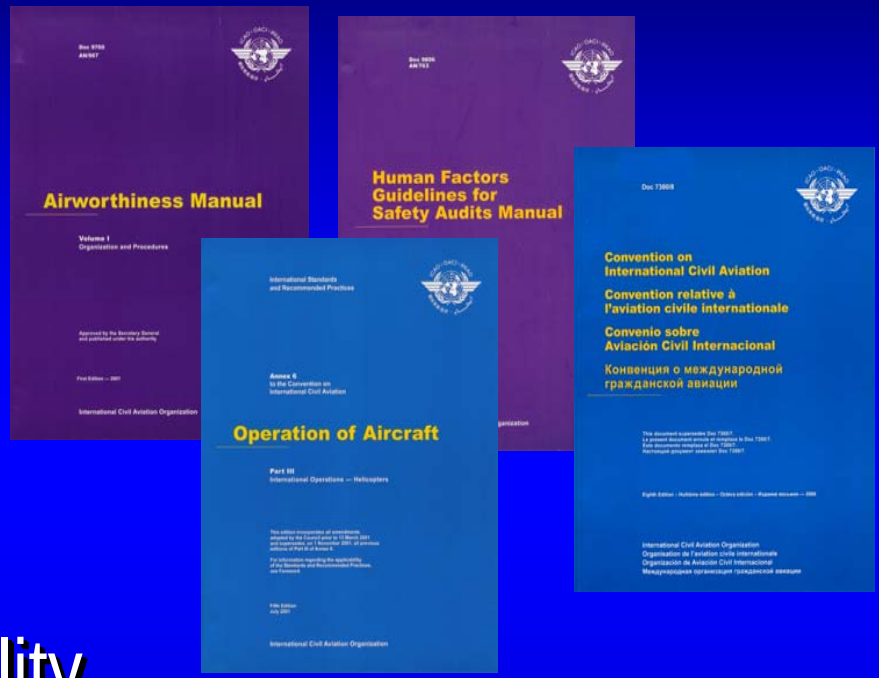
ICAO
Safety Management Systems (SMS) Framework

A Generic Briefing

The Big Picture

- Two audience groups
  - ✓States
  - ✓Service providers
- Three distinct requirements
  - ✓Safety programme
  - ✓SMS
  - ✓ Management accountability



As of 23 November 2006

States shall establish a safety programme, in order to achieve an acceptable level of safety in:

- The operation of aircraft
- The maintenance of aircraft
- The provision of air traffic services
- Aerodrome operations

What is a Safety Programme?

An integrated set of regulations and activities aimed at improving safety

- Safety regulation
- Safety oversight
- Accident/incident investigation
- Mandatory reporting systems
- Voluntary reporting systems
- Safety data analysis & exchange
- Safety promotion

As of 23 November 2006

States shall require, as part of their safety programme, that an *[operator, maintenance organization, ATS provider, certified aerodrome operator]* implements a safety management system accepted by the State that

