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Item Number: 46

Jimmy Glotfelty
Commissioner

Greg Abbott
Governor

Public Utility Commission of Texas

TEXAS ADVANCED NUCLEAR REACTOR WORKING GROUP
WEDNESDAY, MAY 15, 2024
10:30 AM
ERCOT HQ AND TEAMS
MEETING MINUTES

PUC PROJECT #55421

5/15/24

Commissioner Glotfelty convened the meeting convened at 10:30 am. Approximately 100 participants. The meeting is available here:

https://player.vimeo.com/video/947012231?h=004ec51392&autoplay=1&loop=1&title=0&byline=0&portrait=0

Agenda

1. *Introduction/welcome remarks (Jimmy Glotfelty).*

2. *Pablo Vegas commented that the recent article by the Dallas Federal Reserve was one of the best on nuclear that he's seen. https://www.dallasfed.org/research/swe/2024/swe2407*

3. *Jimmy's update on Recent Events*
    - *i.* Abilene Christian Research Reactor Center trip recap (one State Senator, four House members in attendance)
    - *ii.* US Nuclear Industry Council meeting in Houston
        1. Petro-chemical and industrial day
        2. Wyman-Gordon tour

iii. Shephard Power Meeting in Houston with NRC on siting micro-reactors in the Permian Basin to improve licensing procedures and timelines.

b. Google, Microsoft, and Nucor Advanced Clean Energy (ACE) RFI closed, over 200 applicants and selected 10-15 to move forward in further discussions.

c. Federal ban on Russian uranium, future discussions about what that means for domestic fuel.

d. Oak Ridge National Laboratory, using their siting tool (OR-SAGE) has done site analysis on twenty-one former coal Texas sites (so far). They all look good, and we hope they will do more. Dillion Allen with Entergy has agreed to keep a list of requests for next round of additional sites from across Texas.

i. Send sites to dallen6@entergy.com, subject line: "TANWG Siting Options."

ii. This information will be public.

iii. Respond back within the next 10 days.

e. Water Development Board has shared information about their Mesonet system - data sets that deal with weather. They will be working with Oak Ridge to further assess sites.

i. https://www.texmesonet.org

f. Aalo Atomics shared an update on their recent activities, including their recent re-location to Austin and plans to begin manufacturing their full-scale non-nuclear prototype soon.

4. *Presentation by Higher Ed Subcommittee, Derek Haas UT Austin*

a. Subgroup has three leading ideas.

i. Workforce Development from Pre-K through Higher Education, Valerie Segovia, Director of the Nuclear Power Institute, Texas A&M University. She was recently recognized by the International Atomic Energy Agency for her work in this field.

1. Key findings

a. Overarching pathway needed.

b. More emphasis on basics of energy systems

c. Current skilled workforce is insufficient.

2. Mission and principles discussed.
3. Possible stakeholders.
4. Goals
    a. Short term: Initiate nuclear experts, industries, schools, community, and agencies.
    b. Mid term: Grow, adapt, and improve programs at school from Pre-K to university.
    c. Long term: Continue building programs and relationships.
5. Will be adding cost analysis.

ii. University Nuclear Programs, Derek Haas, UT Austin
1. Will Texas have enough nuclear engineers, innovators?
    a. Policy Recommendations:
        i. Grow state university nuclear engineering programs to approximately 100 faculty (currently approximately 35)
    b. Short term: Direct funding to universities to expand existing university programs.
    c. Long term: Plan for long term funding university nuclear engineering program
    d. Justification of policy need:
        i. Texas Annual Growth 2030-2035
            1. Nuclear Professional: 755
            2. Reactor Operator: 340
            3. Nuclear Engineer (PE): 38
    e. Cost:
        i. Tenured or Tenured Track professor costs $100k-$300k
    f. Implementation will be milestone based and universities are wary to move funding away from semiconductors and AI.

iii. Building SMRs at Universities, Kevin Clarno, UT Austin
1. Key Challenges:
    a. Public acceptance
    b. Establishing core competencies at universities
    c. Workforce

    d. First-of-kind is expensive.
2. Two types of reactors
    a. University Research Reactor
    b. Campus Microgrid Power Reactor
3. Policy recommendations:
    a. Fund up to three consortia, at up to $800 million each to construct up to five diverse university research reactors each.
    b. Each consortia includes a single commercial nuclear reactor design company and at least three different universities.
    c. Competitive process to evaluate proposals.
        i. Detailed supply chain and licensing plans
        ii. Requirements for modular construction to reduce costs.
        iii. Incentives to connect with complimentary industries, utilize thermal energy, time to completion.
        iv. Requirements for in-state manufacturing or service contracts

5. *Update from Subcommittees and issue groups*
    a. Market Demand and End User Group
        i. Currently nine under review
        ii. One to two ideas may be ready for full group consideration by the next meeting.
    b. Development and Manufacturing Group
        i. Currently four recommendations, policy light
    c. Federal and State Regulatory Group
        i. Subgroup on market design is working on several ERCOT market design ideas (segmentation, floor, nuclear energy credit, interconnection allowance) white papers almost ready to be translated into slide format.
6. *General Discussion*
    a. Commissioner Glotfelty finalizing a timeline for path forward and will distribute.
7. *Next steps*

a. Mid-June (18 or 19) is the tentative next meeting of the full working group.

Meeting adjourned at 12:05pm.