices for all patients in New Jersey. This would impact patients using products such as insulin pumps, catheters, pacemakers, infusion drugs, prosthetics, syringes, and MRI, CT, and mammography machines among other lifesaving products used in hospitals. Recognizing that all patients and providers trust and rely on these critical products, we want to help New Jersey become a responsible steward of these complex compounds, without unnecessarily restricting access to life-saving medical devices and technology.

In summary, our suggested amendments (1) help capture all drugs, devices, and products regulated by the FDA that are designated by various approval processes; and (2) include medical products critical for infection prevention and cross-contamination in hospitals, acute care facilities, and medical offices.

Background

It is critical to note that the PFAS categories tied to environmental contamination and bioaccumulation are not what are used in medical devices and technology. The non-water soluble PFAS (fluoropolymers)

42x

used in medical devices are not bioavailable and do not biodegrade; they inherently do not actively or passively pass through cell membranes and are not considered toxic to human health or an environmental hazard. PFAS regulations should target unsafe products and supply chain practices of non-essential products that contain water-soluble PFAS.

PFAS are a broad class of 12,000 chemistries, characterized by the strong bond between fluorine and carbon. Because of this strong bond, PFAS provides products with strength, durability, stability, and resilience required for the safe functioning of a broad range of products including medical devices and technology. PFAS are defined based on small chemical structural elements with such diverse properties and effects that it is not scientifically accurate to regulate them as a single class. The very distinct physical and chemical properties of PFAS demonstrate how varied they are and how imposing a new reporting requirement regardless of these differences would be scientifically inappropriate.

FDA Approval for Human Health & Safety

The U.S. Food and Drug Administration (FDA) considers human health and safety risks, optimal product quality, and assessment of who will be utilizing the device (practitioner or patient) in their approval processes for medical devices and medical products. The health risks of these medical devices are thoroughly assessed by the FDA before they make it on the market and must undergo multiple tests to prove biocompatibility in compliance with the international biocompatibility standard, ISO 10993.

As part of FDA's regulatory process for medical devices coming to market, materials of the product as well as the packaging may be considered a component of the device itself or it could be a part of the final design specifications of the device as it's meant to be sold and distributed. Some devices like surgical tools, implantables, and syringes that need to be sterilized, require all their packaging and the product itself to withstand melting, breaking, becoming brittle or otherwise degrading during the critical sterilization process. FDA must validate these products as safe, non-toxic, and resilient enough to withstand sterilization, transport, storage, and normal use so that it can function as intended without any damage or harm to the patient.

Today, in many cases, medical devices that use fluoropolymers, one type of PFAS, are the "standard of care." Moreover, the common PFAS materials (fluoropolymers) used in medical devices are not responsible for the water and soil contamination with which New Jersey is most concerned. Banning access to FDA regulated medical devices and medical products can result in significant decreases in clinical success, including higher morbidity and mortality rates and can place thousands of patients' lives at risk, unnecessarily, for lack of available treatments and life-saving options. Any blanket regulation of PFAS places at risk the ability of companies to manufacture and provide lifesaving and life-enhancing fluoropolymer containing medical devices to patients across the U.S. and the globe.

Med Tech is Essential for Human Health

The biocompatibility standards and testing required by the FDA considers factors such as neurotoxicity, local and systemic effects, carcinogenic properties, pathological, physiological, reproductive and developmental effects among many other factors before approving a product safe to human health. No other consumer product undergoes this level of scrutiny and oversight.

Here are a few examples of the essential medical technology that include PFAS fluoropolymers:

- Circuit boards, leads, and foil in large equipment made up of hundreds of components such as MRI, CT, and mammography machines
- Prosthetics
- Pacemakers and other implantables
- Syringes
- Contact lenses
- Blood collection bags, suction devices used in respiratory therapy and for anesthesia, I.V. solution bags, enteral nutrition, and premixed infusion drugs used in a hospital setting.
- Wireguides and delivery systems used in procedures to navigate through a patient's anatomy.

Reporting Compliance Challenges

As introduced, S 3177 presents significant reporting challenges for the medical device industry. We urge the committee to demonstrate that the state of New Jersey trusts the approval process of the FDA and understands the complexities of the medical technology supply chain outlined below.

In a supply chain that is eight to ten layers deep, often, a component material supplier views their component design as *their* intellectual property (IP), including the specific material used. In those instances, the FDA has a regulatory approach for those suppliers to divulge information to the FDA but not to the manufacturer. As a result, medical device manufacturers will never be able to achieve 100% disclosure to DEP. Manufacturers are beholden to the information that their suppliers provide, which is not always a consistent or standard read out of the materials in the product is highly regulated by the FDA.

It may take device manufacturers upwards of several years to even identify where in the supply chain regulated substances occur before they can attempt to mitigate and change their processes. There is no "commercially available" technique that can assess for all 12,034 chemicals at one time. Analytical techniques can only assess what can be extracted out of a device, it becomes near impossible to identify what is present rather than what can leach out. Substitutions or changes require extensive and costly compatibility studies to ensure that no cross contamination, bleed-through or residuals are present. Any changes in the device or the package would then subject the item to re-submission to the FDA, further restricting patient access to proper healthcare and preventing providers from treating their patients appropriately.

Federal Action

Furthermore, Congress and the Biden Administration recently authorized significant legislation with new rules regulating PFAS.[3] Subsequently, under the Toxic Release Inventory (TRI) program companies or federal facilities that release 100 or more pounds of the 179 identified PFAS substances must collect and publicly report information on the amount that is released into the air, water, or land, and the quantities managed through disposal, energy recovery, recycling, or treatment. Additionally, the EPA is undergoing rulemaking under the Toxic Substances Control Act (TSCA) Section 8 that would require those who manufacture (including import) any identified PFAS to report information regarding PFAS uses, disposal, exposures, hazards, and production volumes.[4]

The EPA's recent PFAS Roadmap recognizes the broad class of PFAS and outlines additional efforts to define, subcategorize, assess, and regulate this important class of compounds. The Administration and EPA agreed to a targeted approach and to regulate by groupings of chemicals rather than regulate as one big class.

Testing for and identifying what is defined as PFAS is already a complex process. Additional reporting requirements at the state level will lead to multiple testing requirements with multiple definitions of PFAS. At a minimum, New Jersey can utilize the TRI data to better inform and prioritize DEP's focus. We urge the committee to avoid the redundant use of state resources, support the EPA's efforts to comprehensively identify PFAS substances, and support the changes proposed in S 3177.

Conclusion

AdvaMed urges the committee adopt the suggested language below to further clarify how medical devices and products will be safeguarded in the bill. We propose the following language be considered, the highlighted portions added to draft amendments in discussion with the sponsor:

[1]14. The provisions of this act shall not apply to a product that is a:

a. drug, biopharmaceutical, diagnostic device, medical device, or medical products approved, authorized, or cleared by the United States Food and Drug Administration or the United States Department of Agriculture;

b. veterinary pesticide product approved by the United States Environmental Protection Agency;

c. piece of medical equipment or medical product that has been labeled as "Research Use Only" pursuant to the "Federal Food, Drug, and Cosmetic Act," 21 U.S.C. s.301 et seq., and the rules and regulations adopted pursuant thereto;

d. packaging product used for a drug, biopharmaceutical, diagnostic device, medical device, or medical products approved, authorized, or cleared by the United States Food and Drug Administration or the United States Department of Agriculture; or

e. packaging product or other product that is regulated pursuant to the "Federal Insecticide, Fungicide, and Rodenticide Act," 7 U.S.C. s.136 et seq.[1]

f. Medical equipment or products used exclusively in healthcare settings, including hospitals, acute care facilities, and medical offices.

Recognizing that all patients and providers trust and rely on medical technology and products, we want to help New Jersey become a responsible steward of these complex compounds, without unnecessarily restricting access to life-saving medical devices and technology. In summary, our suggested changes (1) help capture all drugs, devices, and products regulated by the FDA designated by various approval processes; and (2) include medical products critical for infection prevention and cross-contamination in hospitals, acute care facilities, and medical offices.

45x

Thank you for considering our concerns and suggested changes. We look forward to working with you on this important matter throughout the remainder of the legislative session.

Sincerely,

Roxy Kozyckyj
Director, State Government & Regional Affairs
AdvaMed

46x

AdvaMed

PFAS in Medical Devices & Technology

Background

Medical devices and medical technology that contain Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS), have been available to patients for over 50 years, with tens of millions of devices used without demonstrating adverse health effects.

Some devices like surgical tools, implantables, and syringes that need to be sterilized, require the product and often it's packaging to withstand melting, breaking, becoming brittle or otherwise degrading during the critical sterilization process. FDA must validate these products as safe and resilient enough to withstand sterilization, transport, storage, and normal use so that it can function as intended without any damage or harm to the patient.

•••

The industry has been and is currently taking steps to phase out some PFAS in paper and coating used in medical device packaging. However, certain other distinct PFAS are critical to the production of lightweight, flexible devices and packaging that must possess a host of other essential properties to pass the FDA's "shake, rattle, and roll" product test.

Unique, Unsubstitutable Properties of PFAS:

- **Flexibility**
- **Rigidity**
- **Sterility**
- **Penetrability**
- **Hot/cold temperature resiliency**
- **Ergonomic**
- **Degradation proof**

The health risks of these medical devices are thoroughly assessed by the FDA before they make it on the market and must undergo multiple tests to prove biocompatibility and toxicological safety in compliance with international biocompatibility standard, ISO 10993. FDA considers human health and safety risks, optimal product quality, and assessment of who will be utilizing the device (practitioner or patient) in their approval processes for medical devices and their packaging.

Furthermore, manufacturers and the FDA, in compliance with the FDA Quality System Regulation, continue to monitor the safety of these products even after they are marketed.

47x

Use in Medical Technology

Levels of PFAS can be highly variable and are at times hard to ascertain and report in part due to complexity of the supply chain and their use in components developed by much further downstream suppliers as well as third party packaging suppliers. This can render compliance near impossible where trace amounts are unintentionally introduced as part of a complex supply chain. This would make compliance very challenging for any reporting requirements or prohibition.

The complexity of the supply chain means information can take years to propagate to the manufacturer, and substitutions or changes require extensive and costly compatibility studies to ensure no cross contamination, bleed-through or residuals are present.

•••

Any changes in the device or the package would then subject the item to re-submission to the FDA, further restricting patient access to proper healthcare and preventing providers from treating their patients appropriately.

Some Medical Devices Containing PFAS:

- **Circuit boards, leads, foil in large diagnostic equipment.**
- **Covers for electrical wiring**
- **Instruments and equipment (shears, cutters, staplers) used in minimally invasive, endoscopic surgical procedures**
- **Catheters (including balloon)**
- **Guidewires**
- **Grafts**
- **Stents**
- **Contact Lenses**
- **Syringes**
- **Blood collection bags**
- **IV solution bags and tubing**
- **Infusion drugs**
- **Peritoneal dialysis solutions**
- **Enteral nutrition**
- **Surgical Kits**
- **Injectables, autoinjectors**
- **Implantables**

Patients First

As innovators of critical lifesaving and life-enhancing medical devices and medical products in the United States and globally, AdvaMed's members produce medical technologies essential to the health, safety, and well-being of patients.

Our innovations are helping patients lives longer, healthier, and more productive lives. Advancements in medical technologies have been vital to public health. Banning access to FDA regulated medical devices and medical products can result in significant decreases in clinical success, including higher morbidity and mortality rates and can place thousands of patients' lives at risk, unnecessarily, for lack of available treatments and life-saving options.

48x

AdvaMed

PFAS Data Reporting: Medical Devices & Technology

AdvaMed is the largest national trade association representing nearly 450 of the world's leading innovators and manufacturers of medical devices, diagnostic products, digital health technologies, and health information systems.

The following points illustrate why applying PFAS (Per- and Polyfluorinated Substances) data reporting to FDA regulated medical devices and technology products would be duplicative and provide no added value or information for increased safety.

FDA Approval

- **Human Health:** The FDA considers human health and safety risks, optimal product quality, and assessment of who will be utilizing the device in their approval process of medical devices and packaging.
- **Unmatched Safety Standards:** The biocompatibility standards and testing required by the FDA are routinely the most scrutinized factor in a medical device's approval.
    - FDA regularly requests additional data and evidence of biocompatibility from a manufacturer over multiple rounds of verification and review before granting approval for the device. No other consumer product undergoes this level of scrutiny and oversight to ensure safety of human health.

Definition Broadness

- **12,000+ PFAS:** PFAS is a broad class of over 12,000 substances, all with very different physical and chemical properties and very different uses. It is not scientifically accurate or appropriate to group all these substances together or treat them the same when considering hazard or risk.
    - There is no commercially available test that could sufficiently identify all 12,000+ types PFAS by substance and concentration in a product, its component, or packaging. The type of PFAS would have to be specified to be identified in any test findings.

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- **Polymers Aren't the Problem:** The PFAS categories of concern tied to environmental contamination and bioaccumulation are not what are used in medical devices and technology. Targeting the concerning water-soluble PFAS categories and excluding the non-water soluble PFAS (polymers), would overwhelmingly ensure legislation efficiently targets unsafe products and supply chain practices.

Threshold Criteria

- **Intentionally Added PFAS:** There needs to be recognition that complex products may contain components that are not specified by the "manufacturer" or "brand owner" and even if the product were tested for the presence of PFAS it wouldn't be known whether the PFAS was intentionally added.
- **Numbers Matter:** An additional definition for "de minimis concentration" that would not restrict or prohibit products that contain extremely low levels of PFAS, particularly in complex articles would be a prudent step in obtaining data on the PFAS that leaches out.
- **Reporting Unfeasibility:** Without a threshold, reporting is impossible as minute traces of the substance cannot be avoided or detected. (Compare EU REACH: only above 0.1% w/w). On the other hand, very low thresholds are not practically feasible if they are beyond the limit of the measurement.
    - If a threshold is set, it should be clear against which component scope the weight is measured (entire product, homogeneous material (EU RoHS) or article (EU REACH).

Recognition of Essential Use

- **Patient Access:** Since there is no suitable material that can substitute PFAS that can ensure the essential sterility, rigidity, flexibility, and durability of a medical device or its packaging, including FDA approved devices would be ineffective, duplicative and provide no added value or information for increased safety.

Today, in many cases, medical devices that use fluoropolymers, one type of PFAS, are the "standard of care."

The common PFAS materials (fluoropolymers) used in medical devices are not responsible for the water and soil contamination that is at issue.

Cognizant of the complexity and extensive supply chain involvement that goes into the manufacturing and approval of life-saving FDA regulated medical devices and medical products, legislation should exempt these and focus scrutiny on those products which make up a larger share of the PFAS that contribute to bioaccumulation and environmental contamination.

50x

AdvaMed
Advanced Medical Technology Association

The Power of Medtech: New Jersey

AdvaMed is the leading national trade association promoting medical technology to achieve healthier lives worldwide.

The United States is the largest incubator for lifesaving, life-enhancing medical technology, leading a global industry. Each state has a medtech presence, from multinational corporations to the vast majority of medtech companies, startups (94 percent) with fewer than 20 employees (82 percent). All play a critical role, from creating new technology to diagnose cancer and manage diabetes to supplying heart valves, knee replacement joints, and complex scanners to detect disease or injury.

New Jersey is the ninth-biggest medtech center nationwide in revenue. Medical device and diagnostics manufacturers drive significant economic value to the state, local communities, and residents, from providing opportunities for high-skilled and high-paying jobs in various sectors to pioneering life-changing health care technologies for patients all over the world.

HINJ
HealthCare Institute of New Jersey

HealthCare Institute of New Jersey is the State Medtech Alliance member.

12,346 jobs

in New Jersey are supported by medtech

Medtech in New Jersey is a **$5.6 billion industry.**

New Jersey medtech employees make an average of

$118,688 per year.

New Jersey is home to 32 AdvaMed member sites and seven AdvaMed Accel members for small, emerging companies.

ALLENDALE
Acuitive Technologies, Inc.*
Stryker

BRANCHBURG
Roche Diagnostics

CRANBURY
Cardinal Health

DELRAN
BD

EATONTOWN
Medtronic

EDISON
Cardinal Health

FAIR LAWN
Zimmer Biomet

FLANDERS
Siemens Healthineers

FRANKLIN LAKES
BD

FREEHOLD
Abbott

HACKENSACK
Siemens Healthineers

HILLSBOROUGH
STERIS

ISELIN
Siemens Healthineers

JERSEY CITY
Biocartis US, Inc.*

LITTLE FALLS
Roche Diagnostics

MAHWAH
Stryker

MARLTON
Impulse Dynamics*

MERCERVILLE
Philips

MOUNT LAUREL
Zimmer Biomet

NEW BRUNSWICK
Johnson & Johnson

OAKLAND
Topcon Healthcare Solutions*

PARSIPPANY
Medtronic
Zimmer Biomet

PEDRICKTOWN
Medtronic

PLAINSBORO
Novo Nordisk, Inc.*

PRINCETON
Abbott
Otsuka *
Siemens Healthineers

RARITAN
Johnson & Johnson
Quidel

SOMERSET
Terumo Medical Corporation

SOUTH PLAINFIELD
STERIS

SWEDESBORO
Cardinal Health
Medtronic

TROY HILLS
ZOLL Medical Corporation

WARREN
Haleon*

WHIPPANY
STERIS

Source: The Economic Impact of the Medical Technology report, MACRO Policy Advisers
https://bit.ly/3yJBBG9

*AdvaMed Accel member

51x

Alliance for Telomer
Chemistry Stewardship

June 8th, 2023

Attn: Senate Environment and Energy Committee

Dear Chair Smith and Members of the Senate Environment and Energy Committee:

The Alliance for Telomer Chemistry Stewardship (ATCS) is a global organization that advocates on behalf of C6 fluorotelomer-based products. Our members are leading manufacturers of fluorotelomer based products. Our mission is to promote the responsible production, use, and management of fluorotelomer based products, while also advocating for a sound science- and risk-based approach to regulation. Fluorotelomer-based products are versatile chemistries with wetting and spreading features, as well as unique properties that repel water, oil and stains. These unique characteristics make fluorotelomers a critical component of first responder gear, medical garments, paints and coatings, class B firefighting foam, among other uses that families and businesses across the world rely on.

