



U.S. DEPARTMENT OF
ENERGY



Safety, Analytics, Forecasting, and Evaluation Reporting (SAFER)

Presentation at the
NRC Data Science and AI Workshop
August 18, 2021

NNSA Infrastructure

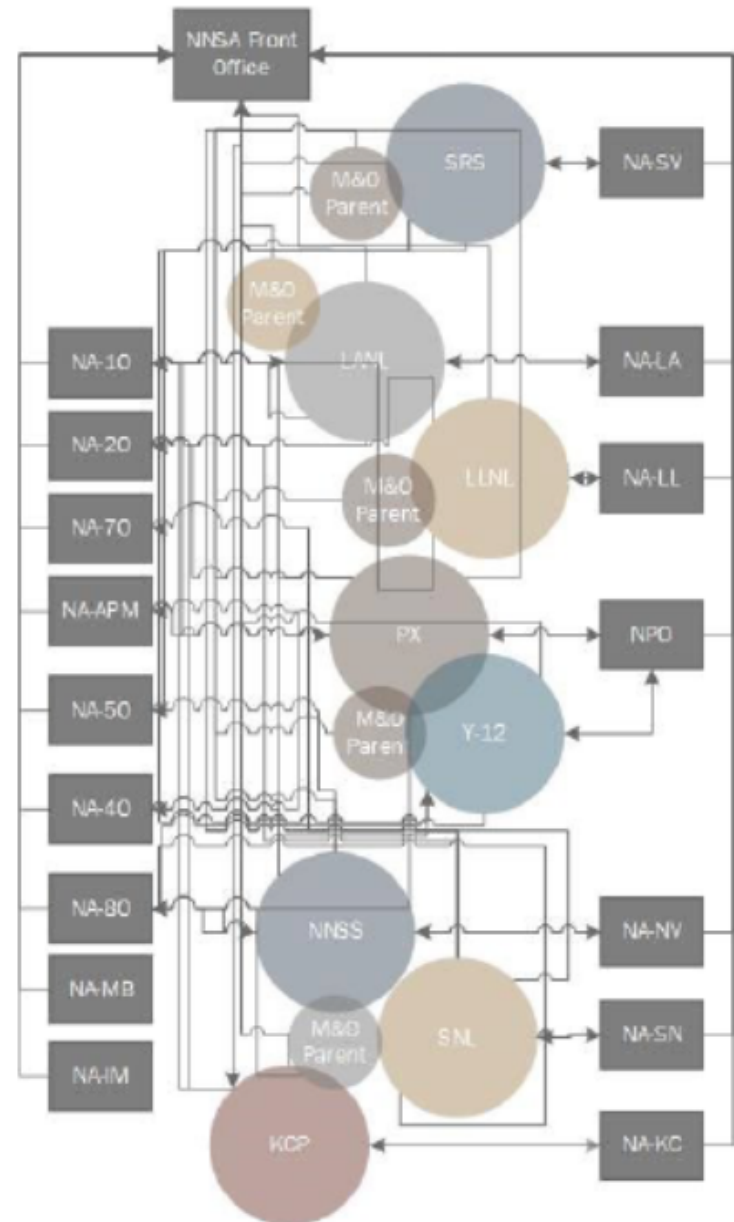
- NNSA's vital national security missions are dependent upon a safe, reliable, and modern Nuclear Security Enterprise infrastructure. This is a vast and complex network of facilities that include cutting-edge scientific, experimental, and engineering structures located throughout the nation.



NNSA's Office of Safety, Infrastructure, and Operations

- NNSA's Office of Safety, Infrastructure, and Operations ensures that the existing architecture is safely operated, effectively managed, and that current and new facilities are adequately maintained to meet mission needs.
- To carry out this mission, the office has the responsibility to manage and implement the programs, policies, processes, and procedures for assuring effective integration of activities across the enterprise, working closely with other NNSA program offices.

