

Runway Safety Teams (RSTs) Description and Processes

Practices of TOKYO INTL Airport (HANEDA)

ASIA/PACIFIC Regional Runway Safety Seminar
18-20 November 2013, Malaysia

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1. Introduction

2. Standards and Regulation in JAPAN

- *Practices of TOKYO INTL Airport(HANEDA)*

3. Establishing an RST

4. Activities for Runway Safety

5. Communication

1. Introduction

- RSTs: Objectives
- RSTs: What they do
- RSTs: The fit with other safety processes
- Runway Safety Plan objectives

- Improve Runway Safety outcomes at the airport.
- To promote a collaborative approach by exchanging information and develop best practices to manage risks.
- To constitute a body of Runway Safety individuals with operational experience across all relevant aviation disciplines.
- To identify optimal overall risk management approaches while avoiding unintended consequences.

- Assess operational risks specific to the airport.
- Propose mitigations to prevent runway events (incursions, excursions and others).
- Measure and monitor the effectiveness of the mitigations.
- Educate and Promote - Raise awareness of the operational risks among all stakeholders.

- An RST contributes to the safety management systems of participating service providers.
- An RST can also contribute to safer delivery of support services for organizations not required to have an SMS.
- It is essential that this work is integrated appropriately with other safety and operational committees and is a permanent agenda item.

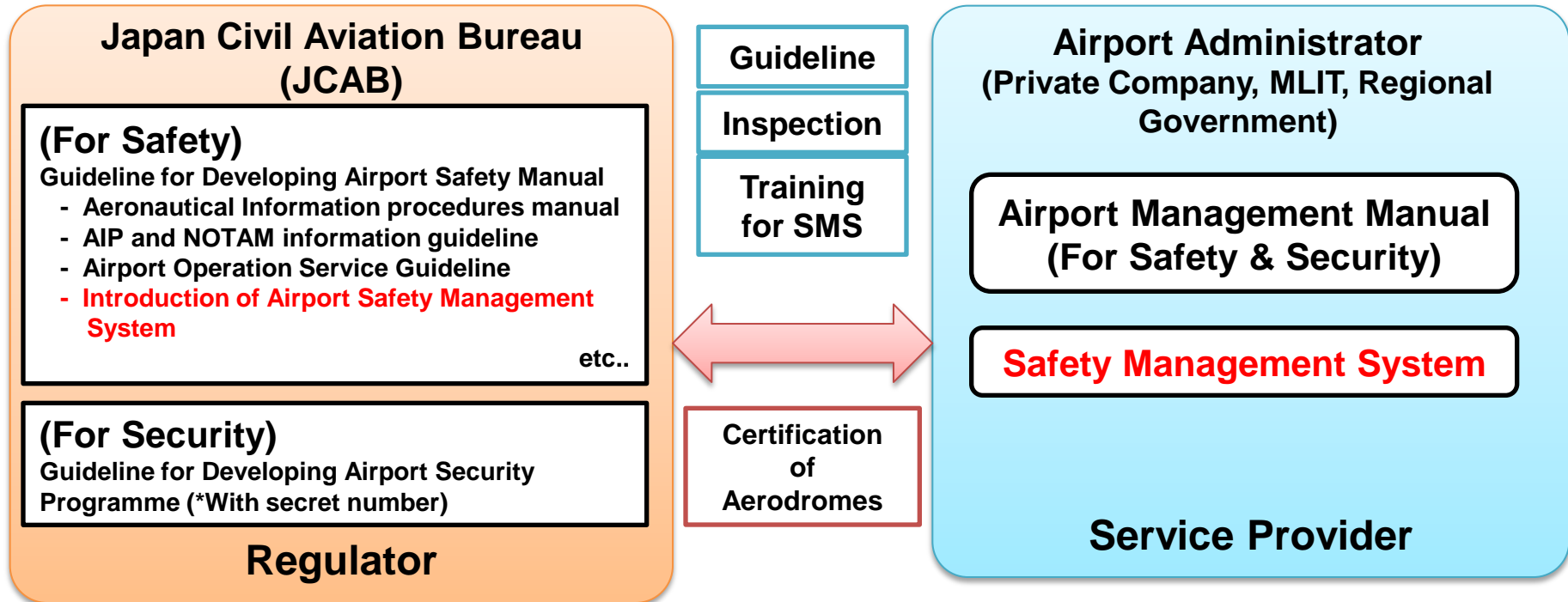
- **The RST is convened with the purpose to identify surface related hazards, assess the risk of surface accidents and incidents, and develop mitigations. The RST should document findings in a Plan.**
- **The Plan should be site-specific and present detailed strategies and actions to mitigate the risk of surface hazards.**
- **In addition, the Plan should identify best practices that could be documented and shared with the aviation community.**
- **The RST should convene to review and/or update the Plan on a regular basis (annually or as necessary).**

