

Kansai Airports BCP

[Summary]

KIX/ITAMI/KOBE



Shaping a New Journey



**KANSAI
AIRPORTS**



Kansai International Airport (KIX) was severely damaged by a typhoon in 2018. Through the experience of crisis encounter, emergency response and speedy restart, we learned the importance of perceiving any risks, even unprecedented ones, as real threats and making preparations for them. A crisis can be caused by accident or negligence arising from natural and human-made risks. As an airport operator, Kansai Airports needs to be fully prepared for these risks.

Airports are supported by an airport community. If an airport faces a disaster affecting wide areas such as Nankai megathrust earthquakes, it needs to work together with airport stakeholders in order to secure the safety of airport users and employees, take emergency response actions and put efforts towards a speedy restart.

From these perspectives, we have developed our emergency/crisis management plan, including the business continuity plan (BCP). These plans provide specific procedures and practical information that can be utilized immediately in the event of emergency.

INDEX

- 1 Concept of Kansai Airports BCP
- 2 Policies and targets of BCP
- 3 Components of BCP
- 4 Main initiatives: Prevention, disaster resilience and response, and speedy restart
- 5 Emergency response: Functional plan
- 6 Contingency response: Function-specific response plan



1

Concept of Kansai Airports BCP

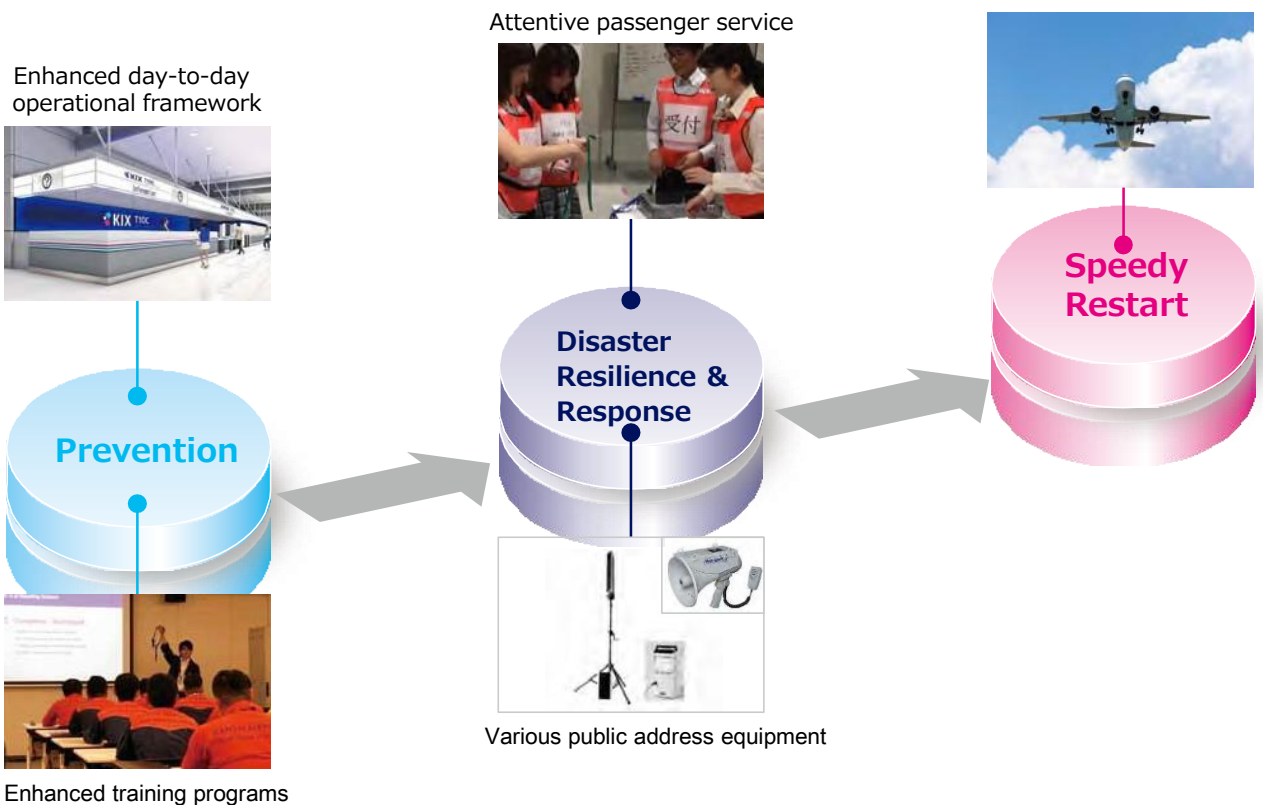
Concept 1 Cooperation with stakeholders

- Regularly share information on internal and external cooperative frameworks with stakeholders to prepare for disasters
- Coordinate with stakeholders to activate the Joint Crisis Management Group (JCMG) in the event of any disaster
- Enable diverse authorities to gather and cooperate with each other to solve an emergency situation



Concept 2 All phases covered by BCP

- The BCP covers three phases: prevention, disaster resilience & response, and speedy restart.



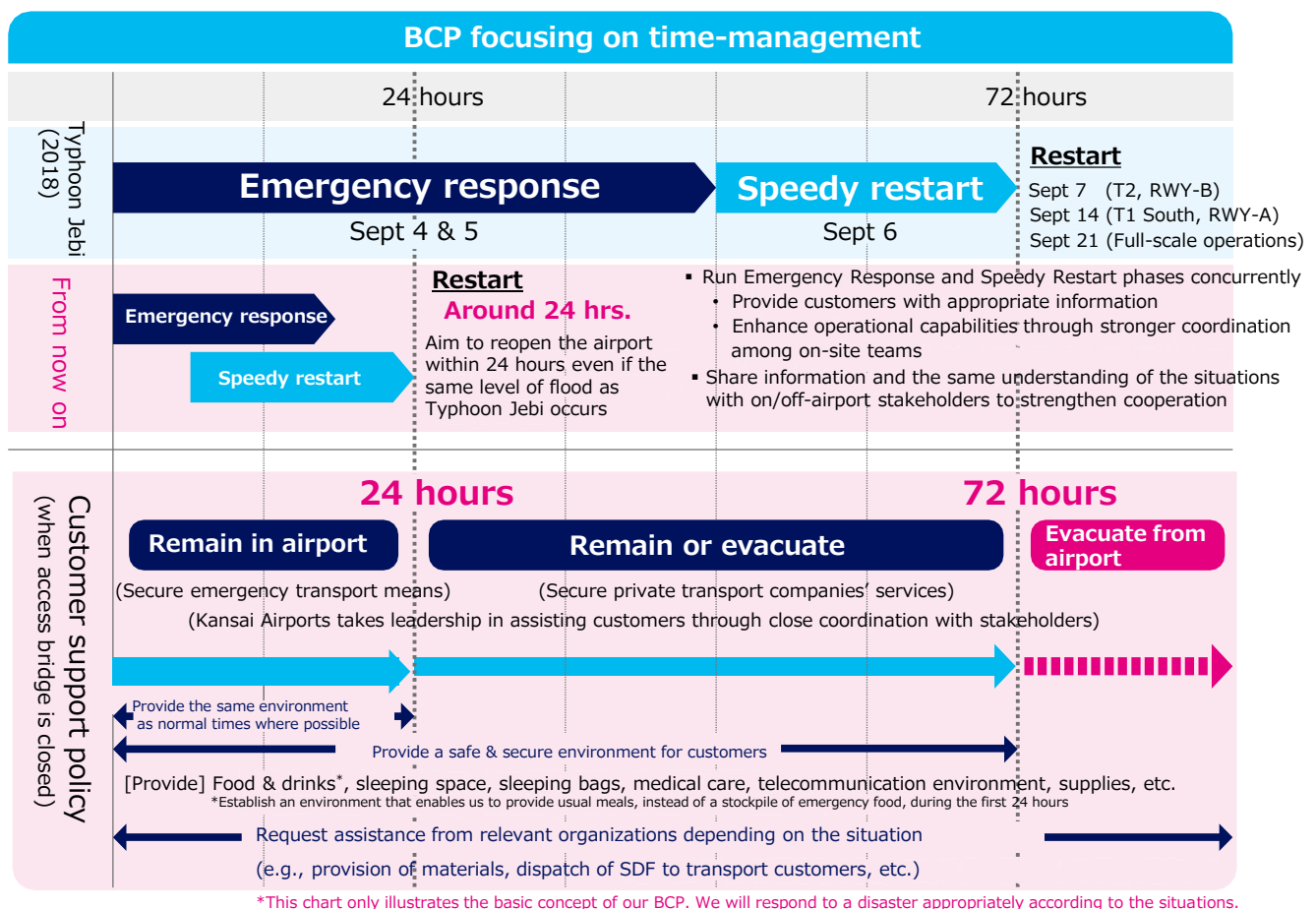
Policies and targets of BCP

- **Policies**

- Establish a resilient crisis management framework that enables us to flexibly respond to existing or potential crisis
- Build a crisis management framework that allows us to promptly and consistently respond to any type of crisis
- Prioritize people first and serve them
- Make Kansai Airports as the most reliable source of crisis information
- Provide information honestly and transparently on a regular basis during emergency
- Assign trained and competent staff to all levels of the crisis management organization
- Regularly audit and review the BCP

- **Specific recovery targets in the event of a natural disaster (flood damage caused by earthquake, tsunami, typhoon or other disasters)**

- During the **first 24 hours** after a disaster: Secure **an environment equivalent to normal daily situations** so that passengers and other individuals can stay at the airport with a sense of security.
- During the **first 72 hours** after a disaster: Provide **an environment where passengers and others can safely stay at the airport** while securing transportation means to **evacuate them out of the airport**. Immediately request support from Self-Defense Forces (SDF) or other organizations if evacuation within the first 72 hours is judged to be difficult.

