United States
Department of Energy
National Nuclear Security Administration
International Nuclear Security

The Importance of a Performance Evaluation Program

INS
International Nuclear Security
Reducing Risk of Nuclear Terrorism

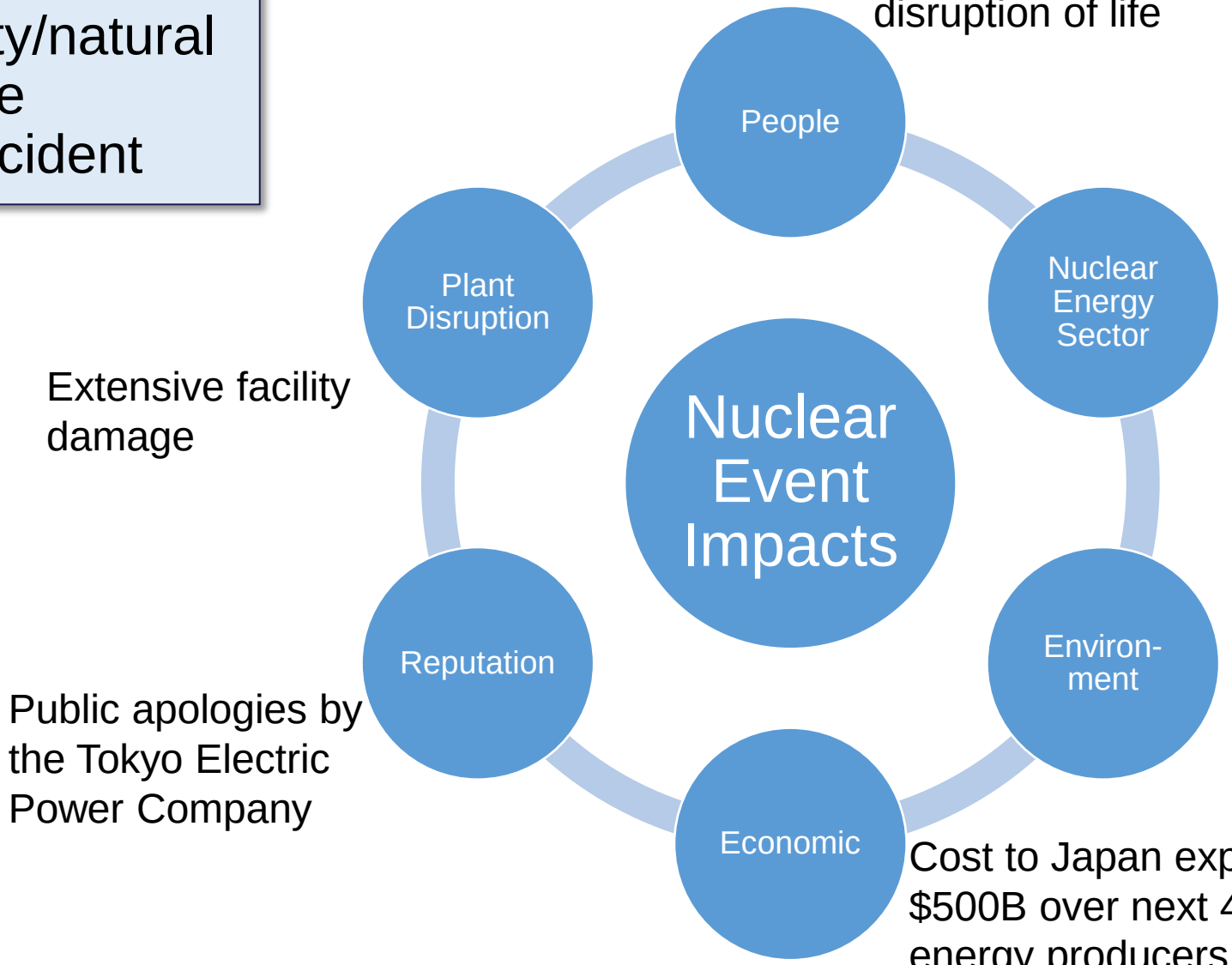
Briefing Overview

Provide introductory information regarding the importance of Performance Evaluation

