



International Civil Aviation Organization

CAR/SAM REGIONAL PLANNING IMPLEMENTATION GROUP (GREPECAS)

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#### Agenda Item 4

#### Development of the AVSEC/COMM Work Programme

#### 4.2 Identification and analysis of shortcomings in the implementation of ICAO AVSEC provisions in the CAR/SAM Regions and development of measures to facilitate their resolution.

##### 4.2.1 Quality Control Program Model

#### SECURITY MANAGEMENT SYSTEMS (SEMS)

(Presented by the International Air Transport Association [IATA])

#### SUMMARY

This paper explains the approach taken by the International Air Transport Association to ensure that all its Member Airlines adopt a Security Management Systems approach in their operations. It then considers the role of management systems in the aviation security environment and identifies the benefits of a SEMS based approach endorsed by all stakeholder regarding security regulation and the operational delivery of security controls. It then highlights the benefits that such an approach can provide in supporting the ongoing development and maintenance of a secure and effective aviation transport system and in meeting the International Civil Aviation Organization (ICAO) requirements of Annex 17- Security, to the International Convention on Civil Aviation.

#### References:

- Security Management Systems for Air Transport Operators (Version 3 – October 2005)
- Security Management Systems for Air Transport Operators – Executive Summary (Version 3 – October 2005) (**Appendix 1**)

## 1. Introduction

1.1 Security Management Systems (SEMS) essentially uses principles and concepts central to Safety Management Systems. The worldwide improvement of safety performances following global endorsement of Safety Management Systems suggests that similar improvement can be expected in the area of Security if SEMS principles are globally accepted by stakeholders and regulators.

1.2 Because SEMS is a system-wide approach to security, its success is dependent on its endorsement by all stakeholders including regulators. The AVSEC Committee's endorsement of SEMS principles would be a very important first step in reaching this goal.

1.3 IATA believes that given the current operating environment, implementing SEMS at this moment makes sense. Security is a priority for regulators and the travelling public. Therefore, any initiative to improve AVSEC measures should be welcomed. Further to that, a high turnover of staff as well as growing numbers of new air carriers makes the need for standardized consistent security processes and staff training even more pressing.

## **2. IATA's Security Management Systems**

2.1 Air carriers need to implement a vast quantity of security processes in order to comply security requirements. In order to improve the quality of compliance, it is important to develop tools to facilitate the harmonization and standardization of processes to meet security requirements.

2.2 In order to achieve this goal, IATA intends to make Security Management Systems (SEMS) a mandatory requirement for all its Members by mid-2007. Compliance will be enforced via the IATA Operational Safety Audit (IOSA).

2.3 Whilst, Member air carrier will be required to have an acceptable SEMS in place, the proposed template should be seen only as guidance material. IATA understands that each airline needs to comply with various national and regional mandates. The proposed template offers room for flexibility.

2.4 Air Carriers who have implemented SEMS for their operations rapidly see the benefits as it becomes a pro-active approach to security management due to its inter-connectivity with a threat assessment mechanism. Implementation of SEMS signifies that air carrier security processes will be determine to a greater extent by a data driven agenda based on input received from threat assessment mechanisms.

2.5 SEMS helps ensure that the regulatory requirements mandated through the Air Carrier Security Programme (ACSP) are not only met but also exceeded as SEMS aims to implement industry best practice.

2.6 SEMS is not designed to replace the model ACSP but rather act as complement. SEMS is intended provide guidance into how to implement processes to comply with the requirements mandated in the ACSP.

2.7 Further to that, SEMS is designed to help air carriers comply with IOSA Security Standards and Recommended Practices. The SEMS template is an evolving document regularly reviewed and amended to provide guidance to the latest security requirements.

2.8 SEMS facilitates the auditing of security measures. As all security procedures must be put in writing and their implementation explained within SEMS, it removes any possibility for ambiguity as to how certain requirements are met.