2. Standards and Regulation in JAPAN

- Standards and Regulation
- Safety Management System
- Establish Airport Committee
- Relation for Regulator/Provider

ICAO SARPs
Annex14 Aerodromes / Annex17 Security

Aeronautics Law
Article 47 Management of Airports
Article 47-2 Development of Airport Safety and Security Manual



Introduction of Airport Safety Management System

- (1) Establishment of Safety Policy and Objective
- (2) **Safety Management**
- (3) Periodic Safety Training
- (4) Periodic verification of skills and training
- (5) Information Sharing of Safety
- (6) Monitoring of Operation
- (7) Monitoring & Rectification measures for the performance of equipments, systems and devices
- (8) Establish a Mechanism for staff to Report Concerns about Safety
- (9) Pre Safety Assessment prior to making significant changes to the Safety
- (10) Conduct Periodic Internal Audit

*This provision is expected to be amended in accordance with ANNEX19

Establish Airport Committee

Safety Management

- 1) Person in Charge for Safety Management
- 2) Clarify Accountability
- 3) Documenting Safety-related Operation
- 4) Establishment of **Airport Committee**

Establish an Airport Committee comprised of **staff associated with safety operation within airport** and attempt to share safety-related information.

- ◆ Each airport establish Airport Committee by SMS
- ◆ Airport Committee discuss Airport Safety
- ◆ **“Runway Safety” also considered at “Airport Committee”**



Practices of TOKYO INTL Airport (HANEDA)



The Games of the XXXII Olympiad

Friday, 24 July -Sunday 9 August 2020

Tokyo 2020 Paralympic Games

Tuesday, 25 August -Sunday 6 September 2020



4 Runway

A : 3,000 x 60m

B : 2,500 x 60m

C : 3,000 x 60m

D : 2,500 x 60m

200 Aircraft Stands Hours of Operation

24 Hours

Number of Traffic

390,000per year

(Approx 1,100flights/day)

Number of Passenger

67 million people

Number of Ramp ID

26,000 people

Permission for Driving

12,000 people

Approved Vehicle(GSE)

6,000

3. Establishing an RST

- Membership for RST/ Airport Committee
- TOR/ Work Program/ Frequency
- Action for Airport Safety in 2012
- Safety PLAN for RST in 2013

- ◆ Senior Officer for Airport Safety and Security (as Leader)
- ◆ Air Traffic Controller
- ◆ Airport Operator
- ◆ Air Navigation Service Engineer
- ◆ Aeronautical Lighting Facility and Electrical Engineer
- ◆ Airport Facility Engineer
- ◆ Airport Security Officer
- ◆ Operation Coordinator

- ◆ Aircraft Operator
- ◆ Ground Handling Operator
- ◆ Fuel Supplier
- ◆ Terminal Building Company, etc.

*Under Airport Committee, able to establish Working Group

Terms of Reference

- Establishment of Airport Safety Committee
(with Airport Manager and stakeholders)
- Information Sharing for Safety
- Securing for Airport Safety Operations

Work Program

- 1) Safety Reporting System
- 2) Safety Information Sharing
- 3) Study for Risk and Hazard Analysis and Procedure
- 4) Guidance and Education for Safety Awareness

Frequency of meeting

Every Season (Spring, Summer, Autumn, Winter)

Action for Airport Safety in 2012

Analysis

Accidents at airport	41		
(Type)		(Reason)	
Driving	24	Insufficient Safety Checks	15
Around Aircraft	12	Deviation from Rules	9
Handling	5	Insufficient Driving Skills	8

Action

Improvement of safety awareness (For Insufficient Safety Check)

