



TALLER PARA GENERAR PAUTAS (GUÍA) DE IMPLEMENTACIÓN PARA EL PASO 1 DEL PROGRAMA DE SEGURIDAD OPERACIONAL DE LOS ESTADOS Y FASES 1 & 2 DE SMS INTEGRADOS AEROPUERTO/TRÁNSITO AÉREO

“Relación conceptual y practica entre SMS y la Certificación de Aeródromos”

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Administrador de Aeropuertos

(Santiago, Chile, 7-11 de abril de 2008)

Esquema

- Generalidades
- Conceptos
 - Relación
- Aplicación practica
 - Iniciativas/asignación recursos
- Conclusión





04/04/2008

Latinoamérica

IATA hace un llamado urgente para mejorar la seguridad en Latinoamérica

Air-traffic control system is obsolete

- **FAA investigates four U.S. airlines for possible violations**
- **Problems at Terminal 5 will cost British Airways \$32M**
- **FAA compliance audit forces hundreds of cancellations**
- **United continues inspecting 777, cancels flights**



15/04/2008

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¡BA pilots strike back as Terminal 5 troubles continue!

¡China Eastern admits 'human factor' in flight returns!

FAA proposes rules to cut risk of ice in engines

The FAA on Monday is expected to announce new flight procedures to prevent ice from forming in jet engines, a problem that can cause engines to shut down. Investigators say internal ice has caused 14 dual-engine shutdowns since 2002.

El caos ha aterrizado en los aeropuertos de Estados Unidos con la cancelación de cientos de vuelos después de que la Administración Federal de Aviación (FAA, por sus siglas en inglés) haya iniciado una supervisión sorpresa para verificar el cumplimiento de por lo menos diez directivas de seguridad por parte de todas las compañías aéreas que operan en el país.



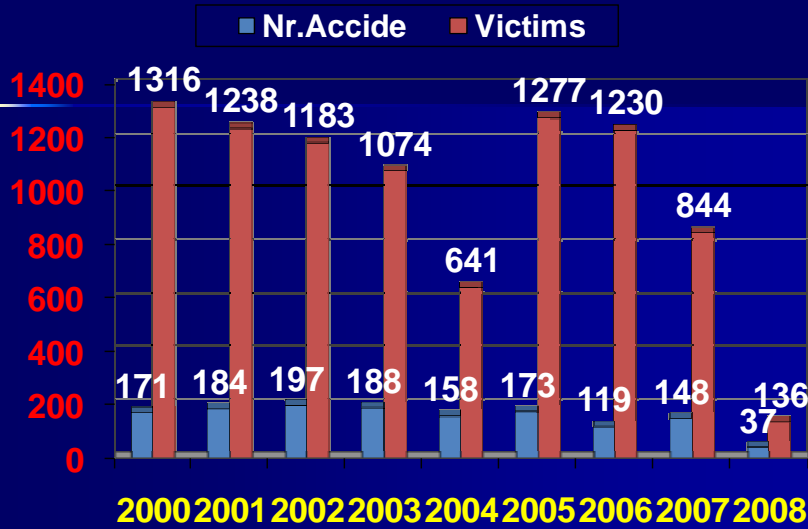
15/04/2008

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<p>07/04/2008 World Wide</p> <h3>BA canceló 126 vuelos por la nieve y problemas informáticos en la T5 de Heathrow</h3> <p>British Airways Plc informó que ha cancelado 126 vuelos con llegada y salida del aeropuerto de Heathrow el domingo debido a una fuerte nevada y a los persistentes problemas con la nueva terminal del aeródromo.</p>	<h3>ALTA'S AVIATION CRISIS PREPAREDNESS CONFERENCE</h3> <p>08/04/2008 Latinoamérica</p> <h3>Industria latinoamericana de aviación establece acuerdo ambiental</h3>		
<p>07/04/2008 América Latina</p> <h3>Banco Mundial rebaja proyección de crecimiento para América Latina</h3> <p>08/04/2008</p> <h3>LAN Chile destina US\$ 3.500 millones para comprar 32 aviones Boeing 787 Dreamliner, o 'ecológicos'</h3>	<ul style="list-style-type: none">American conducts additional inspections, cancels hundreds of flights<p>American Airlines on Tuesday conducted additional inspections on its MD-80 jetliners after the FAA raised concerns about wiring work performed on the jets two weeks ago. The Associated Press reports that the inspections forced American to cancel 500 flights on Tuesday, or almost 25% of its mainline schedule, as well as another 850 flights on Wednesday. The airline noted that the inspections are not related to the safety of flying. ClipSyndicate/Associated Press (4/9), The Wall Street Journal (subscription required) (4/9), CNN/Associated Press (4/9), Air Transport World (4/9), AviationWeek.com (4/8), Reuters (4/9), The New York Times (4/9) E-MAIL THIS STORY</p>Opinion: FAA must make safety its top priority<p>Persistent maintenance oversight problems remain inside the FAA, despite the reassignment of a top regional flight regulator, the Dallas Morning News editorial board writes. The board notes that lawmakers should consider giving oversight to another organization. "A revamped National Transportation Safety Board, which investigates all civil aviation accidents in the United States, is one possibility," the board writes. The Dallas Morning News (4/9) E-MAIL THIS STORY</p>		
<p>FAA removes official from oversight post as fallout from SWA case continues</p> <p>US FAA removed Southwest Region Manager-Flight Standards Thomas Stuckey from his position, the latest fallout from the ongoing controversy over the agency's oversight of Southwest Airlines. [MORE]</p>	<ul style="list-style-type: none">FAA testimony accuracy in dispute<p>Three House lawmakers said the FAA presented "inaccurate and misleading" information about airline maintenance. FAA disputes the claims and said all three officials testified truthfully. International Herald Tribune/Associated Press (4/8) E-MAIL THIS STORY</p>		
	<p>15/04/2008</p>	<p>TALLER SMS AGA/ATS</p>	<p>5</p>