On behalf of the members of ATCS, we respectfully oppose SB 3177 as written.

About per- and polyfluoroalkyl substances (PFAS)

PFAS are a diverse universe of chemistries with a wide range of critical uses. For instance, fluorotelomers (one type of PFAS), which are being phased out of food packaging, are essential components of medical garments, hospital gowns, drapes and divider curtains to create a barrier that provides life-saving protection against infections and transmission of diseases in hospitals and medical settings. Another type of PFAS, fluoropolymers, are integral to COVID-19 testing equipment and the medical technology that is saving lives across the globe. For example, fluoropolymers are used as coatings for the tubing in COVID-19 test kits because of their unmatched durability, low friction, and extreme heat resistance. They are also used in surgically implantable medical devices, increasing the lifetime of implants and reducing the likelihood of infection and invasive surgery.

The chemical industry supports a comprehensive approach to managing per- and polyfluoroalkyl substances that helps to ensure protection of human health and the environment. This includes appropriate, science-based policies and regulations.

As written, the bill's definition of per- and polyfluoroalkyl substances is too broad and generic to accurately capture the chemistry of concern. Presently, the Maine Department of Environmental Protection (DEP) is undertaking the arduous task directed by their legislature to implement a similar reporting structure. Despite having nearly two years to develop regulations governing reporting and disclosure, due to the complexities of the task the Department is just now taking comments on a proposed rule, even though the statutory date for reporting passed over six months ago. To date, Maine DEP has received and granted well over 2,000 requests for reporting extensions.
In the face of the enormous challenges created by the Maine law, the legislature of that state is expected to pass amendments this session that will pare back on the breadth of the law (e.g., by

exempting small businesses) and provide a two-year extension of the reporting deadline. In the interim, the legislature plans to hold additional work sessions to consider further modifications of the law.

SB 3177, like the Maine law, is overly broad in scope and will likely capture hundreds of thousands of products, most of which do not present significant risk concerns, rather than focusing on the PFAS chemistries and products that present the greatest potential risk concerns. Moreover, like the Maine law, SB 3177 will be enormously difficult to implement, and will impose unreasonable burdens on businesses and residents of New Jersey. We note, in this regard, that California did pass a similar reporting bill last session that was ultimately vetoed by Governor Newsom. The Governor cited the steep burdens of implementing the statute as well as redundancy with forthcoming EPA reporting regulations (which are currently under OMB review and expected to be published within weeks).

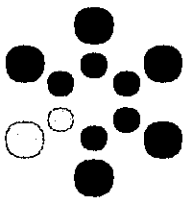
Further, SB 3177 would make New Jersey out of alignment for state and federal definitions as well as timelines of specific applications.

For these reasons, respectfully oppose SB 3177 as written.

Thank you for your consideration and we look forward to working with the Committee and bill sponsors on this language and any potential amendments.

Sincerely,

Shawn Swearingen
Director, Alliance for Telomer Chemistry Stewardship



AmericanCoatings
ASSOCIATION℠

June 8, 2023

Senate Environment and Energy Committee
125 W State St,
Trenton, NJ 08608

Re: S-3177 - OPPOSE
Submitted via e-mail to: SenBSmith@njleg.org; SenGreenstein@njleg.org; SenCodey@njleg.org; SenDurr@njleg.org; SenStanfield@njleg.org; OLSAideSEN@njleg.org; Jgurrentz@njleg.org; DMercadante@njleg.org; Jvitale@njleg.org

Dear Chairman Smith, Vice Chair Greenstein and Members of the Committee:

The American Coatings Association ("ACA")[1] appreciates the opportunity to comment in opposition to S-3177. The Association's membership represents 90% of the U.S. paint and coatings industry, including downstream users of chemicals who manufacture end-use formulated products such as paints, coatings, sealants and adhesives. ACA appreciates the committee's willingness to interact with stakeholders during this process.

PFAS encompasses a variety of fluorinated chemistries with very distinct physical and chemical properties, used in a variety of products. PFAS or fluorinated chemistries are generally known to be persistent, due to carbon-fluorine bonds, but have varying properties for toxicity and bioaccumulation. Generally, persistence alone is not an indicator of risk or potential for harm. Scientists consider persistence as one factor with toxicity and potential to bioaccumulate.

Because of these varying characteristics, New Jersey's proposed adoption of a broad PFAS definition inevitably captures a diverse range of reportable chemicals that are not harmful to human health or the environment. In addition, reporting through one standardized approach for a broad set of chemicals is challenging, due to complexities in the supply chain and difficulty in identifying reportable chemicals across thousands of products. ACA encourages the State of New Jersey to focus any legislative restrictions on those fluorinated chemistries that are associated with contamination in New Jersey, rather than enacting a broad reporting requirement.

[1] ACA is a voluntary, non-profit trade association working to advance the needs of the paint and coatings industry and the professionals who work in it. The organization represents paint and coatings manufacturers, raw materials suppliers, distributors, and technical professionals. ACA serves as an advocate and ally for members on legislative, regulatory and judicial issues, and provides forums for the advancement and promotion of the industry through educational and professional development services. ACA's membership represents over 90 percent of the total domestic production of paints and coatings in the country.

Not only is a broad reporting requirement of little public or environmental benefit, it is costly and administratively difficult to implement. A similar reporting requirement has proven challenging to implement in Maine. The Maine legislature is now considering amendments to its reporting requirement, passed in June 2021, since the act is administratively unworkable, with unrealistic data expectations and reporting times and an overly broad definition of PFAS. ACA urges this committee to avoid following the same path as Maine.

New Jersey's S-3177 has several provisions that are difficult to administer that do not directly enhance environmental protections. For example, the definition of PFAS would encompass any chemical with a carbon-fluorine bond, although many chemicals covered under this broad definition are not associated with contamination, especially the short-chained fluorinated chemistries. Further, the bill assumes that adequate testing methods are available when this simply is not the case. EPA test methods focus on environmental and drinking water contamination. Test methods for PFAS in products are still being developed. In addition, downstream users of chemicals face significant challenges in identifying reportable amounts, often contained at trace levels. Further, these trace levels are not disclosed by upstream chemical suppliers, when below OSHA disclosure thresholds of 0.1% or 1%, depending on the hazard at issue.

ACA further recommends reducing and clarifying the proposed reporting fee. S-3177 currently imposes a reporting fee of $1000 for each manufacturer. The proposed language does not clarify whether this fee is per product or a one-time fee regardless of the amount of products registered. A per product fee at this rate would be cost prohibitive, especially for manufacturers registering multiple products. As a one-time fee, it is an excessive amount for small businesses and companies that are registering one or a few products.

ACA is in opposition to S-3177 due to the lack of a clear public benefit coupled with significant administrative costs and administrative barriers. If the legislature would like to address fluorinated chemicals, ACA recommends that this committee develop targeted legislation to address those chemicals associated with contamination in the state, identified by CAS number.

Sincerely,

Riaz Zaman
Sr. Counsel, Government Affairs
American Coatings Association
901 New York Ave., Ste. 300
Washington, DC 20001
202-719-3715
rzaman@paint.org

55x

American Braiding & Manufacturing
247 Old Tavern Road
Howell, New Jersey 07731 USA
Phn 800-899-5018 / 732-938-6333
Fax 732-938-6377

June 2, 2023

RE: Oppose NJ S. 3177/ A. 4758, a bill that establishes requirements, prohibitions, and programs for regulation of perfluoroalkyl and polyfluoroalkyl substances (PFAS)

Dear New Jersey Legislator,

We are writing to respectfully oppose S. 3177/ A. 4758 related to PFAS reporting requirements, restrictions, and product bans. As written, within one year of the bill's effective date, the bill would require manufacturers to provide written notice to the Department of Environmental Protection (DEP) for products with intentionally added PFAS (as very broadly defined in the bill). Within two years, the bill would ban the sale or distribution of cosmetics, carpets, fabric treatments, and food packaging with intentionally added PFAS; and it would require cookware with PFAS to list the presence of PFAS on the label. The bill also gives DEP unprecedented authority to recommend to the legislature products or categories of products with intentionally added PFAS that should not be sold or distributed in the State of New Jersey. This legislation therefore could eventually ban thousands of products from sale and transport of those products into the state causing far-reaching negative consequences on nearly every sector of the economy including aerospace, autos, power sports, alternative energy, healthcare, building and construction, electronics, pharmaceuticals, and agriculture.

American Braiding recognizes New Jersey's interest in managing PFAS contamination to protect the health of the state's citizens an protect the environment, however PFAS is a broad family of chemistry, particularly as defined in this legislation; they are essential to modern life and serve as an important enabling technology. Not all PFAS are the same, and many PFAS have very different properties. These chemistries provide products with strength, durability, stability, and resilience. Of particularly concern in our industry is a category of PFAS called Fluoropolymers (including Fluoroelastomers). These materials have properties are critical to the reliable and safe function of a broad range of products that are important for industry and consumers. They play a vital role in our company's market, the sealing device industry. Sealing devices are used in EVERY industry, wherever there is a pump, a mixer, a valve, or a pipe. The use of fluoropolymers as a key component of sealing devices that ensures the safety of workers. Fluoropolymer based sealing devices are used to provide near zero leakage of dangerous or volatile materials to atmosphere. Fluoropolymers are used to seal dangerous chemicals which can't be sealed with any other materials and minimize energy consumption in industrial systems. Based on years of field experience and testing of sealing devices, there is no known replacement for these materials in our industry.

56x

This legislation would therefore jeopardize the use of a broad range of critical products that DEP could recommend for deselection or ban. In this regard, the bill gives the DEP unprecedented authority and the challenging task of prioritizing products and categories of products with PFAS to recommend that the Legislature ban. The bill provides vague language as guidance or criteria for DEP to recommend a ban: "in the department's judgment pose the greatest risk to public health or to cause contamination . . ." There is no scientific basis or defined regulatory process for banning products, which runs counter to federal health and safety standards as well as federal chemical and product safety regulations. It further creates uncertainty for manufacturers engaged in global commerce and would put New Jersey consumers and businesses at a competitive disadvantage.

This bill also could adversely impact critical uses of this technology that are important for our society's broader sustainability objectives, including support for alternative energy and greenhouse gas reduction efforts.

We thank you for your consideration and urge you to oppose S. 3177/A. 4758.

Sincerely,

Jason Bailey
President
American Braiding & Mfg.

57x

HUNTSMAN

Enriching lives through innovation

June 1, 2023

Honorable Bob Smith
Chairman, Senate Environment and Energy Committee
State House
125 West State Street
Trenton, NJ 08625-0068

Re: Opposition – S3177

Dear Chairman Smith and Members of the Senate Environment and Energy Committee:

Huntsman supports New Jersey's efforts to protect its citizens from chemicals of concern. However, Huntsman opposes S3177 – the Protecting Against Forever Chemicals Act. Our opposition to S3177 is limited to the scope of the bill. The bill is overly broad and misclassifies hydrofluoroolefin (HFO) foam blowing agents as PFAS. HFO foam blowing agents are low global warming potential (GWP) alternatives to hydrofluorocarbon (HFC) foam blowing agents. HFO foam blowing agents are not classified as persistent, bioaccumulative, or toxic[1] and therefore should not be considered "forever chemicals."

Huntsman is headquartered in The Woodlands, Texas. We have 7,000 employees across the globe. Huntsman is a leading producer of polyurethane systems, which are used to manufacture foam products used in buildings, mattresses, car seats, shoes, and appliances.

Huntsman uses HFO foam blowing agents to manufacture polyurethane foam systems. The HFO foam blowing agents used in the polyurethanes industry are compounds in a broad class of fluorinated chemicals. Importantly, not every fluorinated chemical should be considered PFAS. HFO foam blowing agents are not associated with the PFAS category and are not classified as persistent, bioaccumulative, or toxic (PBT). Polyurethane foam blowing agents are chemicals of low concern that have been approved for use by the U.S. Environmental Protection Agency (EPA).

Recently, New Jersey implemented restrictions on HFC foam blowing agents (A5583 - 2019). A5583 banned the use of HFC foam blowing agents. Huntsman supported this action, and Huntsman along with other industry participants had already begun to transition its polyurethane products to low GWP HFO foam blowing agents.

Before using a foam blowing agent, the U.S. EPA must approve the compound under Section 612 of the Clean Air Act (CAA). The EPA has listed HFO foam blowing agents as "acceptable" and determined that HFO foam blowing agents "reduce overall risk to human health and the environment compared to other substitutes for the particular end-use."

Because they do not exhibit properties associated with the PFAS category, HFO foam blowing agents should not be regulated as PFAS. Unfortunately, the definition of PFAS used in S3177 is

[1] https://www.fluorocarbons.org/environment/environmental-impact/f-gases-in-the-pfas-restriction-file/

so broad that it can be interpreted to improperly include HFO blowing agents. Implementing S3177 as drafted will negatively impact the polyurethanes industry, after the industry has made significant advancements, reasonably and at great cost, to implement environmentally preferable products in response to concerns related to HFC foam blowing agents.

Huntsman recommends two options to properly scope S3177 to avoid classifying low-GWP foam blowing agents as PFAS:

1. **Narrow the definition of PFAS**

Huntsman recommends the following definition:

> "PFAS" means non-polymeric perfluoroalkyl and polyfluoroalkyl substances that are a group of man-made chemicals that contain at least 2 fully fluorinated carbon atoms, excluding gases and volatile liquids. "PFAS" includes PFOA and PFOS."

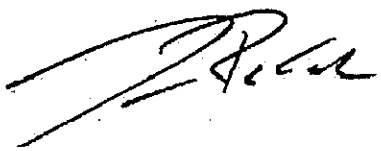
2. **Exempt chemicals which enable New Jersey's HFC restrictions**

Huntsman recommends the following language:

> Chemical compounds needed to meet the requirements of Assembly Bill 5583 (2019) are exempted from the requirements of this chapter.

Thank you for considering our comments. Please contact me with any questions at jan_buberl@hutsman.com.

Sincerely,



Jan Buberl
Vice President, Americas

HUNTSMAN CORPORATION
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Tel.: +1-281-719-6000 Fax .: +1-281-719-6416 www.huntsman.com

59X

National Marine Manufacturers Association

nmma.org | 312.946.620
650 Massachusetts Ave NW, Suite 520, Washington, DC 2000

June 6, 2023

Honorable Bob Smith
Chairman, Senate Environment and Energy Committee
New Jersey State House
125 West State Street
Trenton, NJ 08625-0068

RE: **Oppose NJ S. 3177/ A. 4758,** ***a bill that establishes requirements, prohibitions, and programs for regulation of perfluoroalkyl and polyfluoroalkyl substances (PFAS)***

Dear Chairman Smith and Members of the Senate Environment and Energy Committee:

On behalf of the National Marine Manufacturers Association, I am writing to respectfully oppose S. 3177/ A. 4758 related to PFAS reporting requirements, restrictions, and product bans.

Of the many concerns we have, the most immediate is the mandate that recreational boat, engine and accessory manufacturers notify the Department of Environmental Protection (DEP) of any products with intentionally added PFAS (as very broadly defined in the bill) one year after enactment. This time frame is completely inadequate.

NMMA is the leading trade association representing the recreational boating industry in North America. It is dedicated to industry growth through its promotion of product quality assurance, the boating lifestyle, public policy advocacy, market statistics and research. NMMA member companies produce more than 80 percent of the boats, engines, trailers, accessories and gear used by boaters and anglers throughout the United States and Canada. Recreational boating has an estimated direct and indirect annual economic impact of $6.6 billion in New Jersey, directly supports 20,177 jobs and is the lifeblood of 1,193 businesses.

Boat builders are "assemblers" not manufacturers in most instances. Once a recreational boat hull is fabricated, nearly all parts and components needed to build the boat are purchased from importers, middlemen or manufacturers. They often are generic and sourced from numerous suppliers based on availability and price. As for components, boat and engine builders would find it extremely difficult to determine if some of the parts that comprise the whole may have a coating containing PFAs. For example, a sealed steering system would have to be disassembled and its seals, cables and washers tested by third-party laboratories if the information. If the distributor or manufacturer does not provide the information about its content, or fails to respond to our inquiry, our only alternative would be to disassemble the component and send its parts out for testing at a significant expense. And that is just for that one part. We won't know if future versions of that component have different coatings.

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Targeted PFAS should be identified by its unique CASRN. Chemical Abstract Service Registry Numbers (CASRN) are unique numerical identifiers assigned by the Chemical Abstracts Service (CAS) to every chemical substance described in the open scientific literature from 1957 through the present. At present, the EPA has compiled a list of 6,330 PFAS. Without CASRN to pinpoint the chemical in question, it would be difficult (if not impossible) to accurately assess the impact of any impending regulatory action. In fact, it is impossible to overstate the complexity of identifying and managing such a vast and vaguely defined chemical group throughout the international multi-tiered supply chain.

The expense and time required to meet this mandate will be far more than the members of NMMA could absorb. The vast majority of our members -- more than 80 percent -- are small businesses without the staff or finances needed to meet this mammoth mandate, let alone in a year.

The bill also gives DEP unprecedented authority to recommend to the legislature products or categories of products with intentionally added PFAS that should not be sold or distributed in the State of New Jersey. **This legislation therefore could eventually ban thousands of products from sale into the state causing far-reaching negative consequences** including bans on fabric treatments to ensure the dependability of life jackets, marine safety systems, foul weather gear, as well as specialized parts needed to endure and perform well in the unique recreation marine engine and electronics environment.

This legislation would therefore jeopardize the use of a broad range of critical marine products that DEP could recommend for deselection or ban. These serious concerns should be resolved prior to the enactment of legislation broadly regulating the class of PFAS chemicals.

We thank you for your consideration and urge you to oppose S. 3177/A. 4758.

Sincerely,

David Dickerson

David Dickerson

AMERICAN APPAREL & FOOTWEAR ASSOCIATION

Advocacy that fits.

740 6th Street, NW • Washington, DC 20001 | P: 202-853-9080 | www.aafaglobal.org

June 1, 2023

RE: S 3177 - Protecting Against Forever Chemicals Act

Dear Chairman Smith and Members of the Senate Environment and Energy Committee:

On behalf of the American Apparel & Footwear Association (AAFA) and the companies listed in the table below, I am writing to provide testimony expressing our concerns regarding S 3177 - Protecting Against Forever Chemicals Act.