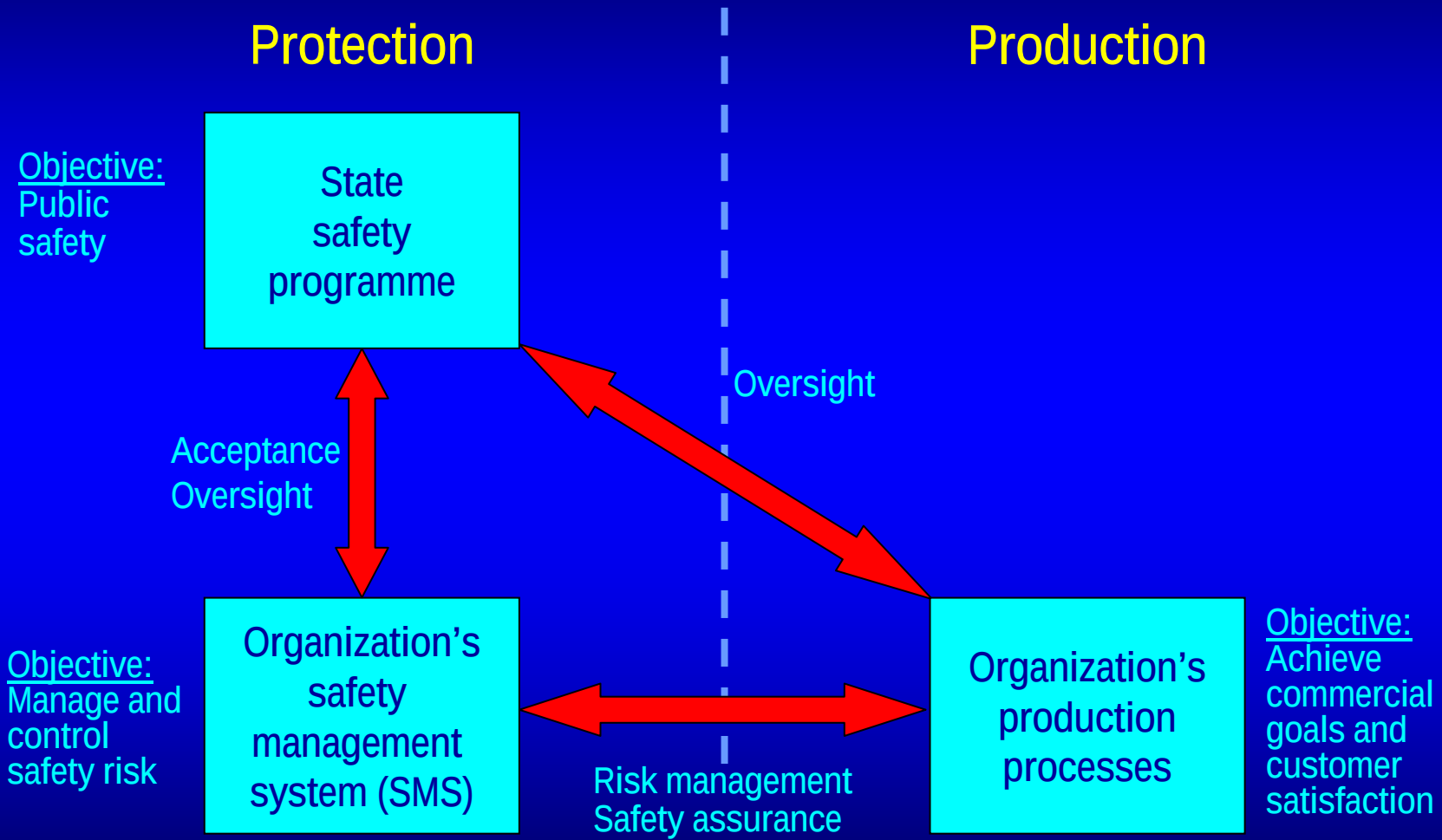
- Identifies safety hazards
- Ensures that remedial action necessary to maintain an acceptable level of safety is implemented
- Provides for continuous monitoring and regular assessment of the safety level achieved
- Aims to make continuous improvement to the overall level of safety

What is an SMS?

A systematic approach to managing safety, including the necessary organizational structures, accountabilities, policies and procedures

- ✓ Providers are responsible for establishing an SMS
- ✓ States are responsible of the acceptance and oversight for providers' SMS

Safety Programme – SMS Relationships



As of 23 November 2006

An accepted safety management system shall clearly define lines of safety accountability throughout the *[airline, maintenance, ATS provider, certified aerodrome operator]* organization, including direct accountability for safety on the part of senior management

Acceptable Level of Safety

- Safety indicators – Short-term objectives of a safety programme or an SMS
  - ✓ *No more than 0.8 Cat A and B (most serious) runway incursions per million operations through 2009*
- Safety targets – Medium or long-term objectives of a safety programme or an SMS
  - ✓ *By 2010 reduce Cat A and B (most serious) runway incursions to a rate of not more than 0.5 per million operations*
- May be different or the same

