

Commander Navy Region Mid-Atlantic

**US Navy- Getting Innovative with
Energy Resilience: The
Implementation of Advanced
Reactor Technology**



LEADERSHIP ★ VISION ★ TEAMWORK ★ SERVICE

Panel Members



- **CDR Ben Kalish, Office of the Deputy Secretary of the Navy for Energy**
- **CPT Benjamin Goehring (USMC), Office of the Deputy Secretary of the Navy for Energy**
- **CAPT Daniel Patrick, Commanding Officer, Naval Weapon Station Yorktown**

Opening Remarks



- **Power reliability, resiliency and quality key to military operations**
- **Most water and sewer comes from off base**
- **70-80% of any base military population lives off post**
- **Nuclear has 93% availability factor**
- **Historic localized increases in energy demand growth (e.g. 70% in North VA in 10 yrs)**
- **Bi-partisan consensus on nuclear benefits**
- **Logistics of carbon-based generation not good**
- **Nuclear is the safest and least polluting form of energy generation**

Navy Policy and Nuclear



- **Nuclear Power Plant ≠ Navy Nuclear Propulsion**
- **DON exploring nuclear and related technologies to address installation community resilience.**
- **Request for Information N62470-25-RP-00006**
 - **Seeking information to inform future decisions**
 - **Not a contract or final decision of location/ technology**
 - **Closes 7 November 2024**
 - **Send questions, comments or inputs to contracting office**
- **Request for proposals may come after evaluation of RFI responses**
- **Size matters, and so does standoff distance.**

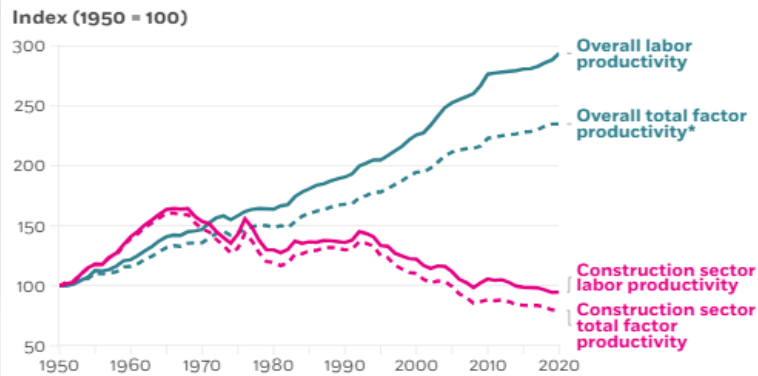
The contracts office is your point of entry for questions or comments!

Nuclear Technology and Safety



- ***Small*** – Refers to the amount of power output.
- ***Modular*** – Refers to the method of construction.
- ***Advanced Nuclear*** – Gen III+ & Gen IV reactors.
 - ***Gen III+*** – Light water reactors with passive safety
 - ***Gen IV*** – Reactors that use coolants other than water

Productivity in the US economy and the construction sector, by type

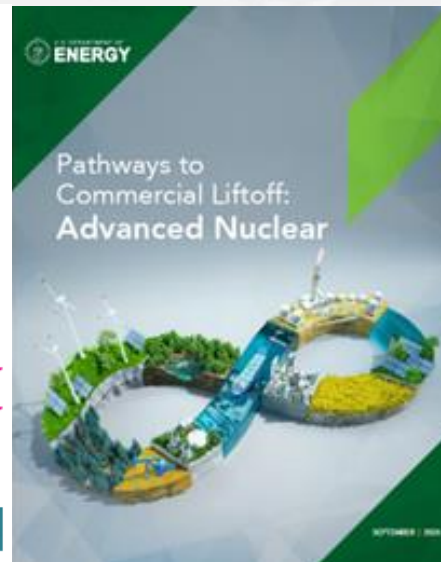


*TFP = combined capital productivity and labor productivity

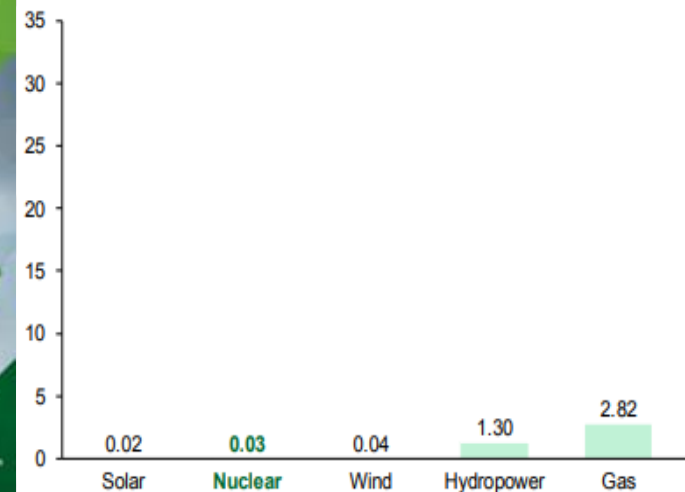
Goalsbee and Syverson, 2023

[US Construction Has a Productivity Problem | Chicago Booth Review](#)

