

Testimony of Al Shea, Deputy Secretary, WDNR
To the Legislative Special Committee on Nanotechnology

September 30, 2010

Good afternoon Chairman Benedict and members of the Committee, my name is Al Shea, Deputy Secretary of the Wisconsin Department of Natural Resources. It is a privilege to testify today to provide some perspectives on the issue of nanotechnology. I applaud your foresight and leadership in tackling this rapidly emerging issue.

I have been asked to address two background matters to help frame your future discussions:

1. Provide an overview of existing environmental regulations; and
2. Specifically, answer the question: If we had data that demonstrated a nanomaterial was a threat to human health or the environment, does the Department have adequate existing regulatory authority to address the problem?

Before remarking on these two matters, I would like to provide some context from the Department's standpoint:

- The topic of nanotechnology touches all aspects of the Department's mission. The Department is excited and supportive of the beneficial innovations that nanotechnology holds for the future.
- We have already seen examples of the positive results that this technology has had for our own staff with uses in environmental remediation and environmental monitoring.
- The agency also recognizes the need to work with business and researchers to better understand the potential for this technology, as well as the potential for impacts to public health and the environment.
- I believe the Department's future policies will look more and more at sustainability and working proactively with business and industry to identify issues ahead of time and work together on solutions and best practices.
- The formation of this Committee is a wonderful example of this approach; asking the questions that will allow for us to reap the benefits of advancements while assessing the unintended results of the technology.

Existing Regulatory Framework:

The foundation of much of our state authority for environmental regulations is in federal law. To provide a little more perspective for the Committee, I will touch on 5 of the major federal regulatory programs that the Department implements:

- Clean Air Act (CAA) limits air pollution from cars and other mobile sources and from stationary sources such as utilities. It remains the basis for curbing air pollution. It is based on using data on health effects of certain pollutants, establishing legal standards, crafting permits that set limits based on current available technology, and monitoring at the end of the stack.
- Clean Water Act (CWA) establishes goals for making the nation's waters fishable and swimmable. Like CAA, the CWA is based on establishing limits based on data driven health standards, with monitoring at the end of the discharge pipe.
- Safe Drinking Water Act (SDWA) is designed to assure the safety of drinking water. EPA establishes nationwide health-based standards that public drinking water must meet, and delegates responsibility to the states to enforce the standards. Monitoring for compliance is at the source.
- Resource Conservation and Recovery Act (RCRA) is the principal federal law governing the disposal of solid and hazardous waste. Regulation is volume based or on type of waste and is based on data that demonstrates impacts to human health or potential dangers (flammable, explosive etc).
- Toxic Substance Control Act (TSCA) provides EPA with the authority to require reporting, record-keeping and testing requirements, and restrictions relating to chemical substances. TSCA requires industry to notify (pre-manufacturing) of any "new chemical substance", and requires testing by manufacturers and processors where risks of exposures are found.

Even with this briefest of overviews, you can see that our major environmental regulatory programs:

- Tend to be reactive to human health impacts and environmental degradation;
- Compliance tends to be technology-driven and measured at the end of the pipe or stack, or at the point of disposal.

These regulations – all of who had their roots in the age of environmentalism – also tend to be very command and control. I would think the Committee would want to explore other approaches to nanotechnology.

Some examples of more recent sustainable approaches to environmental regulation have been put in-place that better balance the needs of planet, people and the economy. These include the State's Green Tier law, producer-responsibility for electronics recycling, and the use of best management practices for agriculture.

Question on Legal Authority:

If we had data that demonstrated a nanomaterial was a threat to human health or the environment, does the Department have adequate existing regulatory authority to address the problem?

- Current law and the very specific terms of those laws did not contemplate the unique nature of nano materials.
- No existing administrative code or statute gives the Department *specific* regulatory authority over nano-scale materials.
- However, in a limited circumstance – that related to manufacturing and commercial waste - existing rules may give the Department the authority to require the characteristics of waste containing nanomaterials.

Conclusion:

- Society, and as a result the Department, is shifting from command and control “fixing” problems to collaborative strategies to sustainable outcomes. The Department encourages the Committee to pursue the latter course on the subject of nanotechnology.
- Wisconsin is rich with progressive companies. Those companies not only see the opportunity for societal advancements with technology, but also understand their responsibility for being sustainable corporate citizens.
- Our academic partners are diligent in looking for the next step in research – all while evaluating all aspects of their creations.
- Collaboration is the key for us to be successful meeting the opportunities and challenges of nanotechnology.