Acceptable Level of Safety

- Safety requirements – Operational procedures, technology and systems, programmes, and contingency arrangements
- Measures of reliability, availability and/or accuracy may be added
  - *Install Airport Surface Detection Equipment-Model XV (ASDE-XV) at (three busiest airports) within the next 12 months, with 98% annual availability*

Acceptable Level of Safety

Legal considerations

- ✓ Establishing acceptable level(s) of safety does not replace legal, regulatory, or other already established requirements, but it must support compliance with them

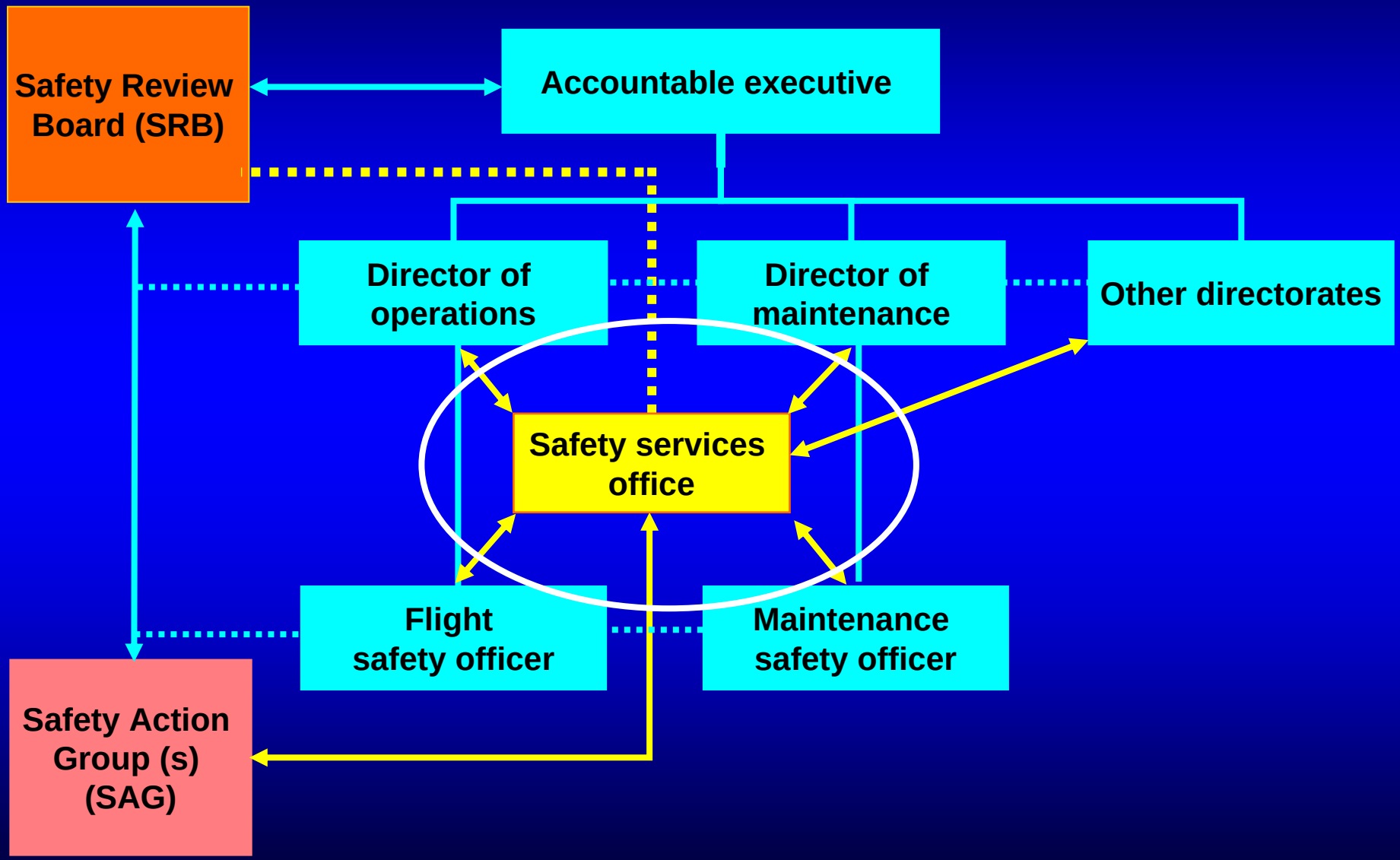
Acceptable Level of Safety

- There will seldom be a single or national acceptable level of safety
- Different acceptable levels of safety will be separately agreed between the oversight authority and individual service providers
- Each agreed acceptable level of safety should be
  - ✓ commensurate to the complexity of individual service provider specific operational context
  - ✓ availability of operator/services provider resources

ICAO SMS Framework

1. **Safety policy and objectives**
   - 1.1 – Management commitment and responsibility
   - 1.2 – Safety accountabilities of managers
   - 1.3 – Appointment of key safety personnel
   - 1.4 – SMS implementation plan
   - 1.5 – Coordination of the emergency response plan
   - 1.6 – Documentation
2. **Safety risk management**
   - 2.1 – Hazard identification processes
   - 2.2 – Risk assessment and mitigation processes
3. **Safety assurance**
   - 3.1 – Safety performance monitoring and measurement
   - 3.2 – The management of change
   - 3.3 – Continuous improvement of the safety system
4. **Safety promotion**
   - 4.1 – Training and education
   - 4.2 – Safety communication

Safety Accountabilities



Why a Phased Approach to SMS?

- To provide a manageable series of steps to follow in implementing an SMS
- To effectively manage the workload associated with SMS implementation
- To pre-empt a “ticking boxes” exercise
  - ✓Four implementation phases are proposed
  - ✓Each phase is based upon the introduction of specific SMS elements