- Utilization of information sharing site
- Declaration of "EMERGENCY"
- Implementation of *joint* safety patrol
- Creation of posters



Safety patrol (For Deviation from Rules)

- Checking vehicle speed with speed guns
- Video surveillance



Training for Drivers (For insufficient Driving Skills)

- Established a driving training ground

Safety PLAN for RST in 2013

Safety Objectives

Target : the number of accidents within airport
 Around Aircraft -Below 12, Driving- Below 25 &
 to keep “0 accident“ more than 30 days

Action PLAN

Period	Action PLAN
Anytime	Issuance of “AIRPORT SAFETY”
JUL 19 th Meeting	Annual report of Accidents in 2012 Efforts to be made during busy season
OCT 20 th Meeting	Interim report and analysis of Accidents in 2013 Information sharing site
DEC 21 th Meeting	Revision of Hazards Map Efforts to be made in winter operations and New Year season
MAR 22 th Meeting	Assessment of safety PLAN in 2013 Safety Analysis for increasing traffic

4. Activities for Runway Safety

- Driving Permission
- Hazards MAP
- Low Visibility Condition
- Airport LIVE Camera
- Preventing Runway Incursions
- Runway Inspection
- Bird Hazards

Conditions

- 1) Must hold Airport ID Card (airport Workers)
- 2) Must have official Driver's License

Driving Safety Lecture

- 1) Aeronautics Law
- 2) Rules of the Airport
- 3) Safety Manual for Tokyo INTL Airport
- 4) Outline of Airport Facilities
- 5) Knowledge of Impact from Jet Blast
- 6) Radio Communication Procedure**
- 7) Terminology for ATC from ICAO SARPs and PANS**
- 8) Restricted Area for Air Navigation Facilities
- 9) Others

Examination for Drivers

Must achieve a score of 80% in written exam



Areas in which driving is permitted are limited depending on the purpose

- 1) All Areas available***
- 2) Apron and perimeter
- 3) Apron and Vehicle Road

*Airport operator, fire fighting & rescue.

Hazards Map (for Runway and Taxiway)

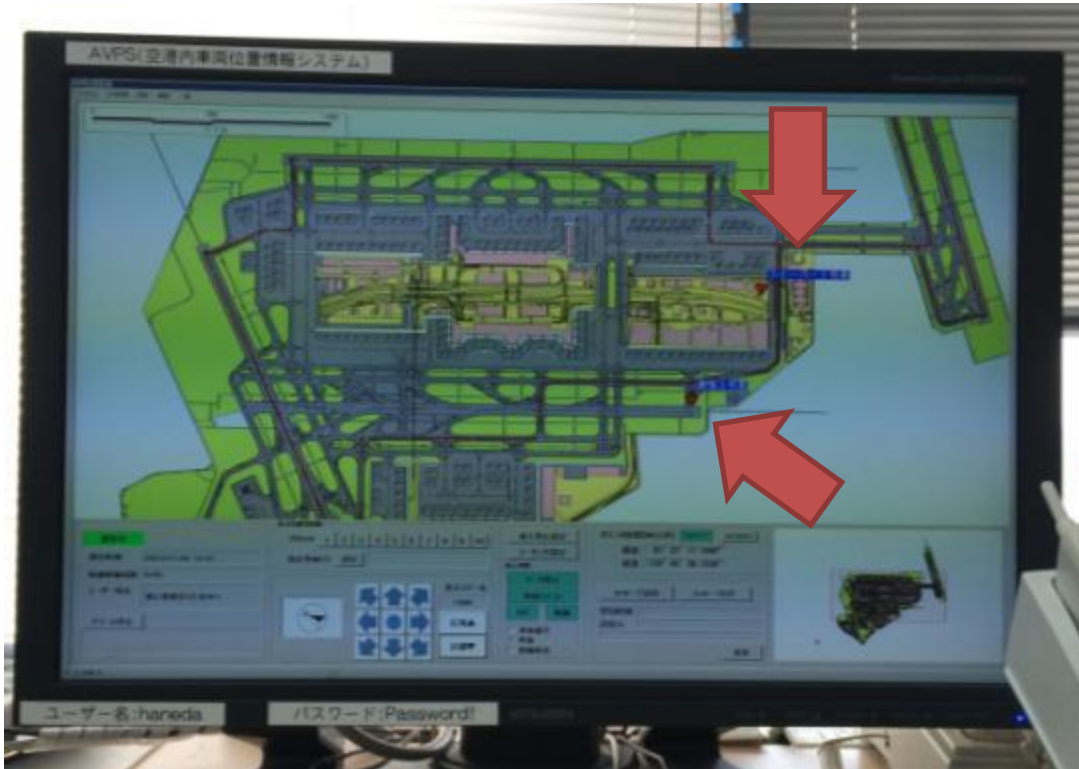
- Analyze accidents and collected "HIYARI HATTO" (potential accidents) information
- "Caution" indicated in RED and "Attention" indicated in Yellow
- Consider differences between day and nighttime



