



Utilities Policy Advisory Committee (UPAC)

Wednesday, February 5, 2025

8:00 a.m. – 10:00 a.m.

Blue River Board Room

121 S. Tejon Plaza of the Rockies or Microsoft Teams

[Join the meeting now](#)

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|-------------------|--|------------|
| 8:00 a.m. | 1. Call to Order | |
| 8:05 a.m. | 2. Approval of January 8, 2025 UPAC Meeting Minutes | Decision |
| 8:10 a.m. | 3. Finalize UPAC Assignment Recommendation | Decision |
| 9:50 a.m. | 4. Customer Comment
Citizens can provide comment in person, by joining the meeting from computer or by phone using the link above. If you would like to speak during the citizen comment period, please sign up to speak through <u>BoardSubmissions@csu.org</u> prior to the meeting. | Discussion |
| 9:55 a.m. | 5. Committee Member General Discussion | |
| 10:00 a.m. | 6. Adjournment | |

Next meeting: March 5, 2025

Note: UPAC Bylaws, Rule 6: Customer and Public Comment: (b) At the discretion of the Chair, or the majority of the Committee Members present, customers and members of the public will be allowed to comment or ask questions concerning items discussed at regular meetings or concerning matters discussed at special meetings. Comments or questions by individuals will be limited to five minutes each, and all customer or public comments will not exceed twenty minutes on any agenda item unless time is extended by the Chair or majority of the Committee Members present.



Minutes
Utilities Policy Advisory Committee (UPAC)
Wednesday, Jan. 8, 2025
Blue River Boardroom, 5th floor, 121 S. Tejon St., Colorado Springs, CO
and Microsoft Teams Virtual Meeting

Committee members present in the Boardroom or via Microsoft Teams:

Larry Barrett, Scott Smith, Gary Burghart, Vice Chair Michael Borden, David Watson, Chair Katherine Danner and Chris Meyer

Alternate Members present in the Boardroom or via Microsoft Teams:

Tom Carter and Albert Badeau

Committee members excused: None

Staff members present in the Boardroom or via Microsoft Teams:

Bethany Schoemer, Amy Lewis, Al Wells, Jacqueline Nunez, Renee Adams, David Dalton, Jay Anderson, Andrew Colosimo, Heather Tocci, Kathryn Rozwod, Ryan Sweet, Birgit Landin, David Longrie, Leslie Smith, Gabby Enloe, Joe Awad, Tim Benedict, Nicole Means, Admar Susic, Troy Bass, Tristan Gearhart, Lisa Barbato, Natalie Watts and Travas Deal

Utilities Board members present in the Boardroom or via Microsoft Teams: None

City of Colorado Springs staff present in the Boardroom or via Microsoft Teams:

David Beckett and Jill Burris

Residents present in the Boardroom or via Microsoft Teams:

1. Call to Order

Chair Katherine Danner called the meeting to order at 8:00 a.m. and called the roll.

2. Approval of Dec. 4, 2024, UPAC Meeting Minutes

Committee Member Larry Barrett made a motion to approve the Dec. 4, 2024, meeting minutes and Vice Chair Michael Borden seconded the motion. The motion passed unanimously.

3. Ethics and CORA Open Meeting Presentation

Mr. David Beckett, Senior Attorney - Utilities Division, Office of the City Attorney, presented on ethics and the Colorado Open Records Act (CORA).

Mr. Beckett went over the required annual training on the city and state ethics codes, which included requirements for covered persons, open meetings laws for public bodies, and open records requirements and retention.

Key ethic guidelines include members maintaining independent judgment and avoiding conflicts of interest, and disclosure of recusal. This includes can vs. should activities. Gifts are limited to \$75 per year from any single source, and members must disclose potential conflicts of interest and recuse themselves when necessary.

Open meeting requirements include having three or more members discussing business. This type of meeting requires public notice. Meetings must be noticed a minimum of 24 hours in advance. Mr. Beckett shared that if there are any items to disclose, UPAC Members must report that information to Ms. Bethany Schoemer, Strategic Planning and Governance Specialist Senior.

4. UPAC Assignment Recommendation Discussion

Mr. Barrett presented draft slides covering 12 questions to examine. The questions are the scope of the assignment, which was approved by the Utilities Board.

Mr. Barrett reviewed the seven different presentations from various organizations which include: Colorado Springs Utilities (nuclear, military key account manager, and public preference data), Colorado Energy Office, American Public Power Association, Grant County (WA) Public Utility District, Utah Associated Municipal Power Systems, TerraPower and Bechtel.

