



# From Prescriptive Regulation to Performance Based Regulation

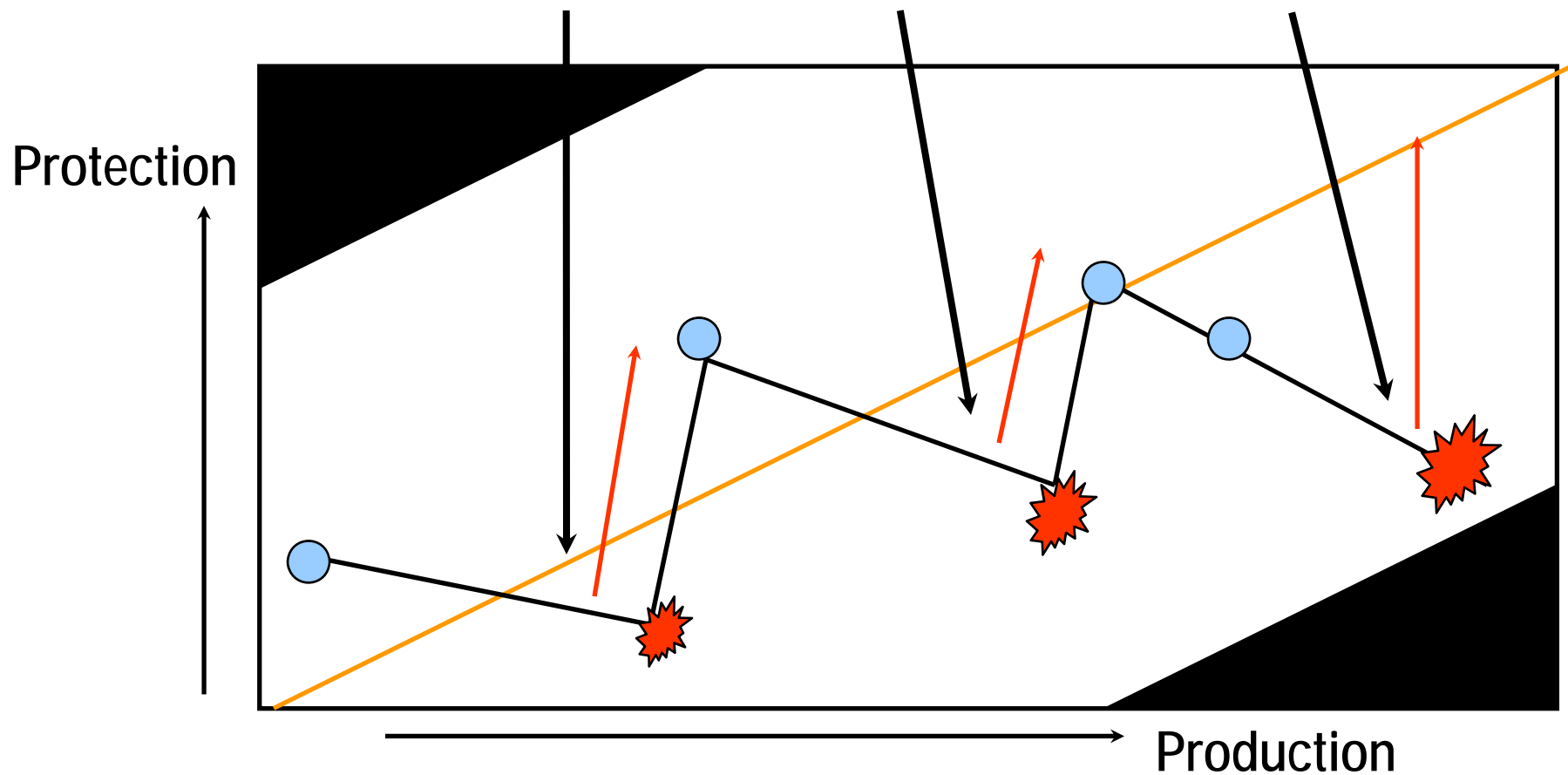
SMS: The Canadian Experience (Eh!)





# PERFORMANCE BASED REGULATIONS

Government Interventions pulling the safety level up after an event





# TRANSITION TO PERFORMANCE BASED REGULATION

What needed to change?