CBR



Mortality by electricity source, deaths from accidents and air pollution per TWh



[Pathways to Commercial Liftoff: Advanced Nuclear \(energy.gov\)](#)

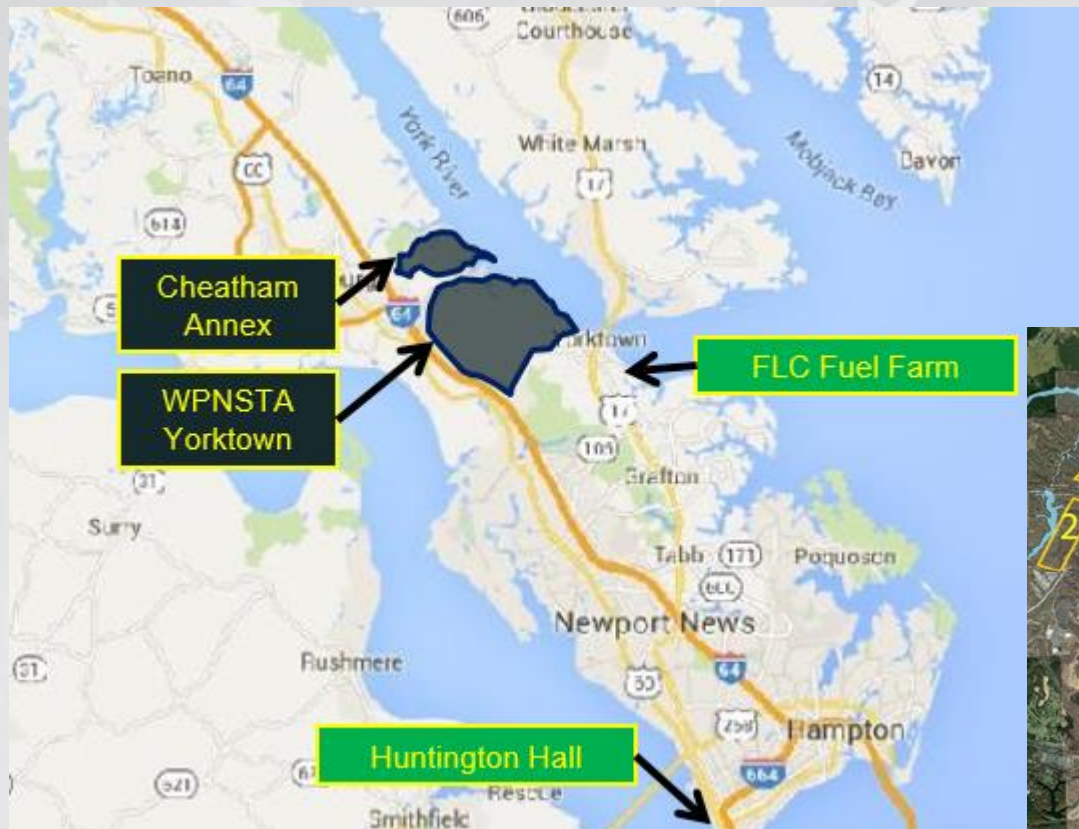


Naval Weapon Station Yorktown

- **Installation Property Utilization**
- **Nuclear Plant Siting Considerations**
 - **Utility Access**
 - **Site Size**
 - **Population Proximity/Local Government**
 - **Cultural/Natural Resources**
- **Evaluation of In-Kind Considerations**
 - **Resilient Installation Electrical Infrastructure**
 - **Reliable power source across Installation and Annex**
 - **Future capacity of power**



Naval Weapon Station Yorktown





Naval Weapon Station Yorktown



Siting Considerations for SMR

- **Space:** 50-70 acres per ~300 MWe deployment
- **Water:** 0.5 – 13.0 MGD
- **Transmission:** interconnect at 230kV or above**
- **NRC Site Suitability**
 - Geotech/seismic
 - Flood (PMP and LIP)
 - External Hazard (i.e. proximity to airports)
 - Environmental
 - NRC has its own NEPA process



Naval Weapon Station Yorktown

- Redundant Power Supply
- Available Capacity for Growth
- Modern Infrastructure
- Natural/Cultural Resource Mitigation
- General Infrastructure Support



Q&A



- **Panel Discussion**