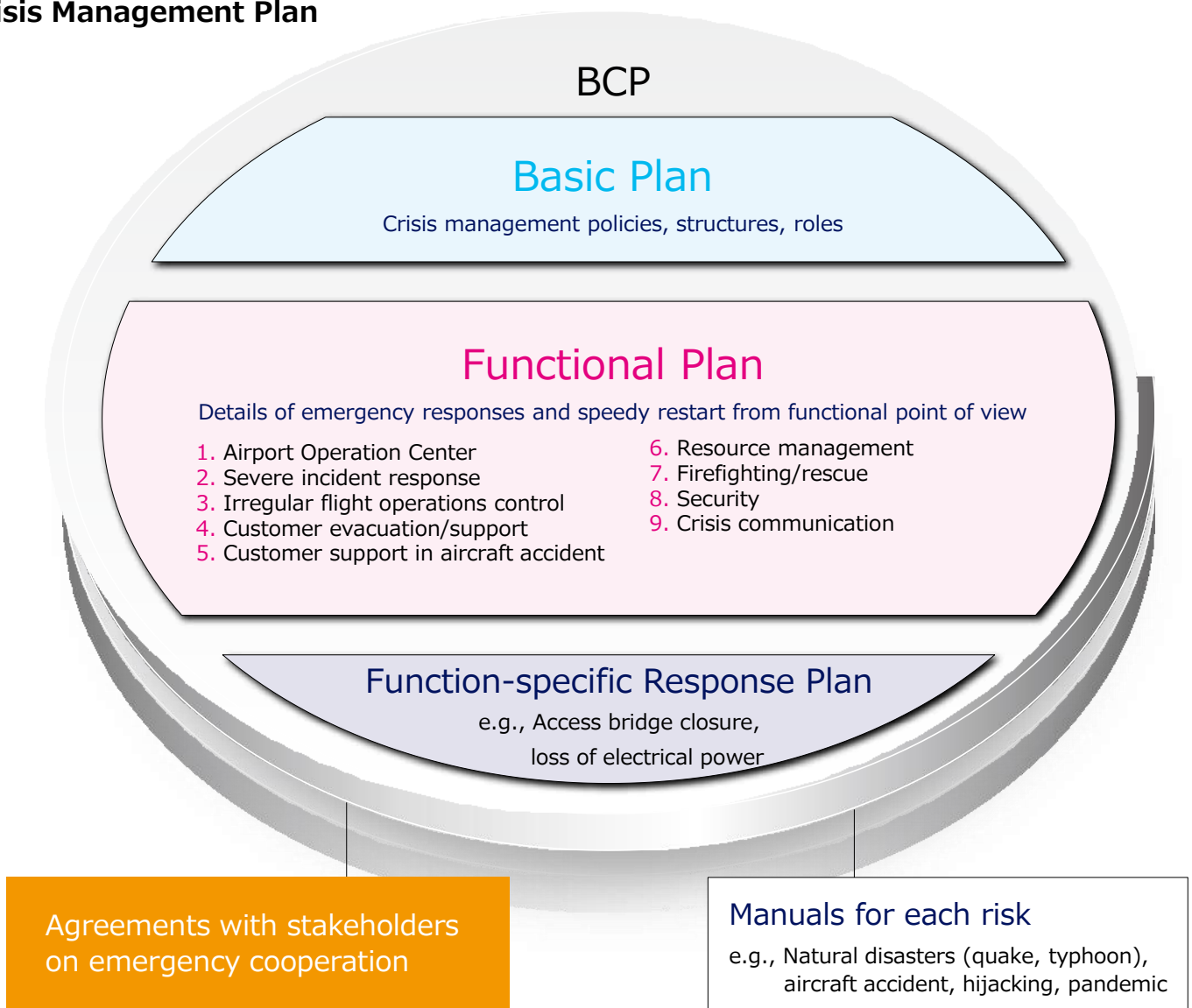


*This chart only illustrates the basic concept of our BCP. We will respond to a disaster appropriately according to the situations.

● Overview of Kansai Airports BCP

- Covering all hazards, the BCP consists of basic, functional and function-specific plans. Combined together with manuals for each risk and agreements with stakeholders on emergency cooperation, the BCP ensures preparedness for all emergency situations, playing a critical part of the crisis management plan.

Crisis Management Plan



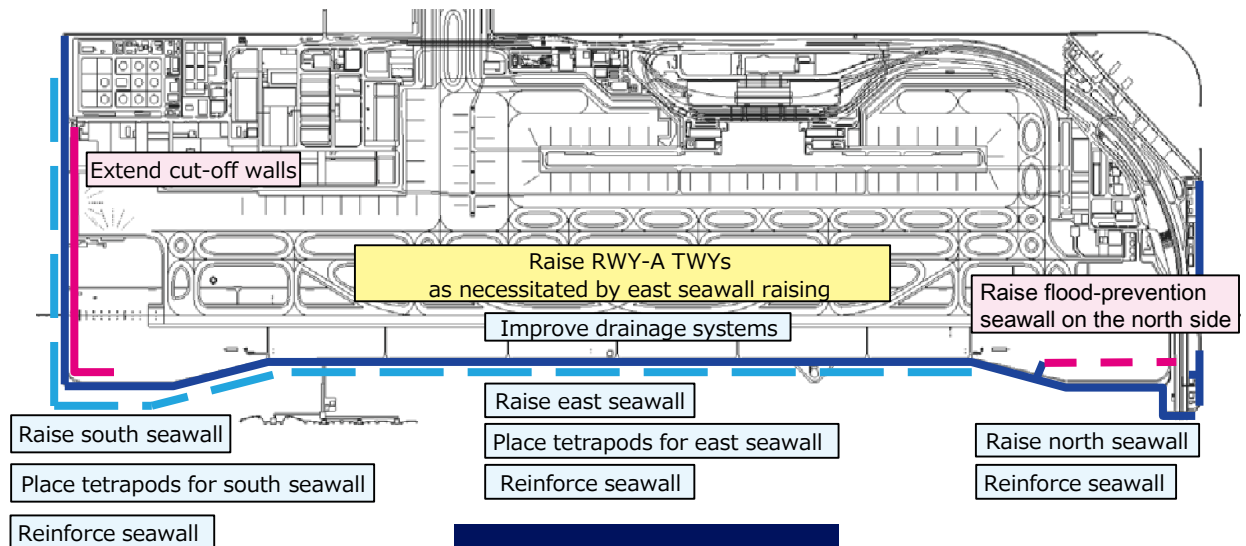


Main initiatives - Prevention -

● Infrastructure preparedness

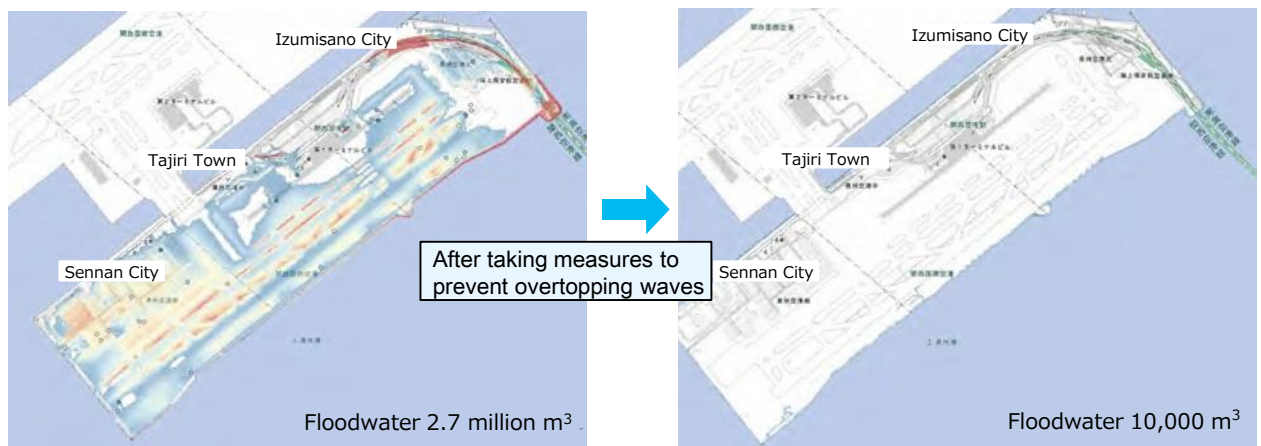
Measures to prevent overtopping waves

■ Seawall raising, tetrapod placement and other measures



Simulation result

The volume of floodwater will be reduced significantly if a flood of the same scale as Typhoon Jebi occurs



[Before] When Typhoon Jebi hit KIX in 2018

[After] 2020 (plan)

- The simulation assumes that a flood of the same scale as Typhoon Jebi (same height of waves/tides) hits KIX from the east and south
- Floodwater of 10,000 m³, which is expected to flow into KIX in the simulation, can be pumped up by the existing drainage pumps (installed in 10 locations on Phase I Island; pumping capacity of about 200K m³/hour)