*Airport Committee authorized "Hazard MAP"

AVPS (Airport Vehicle Positioning System)

- Monitor aircraft and vehicle movements (especially in low visibility conditions)
- Uses GPS satellites and Wireless LANs
- Install the system for vehicles (for runway inspection, fire engine, rescue and snowplows etc.)



Monitoring aircrafts & vehicle movements

Wireless LAN



Vehicle Display



Airport LIVE Camera

- Monitors runway conditions and any other events rapidly
- Uses Wireless LAN
- Install cameras in vehicles (available to record)



Monitoring of the airport in the control room



Camera

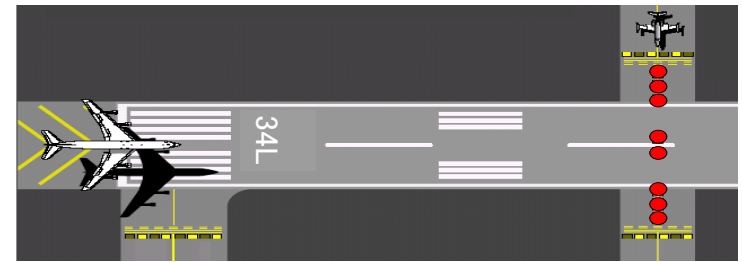
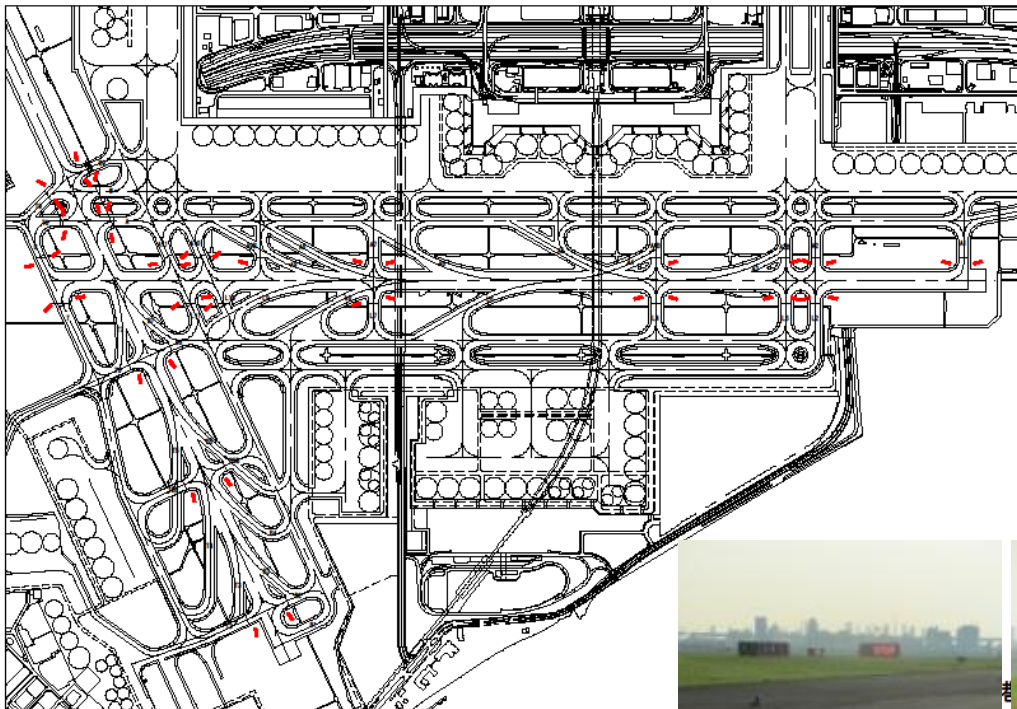