2.9 SEMS can also be tremendously beneficial to an air carrier as well as all stakeholders involved. Implementation of SEMS will quickly identify the weaknesses of an air carrier but will also simultaneously provide the tools to effectively mitigate these limitations.

2.10 SEMS becomes the central point for all security documents and tools to be located. Whilst it is clear that all air carrier security processes cannot be contained in one single document, SEMS can be a common location to included all security related material. The structure may include annexes for particular security requirements of some States or topics (e.g.: corporate fraud, IT security, etc.). A centralized location for all security tools can facilitate the auditing and oversight process.

2.11 SEMS inevitably raises the bar for security measures within an air carrier. SEMS helps embed security as a core corporate value, which subsequently helps in improving overall security within the air carrier and ultimately in the whole aviation system.

2.12 SEMS provide a more structured approach as to how air carriers can reach security objectives. The implementation of security procedures will become more formalized and objective and outcome driven.

2.13 Air Carriers are encouraged to adopt SEMS principles and include them as part of their ACSP as it will be also be beneficial for their economic well being. It will help air carriers implement more cost efficient and effective security measures.

2.14 Implementation of SEMS also demonstrates a pro-active willingness by the air transport industry to move towards global harmonization of security measures and procedures.

### **3. Key Components of Management Systems in a Security Environment**

3.1 Within a security risk management environment, consideration is given to threats that are often ill-defined, constantly evolving and the result of deliberate and intentional actions. In addition specific security threats must be considered unpredictable and likely to be indiscriminate in nature. For example while intelligence and law enforcement agencies involved in preventing terrorist activity may uncover information suggesting pending attacks, it is necessary and prudent to assume they may not be able to identify and stop all possible threats all of the time.

3.2 Security measures must also be capable of being strengthened quickly at any time as a result of increased levels of security risk. In addition, by virtue of their nature, they are usually highly visible and intrusive and often conflict with passenger and air cargo facilitation needs that require ready access to facilities and services to expedite the process of air transportation. This is not the case with the vast majority of controls in a safety environment.

3.3 These factors require recognition and assessment when specific preventative security controls and associated regulatory standards are considered and developed.

3.4 Recognising these factors, the need exists for an integrated systems managed approach within various organisations, at both regulatory and industry level, that have responsibilities relating to the delivery of safety and security outcomes. Such an approach has the ability to offer a range of benefits including:

- (a) Integration of existing organisational Quality Management systems into a comprehensive and aligned organisational structure and culture that ensures a more cohesive and standardized approach to how security processes should be implemented with overall better and more uniform standards of service delivery;
- (b) Introduction into existing processes, at both regulatory and industry level, of effective risk assessment activity that can contribute to making security processes pro-active and targeted and therefore potentially more efficient and effective without unduly impacting on export trade and passenger movements;

3.5 Further information on the key components necessary for the successful implementation of a Management System approach to Aviation Security can be found in the Executive Summary of the IATA Security Management Systems (SEMS) for Air Transport Operators which is included as **Appendix 1**.

3.6 Further, in order for air carriers to successfully implement SEMS within their operations, it is paramount that States endorse this approach as being in compliance with security requirements of ICAO Annex 17 – Security as well as with individual regulators.

3.7 States are also encouraged to draft regulations based on desired outcome or standard rather than prescribe actual procedures necessary to be in compliance. Allowing flexibility to those entities responsible for the implementation of security measures to meet the stated standards in the best possible, will lead to an overall more effective and efficient usage of resources.

3.8 Outcome or performance based regulations also facilitates the quality control oversight that a State needs to exercise on various Stakeholders by limiting the oversight responsibility to ensuring that the security Standards are met, without focusing on the particulars of the procedures.

3.9 Finally, in order to ensure better co-operation in the CAR/SAM region, it is paramount that Contracting States recognised various methods to meet security Standards if an overall improved Security environment is to be achieved in the region. Mutual acceptability of security procedures prevents mandating security procedures extra-territorially all the while ensuring that the same level of security is performed in the CAR/SAM region and indeed globally.