AAFA is the national trade association representing apparel, footwear and other sewn products companies, and their suppliers, which compete in the global market. Representing more than 1,000 world famous name brands, AAFA is the trusted public policy and political voice of the apparel and footwear industry, its management and shareholders, its more than three million U.S. workers, and its contribution of $470 billion in annual U.S. retail sales. AAFA approaches all of its work through the lens of purpose-driven leadership in a manner that supports each member's ability to build and sustain inclusive and diverse cultures, meet and advance ESG goals, and draw upon the latest technology.

We deploy our association's extensive expertise in trade, brand protection, supply chain management, and manufacturing to help our members navigate the complex regulatory environment, lower costs, and grow their sustainability and product safety efforts. With our members engaged in the production and sale of clothing and footwear, we are on the front lines of product safety. It is our members who design and execute the quality and compliance programs that stitch product safety into every garment and shoe we make. To support our members in this effort, AAFA has taken the lead in educating our industry through alerts, webinars, and conferences on the development, interpretation, and implementation of product safety standards and regulations.

AAFA and our members are proud advocates for regulatory requirements that can effectively protect human health and the environment. Regulation plays a critical role in furthering our industry's efforts. But only if regulations are designed properly, serve their purpose, and are properly enforced. That is why we recently launched the *THREADS Sustainability and Social Responsibility Protocol*. We believe that the *THREADS Protocol* will speed up the development of policies that are effective and catalyze meaningful progress. *THREADS* calls for policies that are:

- Transparently Developed and Enforced
- Harmonized Across Jurisdictions and Industries
- Realistic in Terms of Timelines
- Enforceable
- Adjustable
- Designed for Success
- Science-Based

Although many of our members routinely exceed regulatory requirements and are already in the process of phasing out the use of intentionally added PFAS, viewing NJ S3177 through the lens of *THREADS*, we have some concerns with the bill as currently drafted.

Harmonizing regulations and enforcement ensures a common approach and cost-effective implementation, greatly enhancing the likelihood that the regulations will achieve their stated goals. NJ S3177's reporting requirements appear to mirror requirements passed in Maine that are now being amended by the legislature because they were found to be unworkable. Even when identical legislation passes in different states, differences in interpretation and enforcement create a confusing patchwork of requirements that complicate compliance efforts and divert resources away from innovative efforts to further enhance product safety. We strongly encourage New Jersey to wait until Maine has finalized its requirements to provide opportunity for full harmonization.

Maine is in the process of changing its current reporting requirements in part because do not reflect the current science around identifying PFAS in consumer goods. At present, neither do those in S3177. For instance, requiring reporting of individual PFAS by Chemical Abstract Service numbers (CAS #s) does not make sense for the entire class of PFAS chemicals because a very small fraction of the 12,000+ potential PFAS chemicals in existence have CAS #s assigned. Further, testing for PFAS chemicals in consumer products is complex and very much still in development. Currently, test methods exist for fewer than 100 of the 12,000+ PFAS chemicals. It is just not possible for manufacturers to identify each individual PFAS chemical in a given item.

Instead, science-based requirements would establish a Total Organic Fluorine (TOF) testing threshold. TOF tests capture the presence of all PFAS, but do not identify which individual PFAS are present in a good. Maine's first set of amendments to their reporting requirements would allow for reporting by TOF. Additionally, such testing thresholds have similarly been adopted by California in their PFAS restriction bills AB 1817 and AB 652 and are included in our most recent Restricted Substances List. We recommend only requiring reporting on apparel, footwear, and accessories with a result of 100ppm TOF or greater. A TOF result of less than 100ppm demonstrates the PFAS found in the item were not intentionally added, because the presence of PFAS below 100ppm would not provide the item any characteristics associated with intentionally added PFAS (e.g. water/stain resistance or chemical/oil repellency). The establishment of a testing threshold is also necessary because PFAS contamination is widespread in the environment. Virtually any item tested will have some level of PFAS.

We are supporting legislation currently under consideration in Maine that would address these and other concerns we have with the reporting requirements as written. We would be happy to discuss these items in more depth with you as the industry looks for policies that meet the THREADS Protocol requirements.

In the interim, we again urge New Jersey to wait until Maine addresses these concerns. Then, if legislation is adopted, it will be harmonized and will have benefitted from industry input at the outset, so that it will achieve its goal of providing useful information about the sources of intentionally added PFAS to the people of New Jersey.

AMERICAN APPAREL & FOOTWEAR ASSOCIATION

Advocacy that fits.

740 6th Street, NW • Washington, DC 20001 | P: 202-853-9080 | www.aafaglobal.org

Please note that, while important, the discussions with Maine have siphoned time and resources away from continuing industry efforts to identify PFAS-alternatives and test those alternatives for performance and safety. Once safe and effective alternatives are identified, brands must work with their entire supply chains to transition to new technologies and validate that suppliers understand the new requirements. Dedicating resources to collect and package information required to meet varied reporting requirements takes away from these efforts.

Finally, while we understand why there is urgency in better understanding the sources of PFAS contamination, we caution that moving forward now would not necessarily provide information about PFAS sources any sooner. Maine moved too quickly and has had to pursue amendments while granting extensions to more than 1,900 companies as it sorts through issues with the requirements and builds capacity to take the mandated reports. New Jersey can benefit from the work already underway in Maine without creating additional burdens for industry or its own regulators by waiting for Maine to finalize requirements.

We look forward to continuing to work with New Jersey on the regulation of substances in consumer products for the benefit of consumer product safety and public health. In the meantime, our members continue to design and execute the quality and compliance programs that emphasize product safety for every individual who puts on our apparel and footwear products.

Thank you for your consideration of this request. Please contact Chelsea Murtha or my staff at cmurtha@aafaglobal.org if you have any questions or would like additional information.

Sincerely,

Stephen Lamar
President & CEO
American Apparel & Footwear Association

64X

BEAUTYCOUNTER
RAISE UP BEAUTY

June 6, 2023

Dear Chair Smith, Vice Chair Greenstein and Distinguished Members of the Senate Environment and Energy Committee:

Beautycounter, a leader in clean beauty, is thrilled to support the "Protecting Against Forever Chemicals Act" (S 3177), which would establish requirements, prohibitions and programs for the regulation of perfluoroalkyl and polyfluoroalkyl substances (PFAS). Beautycounter has built a movement for improved transparency and accountability in the personal-care products industry. Our mission is "to get safer products into the hands of everyone" and we believe that more health-protective regulations are an important part of delivering on this mission.

With millions of products sold across North America and various third-party certifications and awards for our thorough approach to safety, we have prohibited 2,800 ingredients, including PFAS, from our products. PFAS are used in a variety of applications but are used in the personal-care products industry to create products such as long-lasting lipstick, long wear foundation, and waterproof mascara. Unfortunately, this class of chemicals has been linked to numerous health problems and is known to pollute drinking water and persist in the environment, which harms ecosystems, wildlife and people.

We saw the Modernization of Cosmetics Regulation Act (MoCRA) pass last year at the federal level, but the reality is that the personal-care products industry remains under-regulated. As an example, MoCRA failed to ban PFAS. While companies like Beautycounter ban PFAS from our products and continuously work with our partners to increase supply chain transparency, many companies in the beauty industry supply chain, including raw material and packaging suppliers, are not held accountable. Without stronger regulations, it can be challenging for brands to have full accountability for their supply chain. You have the opportunity to help by passing the "Protecting Against Forever Chemicals Act," which would protect public health by prohibiting a harmful class of chemicals from consumer goods and increase transparency along the supply chain.

With a recent valuation of $1 billion, Beautycounter has proven that banning classes of harmful chemicals, including PFAS, from personal-care products does not hinder the industry's ability to conduct business or deliver on consumer expectations. We encourage you to support the "Protecting Against Forever Chemicals Act" and to restrict and prohibit this harmful class of chemicals from consumer goods sold in the great state of New Jersey once and for all.

JEN LEE
Chief Impact Officer
Beautycounter

65x

State of New Jersey
DIVISION OF RATE COUNSEL
140 EAST FRONT STREET, 4TH FL.
P.O. BOX 003
TRENTON, NEW JERSEY 08625

PHIL MURPHY
Governor

SHEILA OLIVER
Lt. Governor

BRIAN O. LIPMAN
Director

June 7, 2023

Members of the Senate Environment and Energy Committee
Statehouse Annex
P.O. Box 068
Trenton, N.J. 08625

RE: S3914 (Requires electric public utilities to submit new tariffs for commercial customers for BPU approval; regulates non-volumetric electricity fees charged to operators of fast-charging electric vehicle chargers.)

Members of the Senate Environment and Energy Committee:

I write on behalf of the Division of Rate Counsel regarding S3914 (Requires electric public utilities to submit new tariffs for commercial customers for BPU approval; regulates non-volumetric electricity fees charged to operators of fast-charging electric vehicle chargers.), which is up before the committee on June 8, 2023. I regret I am unable to attend the meeting. However, we hope you will consider our comments and implement amendments to the bill.

We are very concerned that this bill will mandate "an alternative rate structure, which does not utilize demand charges, for commercial customers who own or operate electric vehicle charging systems." As much as electric vehicle charging companies would like to be exempt from demand charges associated with maintaining the grid, the costs that comprise these charges will not just disappear with the passage of this bill.

This bill addressed demand charges that are to be paid by private companies that provide electric charging facilities. Demand charges are additional charges that apply to commercial and industrial electric customers who use high levels of electricity during times of peak demand. The purpose of the demand charge is to ensure the electric utility has sufficient revenue to maintain the gird. Historically, the Board of Public Utilities ("BPU or the "Board") has recognized that demand charges are an important part of an electric utility's rate design because the utility must build and maintain a distribution system that is ready to serve the customer's load at all times. These charges are applied based on usage and they cannot be waived altogether by the electric utilities. The charge is used so that users with high electric load are contributing their fair share to maintain the electric grid and account for other charges associated with large loads. If demand charges are waived for certain customers who are putting the greatest demands on the grid, other customers, who use far less electricity, will ultimately pay for them through rate increases.

The current legislation is silent regarding who will pay demand charges if owners of EV charging infrastructure are exempt from these charges. Demand charges are necessary to maintain the electric system and they cannot be waived without other ratepayers bearing the burden of replacing the utility's lost revenue. This issue of how to develop electric tariffs to accommodate a new era of EV charging is a very complex and highly technical task that is better suited to the BPU. This is especially true since each electric utility may address this issue differently. Indeed, a number of the electric utilities in the state already offer distribution demand charge rebates for Direct Current Fast Charging ("DCFC") Electric Vehicle charging customers through their tariffs. BPU and the electric utility use data collected as part of this rebate program to better inform tariff development in the future. This bill could preclude the BPU from collecting this data and from designing a tariff that best addresses the issues of all ratepayers.

The BPU has the technical expertise to address the various issues at stake and it is tasked with ensuring that ratepayers pay fair and reasonable rates. The issue is more appropriately addressed by the BPU by establishing Board policy and possibly rulemaking. At the present time, the BPU has brought together all relevant parties to address this important issue of how to balance the state's goals regarding EV adoption and charging while protecting other ratepayers who are not typically subject to demand charges. Therefore, Rate Counsel's position is that this legislation is not needed. We urge you to reject this bill and allow the BPU to address this issue on a technical level with a more holistic approach.

Thank you for considering our comments. We very much appreciate the opportunity to share our comments on behalf of the State's ratepayers. Please feel free to contact our office if you have any questions. Thank you for your attention to these important matters.

Sincerely,

/s/ Brian Lipman,
Brian O. Lipman, Esq.
Director, Division of Rate Counsel

c: Joey Guerrentz, Policy Analyst & Aide, Senate Environment and Energy Committee
Matthew Peterson, Democratic Aide
Kevil Duhon, Deputy Executive Director at New Jersey Senate Democratic Office
Eric Hansen, OLS Committee Aide
Christina Denney, OLS Committee Aide
Rebecca Panitch, Republican Aide, Senate Environment and Energy Committee
Christine Mosier, Chief of Staff, Senator Bob Smith
Pamela Cocroft, Committee Secretary
Erin Rice, Chief of Staff, Sen. Codey
Assemblyman Daniel Benson
Tina DeSilvio, Chief of Staff, Sen. Durr
Brian Woods, Chief of Staff, Sen. Stansfield
Maura Caroselli, Managing Attorney for Gas & Clean Energy, Rate Counsel
Sarah Steindel, Attorney for Rate Counsel
David Wand, Managing Attorney for Electric, Rate Counsel
Robyn Roberts, Legislative Liaison & Public Information Officer, Rate Counsel

67x

Consumer Technology Association™

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Arlington, VA 22202
703-907-7600
CTA.tech

June 7, 2023

Senator Bob Smith, Chair
Senator Linda Greenstein, Vice-Chair
Senate Environment and Energy Committee
125 W State St
Trenton, NJ 08608

Re: Consumer Technology Association Testimony on S3177 - Oppose

Dear Chair Smith, Vice-Chair Greenstein, and Members of the Senate Environment and Energy Committee:

On behalf of the Consumer Technology Association (CTA), I am writing to respectfully oppose S3177 which establishes reporting requirements, prohibitions, and programs for the regulation of perfluoroalkyl and polyfluoroalkyl substances (PFAS). We appreciate the opportunity to outline our concerns with this legislation which will impact the entire technology and electronics industry.

CTA is North America's largest technology trade association. Our members are the world's leading innovators – from startups to global brands – helping support more than 18 million American jobs, and include several major employers in New Jersey. Our member companies have long been recognized for their commitment and leadership in innovation and sustainability, often taking measures to exceed regulatory requirements on environmental design and product stewardship.

This bill would require the notification of the sale of any product containing intentionally-added PFAS two years after enactment. It would require reporting of the purpose and exact quantity of PFAS. This is not enough time for electronics manufacturers to gather the data required. The EPA is currently considering rules on reporting and recordkeeping regarding PFAS substances. As we commented to EPA previously, manufacturers of complex products like electronics estimate it can take six to 12 months to track a single chemical through the supply chain. EPA's master list of PFAS substances lists over 10,000 chemicals that would fall under this bill's definition of PFAS.

PFAS is used in the electronics sector and is often required for the manufacture and/or functioning of electronics components such as printed circuit boards and batteries. Electronic devices are manufactured through a complex global supply chain, and companies require sufficient lead time to implement any identification and notification requirement. A single electronic product can have thousands of components which are sourced from multiple suppliers. Given this, any PFAS notification requirements for the electronics sector needs to

have sufficient lead-in time of at least 48 months. This timeframe assumes that the department would approve a wide enough reporting range for grouping PFAS amounts in reporting. If an exact quantity were required, it would be impossible to accurately report the volume of PFAS in electronic products.

In 2021, Maine passed the first law in North America with PFAS notification requirements similar to those outlined in S3177. After examining the law, Maine's Department of Environmental Protection had to grant waivers to thousands of companies because it was unable to implement a notification regime in just a few short years. The Maine legislature this session had to examine proposals and pass reforms to the program because of the countless unintended consequences of requiring reporting requirements as vague and broad as those in S3177. The legislature still has not resolved the issues that surround complex products like electronics and have punted the issue for further study. We respectfully ask that New Jersey learn the lessons from Maine and not pass such overly broad and burdensome PFAS restrictions without consulting the industries that will be directly impacted. At minimum, it should wait until Maine resolves the details around this issue to avoid creating a patchwork of conflicting standards.

Given these concerns, we respectfully urge that the committee not pass S3177. Thank you for the opportunity to provide our thoughts on this legislation, and if you have any questions, please do not hesitate to contact me at dmoyer@cta.tech.

Sincerely,
Dan Moyer
Sr. Manager, Environmental Law & Policy
Consumer Technology Association

C9x

MOTORCYCLE INDUSTRY COUNCIL.

ROHVA

SVIA
Specialty Vehicle Institute of America

June 5, 2023

The Honorable Bob Smith
Chairman, Senate Environment and Energy Committee
State House
125 West State Street
Trenton, NJ 08625-0068

Re: Powersports extension for PFAS reporting requirements in SB 3177

Dear Chairman Smith and Members of the Senate Environment and Energy Committee:

Hundreds of companies represented by the Motorcycle Industry Council (MIC)[1], the Specialty Vehicle Institute of America (SVIA)[2], and the Recreational Off-Highway Vehicle Association (ROHVA)[3] strongly urge that **SB 3177 be amended to extend the registration requirement proposed from one year after the effective date to three years after the effective date for powersports, including motorcycles and off-highway vehicles, and protective clothing and equipment.**

We submitted our comments when SB 3177 was introduced and wanted to ensure you had our position. Manufacturers must ensure our vehicles and safety gear meets durability standards that are sufficient to protect riders. Any potential PFAS free alternates must meet durability and safe operation standards that meet or exceed current quality in order to be deemed a suitable replacement. This takes considerable resources and time not provided in SB 3177. Due to the volume of products requiring testing, manufacturers are not confident they can comply with requirements, especially given that the effective date could be as soon as late 2023.

Our member companies are searching for suitable replacements for PFAS in their products, but currently PFAS is an unavoidable use to ensure safety and proper functioning of our vehicles, protective clothing and equipment. New Jersey must allow manufacturers sufficient time to find replacements and not subject consumers to risk of harm resulting from unavailability of these products.

Most manufacturers would not be able to meet the aggressive reporting requirements in SB 3177 which start going into effect in just a few months (late 2023). This may lead manufacturers to cease

[1] The Motorcycle Industry Council (MIC) is a not-for-profit, national trade association representing several hundred manufacturers, distributors, dealers and retailers of motorcycles, scooters, motorcycle parts, accessories and related goods, and allied trades.

[2] The Specialty Vehicle Institute of America (SVIA) is the national not-for-profit trade association representing manufacturers, dealers, and distributors of all-terrain vehicles (ATVs) in the United States. SVIA's primary goal is to promote safe and responsible use of ATVs.