- Regulations (Expectations)



- System Based Approach to Surveillance (2  
Aspects of Compliance)



- Training (Internal and External)



- Different Competency Requirements

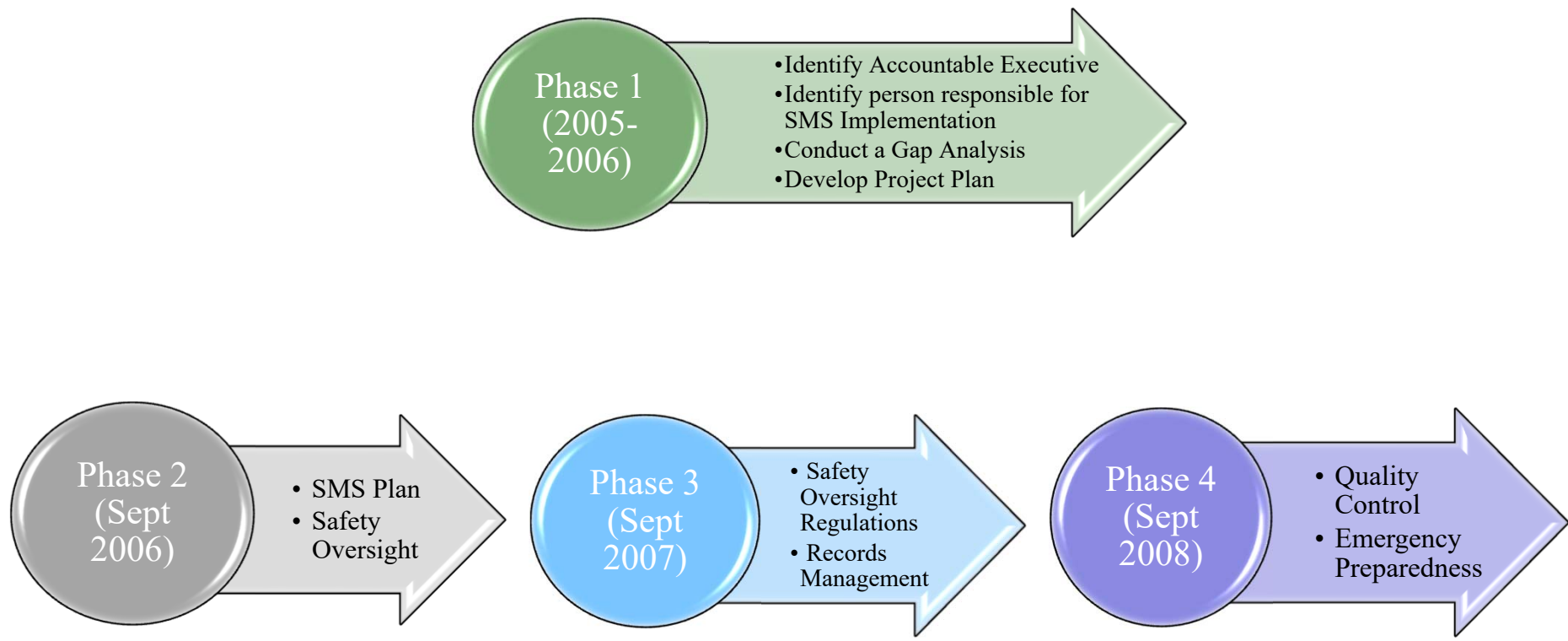


# CANADIAN AVIATION SECTORS WITH SAFETY MANAGEMENT SYSTEMS FULLY IMPLEMENTED





# SMS IMPLEMENTATION STRATEGY





# EXPECTATIONS

Plain-language, systems based interpretation of the CARs

- Set of guidelines for “good” compliance
- Based on regulatory requirements
- Does not replace regulation; not the basis of findings
- E.g. *Component 4. Training Awareness and Competence*: “There is a documented process to identify training requirements so that personnel are competent to perform their duties.”



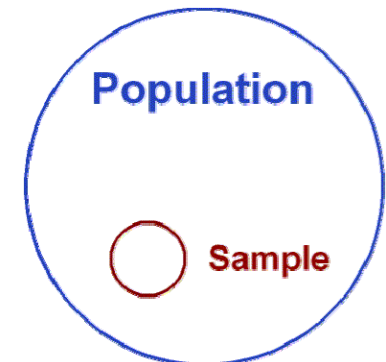
## 2 ASPECTS OF COMPLIANCE

- An enterprise being in compliance =
  - Meeting technical regulatory requirements (operating environment)
  - IF requirements are met
- An enterprise ensuring compliance =
  - Not only meeting technical regulatory requirements, but also having a system (management controls) to ensure that these regulatory requirements continue to be met on an ongoing basis
  - HOW requirements are met



