

## MINUTES

Submitted by Keith Ammon

# Commission to Investigate the Implementation of Next Generation Nuclear Reactor Technology in New Hampshire

August 7, 2023

### Attendance:

Commission Members: Rep. Keith Ammon, Cathy Beahm, Marc Brown, Daniel Goldner, Rep. Michael Harrington, Matthew Levander, Christopher McLarnon, Mikael Pyrtel (zoom), David Shulock

Absent: Bart Fromuth, Sen. Howard Pearl

Public In-Person: Maily Douglas, Rep Alvin See, Elizabeth McKenna (Office of Sen. Jeanne Shaheen), Emma Greenberg (Office of Sen. Maggie Hassan), Tom Barrasso (NH Department of Administrative Services), Dr. Billy Valderrama (DOE Office of Nuclear Energy), Christopher Robert (UNH)

Public Remote: Adam Schmidt (J. Grimbilas Strategic Solutions), Cathy Wolff, Cheryl Herman, Chris Lohse - GAIN, Christine King GAIN, John Tuthill, Judith Kaufman, Julie Kozeracki, Marielle Kaifer, Molly (no surname), Nathan Raike, Nelia (no surname), Paul Gunter (Beyond Nuclear), Ryan Duncan (Last Energy), Sebastian Rowan, Shannon Kang, Walt Stapleton

### Meeting:

#### I. Call to Order

- The meeting was called to order at 9:06 AM by Rep. Keith Ammon. The commission had a quorum present.

#### II. Presentations

##### A. Gateway for Accelerated Innovation in Nuclear (GAIN) Program Overview

Presenter: Chris Lohse from the GAIN program

- GAIN provides outreach and technical support to states, companies, and organizations interested in advanced nuclear technology. They track industry developments and offer workshops, webinars, etc.
- The GAIN voucher program provides up to \$500K in R&D funding to connect companies with expertise and capabilities at DOE national labs. Over \$30 million has been awarded so far across 50 companies.
- Vouchers support experimental work, analyses, licensing assistance, and other technical capabilities unique to the national labs. The funds go directly to the labs to perform work for the companies.

- GAIN is supporting preliminary feasibility studies on repurposing coal plants for nuclear power. For example, they are analyzing reactor options and economic impacts for a coal plant in St. Johns, AZ to inform the utility's decisions.
- The voucher program started as a way to assist advanced reactor developers but is expanding to support other end users like utilities, hydrogen producers, and manufacturers.
- In response to a question from Rep. Harrington, Mr. Lohse provided examples of the types of work funded by vouchers, including radiation testing of components, nuclear siting studies, integration analyses, and engineering design assessments.
- Rep. Ammon inquired whether Project Pele is part of the GAIN program. Mr. Lohse clarified that Pele is a separate project under the DOD, not part of GAIN.

## B. DOE Loan Programs Office Overview

Presenter: Julie Kozeracki, Senior Advisor with the DOE Loan Programs Office (LPO)

- Ms. Kozeracki provided information that the LPO has over \$300 billion available in loan authority, including \$250 billion that was allocated through the Inflation Reduction Act for the Energy Infrastructure Reinvestment Program.
- She communicated that the LPO is positioned to play a major financing role for new nuclear projects.
- Ms. Kozeracki summarized the LPO report which made the case for nuclear's value as a firm, low-carbon source of electricity generation.
- The report projected that approximately 200 gigawatts of new nuclear capacity will likely be needed in the U.S. by 2050.
- Ms. Kozeracki outlined two key challenges to wide-scale nuclear deployment:
  - The lack of current commercial orders
  - The need for 5-10 nuclear plants of the same design to be built to achieve economies of scale
- She suggested two possible solutions:
  - Using a consortium model to pool demand
  - Offering cost overrun insurance to incentivize plant orders
- In response to a question from Rep. Harrington, Ms. Kozeracki noted conversations with merchant nuclear developers in deregulated electricity markets. She highlighted potential synergy in siting reactors at new chip manufacturing facilities which have massive electricity demands.
- Ms. Kozeracki confirmed to Rep. Ammon that LPO loans are available beyond constructing new reactors, such as for supply chain development, upgrades to existing plants, etc.

## C. DOE Office of Nuclear Energy Update

Presenter: Dr. Billy Valderrama with the DOE Office of Nuclear Energy

- Dr. Valderrama stated the office's four main priorities are:
  - Keeping the existing U.S. reactor fleet operating
  - Deploying new advanced nuclear reactors

- Ensuring a secure and sustained nuclear fuel supply chain
  - Expanding international nuclear energy cooperation
- He discussed that federal funding for nuclear R&D has seen significant bipartisan support from Congress, with the office's budget recently exceeding \$1.7 billion.
- Dr. Valderrama provided an overview of demonstration projects underway to produce hydrogen at existing nuclear plants, aiming to provide new revenue streams.
- He highlighted the DOE's microreactor test bed and Project Pele with the DOD, which will demonstrate advanced reactor licensing approach separate from the NRC.
- Dr. Valderrama mentioned the DOE is engaging with states on nuclear topics through partnerships like the [Advanced Nuclear State Collaborative](#).

### III. Discussion

- Supply chain readiness challenges for advanced nuclear reactors were discussed.
- It was noted that NRC licensing is not currently a major bottleneck for advanced reactors, but increased readiness will be needed if many applications are submitted as the industry scales up.
- The potential to recycle spent nuclear fuel into HALEU fuel for advanced reactors was discussed, but the economics are still unfavorable compared to using enriched uranium.
- Rep. Ammon provided an update that the commission is working on drafting an interim report summarizing their activities so far.
- The commission is also planning a September site visit to the Seabrook nuclear plant.

### IV. Administrative

- The minutes from the previous June 19, 2023, meeting were approved.

### V. Adjournment

- The meeting was adjourned at 11:00 AM.