Carbon Free Power Project

August 19, 2020
Board of Public Utilities

LOS ALAMOS

Agenda

- How did we get here?
  - Factors /Considered in Resource Planning
- Carbon Free Power Project (CFPP) Specifics
  - Project History
  - Public information & Involvement Plan
  - CFPP Schedule, Cost and Off-ramps
- Open Forum Responses
- Things Considered for continued Participation
- Conclusion

How Did We Get Here?

- Need for Replacement Resources to serve LAC Future Power Demands and retiring generations assets
- 2040 Carbon Neutral Goal
- Future Energy Resources Committee Recommendations
- Board of Public Utilities Strategic Policies
- 2017 Integrated Resource Plan (IRP)

Factors Considered in Resource Planning

(Existing and New Resources)

- Levelized Cost of Energy (LCOE)
- Risk
- Environmental
- Operational (Transmission, weather dependency, controllable)
- LAC & DOE-NNSA, Electric Coordination Agreement
- Generation Resource Location (Balancing Area)
- Demand and Generation Profiles
- Evolving Markets in the West

Factors Considered in Resource Planning cont.

- There are no scheduled project for baseload resources in New Mexico
  - Current resources planned in New Mexico are natural gas peaking plants to support intermittent renewable resources.
- LAC approached PNM to partner on Utility Scale PV to no avail.
- Wind in Eastern NM has reached the existing transmission capacity. New resources will require building new transmission.

Factors Considered in Resource Planning cont.

- Variable Energy Resources (VERs) outside of PNM's BA add significant cost for transmission
- If Los Alamos would like to build PV and/or Wind Resources, cost of land, interconnection and transmission would have to be added to the generation price
- Balancing Area's have updated their Transmission Tariffs to treat the imbalance and costing for VERs differently than firm generation

CFPP Project Specifics

- Partners (UAMPS, NuScale, Fluor, DOE)
- Twelve 60 megawatt (MW) small modular reactors for a total plant capacity of 720 MW's.
- Plant sited at the Idaho National Laboratory
- LAC current subscription is 11.186 MW
- Why NuScale SMR Design Technology
  - Safety - No AC/DC or Operator Interaction for safe shut down
  - Modularity - Factory built
  - Capable of following intermittent resources like wind and solar

Project History

- August 17, - 2015 BPU Approval of Study Phase Sitting Agreement
- April 10, 2018 - BPU and CC Approval of Power Sales Contract with 8 MW subscription
- Dec. 17, 2019 - Approval of JUMP Resolution for an additional 3.186 MW for total of 11.186 MW

Public Information and Involvement

- Dec. 1, 2016 - 1st CFPP Town Hall
- Jan. 12, 2017 - CFPP Town Hall
- July 12, 2017 - IRP Town Hall
- Jan. 25, 2018 - CFPP Town Hall
- August 3, 2020 – CFPP Town Hall

CFPP Schedule, Cost & Off-Ramps (July 14, 2020 Amended BPF)

Phased Approach	Start Date	End Date	100% Cost	UAMPS Net of Cost Share	Los Alamos County Share 11.186 MW	Off-Ramps
Study Phase Sitting Agreement (Fatal Flaw Analysis) (1)	9/17/15	12/31/17	$128,643		$128,643	(5)
Licensing Period 1st Phase Signed PSC with BPF at $6 M Spend (8 MW Subscription)	4/10/18	12/17/19	$6,000,000	$1,500,000	$78,774	(5)
Licensing Period 1st Phase Amended BPF (Additional Subscription of 3.186 MW for total Of 11.186)	12/17/19	9/15/20	$3,000,000	$976,000	$51,256	(5)
Subtotal					**$258,673**	
(2) Licensing Period 1st Phase (remaining), Completion of COLA	**7/14/20**	**4/1/23**	**$129,931,556**	**$19,933,912**	**$1,046,849**	
Approval/Execution of DCRA, EPC Develop Agreement & DOE Multi Year Award	8/17/20	8/17/20				
Design Certification for SMR Technology Approved by NRC	9/30/20	12/30/20				
Fluor completes Class III Estimate, Contractual Run of ECT $55/MWh in 2018 Dollars	9/1/21	10/30/21				**(6)**
Fluor completes Class II Estimate, Contractual Run of ECT) $55/MWh in 2018 Dollars	4/1/23	4/1/23				(5)
LAC Project Contingency 20%					**$209,370**	
Licensing Period 1st Phase (remaining) Subtotal					**$1,256,219**	
FUTURE COMMITMENTS						
(3) COLA Submittal to NRC	5/1/23	1/1/25	$1,245,218,792	$696,803,962	$10,825,546.35	(5)
(4) Final Notice to Proceed with Construction	12/1/25	6/1/30	$6,124,293,710	$4,759,535,481	$73,944,672.07	(5)

Notes:

(1) DOE LANL share approx. $100,000 of $128,643 as Power Pool Expense

(2) Phase being considered by Board and Council now in August 2020, LAC Share is based on 11.186 MW out of the current 213 MW subscribed as of August 2020

(3) & (4) LAC Share of 11.186 MW of fully subscribed project of 720 MW

(5) Contractual Off-Ramp

(6) PMC - Project Management Committee Discretion Off-Ramp, If ECT Failure, PMC terminates and seeks 80% reimbursement under DCRA, LAC share for this phase is $115,536 for a total sunk cost of $374,209 (6)

If the County remains in the project through commercial operation, all development and construction costs will be financed and repaid through the target price of $55/MWh

Acronyms

CFPP - Carbon Free Power Project

BPF - Budget & Plan of Finance

DCRA - Development Cost Reimbursement Agreement between UAMPS and NuScale

EPC DA - Engineering, Procurement and Construction Development Agreement

SMR - Small Modular Reactor

NRC - Nuclear Regulatory Commission

COLA - Combined Construction and Operating License Application

MWh - Megawatt hour (unit of energy)

LAC option cost through August 2020

New Budget request 2020 - 2023

Open Forum Q&A Summary

47 Total Statements, 134 Attendees

- 25 written statements in favor of continuing in the CFPP;
- Plus 20 attendees supported the in favor statements

(Note: Two in favor statements were written by same individual; counted as 1)

- 18 written statements not in favor of continuing in the CFPP;
- Plus 15 attendees supported the not in favor statements

(Note: Two not in favor statements were from outside the community; not counted. Additionally two not in favor statements were written by same individual; counted as 1)

Things Considered for Continued Participation

- Low cost to continue for now
- Mitigate risk of future generation uncertainty by keeping CFPP as an option in a diverse portfolio
- Resource Adequacy in the West - 7 GW shortage 2024
- DOE has agreed to pay approximately 85% of UAMPS' Cost to develop the Class II Estimate
- CFPP Economic Competitive Test (ECT) $55/MWh in 2018 Dollars

Things Considered for Continued Participation Cont.

- DPU continues to seek out and evaluate generation options
  - Renewables + storage not yet economically feasible
  - Currently no other carbon-neutral options
- 2017 Integrated Resource Plan - CFPP 2nd best Alternative @ $65/MWh (New Target price of $55/MWh)
- 2021 – 2023 IRP Updated prior to COLA Submittal to NRC

In Conclusion

- Staff Recommends LAC continue its participation in the Carbon Free Power Project for the completion of the Combined Construction and Operating License Application and re-evaluate prior to the next commitment.

Questions?