¿COMO ESTAMOS EN EL TEMA DE ACCIDENTES? AI 11.04.08



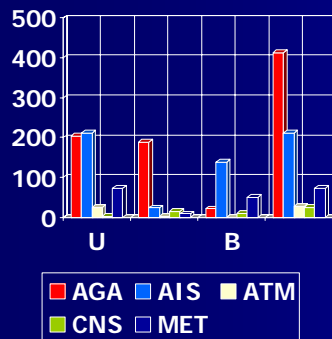
15/04/2008

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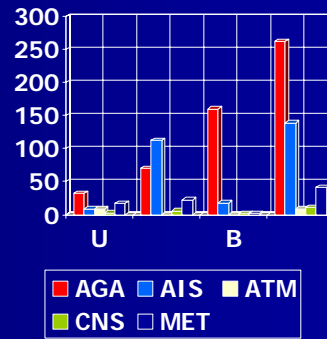
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Estado Deficiencias Calificación U/A/B/Total Región CAR/SAM

Región SAM



Región CAR



15/04/2008

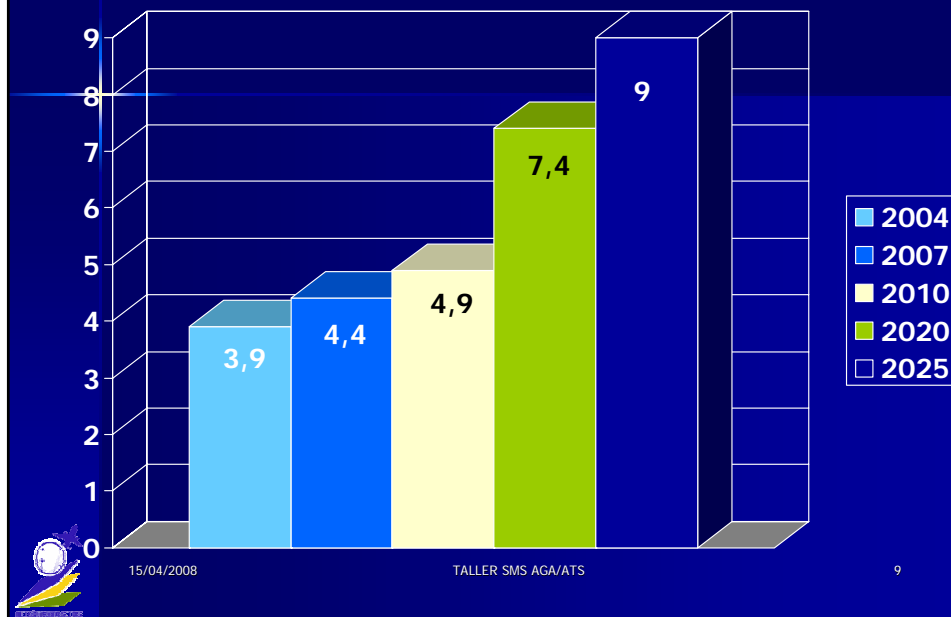
CURSO DE INSPECCIÓN DE AERÓDROMOS

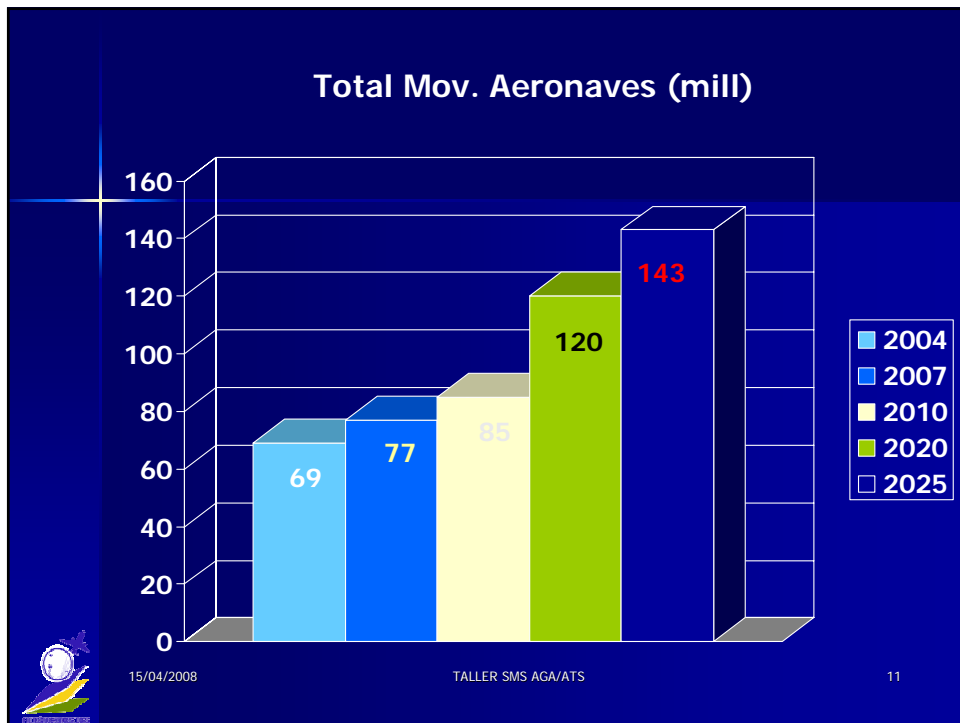
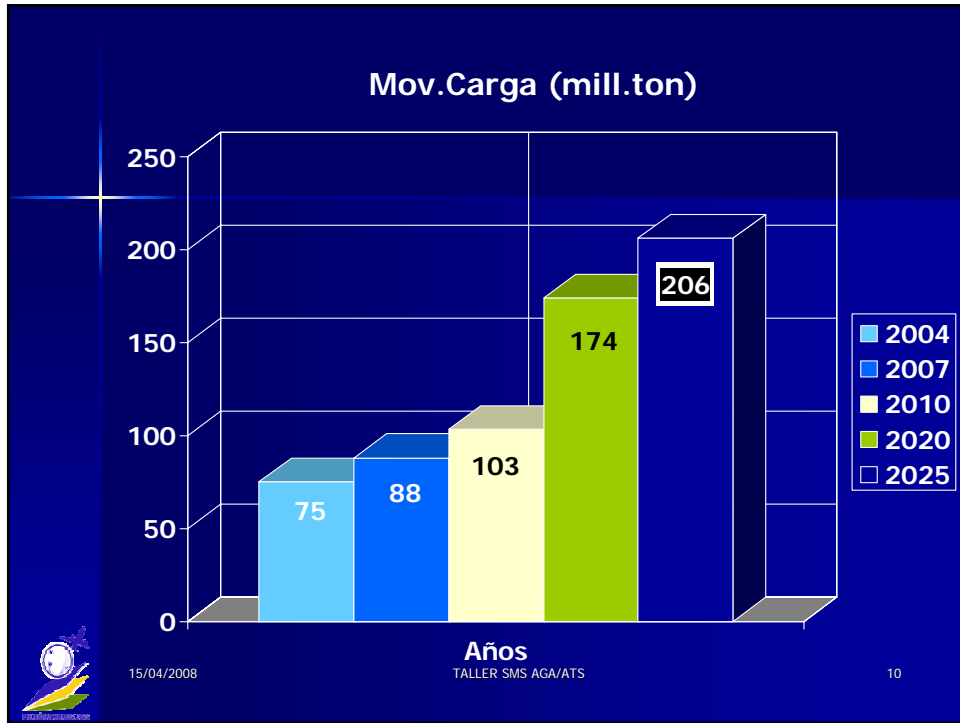
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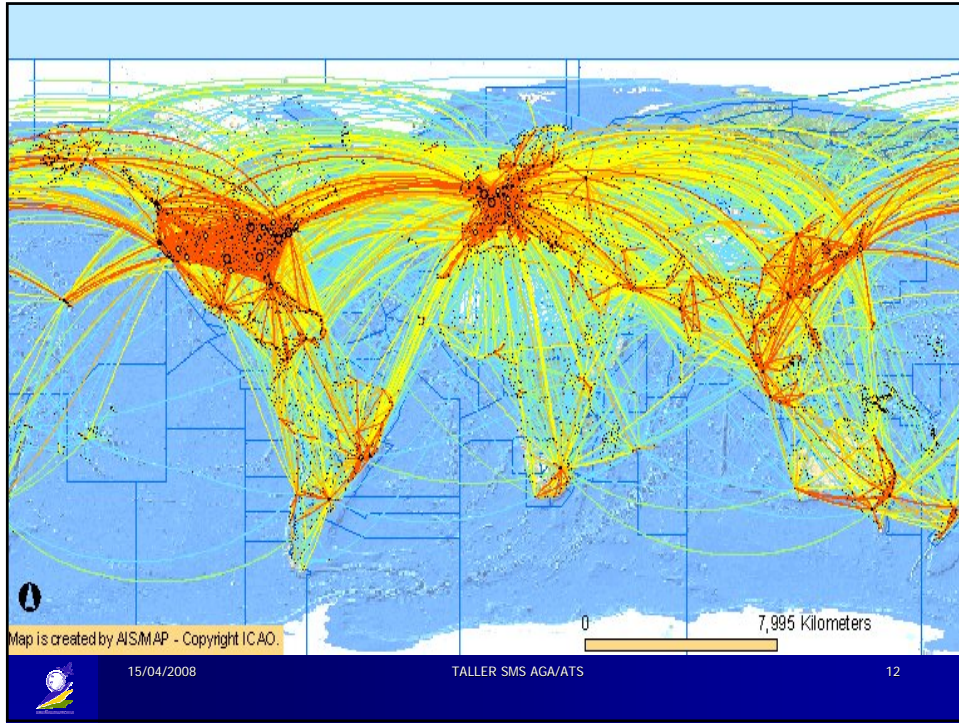
¿Que pasa con la aprobación de Enmiendas a los Anexo?