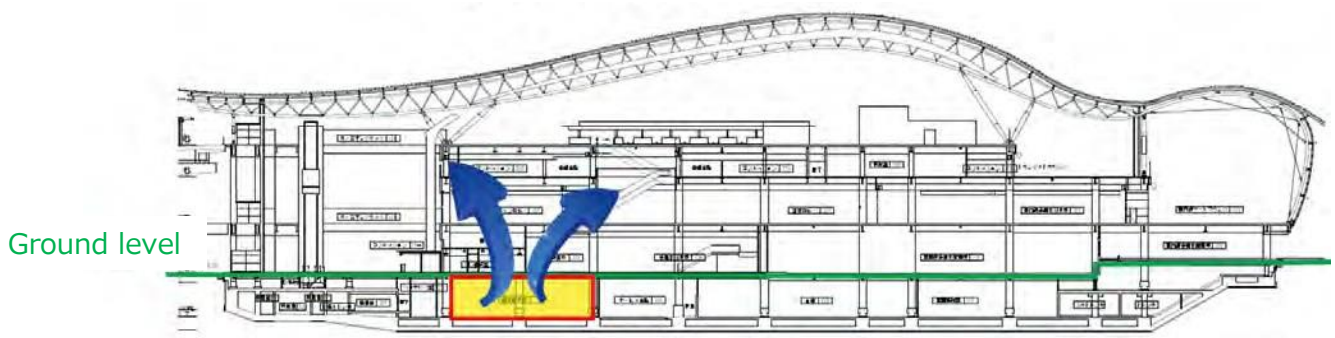


Main initiatives - Prevention -

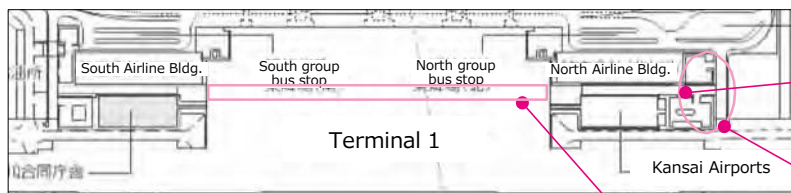
Measures to prevent flood damage

■ Terminal area

- Relocate electric equipment from the basement to the upper floor (currently underway in phases)



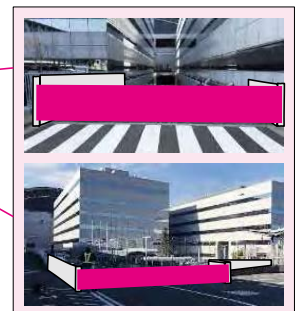
- Take measures against flooding in T1 basement
- Install large water barriers and water-tight doors, and equip large pump trucks



Large pump truck



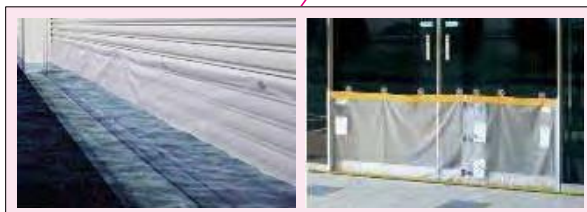
Water-tight door



Large water barrier

■ Cargo area and drainage pump

- Equip waterproof sheets to prevent flooding to warehouses
- Secure temporary power generators to maintain drainage pump functions



Waterproof sheet



Temporary power
supply facility

Large sandbags



Main initiatives - Prevention -

● Operational preparedness

Cooperation with stakeholders for improvement of operations (from day-to-day to emergency situations)

Joint Crisis Management Group (JCMG)

- With the participation of relevant organizations, JCMG operation officially started on April 2019
- Activate JCMG in the event of an emergency that occurs in and around the airport
- Collect information on emergency situations, get the whole picture and share information
- Cooperate with stakeholders to ensure the safety of people and restore the airport

Case	Organizations	JCMG		Activation criteria
		General Manager	Deputy General Manager	
Disaster (typhoon, earthquake, tsunami, etc.)	KIX 31 organizations	CEO, Kansai Airports	<ul style="list-style-type: none"> President, NKIAC Administrator of KIX Office, CAB Airport Crisis Management Administrator 	<ul style="list-style-type: none"> If a typhoon, classified as "Very Strong" or more severe, is projected to take the path that may significantly affect KIX, have a prior discussion with participating organizations and decide, at least 24 hours earlier than when the typhoon is forecast to be closest, whether to activate JCMG In the event of an earthquake with a seismic intensity of 5 or higher at KIX When a Major Tsunami Warning or Tsunami Warning is issued for Osaka Prefecture
	KIX JCMG [Public sector (on airport): 9] JCAB KIX Office, Kansai Aviation Weather Service Center, Cabinet Secretariat for Airport Crisis Management, KIX Police, KIX Coast Guard Air Base, Senshu-minami Regional Fire Department, Osaka Customs KIX Branch, Osaka Regional Immigration Bureau KIX Branch, KIX Quarantine Station [Private sector (on airport): 8] Kansai Airports, New Kansai International Airport Company (NKIAC), KIX Airline Operators Committee (AOC), Japan Airlines, All Nippon Airways, Peach Aviation, FedEx Express, KIX Cargo Operators Committee [Public sector (off airport): 7] Kinki District Transport Bureau, Kinki Regional Development Bureau, Osaka Prefecture, Izumisano City, Sennan City, Tajiri Town, Rinku General Medical Center [Transportation: 7] JR West, Nankai Electric Railway, NEXCO West, Nankai Bus, KIX Limousine Bus Operators Association, KIX Taxi Operators Association, OM Kobe			
	ITAMI 9 organizations	CEO, Kansai Airports	<ul style="list-style-type: none"> President, NKIAC Administrator of ITAMI Office, CAB 	<ul style="list-style-type: none"> If a typhoon, classified as "Very Strong" or more severe, is projected to take the path that may significantly affect ITAMI, have a prior discussion with participating organizations and decide, at least 24 hours earlier than when the typhoon is forecast to be closest, whether to activate JCMG. The participants should gather 12 hours earlier. In the event of an earthquake with a seismic intensity of 5 or higher at ITAMI When there is a significant threat to airport operations etc.
	ITAMI JCMG [Public sector (on airport): 3] JCAB ITAMI Office, Toyonaka Police, Itami Police [Private sector (on airport): 4] Kansai Airports, NKIAC, Japan Airlines, All Nippon Airways [Transportation: 2] Osaka Airport Transport, Osaka Monorail			
	KOBE 29 organizations	CEO, Kansai Airports Kobe	Mayor of Kobe City	<ul style="list-style-type: none"> If a typhoon, classified as "Very Strong" or more severe, is projected to take the path that may significantly affect KOBE, have a prior discussion with participating organizations and decide, at least 24 hours earlier than when the typhoon is forecast to be closest, whether to activate JCMG In the event of an earthquake with a seismic intensity of 5 or higher at KOBE When a Major Tsunami Warning or Tsunami Warning is issued for Hyogo Prefecture's coast
	KOBE JCMG [Public sector (on airport): 4] Airport Promotion Division of Kobe City, Crisis Management Office (Kobe City Aircraft Accident Prevention HQ, Disaster Prevention HQ), JCAB Kobe Office, Kansai Aviation Weather Service Center Kobe Station [Private sector (on airport): 7] Kansai Airports Kobe, All Nippon Airways (incl. Air Do & Solaseed Air), Skymark Airlines, Kobe Airport Fueling Facilities, Marine Access Business Dept of OM Kobe, Hiratagaku, Airbus Helicopters Japan [Public sector (off airport): 16] Kobe City Fire Department (incl. Aviation Maneuver Squad), Kobe City Suijo Fire Station, Kobe City Suijo Fire Corps, Kobe City Secondary Emergency Hospital Association, Japan Red Cross Hyogo Branch, Kobe City Medical Center General Hospital, Kobe University Hospital, Hyogo Emergency Medical Center, Hyogo Prefectural Police, Kobe City Suijo Police Station, Airport Police Station, Kobe Security Dept of Japan Coast Guard, Civil Policy Planning & Admin Dept of Hyogo Prefecture, Ground Self-Defence Force Himeji Base, Marine Self-Defence Force Hanshin Base, Hyogo Provincial Cooperation Office [Private sector (off airport): 1] NTT West Hyogo Branch [Transportation: 1] Kobe New Transit			



Main initiatives - Prevention -

Crisis Management Structure (KIX, ITAMI and KOBE)

■ Build a complementary framework for the 3 airports

[Complementary to head office functions]

- Establish a mutual support system

[Complementary to operational functions]

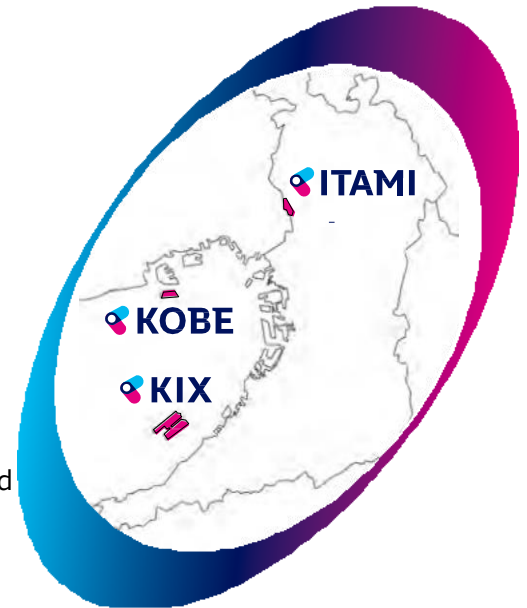
- Share operational information
- Provide equipment and materials necessary for recovery

Kansai Airports' crisis management organization consists of:

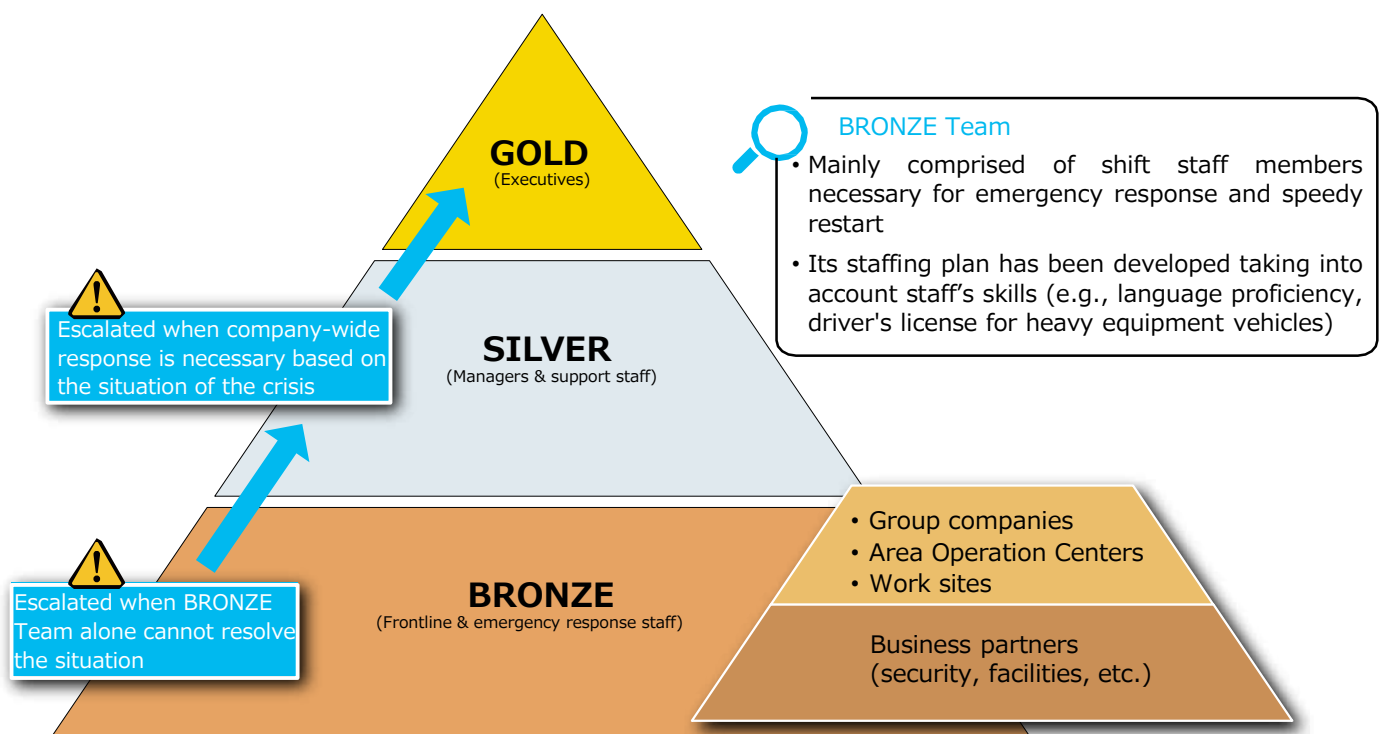
GOLD Team: Exercise strategic control over emergency situations
(corporate management perspective)

SILVER Team: Exercise tactical control over emergency situations and
make high-level decisions on responses
(BRONZE Team support)

BRONZE Team: Perform emergency responses mainly at airport operation centers



Incidents are escalated up the chain of command
according to the situations



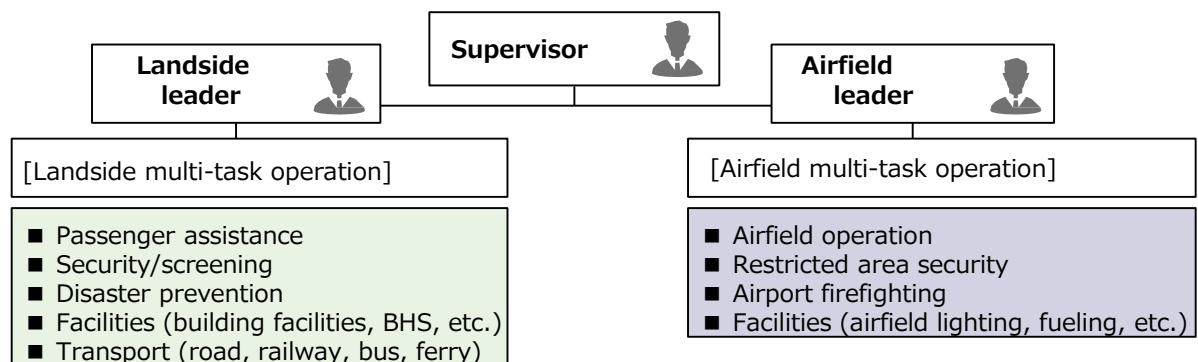


Main initiatives - Prevention -

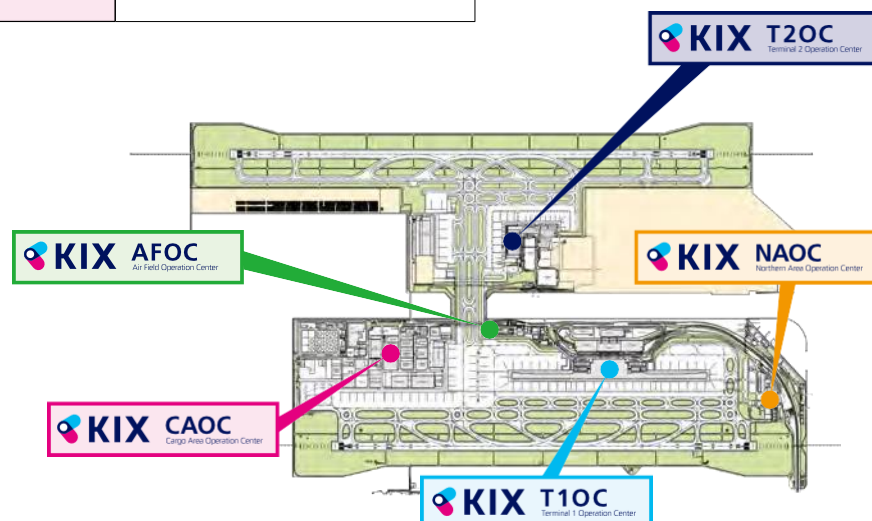
New KIX Operation Center (KOC)

- Led by a supervisor, serving as the head, and airfield/landside leaders
- In addition to carrying out the previous KOC functions (airfield operations, security, and disaster prevention), monitor and manage passenger terminal operations, transportation and other facilities in order to improve day-to-day operations

[KOC]



T1 Operation Center KIX T1OC <small>Terminal 1 Operation Center</small>	[Location] T1, Level 2 [Function] Subcenter for providing assistance to customers in the T1 area (Temporary foreign mission booth to be set in an emergency)	Airfield Operation Center KIX AFOC <small>Air Field Operation Center</small>	[Location] Airport Fire Station, Level 2 [Function] Subcenter for recovery operations • Firefighting/rescue • Illegal entry handling
T2 Operation Center KIX T2OC <small>Terminal 2 Operation Center</small>	[Location] T2 Domestic [Function] Subcenter for providing assistance to customers in the T2 area	North Area Operation Center KIX NAOC <small>Northern Area Operation Center</small>	[Location] Observation Hall, Level 2 (maintenance bldg.) [Function] Subcenter for recovery operations • Coordination with airport access providers • Base for support vehicles from outside the airport...
Cargo Area Operation Center KIX CAOC <small>Cargo Area Operation Center</small>	[Location] Int'l Cargo Bldg. No. 5 [Function] Subcenter for supporting operators in the int'l cargo area	Open in June 2020 (planned)	








Main initiatives - Prevention -

Enhanced disaster supplies

	Expected headcount	Stored water (500 ml bottles)	Food supplies (meals)
KIX	12,000	144,000	108,000
ITAMI	4,000	48,000	36,000
KOBE	700	8,400	6,300

Item	No. of stockpiles	Remarks
Food supplies 	108,000 meals	<ul style="list-style-type: none"> • Quick cooking rice • Canned bread • Biscuit
Drinking water 	144,000 bottles	500ml plastic bottle
Sleeping bag 	12,000 units	Supplies for overnight stay
Emergency blanket 	10,000 sheets	
Portable toilet 	36,000 units	
Baby formula 	180 boxes	Care for people of all ages and sexes who need support
Disposable diaper 	50 packs for adults 75 packs for infants/kids	

Item	No. of stockpiles	Remarks
Women's sanitary items 	250 packs	Care for people of all ages and sexes who need support
Battery 	50 units	Charging for customers' smartphones
Battery-type charger 	2,000 units	



Main initiatives - Prevention -

Special Disaster Corps

■ Reorganize airport firefighting organizations to **enable quick response to disasters 24/7**

- Manage and operate disaster response materials and equipment
- Provide necessary education on disaster preparedness
- Respond to a disaster in a neighboring area



Disaster response



O&M of equipment



Education



Main initiatives - Prevention -

Knowledge Center

- Plan to establish **Knowledge Center**, a training center, in KIX
 - Provide **education** for Kansai Airports Group employees and on/off-airport operators
 - Externally share information about initiatives taken by Kansai Airports

Current view of Observation Hall



Training



Seminar for airport operators



Develop **specialized training space** for Kansai Airports Group and stakeholders (aircraft accidents, terrorism, natural disasters, etc.)