Phase 1

1. Identify the accountable executive and the safety accountabilities of managers

   Elements 1.1 and 1.2

2. Identify the person (or planning group) within the organization responsible for implementing the SMS

   Element 1.3

3. Describe the system (Air operator, ATC services provider, approved maintenance organization, certified aerodrome operator)

   Element 1.4

Phase 1

4. Conduct a gap analysis of the organization's existing resources compared with the requirements for establishing a SMS.

   Element 1.4

5. Develop an SMS implementation plan on the basis of national requirements and international SARPs, the system description and the results of the gap analysis.

   Element 1.4

6. Develop documentation relevant to safety policy and objectives

   Element 1.6

7. Develop and establish means for safety communication

   Element 4.2

Phase 2

Puts into practice those elements of the SMS implementation plan that refer to:

1. Safety risk management component – Reactive processes

    Elements 2.1, 2.2 and 2.3

Phase 2

2. Training relevant to:
   - The SMS implementation plan components
   - The safety risk management component (Reactive processes)

     Element 4.1
3. Documentation relevant to:
   - The SMS implementation plan components
   - The safety risk management component (Reactive processes)

     Elements 1.4 and 1.6

Phase 3

Puts into practice those elements of the SMS implementation plan that refer to:

1. Safety risk management component – Proactive and predictive processes
   Elements 2.1, 2.2 and 2.3
2. Training relevant to proactive and predictive processes.
   Element 4.1
3. Documentation relevant to proactive and predictive processes.
   Elements 1.4 and 1.6

Phase 4

1. Operational safety assurance
   - Development of acceptable level (s) of safety
   - Development of safety indicators and targets
   - SMS continuous improvement.

     Elements 3.1, 3.2, and 3.3
2. Training relevant to operational safety assurance

   Element 4.1
3. Documentation relevant to operational safety assurance.

   Element 1.6