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Enterprise Risk Management (ERM): “In Action”

Co-presented by:

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Norma Essary, DFW International Airport
Discussion Topics

- Enterprise Risk Management (ERM)
  - Managing Risk in Today’s Economy
  - Keys to a Successful ERM Initiative
- The Value of ERM
- Practical Application: ERM In Action @ DFW International Airport
Enterprise Risk Management
Overview
Enterprise Risk Management (ERM)
Defined

A structured, consistent, and continuous risk management process applied across the entire airport enterprise that brings value by:

- Proactively identifying, assessing, and prioritizing material risks
- Developing and deploying effective mitigation strategies
- Aligning with strategic objectives and business processes
- Embedding key components into the airport’s culture:
  - Risk ownership, governance, and oversight
  - Reporting and communications
  - Leveraging technology and tools
Managing Risk in Today’s Economy

- Focus on intrinsic, enterprise value:
  - Risk view should be focused on impact to stakeholder value (passengers, boards, private/public airport ownership interests) over the long term
  - Airports should not only be focused on the short-term activities within the industry

- Need to adopt a forward-looking approach to risk management:
  - Balance upside and downside
  - Protect the value of the enterprise
  - Adopt a system for creating value by:
    - Focusing on business drivers
    - Balance emphasis on internal controls/regulatory violations
Traditional Risk Management vs. ERM

- **Traditional Risk Management:**
  - Takes into account, primarily hazard risks
  - Often focused on high risk events/loss not value creation
  - Greater emphasis on loss avoidance/mitigation strategies
  - Primary Goal:
    - Catalog high impact risks and developing mitigation plans

- **ERM:**
  - Begins with the question: What is the airport enterprise worth?
  - Focus on overall uncertainty in the value of the airport enterprise
  - View of risk and loss impact over a long term time horizon
  - Takes into account all risk categories
ERM Initiatives
Keys to Success

- Speak the right language
- Demonstrate economic value
- Satisfy rating agencies
- Satisfy regulatory and quasi-regulatory requirements
- Educate leaders on their role
#1: Speak the Right Language
Know your key stakeholders

Increasing need for financial disclosure and regulatory compliance

Board of Directors

Demanding more accountability in risk reporting; more forward-looking view to risk

Auditors & Analysts

Expecting management to adequately identify all material risks impacting cash flow, capital, and mission

Investors/Public

Requiring enhanced management of operational risks; S&P; SMS; EPA, FAA

Regulators

Airport Enterprise

Marsh

ACI – 2010 Insurance & Risk Management Conference
#1 (cont.):
Know what motivates your leadership

- Linkage to Six Sigma
- Reputation enhancements
- Quantifiable outcomes
- Return on investment
- Cost of capital
- Employee engagement

- Economic value add
- Potential points of failure
- Impact to cash flow
- Linkage to corporate mission
- Credit rating implications
- Strong community relations
#2: Demonstrate Economic Value

- Calculate EVA/ROI on specific risk-response strategies
- Initiate data collection/trend tracking
- Develop alternative ERM performance measurement criteria
  - Total cost of risk
  - Reduction in residual risk
#3: Satisfy Rating Agencies

- S&P – Implementation of ERM analysis is already underway
- Moody’s – Incorporation of Board responsibility for risk management as part of governance review
- GovernanceMetrics International – Working to incorporate ERM analysis in corporate governance ratings
#4: Satisfy Regulatory Requirements

- Industry-specific drivers such as SMS and EPA requirements
- SEC – Proposed rule change for disclosure of Board involvement on risk management activities
- NYSE Listing Requirements – Audit Committee responsibility for risk oversight
- Federal Sentencing Guidelines – Favorable treatment for organizations with compliance risk management programs
#5: Educate Leaders on Their Role

- Oversight of ERM process and effectiveness
- Risk appetite recommendation (with Board determination)
- Board/Audit Committee reporting
- Communication of feedback downward to ERM process owners
- Tone from the top
- Resource allocation
The Value of ERM
The Value of ERM:
Airport Enterprise View

Airport Enterprise Goals
- Balance Sheet Protection
- Operational Excellence
- Reduced Volatility

Enterprise Drivers
- Preservation & Access to Capital
- Maximizing Returns
- Managing Growth
- Governance

Internal Drivers

External Drivers

Value Creation & Risk Optimization
- Risk Management Integration
- Enterprise Risk Awareness
- Risk Specialization

