

# Safety Management System (SMS)

Delta Air Lines, Inc.



# Synopsis/Summary of Delta's SMS

## 1. Scope

- Operational Divisions - ACS, CGO, FCC, FOP, IFS, TOP
- Corporate implementation team (Aviation Safety, CSSC)

## 2. Policy

- Individual SMS manuals for all operating divisions
- Corporate SMS manual and overarching SMS manual (Aviation Safety)
- Framework

## 3. Safety Assurance – Internal and Corporate audits

## 4. Communication and Awareness

## 5. Management Reviews and Safety Committees

- Divisional safety round tables
- Integrated SRTs

# Constantly Evolving and Improving

## Structure

1. All operational divisions engaged in SMS
  - Proactive data analysis/trends/feeds from operating divisions
  - Proactive analysis from other divisions supporting operational divisions
  - Continuous monitoring of performance measures
2. Continue to retain a formal log of safety actions taken
  - Tracking and documentation
  - Integrated SRT – cross divisional concerns
3. SRT
  - Change Management – Buy in
  - Line Management involvement

# Constantly Evolving and Improving

## 1. Safety Assurance

- Internal Audit – Investigations, Employee self reporting, self assessment
- External Audit – Corporate Audit Involvement

## 2. Communication, Competency, and Training

- Comprehensive Communications Program
- Documented Training (SMS Familiarization; eLearning)
- Risk Assessment Training

# Safety Assurance

1. Time Consuming
2. Interviews, observations, and assessment of the system
3. Checklists used to assess SMS
  - Detailed checklist (gap analysis) for air carriers  
*Note: “Does the operator have a process and associated documentation to ensure.....?”*
4. Measure effectiveness
  - Process audit – Maintenance  
*Note: To what degree has SMS been permeated in the organization*

# Safety Round Table

Groups tasked by operational leaders to

1. Identify hazards
2. Conduct risk assessment (Pre and Post mitigation)
3. Prioritize issues and resources
4. Business benefits
5. Assign accountability
6. Develop safety action
7. Measure performance of previous action
8. Membership includes
  - Department leaders
  - Subject matter experts (line operations)
  - Representatives from oversight organization
  - Employee representation

**RISK ASSESSMENT MATRIX**

SEVERITY LEVELS						LIKELIHOOD LEVELS				
RATING	PHYSICAL HURTY	DAMAGE TO THE ENVIRONMENT	DAMAGE TO ASSETS	POTENTIAL INCREASED COST OR REVENUE LOSS	DAMAGE TO CORPORATE REPUTATION	A UNKNOWN BUT POSSIBLE IN THE AVIATION INDUSTRY	B KNOWN IN THE AVIATION INDUSTRY	C OCCURRED IN THE COMPANY	D REPORTED WITHIN THE COMPANY	E REPORTED AT A PARTICULAR LOCATION
0	No Injury	No Effect	No Damage	No Increased Cost Or Lost Revenue	No Implication	ACCEPTABLE				
1	Minor Injury	Minor Effect	Minor Damage < US \$50K	Minor Loss < US \$50K	Limited Localized Implication					
2	Severely Injury	Contained Effect	Substantial Damage < US \$250K	Substantial Loss < US \$250K	Regional Implication	ACCEPTABLE WITH MITIGATION				
3	Single Fatality	Major Effect	Major Damage > US \$1M	Major Loss > US \$1M	National Implication	UNACCEPTABLE				
4	Multiple Fatalities	Massive Effect	Catastrophic Damage > US \$1M	Massive Loss > US \$1M	International Implication	UNACCEPTABLE				

# Integrating Safety Action

Purpose is to

1. Share safety information
2. Communicate cross-divisional concerns
3. Assign safety action to appropriate division
4. FAA interface and data

Divisional Safety Round Tables

1. Airport Customer Service
2. Cargo
3. Dispatch
4. Flight Ops
5. In-Flight Service
6. Technical Ops

SRTs partnership with the FAA

1. Operational business leaders
2. Corporate
3. FAA



# Divisional/Integrated SRT Agenda

1. Corporate Metrics
2. Data and Analysis
3. Voluntary Reporting Programs – summary, trends, and analyses
4. Updates – SRT Action log
5. FAA inputs (common risks)
6. Validation measures
  - Benefits of the Integration towards Single Operating Certificate (SOC)
  - Proactive and Predictive performance measures
7. Feedback/Concerns from last SRT
8. Documentation and Tracking
9. Internal audit findings and observations

