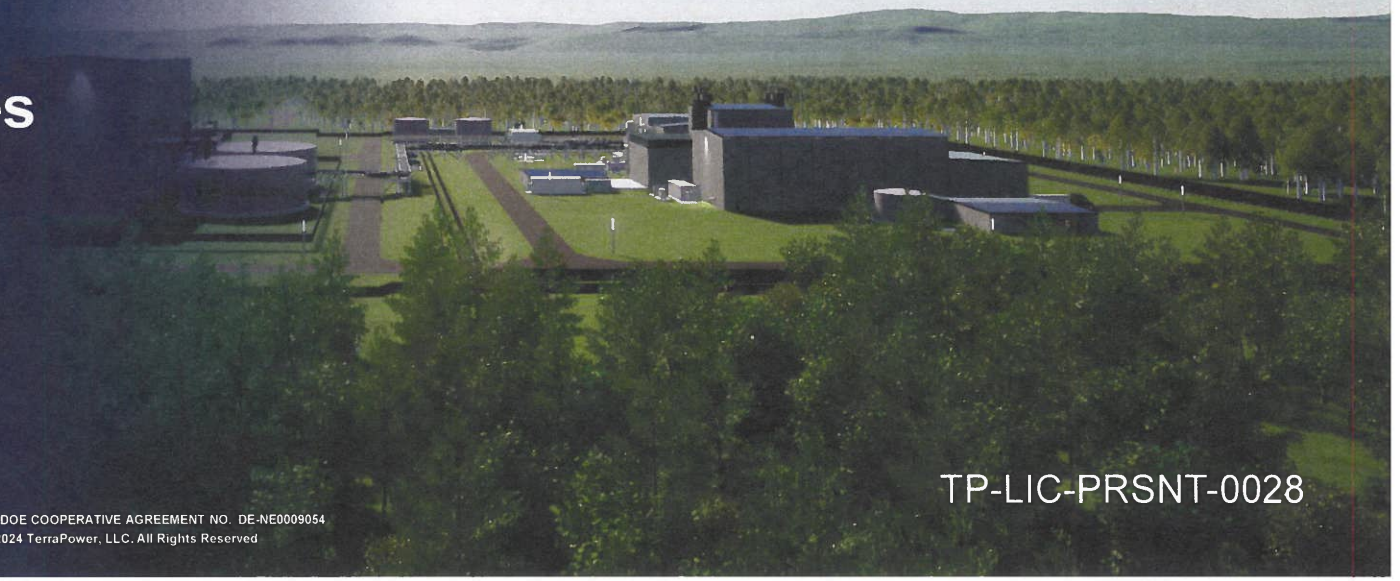
Kemmerer Power Station Unit 1

Natrium™

a TerraPower & GE Hitachi technology

Industrial Siting Public Open Houses July 16-18, 2024



TP-LIC-PRSNT-0028

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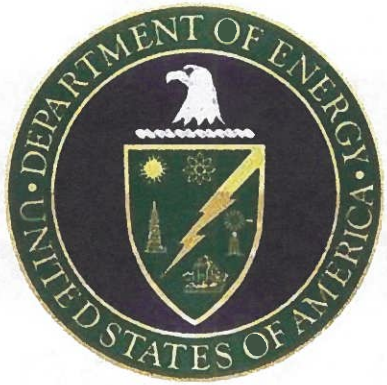
Kemmerer Power Station Unit 1

- USO/TerraPower and partners
- Natrium™ Reactor Plant
- Lincoln County south of Kemmerer and Diamondville
- Construction beginning 2025
- Reduce carbon emissions
- Advance US nuclear power industry

Regulatory Oversight

- Project authorizations to be obtained from NRC, DOE, Wyoming, and others
- NRC scope is safety and environmental impact
- DOE scope is environmental impact
- Wyoming Department of Environmental Quality Industrial Siting Division scope is community impact



What is the ISD Permitting Process*?