#### **4. Link with ICAO Annex 17 Amendment 11 Quality Control Requirements**

4.1 Amendment 11 to ICAO Annex 17- *Security*, becomes effective on 1 July 2006. This amendment contains measures to ensure that the Annex remains consistent with the level of global threat. These include:

- (a) The reinforcement of Quality Control provisions;
- (b) Risk assessment concepts-Reinforcing the need for utilisation of risk assessment processes by Contracting States in appropriate instances when determining regulatory requirements.

4.2 IATA considers that a comprehensive systems managed approach to security regulation, as offered by Security Management Systems (SEMS), will enable States to more effectively maintain compliance with the provisions of Annex 17 both now and in the future. This recognises the benefits inherent in integrating risk assessment and regulatory quality control programmes together within a comprehensive and aligned organisational structure and culture that ensures a more cohesive and standardised approach.

4.3 By way of specific example the ongoing conduct of timely and accurate risk assessment activity can be supported by an effective quality control system that ensures continuous correction and improvement of assessment procedures. This contributes to the ongoing development of robust regulatory requirements to address identified and potentially emerging threats and vulnerabilities.

4.4 Also, and in recognition of the fact that regulatory resources are not unlimited, effective risk assessment processes offer the potential to allow State to focus their oversight activities in a timely manner in those areas that require it most.

4.5 Very importantly a SEMS approach in no way distracts from or lessens the need for effective Quality Control systems - a need which is reinforced in Amendment 11 with its promotion to Standard level of prior guidance material on this subject contained in ICAO Doc 8973 – *Security Manual*. Rather SEMS provides a framework for these systems to be aligned and harmonised together with wider organisational process to ensure a cohesive and standardised approach to aviation security within and across ICAO Contracting States. This provides opportunities for overall better and more uniform standards of service delivery and achievement of Annex 17 SARPs.

## **5. Action by the Committee**

5.1 The AVSEC Committee is invited to:

- a) note IATA's Security Management Systems (SEMS) initiative and ensure that Contracting State accept this approach as being in compliance with their national aviation security regulatory requirements;
- b) develop and implement performance-based regulations rather than prescriptive and procedural regulations;
- c) strive to have mutual acceptability of security measures and procedures within the CAR/SAM region and globally; and
- d) consider adopting a Management Systems approach to ensure that Quality Control requirements under Amendment 11 of Annex 17 are met by all Contracting States in the CAR/SAM region.

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## **APPENDIX**

### **SECURITY MANAGEMENT SYSTEMS (SEMS) FOR AIR TRANSPORT OPERATORS EXECUTIVE SUMMARY**

#### **1. Introduction**

- Security Management Systems (SEMS) is a more structured and standardized approach to how Security processes should be implemented and will provide overall better and more uniform standards throughout the aviation industry.
- Implementing SEMS as well as an effective and focused threat assessment process should contribute to making Security processes pro-active.
- Essentially, an SEMS is an element of corporate management's responsibility which sets out a company's Security policy to manage Security as an integral part of its overall business making Security one of the company's core values by developing a Security culture
- SEMS is a business-like approach to Security; goals are set, levels of authority are established, etc. much the same as with Quality Management Systems (QMS) and Safety Management Systems (SMS).
- When viewed in this context it becomes obvious that the three programs (SEMS, QMS, SMS) must be harmonized to ensure consistency and an equivalent level of attention.
- Further, SEMS is based on ICAO Annex 17 standards and the IATA Operational Safety Audit (IOSA) Security Standards. Through IOSA, SEMS already has a Quality Management segment in place. QMS becomes a complimentary system
- Each airline must implement the system that works best in their specific situation – there is no “one-size-fits-all” system.
- The SEMS template should serve as a guide of what should be achieved after full implementation of SEMS.
- In order to have an effective Security Management System, it should include the methods and procedures to achieve:
  - Senior management commitment to Security
  - Appointment of a Head of Security
  - Creation of a Security department organisational structure
  - Promotion of a Security culture
  - Training of Security personnel
  - Security awareness training for all employees
  - Regular evaluation of Security personnel
  - Effective day to day Security operations
  - Incident and accident investigative reporting
  - Continuous correction from the outcome of incident accident investigation report.
  - Risk and threat assessment
  - Emergency response procedures
  - Regular audits and protocols for correction of deficiencies
- The following points should be made when a Security Management System is implemented:
  - Companies should build on existing procedures and practices rather than start all over. SEMS should be seen as an evolutionary tool rather than a revolutionary device.