[3] The Recreational Off-Highway Vehicle Association (ROHVA) is a national, not-for-profit trade association formed to promote the safe and responsible use of recreational off-highway vehicles (ROVs – sometimes referred to as side-by-sides or UTVs) manufactured or distributed in North America. ROHVA is also accredited by the American National Standards Institute (ANSI) to serve as the Standards Developing Organization for ROVs. More information on the standard can be found at https://rohva.org/ansi-standard/.

sales of their products in New Jersey which would result in residents traveling to neighboring states to purchase their powersports vehicles, parts, etc., leading to lost revenue and jobs in the state. The large number of product offerings and components that make up our equipment – many of which are internal and will not come into contact with users – make it extremely difficult for manufacturers to analyze every part to identify the presence of every form of PFAS.

Manufacturers take compliance seriously. We ask that you simplify any reporting requirements to only include those items that are in regular direct contact with the individuals using them. We also ask that you provide manufacturers with sufficient time to comply by changing the reporting requirement to no sooner than 2028.

Recently, California introduced similar legislation (CA AB 2247) that would have required manufacturers of products containing PFAS to register such products beginning January 1, 2026. Last week, Governor Gavin Newsom vetoed the legislation citing the extreme expense associated with implementation of such law. As Governor Newsom stated in his veto message, the proposed registry was estimated to cost millions of dollars resulting in increased resources for new contract, staff support, and state oversight responsibilities. Governor Newsom also mentioned that since the U.S. EPA is in the processing of rulemaking to require the reporting of PFAS, such legislation may be premature at the state level.

Thank you for your consideration of these comments. Should you have any questions, please contact me at 703-416-0444 ext. 3202.

Sincerely,

Scott P. Schloegel

Scott P. Schloegel
Senior Vice President, Government Relations

cc: Senate Environment and Energy Committee Members

ALLIANCE FOR AUTOMOTIVE INNOVATION

June 7, 2023

Hon. Bob Smith, Chair
Senate Committee on Environment and Energy
New Jersey State House
125 W. State Street
Trenton, NJ 08608

RE: Oppose - SB 3177 - An act concerning perfluoroalkyl and polyfluoroalkyl substances

Dear Chairman Smith:

On behalf of the Alliance for Automotive Innovation[1] (Auto Innovators), I am writing to you today to highlight some concerns our members see in Senate Bill 3177 as currently drafted, including unrealistic timelines, overly broad definitions, and failure to provide consideration for trade secret and intellectual property issues. This legislation will also unnecessarily duplicate efforts at the federal level.

PFAS in Auto Industry

The expectations for today's automobiles are high, and the environments in which vehicles must operate are harsh. From the coldest days of winter to summer driving through Death Valley, consumers expect their car or truck to get them there safely. The PFAS family of chemicals has helped provide this resiliency through the application of coatings and products that resist heat, oil, stains, grease, and water. Such qualities are imperative throughout the vehicle. The heat resistance qualities of PFAS allow flexible fuel lines to safely deliver gasoline into a hot engine without causing a fire. Similarly, heat resistance – along with protection from water intrusion – protects the integrity of wire looms, sensors, and brake lines on a vehicle that allow today's advanced safety systems to function. In addition to these safety benefits, modern vehicles have drastically reduced emissions, in part because of the chemical and heat resistant protections that PFAS provide to gaskets and O-rings, which keep engines tightly sealed, and coatings on cylinder heads and hoses, which reduce fugitive gasoline vapor emissions. Nearly every automotive system depends on certain types of PFAS chemicals to provide a durable, reliable, safer, and cleaner product to consumers.

Automakers and their suppliers consider the impacts of chemicals used to build today's vehicles very seriously and are always looking for substitute compounds that can perform the same job with a lower environmental impact. The industry has even recognized areas where it can reduce the use of PFAS chemicals in specific applications, as it has already ceased use of long-chain PFAS products. Despite all this, however, there are some uses that cannot yet be replicated by any other known chemical.

While Auto Innovators recognizes the growing attention paid to products containing PFAS, we have concerns that the implementation of this legislation will place a substantial and difficult burden on auto manufacturers for compliance. Our concerns are further detailed below.

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[1] *From the manufacturers producing most vehicles sold in the U.S. to autonomous vehicle innovators to equipment suppliers, battery producers and semiconductor makers – Alliance for Automotive Innovation represents the full auto industry, a sector supporting 10 million American jobs and five percent of the economy. Active in Washington, D.C. and all 50 states, the association is committed to a cleaner, safer, and smarter personal transportation future. www.autosinnovate.org.*

Specific PFAS Should Be Regulated Based on Risk

Because there is no standard definition for PFAS chemicals, current legislative efforts default to this basic definition which could, according to recent National Institute for Occupational Safety and Health (NIOSH) data include over 9,000 synthetic chemicals[2][3] including hydrofluorocarbons HFC, PFOA, PFOS, and high molecular weight fluoropolymers to give a few examples. EPA's Toxcast database increases that estimate to 12,034 chemicals.[4] As drafted, SB 3177 appears to be without discernment regarding the actual levels of risk and concern to humans and the environment of these thousands of chemicals. This legislation explicitly ignores that the broad use of the term PFAS incorporates exceptionally different physical, chemical, environmental, and biological properties. Not all PFAS chemistries are the same and they should not be managed under a single regulatory reporting class.

The automotive industry recommends that legislation and regulation should:

1. Not combine PFAS chemicals into one large class of substances for regulatory or reporting purposes. A clear distinction must be made between those chemicals that may cause harm and those that do not.
2. Focus on PFAS of known health concern.
3. Exclude breakdown products and byproducts of PFAS that are not intentionally added.
4. Exclude hydrofluorocarbons, hydrofluoro-olefins, hydrochlorofluoro-olefins, fluoroiodocarbons, hydrochlorofluorocarbons, and chlorofluorocarbons that are used refrigerants as define in ISO 817:2014, Refrigerants — Designation and safety classification.
5. Exclude high molecular weight fluoropolymers.
6. Not include analytical testing as part of a PFAS compliance strategy until such time as the scientific methods for measurement of PFAS in products and product components are generally available.
7. Exclude PFAS that are no longer manufactured and have an existing SNUR to prohibit the import or manufacture, including the import or manufacture in articles.

Redundant Data Collection Effort

Currently the U.S. Environmental Protection Agency (EPA) is proposing reporting and recordkeeping requirements for PFAS under the Toxic Substances Control Act (TSCA). That proposed rule will require manufacturers (including those who import) to report information regarding uses, production volumes, disposal, exposures, and hazards for any level of PFAS in products. This bill would implement redundant state-level reporting that would replicate the data elements that will be federally required under TSCA Section 8(a)(7). Considering that implementation of SB 3177 would be extraordinarily costly for the State, the auto industry, and other regulated entities, if New Jersey wants this sort of information it should instead leverage the data that will be collected under federal efforts to inform PFAS management policy.

Proposed Timelines are Unachievable

This legislation requires reporting no later than two years after passage. The bill also calls for rulemaking to address the notice reporting. This aggressive timeline and lack of clear standards, which are essential elements for the regulated community to develop complete compliance plans, make SB 3177 challenging from a compliance standpoint. The auto industry produces complex consumer goods. Vehicles contain thousands of complex components, with multiple subcomponents (up to 30,000 at the lowest component level). Additionally, the automotive global supply chain has a very complex structure. The automotive original equipment manufacturer (OEM) is often up to ten tiers removed from the raw material supplier. Collecting the required data to report under SB 3177 would be a tremendous resource and financial burden, one that the auto industry likely would struggle to complete within the timeframe provided for in the bill.

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[2] GAO, 2022, TECHNOLOGY ASSESSMENT Persistent Chemicals: Technologies for PFAS Assessment, Detection, and Treatment, Report https://www.gao.gov/products/gao-22-105088

[3] https://www.cdc.gov/niosh/topics/pfas/default.html

[4] https://comptox.epa.gov/dashboard/chemical-lists/pfasmaster

Considerations from Other States

Other states have struggled with implementing PFAS reporting and notification statutes or have scrapped legislation altogether. Maine, which passed the first major PFAS reporting legislation of this kind, is now struggling to implement it, having just extended their reporting deadline to 2025 – 4 years after passage. Considering those circumstances and continuing confusion, Maine has granted around 2,000 extensions of the reporting deadline. And in the state of California, often at the vanguard of environmental regulation, Governor Newsom in September 2022 vetoed AB 2247, a PFAS reporting bill, citing concerns over costs and the duplication of federal efforts.

Definition for Carpet and Rug

Notwithstanding the general concerns detailed above, we do have some very specific concerns with the definition of "Carpet" and how it could unintentionally apply to in-vehicle carpeting and floormats. As defined, a carpet could be construed to include atypical uses of the products, such as with automobiles or airplanes. We have successfully worked with regulators in both California and Maine to alleviate this concern by adding to similar definitions addition language to clarify that the legislation is targeting carpets and rugs in their most commonly used and expected meanings. For example, the Maine Department of Environmental Protection recently released its proposed regulations (https://www.maine.gov/dep/bep/2023/01-19-23/Chapter%2090%20Draft.pdf) to implement their 2021 PFAS law. Within these regulations, the state uses the following definition for such items – *"Carpet or rug" means any consumer product made from natural or synthetic fabric marketed or intended to be used as a floor covering inside commercial, industrial, or residential buildings. This includes carpeted door mats intended for indoor use."* California took similar actions in regulations. We would respectfully ask the Committee to consider amending this language before taking action on the bill.

Conclusion

This bill is overly broad, lacks scientific justification, and imposes an extremely onerous obligation on the automotive industry with no apparent or obvious benefits to the public. Though the rationale for such a reporting requirement may appear to be self-evident, the serious compliance obligation creates an unprecedented imposition of cost and burden both to the State and the automotive industry with little to no benefit, as there are federal efforts underway to collect similar data.

Thank you in advance for your consideration of our position.

Sincerely,

Wayne Weikel

Wayne Weikel
Vice President, State Affairs

cc: Members, Senate Committee on Environment and Energy

74x

PERFORMANCE FLUOROPOLYMER PARTNERSHIP

June 7, 2023

Senate Environment and Energy Committee
New Jersey Legislature

Re: Senate Bill 3177

Dear Members of the Senate Environment and Energy Committee:

Thank you for the opportunity to submit testimony in opposition to Senate Bill 3177 (S. 3177), the "Protecting Against Forever Chemicals Act." on behalf of the American Chemistry Council's Performance Fluoropolymer Partnership. The Partnership's members are some of the world's leading manufacturers, processors, and users of fluoropolymers, including fluoroelastomers, and polymeric perfluoropolyethers. The Partnership's mission is to promote the responsible production, use, and management of fluoropolymers, while also advocating for a sound science- and risk-based approach to their regulation.

Fluoropolymers are large, stable molecules that are critical for enabling New Jersey's life sciences, technology, clean energy, and manufacturing industries, as well as the vehicles, planes, and ships that make up the state's substantial logistics industry. **By including fluoropolymers in S. 3177, the Senate will put tremendous and unnecessary reporting pressure on some of the state's largest industries and its small business community. We request that fluoropolymers and fluoropolymer-based products be exempt from the requirements in S. 3177.**

All PFAS are not the same.

S. 3177 treats PFAS as a single substance even though the term "PFAS" encompasses a diverse group of compounds with very different chemical and biological properties. The term "PFAS" does not inform whether a substance is potentially harmful or not.[1] The term simply means that molecules covered by the term share a similar structural trait. It does not speak to characteristics such as toxicity, environmental fate, and bioavailability among diverse PFAS chemistries. Some PFAS are small molecules that can enter cells, bioaccumulate, and move easily through the environment. Others are large, stable molecules that are too large to pass through cell membranes and therefore do not bioaccumulate or otherwise interact with biological systems.

The overly broad definition of PFAS in S. 3177 is inconsistent with more specific approaches to understanding PFAS. For example, Buck *et al.* divided PFAS into two large

[1] Organization for Economic Co-operation and Development (OECD). 2021. Reconciling Terminology of the Universe of Per- and Polyfluoroalkyl Substances: Recommendations and Practical Guidance. OECD Series on Risk Management, No. 61, OECD Publishing, Paris. Publicly available.

categories, nonpolymeric and polymeric, and further identified classes within those two categories based on the molecular structures (Figure 1).[2] Such an approach is useful because molecular structure can help to understand chemical and biological behavior among the diverse classes of PFAS. Similarly, the Organization for Economic Cooperation and Development (OECD) has subdivided PFAS into several groups based on their distinct structures (Figure 2).[3]

Fluoropolymers are substances of low concern.

Fluoropolymers are a distinct group of PFAS that are large, stable, insoluble in water, and are highly resistant to degradation by heat, abrasion, corrosion, or biological processes. They meet internationally accepted criteria to be considered polymers of low concern (PLC) to human health and the environment.[4,5] Criteria for identifying polymers of low concern have been developed by governments around the world to identify polymers with physical and chemical attributes that would not raise concerns about potential hazard traits.[6,7] The PLC criteria include evaluation of:

- Molecular structure and elemental composition;
- Molecular weight and the consistency of molecule size in a sample;
- Particle size;
- Low molecular weight residuals that might leach from the polymer;
- Electrical charge;
- Presence and nature of reactive functional groups;
- Resistance to physical, chemical, and biological transformation; and
- Resistance to heat and other environmental stressors.

As the studies cited above conclude, fluoropolymers are insoluble substances and therefore concerns about the mobility of much smaller, highly water soluble PFAS substances do not apply to fluoropolymers. Importantly, fluoropolymers are neither bioavailable nor bioaccumulative and do not transform into long-chain non-polymeric PFAS like PFOA and PFOS in the environment. **For these reasons, fluoropolymers and fluoropolymer-based**

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[2] Buck *et al.* 2011. Perfluoroalkyl and polyfluoroalkyl substances in the environment: Terminology, classification, and origins. Integrated Environmental Assessment and Management 7(4):513-541. https://doi.org/10.1002/ieam.258. Open access.
[3] OECD 2021 at 1.
[4] Henry, B.J., *et al.* 2018. A critical review of the application of polymer of low concern and regulatory criteria to fluoropolymers. Integr Environ Assess Manag, 14: 316-334. https://doi.org/10.1002/ieam.4035. Open access.
[5] Korzeniowski, S.H., *et al.* 2022. A critical review of the application of polymer of low concern regulatory criteria to fluoropolymers II: Fluoroplastics and fluoroelastomers. Integr Environ Assess Manag, 19: 326-354. https://doi.org/10.1002/ieam.4646. Open access.
[6] OECD. 2009. Data analysis of the identification of correlations between polymer characteristics and potential for health or ecotoxicological concern. Document ENV/JM/MONO(2009)1. Paris, France. Publicly available.
[7] BIO by Deloitte. 2015. Technical assistance related to the review of REACH with regard to the registration requirements on polymers Final report prepared for the European Commission (DG ENV), in collaboration with PIEP. Publicly available.

products should be exempt from S. 3177 as they are not PFAS of concern for human health or the environment.

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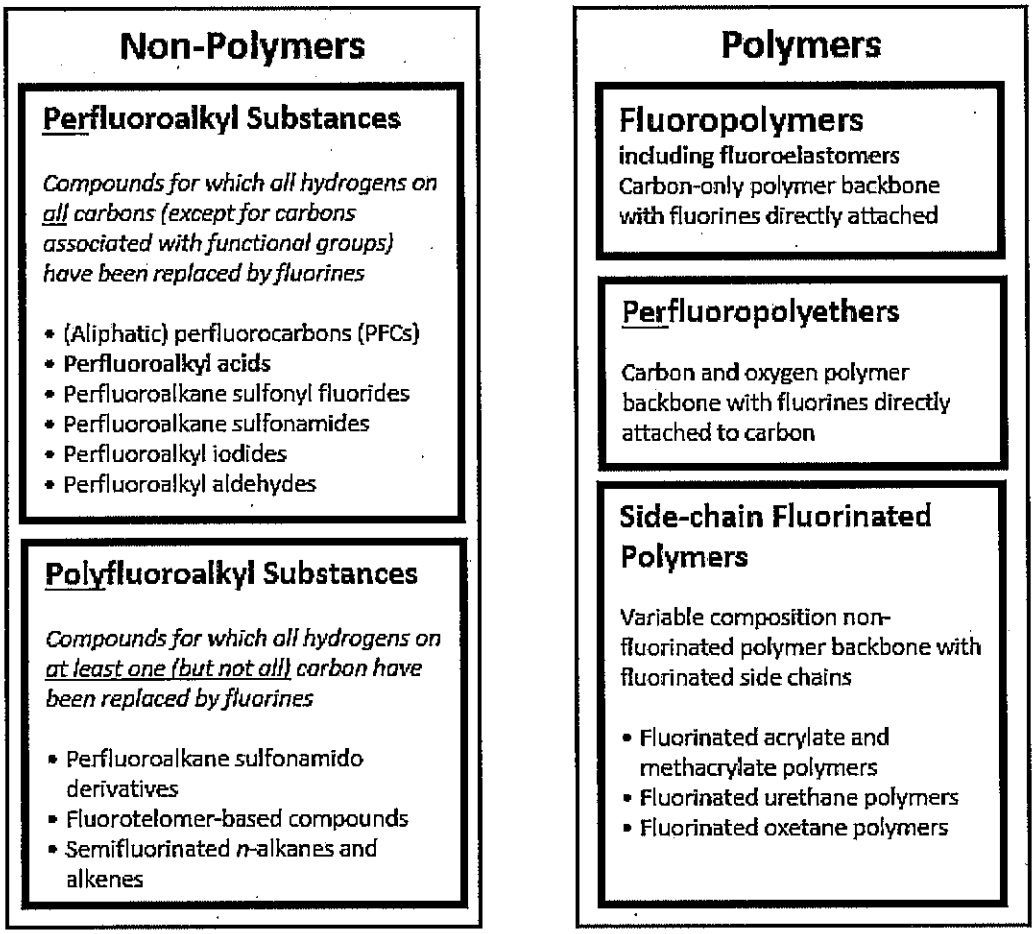
Thank you for the opportunity to provide this testimony. Before concluding, we would like to bring to the Committee's attention the complications a similar reporting law has caused the Maine Department of Environmental Protection (DEP). DEP has not yet produced final reporting regulations that were mandated by its legislature in July 2021 for a reporting program that was to start on January 1, 2023. Maine has granted reporting extensions to more than 2,000 businesses, and the state legislature is actively working on amendments that would exempt small business and extend the reporting deadline, among other things.

