

U.S. Senator Maria Cantwell

Senate Committee on Energy and Natural Resources Hearing on Nuclear Energy

Witnesses: Mr. Jeffery J. Lyash, President & Chief Executive Officer, Tennessee Valley Authority; Mr. Chris Levesque, President and CEO, TerraPower; Mr. Scott Melbye, President, Uranium Producers of America, Executive Vice President, Uranium Energy Corporation; Ms. Amy Roma, Founding Member, Atlantic Council's Nuclear Energy and National Security Coalition, Partner, Hogan Lovells; Mr. J. Clay Sell, Chief Executive Officer, X-energy

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CANTWELL: Thank you Mr. Chairman and thank you to you and Senator Manchin for holding this important hearing. Obviously the state of Washington has had a long history in nuclear power, and I think that continues today. We're here to talk about the impacts of the next generation of nuclear energy, and I would say that the workforce in the Tri-Cities is especially excited about that. They've had a long history there. Today, over 12,000 nuclear skilled scientists, engineers, and craft workers are working there in 100 different companies. So it certainly is a home to a lot. Columbia Basin and Washington State University campuses offer Bachelor's, Master's, and PhD in nuclear related fields and the region host of strong apprentice program. In fact I'd like to enter if I could, Mr. Chairman, into the record, a letter from Nick Bumpaous, President of 16 Affiliated Unions of Central Washington in support of DOE's Advanced Reactor Demonstration.

BARRASSO: Without objection, so ordered.

CANTWELL: Thank you. So obviously, PNNL gets a lot of money, \$400 million, I think, a year to do R&D and nuclear related fields. So we're very excited over all about this next generation of clean power. So Mr. Sell and Levesque, you both testified to the benefits, particularly in comparison to Light Water Reactors, but how integral is the federal support for the advanced nuclear energy technology as a continuation to meeting our goals, and how important is Washington State's Clean Energy Transformation Act in requiring sources be carbon-free by 2030 as a motivation to keep going. Also, I should just mention, I certainly appreciate Bill Gates and Nathan Myhrvold's efforts on TerraPower over a long period of time and recognition that the company is there. And Mr. Sells, you and I just had a conversation about X-energy, a larger footprint in the Tri-Cities, so anyway we're all good, so maybe just tell him the rest of us about the states' initiative and the federal support and what we need to keep doing.

SELLS: The first thing I will say is the federal support for the Advanced Reactor Demonstration Program is critical to seeing a first-of-a-kind reactors bill.

CANTWELL: You mean commercialization?

SELLS: Yeah, I mean we are demonstrating a full-scale commercial plant just like the plant that we will sell in Canada, that we hope to sell to TVA, that we hope to sell around the world. But the first plant is always the most challenging one to get built because all of the inherent risks

associated with the first of a kind of plant. And so the federal support, which the federal government in our case is putting \$1.2 billion into the project, but the private sector is matching that with \$1.2 billion so it's our critical accelerator to investment. We wanted to be in Washington state for a first-of-a-kind project, we wanted to partner with Energy Northwest. We have great regard for their CEO, Brad Sawatzke, and the way he has dramatically improved the operations of their single nuclear reactor over the last 10 years, but the critical thing was the way the market has been shaped by the CETA law in Washington that was passed in 2019. That is the most transformative thing that has happened in nuclear energy markets in the United States because it has created the commercial framework for nuclear to succeed and to succeed wildly. And as Washington State phases out coal by 2027, and then natural gas by 2045, that's going to generate an 8 gigawatt gap of baseload emissions-free power that needs to be filled, and the opportunity to do that with nuclear power, to continue the great nuclear tradition in Washington state, to continue the great tradition of emissions-free generation, is something that we really look forward to doing in Washington state by 2027 and we anticipate that will break ground on the initial non-nuclear construction there by the middle of 2023.

CANTWELL: Mr. Levesque, hard to top that but you can try.

LEVESQUE: Yes, it's nice to see you again Senator Cantwell, and thanks for all your support in Washington. Again TerraPower is based in Bellevue, Washington, near Seattle. I completely agree with Mr. Sell's points on that the kind of federal and state support that has really been in positive in the last couple years. I will elaborate a little bit on the design of the Advanced Reactive Demonstration Program, it's really an excellent program for many reasons. I think the chief reason being the public and private cost share. You know, these technologies that were talking about, generation for advanced nuclear technologies, they've been worked on in the national labs for up to 20 years. TerraPower as a fourteen-year-old company. We've been working on an Atrium Design with private investment funding work at National Labs. All that work is really a for not if we don't demonstrate the reactor. These will just be PowerPoints in technical papers if we don't demonstrate the new technology the way the US did in the late 1950s, we demonstrated light water technology at the Shipping Port Station in Pennsylvania, which led to four hundred reactors around the world based on U.S. origin technology.

If we don't demonstrate now all of this technology investment that's been made by a company like TerraPower, X-energy, and government investment at the National Labs, it will be for not. So ARDP is coming at the perfect time. You heard about the growing demand for electricity that's going to come with electrification of transportation in the industrial sectors, while at the same time we're shutting off coal. That's going to create a great demand for clean energy generation like TerraPower's atrium reactor. So the ARDP is really well designed in that it requires significant private costs share. If we think about the investment that TerraPower will be making during the construction of the demonstration reactor, that investment along with X-energy's will certainly be the largest private investment in nuclear energy in history. And the ARDP enabled this.

CANTWELL: Thank you. I'm sorry, I'm way over my time. I appreciate your refined points. I am going to ask, Mr. Chairman, record question that is just that we can get the witness on because it begs the question; if you know what Washington did in setting this market or in

encouraging this kind of development, obviously again in coordination with the federal government, what else could we be doing on setting more predictable price that would signal to the rest of the United States and otherwise stop reactors from being shut down. So I do think it's an interesting question and we'll get the witnesses on that. But thank you Mr. Chairman for this important hearing.