DE 190 ESTADOS 22 responden con comentarios, 25 de acuerdo y el resto no responde nada. (ámbito aeródromos).

Total Pax (bill)









Doc 7300/9

Convention on International Civil Aviation
Convention relative à l'aviation civile internationale
Convenio sobre Aviación Civil Internacional
Конвенция о международной гражданской авиации

The document comprises Doc 7300/9.
 Le présent document comprend le Doc 7300/9.
 Este documento comprende el Doc 7300/9.
 Настоящий документ включает Doc 7300/9.

Ninth Edition - Neuvième édition - Novena edición - Итоговое издание — 2008

International Civil Aviation Organization
 Organisation de l'aviation civile internationale
 Organización de Aviación Civil Internacional
 Международная организация гражданской авиации



15/04/2008

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1 Licencias al personal (Personnel licensing)	2 Reglamento del aire (Rules of the air)	3 Servicio MET (MET Service for Intl AirNav)	4 Cartas aeronáuticas (Aeronautical Charts)
5 Unidades medida que se emplearán en ops. aéreas y terrestres (Units of Measurement be Used in Air and Ground Ops)	6 Operación Aeronaves Parte I – II – III (Operation of Aircraft)	7 Marcas nacionalidad y de matrícula de aeronaves (Aircraft Nationality and Registration Marks)	8 Aeronavegabilidad (Airworthiness of Aircraft)
9 Facilitación (Facilitation)	10 Telecomunicaciones Aeronáuticas Vol. I – II – III – IV – V (Aeronautical TTY)	11 Servicios Tránsito Aéreo (Air Traffic Services)	12 Búsqueda y Salvamento (Search and Rescue)
13 Investigación Acc. e Inc. aviación (Aircraft Acc and Inc Investigation)	14 Aeródromos (Aerodromes)	15 Servicios Información Aeronáutica (Aeronautical Information Serv.)	16 Protección medio ambiente (Environmental Protection)
17 Seguridad (Security)	18 Transporte sin riesgos Mercancías peligrosa (The safe transport of dangerous goods by air)	Manuales (Manuals) Circulares Estudios	USOAP USAP Resoluciones Asamblea Decisiones Consejo Cartas a Estados Decisiones Grupo Regionales (GREPCAS)



International Civil Aviation Organization Organisation de l'aviation civile internationale Organización de Aviación Civil Internacional Международная организация гражданской авиации منظمة الطيران المدني الدولي 国际民用航空组织

Tel.: +1 (514) 954-8153

Ref.: AN 12/17-05/93

7 October 2005

Subject: Proposal for the amendment of Annex 6, Parts I and III, Annex 11, and Annex 14, Volume I, to harmonize provisions regarding safety management

Action required: Comments to reach Montreal by 31 December 2005



ICAO Manuals	
Human Factors Training Manual Part one introduces basic aviation Human Factors concepts. Part two outlines Human Factors Training Programmes for operational personnel.	Doc 9683
Human Factors Guidelines for Air Traffic Management (ATM) Systems This manual contains guidance for States and equipment providers to incorporate Human Factors knowledge into the design and certification of ATM-related technology and procedures.	Doc 9758
Line Operations Safety Audit (LOSA) This manual contains guidance to assist operators with the implementation of audits to capture safety data during normal airline data.	Doc 9803
Human Factors Guidelines for Safety Audits Manual This manual provides standard procedures for the conduct and safety oversight audits, with respect to safety issues related to operational and human performance.	Doc 9806
Human Factors in Civil Aviation Security Operations This manual is an introduction to the latest information on relevant Human Factors considerations in civil aviation security operations.	Doc 9808
Human Factors Guidelines for Aircraft Maintenance Manual This manual is an introduction to the control of human error and the development of countermeasures to errors in the aircraft maintenance environment.	Doc 9824
Human Factors Digest No. 5: Operational Implications of Automation in Advanced Technology Flight Decks Introduces basic Human Factors considerations in the operation and training of advanced-technology flight deck aircraft.	Circular 234
Human Factors Digest No. 7: Investigation of Human Factors in Accidents and Incidents Discusses the background and introduces a protocol for the investigation of Human Factors issues in accidents and incidents.	Circular 240
Human Factors Digest No. 8: Human Factors in Air Traffic Control Discusses basic Human Factors issues in air traffic control, including workstation design and personnel selection and training.	Circular 241
Human Factors Digest No. 10: Human Factors, Management and Organization Introduces the concept of systemic safety, and presents the background information as well as a protocol to implement safety Programmes.	Circular 247
Human Factors Digest No. 11: Human Factors in CNS/ATM Systems Introduces the concept of human-centered automation.	Circular 249
Human Factors Digest No. 12: Human Factors in Aircraft Maintenance and Inspection Discusses basic Human Factors issues in aircraft maintenance and inspection, including maintenance personnel selection and training.	Circular 253
Human Factors Digest No. 15: Human Factors in Cabin Safety Introduces relevant Human Factors considerations for aircraft passenger cabin safety.	Circular 300
Human Factors Digest No. 16: Cross-Cultural Factors in Aviation Safety Provides awareness of cultural interfaces and the impact of cross-cultural factors on aviation safety.	Circular 302
Draft Circular: Threat and Error Management (TEM) in Air Traffic Control	DRAFT

Articles from the ICAO Journals

Table of Contents
Top Ten Recommended Introductory Reading List of Free ICAO Material
Accident / Incident
Avionics
Crew Resource Management
Fatigue
Flight Operational Quality Assurance (FOQA), Line Operations Safety Audit (LOSA), Normal Operations Safety Survey (NOSS), & Threat and Error Management (TEM)
Language
Maintenance
General Seminars
Training
Miscellaneous
Cross-Cultural Issues

For more information contact:
Coordinator, Flight Safety and Human Factors Programme
Email: dmaurino@icao.int

Resources and Links Page

This page provides a listing of resources available on the web that we have found useful.