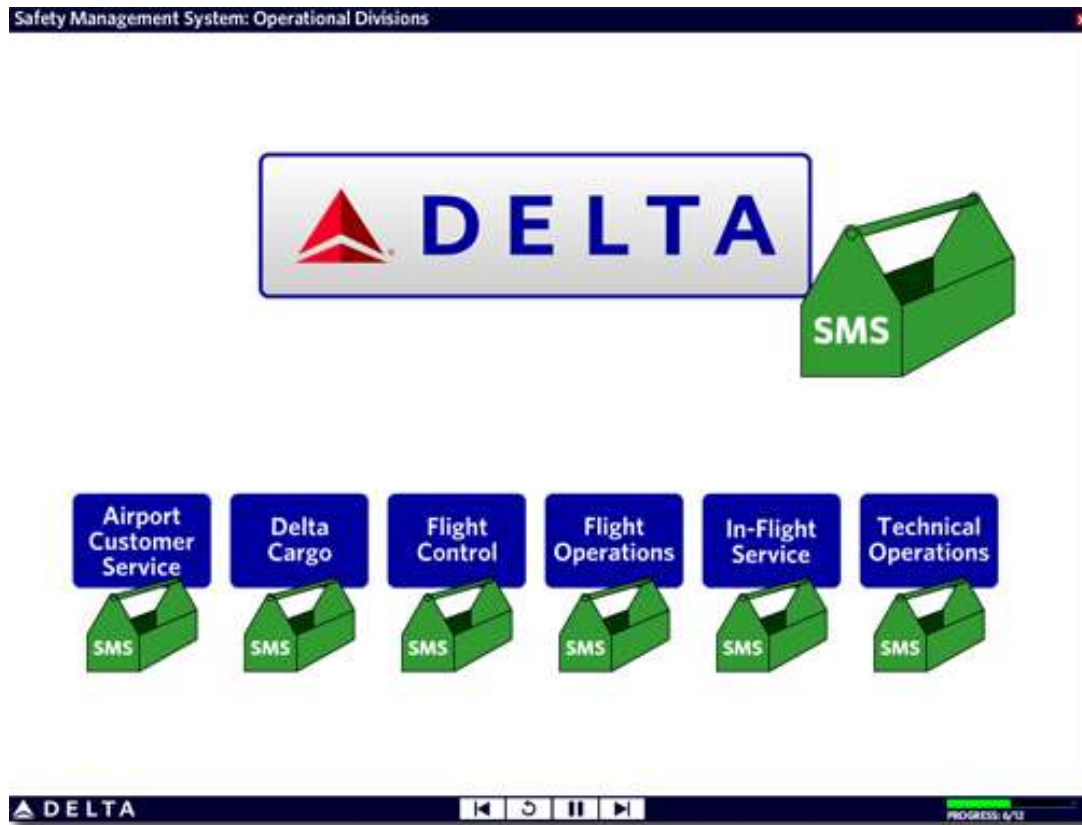


# Communication, Safety Promotion and Awareness



# SMS Familiarization

1. E-learning module
2. Available on Delta and Northwest Learning Management System



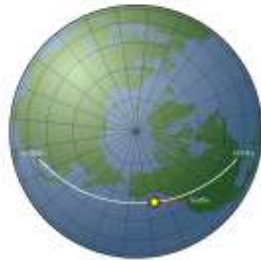
# Competence/Training Specifications

- 1. Personnel with specific SMS program responsibilities (i.e., all personnel managing the program or attending the SRT):** An initial course and at least an annual refresher on the basic components of the program and how to interpret any associated data analysis. Additional training would be required for significant changes to the program
- 2. Managers with direct reports:** A general introduction to the concepts. (The three minute SMS animation would satisfy this objective.) No additional training would be required unless there was a significant change to the program
- 3. Frontline employees:** If the employees are trained on their safety responsibilities, are familiar with the methods to communicate safety concerns, and are provided with safety information as a result of the SMS program, there will not be any additional SMS initial or recurrent training requirements (The three minute SMS animation would satisfy this objective)

# Safety Risk Assessment Learning

1. Class room scenario based training
2. E-learning credit for employees with safety role for documentation
3. Calibrates risk assessment practices companywide

Safety Risk Assessment — Reactive Scenario



### Risk Assessment Matrix

RATING	SEVERITY LEVELS					LIKELIHOOD LEVELS				
	PHYSICAL HARM?	DAMAGE TO THE ENVIRONMENT?	SERIOUS TO ASSETS?	POSSIBLE, UNEXPECTED LOSS OR REVENUE LOSS?	DAMAGE TO COMPANY'S REPUTATION?	# OPERATIONS AFFECTED IN THE AIRCRAFT INDUSTRY	# OCCURS IN THE AIRCRAFT INDUSTRY	OCCURRED IN THE COMPANY	REPORTED BY THE CUSTOMER/COMPANY	REPORTED BY A THIRD PARTY LOCATION
1	No Injury	No Effect	No Damage	No/Minimal Injury Loss Revenue	No Impairment	ACCEPTABLE				
2	Minor Injury	Minor Effect	Minor Damage	Minor Loss < US \$50K	Limited Local Reputation	ACCEPTABLE WITH MITIGATION				
3	Major Injury	Major Effect	Major Damage	Major Loss > US \$50K	Regional Reputation	UNACCEPTABLE				
4	Critical Injury	Critical Effect	Critical Damage	Critical Loss > US \$500K	National Reputation	UNACCEPTABLE				

Determination of Risk Acceptability:

- ACCEPTABLE
- ACCEPTABLE WITH MITIGATION
- UNACCEPTABLE

DELTA

PROGRESS: 6/11

# Questions

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# Analysis

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# Hazard Identification and Tracking Techniques

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# Identify Hazards

1. Voluntary safety reports
2. Reports required by the company
3. Formal investigations
4. Inputs from subject matter experts
5. Analysis of training, operational, and employee performance data
6. Industry sources

# Corporate and Individual operating divisions

## 1. Corporate

- Hotline – telephonic or electronic (employee self reporting, non-punitive, anonymous)
- A venue to gather/identify hazards

## 2. Internal and external audits

- Findings
- Observations

## 3. Operating Divisions

- ASAP
- Required reports – COR
- FACTS
- CASS

# Tracking Techniques

## SMS Action Log

1. Divisional Action Log
  - Specific to individual operating divisions
2. Integrated Action Log
  - Cross-divisional concerns

# SMS Action Log

## Specifics

1. Discussed at every SRT
  - Status
  - Open and closed items
2. Identification and Traceability
  - Action log number
  - Integrated Action Log number
3. Responsible business leader
  - Accountability
  - Dates and timelines

# Risk Assessment

## 1. Assessment

- Acceptable
- Acceptable with mitigation
- Unacceptable

## 2. Risk Rating

- Latent Conditions
- Active errors
- Causal factors

## 3. Recommendations

## 4. Discussions at the SRT

- Business leader – budget impact
- Operational goals