Based on Maine's experience, we caution that it will be extremely challenging, if not impossible, for New Jersey to establish a reporting system within the 1-year timeframe stated in S. 3177. We also encourage New Jersey to align as closely as possible with definitions in Maine's reporting law (e.g., "intentionally added) to reduce the burden manufacturers would face with complying with different program requirements. In sum, New Jersey should look closely at Maine's experience and consider changes so that the legislature is not spending its time fixing an overly complex, broad program in the future.

Please contact me if you or your colleagues have any questions.

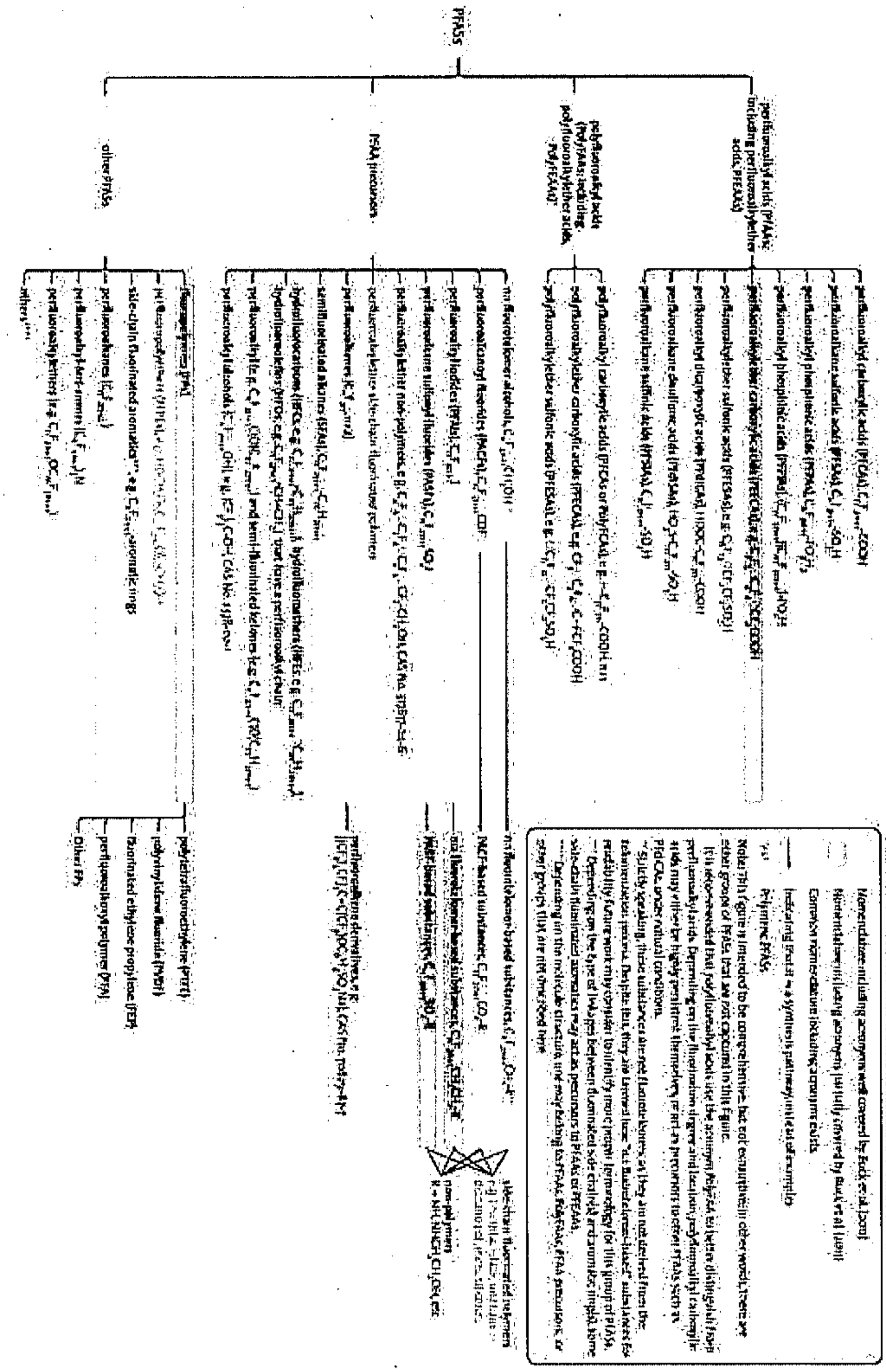
Jay West
Executive Director
Performance Fluoropolymer Partnership

Figure 1. Classification of PFAS in Buck *et al.* 2011.



78x

Figure 2. Classification of PFAS in OECD 2021.



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electrify america

June 8, 2023

Sen. Bob Smith
Chair, Senate Committee on Environment and Energy
Trenton, NJ 08625

Re: S3914, Requires electric public utilities to submit new tariffs for commercial customers for BPU approval; regulates non-volumetric electricity fees charged to operators of fast charging electric vehicle chargers.

Greetings Senator Smith and members of the Committee and staff,

I'm Anthony Willingham, State Government Affairs Lead at Electrify America, and I appreciate the opportunity to testify in support of Senate bill 3914 to find alternatives to demand charges. Electrify America, the largest open Direct Current Fast Charging ("DCFC") network of chargers in the U.S., is investing $2 billion over 10 years in Zero Emission Vehicle infrastructure, education and access. This investment will enable millions of Americans to discover the benefits of electric driving and support the build-out of a nationwide network of ultra-fast community and highway chargers that are convenient and reliable. Electrify America's network includes 3,500 chargers across over 800 stations in 46 states and the District of Columbia. And in New Jersey, Electrify America has over 100 chargers across 23 stations with additional stations under development.

What are Demand Charges?

Demand charges are an additional fee levied on a commercial utility customer based on the highest recorded use during a designated interval within a billing cycle. Demand charges are levied in addition to volumetric charges which are based on the actual amount of electricity used. Historically, demand charges were developed as a mechanism for a utility to recover the costs driven by persistently high energy users, e.g. the manufacturing sector. But in the case of DCFC stations, because their use case is characterized by peaks and valleys in energy usage—versus a consistently elevated demand—demand charges present a disproportionately high financial burden on the station's economics that do not reflect the station's actual load.

80x

The Impact of Demand Charges in Current Rate Designs

Demand charges discourage private EV charging investment and delay the build-out of new stations because they reduce the potential for stations to be economically viable. Research from the Great Plains Institute and the U.S. Department of Energy found that demand charges can account for over 90% of electricity costs for DC fast charging and "lead to operating costs that far exceed the revenue these chargers can receive from customer payments."[12] This finding has held true in New Jersey.

The annual financial risk posed by demand charges at a standard station in New Jersey can be nearly $325,000 from just a few hours of charging over the summer[3]. A common Electrify America station configuration consists of four charging dispensers that, in total, can provide charging speeds of up to 1050kW across 4 vehicles at a given time. With a demand charge rate of about $30 per kW even after an existing DCFC distribution rebate, monthly demand charges can peak at over $30,000. After applying provisions that set an excessively high minimum demand charge based on various components of the summer peak demand for the remaining 11 months-- the total annual financial risk of demand charges approaches $325,000 for a typical station from just a few hours of charging over the summer and often equates to more than

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[1] McFarlane, D., et al, "Overcoming Barriers to Expanding Fast Charging Infrastructure in the Midcontinent Region," Great Plains Institute, available at https://www.betterenergy.org/wp-content/uploads/2019/08/GPI_DCFC-Analysis.pdf (July 2019).

[2] U.S. Department of Energy, "An EV Future: Navigating the Transition," available at https://8b9a2972-f6bd-463f-ab0e-7b2ba71ee2f1.filesusr.com/ugd/1c0235_965967cdf2bf4b94924c05637398fda3.pdf (October 2021).

[3] Current PSEG NJ Tariff Effective May 1, 2023 located at https://nj.pseg.com/-/media/pseg/public-site/documents/current-electric-tariff/electric-tariff-16-bpu--es-ii-rate-changes-effective-05012023.ashx provides that the Basic Generation Commercial and Industrial Energy Pricing (CIEP) Capacity Charge at $8.9658/kW and the Transmission Charge at $13.2845/kW, for a total CIEP demand charge exposure of $22.2503/kW applicable each month. In addition, The Large Power and Lighting Service (LPL) annual demand charge of $3.8460/kW and summer demand charge of $9.1497/kW is applies, 50% of which are currently eligible for the DCFC Distribution Demand Charge Rebate, resulting in a total LPL demand charge of $6.49785/kW during the summer months from June to September, and $1.923/kW during the remainder 8 months. For a 1050 kW DCFC station, this would mean summer demand charges aggregating to $28.74815/kW from June to September, and at $24.1733/kW otherwise, amounting to $323,798 in annualized demand charges, and $30,186 in summer monthly demand charges.

$1.00 per kWh. Although this four-dispenser configuration is more common, some stations in New Jersey have six, eight, and ten dispensers that can in aggregate support nearly 2000kW in simultaneous charging with corresponding demand charge risk. Consequentially, DCFC stations in the state operate at slim margins and often at a loss with demand charges being a significant contributing factor.

Recognizing this impact, many utilities across the country have opted for a fully volumetric rate to mitigate the burden of demand charges. These include the following: Southern California Edison, DTE Energy in Michigan, and Rocky Mountain Power in Utah. In these jurisdictions, that same station configuration and use case that could cost nearly $325,000 in annualized demand charges in New Jersey would cost $0.00. To emphasize, this entire demand charge risk has been removed completely, and allows DC Fast Charging Networks more utility cost stability. States and utility regulators in New York, Massachusetts, Kansas, Ohio, Arizona, Minnesota, and Georgia, in no particular order, have also implemented alternatives to demand charges to support the build-out of a vast network of DC fast chargers.

Demand charge relief would not only encourage the proliferation of fast charging infrastructure and support EV adoption but it would also serve the interest of New Jersey ratepayers, at-large. In response to a contested proposal by utilities to own and operate fast charging infrastructure, in 2020 the New Jersey Board of Public Utilities (BPU) recommended that utility ownership of chargers be limited to "last resort" areas.[4] Broadly defined, "last resort" areas are those where private investment has yet to satisfy the infrastructure needs of the community. In other words, if private companies fail to provide the necessary charging infrastructure in a community, the utility can fill that potential need by owning and operating its own station. These stations would be financed by ratepayers, in addition to ratepayers absorbing this same demand charge risk.

[4] https://publicaccess.bpu.state.nj.us/DocumentHandler.ashx?document_id=1229093

Therefore, because demand charges pose a significant disincentive to private investment in fast charging infrastructure, they contribute to the likelihood that the cost of this infrastructure would be borne by ratepayers.

The BPU affirmed that "Staff acknowledges that tariff demand charges remain a hurdle to private investment." Therefore, providing meaningful operational cost relief and helping to mitigate the impacts of demand charges is crucial to transportation electrification and vital for the state's equity goals for this sector.

Building a reliable public network of DC fast chargers is essential to achieve widespread EV adoption, especially for those without access to off-street parking. Fast chargers can charge an EV in a matter of minutes in contrast to the hours needed at a lower-power Level 2 charger. In turn, fast charging stations are relied upon by electric vehicle drivers who may not be able to charge at home. This means that the ongoing presence of demand charges which disincentivizes the proliferation of fast charging stations has significant equity implications for transportation electrification. Research from UCLA's Luskin Center shows that 43% of EV drivers in multi-unit-dwellings rely on public DC fast charging as their primary means of charging.[5] So, for current and future EV drivers who do not have consistent access to charging at home, such as residents of apartments, townhouses, and other multi-unit dwellings, demand charges serve as an impediment toward their having convenient, reliable access to charging.

Conclusion

DC fast charging is crucial to the successful transition to clean transportation in New Jersey. It is particularly important for drivers traveling long distances and for those who do not have

[5] https://innovation.luskin.ucla.edu/wp-content/uploads/2021/03/Evaluating-Multi-Unit-Resident-Charging-Behavior-at-Direct-Charging-Behavior-at-Direct-Current-Fast-ChargersCurrent-Fast-Chargers.pdf

consistent access to charging at home. On long trips, DC fast charging allows drivers to recharge their vehicle in minutes, rather than several hours, enabling convenient long-distance travel. For those without access to off-street parking, DC fast charging stations are the closest to replicating the refueling experience at a gas station for the EV driver.

Providing meaningful operational cost relief and helping to mitigate the impacts of demand charges is crucial to transportation electrification, vital for equity goals, and necessary for the execution of the state's National Electric Vehicle Infrastructure (NEVI) plan. According to the state's NEVI plan, New Jersey will need an estimated 1,600-5,600 DCFC stations by 2035 to meet its EV registration goals.[6] Rate reforms, specifically demand charge relief, are the critical solution to accelerating EV charging station buildout and sustainable EV charging station operation. New Jersey's neighbors in New York, Massachusetts, Connecticut, as well as dozens of other states, have implemented demand charge alternatives to facilitate additional DCFC station investment. For New Jersey to meet its transportation electrification goals, it must do the same.

Electrify America appreciates the opportunity to submit these comments. We would be happy to discuss this matter further and answer any questions the Committee may have

Respectfully submitted,

/s/ Anthony Willingham
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[6] "New Jersey's National Electric Vehicle Infrastructure (NEVI) Deployment Plan," pg 16 available at https://www.fhwa.dot.gov/environment/nevi/ev_deployment_plans/nj_nevi_plan.pdf

Summary of Selected Alternative Rate Designs

Rate Design	Description
Fully Volumetric Rate	The revenue requirement for a rate class is recovered through volumetric charges. (e.g., Southern California Edison's TOU-8 tariff, DTE Energy's GS-3 tariff, and Rocky Mountain Power Utah's Schedule 6A tariff)
Low Load Factor Rate Variants	A variation on a rate schedule for low load factor customers (typically < 15%) where demand charges are reduced and usage charges are increased relative to the parent rate. (e.g., National Grid Massachusetts' proposed commercial EV rates)
Demand Limiters	A rate feature where demand charges are limited for low load factor accounts based on a minimum monthly hours of use or ratio. (e.g., Xcel Energy Minnesota's General Service A-14 tariff)
Unit Cost Limiters	A calculation method where charges are based on the published tariff, but not to exceed a pre-defined unit cost threshold. (e.g., Dayton Power & Light Tariff D19)
Reduced Demand Charges	Demand charges are reduced to only recover local customer specific facilities-related costs (e.g., transformers), while shared distribution and generation and transmission charges are recovered volumetrically.
Hours of Use Tiered Charges	A rate structure where usage is grouped into tiers based on the load factor. Low load factor accounts would have usage priced in higher cost tiers and omit a demand charge. (e.g., Georgia Power Rate PLM)

RISE
Responsible Industry for a Sound Environment®

CropLife ★AMERICA★

June 8, 2023

The Honorable Bob Smith, Chair
The Honorable Linda Greenstein, Vice Chair
Senate Environment and Energy Committee
State House
125 West State Street
Trenton, NJ 08625-0068

RE: **Oppose NJ S. 3177/A. 4758, a bill that establishes requirements, prohibitions, and programs for regulation of perfluoroalkyl and polyfluoroalkyl substances (PFAS)**

Dear Senator Smith, Senator Greenstein, and distinguished members of the Senate Environment and Energy Committee,

On behalf of RISE (Responsible Industry for a Sound Environment)® and CropLife America, we respectfully oppose S. 3177 and urge adoption of the proposed amendments that would exempt state and federally regulated pesticide products from its requirements.

Pesticides, including those containing fluorinated chemistry, are essential to protecting public health, safety, state and local infrastructure, homes, communities, ecosystems, and crops grown in New Jersey. Pesticides are applied in New Jersey by consumers, professional applicators, and growers to manage mosquito and tick populations, create fire breaks, maintain roadway lines of site, keep transportation and utility rights of way clear of vegetation, manage invasive and non-native species on land and in water, and to grow important food crops. Consumers rely on pesticides to protect their homes and yards from rodent infestations, stinging and invasive insects, and to protect garden and landscape plants from insects and plant diseases. The provisions in S. 3177 would impact the future availability of state and federally registered pesticide products to the detriment of the state's consumers, professional applicators, agricultural producers, infrastructure, and environment.

Pesticides are unique substances rigorously regulated under existing federal law. Pesticides are unique substances with more scientific data available about them than for any other products available in commerce today. Pesticide products are subject to regulation and oversight from five federal agencies: United States Environmental Protection Agency (EPA), Department of Agriculture, Food and Drug Administration, Fish and Wildlife Service, and National Marine Fisheries Service. This stringent multi-agency federal regulatory oversight framework is focused on ensuring products can be used safely.

To approve a new pesticide under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), EPA must determine that, when used in accordance with the label, it will *not* cause unreasonable adverse effects on the environment and *does* provide a reasonable certainty of no harm to human health.[1] EPA must periodically review registered pesticides to ensure they continue to meet this robust safety standard.

All pesticides, including those formulated with fluorinated chemistry, must already be registered by EPA prior to applying for and receiving a state registration from the New Jersey Department of Environmental Protection (DEP). Before pesticides even enter commerce in New Jersey, they must already be deemed safe by EPA.

Pesticide products are rigorously regulated under FIFRA and New Jersey Administrative Code §7:30. The federal and state regulation of pesticide distribution, sale, and use, as well as stringent safety standards and oversight, are already established under FIFRA and by the New Jersey DEP, which regulates pesticides through New Jersey Administrative Code §7:30-2.1. The statutes are designed to evolve as science advances, to support product innovation, and to provide for robust stakeholder and public input into pesticide regulation in the United States and in New Jersey. The statutes require the review of the most current scientific data on health and environmental impacts for all pesticide products and impose requirements to minimize any risks before they are made available for sale and use.

EPA expends significant resources to review and approve the testing data during a rigorous process. It can take more than 10 years before a new product is registered for sale due to the extensive registration process. Further, EPA must periodically review each registered pesticide active ingredient to ensure it continues to meet this robust safety standard.

Our members are committed to providing the regulated, safe, and necessary products for protecting people, homes, public health and safety, crops, infrastructure, and the environment in New Jersey. We oppose S. 3177 for the reasons described here and urge the committee to consider the proposed amending language that has circulated with the committee. The proposed amendment would exempt any substance regulated under the Federal Insecticide, Fungicide and Rodenticide Act, *7 U.S.C. Section 136 et seq.*

[1] 7 U.S.C. §136a(c)(5).

