

Advanced Reactor Physical Security Workshop with Embedded MC&A Topical

March 2-6, 2026
Sandia National Laboratories

Monday, March 2

Time	Location	Topic	Purpose
07:30	IPOC	Badging	Badging for Sandia Access
09:00	CGSC/1154	Welcome/Opening Remarks	Introduction to Workshop, Licensing under DOE Orders, Alignment with NRC, Performance-Based vs. Order Compliance Approach
10:30	CGSC/1154	Introduction to Hypothetical Facilities	Use of Fuel Fabrication Facility and Light Water type Small Modular Reactor Facility
11:30	CGSC/1154	Fundamentals of Physical Protection Systems	Discuss Fundamental Principles of Physical Protection Systems Utilizing a Performance-Based Approach
12:30	Off Site	Lunch	
13:30	CGSC/1154	Asset Characterization, Material Inventory, and Radiological Consequences	Discuss Targets and Consequence Differences for Various Facility Types
15:00	CGSC/1154	Break	
15:15	CGSC/1154	Response Force Options for Nuclear Facilities	Presentation on Implementation of Various Response Force Strategies for Theft and Sabotage Targets
16:15	CGSC/1154	Adjourn	

Tuesday, March 3

Time	Location	Topic	Purpose
08:00	CGSC/1154	Review/Questions	Q&A from Day 1
08:30	CGSC/1154	Intrusion Detection Systems	Methods and Practices for Implementing Intrusion Detection Technologies in a Performance-Based Approach

09:30	CGSC/1154	Interactive Exercise: Intrusion Detection Systems	Use of a Hypothetical Facility to Design Intrusion Detection System based on a Response Force Strategy
10:30	CGSC/1154	Break	
10:45	CGSC/1154	Access Delay	Introduce Fundamentals of Delay to Support Effective Implementation of Protective Strategy
11:45	Off Site	Lunch	
12:45	CGSC/1154	Interactive Exercise: Access Delay	Use of a Hypothetical Facility to Design Delay Barriers into the Facility Based on Targets and Protective Strategy
13:45	CGSC/1154	Introduction to Tabletop Exercises	Methods for Using Tabletop Exercises to Design and Analyze a Physical Protection System During the Design Process
14:45	CGSC/1154	Interactive Exercise: Tabletops for Use in Design	Use of a Hypothetical Facility to Conduct Tabletops for Use in Design and Analysis of a Physical Protection System
16:00	CGSC/1154	Adjourn	

Wednesday, March 4

Time	Location	Topic	Purpose
08:00	CGSC/1154	Review/Questions	Q&A from Day 2
08:30	CGSC/1154	Material Control & Accountability Overview	Overview of MC&A Requirements for Different Facility Types
09:00	CGSC/1154	MC&A for Reactors (Item Accounting)	Overview of Existing MC&A Approach for Reactors that utilize Solid Fuel Assemblies
10:00	CGSC/1154	MC&A for Pebble Bed Reactors	MC&A Approach for Pebble Bed Reactors, a semi-bulk facility.
10:45	CGSC/1154	MC&A for Molten Salt Reactors	MC&A Approach for Molten Salt Reactors, a bulk facility.
11:30	Off Site	Lunch	
12:30	CGSC/1154	Breakout Session 1: Tabletop Exercises for Design of Physical Protection Systems	<i>Designed for Reactor Vendors in Attendance, Detailed PPS Design Recommendations, Tabletop</i>

			Scenarios, Provide Examples of Performance Metrics.
12:30	CGSC/1154	Breakout Session 2: MC&A for Fuel Cycle Facilities	<i>Designed for Fuel Cycle Facility Vendors in Attendance, Overview of MC&A Requirements, Statistics, Material Balance Areas, and Inventory Difference.</i>
16:00	CGSC/1154	Adjourn	

Thursday, March 5

Time	Location	Topic	Purpose
08:00	CGSC/1154	Review/Questions	Q&A from Day 3
08:30	CGSC/1154	Interface between MC&A and Physical Protection	Discuss how Safeguards and Security by Design is Beneficial to the Vendor for Various Facility Types, Also Discuss Where Separation is Needed
09:30	CGSC/1154	Cybersecurity	Overview of Cybersecurity and the Interface with PPS and MC&A Systems
10:30	CGSC/1154	Performance Testing and Evaluation of Physical Protection Systems	Presentation on Performance Testing and Evaluating a Physical Protection System to Ensure High System Effectiveness
11:30	Off Site	Lunch	
12:30	CGSC/1154	Operating and Maintaining Physical Protection Systems	Presentation on Operation and Maintenance Practices to Ensure Performance of a Physical Protection System
13:30	CGSC/1154	Putting in All Together	Review Design Recommendations for Order-Compliance and Performance-Based Facilities
15:00	CGSC/1154	Q&A, Discussion, Lessons-Learned	Provide Time for Discussion and Sharing Lessons-Learned
16:00	CGSC/1154	Adjourn	

Friday, March 6 (Tours – Optional)

Time	Location	Topic	Purpose

07:45	CGSC	Meet at CGSC Lobby	
08:30	NTC	National Training Center	Tour of the NTC Facilities
09:30	TA-V	Tech Area V	Tour Includes Examples of PPS Systems, CAS, and Intrusion Detection Systems
10:30	UAS Lab	UAS Lab Tour	Unmanned Aerial Vehicles Lab Tour
12:00	CGSC	Return and Adjourn	