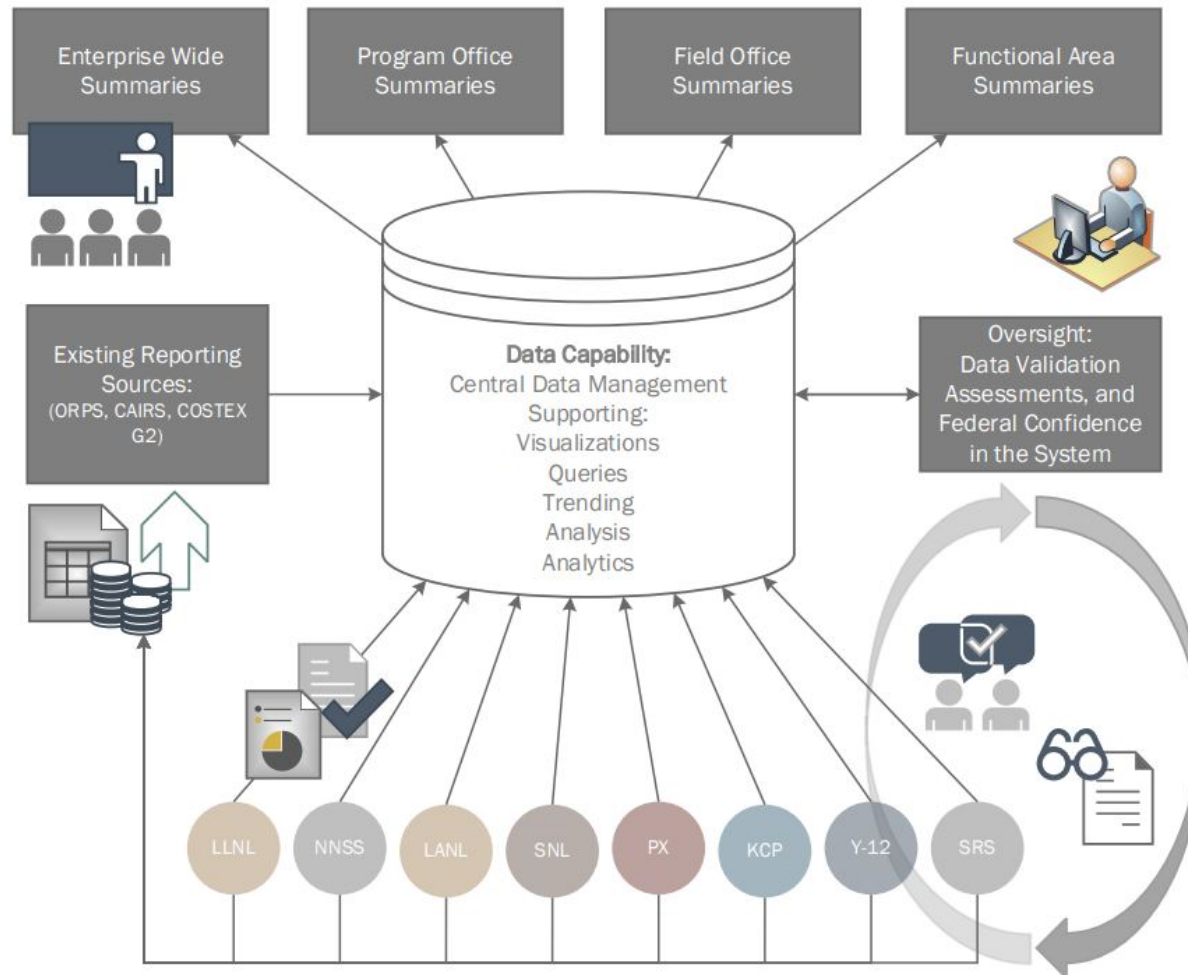
- NNSA Safety Oversight is performed at varying levels of maturity with a multitude of static, lagging, and uncoordinated data sources that limit data analysis and decision makers' ability to manage risks.



Simplified Model of the Current State of Information Flow

Desired State

NNSA is deploying new data-driven, risk informed, tools aimed at improving our communication, including the data, analysis, and visualizations we use to inform decision makers.



Desired Future State of Central Data Management and Increased Data Capability

WHAT IS IT?