Aviation Authority Human Factors

- [JAA Human Factors Steering Group and Starting Point to Learn About Safety and Human Error Risk \(SPLASHER\) document that provides general information and references.](#)
- [FAA Office of the Chief Scientist for Human Factors](#)
- [FAA Regulation and Certification](#)
- [FAA Civil Aeromedical Institute](#)
- [FAA William J. Hughes Technical Center](#)
- [EUROCONTROL Human Factors](#)
- [EUROCONTROL-EATMP Human Resources Domain Publications and On-line Human Factors Integration in Future ATM Systems Web Site](#)

Other Government Research Human Factors

- [John A. Volpe National Transportation Systems Center \(US Department of Transportation\)](#)
- [NASA AMES Human Factors](#)
- [NASA Langley Airborne Systems](#)

Academic and Research Human Factors

- [Research Integrations](#)
- [University of Texas Human Factors Research Project](#)

Industry

- [Air Transport Association of America \(ATA\)](#)
- [Flight Safety Foundation \(FSF\)](#)
- [International Air Transport Association \(IATA\)](#)
- [IFALPA](#)
- [IFATCA](#)
- [International Society of Air Safety Investigators \(IASI\)](#)
- [National Business Aviation Association \(NBAA\)](#)
- [Regional Airline Association \(RAA\)](#)
- [RTCA, Inc.](#)
- [Society of Automotive Engineers \(SAE\) Behavioral Engineering Technology Committee \(G-10\)](#)

See Also

- [Federal Register and Code of Federal Regulations \(CFR\)](#)
- [Human Factors Job Vacancies at the FAA](#)
- [Microsoft Design Philosophy and User Interface Guides](#)
- [Summit Aviation \(to purchase regulations on CD-ROM\)](#)
- [Projects Database by Joint Aeronautical Commanders Group Aviation Science and Technology](#)
- [Human Factors and Ergonomics Society](#)

For more information contact:
Coordinator, Flight Safety and Human Factors Programme
Email: dmaurino@icao.int

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STRATEGIC OBJECTIVES OF ICAO

Current

The International Civil Aviation Organization, a UN Specialized Agency, is the global forum for civil aviation.

ICAO works to achieve its vision of safe, secure and sustainable development of civil aviation through cooperation amongst its member States.

To implement this vision, the Organization has established the following Strategic Objectives for the period 2005-2010:

- Safety - Enhance global civil aviation safety
- Security - Enhance global civil aviation security
- Environmental Protection - Minimize the adverse effect of global civil aviation on the environment
- Efficiency - Enhance the efficiency of aviation operations
- Continuity - Maintain the continuity of aviation operations
- Rule of Law - Strengthen law governing international civil aviation



Resoluciones
Asamblea
OACI



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Normas y métodos recomendados internacionales

Anexo 14 al Convenio sobre Aviación Civil Internacional

Aeródromos

Volumen I
Diseño y operaciones de aeródromos

Esta edición incorpora las enmiendas adoptadas por el Consejo antes del 28 de febrero de 2004 y entradas en vigor del 28 de noviembre de 2004, todas las enmiendas adicionales del Anexo 14, Volumen I.

Véase en el Prefacio y en el Capítulo 1, 1.2, la información relativa a la aplicación de las normas y métodos recomendados.

Cuarta edición
Julio de 2004

Organización de Aviación Civil Internacional

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SARPS

- Anexo 14, Vol. I, Punto 1.4.4, Parte Proceso Certificación, los Estados (DCAC), garantizarán que, previo a la entrega del certificado de aeródromo, Solicitante presente MAD y éste incluya SMS.
- Punto 1.5.3, los Estados exigirán, como parte de su programa SO, que el Operador certificado del AD. Implante SMS aceptable para Estado.

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Definiciones

■ Certificación AD.

Proceso de inspección ejercido por el Estado, conducente a la entrega de un Certificado, que **valide y garantice** el diseño y la operación de Aeródromo.

■ SMS

Enfoque sistemático para la gestión de la seguridad operacional, que incluye la estructura orgánica, líneas de responsabilidad, políticas y procedimientos necesarios.

Para esto, el proveedor de los servicios debe: **acreditar la conformidad** con las normas (AAC/DGAC) y la **adhesión** con los métodos recomendados (AAC/OACI) y procedimientos a fines, relativos al diseño, operación y mantenimiento de la infraestructura, equipamiento y servicios (profesionales/técnicos aeronáuticos), asimismo el **ejercicio de un sistema de gestión de seguridad operacional**.



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Aspectos a evaluar en el Proceso de Certificación AD.



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CURSO DE INSPECCIÓN DE AERÓDROMOS

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Objetivos SMS/Certificación AD.