Mr. Deal clarified the life cycle costs and financing considerations which include a current approach to Power Purchase Agreements (PPAs): PPAs typically structured for 20-25-year terms. Tax credit benefits are passed through in PPA pricing. Municipal debt financing remains an option for owned assets.

The committee recommended a full lifecycle cost analysis for 60-80 year nuclear plant lifespan. The committee discussed site permitting of Clear Springs Ranch and the potential of the site. The committee agreed that investigation of this site should be a priority due to existing water rights and infrastructure, available transmission capacity, distance from population centers, and potential to replace existing generation. Mr. Deal noted city charter may limit certain long-term site agreements and the committee recommended pursuing an early site permit process.

The committee would recommend public education and a community engagement strategy. Mr. Barrett reported a recent utility survey showed 25% customer support for nuclear power.

The committee recommended developing a comprehensive community education campaign, hosting town halls for direct community engagement, focusing on

lifecycle costs and reliability benefits, addressing misconceptions about nuclear technology, and creating clear communications about safety and environmental impacts.

The nuclear power presentation is being prepared for the Jan. 22, 2025, Utilities Board update, with a final review scheduled for the Feb. 5, 2025, UPAC meeting.

5. Customer Comment

There were no customer comments.

6. Committee Member General Discussion

Mr. Barrett is leading the presentation revisions, working with Chair Danner and Ms. Schoemer to incorporate the committee's feedback before the February meeting.

7. Adjournment

Chair Danner adjourned the meeting at 10:05 a.m.

Next meeting: Feb. 5, 2025, at 8:00 a.m. in the Blue River Board Room



Colorado Springs Utilities
It's how we're all connected

UPAC Recommendation Nuclear Generation

February 5, 2025

Purpose

To examine nuclear power options for Colorado Springs Utilities



Questions to examine:

1. What should Springs Utilities be doing to prepare for nuclear power generation in the future?
2. What is the state of the technology (SMRs, etc.)?
3. What is the cost range for different options? Should cost be seen as prohibitive?
4. What are the environmental pros and cons, including waste disposal and emissions?
5. Are the water constraints in Colorado a prohibitive factor?
6. What is the regulatory environment in Colorado and nationally?

Questions to examine continued:

7. Are there federal or other funding or research opportunities that Springs Utilities should investigate?
8. How long does permitting take?
9. What is being done in the southwest and Rocky Mountain region – where similar water limitations and climate and altitude are found (i.e. projects in Wyoming)?
10. What are the opportunities for partnerships and collaboration?
11. What is recommended for the frequency of UPAC re-examining this topic, including for the EIRP?
12. Based on this assignments' findings, what areas need further evaluation by UPAC?

Nuclear Power Guest Presentations

- Colorado Springs Utilities (nuclear, military key account manager and public preference data)
- Colorado Energy Office
- American Public Power Association
- Grant County (WA) Public Utility District
- Utah Associated Municipal Power Systems
- TerraPower
- Bechtel