Thank you for your consideration and please contact us if we can provide more information or answer committee member questions.

Sincerely,

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RISE (Responsible Industry for a Sound Environment)® is the national trade association representing manufacturers, formulators, distributors, and other industry leaders engaged with specialty pesticides and fertilizers used by professionals and consumers. Learn more at www.pestfacts.org.

CropLife America (CLA) represents the manufacturers, formulators, and distributors of crop protection products in the United States. CLA member companies produce, sell, and distribute virtually all the crop protection products used by American farmers. Learn more at www.croplifeamerica.org.

EPA

National PFAS Testing Strategy:
Identification of Candidate Per- and Poly-fluoroalkyl Substances (PFAS) for Testing

October 2021

U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

89x

Contents

90x

National PFAS Testing Strategy:
Identification of Candidate Per- and Poly-fluoroalkyl Substances (PFAS) for Testing

Overview

The Environmental Protection Agency (EPA) needs to evaluate a large number of PFAS for potential human and ecological effects. Most of the hundreds of PFAS currently in commerce have limited or no toxicity data, and if EPA attempts to research them one at a time, it will be impossible for EPA to expeditiously understand, let alone address, the risks these substances may pose to human health and the environment. To address this data gap and fundamentally advance our understanding of these substances, EPA has developed this National PFAS Testing Strategy (Strategy) to deepen understanding of the impacts of PFAS, including potential hazards to human health and the environment. This Strategy will help EPA identify and select PFAS for which the Agency will require testing using Toxic Substances Control Act (TSCA) authorities. The Strategy develops categories of PFAS based on information about similarities in structure, physical-chemical properties, and existing test data on the toxicity of PFAS (both publicly available and submitted to EPA under TSCA). Consideration of the existing toxicity data prior to requiring further testing also ensures adherence to the TSCA goal of reducing animal testing. EPA will use the Strategy to identify important gaps in existing data and to select one or more candidate chemicals within identified categories for additional study. EPA expects to exercise its TSCA section 4 order authority to require PFAS manufacturers to conduct and fund the studies. EPA plans to issue the first round of test orders on selected PFAS by the end of 2021 with additional phases thereafter.

1. Introduction

PFAS are a large class of man-made chemicals that have been manufactured and used in a variety of industries since the 1940s. PFAS have been or are currently being synthesized for a variety of different uses ranging from adhesives, coatings for clothes and furniture, fire-fighting foams, and many others. PFAS are also used in industrial applications and processes, and in the manufacturing of countless other chemicals and products. PFAS have been released into the environment during manufacturing and use in industrial, commercial, and consumer settings. In addition, PFAS and products that contain them are regularly disposed of in landfills and incinerators, which can also lead to the further release of these compounds into the soil, water, and air.

Although certain PFAS, such as perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS), have been studied extensively, most PFAS lack data for robustly characterizing their potential toxicity. The information developed on certain PFAS provides evidence that exposure to such PFAS can lead to acute and chronic adverse human health outcomes.

Studies in laboratory animals indicate some PFAS can cause reproductive, developmental, liver, kidney, and immunological toxicity. In addition, exposure to some PFAS produce tumors in laboratory animals. In humans, the most consistent findings from epidemiology studies are increased cholesterol levels among exposed populations, with more limited findings related to infant birth weights, effects on the

immune system, cancer (for PFOA), and thyroid hormone disruption (for PFOS). Some PFAS can cause adverse effects on the respiratory system following acute inhalation exposures.[1]

To address the many of the data gaps associated with PFAS, in Congress included in the 2020 National Defense Authorization Act direction to EPA to develop a process for prioritizing which PFAS or classes of PFAS should be subject to additional research efforts based on potential for human exposure to, toxicity of, and other available information. The EPA has also initiated several regulatory activities aimed at collecting exposure- and toxicity-related information. For example, 175 PFAS have been added to the Toxics Release Inventory (TRI), which requires facilities that manufacture, process, and/or otherwise use these PFAS to report release and other waste management information to EPA. This information can be used to better understand human exposures to these chemicals. In addition, in June 2021, EPA proposed a TSCA section 8 rule that would require manufacturers and importers to report the identify of any PFAS manufactured since January 1, 2011, as well as byproducts from the manufacturing process, categories of use, production volumes, disposal information, worker exposures, and any information concerning environmental and human health effects.[2] EPA has identified at least 1,364 PFAS that would potentially be subject to the proposed rule. Finally, EPA is taking steps to address PFAS in drinking water. Under the Safe Drinking Water Act (SDWA), EPA is considering comments on the Fifth Unregulated Contaminant Monitoring Rule (UCMR 5) and preparing a final rule to collect new data on PFAS in drinking water. These data would improve EPA's understanding of the frequency that 29 PFAS are found in the nation's drinking water systems and at what levels. It would also expand the number of drinking water systems participating in the program. EPA's PFAS Strategic Roadmap explains additional actions the Agency plans to take to address PFAS through 2024.[3]

2. Purpose

This document describes EPA's Strategy for identifying candidate PFAS for which EPA plans to require companies to perform testing using its TSCA section 4 authority. The information derived from testing will be used by the Agency to evaluate of toxicity and risks associated with this large class of chemicals, and could further inform the Agency's future research, monitoring, and regulatory efforts. Given the large number of PFAS to which exposures may have occurred or that are currently ongoing, the Strategy is based on an approach that groups similar PFAS into categories. The categories serve as the basis for both identifying PFAS chemicals for testing as well as allowing EPA to establish toxicity levels for PFAS within the identified categories. Thus, rather than seeking data about each of the thousands of individual PFAS, which would require extensive resources in terms of time, costs, and animals, the Strategy aims to identify a representative substance(s) for each chemical category where categories have been constructed to span the landscape of PFAS of interest.

[1] EPA website for Basic Information on PFAS (accessed October 2021)
[2] TSCA Section 8(a)(7) Reporting and Recordkeeping Requirements for Perfluoroalkyl and Polyfluoroalkyl Substances, 86 FR 33926 (web link)
[3] EPA PFAS Strategic Roadmap: EPA's Commitments to Action 2021-2024 (2021)

3. Starting List of PFAS

The starting list of PFAS used in developing this Strategy was assembled using the process described below and illustrated in the first two elements in Figure 1.

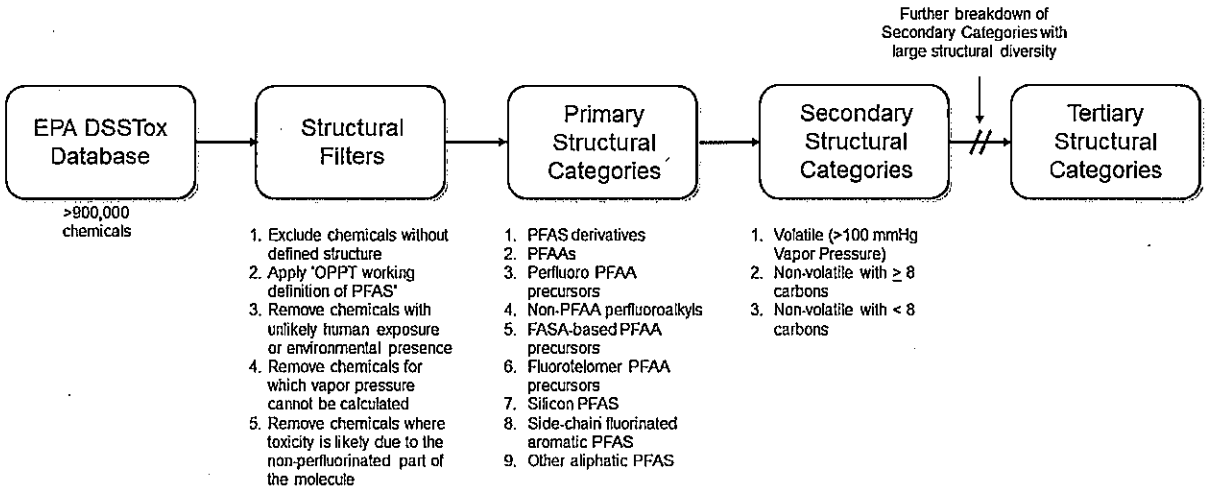

Figure 1: Schematic of Process Used to Create PFAS Categories

In the first step of the process, the EPA DSSTox database was used as the inventory of chemical substances from which the list was drawn (Version – April 2021).[4] The version of the EPA DSSTox database used to assemble the list contains over 900,000 chemical substances.

In the second step of the process, "Structural Filters," EPA used a series of five filters to generate the "starting list" of PFAS considered for the Strategy. First, chemical substances in the database without a defined structure were excluded from consideration because they did not have sufficient information to determine whether they should be considered a PFAS. Second, the resulting chemical substances were filtered for those that met the working definition of a PFAS used by EPA's Office of Pollution Prevention and Toxics (OPPT), which administers TSCA:

> "a structure that contains the unit R-CF_2-CF(R')(R''), where R, R', and R'' do not equal "H" and the carbon-carbon bond is saturated (note: branching, heteroatoms, and cyclic structures are included)."[5]

The working definition identifies chemicals with at least two adjacent carbon atoms, where one carbon is fully fluorinated and the other is at least partially fluorinated. This working definition provides focus on PFAS of concern based on their persistence and potential for presence in the environment and human exposure. For example, chemicals with (-CF2-) that are not (-CF3) are expected to degrade in the environment and most substances with only one terminal carbon (-CF3) are expected to degrade to trifluoroacetic acid, which is a well-studied non-PFAS. Chemicals with such degradation potential and for which vapor pressure could not be calculated were also excluded from the starting list.

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[4] Grulke CM, Williams AJ, Thillanadarajah I, Richard AM. EPA's DSSTox database: History of development of a curated chemistry resource supporting computational toxicology research. *Comput Toxicol*. 12:10.1016, 2019.

[5] Ibid TSCA Section 8(a)(7)

In addition, the Strategy focuses on PFAS where the toxicity of the substance is expected to primarily arise from the perfluorinated nature of the compound. As a result, additional filters were applied to develop the starting list. These filters eliminated free radicals and bare anions, while other filters eliminated salt forms where the counterion is expected to exert significant toxicity (e.g., transition metal salts/organometallics) and a variety of ringed structures. Many of the substances removed by the final filter were large multicyclic or macrocyclic structures with a small, fluorinated tail attached at some point.

The five sets of structural filters identified a starting list of 6,504 PFAS used in the development of the Strategy.

4. Dividing PFAS into Categories

Due to the large number and diverse types of PFAS, there have been several efforts to develop systematic terminology for their description and categorization.[6,7] However, the terminology and categories used in these efforts rely on manual assignment by trained chemists using standard criteria, which can be both subjective and time consuming when applied to thousands of chemicals. To overcome these issues, EPA used computer software developed by Su and Rajan[8] to systematically assign the starting list of 6,504 PFAS into the following nine primary categories based on their structure as illustrated in the third element ("Primary Structural Categories") of Figure 1 above:

- PFAS derivatives
- Perfluoroalkyl acids (PFAAs)
- Perfluoro PFAA precursors
- Non-PFAA perfluoroalkyls
- Perfluoroalkane sulfonamide (FASA)-based PFAA precursors
- Fluorotelomer-based PFAA precursors
- Silicon PFAS
- Side-chain Fluorinated Aromatic PFAS
- Other Aliphatic PFAS

PFAS that did not meet the conditions of membership for one of the primary categories listed above based on the structural rules were placed into an additional category denoted as "Others". Substances whose structures could not be resolved by the computer software, such as particular salt forms, were labelled as "Unclassified".

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[6] Buck, R.C., Franklin, J., Berger, U., Conder, J.M., Cousins, I.T., de Voogt, P, Jensen, A.A., Kannan, K., Mabury, S.A., and van Leeuwen S.P.J. Perfluoroalkyl and polyfluoroalkyl substances in the environment: Terminology, classification, and origins. *Integr Environ Manag.* 7(4):513-541, 2011.

[7] Organization for Economic Cooperation and Development (OECD). Toward a new comprehensive global database of per- and polyfluoroalkyl substances (PFASs): Summary report on updating the OECD 2007 list of per- and polyfluoroalkyl substances (PFASs). 2018. Series on Risk Management, No. 39. ENV/JM/MONO(2018)7.

[8] Su, A., Rajan, K. A database framework for rapid screening of structure-function relationships in PFAS chemistry. *Sci Data* 8:14, 2021.

Each of the primary structural categories were further broken down into one of three secondary categories as illustrated in the fourth element ("Secondary Structural Categories") in Figure 1. The secondary categories include volatiles (>100 mmHg vapor pressure), non-volatiles with ≥8 carbons, and non-volatiles with <8 carbons. These secondary structural categories were employed because historically, changes in the length of the carbon chain have resulted in differences in toxicity and the length of time the chemicals spend in the body. The use of volatility to break down the primary structural categories was important when considering the route of exposure for testing.

Figure 2 below shows a bar graph depicting the number of PFAS within each secondary category that were identified as result of this process. Over 30 percent of the substances in the filtered starting list were assigned to the "Others, gte8" secondary category (gte8 = greater than or equal to 8 carbons). Of the 1,927 PFAS in the "Others, gte8" secondary category, only 29 are "active" in commerce in the United States as determined in recent Active/Inactive reporting required under TSCA at 40 CFR Part 710 (82 FR 37520) (FRL-9964-22).

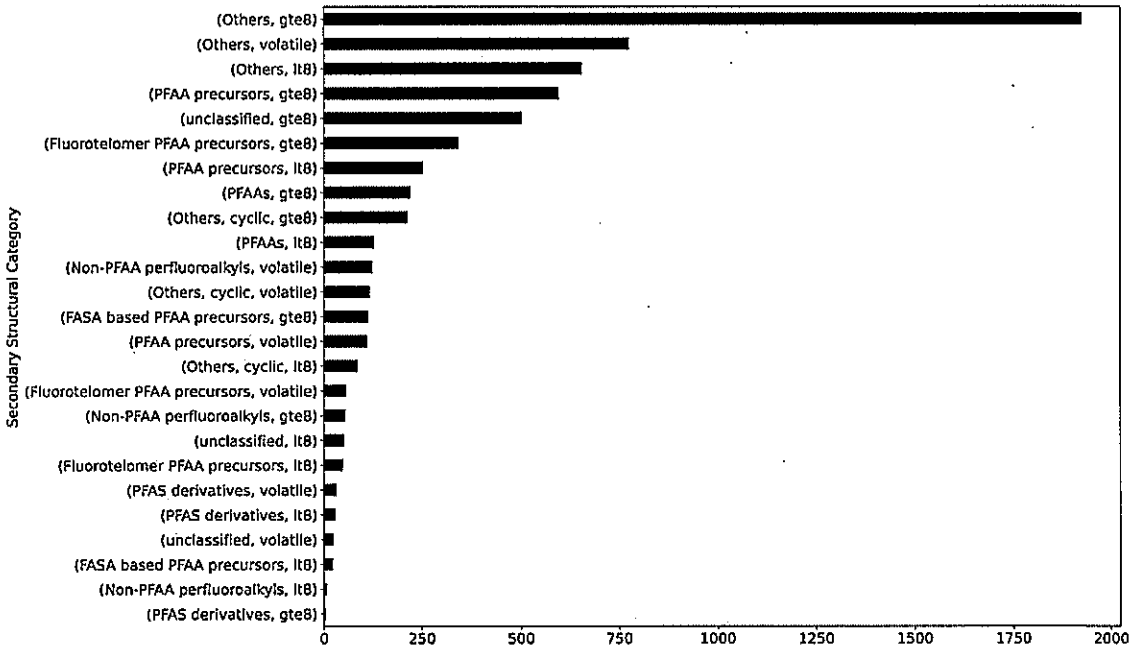

Figure 2: Frequency Plot of Number of Substances by Secondary Category
Key: lt8 = less than 8 carbons; gte8 = greater than or equal to 8 carbons

Since the Strategy is based on an approach that groups similar PFAS into categories based on structure, it is important to evaluate the degree of structural similarity within each category and compare that to similarity across the larger set of PFAS. To achieve this, each PFAS was characterized by a chemical fingerprint[9] [10] that is composed of the various structural features of the molecule. These structural features include the different types and arrangement of elements in the molecule, the bonds that hold

[9] Morgan, H.L. The generation of a unique machine description for chemical structures - A technique developed at Chemical Abstracts Service. *J. Chem. Doc.* 5:107-112, 1965.

[10] Morgan fingerprints are a type of hashed fingerprints. Hashed fingerprints do not require a pre-defined fragment library. Instead, they are generated by enumerating the molecule through all possible fragments that are not larger than a certain size and then converting the fragments into numeric values using a hash function. These numeric values can then be used to indicate bit positions in the hashed fingerprint. Circular fingerprints are generated by considering the 'circular' environment of each atom up to a given radius. The Morgan fingerprints calculated in this study were of length 1024 using a radius of 3.

95x

those elements together, and other features of the chemical. The use of chemical fingerprints allowed for an objective comparison of how similar or different each PFAS is relative to another. When looking at chemical structures chemists often refer to similarity with the concept of structural distance. The smaller the structural distance between two chemicals, the more structurally similar they are. Using the chemical fingerprints, EPA calculated the structural similarity[11] [12] for each possible pair of PFAS on the starting list. This produced a large matrix where the similarity between all PFAS on the starting list could be examined.

To determine which secondary categories needed to be further divided, the structural distances (i.e., the degree of similarity) were calculated both within each secondary category and between categories as illustrated above in the fifth element ("Tertiary Structural Categories") of Figure 1. The rationale behind this approach is that the structural similarity within a category should be greater than the structural similarity between categories. A conceptual schematic of "within" and "between" category distances is provided in Figure 3.