Provide **education and training** on airport disaster responses for business operators

Offer education sessions on airport operations (**Academy**)

Provide airport users with **information** about actions and initiatives taken by Kansai Airports

Offer **working space** that can be used by everyone working at the airport on a daily basis



Main initiatives

- Disaster resilience and response -

Customer support and evacuation

■ Estimated number of passengers stranded at the airports is as follows:

KIX Passengers at the airport About 12,000

International arrival	3,874	International departure	6,532
Domestic arrival	791	Domestic departure	791

[Breakdown]			
Non-Japanese	7,400	Persons with disabilities	5
Japanese	4,200	Infant	100
Elderly persons	300		

ITAMI Passengers at the airport About 4,000

Domestic arrival	1,199	Domestic departure	2,397
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KOBE Passengers at the airport About 700

Domestic arrival	442	Domestic departure	221
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Main initiatives

- Disaster resilience and response -

Customer support and evacuation

Ensure to provide smooth passenger guiding and services even in an emergency by pre-defining **priority criteria for customers** in need of care and **allocation of secondary evacuation shelters** (site options)

Flow of evacuation support at KIX (in the case of a massive earthquake)

Guide to primary evacuation site (outdoor)

Check bldgs safety

Receive cards

Guide to secondary evacuation shelters (inside buildings)

Transport customers outside the airport

Reception (in front of T1 Operation Center on Level 2)

Distribute Emergency Information Cards and group customers according to their need for support

- Collect Emergency Information Cards** (distributed at the primary evacuation site)
- Receive cards from Japanese and non-Japanese customers **(in cooperation with foreign embassies/consulates)**
- Distribute sleeping bags, blankets and drinks

Emergency Information Card

Customer priority

- Those who are sick, injured, disabled, pregnant and suffering from intractable diseases, and their family
- Babies, small children, and the elderly, and their family
- An unattended minor
- Other customers

Secondary evacuation

- Guide each passenger group to their evacuation shelters
- Provide food and drinks

- On-airport hotels
- On-airport meeting rooms
- Resting rooms in Aero Plaza
- T1 VIP rooms
- Public area on Level 2 of T1 and domestic gate area

- Lounges
- Level 4 of Terminal 1
- Terminal 2

Airport operations are not likely to resume soon

&

Staying inside the airport is not safe

Transport people to the outside of the airport

Out-of-airport transport

- Transport people by shuttle buses **in the order of their priority**
- Distribute bus or ferry tickets** to those who do not require support and ask them to wait in a line according to their ticket numbers
- Set up signs or assign staff at certain intervals to guide customers to a point of embarkation (Staff members carry communication tools in case of the customers falling ill en-route)



An emergency transportation agreement with airport access operators (bus and ferry) will be concluded

Out-of-airport evacuation drill (Earthquake and Tsunami drill carried out on March 5, 2019)



Main initiatives

- Disaster resilience and response -

Color coded Emergency Information Card

滞留者カード No. J-90001	
①氏名	(姓) (名) ②年齢
③国籍	④性別 <input type="checkbox"/> 男性 <input type="checkbox"/> 女性 <input type="checkbox"/> その他
⑤住所	都道府県 区都市町村
⑥連絡先	
⑦手荷物番号	(航空会社名) (手荷物番号)
⑧旅客 プライオリティ	<input type="checkbox"/> 障がい者、難病患者、妊産婦及びその家族 【具体的な症状をご記入ください。】 <input type="checkbox"/> 乳幼児連れの家族、高齢者とその家族 <input type="checkbox"/> 18歳未満（1名の場合） <input type="checkbox"/> 上記以外の旅客
⑨食事	<input type="checkbox"/> アレルギー対応食を希望 <input type="checkbox"/> ハラル食を希望 <input type="checkbox"/> 粉ミルクを希望 ※こちらは記入しないでください（テナント記入欄） <input type="checkbox"/> 1食目 <input type="checkbox"/> 2食目 <input type="checkbox"/> 3食目
⑩ボランティア	【協力できる項目にのみをお願いします。】 <input type="checkbox"/> 医師 <input type="checkbox"/> 看護師 <input type="checkbox"/> 介護士 <input type="checkbox"/> 保育士 <input type="checkbox"/> 通訳（語） <input type="checkbox"/> その他
⑪その他	【相談事や希望がある場合はご記入ください。】
【個人情報の取扱いに関する同意書】 <input type="checkbox"/> 私は、空港運営会社及びその委託先のほか、ホテル、領事館、医療機関等の関係機関が緊急時における空港滞留者の安全確保等を目的として、上記に記入した情報を利用することに同意します。	

- The color on top of the card indicates a language

- ■ Blue: Japanese
- ■ Green: English
- ■ Red: Chinese
- ■ Orange: Korean

- The color of a neck strap indicates one of the four levels of customer priority

- ■ Red: Those who are sick, injured, disabled, pregnant or suffering from intractable diseases, and their family
- ■ Orange: Babies, small children, and the elderly, and their family
- ■ Green: An unaccompanied minor
- ■ Blue: None of the above

- The card provides the minimum information necessary for customer assistance

滞留者カード No. J-90001	
①氏名	(姓) (名) ②年齢
③国籍	④性別 <input type="checkbox"/> 男性 <input type="checkbox"/> 女性 <input type="checkbox"/> その他
⑤住所	都道府県 区都市町村
⑥連絡先	
⑦手荷物番号	(航空会社名) (手荷物番号)
⑧旅客 プライオリティ	<input type="checkbox"/> 障がい者、難病患者、妊産婦及びその家族 【具体的な症状をご記入ください。】 <input type="checkbox"/> 乳幼児連れの家族、高齢者とその家族 <input type="checkbox"/> 18歳未満（1名の場合） <input type="checkbox"/> 上記以外の旅客
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Emergency Information Card No. E-90001	
1 Name	2 Age
3 Nationality	4 Gender
5 Address	
6 Phone	
7 Baggage	
8 Passenger priority	<input type="checkbox"/> Person with disability or intractable disease, pregnant women or accompanying family member 【Please describe your condition.】 <input type="checkbox"/> Family with infants, elderly person, or family member of elderly person <input type="checkbox"/> Unaccompanied minor (under 18) <input type="checkbox"/> Others
9 Dietary requirement	<input type="checkbox"/> Allergic food <input type="checkbox"/> Halal food <input type="checkbox"/> Powder milk Do not enter anything here (for tenant's use only) <input type="checkbox"/> 1st meal <input type="checkbox"/> 2nd meal <input type="checkbox"/> 3rd meal
10 Volunteer	【Please check areas in which you can volunteer.】 <input type="checkbox"/> Doctor <input type="checkbox"/> Nurse <input type="checkbox"/> Caregiver <input type="checkbox"/> Childcare professional <input type="checkbox"/> Interpreter (language) <input type="checkbox"/> Others
11 Others	【Please write down any comments you may have.】
【Privacy Policy】 <input type="checkbox"/> I agree that the information above will be used for the safety of people at the airport by relevant organizations including the airport operators, its contractors, hotels, consulates and medical institutions.	

滞留者カード No. J-90001	
①氏名	(姓) (名) ②年齢
③国籍	④性別 <input type="checkbox"/> 男性 <input type="checkbox"/> 女性 <input type="checkbox"/> その他
⑤住所	都道府県 区都市町村
⑥連絡先	
⑦手荷物番号	(航空会社名) (手荷物番号)
⑧旅客 プライオリティ	<input type="checkbox"/> 障がい者、難病患者、妊産婦及びその家族 【具体的な症状をご記入ください。】 <input type="checkbox"/> 乳幼児連れの家族、高齢者とその家族 <input type="checkbox"/> 18歳未満（1名の場合） <input type="checkbox"/> 上記以外の旅客
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⑩ボランティア	【協力できる項目にのみをお願いします。】 <input type="checkbox"/> 医師 <input type="checkbox"/> 看護師 <input type="checkbox"/> 介護士 <input type="checkbox"/> 保育士 <input type="checkbox"/> 通訳（語） <input type="checkbox"/> その他
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滞留者カード No. K-90001	
①氏名	(姓) (名) ②年齢
③国籍	④性別 <input type="checkbox"/> 男性 <input type="checkbox"/> 女性 <input type="checkbox"/> その他
⑤住所	都道府県 区都市町村
⑥連絡先	
⑦手荷物番号	(航空会社名) (手荷物番号)
⑧旅客 プライオリティ	<input type="checkbox"/> 障がい者、難病患者、妊産婦及びその家族 【具体的な症状をご記入ください。】 <input type="checkbox"/> 乳幼児連れの家族、高齢者とその家族 <input type="checkbox"/> 18歳未満（1名の場合） <input type="checkbox"/> 上記以外の旅客
⑨食事	<input type="checkbox"/> アレルギー対応食を希望 <input type="checkbox"/> ハラル食を希望 <input type="checkbox"/> 粉ミルクを希望 ※こちらは記入しないでください（テナント記入欄） <input type="checkbox"/> 1食目 <input type="checkbox"/> 2食目 <input type="checkbox"/> 3食目
⑩ボランティア	【協力できる項目にのみをお願いします。】 <input type="checkbox"/> 医師 <input type="checkbox"/> 看護師 <input type="checkbox"/> 介護士 <input type="checkbox"/> 保育士 <input type="checkbox"/> 通訳（語） <input type="checkbox"/> その他
⑪その他	【相談事や希望がある場合はご記入ください。】
【個人情報の取扱いに関する同意書】 <input type="checkbox"/> 私は、空港運営会社及びその委託先のほか、ホテル、領事館、医療機関等の関係機関が緊急時における空港滞留者の安全確保等を目的として、上記に記入した情報を利用することに同意します。	