- Discuss nuclear event consequence considerations
- Present benefits of performance evaluation programs
- Share a Performance Evaluation Definition

We Can't Afford Nuclear Security Failures

Let's consider a safety/natural disaster example: The Fukushima Daiichi Incident



Loss of life, disruption of life

Plant closures, new build cancellations, supply impacts

Contamination of surrounding area and plant site

Cost to Japan expected to be over $500B over next 40 years. All global energy producers impacted

Public apologies by the Tokyo Electric Power Company

Extensive facility damage

Questions Nuclear Security Professionals Should Ask Themselves

- Can our security program meet the threats it must face?
- How can we confirm that our nuclear security program is working as needed and addresses regulatory requirements?
- Our recommendation: Performance Evaluation Program and unique means to evaluate and collect data

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What is a Performance Evaluation Programme?

Performance evaluation programmes consist of methodologies and tools used for assessing, testing, and exercising physical protection capacities to mitigate threats of theft or sabotage at nuclear facilities.

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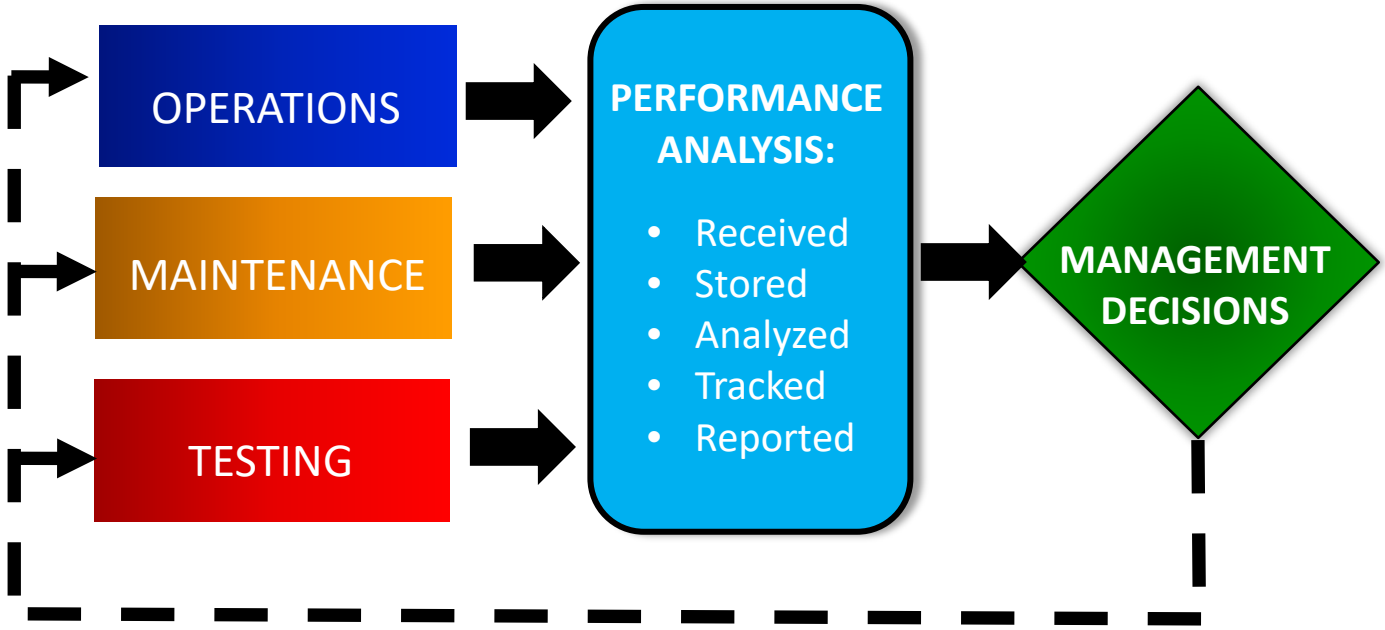
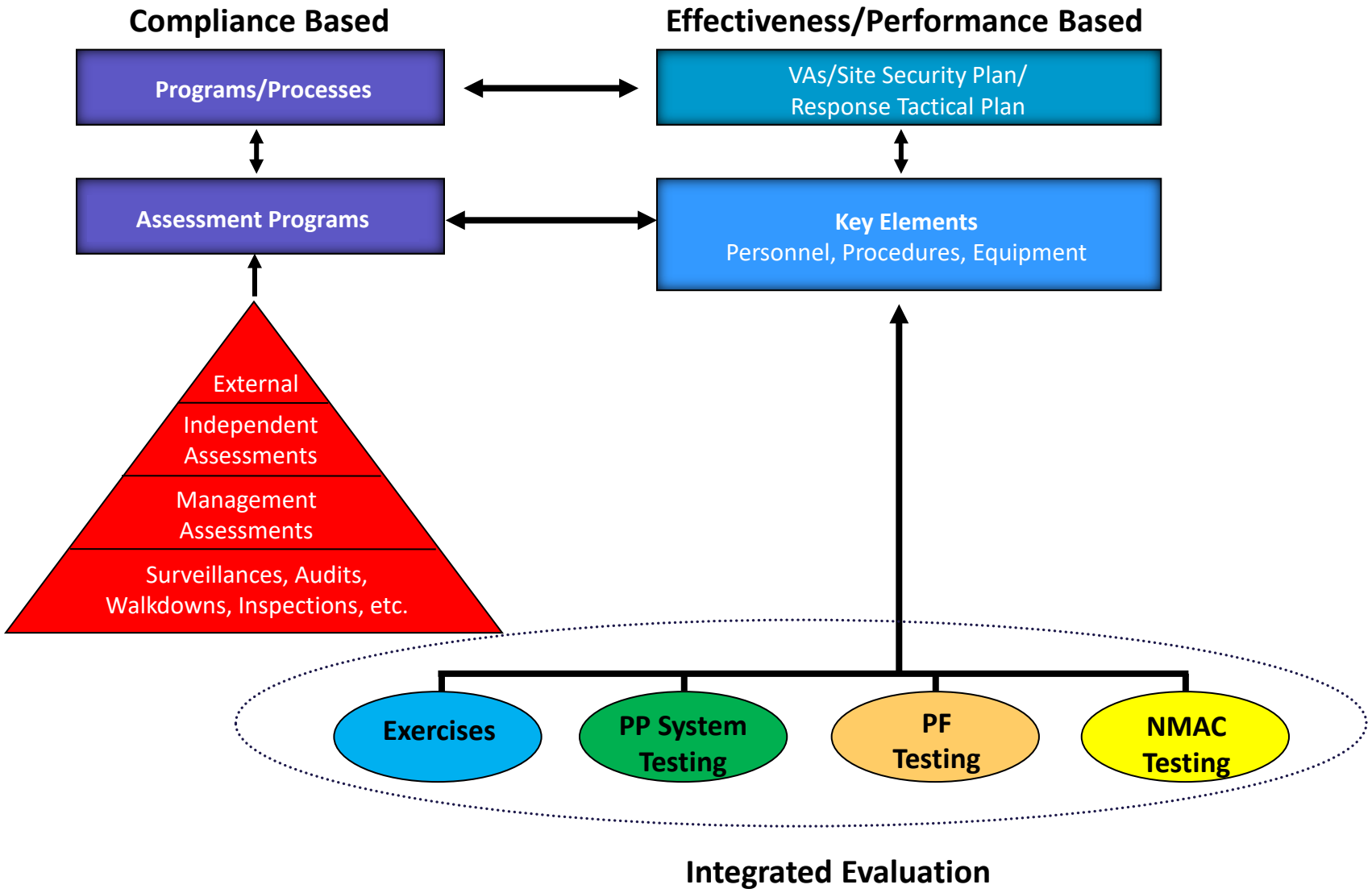
Benefits of a Performance Evaluation Program

What can you expect the performance evaluation program to do?