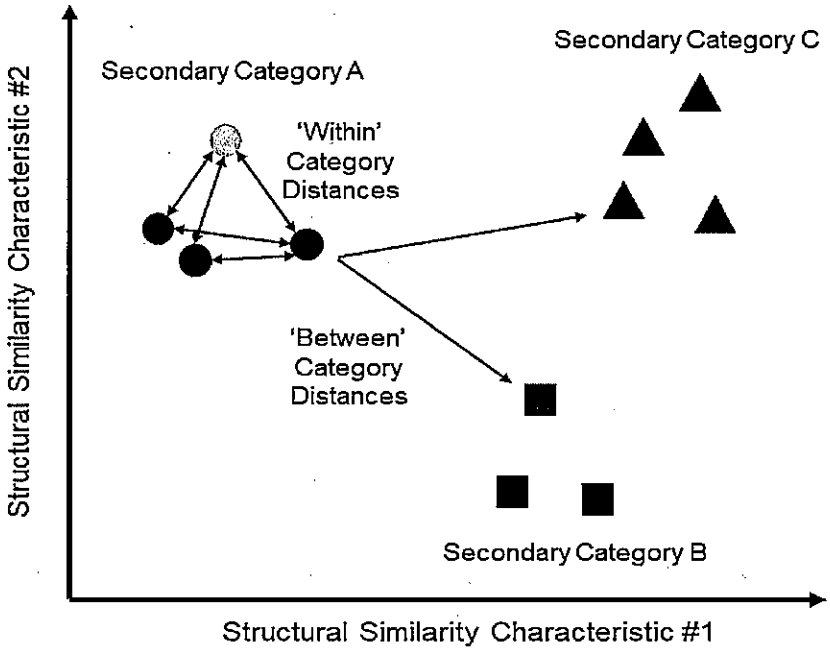

Figure 3. Conceptual Schematic to Illustrate the Within and Between Category Distances for the Secondary Categories

The distributions of the "within" and "between" structural distances among the secondary categories are provided below in Figure 4. A distance threshold for secondary categories that lack adequate structural similarity was set at the lower 5th percentile of the "between" category distribution. Secondary categories exceeding this median distance were further divided into tertiary categories to obtain greater structural similarity. A total of 70 terminal categories were identified (i.e., secondary or tertiary categories with adequate similarity).

[11] Jaccard, P. The distribution of the flora in the alpine zone. *New Phytologist.* 11(2):37–50, 1912.

[12] The Jaccard distance is a unitless number between zero and one that measures how dissimilar two sets (in this case two chemicals) are from one another. A Jaccard distance of zero means the two chemicals are identical, a Jaccard distance of one means the chemicals share nothing in common. In the context of Morgan fingerprints, a Jaccard distance of 0.5 means that half the fingerprint matches between two chemicals while the other half does not match.

96x

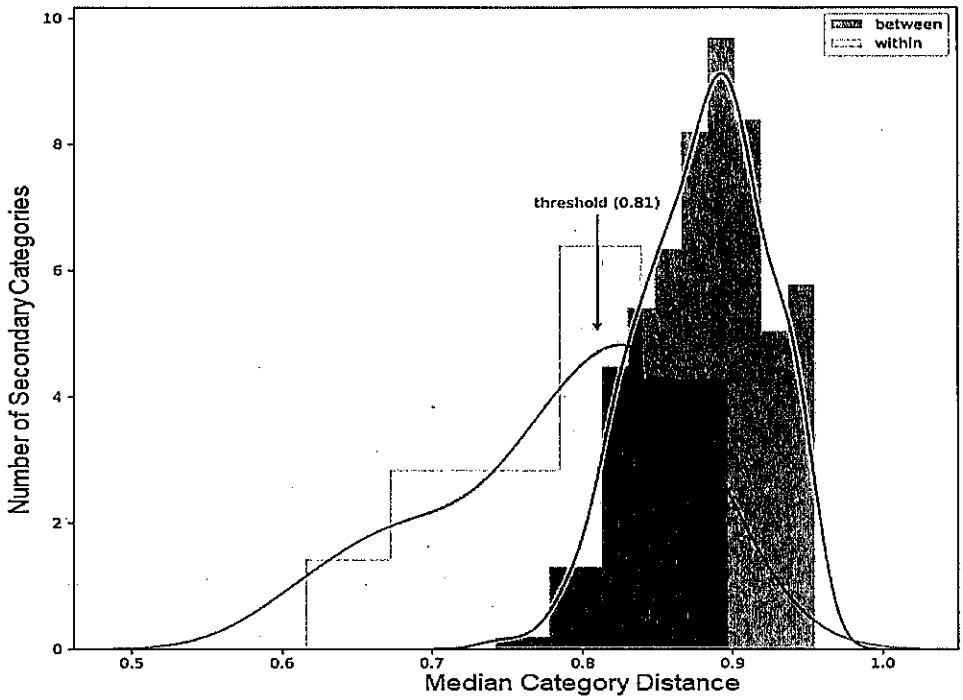

Figure 4: Probability Density Function Plot & Histogram - Within & Between Primary-Secondary Combinations

For each terminal category, EPA calculated the average or "centroid" of all the chemical structural features. The centroid depicts the most representative virtual chemical structure in that category as illustrated below in Figure 5. It may or may not depict an actual PFAS structure. EPA then used the centroids as the conceptual anchor within each terminal category to define a candidate PFAS for testing.

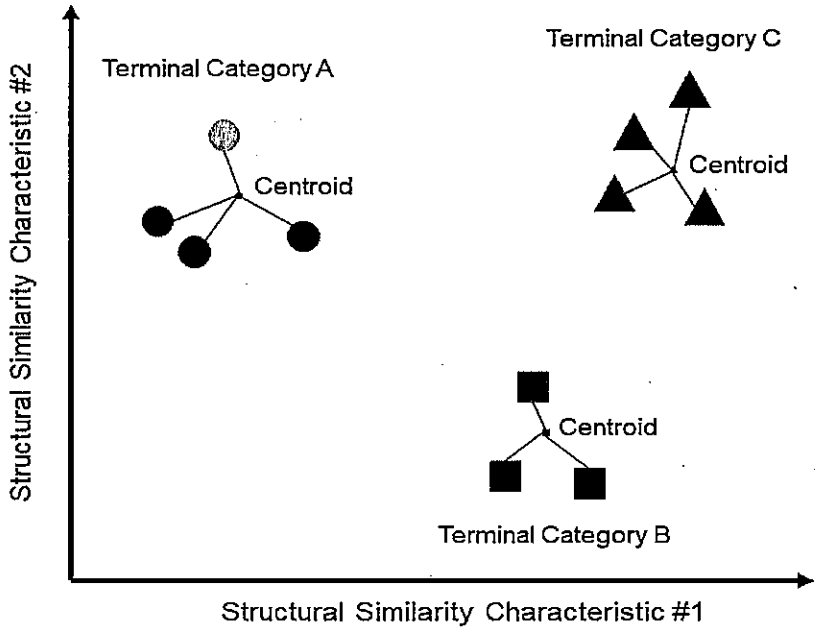

Figure 5: Graphical Illustration of Centroid Concept

97x

5. Assembling Existing Toxicity Data

For each substance on the starting list of PFAS, EPA identified all available, human health-related toxicity studies and divided them into the following study types:

a. Acute
b. Subchronic
c. Chronic including Cancer Bioassays
d. Developmental
e. Reproductive
f. Immunotoxicity
g. Neurotoxicity
h. Toxicokinetics
i. Mutagenicity
j. Sensitization/Irritation

EPA identified toxicity data from two separate sources – the EPA Toxicity Value Database (ToxValDB) and the EPA Chemical Information System (CIS).

The EPA ToxValDB is a compilation of publicly-derived experimental toxicity data on ~34,000 chemicals from 43 distinct sources including US EPA, U.S. Food and Drug Administration (FDA), California Office of Environmental Health Hazard Assessment (OEHHA), Agency for Toxic Substances and Disease Registry (ATSDR), Department of Energy (DOE), California Department of Public Health (DPH), the World Health Organization (WHO), Health Canada, the European Chemicals Agency (ECHA), European Food Standards Agency (EFSA), and the European Commission's Cluster of Systems of Metadata for Official Statistics (COSMOS) database. These sources include toxicity data from the scientific literature, reports, regulatory toxicology study submissions, or government-sponsored studies (e.g., U.S. National Toxicology Program).

The EPA CIS is an internal platform for managing data submissions under TSCA, including toxicity studies. Most of the data within CIS has been provided by industry in conjunction with TSCA submissions and are not publicly available. EPA is working on to make data publicly available to the extent possible under current statutory requirements and given resource constraints.

6. Initial Test Candidate Identification

To identify the initial PFAS candidates for testing, EPA mapped the existing toxicity data from ToxValDB and CIS onto each of the 70 terminal categories. Through this mapping process, EPA identified a total of 56 terminal categories that lack any data about the toxicity of the PFAS in that category. EPA identified PFAS candidates for testing from each of those 56 terminal categories based on the following considerations:

- Whether EPA can identify one or more manufacturer(s) of the PFAS candidate at this time (i.e., EPA can readily and confidently identify recipient(s) for TSCA test orders).[13]

[13] EPA consulted a variety of submissions received pursuant to TSCA (e.g., sections 4, 5 and 8) to identify potential section 4 test order recipients.

- The candidate's structural distance from the centroid of the terminal category (i.e., the closer to the centroid the greater preference for testing).

Of the 56 terminal categories lacking toxicity data, only 24 contained PFAS with an identifiable manufacturer(s) to whom EPA could issue a test order (Appendix A). As a result, EPA will consider the distance from the centroid in selecting PFAS for testing for 24 terminal categories. However, this Strategy is an iterative process and as EPA identifies additional PFAS manufacturers (e.g., through reporting under the future TSCA section 8(a)(7) rule) EPA may expand this initial list of candidate PFAS. Figure 6 below provides an overview of the steps of the process involved in the identification of initial testing candidates.

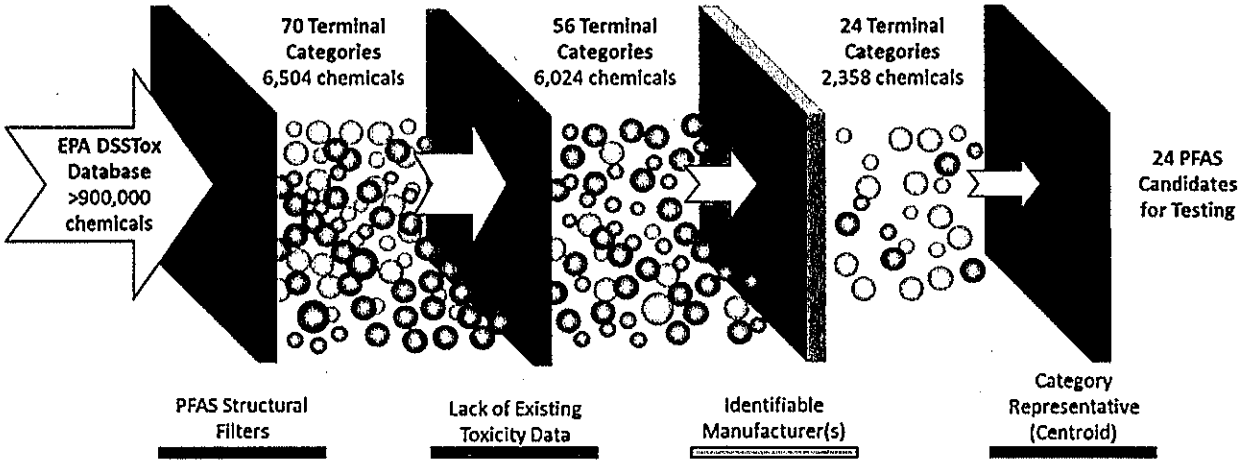

Figure 6: Overview of the Process for Identifying Initial Testing Candidates

7. Potential Tests

EPA's application of the category approach described above is consistent with the statutory mandate to reduce and replace the use of vertebrate animals in the testing of chemicals under section 4(h) of TSCA. The use of a tiered approach to identify specific testing for the candidate PFAS is also consistent with section 4(h) of TSCA.

EPA's Office of Chemical Safety and Pollution Prevention (OCSPP) has developed and uses a variety of test guidelines to support regulatory actions for chemicals under various statutes, including TSCA.[14] These guidelines are extensive and cover a wide array of test endpoints. Other organizations have also developed and utilize similar testing approaches, including the Organization of Economic Cooperation and Development (OECD), which maintains published testing guidelines for evaluating health effects.[15] OECD guidelines are considered routinely by EPA under the OECD mutual acceptance of data (MAD) system.[16] EPA has developed a crosswalk for the OECD guidelines with its own, which also provides a summary of all study types and the organizational codes associated with them.[17] EPA also

[14] EPA web site on Test Guidelines for Pesticides and Toxic Substances (accessed October 2021)

[15] OECD web site on Test Guidelines for Chemicals (accessed October 2021)

[16] OECD web site on Mutual Acceptance of Data (accessed October 2021)

[17] OCSPP list of harmonized test guidelines (last updated September 2019, accessed October 2021)

routinely considers other scientifically relevant information (OSRI) in lieu of testing that is conducted strictly in accordance with test guidelines. OSRI would have to be evaluated by EPA and considered adequate in addressing data needs.

A general overview of the tiered approach is presented below.

Tier I: consists of physical-chemical properties and *in vitro* testing to inform and guide whether additional short-term *in vivo* toxicity and/or toxicokinetic tests should be considered. For instance, PFAS that are gases will generally not be subject to Tier I *in vitro* testing due to methodological limitations and therefore higher tier *in vivo* toxicity testing may be the most logical initial testing approach.

- Physical-chemical property tests: vapor pressure, water solubility, log K_{ow}, particle size and surface tension (measures surfactant properties) to inform the conduct of test guideline protocols (e.g., closed systems for volatile PFAS, relevant route(s) of exposure, etc.).

- *In vitro* metabolism and protein binding studies (e.g., liver metabolism, protein binding and kidney transport protein binding) to inform the need for *in vivo* toxicokinetic studies.

- Some PFAS show positive results for genotoxicity.[18] Therefore, EPA is considering *in vitro* genotoxicity for chromosomal aberrations/gene mutations (e.g., OECD TG 471 and OECD TG 473 or 487) to inform the need for higher-tier *in vivo* toxicity testing for adverse outcomes related to genotoxicity.

- *In vitro* nuclear receptor/activation assays may also be considered because PFAS have been shown to activate multiple nuclear receptors.[19,20] These data can provide insights regarding human relevance (e.g., whether the chemical is active only in the PPARα assay) and inform the need for higher tier *in vivo* toxicity testing (e.g., for cancer and non-cancer endpoints).

Tier II: consists of testing to inform which species and doses to use in Tier III testing. Depending on results of Tier I, and types of toxicities identified for the PFAS categories based on existing available data, Tier II tests may include:

- *In vitro* skin absorption testing (e.g., OECD TG 428) for PFAS that have conditions of use with potential for dermal exposures. Results may also be useful for route-to-route extrapolation, thereby expanding applicability of existing or new higher tier tests.

- *In vivo* genotoxicity testing (e.g., OECD TG 474), depending on the results of Tier I *in vitro* genotoxicity testing.

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[18] ATSDR (Agency for Toxic Substances and Disease Registry). 2021. Toxicological Profile for Perfluoroalkyls. U.S. Department of Health and Human Services. May 2021.

[19] Houck, K.A., Patlewicz, G., Richard, A.M., Williams, A.J., Shobair, M.A., Smeltz, M., Clifton, M.S., Wetmore, B.A., Medvedev, A., Makarov, S. Bioactivity profiling of per-and polyfluoroalkyl substances (PFAS) identifies potential toxicity pathways related to molecular structure. *Toxicology*. 457:152789, 2021.

[20] Ibid, ATSDR.

- Acute *in vivo* inhalation toxicity testing (OECD TG 403), based on Tier I physical-chemical properties testing that indicate potential for surfactant effects.

- *In vivo* toxicokinetic testing in rats and/or mice (OECD TG 417) with evaluation of metabolites. Existing data indicate half-lives and clearance rates may differ significantly among PFAS and species.[21,22] Therefore, this data will inform which species and dosing regimes are most appropriate for higher tier toxicity testing. *In vivo* toxicokinetic testing will be informed by Tier I *in vitro* metabolism and protein binding studies when feasible.

Tier III: consists of testing to identify dose levels (i.e., points of departure) for risk evaluation. Existing data on tested PFAS provide evidence for probable links between PFOA and both kidney and testicular cancer in humans.[23] Other epidemiological studies have identified some associations between PFAS and certain cancers including prostate and breast cancer.[24] Both PFOA and GenX are known to cause tumors in animal studies.[25,26] Based on existing data, PFAS may also cause cancer via a non-genotoxic mechanism. Therefore, EPA will consider systemic toxicity testing that measures adverse endpoints such as liver and kidney disease, immunotoxicity, thyroid function, lipid dysregulation and reproductive and developmental toxicity.[27] The types of effects identified for additional testing may include:

- Testing for cardiac sensitization. Certain terminal categories consisting of short-chain volatile PFAS may be considered for testing for cardiac sensitization[28] because existing data for halogenated hydrocarbons indicate these compounds may lead to cardiac arrythmias and occasionally to sudden death resulting from sensitization of the heart muscle to endogenous compounds in the body (e.g., adrenaline).[29,30]

- 28-day inhalation toxicity test (OECD TG 412). If the Tier II acute inhalation toxicity test shows a toxic dose level (i.e., low observable adverse effect concentration) below the limit dose (< 2,000 mg/m^3), longer duration testing via inhalation route may be considered.

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[21] ibid, ATSDR.

[22] Fenton, S.E., Ducatman, A., Boobis, A., DeWitt, J.C., Lau, C., Ng, C., Smith, J.S., Roberts, S.M. Per- and polyfluoroalkyl substance toxicity and human health review: Current state of knowledge and strategy for informing future research. *Environ Toxicol Chem.* 40(3):606-630, 2021.

[23] C8 Science Panel web site on the Probable Link Evaluation of Cancer (Created April 2012, accessed October 2021).

[24] ibid ATSDR

[25] United Stated Environmental Protection Agency (EPA). 2016. Health Effects Support Document for Perfluorooctanoic Acid (PFOA). Office of Water. EPA 822-R-16-003. 2016.

[26] United States Environmental Protection Agency (EPA). Human Health Toxicity Values for Hexafluoropropylene Oxide (HFPO) Dimer Acid and its Ammonium Salt (CASRN 13252-13-6 and CASRN 62037-80-3). Public Comment Draft. Office of Water. EPA-823-P-18-001. 2018.