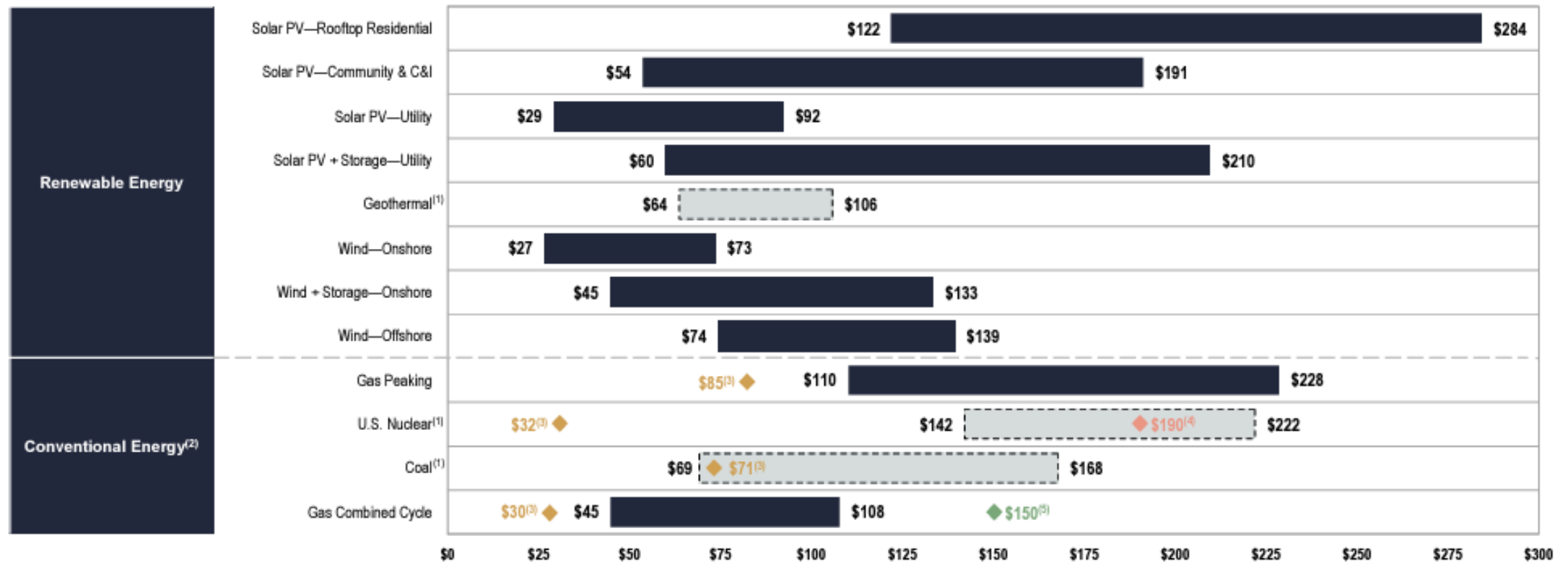


2. What is the state of technology (SMRs, etc.)?

- There are 94 operating conventional nuclear power plants in 28 states
- Commercial Small Modular Reactors (SMR) are operating internationally but no domestic operations currently
 - First generation SMRs planned in US with NuScale, TerraPower, Xenergy and others
- SMRs are 20 – 300 MW per module vs 1,000 + MW for conventional nuclear
 - Scalable with 4 to 12 modules per site
 - Long development times: construction 43 – 71 months
- Technology landscape is developing rapidly
 - 80+ designs being developed in 19 countries
 - The first fusion nuclear power plant was just announced in Virginia

3. What is the cost range for different options? Should cost be seen as prohibitive?

Selected renewable energy generation technologies remain cost-competitive with conventional generation technologies under certain circumstances



3. What is the cost range for different options?

- Wide range of initial capital cost estimates in 2023
- Example initial capital cost of new 600 MW Nuclear Plant
 - NuScale: \$12.9 billion
 - Conventional Plant: \$12 billion
 - Xenergy: \$10.7 billion
 - TerraPower: \$7.4 billion
 - 2023 EIRP: \$5.2 billion
- Cost projections have more than doubled in last three years
- Xcel rejected SMR for Comanche coal plant conversion due to “cost and length of time to get off the ground”
- Utah Associated Municipal Power canceled nuclear project due to construction risk and cost

4. What are the environmental pros and cons, including waste disposal and emissions?

- Zero emissions of greenhouse gases (DOE)
- Helps meet net zero carbon goals – but currently not recognized as clean energy by the state of Colorado
- SMRs offer higher reliability and resilience with good load following fluctuations when renewables are insufficient
- Small footprints – 10% of conventional nuclear plant or about 40 acres
- Energy intensive construction with large quantities of concrete and steel
- No major challenges to waste management compared to conventional nuclear light water reactors (DOE)

5. Are the water constraints in Colorado a prohibitive factor?

- Water needed for cooling in most designs
- Can use non-potable water for cooling
- Palos Verde Nuclear Plant in Arizona uses municipal effluent
- Cooling water requirements for nuclear are currently coal plants
- Air cooling uses less water
 - Power output performance penalty of 6.8% vs. wet cooling (NREL)
 - Air cooling not used by nuclear power plants in the U.S.
- Cooling water is not anticipated to be a constraint currently

6. What is the regulatory environment in Colorado and nationally?

- DOE seeks SMR deployment by early 2030s
- NRC requires separately construction permit and operating license
 - Allows seeking site permit without specifying reactor design
 - Oversight provided throughout life of plant
- For Colorado, nuclear not included in definition of renewables
 - State legislature expected to define nuclear as a renewable energy source
- Colorado goals for greenhouse gas emissions reductions in electric sector from 2005 baseline
 - 100% by 2050

7. Are there federal or other funding or research opportunities that Springs Utilities should investigate?

- Department of Energy grants of \$900 million for SMR first mover teams of utility, reactor vendor, constructor, and customers
- Inflation Reduction Act provides incentives for SMR
 - Production Tax Credit of \$25/MWh for first 10 years of operation
 - 10% bonus if built at brownfield or fossil power plant site
 - Investment Tax Credit of 30% of capital cost of new plant
 - Same 10% bonus available as above
 - Must choose one incentive, not both
- TerraPower plant to cost \$4 billion with \$2 billion from DOE and \$1 billion from Gates Foundation
- Commercial partners are participating in several SMR projects
 - Amazon, Microsoft, Dow Chemical, Alphabet/Google