- An innovative software platform that easily integrates Departmental databases.
 - Commercial Item, configured to meet the needs of NNSA.
 - Contains a suite of data analysis, data visualization and reporting capabilities.

WHAT WILL IT DO?

- **Improve Information Management and Sharing**
 - Improve our ability to understand the health of safety management programs.
 - Improve knowledge management
 - Improve communications throughout to NNSA complex
- **Improve Data-Informed Decision Making**
 - Improve our ability to use the information we currently and better understand what information should be collected.
 - Support planning and deploying resources in support of NNSA mission accomplishment.

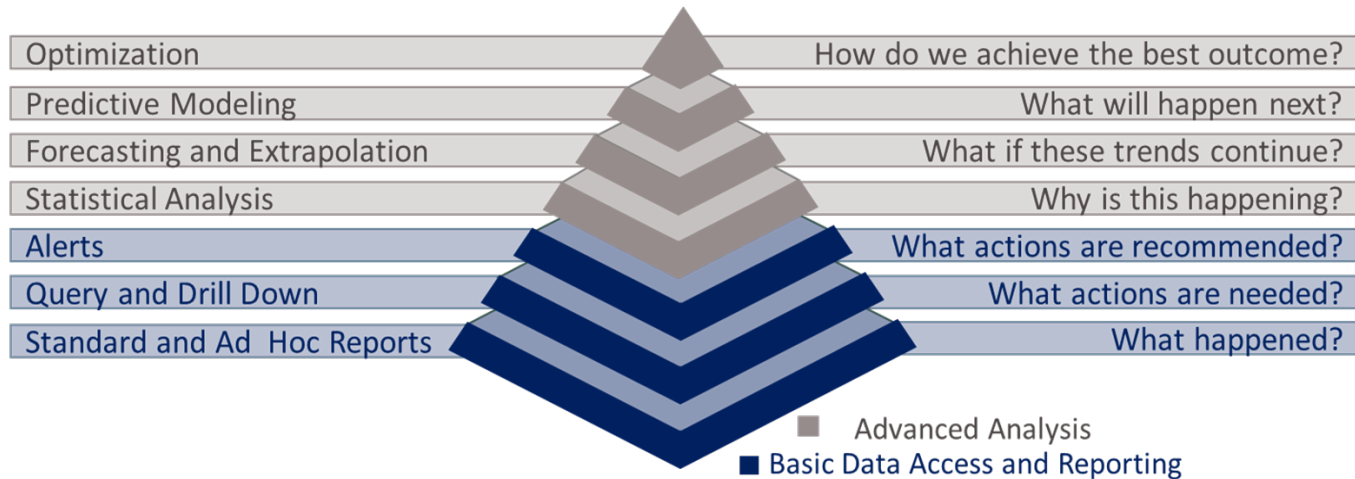
- **Maintenance Pilot** – First Functional Area incorporated into SAFER
 - Maintenance data from five NNSA sites integrated into the SAFER Platform
 - Data visualizations and user homepages established
- **User Interface Pages**
 - Field Office subject matter expert (SME),
 - Field Office Manager
 - NA-50 homepage, NA-50 Functional Area Leads, Topic Specific
 - Management and Operating Contractors (M&Os) -- Beginning initial planning for developing M&O SME page

WHERE WE ARE GOING

- Near Term:
 - Expanding - Addition of 4 Functional Areas in FY21
 - Electrical Safety, Fire Protection, Radiation Protection, Safety Basis,,
 - Begin interacting with M&O on development of M&O “Use Cases”

- Longer Term
 - Adding 4 more Functional Areas in FY22

- Continual: Adding data analytic tools including Alerts and Analysis



Summary

- SAFER is a modern data management and analysis tool to support NNSA safety and mission.
- Cooperative effort with HQ, Field Office and M&Os.
- Demonstrated value and potential in Maintenance Pilots.
- Value increases exponentially with adding of Functional Areas.

SAFER Team/Contact

SAFER Team

- NA-50 (Office of Safety, Infrastructure and Operations)
- NNSA Field Offices
- Palantir

NA-50 POC

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