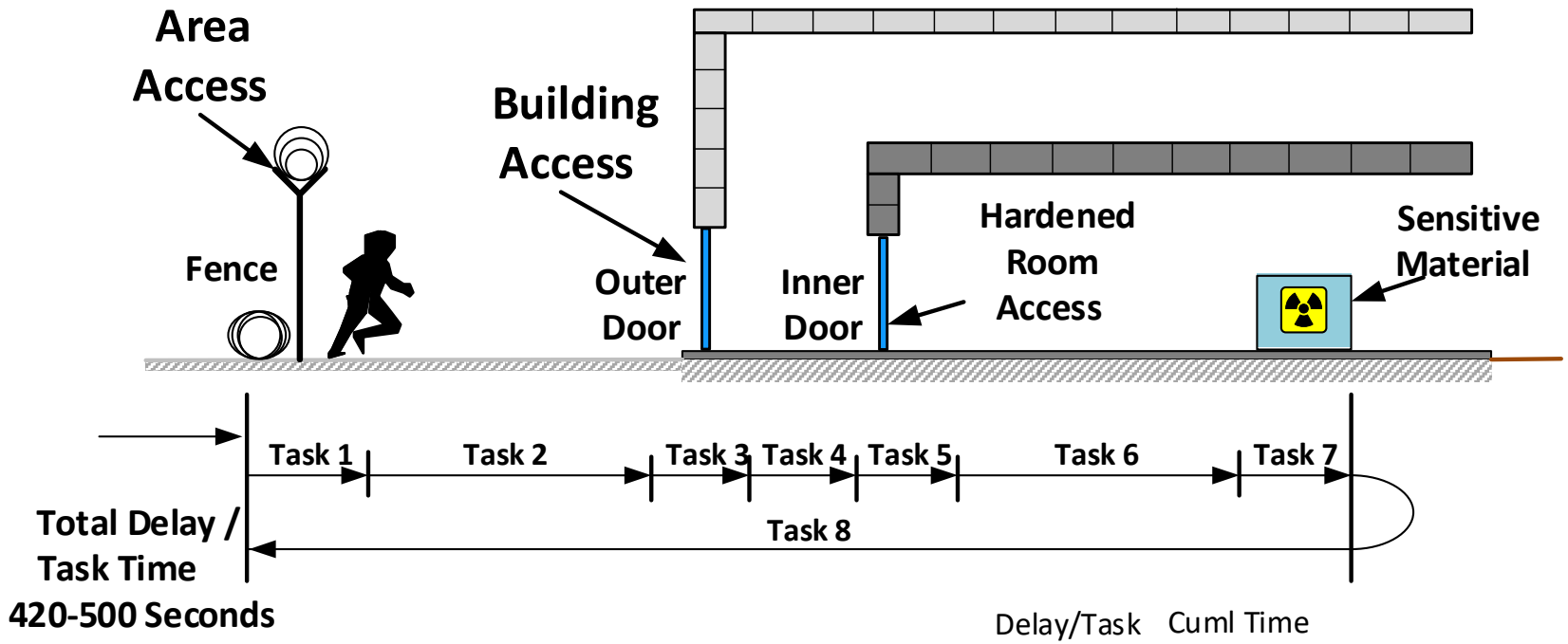
- Determines the real-world effectiveness of the nuclear security program
- Determines effectiveness of individual protection elements as well as complete systems
- Identifies specific system strengths and weaknesses
- Validates NMAC and physical protection procedures and plans
- Validates training effectiveness
- Providing data for financial analysis for continued support / upgrades



Performance Evaluation Approaches



Example: Outsider Processing Building Secure Adversary Timeline – Base Case



(Assumed times)

Task	General Description of Adversary Actions	Delay/Task Time	Cuml Time (Sec)
1	Penetrate fence	30-40	
2	Cross Research Complex Area	10-20	40-60
3	Penetrate Outer Door	60-70	100-130
4	Cross building floor to hardened room door	20-30	120-160
5	Penetrate Inner Door	60-70	180-230
6	Cross hardened room to container	10-20	190-250
7	Open container and gather material	180-190	370-440
8	Escape by same route used for entry	50-60	420-500
	Total Delay/Task Time 420-500 Seconds		

Summary

Performance Evaluation Programs benefit the nuclear security regime by:

- Promoting continuous improvement of physical protection systems
- Producing data for lifecycle management
- Providing data for financial analysis for continued support / upgrades
- Integrating response forces and physical protection