[27] ibid, ATSDR & ibid Fenton

[28] European Centre for Ecotoxicology and Toxicology of Chemicals (ECETOC). Evaluation of cardiac sensitization test methods. Technical Report No. 105, 2009.

[29] Brock, W.J., Rusch, G.M., Trochimowicz, H.J. Cardiac sensitization: Methodology and interpretation in risk assessment. *Regul Toxicol Pharmacol.* 38(1):78-90, 2003.

[30] Himmel, H.M. Mechanisms involved in cardiac sensitization of volatile anaesthetics: General applicability to halogenated hydrocarbons? *Crit Rev Toxicol.* 38(9):773-803, 2008.

- 28- or 90-day toxicity testing (OECD TG 407 or 408) may be included in Tier III because some PFAS have shown immunotoxicity, liver and kidney disease, thyroid function, lipid dysregulation in previous studies.[31]

- Prenatal developmental toxicity testing (OECD TG 414) may be included in Tier III because some PFAS have shown delayed ossification and other developmental effects in previous studies.[32]

- Extended one-generation reproductive toxicity testing (OECD TG 443) may be included in Tier III because some PFAS have shown postnatal toxicological effects, including delays in sexual maturation and growth, other developmental delays, and mortality.[33] The extended one-generation reproductive toxicity test can also address concerns related to potential maternal, fetal, and postnatal thyroid hormone disruption as well as includes options for evaluating developmental toxicity and developmental immunotoxicity, which are effects identified in animal and epidemiological studies for some PFAS.[34]

- Carcinogenicity testing (OECD TG 451) may be included in Tier III because some PFAS have produced tumors in animals and have been associated with cancer in humans. The need for carcinogenicity testing will informed by physical-chemical properties, Tier I testing, and existing data. For example, the reactivity, ability to cause glutathione depletion, genotoxicity, *in vitro* nuclear receptor assays, and the results from shorter-duration *in vivo* toxicity studies will be considered holistically in a weight of evidence to inform the need for carcinogenicity testing.

The tiered-testing approach of this Strategy aims to first and foremost collect information for each candidate PFAS that is sufficient to estimate or predict the physical-chemical properties and toxicity of other PFAS in the associated category. EPA anticipates that collecting this information will inform whether refinements to the category may be needed and determine whether testing additional PFAS within a category may be necessary. For example, similarities, differences, or trends in testing results across categories may indicate that further dividing the terminal categories is justified. As EPA obtains data for the candidate PFAS throughout the testing process, the agency may use those results to revise the testing strategy.

8. Phased Implementation

EPA intends to implement the Strategy in Phases (Figure 7). Phase IA is focused on human health data collection. EPA will be initiate Phase IA by the end of 2021 using TSCA Section 4 authorities. Then, in Phase IB, EPA will refine the initial structural categories using mechanistic and toxicokinetic data from EPA Office of Research and Development (ORD) as well as further evaluation of degradation products and exposure data (e.g., environmental monitoring, biomonitoring). The EPA expects to issue further TSCA Test Orders after the categories are refined. The process for refining and issuing Test Orders will be an iterative process as testing data is submitted to the Agency. In the second Phase of the Strategy (Phases IIA and IIB), EPA expects to use the category approach described above to inform ecological toxicity testing needs.

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[31] ibid ATSDR & ibid Fenton

[32] ibid ATSDR

[33] ibid ATSDR

[34] ibid ATSDR & ibid Fenton

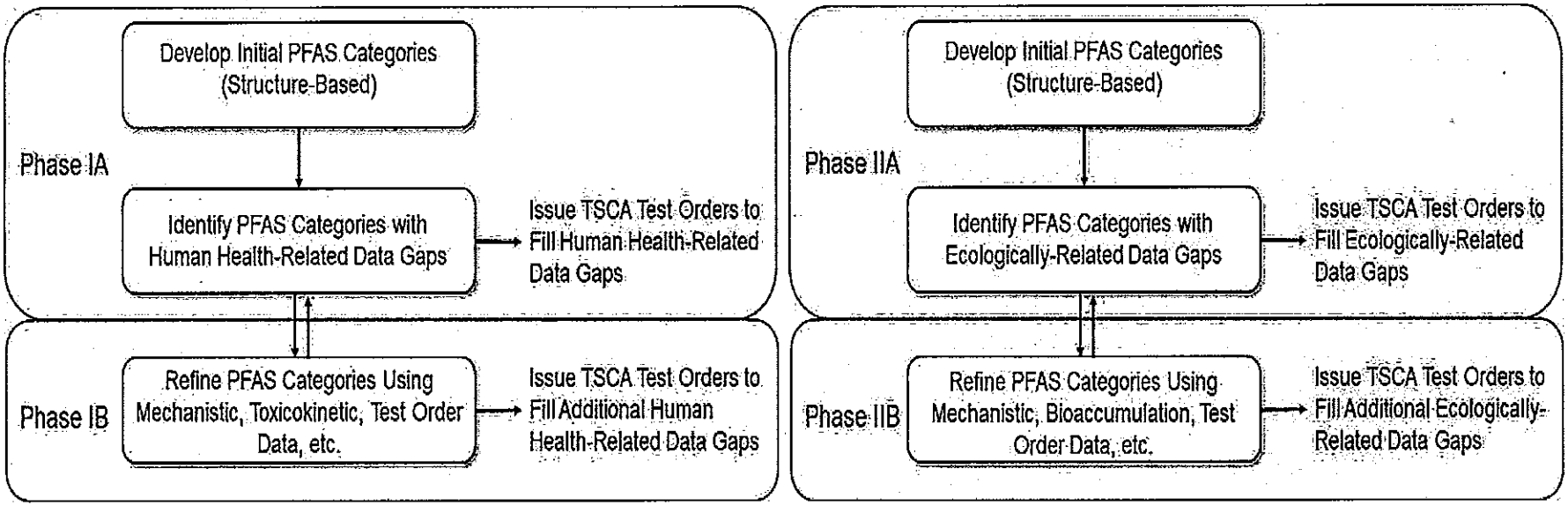

Figure 7: Multi-phase Testing Strategy for Filling Human Health and Ecological Data Gaps. Phases IA and IB are highlighted in green and are focused on human health-related data. Phases IIA and IIB are highlighted in blue and are focused on ecologically-related data.

103X

Appendix A: List of PFAS Candidates for Testing

DTXSID_hyperlink	CASRN	Terminal Category	Candidate PFAS Name
DTXSID4059966	422-05-9	('Fluorotelomer PFAA precursors', 'lt8')	2:1 Fluorotelomer alcohol
DTXSID0046511	306-94-5	('Non-PFAA perfluoroalkyls', 'gte8')	Perflunafene
DTXSID9041811	115-25-3	('Non-PFAA perfluoroalkyls', 'volatile')	Octafluorocyclobutane
DTXSID7046548	355-42-0	('Non-PFAA perfluoroalkyls', 'volatile')	Perfluorohexane
DTXSID50880192	3330-14-1	('Others', 'gte8')	2H-Perfluoro-5-methyl-3,6-dioxanonane
DTXSID60862823	2062-98-8	('Others', 'lt8')	Perfluoro(2-methyl-3-oxahexanoyl) fluoride
DTXSID0059879	355-80-6	('Others', 'lt8')	1H,1H,5H-Perfluoropentanol
DTXSID2067327	27619-88-1	('Others', 'lt8')	3,3,4,4,5,5,6,6,6-Nonafluorohexane-1-sulphonyl chloride
DTXSID3059927	376-90-9	('Others', 'lt8')	Hexafluoroamylene glycol
DTXSID50862736	1682-78-6	('Others', 'volatile')	2,3,3,3-Tetrafluoro-2-(perfluoroethoxy)propanoyl fluoride
DTXSID0061826	1623-05-8	('Others', 'volatile')	Perfluoropropyl trifluorovinyl ether
DTXSID90505110	42532-60-5	('Others', 'volatile')	2,3,3,3-Tetrafluoro-2-(trifluoromethyl)propanenitrile
DTXSID30889183	475678-78-5	('Others, cyclic', 'gte8')	3-Methyl-3-[[(3,3,4,4,5,5,6,6,6-nonafluorohexyl)oxy]methyl]-oxetane
DTXSID30880413	38565-52-5	('Others, cyclic', 'gte8')	3-(Perfluorohexyl)-1,2-epoxypropane
DTXSID7059933	382-28-5	('Others, cyclic', 'lt8')	Perfluoro(N-methylmorpholine)
DTXSID6029177	428-59-1	('Others, cyclic', 'volatile')	Trifluoro(trifluoromethyl)oxirane
DTXSID50880218	15290-77-4	('Others, cyclic', 'volatile')	1H,1H,2H-Perfluorocyclopentane
DTXSID5027140	307-35-7	('PFAA precursors', 'gte8')	Perfluorooctanesulfonyl fluoride
DTXSID70887648	69116-72-9	('PFAA precursors', 'lt8')	Methyl perfluoro-3-[(perfluoro-3-oxopropan-2-yl)oxy]propanoate
DTXSID3044596	16090-14-5	('PFAA precursors', 'lt8')	Perfluoro(4-methyl-3,6-dioxaoct-7-ene)sulfonyl fluoride
DTXSID0047583	423-39-2	('PFAA precursors', 'volatile')	Nonafluoro-1-iodobutane
DTXSID20861913	375-72-4	('PFAA precursors', 'volatile')	Perfluorobutanesulfonyl fluoride
DTXSID6021377	76-13-1	('PFAS derivatives', 'volatile')	1,1,2-Trichloro-1,2,2-trifluoroethane
DTXSID4041284	34455-29-3	('unclassified', 'gte8')	6:2 Fluorotelomer sulfonamide betaine


American Chemistry Council
NJCC
NEW JERSEY CHAMBER of COMMERCE
NEW JERSEY FOOD COUNCIL
HINJ
HealthCare Institute of New Jersey
Chemistry Council OF NEW JERSEY
CHAMBER OF COMMER
SOUTHERN NEW JERS
Connecting the region since 1
NJBIA
New Jersey Business & Industry Association
BioNJ
Because Patients Can't Wait
CIANJ
What's Good for Business.
NEW JERSEY CIVIL JUSTICE INSTITUTE
NEMA
National Electrical Manufacturers Association
SWI
IDI DISTRIBUTORS
NATURAL POLYMERS
Chemours
CropLife AMERICA
SOLVAY
Progress beyond
AFPM
American Fuel & Petrochemical Manufacturers
HOUSEHOLD & COMMERCIAL PRODUCTS ASSOCIATION
naed
National Association of Chemical Distributors
FLUIDSEALING ASSOCIATION
BASF
We create chemistry
AGC
Your Dreams, Our Challenge
AmericanCoatir
CARLISLE
RISE
Responsible Industry for a Sound Environment
Rhino Linings
PROTECTIVE COATINGS
covestro
OPEI
ALLIANCE FOR AUTOMOTIV INNOVATION
Johns Manville
A Berkshire Hathaway Company
HOLCIM
CHPA
Taking healthcare personally.
CONSUMER HEALTHCARE PRODUCTS ASSOCIATION
ITI
Promoting Innovation Worldwide
FPA
Flexible Packaging Association
PLASTICS
INDUSTRY ASSOCIATION
Pine Chemicals
Consumer Technology Association
AHI
ANIMAL HEALTH INSTITUTE
ROHVA
RECREATIONAL OFF-HIGHWAY VEHICLE ASSOCIATION
HUNTSMAN
Enriching lives through innovation
jpma
built for baby
MOTORCYCLE INDUSTRY COUNCIL
AEM
Association of Equipment Manufacturers
SVIA
Specialty Vehicle Institute of America
ICP
HYDRAULIC INSTITUTE
CCCA
GFL
GUJARAT FLUOROCHEMICALS
GENERAL COATINGS
MilliporeSigma
PRINTINGUNITED ALLIANCE
NCFI
POLYURETHANES
NMMA
DUPONT
CREATIVE POLYMER SOLUTIONS
PIMA
POLYISOCYANURATE INSULATION MANUFACTURERS ASSOCIATION
inda
Association of the Nonwoven Fabrics Industry
BPSA
Bio-Process Systems Alliance
ASC
THE ADHESIVE AND SEALANT COUNCIL
SECURING THE FUTURE
Truck & Engine Manufacturers Association
API
American Petroleum Institute
Northeast Region
VMA
semi
American Forest & Paper Association
ISSA
Advancing Clean. Driving Innovation.
naed
National Association of Chemical Distributors
NAFEM
North American Association of Food Equipment Manufacturers
CONSUMER BRANDS ASSOCIATION
NCTO
NATIONAL COUNCIL OF TEXTILE ORGANIZATIONS
AHAM
ASSOCIATION OF HOME APPLIANCE MANUFACTURERS

105x

June 8, 2023

Honorable Bob Smith
Chairman, Senate Environment and Energy Committee
State House
125 West State Street
Trenton, NJ 08625-0068

RE: **Oppose NJ S. 3177/ A. 4758, *a bill that establishes requirements, prohibitions, and programs for regulation of perfluoroalkyl and polyfluoroalkyl substances (PFAS)***

Dear Chairman Smith and Members of the Senate Environment and Energy Committee:

We are writing to respectfully oppose S. 3177/ A. 4758 related to PFAS reporting requirements, restrictions, and product bans. As written, within one year of the bill's effective date, the bill would require manufacturers to provide written notice to the Department of Environmental Protection (DEP) for products with intentionally added PFAS (as very broadly defined in the bill). Within two years, the bill would ban the sale or distribution of cosmetics, carpets, fabric treatments, and food packaging with intentionally added PFAS; and it would require cookware with PFAS to list the presence of PFAS on the label. The bill also gives DEP unprecedented authority to recommend to the legislature products or categories of products with intentionally added PFAS that should not be sold or distributed in the State of New Jersey. **This legislation therefore could eventually ban thousands of products from sale and transport of those products into the state causing far-reaching negative consequences on nearly every sector of the economy** including aerospace, autos, powersports, alternative energy, healthcare, building and construction, electronics, pharmaceuticals, and agriculture.

PFAS is a broad family of chemistry, particularly as defined in this legislation; they are essential to modern life and serve as an important enabling technology. Not all PFAS are the same, and many PFAS have very different properties. These chemistries provide products with strength, durability, stability, and resilience. **These properties are critical to the reliable and safe function of a broad range of products that are important for industry and consumers.** They play a vital role in everything from designing automobiles with lower emissions and improved safety, reliability and fuel-efficiency to manufacturing semiconductors, solar panels and high-performance electronics. Multiple other industries depend on high-performance PFAS including aerospace, alternative energy (solar, wind), healthcare, building and construction, electronics, chemicals and pharmaceuticals, oil and gas, and outdoor apparel and equipment, among other industries.

This legislation would therefore jeopardize the use of a broad range of critical products that DEP could recommend for deselection or ban. In this regard, the bill gives the DEP unprecedented authority and the challenging task of prioritizing products and categories of products with PFAS to recommend that the Legislature ban. The bill provides vague language as guidance or criteria for DEP to recommend a ban: "*in the department's judgment* pose the greatest risk to public health or to cause contamination . . ."

There is no scientific basis or defined regulatory process for banning products, which runs counter to federal health and safety standards as well as federal chemical and product safety regulations. It further creates uncertainty for manufacturers engaged in global commerce and would put New Jersey consumers and businesses at a competitive disadvantage.

This bill also could adversely impact critical uses of this technology that are important for our society's broader sustainability objectives, including support for alternative energy and greenhouse gas reduction efforts. For example, lithium-ion electric vehicle batteries contain

innovative fluorotechnology and are necessary for New Jersey to meet its transportation decarbonization goals outlined in the NJ Energy Master Plan.

We thank you for your consideration and urge you to oppose S. 3177/A. 4758.

Sincerely,

American Chemistry Council
ACC Spray Foam Coalition
Adhesive and Sealant Council (ASC)
Alliance for Automotive Innovation
American Coatings Association
American Forest & Paper Association (AF&PA)
American Fuel & Petrochemical Manufacturers (AFPM)
American Petroleum Institute (API)
AGC Chemicals Americas, Inc
Animal Health Institute (AHI)
Association of Equipment Manufacturers (AEM)
Association of Home Appliance Manufacturers (AHAM)
BASF
BioNJ
Bio-Process Systems Alliance (BPSA)
Carlisle Spray Foam Insulation
The Chemours Company
Chamber of Commerce Southern New Jersey
Chemistry Council of New Jersey
Creative Polymer Solutions
Crop Life America
Commerce and Industry Association of New Jersey
Communications Cable & Connectivity Association (CCCA)
Consumer Brands Association (CBA)
Consumer Healthcare Products Association (CHPA)
Consumer Technology Association (CTA)
Covestro
Dupont
Flexible Packaging Association(FPA)
Fluid Sealing Association (FSA)
General Coatings Manufacturing Corp
Gujarat Fluorochemicals
Healthcare Institute of New Jersey
Household & Commercial Products Association (HCPA)
Holcim
Huntsman
Hydraulic Institute
ICP Group
IDI Distributors
INDA- Association of the Nonwoven Fabric Industry
ITI
Johns Manville
Juvenile Products Manufacturers Association (JMPA)
Millipore Sigma
Motorcycle Industry Council (MIC)
National Association of Chemical Distributors (NACD)
National Council of Textile Organizations
National Electrical Manufacturers Association (NEMA)
National Marine Manufacturers Association (NMMA)
Natural Polymers, LLC
New Jersey Business and Industry Association(NJ BIA)
New Jersey Civil Justice Institute (NJCJI)
New Jersey State Chamber of Commerce
New Jersey Food Council
New Jersey Retail Merchants Association
NCFI Polyurethanes
North American Association of Food Equipment Manufacturers (NAFEM)
Outdoor Power Equipment Institute (OPEI)
Pine Chemicals Association International (PCA)
Plastics Industry Association
Polyisocyanurate Insulation Manufacturers Association (PIMA)
Printing United Alliance
Recreational Off-Highway Vehicle Association (ROHVA)
Responsible Industry for a Sound Environment (RISE)
Rhino Linings
SEMI
Specialty Vehicle Institute of America (SVIA)
Solvay
SWD Urethane
The Truck & Engine Manufacturers Association (EMA)
Valve Manufacturers Association (VMA)

Worldwide Cleaning Industry Association
(ISSA)