- Certificación AD.
 - **Garantizar** el establecimiento de un **régimen normativo** que permita **asegurar** en **forma eficaz** el cumplimiento de las especificaciones contenidas Anexo 14.
- SMS
 - Aeródromo cuenta con un **procedimiento organizado y ordenado** para la **gestión** de la seguridad operacional del aeródromo por parte del operador del mismo.

OBSERVACIÓN: OPERADOR ESTÁ IMPLEMENTANDO ANTICIPADAMENTE CERTIFICACIÓN / SMS A LA REGULACIÓN AAC/DGAC.



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REGULACIONES



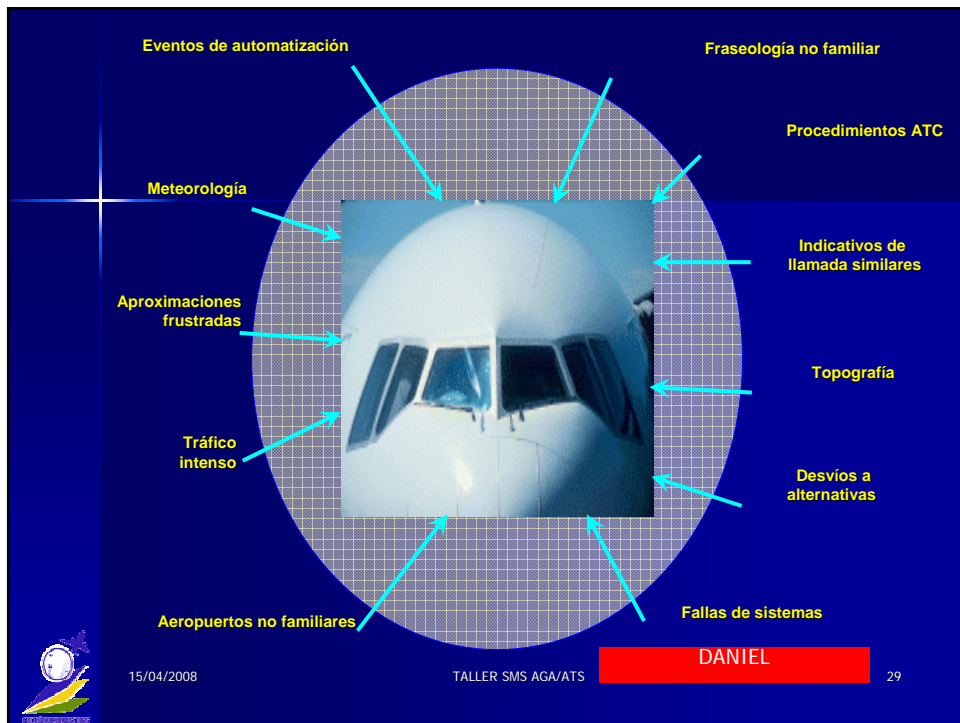
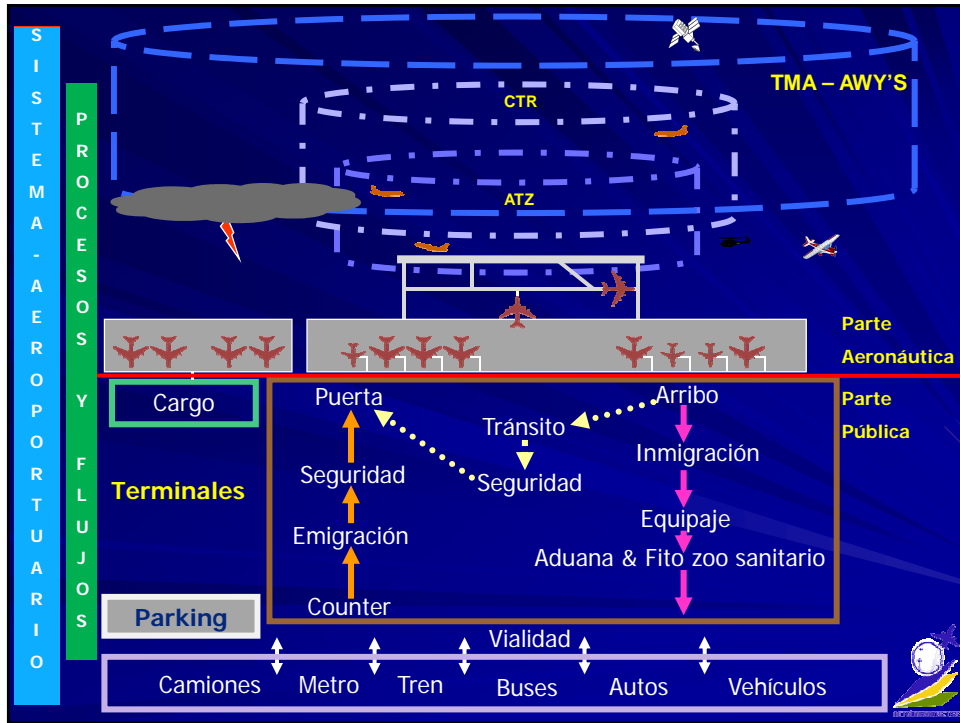
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A central image of a radar tower is surrounded by a circular grid. Cyan arrows point from various text labels to the tower. The labels are as follows:

- LAHSO
- Aproximaciones frustradas
- Falla de comunicaciones
- Inspecciones de pista
- Indicativos de llamadas similares
- Reducción de separación mínima
- Restricciones de espacio aéreo
- Cruces de pistas
- Fallas de sistemas
- Reclasificación del espacio
- Tráfico intenso
- SIRO
- Meteorología
- Procedimientos anti ruido

DANIEL

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An aerial view of an airport terminal and surrounding areas is shown within a circular grid. Cyan arrows point from various text labels to the image. The labels are as follows:

- FO(D)
- Construcciones
- Vehículos en plataforma
- Inspecciones de pista
- Problemas de seguridad aeroportuaria
- Procedimientos no estandarizados
- Restricciones de ruido
- Cruce de pistas
- Ecosistema
- Áreas de construcción
- Tráfico pesado
- Obstáculos
- Meteorología

DANIEL

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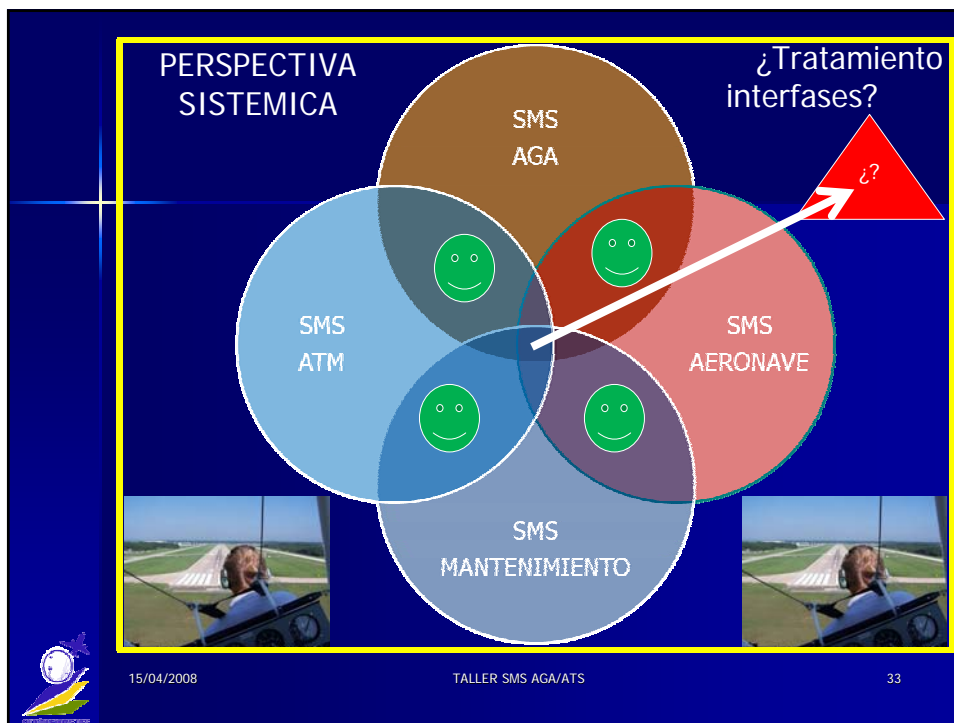
Actores	Variación	Precusores de accidente					Otro agravante
		l: Language proficiency	c: Callsign mistake	f: fraseología no estándar	s: conciencia situacional	d: distracción / fatiga / stress	
p: Piloto	$\frac{\partial A_p}{\partial t}$	$\frac{\partial X_{pl}}{\partial t}$	$\frac{\partial X_{pc}}{\partial t}$	$\frac{\partial X_{pf}}{\partial t}$	$\frac{\partial X_{ps}}{\partial t}$	$\frac{\partial X_{pd}}{\partial t}$	$\frac{\partial A_{p,1}}{\partial t}$
a: Auxiliar	$\frac{\partial A_a}{\partial t}$	$\frac{\partial X_{al}}{\partial t}$	$\frac{\partial X_{ac}}{\partial t}$	$\frac{\partial X_{af}}{\partial t}$	$\frac{\partial X_{as}}{\partial t}$	$\frac{\partial X_{ad}}{\partial t}$	$\frac{\partial A_{a,1}}{\partial t}$
l: técnico o mecánico	$\frac{\partial A_l}{\partial t}$	$\frac{\partial X_{ll}}{\partial t}$	$\frac{\partial X_{lc}}{\partial t}$	$\frac{\partial X_{lf}}{\partial t}$	$\frac{\partial X_{ls}}{\partial t}$	$\frac{\partial X_{ld}}{\partial t}$	$\frac{\partial A_{l,1}}{\partial t}$
r: Rampa	$\frac{\partial A_r}{\partial t}$	$\frac{\partial X_{rl}}{\partial t}$	$\frac{\partial X_{rc}}{\partial t}$	$\frac{\partial X_{rf}}{\partial t}$	$\frac{\partial X_{rs}}{\partial t}$	$\frac{\partial X_{rd}}{\partial t}$	$\frac{\partial A_{r,1}}{\partial t}$
c: Controlador	$\frac{\partial A_c}{\partial t}$	$\frac{\partial X_{cl}}{\partial t}$	$\frac{\partial X_{cc}}{\partial t}$	$\frac{\partial X_{cf}}{\partial t}$	$\frac{\partial X_{cs}}{\partial t}$	$\frac{\partial X_{cd}}{\partial t}$	$\frac{\partial A_{c,1}}{\partial t}$

BEATRIZ


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PERCEPCIONES - NIVEL ESTRATÉGICO

					
OACI	AAC DGAC	IATA	ACI	IFATCA	IFALPA

¿ARMONIZACIÓN SMS?