Application Received

Day 1
- Application submitted to Industrial Siting Division
- 135-day timeline begins

Public Notice

Day 10
- Local library
- Local governments and relevant agencies
- Landowners

Completeness Review

Day 30
- Completeness review
- Applicant has 30 days to respond
- Continued deficiency, applicant has 15 days to respond

Hearing

Day 90
- Hearing with Industrial Siting Council
- Permit determination
- Conditions, if necessary

Final Decision

Day 135
- Council presents findings, issues an opinion, and renders decision

*Industrial Development Information and Siting Rules and Regulations

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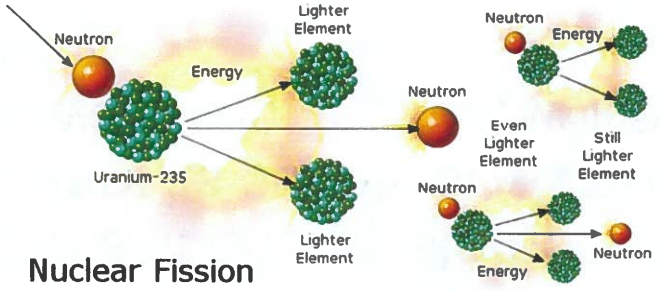
SUBJECT TO DOE COOPERATIVE AGREEMENT NO. DE-NE0009054

Kemmerer Power Station Unit 1

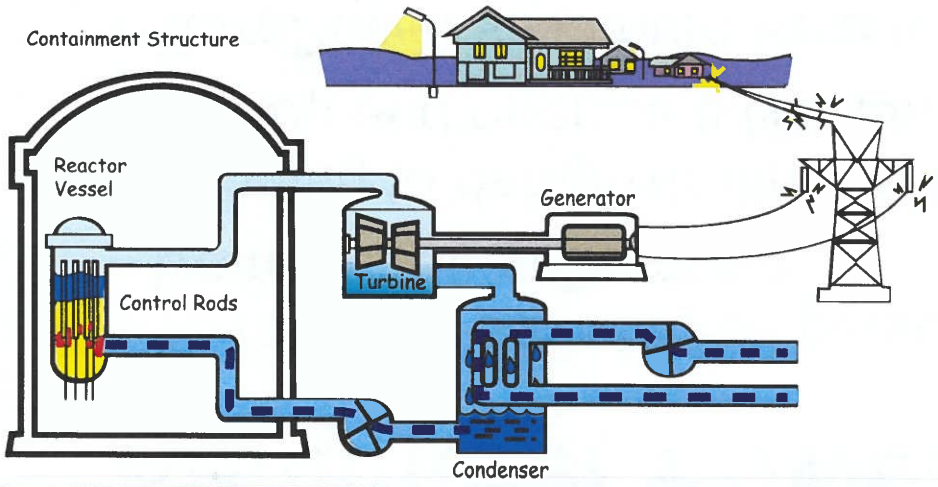
- TerraPower selected as participant in DOE's Advanced Reactor Demonstration Program
- Funding to demonstrating ability to design, license, construct, startup and operate a Natrium Reactor Plant
- TerraPower's Natrium Reactor Plant is an 840 megawatt thermal pool-type sodium-cooled fast neutron spectrum reactor that contains a molten salt energy storage system which enables the plant to vary its supply of electrical energy to the grid, up to 500 megawatts electric net, while maintaining constant reactor power

Current Nuclear Power Industry

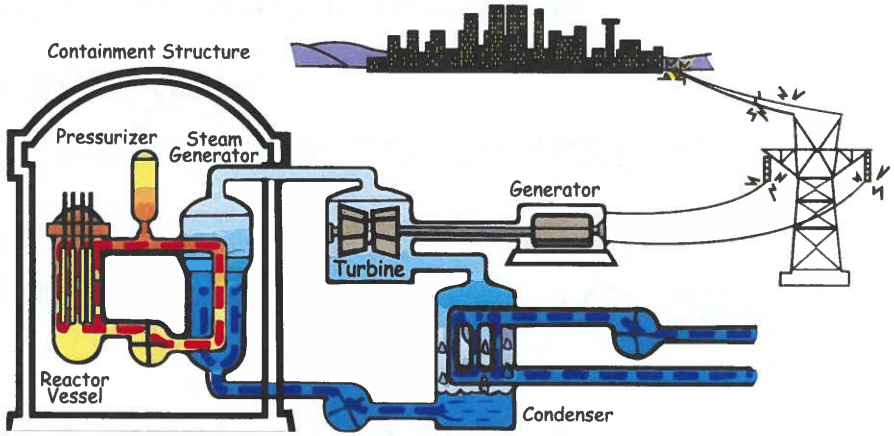


Nuclear Fission

The Boiling-Water Reactor (BWR)



The Pressurized-Water Reactor (PWR)



