

Oral Testimony

Chair Helm, Vice Chairs Powell and Reschke, members of the committee:

I am Dirk Dunning. I am a 25-year veteran of the Oregon Department of Energy, now retired. I was a registered professional engineer with the department, expert in dozens of fields of engineering and science.

I strongly recommend a yes vote on HB-4148.

The Department of Energy was a world leader in technology and policy on all energy matters. That ended a decade ago with the departure of most of the agencies managers and senior policy and technical staff. The chaos that followed largely caused the debacle in the energy loan programs. Almost nothing remains of the Departments expertise.

The agency desperately needs visionary leadership and to be rebuilt from the ground up.

The catastrophic effects of climate change in the coming decades will wreak havoc on our State and the world. We are not ready. ODOE should play a vital role.

With rapid technological change, mistakes will be made. These must be identified and resolved as quickly as possible.

The LED lighting that is now showing up everywhere is one such example. The intense blue light the LEDs produce causes serious immediate harm to up to 10% of our population, including to all infants, people with eye diseases, sensitive populations, and people with cancer. I am one such victim.

Within hours of moving into the 550 building, I and two other staff had to seek immediate medical help due to these lights. The damage to my eyes and brain was too severe to tolerate. The State lost my expert services because the Departments leadership was unable and unwilling to respond to these harms in any meaningful way.

As expeditiously as possible, the Legislature should entertain a measure to declare the current generation of LED lighting to be inherently dangerous, and to require the immediate removal of all such lighting from service within the State of Oregon.

The legislation before you should be modified to direct that the new Board and ODOE be required to **actively** assess the harms of technologies fielded in Oregon not less than annually and to make recommendation for changes in standards and laws to the legislature.

Thank you for your attention.

Written Testimony

Chair Helm, Vice Chairs Powell and Reschke, members of the committee:

I am Dirk Dunning. I am a 25-year veteran of the Oregon Department of Energy, now retired. I was a registered professional Chemical Engineer, formerly licensed Nuclear Power Engineer with the department, expert in dozens of fields of engineering and science, including Systems Engineering, Control Systems Engineering, Forensic Engineering, many branches of physics, organic, inorganic and actinide chemistry, semiconductor manufacturing, and others. I was the Manager of Chemical Operations for Fairchild Semiconductor in Puyallup Washington, where I was one of a handful of managers and engineers who built five semiconductor factories. I also have extensive backgrounds in semiconductors, physics, biology and more.

From March 1993 until August 2017 last year, I was the principal technical resource for the Oregon Department of Energy performing oversight and involvement in the cleanup of the Hanford Nuclear Reservation on behalf of the citizens of the State of Oregon. I was directly instrumental in identifying and driving major actions at Hanford ranging from the removal of 2,350 metric tons of rotting nuclear fuel along the Columbia River, to the creation of the Hanford Advisory Board, much of the declassification of documents at Hanford, and extensive aspects of public involvement to name but a few.

I had the opportunity to work in a truly amazing agency staffed by some of the most gifted technical analysts and policy staff I have ever known. I also had the misfortune of being there to see that talent discarded and driven out of the agency, and to see the agency lose its way.

I strongly recommend a yes vote on HB-4148.

The Department of Energy was formed following the oil crunch of 1973. The great Governor Tom McCall created the Oregon Office of Energy Research and Planning within the Governor's Office headed by Director Joel Schatz. Under Joel's leadership, the office researched all manner of energy issues and produced a report "Transition. A report to the Oregon Energy Council", dated January 1, 1975. This amazing document began Oregon's leadership in energy issues for the next quarter century.

The Department of Energy was a world leader in technology and policy on all energy matters. That all ended a decade ago. Eighteen managers and nearly the entire technical and policy staff of the agency departed, released or driven from the agency. The chaos that followed largely caused the debacle in the energy loan programs which created the genesis of the legislation before you. More recently, great divisions developed within the agency between management and the workforce, further eroding what little remained of the agency expertise. Today, almost nothing remains of the Departments expertise.

The agency desperately needs visionary leadership and to be rebuilt from the ground up.

The catastrophic effects of climate change in the coming decades will wreak havoc on our State and the world. We are not ready. ODOE should and must play a vital role.

With rapid technological change, mistakes will be made. These must be identified and resolved as quickly as possible.

The LED lighting that is now showing up everywhere is one such example. The intense blue light the LEDs produce causes serious immediate harm to up to 10% of our population, including to all infants, people with eye diseases, sensitive populations, and t people with cancer. I am one such victim.

Within hours of moving into the 550 building in December of 2016, I and two other staff had to seek immediate medical help due to these lights. The damage to my eyes and brain was too severe to tolerate, and so I retired from the agency at the end of July 2017. The State lost my expert services because the Departments leadership was unable and unwilling to respond to these harms in any meaningful way, or to make any reasonable accommodation beyond those I forced under the Americans with Disabilities Act. These were not enough. I had to retire to protect my health. Other senior staff have reached the same conclusion and have also either already left the department, or soon will. The State should expect similar loss of senior staff in other departments wherever these lights are installed.

As expeditiously as possible, the Legislature should entertain a measure to declare the current generation of LED lighting to be inherently dangerous, and to require the immediate removal of all such lighting from service everywhere within the State of Oregon.

The legislation before you should be modified to direct that the new Board and ODOE be required to **actively** assess the harms of technologies fielded in Oregon not less than annually and to make recommendation for changes in standards and laws to the legislature.

Specifically, I recommend you modify the legislation as follows:

Section 5, new subsection before (c).

(c) Perform technology safety reviews and analysis;

Section 6, new subsection before (b).

(b) Perform ongoing assessment of the safety or hazards and potential issues with technology fielded in Oregon related to energy production or use (specifically including safety research related to LED light exposure), any needed research and/or changes in law or regulation, and report on these annually to the legislature;

I dedicated my life to public service a quarter century ago. Despite my formal retirement, that has not changed. I live my life in service. I have extensive additional information and research

on these issues. If I can be of any assistance in informing or advising you about any of the detailed technical or policy issues, please feel free to contact me.

Thank you for your attention and for your service to the citizens of Oregon.