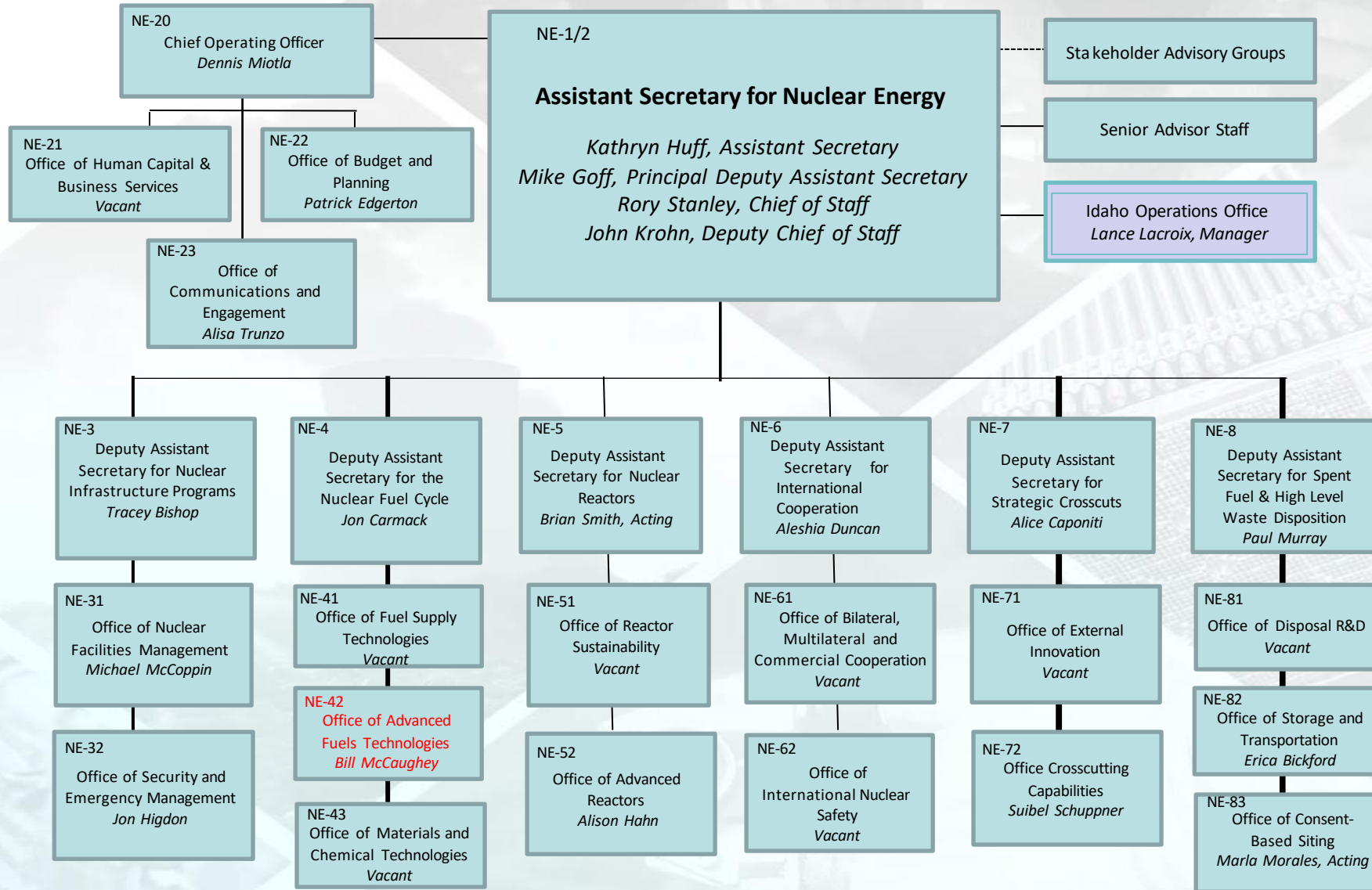


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NE-42 Advanced Fuels Technologies

Frank Goldner, presenting for
Bill McCaughey, Office Director



Accident Tolerant Fuel

- Enable industry's development in the near term of one or more light water reactor fuel concepts with significantly enhanced accident tolerance through cost shared research and development.
- Near term concepts under development are:
 - Doped UO₂ fuel pellets
 - Coated cladding
 - Small increase in enrichment (6-7%, LEU+)
 - Increased burnup levels from 62 to 75 GWd/MTU
- Financial assistance to the three U.S. fuel suppliers (Framatome, Global Nuclear Fuels, Westinghouse).
- Technical support of the National laboratories (Idaho, Oak Ridge, Los Alamos, Pacific Northwest).



Twenty-five irradiated fuel rods from the commercial Byron Reactor being received at Idaho National Laboratory.

Next Generation Fuels

- Support industry with financial assistance and lab-based research and development to continue to drive innovation over the long term.
- Lay the groundwork for fuels that significantly outperform today's fuels, focusing on high-risk, high-reward fuel concepts.
 - Long term accident tolerant fuel concepts (silicon carbide and iron-chrome-aluminum claddings, high uranium density fuels)
 - Metallic fuel
 - Advanced TRISO fuel
 - Molten salt fuels
- Significantly reduce the time needed to develop and qualify new fuel types for use.
 - Modern experimental design
 - Post irradiation testing techniques
 - State-of-the-art modelling and simulation



TRISO coated particle fuel

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Questions