Source: NRC, MIT

Natrium Reactor Overview

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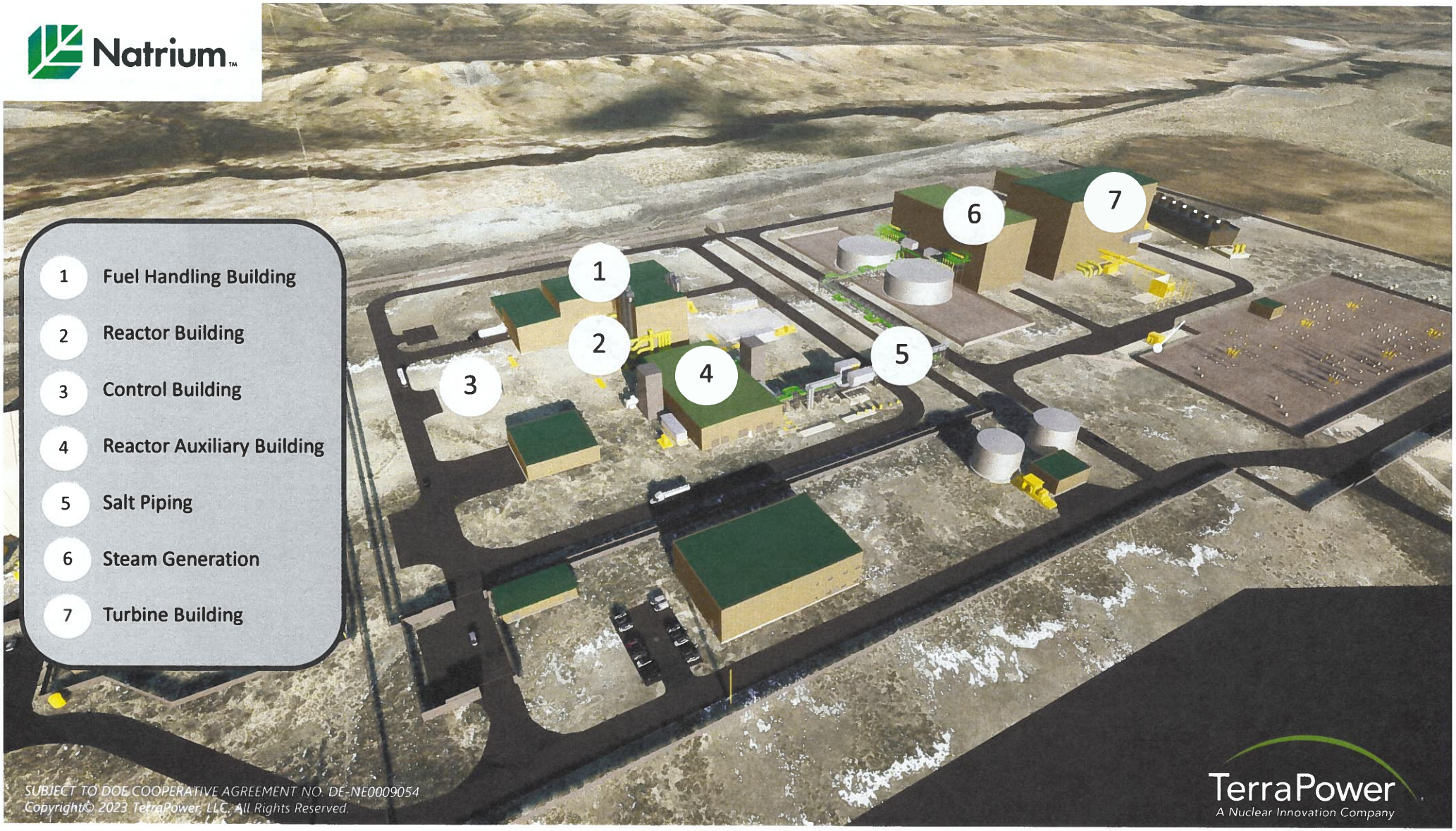
Natrium™
1 Fuel Handling Building
2 Reactor Building
3 Control Building
4 Reactor Auxiliary Building
5 Salt Piping