The ERM Value Pyramid
The Value of ERM:
Risk – Based Organizational Chart

Executive Management Level for Risk Management

Board of Directors

Audit Committee

CEO

Enterprise Level For Risk Management

Enterprise Risk Management (ERM) Committee Members

CFO

CTO

CSO

CRO

CAO

ERM Committee Chair

Risk Owner - Representation List

Information Technology

Legal

Human Resources

Marketing/Communications

Finance

Operations

Administration

General Services
Practical Application:

DFW International Airport
DFW International Airport Board
ERM Background and Objectives

Background

In July 2008, DFW created an Enterprise Risk Management (ERM) working group to review current risk management processes and to help establish a plan to develop a formal ERM model/framework, best suited to the current operating environment of DFW.

Objectives

ERM working group’s purpose was to respond to the following questions:

- In what areas of a comprehensive ERM program is DFW strongest?
- What opportunities exist to enhance current risk management processes?
- What are actionable steps DFW should undertake to continue to drive toward implementing an ERM model?
  - Immediate (June 2008 – December 2009)
  - Short term (January - June 2010)
  - Long term (July 2010 and beyond….)
ERM Initiative: Current State Assessment
The ERM Continuum

Risk Management Philosophy

Link to Strategy and Stakeholder Value

Risk Specialization
- Isolated and independent risk management activities,
- Limited focus on the linkage between enterprise-wide risks and strategies

Enterprise Risk Awareness
- Adopt an ERM framework
- Assign executive ownership of risk management
- Conduct routine risk assessments

Risk Management Integration
- Implement a fully integrated ERM structure based on a framework
- Monitor & report on risks through the enterprise
- Coordinate ERM activities

Value Creation & Risk Optimization
- Embed risk management into strategic planning
- Monitor risks with early warning risk indicators
- Link risks to stakeholder value
- Drive sustainable performance

Insurance & Compliance
Core ERM Practices
Risk-Reward Optimization

LOW
HIGH
## Working Group – 2008 Summary

### ERM Performance Scorecard

<table>
<thead>
<tr>
<th>Framework Component</th>
<th>Sub-Components</th>
<th>Rating</th>
<th>Project Observations / Key Actions for Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Risk Assessment</strong></td>
<td>• Risk Identification</td>
<td>O</td>
<td>• Develop standardized risk assessment template and process</td>
</tr>
<tr>
<td></td>
<td>• Risk Assessment</td>
<td></td>
<td>• Integrate risk assessment activities/results into ongoing risk management communication plans</td>
</tr>
<tr>
<td></td>
<td>• Risk Quantification</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Risk Monitoring &amp; Reporting</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Risk Control</strong></td>
<td>• KPI Monitoring</td>
<td>O</td>
<td>• Develop KRI for each significant risk</td>
</tr>
<tr>
<td></td>
<td>• Alignment &amp; Integration</td>
<td></td>
<td>• Formalize common (DFW-wide) measures for success for key risk control and mitigation initiatives</td>
</tr>
<tr>
<td></td>
<td>• Objective Measures of Progress</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Risk-Based Culture</strong></td>
<td>• Common Language</td>
<td>O</td>
<td>• DFW has senior-level support and visibility into the ERM process (“Tone from the Top” is positive about ERM)</td>
</tr>
<tr>
<td></td>
<td>• Tone from the Top</td>
<td></td>
<td>• Establish foundation ERM training elements</td>
</tr>
<tr>
<td></td>
<td>• Risk Management Training</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Education &amp; Awareness</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Risk-Based Performance Metrics</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Strategic Plan</strong></td>
<td>• Performance Optimization</td>
<td>R</td>
<td>• DFW should consider defining a statement of risk tolerance, gaining Executive Management approval and ensuring regular review</td>
</tr>
<tr>
<td></td>
<td>• Alignment with Strategic Mission</td>
<td></td>
<td>• ERM has been identified as a strategic initiative for DFW</td>
</tr>
<tr>
<td></td>
<td>• Risk Appetite/Tolerance</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Tools</strong></td>
<td>• Risk Database</td>
<td>R</td>
<td>• Consideration should be given to utilizing technology where appropriate to assist in automating the process</td>
</tr>
<tr>
<td></td>
<td>• Early Warning System</td>
<td></td>
<td>• Establish process mapping initiative for critical manual processes</td>
</tr>
<tr>
<td></td>
<td>• Analytical/Modeling Tools</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Reporting / Governance</strong></td>
<td>• Cross-Functional ERM Committee</td>
<td>O</td>
<td>• DFW has a newly formed, cross-functional ERM task force with knowledgeable and engaged participants</td>
</tr>
<tr>
<td></td>
<td>• Formalized Reporting Structure</td>
<td></td>
<td>• A performance review of the ERM process should occur annually</td>
</tr>
<tr>
<td></td>
<td>• Board Interface</td>
<td></td>
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</tr>
</tbody>
</table>
ERM Initiative