Main initiatives

- Disaster resilience and response -

Improved information dissemination

<p>Resilient public address systems</p>	<ul style="list-style-type: none"> Equip KOC with centralized control over emergency broadcasting to all buildings Deploy portable emergency speaker systems and disseminate emergency information across the airport including outdoor areas 	 <p>Portable emergency speaker systems</p>
<p>Stronger multi-lingual support</p>	<ul style="list-style-type: none"> Disseminate information using SNS and airport website Prepare additional multi-lingual megaphone translators 'Mega Speaker' (2 units → 72 units) Beef up a pool of multilingual staff members in cooperation with passenger guiding and handling staff 	 <p>'Mega Speaker'</p>  <p>Airport's SNS and website</p>  <p>More multilingual staff</p>

Better emergency information dissemination by introducing Display Integrated Management System

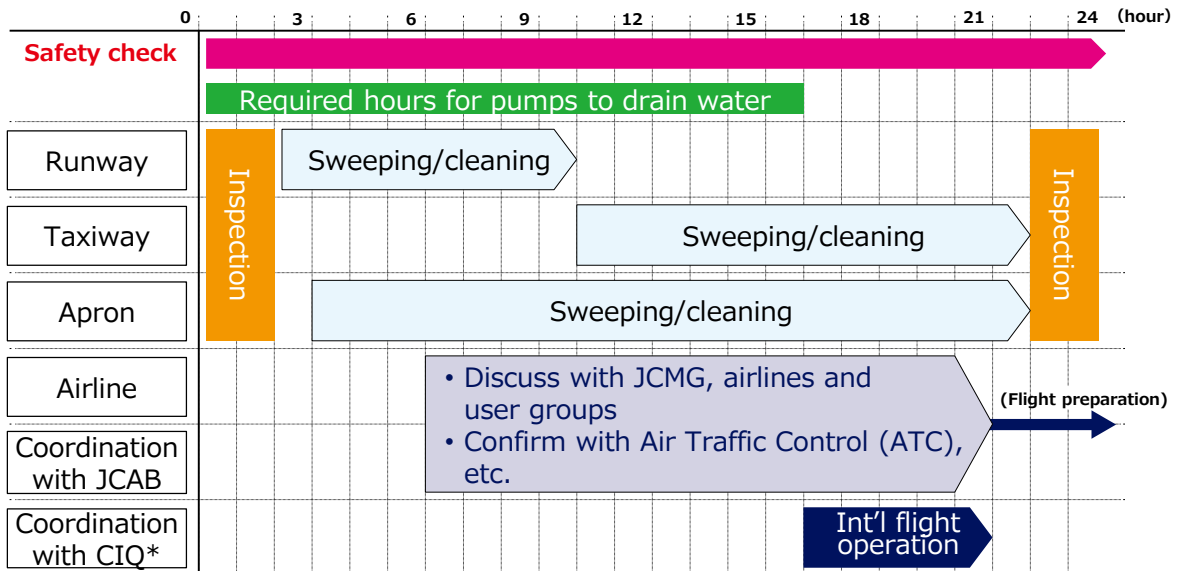
<p>Future functional enhancement (2020)</p>	<ul style="list-style-type: none"> Centrally controlled dissemination of information (The information on displays instantly switches to an emergency information mode) Provide emergency information in multiple languages (4 languages)   <p>Information provided both through images and audio using displays and broadcasting systems</p>
---------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

4

Main initiatives - Speedy restart -

BRONZE Team, consisting of a supervisor, Airport Operation Centers, Area Operation Centers, group companies, business partners and others, provides passenger support and makes efforts towards speedy restart of the airport, using various equipment and tools.

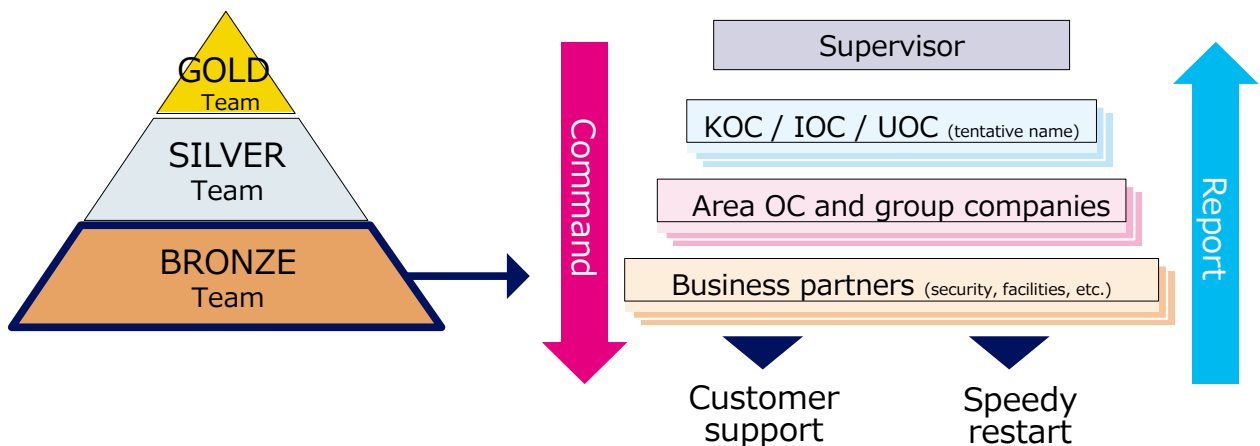
Time-line (e.g., Speedy recovery from flooding of runway)



(Ref.) Human resources, equipment/tools and materials allocated in the aftermath of Typhoon Jebi.
Operating hours: 8 hours (80 workers, 16 sweepers, 22 dump trucks, 2 loaders, and 7 backhoes)

*CIQ: Customs, Immigration and Quarantine

Organization structure



Equipment and tools



Large pumping vehicles



Small drainage pumps



Emergency lights

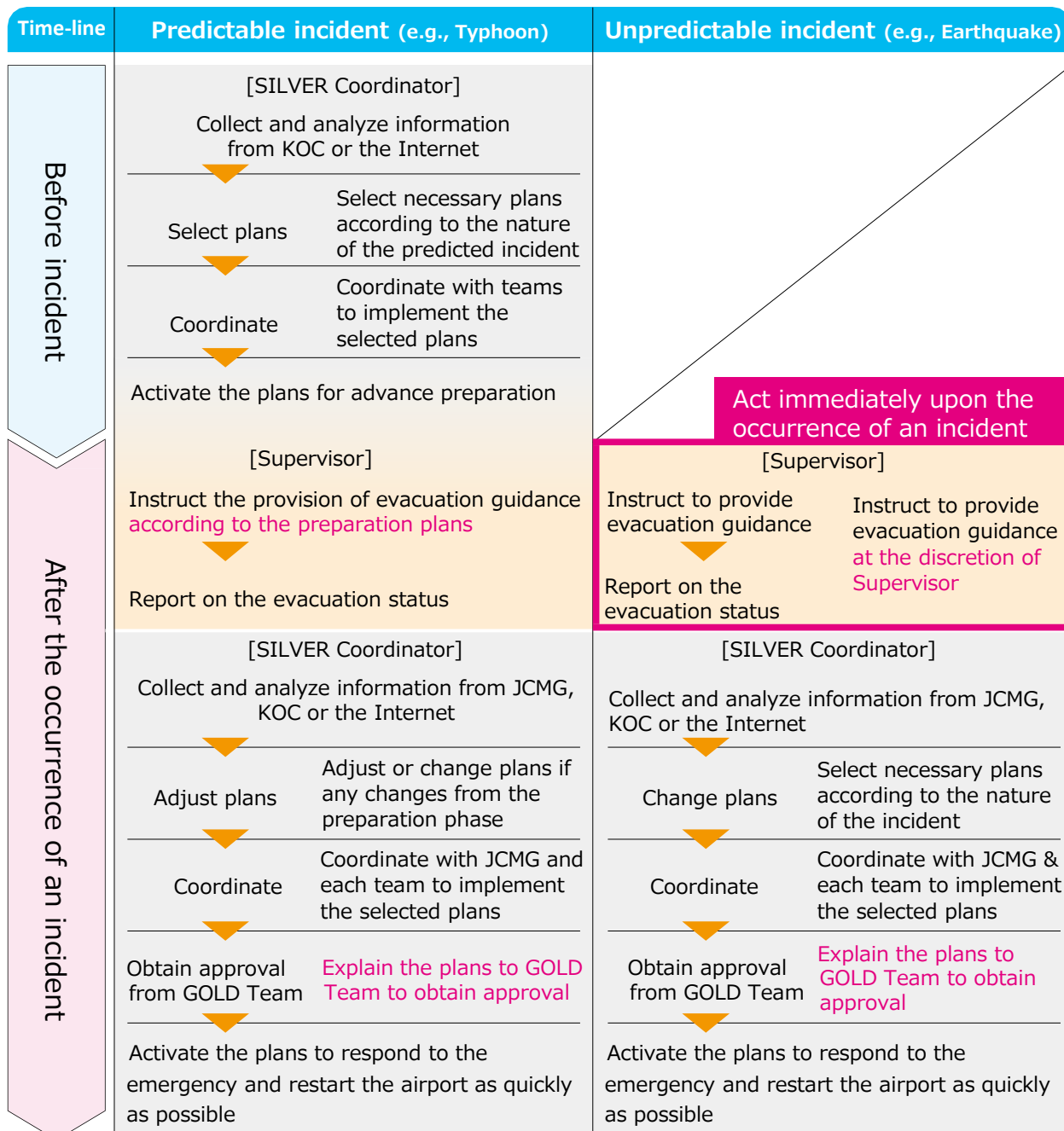


Sweepers

5

Emergency response

Develop action plans to tackle an emergency by combining the pre-determined plans so that they are practical and best fit the nature of the crisis. The flow of such plan development and activation is illustrated below:





Emergency response - Functional plan -

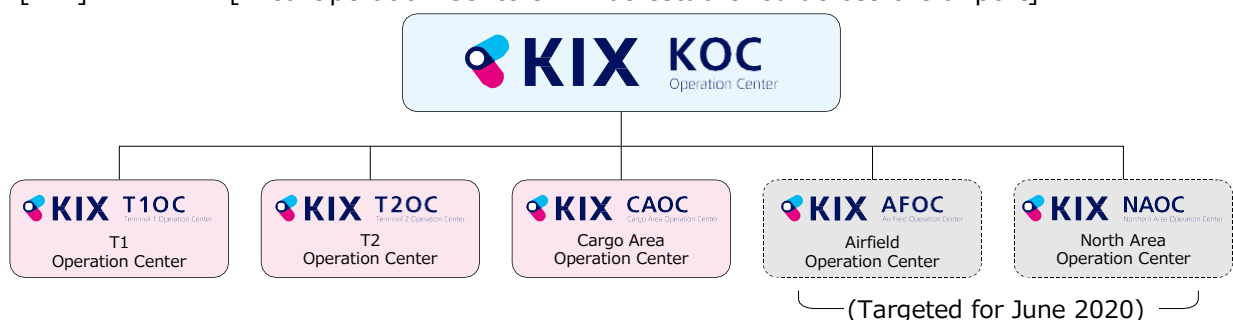
Airport Operation Center

■ Roles and responsibilities of Airport Operation Center

- Area Operation Centers (AOC) make judgment on the severity levels of an incident and report to KIX Operation Center (KOC) and SILVER Team on the occurrence of a severe incident. AOCs also plan resource allocation and request off-duty operation staff to come to the airport
- Individual AOCs collect and relay information from Airport Operation Center to customers, workers and on-airport operators in their jurisdiction

[KIX]

[Area Operation Centers will be established across the airport]



Severe Incident Response Plan

■ This plan describes organization structures and processes to address severe incidents

- Bronze Team consists of front-line and emergency response teams, assisted, as needed, by specially organized emergency team.
- SILVER Team commands tactical control and addresses the incident directly. The team gives instructions to BROZE Team in matters except for initial firefighting responses that require special expertise.
- GOLD Team commands strategic control over a severe incident and gives instructions to SILVER Team.
- JCMG gathers airport stakeholders in the case of an incident and facilitates information sharing and mutual cooperation.

Severe incident	
(1)	Aircraft accidents
(2)	Incidents due to turbulence, etc.
(3)	Aircraft explosion, etc.
(4)	Aircraft hijacking
(5)	Fires at the terminal building, etc.
(6)	Leakage of hazardous substances, etc.
(7)	Natural disasters
(8)	Medical emergencies such as contagious diseases, mass food poisoning, etc.
(9)	Terrorism, armed attacks, etc.
(10)	Critical facilities' functional loss
(11)	Other matters deemed likely to have a material impact on the management and operation of the airports

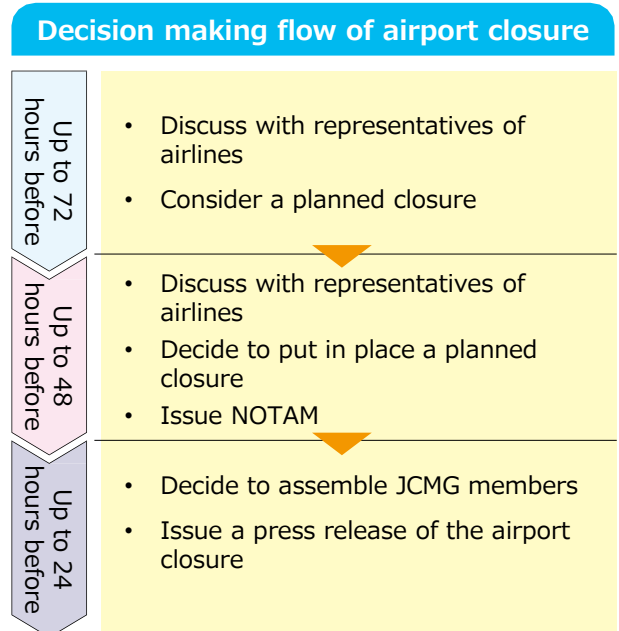


Emergency response - Functional plan -

Irregular flight management

- This plan specifies how to manage irregular flights (scheduled airport closure, operational restrictions due to damage)

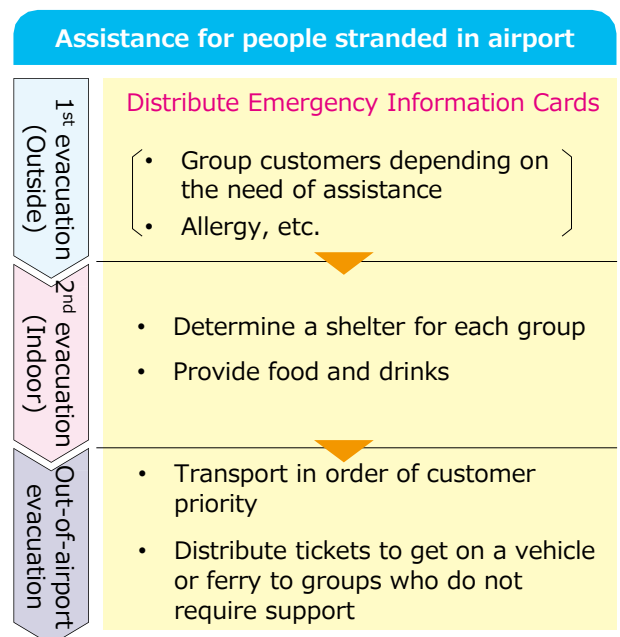
- In principle, this plan is activated when an airport is scheduled to be closed, affecting operations of passenger flights.
- This plan also sets forth processes leading up to a decision to close the airport, processes during the closure and those up to the re-opening of the airport. A slot allocation plan is also included in this plan when slots need to be restricted.



Evacuation support, customer assistance, and information dissemination

- This plan specifies how to provide customer support and guidance during emergency evacuation and how to disseminate sufficient information

- This plan is activated in an emergency such as a natural disaster, aircraft accident and fire that poses a direct threat to the safety and health of customers and employees.
- The chart on the right illustrates a flow of assistance for those who are stranded in an airport. For more details, please refer to "Chapter 4: Main initiatives - Disaster resilience and response –".



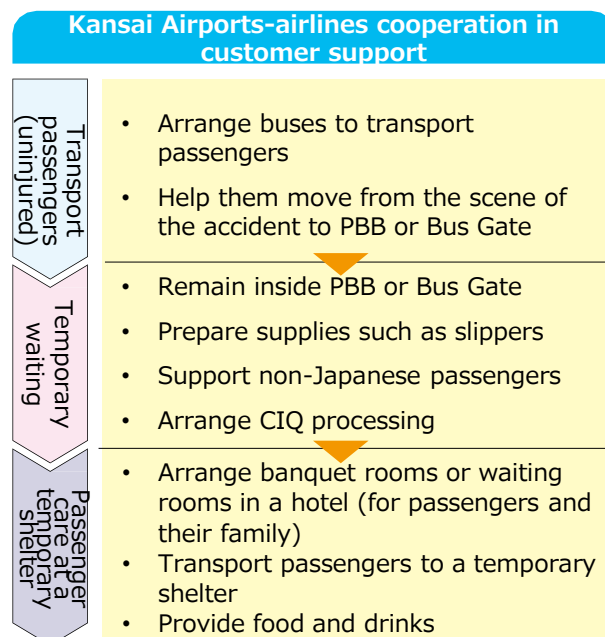


Emergency response - Functional plan -

Customer support (aircraft accident)

- This plan stipulates how to assist customers in the case of an aircraft accident in cooperation with airlines

- An airline is responsible for providing passengers and their family with support in the case of an aircraft accident. However, if an airline is not sufficiently staffed or equipped at an airport to support customers, we assist the airline until it is sufficiently staffed and equipped.
- Kansai Airports Group employees and business partners who have agreed to cooperate in such a case will be mobilized to support the airline.
- The chart on the right illustrates processes of customer support provided in cooperation between Kansai Airports and the airline.



Resource management

- This plan sets forth processes to manage resources (human and material resources) necessary for an emergency

- Processes to manage resources such as emergency supplies necessary upon the occurrence of a severe incident as well as equipment and tools needed for recovery efforts (including how to procure and allocate such resources and how to mobilize human resources) are detailed in this plan.