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¿PERCEPCIONES NIVEL TÁCTICO IMPLEMENTACIÓN SMS?

Aeronaves
y
Mantenimiento

AGA

ATM

AAC/DGAC

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CADENA DEL VALOR SMS Y CERTIFICACIÓN DE AERÓDROMOS
 CONCEPTOS POSICIONAMIENTO ESTRATÉGICO

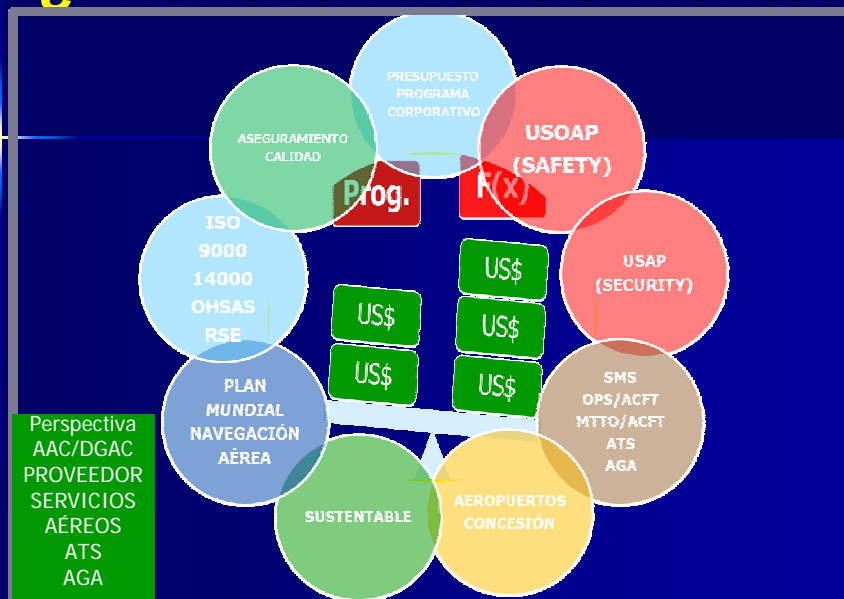


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¿Prioridad Financiamiento?

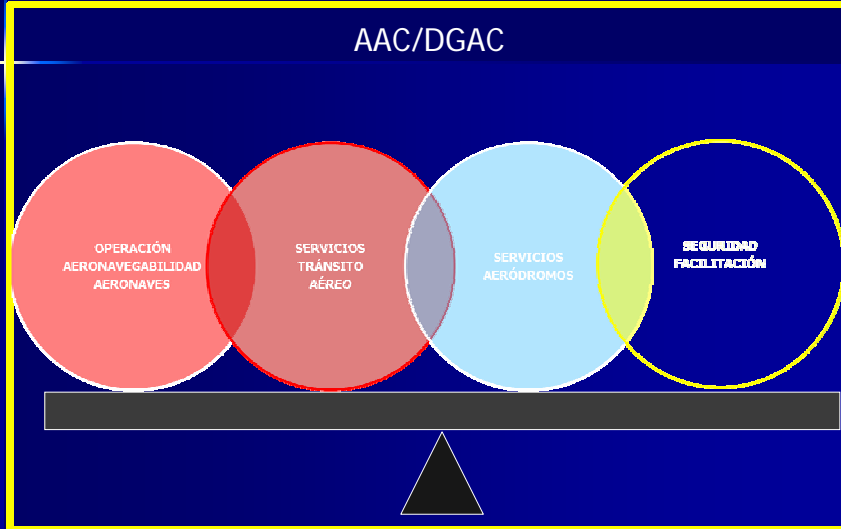


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¿EXISTE DE PARTE DE LAS AAC/DGAC UN EQUILIBRIO EN LA DESTINACIÓN DE RECURSOS?



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¿EXISTE DE PARTE DE LAS OPERADORES DE LÍNEAS ÁEREAS UN EQUILIBRIO EN LA DESTINACIÓN DE RECURSOS?



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¿EXISTE DE PARTE DE LAS ADMINISTRACIONES
AEROPORTUARIAS UN EQUILIBRIO EN LA
DESTINACIÓN DE RECURSOS?



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¿Qué hacer ante este escenario?

- **ENTENDIMIENTO E IMPLANTACIÓN EFECTIVA (sistémica y estandarizada) DEL SMS O ISMS? (safety, security, sustentabilidad, prevención riesgo laboral, RSE);**
- **PLAN ACCIÓN CON PRIORIZACIÓN Y CRITERIO COMPESADO, COMPATIBLE Y COMPLEMENTADO;**
- **COORDINACIÓN EFICAZ Y ASIGNACIÓN EQUILIBRADA RECURSOS A LA CADENA DEL VALOR;**
- **UN RESULTADO EFECTIVO DE LA IMPLANTACIÓN DEL SMS, TIENE SU BASE EN LA PERSPECTIVA ACADÉMICA CON QUE SEA TRATADO.**

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Conclusión

No pierda la perspectiva.. "Document e lo que hace, Haga lo que documente, Verifique que lo esté haciendo"



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