

COSCAP Southeast Asia
Oversight of Aerodrome Ground Lights
Bangkok, Thailand, 28 September - 2 October 2026

SYLLABUS

This Course is designed to provide participants with a comprehensive understanding of Airfield Ground Lighting (AGL) systems, including their design considerations, functions, working principles, evolution, regulatory frameworks, compliance requirements, product testing, qualification processes, photometric considerations, and key maintenance challenges. Also, the USOAP concepts and the procedures and the frameworks for readiness of AGA audits are discussed.

Delivered through a structured approach, the course focuses on the essential aspects of AGL systems that must be consistently maintained by airport operators to ensure safety, reliability, and regulatory compliance.

DAY 1

1. **Introduction to AGL systems:** An overview of the Airfield Ground Lighting system, covering its history, evolution, and role in modern aviation. The session highlights key milestones in AGL development, research and innovation in the field, and emerging technological advancements shaping today's airfield lighting systems.
2. **Operational Context of AGL Systems:** Overview on role of aerodrome visual aids in safe aircraft operations, pilots' perception of AGL systems, interpretation of lighting with runway markings and signs and operational consequences of AGL system failures.
3. **AGL Systems and its Functions:** Fundamentals of 4 C's- colour, candela, coverage and configuration, types of AGL systems, functions and their configurations
4. **AGL Intensity settings for Airports:** Concepts of setting the AGL intensity steps for an airport for different AGL systems in different ambient and RVR conditions.

Workshop-1: AGL workshop involving - designing a runway with CAT-III operations with distance coded approach lighting system

DAY 2

1. **AGL serviceability - standards and regulations:** Overview of ICAO, DGCA, FAA and relevant international standards governing AGL serviceability.
2. **AGL components and interleaving concepts:** Overview of AGL components and Circuit design requirements as per standards and compliance considerations for Aeronautical Ground lighting systems
3. **AGL luminaires – Halogen Vs LED & product selection aspects:** Comparison of LED and halogen technologies, focusing on performance, energy efficiency, maintenance, and lifecycle considerations. Guidelines for selecting appropriate AGL products based on operational needs, standards, and lifecycle costs.

4. **Photometry and Frangibility Concepts:** This session introduces the fundamental photometric principles governing airfield ground lighting systems, with focused coverage on the 4Cs that define lighting performance and regulatory compliance requirements along with frangibility criteria and compliance requirements.

Workshop-2: AGL workshop on assessing the serviceability standards in different scenarios

DAY 3

1. **AGL signages- design and maintenance:** Principles of airfield signage design, installation, illumination, and upkeep.

Workshop-3: Designing the signage layout for different Airports (Different geometrical configuration of Airports and how the signs are designed for the same.)

2. **ALCMS AND ILCMS:** Introduction to Airfield and Individual Lamp Control & Monitoring Systems, including system architecture, benefits, and operational use.
3. **PAPI concepts- ground calibration:** Fundamentals of PAPI, determination of location of PAPI with concept of MEHT etc., Maintenance and ground calibration.
4. **Establishing of effective maintenance cycle:** Methods to plan preventive and corrective maintenance cycles to ensure system reliability and availability, specific to the Airport.

DAY 4

1. **Maintenance of AGL system:** Overview of the technical issues of maintenance of AGL systems, maintenance documentation and key aspects to be considered in Maintenance of AGL systems
2. **Testing, Commissioning and Certification of AGL systems:** Overview of compliance requirements including AGL product testing and qualification requirements, review of product FAT and site acceptance testing for commissioning an AGL system from the perspective of Aerodrome electrical inspector.
3. **AGL safety:** Concerns when working with AGL systems and Introduction to specialized AGL tools, safety procedures, and airside working practices.
4. **Latest technologies and future Developments in AGL Systems:** Discussion on latest technologies and ongoing innovations in the AGL systems- Works being done by OEMs and ICAO – VAWGs etc.,

Workshop-4: on AGA readiness and approach by Airports

Training Assessment- Questionnaire.



DAY 5

1. **Introduction to USOAP in relation to AGA:** Understanding USOAP concepts and procedures, Understand the AGA audit area and relevant Protocol Questions (PQs), Identify documentation and evidence required during an audit, prepare for ICAO, DGCA, and ICVM activities, Demonstrate compliance for runway lighting, electrical systems, and aerodrome operations.
2. **Readiness towards USOAP – AGA:** The content discusses on Understanding of ICAO evidence requirements, organize audit evidence efficiently, Map evidence to applicable Protocol Questions, Maintain continuous audit readiness, Support ICAO and DGCA inspections effectively. This module also provides airport electrical, AGL, and aerodrome personnel with a structured approach for developing, implementing, and maintaining Airfield Ground Lighting (AGL) inspection checklists that support ICAO Annex 14 compliance and demonstrate effective implementation during USOAP AGA audits and ICAO Coordinated Validation Missions (ICVMs).
3. **Corrective Actions and Safety Resolution in USOAP AGA Audits:** This module provides participants with an understanding of ICAO USOAP– surveillance obligations and Resolution of Safety Concerns, focusing on how aerodrome operators identify, track, correct, and verify safety deficiencies within the Aerodromes and Ground Aids (AGA) area. The training emphasizes the development of effective Corrective Action Plans (CAPs), evidence management, and continuous monitoring to ensure compliance with ICAO safety oversight requirements.