6 Steam Generation
7 Turbine Building
1
2
3
4
5
6
7
SUBJECT TO DOE COOPERATIVE AGREEMENT NO. DE-NE0009054
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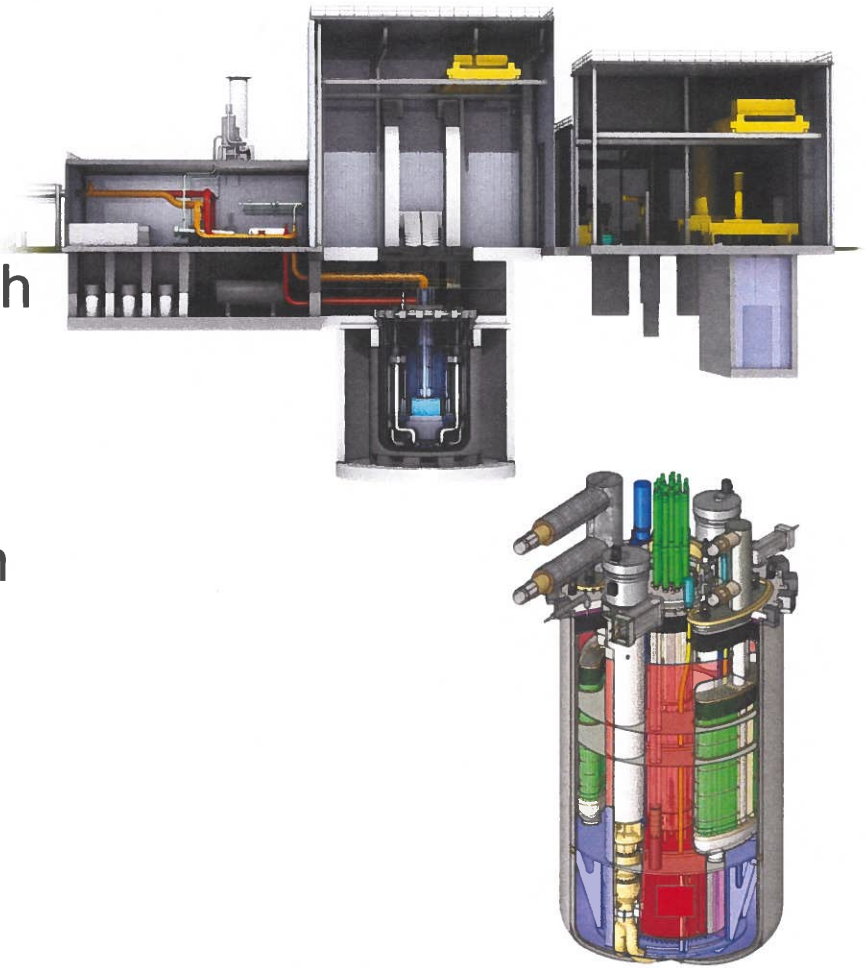
TerraPower
A Nuclear Innovation Company