Short & Long Term Goals
ERM Initiative Timeline

Recommendations are assigned to one of three categories:

- **Immediate Term**: DFW can accomplish by December 2009
- **Short Term**: May take DFW within the first 6 months of 2010
- **Long Term**: May require more time or resources for implementation, DFW may implement during the second half of 2010 or beyond
ERM Initiative
Immediate Term Recommendations / 2009 Accomplishments

✓ Design and finalize DFW ERM framework

✓ Develop and adopt ERM policy
  (Executive Support and a platform for communicating to organization)

✓ Designate Risk Officer to lead the Risk Council

✓ Establish cross-functional Risk Council.
  (Mechanism to affect and implement ERM focus)

✓ Inventory existing modeling/analytical tools (Inventory of Tools)

✓ Initiate baseline risk assessment process (Interviews & Template)
DFW Airport Model
Integrated ERM Framework

Strategic Alignment
Support DFW’s Primary Business Goal and Key Results

Risk Assessment
Identify, analyze and prioritize organizational risks

Risk Response
Select optimum response alternative: avoidance, reduction, sharing and acceptance

Risk Measurement
Establish and monitor risk indicators

Risk Philosophy
Determine organization’s risk tolerance in order to identify potential risks/opportunities

Information & Communication
Capture and communicate relevant information in an effective form and timeframe

Technology
Utilize appropriate methodology, techniques and automation to support analysis, decision making and routing

Compliance
Sustainable processes that satisfy financial, regulatory, safety and security requirements through internal controls

*Adapted from Marsh LLC and COSO
DFW ERM Risk Council

Executive Level for Risk Management

Executive Management
- Review/Approve Strategic Investments

Executive Sponsors
- Set Risk Appetite
- Set Limits
- Establish Portfolio
- Provide Counsel to ERM Committee

Enterprise Level For Risk Management

Risk Officer
- Lead and be Accountable for ERM Efforts
- Oversee Risk Measurement
- Aggregate Risk Information into Enterprise View
- Prioritize Risks and Recommendations
- Report Findings and Recommendations to Executive Level

Risk Council Members

Aviation Real Estate

Environmental Affairs

Revenue Management

Asset Management

Information Technology

Energy & Transportation

Operations

Audit Services

Finance

Airport Development & Engineering

Human Resources

Gov’t & Stakeholder Affairs

Risk Management

Dept. of Public Safety

- Report Material Risks
- Work with Committee to Develop Solutions
ERM Process: Inventory of Tools
Baseline Risk Assessment
# ERM Process

## Step 1: ERM Background & Framework Review
- International Standards and Best Practices
- Industry Experience

## Step 2: ERM Gap Analysis Process Overview
- Tools & Templates
- Interviews
- Documentation Review

## Step 3: ERM Gap Analysis (6 areas of analysis) – Key Findings

<table>
<thead>
<tr>
<th>Area</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Risk Assessment</strong></td>
<td>Examining the comprehensiveness of risk identification and prioritization efforts</td>
</tr>
<tr>
<td><strong>Risk Control</strong></td>
<td>Ensuring action plans are generated and implemented to address the risks identified</td>
</tr>
<tr>
<td><strong>Risk</strong></td>
<td>Based Culture – taking into account managerial tone, employee accountability, risk management training and a “common language” for discussing risk</td>
</tr>
<tr>
<td><strong>Strategic Plan</strong></td>
<td>Encompassing DFW’s overall strategic mission, its framework for measuring and managing risk, and its operating policies and procedures and its risk tolerance or appetite</td>
</tr>
<tr>
<td><strong>Tools</strong></td>
<td>Analyzing DFW’s utilization of real time risk monitoring tools, risk modeling and quantification techniques and risk adjusted and performance metrics</td>
</tr>
<tr>
<td><strong>Reporting and Governance</strong></td>
<td>Analyzing DFW’s formal methods of communication, risk escalation sequence and parameters of accountability</td>
</tr>
</tbody>
</table>

