LANCE (Louisiana Advanced Nuclear Competitive Edge) Strategic Framework Summary:

In 2023, the Louisiana Public Service Commission or LPSC initiated a project to study the development of nuclear power technology and how it could serve the needs of their state both in terms of energy generation and economic opportunity. The overall objective was to make a case for “advanced” nuclear in Louisiana, a state which currently hosts two single reactor nuclear power plants.

Commissioned by the LPSC, This document is described as a resource guide for parties involved in the development and deployment of advanced nuclear energy in Louisiana and includes three main components. These are **generation**, **supply chain**, and **value chain**. The term “advanced nuclear” is not strictly defined. The document does not discuss reactor technologies and takes an agnostic, “all of the above” view at this initial stage.

Generation pillar: Examine opportunities where Louisiana can deploy new advanced nuclear generation resources to address needs and solve emerging concerns, of which clean dispatchable power is primary. Includes use of Integrated Resource Plans and “whole system” benefits approach and use knowledge gained from the two current nuclear plants in LA.

Supply chain pillar: Identify supply chain opportunities for construction/deployment and operation of advanced nuclear power resources that address state, national, and global markets. LA has immense room for growth in the nuclear supply chain.

Value chain pillar: How Louisiana can leverage nuclear energy to drive low-emission, high value industry development. Louisiana’s prolific oil, gas, and chemical industries present major opportunities for decarbonization through nuclear energy. This will require working with civic and business groups at all levels to initiate the discussion on possible use cases.

Conclusions: 19 next steps are identified, followed by an appendix of advanced nuclear energy use cases:

- Locate new nuclear plants at existing reactor sites
- Locate new large load customers at existing reactor sites
- Uprate opportunities at existing nuclear plants
- Relocatable (mobile) reactors and reduced stranded investment risk
- Electrification of long-haul trucks, semi-trucks and bus fleets
- Serving new load off-grid
- Storm hardening and recovery
- DOD and utility commercial microreactor demonstration deployment
- Floating nuclear power plants
- Coal to nuclear transition
- Partnerships with multiple load serving entities
- Grid utilization of Behind-the-meter advanced nuclear reactors
- “Clean Sleeving” approach/cost shift avoidance
- Microgrid and distributed energy resources