Wireless LAN

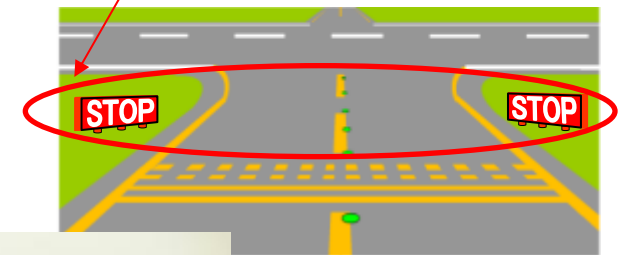


VMS (Variable Message Sign)

The system lights up an automatic alert lamp for vehicles or aircraft attempting to cross the runway or for aircraft attempting to take off, if an other vehicle or aircraft on the runway



(VMS: Variable Message Sign)



VMS installed at each runway intersection

Runway Inspection

◆ Scheduled Inspection

Frequency: 2 times per day

Early Morning 0200-0600(JST)

Day Time 1500-1630(JST)

◆ Special Inspection

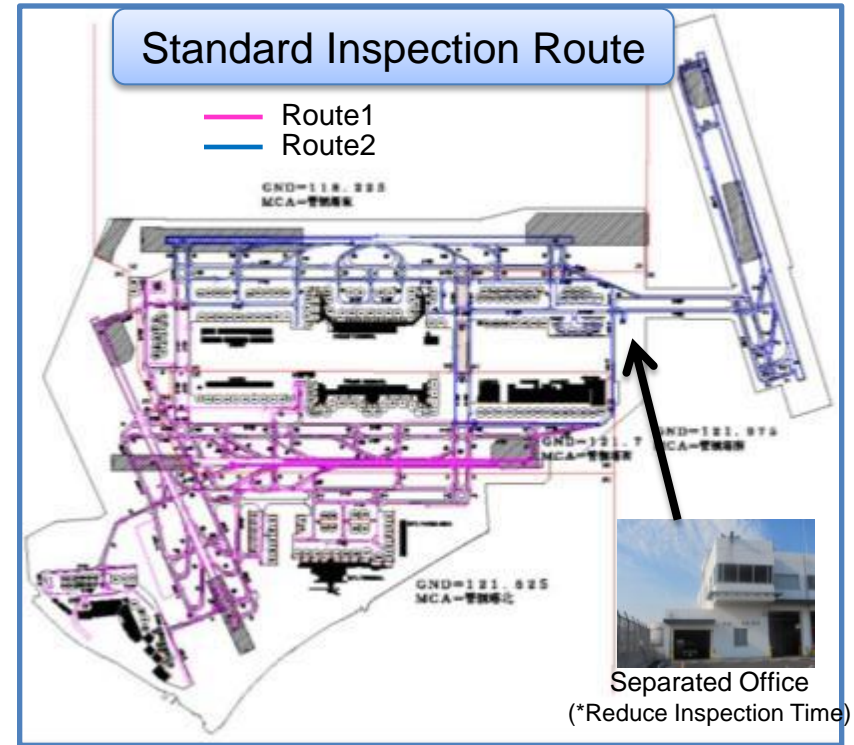
Frequency: 2,166 Times per Year 2012

(Reason)

Emergency Landing, Oil Leak, Flat tire, FOD,
Earthquake, Bird-strike, Pavements peeling,
After construction confirmation etc.