- Adoption of “best practice” standards must be the goal. The Air Carrier Security Programme requirements mandate the minimum requirement for an air carrier to be compliant. SEMS will help air carriers achieve “best practice” standards which would be in compliance with requirements of all States where the air carrier operates.
- A SEMS must be a company-wide system. Established at the corporate level, the SEMS should then devolve to individual departments. Flight Operations, In-flight, Baggage Services, Passenger Services, Airport Services, Telephone Sales and all other departments whose activities contribute to Security need to develop their own procedures under the umbrella of the SEMS.
- Each air carrier is responsible for the development of security procedures and operational bulletins based on the concepts of this template taking into account their own operational environment resources available and regulatory framework of their State of registry and State(s) of operations
- If some Security operations are outsourced, contracts should identify the need for equivalent, auditable SEMS in the supplier.
- In order for SEMS to be successful, it needs endorsement from the concerned regulators and all stakeholders involved in aviation.

## **2. Organization and Management**

- There is a need for senior management to formally endorse, in writing, their commitment to Security as a central component of the air carrier's core values.
- A Head of Security with a direct reporting line to senior management should be appointed
- A clear organizational chart of the Security department should be drafted where all necessary responsibilities have a dedicated point of contact. The organizational chart should be proportionate to the size of the company.
- Security should be every employee's responsibility and should be an integral part of the management plan.
- Communication of Security information, as appropriate, is a very important part of the development of a Security culture.
- Security documentation and manuals should be centralised and readily accessible to all employees affected by the document or appropriate sections.

## **3. Human Resources Management**

- Procedures should be put in place to hire competent staff and ensure that they have been cleared by background checks as outlined in National legislation, and the air carrier security programme.
- An efficient training programme should be developed for staff involved in implementation of security measures. Effective and measurable initial & recurrent training and testing/evaluation modalities should be developed.
- Security awareness training sessions should be attended by all employees, periodically, in order to promote a Security culture.
- Performance appraisals should be conducted on a regular basis to ensure that all employees perform their functions adequately in a co-operative and constructive manner benefiting both the employer and employee

#### **4. Human Factors**

- Human factors need to be taken into consideration when developing effective Security procedures.
- Human factors should be considered essential in maintaining staff motivation at acceptable levels.
- Staff rotation and work variety contribute in maintaining staff motivation and productivity.

#### **5. Contracted Services**

- When employing contractors the following information should be provided by the contractor to the air carrier before agreeing to use their services:
  - Security arrangement and procedures
  - Previous Security record
  - Hiring and staff training policies
  - A routine audit should be performed
- Further to that the air carrier should submit appropriate sections of the SEMS to the contractor and ensure that they are willing to be in line with the air carrier's Security culture commitment.

