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

Protection

Production
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

- **2005-2009**
  - Airlines
  - AMOs for Airlines

- **2008-2013**
  - Airports
  - Air Navigation Services

- **2014-**
  - Private Operators
SMS IMPLEMENTATION STRATEGY

Phase 1 (2005-2006)
- Identify Accountable Executive
- Identify person responsible for SMS Implementation
- Conduct a Gap Analysis
- Develop Project Plan

Phase 2 (Sept 2006)
- SMS Plan
- Safety Oversight

Phase 3 (Sept 2007)
- Safety Oversight Regulations
- Records Management

Phase 4 (Sept 2008)
- Quality Control
- Emergency Preparedness
EXPECTEDATIONS

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!
BENEFITS/ADVANTAGES OF PERFORMANCE BASED REGULATIONS

• Allows for a proactive approach to managing risk
  – An effective SMS improves an organization’s 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