◆ How to Inspection

- 1) Trained 2 person per 1 Vehicle
- 2) Visual Inspection (Below 40km/h)
- 3) Points: FOD, Pavements, Lightings, Runway Surface Condition



Bird Hazards

BIRDS (Birds position Information Radar Display System)

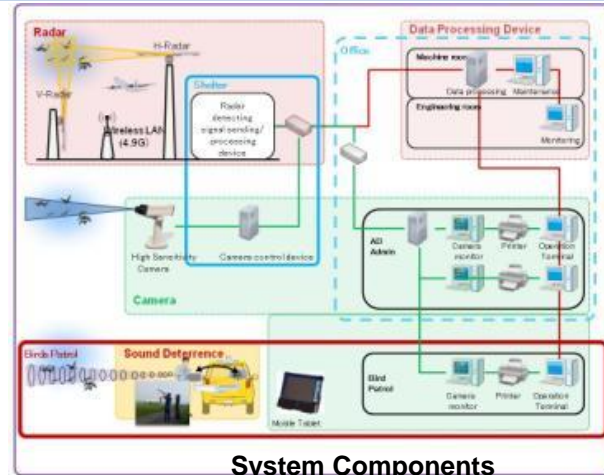
- Preventing BIRD STRIKE at Tokyo INTL Airport by installing **BIRDS**
- Currently in trial phase in order to develop operational procedures
- Function is to constantly monitor birds' movements in and around the airport with Vertical/Horizontal Radar and Camera



Vertical/Horizontal Radar



Birds camera monitoring



System Components



Sound Deterrence



Operation Display
(with ALERT, Camera
Observation)

5. Communication

- Information Sharing Site
- Daily Joint Meeting for airport operation
- Total Airport Management Service

Information Sharing Site

Airport Stakeholders Information Sharing Site

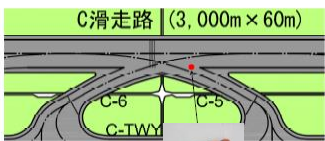
- ◆ Sharing safety information and regulation with all airport stakeholders through the internet
- ◆ ID and password are required for access



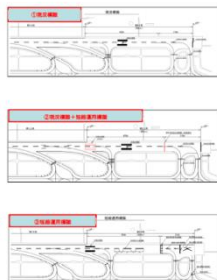
Site Contents

- ◆ Airport Operational Restrictions
- ◆ Obstacles in the Vicinity of the Airport
- ◆ Roads Restrictions for Vehicles
- ◆ Actions by the Airport Committee
- ◆ Airport Safety Information
- ◆ Wildlife Observation Reports
- ◆ Driving License Permission
- ◆ Airport Construction Schedules

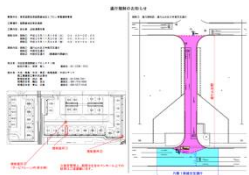
Example



FOD on the Runway



Changing schedule for Runway Marking



Road Restrictions for Vehicles



Airport Safety Information (with data and objectives)

*TOP 10 contents accessed (MAX 254 ID accesses per day)



Daily Joint Meeting for airport operation

Daily **Joint** Meeting for airport operation

To confirm and coordinate the latest maintenance and construction works

Frequency of meeting

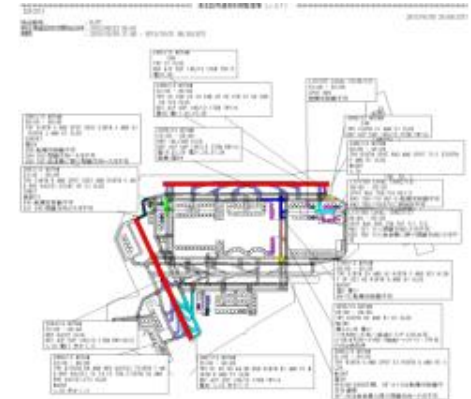
20:00 **Everyday** at the Airport Operation Room

Confirmation

- 1) Facilities Closing Plan (Runway, Taxiway & Apron)
- 2) Operation Status of Air Navigation Facilities (Radio, Lightings and Electrical facilities)
- 3) Flight Information (EMS, VIP etc)