#### **6. Security Control**

- SEMS should provide details into how to achieve "best practice" Standards for the necessary Security processes to ensure protection of all air carrier assets. Care must be exercised to ensure consistency with National legislation regarding aviation security.
- The topics to be covered in SEMS should include but are not limited to the following:
  - Access Control
    - Perimeter Security
    - Airside Security
      - Protection of parked aircraft
    - Airport personnel identification
    - Pre-flight aircraft searches
  - Passenger and cabin baggage Security
    - Passenger identity verification
    - Passenger and carry-on baggage screening
    - Special screening procedures
    - Transit and transfer passengers
    - Airline crew, airport staff and other non-passenger
    - Monitoring performance of Security equipment
  - Hold Baggage Security
  - Cargo, mail and express parcels Security controls
  - Catering and stores Security
  - Risk and Threat assessment
  - Security Audits
  - Accountable Document Security



It is very useful to clearly assign responsibilities between the airlines, airport authorities and other entities involved in maintaining security.

## **7. Carriage of Weapons**

- Personnel authorized to carry firearms on-board the aircraft should have proper authorization by the air carrier and/or registry state, as well as O&D state; they should adhere to policies and procedures set forth by the carrier, which can exceed those legislated.
- Prior to departure, the pilot-in-command should be made aware of the number of armed passengers on-board and their seat locations.
- Firearms can be transported as checked baggage as long as they are not loaded and remain inaccessible to passengers for the entirety of the flight.
- The air carrier Security department will need to co-ordinate with all States in the itinerary to be in full compliance with all laws and regulations of every State and air carriers involved.

## **8. Aircraft**

- Reinforced cockpit doors should consider both Security and safety requirements.
- A secondary locking device should be installed in case of a temporary defect of the automatic locking device.
- Means for monitoring the cabin area immediately behind the cockpit from either pilot's station should be put in place.
- The cockpit door should remain closed no matter what types of threat are taking place in the cabin. The door should remain closed until the threat has been contained.

## **9. Contingencies**

- Air carriers should have risk and threat assessment as well as risk and threat management mechanisms developed. Some States offer assistance in the threat assessment process. State mandates should have priority when they are in place.
- Air carriers should have an emergency response plan in place for incidents of all types, including Security incidents. The appropriate infrastructure and staffing should be put in place.
- Emergency measures should exist in the eventuality of at least the following security related incidents which are the most common:
  - Bomb threat
  - Bomb threat against buildings (including provisions for terminal evacuation)
  - Hijacking
- Air carriers can learn a significant amount of information about flaws in their operations when incidents take place. However, it is best to discover flaws through security exercises. In order for incidents to be learning experiences, there needs to be a thorough investigation process that can identify where procedures were lacking in order to remedy and implement corrective action.

## **10. Quality Assurance**

- In order to ensure that Security measures are in compliance with mandated requirements, quality controls should be put in place.

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- Many options exist for quality control measures, both internally and externally, each with their advantages and disadvantages.
- The best approach to ensure quality assurance is most likely a combination of both internal and external quality control measures.
- Further to that, international audit mechanisms such as IOSA and the ICAO Universal Security Audit Programme (USAP) are in place to guarantee acceptable global Security standards. SEMS can help air carriers meet IOSA Security Standards and Recommended Practices. SEMS can also help States, who have endorsed these principles, successfully meet USAP audit requirements.

## **11. Organizational Extensions**

- Security issues that are important to air carriers, but not necessarily directly related to compliance of the Air Security Programme, can and should also be included as part of SEMS. This further reiterates that SEMS is designed to be an all encompassing Security document that promotes Security awareness.
- Issues to be addressed as part of organizational extensions can be but are not limited to:
  - Security related issues
    - Disruptive passengers
    - Inadmissible passengers
    - Stowaways
    - Theft
    - Fraud and insider crime
    - Building and infrastructure Security
  - “Global” Security Standards and Recommended Practices
  - Co-operation with airport security and other security/government agencies
  - Harmonization of Security Standards
  - Roles of station managers
  - Information sharing
  - Inter-departmental communication

For a copy of the IATA Security Management Systems (SEMS) for Air Transport Operators template and other SEMS documents, please contact Mr. Yannick Lachapelle ([lachapelly@iata.org](mailto:lachapelly@iata.org))

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