Emergency supplies	
Food supplies	Batteries
Water	Battery type chargers
Emergency blankets	Baby formulas
First aid kits	

Equipment and tools	
Sweepers	Backhoes (0.2m ²)
Floodlight vehicles	Sprinkler trucks
Dump trucks (4t)	Engine-type blowers
Loaders (0.6 - 1m)	

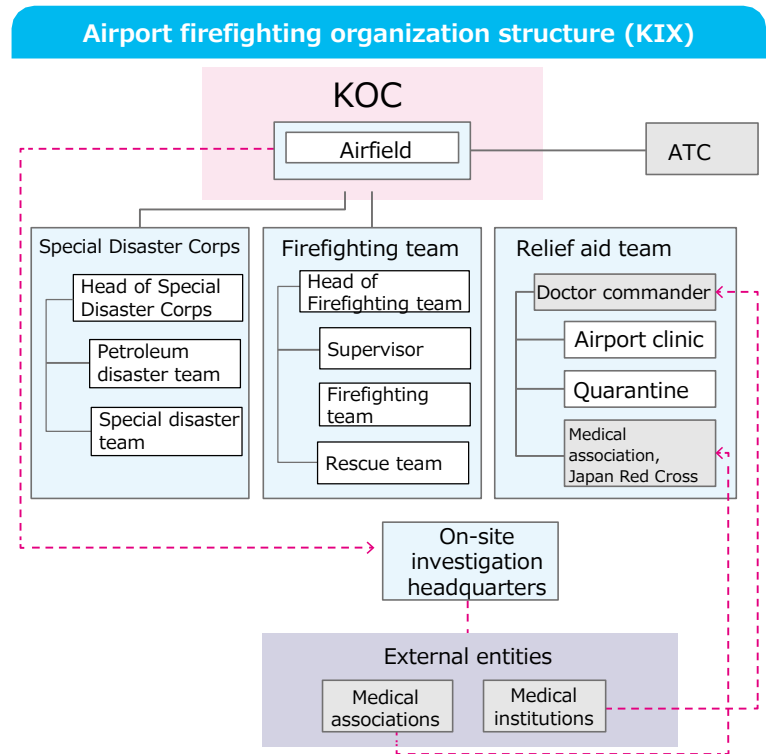


Emergency response - Functional plan -

Fire fighting and rescue operation

- This plan describes emergency firefighting and rescue organization structures at airports

- The airport firefighting activities are performed by the firefighting team of each airport as well as external partners.
- Medical services are provided by Airport Clinic (KIX), Medical Center (ITAMI) and external medical institution (KOBE). Each airport has concluded a mutual support agreement with external fire and rescue departments.
- In the case of an aircraft accident, Aircraft Accident Joint Crisis Management Group will exercise overall command while on-site coordination headquarters take command of operations.





Contingency response

- Function-specific response plan -

Legend: 3 airports KIX ITAMI KOBE

Function	Scenario	Response outline (some excerpts)
Power supply	Damaged commercial power supply equipment and emergency power generators which supply power to all or part of critical facilities (no power supply from Kansai Electric Power Co's Energy Center)	<ul style="list-style-type: none"> Assist passenger evacuation Establish temporary power supply especially to: <ul style="list-style-type: none"> Operate equipment/tools for recovery efforts Manage airports and secure telecommunications (for activities by JCMG/ GOLD/ SILVER/ BRONZE Teams) Secure safety and security of airport users Restore airport functions to restart airport operations
	Inoperable commercial power supply equipment and emergency power generators	
	Inoperable commercial power supply equipment and emergency power generators	
Telecommunications	Loss of communication means such as telephones, Internet, free WiFi, etc.	<ul style="list-style-type: none"> Establish a first-response organization by using emergency communications means such as EMC (Emergency Call), BCPortal (emergency communication tool), satellite mobile phone, MCA radio, government emergency radio, etc. Obtain support from mobile phone companies for securing telecommunications using their base transceiver station vehicles
Drinking water supply	Loss of water supply from the mainland (due to damaged pipes along the access bridge)	<ul style="list-style-type: none"> Supply water at a normal-level from drinking water tanks (24 hours) Distribute emergency water bottles
	Loss of water supply from Furue Water Treatment Plant	<ul style="list-style-type: none"> Supply water at a normal-level from drinking water receiving tanks (48 hours) Distribute emergency water bottles
	Loss of water supply from the mainland (due to damaged pipes along the access bridge)	<ul style="list-style-type: none"> Supply water at a normal-level from drinking water tanks (24 hours) Distribute emergency water bottles
Gray water supply	Inoperable gray water supply pumps	<ul style="list-style-type: none"> Supply gray water at a normal-level from gray water tanks (24 hours) Set up temporary toilets and provide portable toilet sets
	(N/A due to no use of gray water)	
	Inoperable gray water supply pumps	<ul style="list-style-type: none"> Supply gray water at a normal level from gray water tanks (24 hours) Set up temporary toilets and provide portable toilet sets Supply water from the drinking water facility in the case of the suspension of gray water facility
Drainage	<ul style="list-style-type: none"> Inoperable relay pumps that transport water to the waste water treatment plant Inoperable wastewater treatment plant 	Restore functions of relay pumps and the wastewater treatment plant
	(N/A as wastewater treatment is performed at a municipal facility)	
	(N/A as wastewater treatment is performed at a municipal facility)	
Airport access	Unusable airport access: access bridge, roads and railway	<ul style="list-style-type: none"> Assist out-of-airport evacuation Review and notify an airline-flight plan, and allocate stands
	<ul style="list-style-type: none"> Long-term suspension of the monorail service Traffic restrictions due to impassable Hanshin Expressway and surrounding roads 	<ul style="list-style-type: none"> Assist evacuation on foot Review and notify an airline-flight plan, and allocate stands
	Impassable airport access: access bridge, roads and Port Liner	<ul style="list-style-type: none"> Assist out-of-airport evacuation Review and notify an airline-flight plan, and allocate stands
Basic facility (1) Basic facility (2)	Inoperable runways (both or either of RWYs A and B)	<ul style="list-style-type: none"> Assist out-of-airport evacuation Review and notify an airline-flight plan, and allocate stands
	Closure of RWY-B or inoperable runways (both RWYs A and B)	<ul style="list-style-type: none"> Assist evacuation on foot Explain noise issues (due to increased use of RWY-A) to local communities Review and notify an airline-flight plan, and allocate stands
	Inoperable runways	Review and notify an airline-flight plan, and allocate stands
Basic facility (3)	Inoperable airfield lights	Install back-up lights stored at KIX
		Install back-up lights brought from KIX
		Install back-up lights brought from KIX



Contingency response

- Function-specific response plan -

Legend: 3 airports KIX ITAMI KOBE

Function	Scenario	Response outline
Terminal buildings 1 and 2	Inoperable passenger terminal buildings (both or either of Terminals 1 and 2)	<ul style="list-style-type: none"> • Guide passengers to move between the 2 terminals and assist out-of-airport evacuation • Review and notify an airline-flight plan, and allocate stands • Handle landing and refueling of aircraft that cannot be diverted
	Inoperable passenger terminal building	<ul style="list-style-type: none"> • Assist passengers with evacuation on foot • Handle landing and refueling of aircraft that cannot be diverted
	Inoperable passenger terminal building	<ul style="list-style-type: none"> • Assist out-of-airport evacuation • Handle landing and refueling of aircraft that cannot be diverted
PBB and BHS	Inoperable all PBB and BHS	[PBB] Assist passengers in boarding and disembarking using ramp buses and air-step vehicles (Coordinate with airlines and handling companies) [BHS] Transport baggage using alternative methods and return checked baggage
		[PBB] Assist passengers in boarding and disembarking using ramp buses and air-step vehicles (Coordinate with airlines and handling companies) [BHS] Transport baggage using alternative methods and support airlines with their BHS on departure side
		[PBB] Assist passengers in boarding and disembarking using ramp buses and air-step vehicles (Coordinate with airlines and handling companies) [BHS] Transport baggage using alternative methods and support airlines with their BHS on departure side
		[PBB] Assist passengers in boarding and disembarking using ramp buses and air-step vehicles (Coordinate with airlines and handling companies) [BHS] Transport baggage using alternative methods and support airlines with their BHS on departure side
Aircraft fuel	Loss of fuel supply from on-airport fuel tank facilities (hydrant)	Support fuel supply by using fuel tank lorries (Coordinate with airlines and oil companies)
	Loss of fuel supply from on-airport fuel tank facilities (hydrant), fuel tank lorries (JAL) and refuel facilities (ANA)	Support fuel supply by using fuel tank lorries from outside the airport (Coordinate with airlines, oil companies, and refueling operation companies)
	Loss of fuel supply from on-airport fuel tank facilities (fuel tank lorries)	Support fuel supply by using fuel tank lorries from the mainland (Coordinate with airlines, oil companies, and refueling operation companies)
Cargo facility	Inoperable cargo facilities (warehouses and other necessary warehousing functions)	<ul style="list-style-type: none"> • Support transportation of stranded cargoes • Support evacuation of service vehicles if there is a risk of flooding
	Inability to handle air cargoes	Support transportation of stranded cargoes
	(N/A as no cargoes are handled)	
ATC function	Loss of ATC functions	CAB guides aircraft using gun sets and light guns. If slots are restricted, allocate stands according to the airline flight plans
Important information system	Inoperable important information systems (KIX-LAN, mechanical security systems, airport management support systems, international check-in systems, ITV system to monitor apron operations, passenger information systems)	Have airport staff manually address the situations (e.g., have airport staff close access points and increase the patrol frequency, etc. in the case of an inoperable mechanical security system)
	Inoperable important information systems (internal LAN, security systems, stand management systems, passenger information systems)	Have airport staff manually address the situations (e.g., have airport staff set up passenger information boards working together with airlines in the case of an inoperable passenger information system)
	Inoperable important information systems (internal LAN, airport perimeter fence security systems, terminal monitoring systems, passenger information systems)	Have airport staff manually address the situations (e.g., increase the number of security checkpoints and the frequency of patrol in the case of an inoperable airport perimeter fence security system)
Human resources	Shortage of human resources for airport operations and facility management	Assign back-up staff members in advance

Shaping a New Journey