Natrium Safety Features

- Technology based on US SFR experience
  - EBR I and II, FFTF, TREAT
- Sodium boiling temperature much higher than water
- Low primary and secondary pressure
- No safety-related operator action or AC power
- Passive cooling of reactor and intermediate sodium loop



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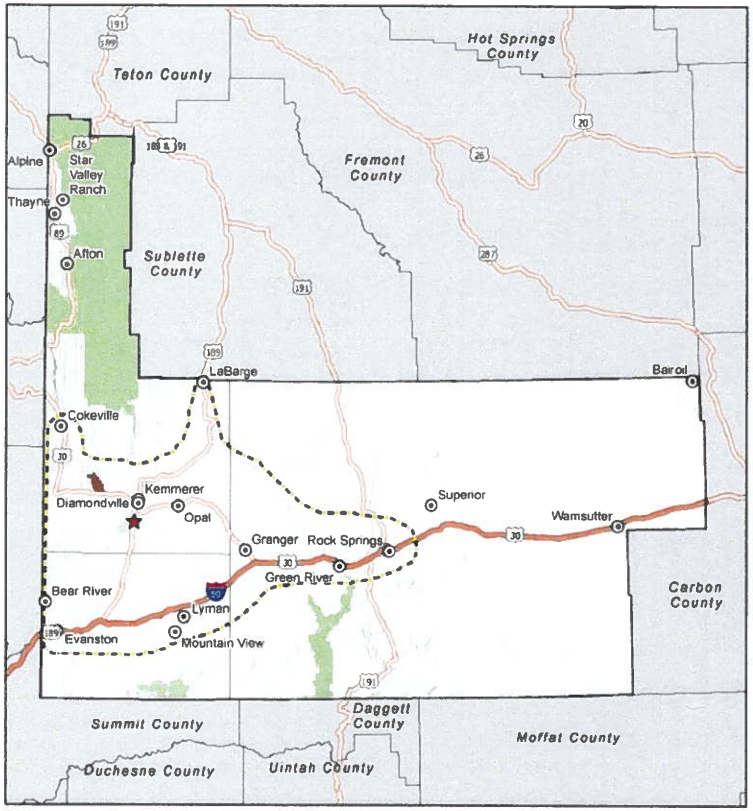
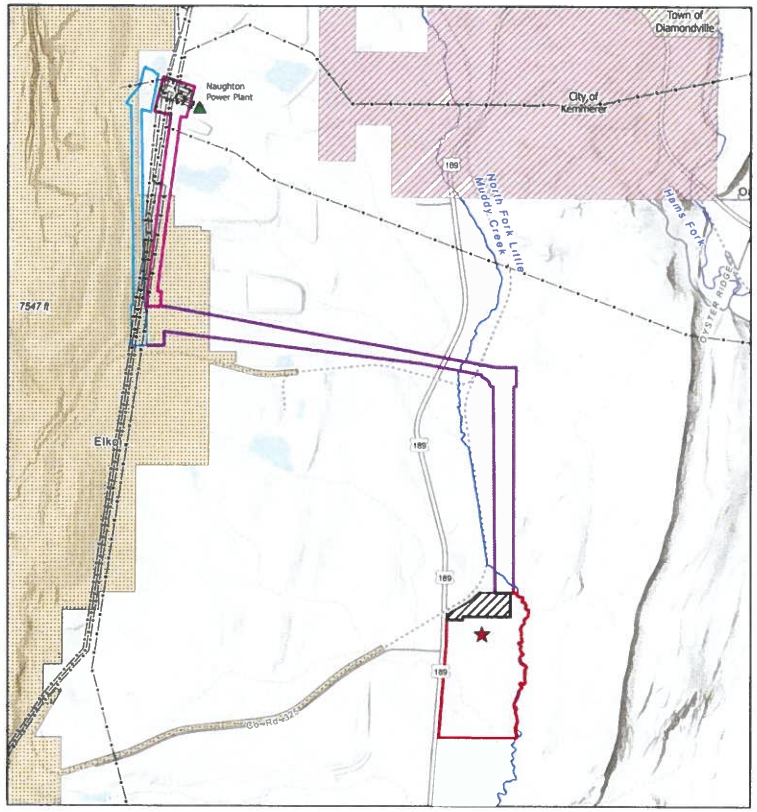
Project Location





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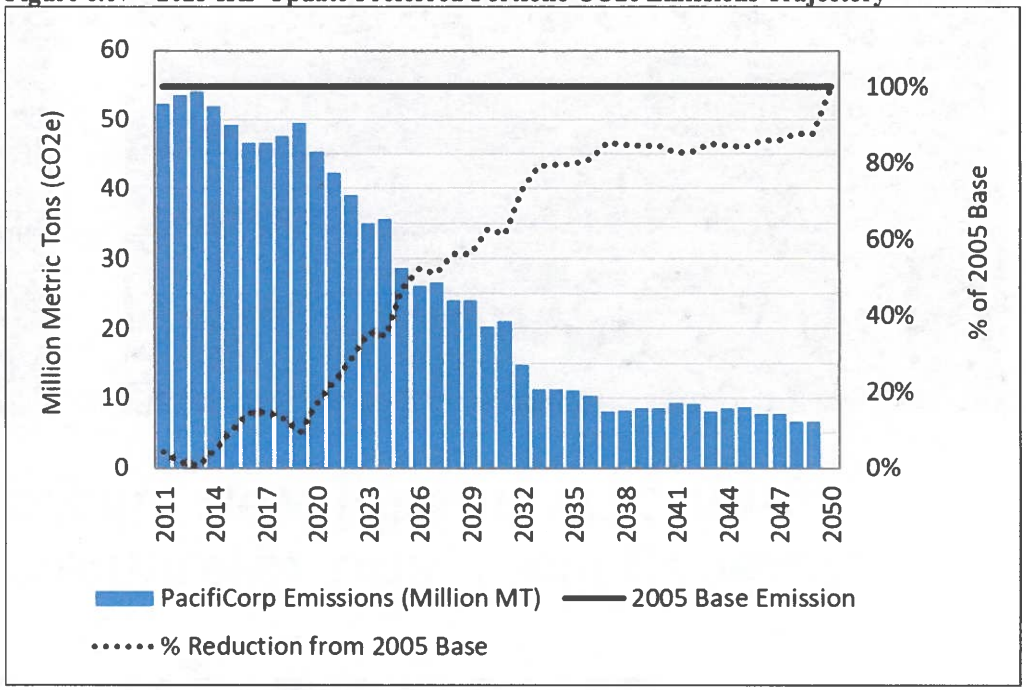
Benefits