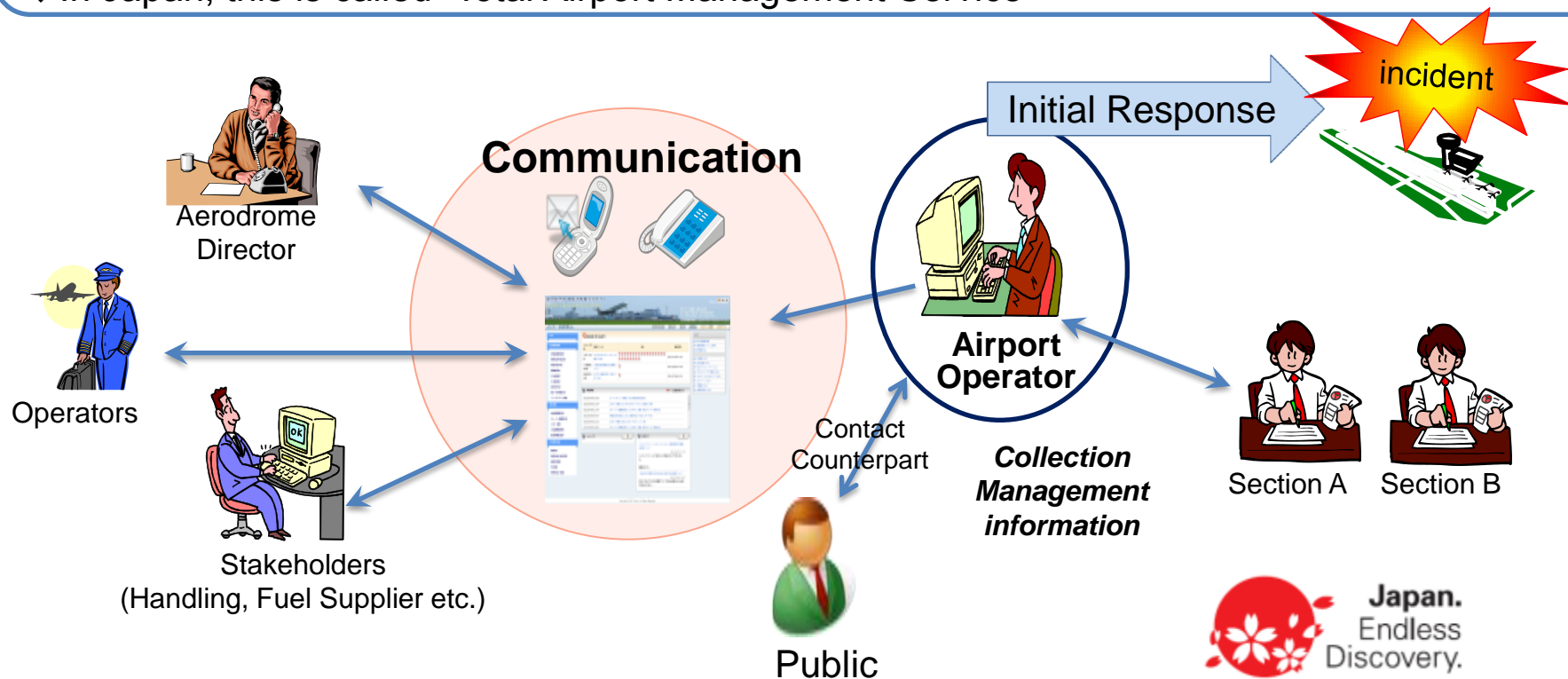
Member (Each duty chief (24hr Operation))

- Air Traffic Controller
- Airport Operator
- Air Navigation Service Engineer,
- Aeronautical Lighting Facility and Electrical Engineer
- Airport Facility Engineer
- Airport Security Officer



“Total Airport Management Service” by Airport Operator

- ◆ At TOKYO INTL Airport, the “Airport Operator” belongs to the Air Navigation Service Division
- ◆ The “Airport Operator” has received specialist education on Airport Safety Operations and ATS
- ◆ The “Airport Operator” collects and manages all airport information.
- ◆ Safety information is always shared and support is given to the Aerodrome Director and each relevant section
- ◆ In Japan, this is called “Total Airport Management Service”



(State/Regulators)

- ◆ Regulate the “establishment of an Airport Committee” by SMS
- ◆ Collect and share information on all airport activities, safety information and best practices

(At TOKYO INTL Airport)

- ◆ Establish “Airport Committee” as RST.
- ◆ The “Airport Committee” shall discuss all airport safety matters including runway safety
- ◆ **NO** runway incursions by the vehicles.

(Future Challenges)

Due to increased traffic, there is an issue related to “runway inspection time” . Airport Committee is considering “SAFETY” and “EFFICIENCY”, especially the necessity of close collaboration between the ATC and Airport Operations.