8. How long does permitting take?

- Highly uncertain—assume 10 years for planning purposes
- U.S. Nuclear Regulatory Commission licensing requirements and process
 - Construction permit
 - Operating license
 - Combined construction and operating is an option
 - Early site permit is an option without specifying reactor design
 - A nuclear plant design may be sought separately through rulemaking without a site specification
 - Operating licenses issued for 40 years, plus 20-year increments to 60 years and 80 (NREL)
- In July 2024, the President signed the Advance Act for advanced nuclear reactor policies
 - Requires NRC in 36 months to recommend faster licensing processes
 - Could be 50% to 85% shorter
- US S. 4753 would shorten judicial review times to 150 days

9. What is being done in the southwest and Rocky Mountain region – where similar water limitations and climate and altitude are found (i.e. projects in Wyoming)?

- NuScale SMR plant would have been located in Idaho
 - Obtained design certification in 3.6 years
- TerraPower SMR plant will be located in Wyoming
 - Construction process planned from 2024 to 2030, 6 years
- Retiring fossil fuel plants should free up water supplies and potential to use existing transmission infrastructure

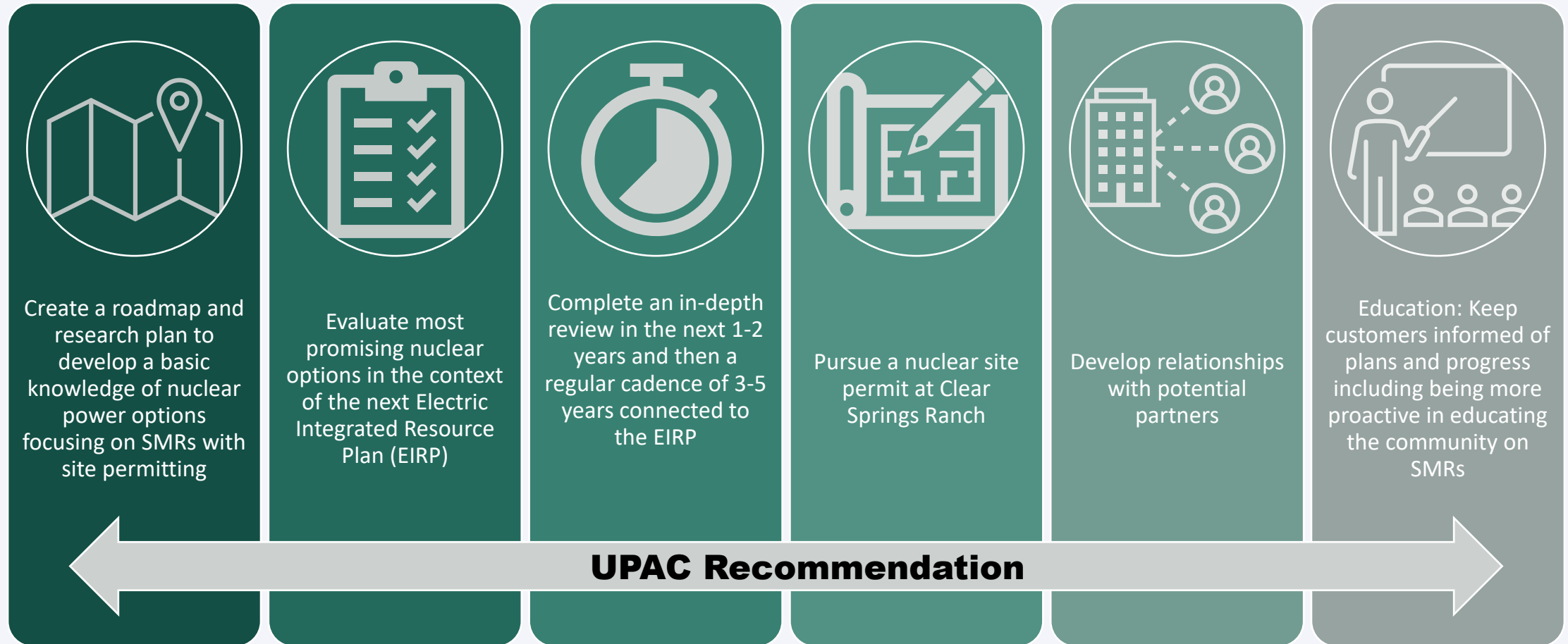
10. What are the opportunities for partnerships and collaboration?