- Baseload power to PacifiCorp service area
- National net-zero emissions goal
- Globally lead nuclear technology

Figure 6.17 – 2023 IRP Update Preferred Portfolio CO2e Emissions Trajectory*



Source: PacifiCorp 2023 IRP

State and Community Benefits

TerraPower's investment in Kemmerer Unit 1 will generate significant tax revenue and create new jobs in Wyoming

Employment

Approximately 1,600 construction phase jobs to Wyoming's economy during the peak of construction

Indirect jobs also anticipated

Approximately 250 permanent positions for long-term operations

Tax Revenue

$25 million in local sales and use taxes during construction

Property tax revenues over the life of the project

Project Timeline

Activity	Timeline
Construction Permit Application Submittal	March 2024
Industrial Siting Permit Application Submittal to WY DEQ	Q3 2024
ISC Permit Hearing	Q1 2025
Kemmerer Unit 1 Site Preparation Start	Q2 2025
Nuclear Island First Concrete	Q4 2026
Operating License Application Submittal	Q3 2027
Kemmerer Unit 1 Construction Complete	Q4 2029
Fuel Load Start	Q3 2030

High Level Construction Phases

Earthworks 2025 - 2027

Key Developments
- Grubbing and grading
- Soil erosion mitigation
- Perimeter fencing
- Undergrounds installed

What to Expect
- Average of 1100 trucks per month
- Estimated 1.5 million cu-yds of backfill
- Use of machinery limited to daytime hours

Foundations and Civil Works 2026-2028

Key Developments
- Start with Energy Island then Nuclear Island
- CP issued 3Q 2026
- Placement of first nuclear concrete
- Energy Island building foundations

What to Expect
- Average of 1300 trucks per month
- Demobilization of earthworks equipment following this phase
- Use of machinery limited to daytime hours

Steel and Building Erection 4Q 2026-2029

Key Developments
- Start with Energy Island then Nuclear Island
- Structure steel erection and architectural installation

What to Expect
- Average of 1300 Trucks per month
- Equipment and materials deliveries, heavy/oversize
- More cranes on site
- Transmission line installation
- Permanent facilities install

Mechanical & Electrical Installation 2Q 2027-2030

Key Developments
- Bulk commodity installation
- Construction Testing
- System Completion

What to Expect
- Equipment and material deliveries
- Decreasing commuter traffic after 2028
- Site headcount peak
- Offsite utility install continues

Startup and Commissioning 2028-2029

Key Developments
- System turnover and startup
- Switchyard energization
- Fuel load

What to Expect
- Transition to operations workforce
- Fuel deliveries
- Plant operational testing

