M-LOSA: The Smart Way to Improve Safety Management

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Introduction

TOTAL A/C

- 2012: 377
- 2013: 433
- 2014: 500
- 2015: 532
- 2016: 581
- 2017: 639

TWIN-AISLE A/C

- A330, 58
- B777, 20
- B747F, 3
- B777F, 6
- B787, 4

SINGLE-AISLE A/C

- B737, 249
- A320, 291

Eastern Airlines Technic Co.,Ltd. (EASTEC) is a wholly-owned holding subsidiaries of China Eastern Airlines. EASTEC have 17 maintenance bases in China. The main business are aircraft line maintenance, aircraft overhual and component repair. The number of employees is more than 12,000.

Challenges

The rapid development brought some safety management problems:

- Using the reactive method to identify Hazards can not be accepted.

- Hard to collect safety data from maintenance operation.

- Employees seldom got involved in the safety activities.

- Punitive management can not form a good safety culture.

M-LOSA Implementation

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► Selected 4 pilot bases to implement M-LOSA

► Boeing provided the 1st M-LOSA training to EASTEC in Shanghai

► Finished 1st round of observations, summarized the work experience

► Boeing provided the 2nd M-LOSA training to EASTEC for 2nd round of observations in Chengdu

2017.03-04   **2017.08**   **2018.03**   **2018.05**   **2018.07**

M-LOSA

► Completed the preparation, selected some routine tasks of line maintenance as observation items

► EASTEC/CEA received a safety fund from the Civil Aviation Administration of China in recognition of its effort in implementing M-LOSA program.

Planning

► Generalize M-LOSA to other maintenance bases

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EASTEC M-LOSA implementation flow chart :

1 Obtain Senior Management Buy-In

2 Form an Implementation Team

3 Market M-LOSA program

4 Train Observers

5 Collect data

10 Feedback to employees

9 Verify corrective actions

8 Implement improvement

7 Discuss corrective actions

6 Analyze data

M-LOSA Implementation

How to collect data：

➢ Electronic observation form

Benefits：

✓ Standardized data information

✓ Versatility
- Easy to access the system by mobile phone
- Save information on the Intranet directly

✓ Environmental protection

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How to analyze observation data：

- ➢ Classified by risk matrix
- ➢ Risk distribution chart

Risk matrix

likelihood

Severity

- ● 工具类 /Tooling
- ● 规章遵守 /Procedural compliance
- ● 文件、资料类 /Tech Documentation
- ● 人员、工作安排 /Staffing
- ● 沟通交流 /Communication
- ● 劳动保护 /PPE
- ● 设备类 /Equipment

Risk distribution chart

- 人员-工作安排 staffing
- 文件-资料类 Tech Documentation
- 规章遵守 Procedural compliance...
- 工具类 Tooling
- 沟通交流 Communicaion
- 劳动保护 PPE
- 设备类 Equipement

M-LOSA Implementation

How to decide corrective actions：

A committee headed by leadship and employees, performed root cause analysis and used brain-storming method to develop/prioritize corrective actions.

Characteristics:

Employees involved in the safety activities

Reasonable corrrective action

Feedback to employees

Success Story

➔M-LOSA findings helped to improve tools management

➔*Before:* To prevent the loss of tools, EASTEC requires that the toolbox must be locked when unattended. In fact, it is often found that the toolbox is not locked.

➔*After:* Develop finger print lock for the toolbox. Finger print lock is more flexibility and reliability and welcomed by employees. The toolbox lock problem has been solved, and the tools loss problem has also been reduced.

安全可靠的验证方式

你的手指，现在就是你的密码。
指纹 ID 功能为设备解锁和身份验证带来了一种安全、私密的新方式。

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Conclusions

- MLOSA provides a means to identify external and internal threats.

- MLOSA is a predictive hazard identification system for SMS that can
  - Reduce costs,
  - Improve safety, and
  - Improve efficiency.

- MLOSA provides a way to check procedural compliance.

- MLOSA provides a way for employees to get involved in the safety activities.

- MLOSA improves a company's safety culture.

Contact

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Thank you