## Step 4: Action Plans & Recommendations
<table>
<thead>
<tr>
<th>DEPT.</th>
<th>ERM PROCESS SUPPORT</th>
<th>TOOL NAME</th>
<th>SUB-COMPONENT</th>
<th>PRIMARY OWNER</th>
<th>Description</th>
<th>RA</th>
<th>Response</th>
<th>Measure</th>
<th>Primary Audience</th>
<th>Secondary Audience</th>
<th>Format</th>
<th>Freq.</th>
<th>Date Last Performed</th>
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<tbody>
<tr>
<td>Asset Mgmt.</td>
<td></td>
<td>Storm Water System Inspection</td>
<td>Inspection Form</td>
<td>Reginald L.</td>
<td>Visual inspection of channel, culverts, inlets, pipes &amp; outfalls</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Field Level Mgmt.</td>
<td>Sr. Mgmt.</td>
<td>Written Report</td>
<td>Other</td>
<td>March, 2009</td>
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<td>Audit</td>
<td>Solicitation Reviews</td>
<td>As requested by PMM/ADE</td>
<td>PMM &amp; ADE</td>
<td>PMM &amp; ADE</td>
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<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Field Level Mgmt.</td>
<td>Sr. Mgmt.</td>
<td>Written Report</td>
<td>Ad-hoc</td>
<td>October 1, 2009</td>
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<tr>
<td>DPS</td>
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<td>Fire Training Revenue</td>
<td>DPS Fire Services</td>
<td>None</td>
<td>Fire Training Center Revenue Tracking process</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Sr. Mgmt</td>
<td>External Party</td>
<td>Written Report</td>
<td>Continuous</td>
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<td>Enviro</td>
<td>Undergrd. Storage Tank (UST) Inspection</td>
<td>EAD</td>
<td>Semi-annual inspection</td>
<td>EAD</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td>Sr. Mgmt</td>
<td></td>
<td>Semi-Annually</td>
<td>June 1, 2009</td>
<td></td>
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<tr>
<td>Energy Trans. Mgmt.</td>
<td>Preparedness Exercises</td>
<td>None</td>
<td>AVP</td>
<td>AVP</td>
<td>Conduct emergency preparedness drills with DPS and the APM contractor</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>Field Level Mgmt.</td>
<td>Senior Management</td>
<td>Written Report</td>
<td>Annually</td>
<td>09/25/08</td>
</tr>
</tbody>
</table>
**ERM Process Risk Assessment – Preliminary Risk Categories**

<table>
<thead>
<tr>
<th>RISK CATEGORY</th>
<th>IDENTIFIED RISKS</th>
</tr>
</thead>
</table>
| **Financial**       | • Debt management  
                     • Decline in air travel  
                     • Economic downturn  
                     • Fuel price volatility  
                     • Investment management process  
                     • Revenue concentration       |
| **Human Capital**   | • Adequacy of employee skill set  
                     • Aging workforce  
                     • Employee recruitment  
                     • Employee retention  
                     • Employee screenings  
                     • Knowledge transfer       |
| **Legal / Regulatory** | • Labor strike  
                         • Environmental concerns  
                         • FAA changes  
                         • Fraud  
                         • Regulatory changes       |
| **Operational**     | • Aging infrastructure  
                     • Airfield operations safety  
                     • Business continuity planning  
                     • Competition  
                     • Inclement weather  
                     • Inefficient contracting process |
| **Strategic**       | • Lack of authority levels  
                     • Media exposure/public relations  
                     • Pandemic  
                     • Terrorism  
                     • Airline concentration  
                     • Change in Wright Amendment  
                     • Outsourcing strategy       |
| **Reputational**    | • Media Inquiries  
                     • Public Relations       |
| **Technology**      | • Data privacy/loss  
                     • Systems failure       |
DFW ERM Initiative
2010 and Beyond:

- Initiate ERM communications
  - Identify key communications using language from the DFW strategic business plan
  - Create an ERM training/website with glossary information and data that promotes a tool of understanding
- Annual inventory of tools and risk assessment
- Develop risk tolerance/philosophy
- Create a frequency and severity risk evaluation
- Provide executive reporting package
- Develop framework/template for identifying KRI or risks
For Further Discussions, Please Contact:

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e-mail: nessary@dfwairport.com