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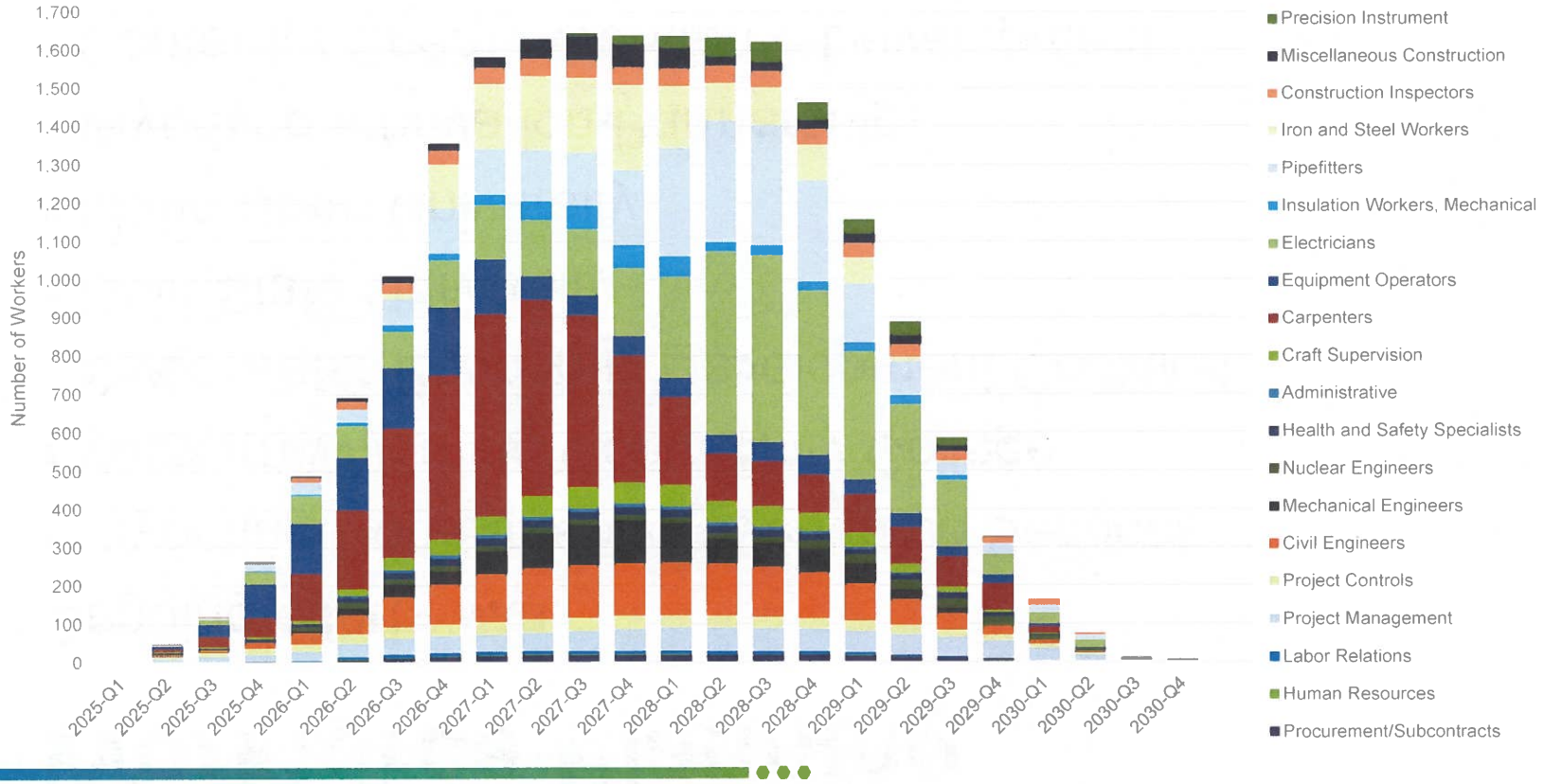
Construction Workforce



Workforce Planning

Ongoing efforts with:

- Wyoming Department of Workforce Services
- Western Wyoming Community College
- Sweetwater Economic Development Coalition
- Utah State University
- Idaho State University
- Wyoming Innovation Partnership
- Center for Energy Workforce Development

Operations Workforce

- Approximately 250 long-term jobs
- Additional 650 jobs during outages

Permanent Positions	Estimated Workforce
Management	5
Engineers	25
Instructors	25
Plant Operators	65
Maintenance	35
Procurement/Supply	10
Administrative	5
Other	60

Community Feedback

- Ask the team tonight
- Comment cards
- Send an email to lisa.matis@tetratech.com
- Mail to:

  Lisa Matis
  Tetra Tech
  117 Hearthstone Drive SW
  Aiken, SC 29803

Thank You

To learn more, visit
https://natriumpower.com/wyoming/

TerraPower Natrium

Acronym List

BWR – Boiling-Water Reactor

CO_2 – Carbon Dioxide

CP – Construction Permit

DOE – Department of Energy

EBR – Experimental Breeder Reactor

FFTF – Fast Flux Test Facility

IRP – Integrated Resource Plan

ISC – Industrial Siting Council

ISD – Industrial Siting Division

MIT – Massachusetts Institute of Technology

MT – Metric Ton

NRC – U.S. Nuclear Regulatory Commission

PWR – Pressurized-Water Reactor

SFR – Sodium Fast Reactor

TREAT – Transient Reactor Test

USO – U.S. SFR Owner, LLC

WY – Wyoming

WY DEQ – Wyoming Department of Environmental Quality