- Colorado Utilities partnership opportunities with other utilities
 - Xcel
 - Black Hills Energy
 - Tri State Generation and Transmission Association (Mountain View Electric Cooperative and others)
 - Nebraska Public Power District (already has a nuclear plant)
- Customer partnership opportunities
 - Potential partners include data centers, distribution centers, military, and artificial intelligence
- Utilities may provide sites and purchase power agreements
 - PacifiCorp, Grant Public Utility District, Utah Associated Municipal, Nebraska Public Power

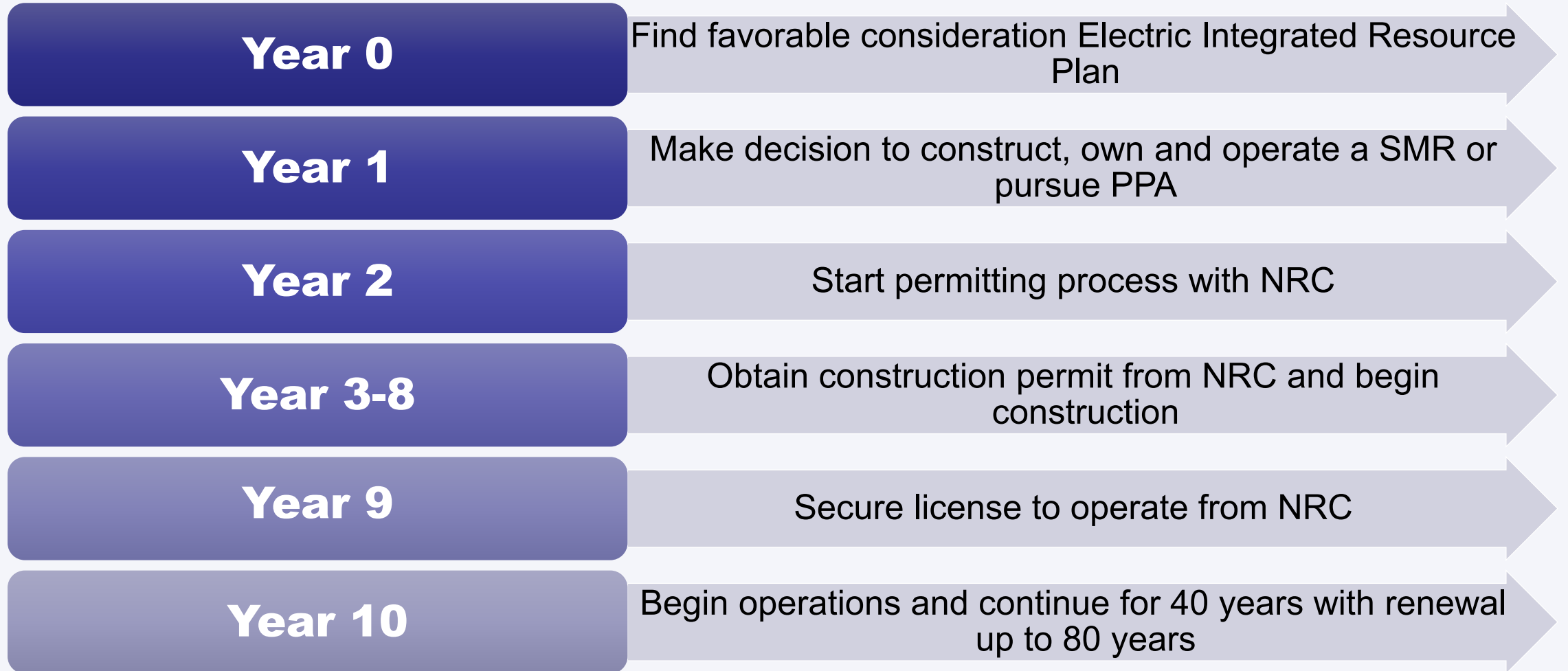
11. What is recommended for the frequency of UPAC re-examining this topic, including for the EIRP?

- Complete an in-depth review in the next 1-2 years and then a regular cadence of 3-5 years connected to the EIRP
- Consideration should be given to changing technology, economics, and impacts on safety, water use, licensing and related topics
- Changes in net zero carbon goals and compliance may also influence the frequency of SMR review
- Clear Springs Ranch would appear to have significant siting advantages, especially with existing transmission infrastructure

1. What should Springs Utilities be doing to prepare for nuclear power generation in the future?



What are key steps in developing an SMR over a 10-year process?



12. Based on this assignment findings, what areas need further evaluation by UPAC?

- What are the prospects and implications of more flexible goals for carbon reductions?
- How may natural gas generators need to be retained for reliability and resilience operations?
- How can future costs related to climate change be managed?
- What are the portfolio options in the next EIRP?

Questions