# SYSTEMS BASED SURVEILLANCE

- Primary tool for TCCA's surveillance program
  - Enterprises develop systems to comply with their regulatory requirements
  - Appropriate and current to their operations
- Based on sampling of enterprise outputs
  - Not just record reviews or interviews
  - Determined and justified in sampling plan







# COMPETENCIES (INSPECTORS ... AND INDUSTRY)

## Compliance Based Regulations and Oversight

- Technical knowledge and experience

## Performance Based Regulations and Oversight

- Understanding of management systems;
- Understanding oversight of SMS companies;
- Understanding how organizational safety performance framework and indicators are developed;
- Understanding of organizational culture;
- Understanding sensitivity of confidential issues;
- Systems Thinking;
- Analytical skills;
- Decision-making skills;
- Open mindedness;
- Understanding Risk Analysis Principles



# EXTERNAL PROMOTION

- SMS Website
  - Guidance material (large and small operators)
  - SMS FAQs and interpretations
- SMS Forums
  - 1-2 each year in different regions
  - Speakers: best practices (industry, other CAAs)
- SMS Pilot Projects
  - 16 volunteers (small air operators, FTUs, AMOs)
  - 1 year to implement SMS; it can be done!



# EXTERNAL PROMOTION: LESSONS LEARNED

- Leverage industry associations
  - Develop member toolkits, data sharing/analysis
  - Small operator representation challenges
- Maximize new technologies to reach industry
  - Interactive SMS website
    - To submit questions and give feedback on FAQs
    - Web portal for industry to submit SMS documentation
  - Social media for frequent news
  - Web-streamed townhall meetings
  - Webinars and blogs



# INTERNAL PROMOTION

- Training
  - Pre-regulation: 4-day SMS overview (classroom)
  - Post-regulation: 5-day SMS assessment and follow-up simulation (classroom)
  - New inspectors: half-day computer-based training
  - Mandatory for all inspectors;
- Regional SMS Implementation Focals
  - Monthly telecons with Standards Branch
  - Annual F2F meetings



# INTERNAL PROMOTION: LESSONS LEARNED

- Timing is everything!
- Focus on practical (workshops) rather than theory
- Address SMS in small operations
- Explain how PBR oversight interfaces with existing regulatory requirements
- Include managers to lead cultural change
- Conduct refreshers (e.g. interpretation developments)
- Provide structured On the Job Training
- Assess inspector SMS competency
- Consider making learning tools accessible to industry



# BENEFITS/ADVANTAGES OF PERFORMANCE BASED REGULATIONS

- Allows industry to find and solve their own problems
  - Quality Assurance strengthens this program and allows a mechanism of continuous internal monitoring.
  - Allows for a point of entry for us to monitor how things are going internally.
- Facilitates continuous improvement without regulatory burden
  - Management Commitment, an element of SMS, allows for the implementation of a culture of continual improvement appropriate to the organization.
- Allows an operator to focus on their individual requirements
  - Allows for scalability based on the size complexity of the organization, but also on the specific risks they face.
  - One size does not fit all! RDIMS #13680245



# BENEFITS/ADVANTAGES OF PERFORMANCE BASED REGULATIONS

- Allows for a proactive approach to managing risk
  - An effective SMS improves an organizations ability to detect emerging safety issues and prevent incidents by proactively identifying hazards and managing safety risks
  - Allows a regulator an additional point of entry to evaluate an organizations performance related to best practices, which may not be required by regulation.
    - E.g. Stabilized Approaches ... Targeted Inspection



# RECENT SAFETY PROMOTION

- TSB Watchlist & Recommendation A14-01:
  - TCCA should require airlines to monitor and reduce the incidence of unstable approaches that continue to landing
- TCCA response:
  - CASA 2014-03: Airlines must use their SMS to address hazards and risks associated with unstable approaches
  - IPB 2016-01: Targeted inspection campaign to assess effectiveness of measures taken





# RESULTS

Most airlines:

- Have good understanding of the issue and are capturing data to analyze and mitigate the risk
- Are updating operating procedures to include:
  - Decision heights (stable at 1000' in IMC / 500' in VMC)
  - Non-punitive go-around policies
- 94.3% are using a means to monitor unstable approaches and improve flight crew compliance:
  - Flight data monitoring
  - Flight operations quality assurance programs
  - Flight crew reporting of unstabilized approaches



# FINAL THOUGHTS-LESSONS LEARNED

- Organizations need effective and consistent guidance, interpretation, tools, and templates during implementation.
- New inspector competencies need to be evaluated and developed, with standardization across the regulator.
- Approval process requires national consistency.

# QUESTIONS

