Developing Business Continuity Management in Kobe City Waterworks Bureau

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ABSTRACT

It is expected to keep supplying water even in an emergency, because water is indispensable for daily life and urban activities. Recently risks of natural disasters including earthquake, climate change, and terrorism and so on are increasing. Kobe City decided to develop Business Continuity Plan (BCP). Furthermore we found that it would be important to raise BCP and to establish management process, named as Business Continuity Management (BCM).

Generally most of Emergency Manuals based on individual “causes” of disasters. It would be difficult to deal with complex causes and an unexpected event if we think only one cause. Therefore we should aim to make the manual which is focused on the “result”.

Furthermore we think capacity development is very necessary. So the staffs should participate in developing BCP, which contains increasing awareness of impending crisis and developing ability for emergency response. We revised the existing manual through workshops in order to take advantage of the staffs’ know-how.

In addition we investigated all the contents thoroughly and integrate them into the BCP. The components of Kobe’s BCP is as follows, 1) Duty Table – Duties at the time of disaster. 2) Duty List – check list of duties listed in Duty Table. 3) Work Flow – flowchart of chronological order

We have developed our BCP with focusing on “the result” instead of “the cause”, to deal all kinds of disasters. From now we will keep revising BCP through table top exercises and will complete BCM, then we will be able to continue to supply water in emergency time.

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INTRODUCTION

Waterworks must be robust enough to supply water even under an emergency to support the citizen life. There are many kinds of risk which may adversely affect the safe and secure water supply, such as natural disasters like earthquakes and water shortage, water quality problems due to abnormal raw water quality, facility problems like water pipeline burst or equipment failure, a new type flu epidemic, and a terror. In the event of an emergency, the number of staff or facilities may not be sufficient due to additional works to cope with disasters, which are normally not required. Staff will be required to act by their judgement when necessary. It is important to decide "who will do what, when, how, and for what reason" in advance.

BUSINESS CONTINUITY PLAN (BCP) AND BUSINESS CONTINUITY MANAGEMENT (BCM)

Business Continuity Plan (hereafter called BCP) is a plan which enables the continuity or quick recovery of important businesses. BCP prioritizes businesses to determine the operation system and operation procedures in advance. Those preparations allow the business not only to recover quickly but also to reduce impacts to its operations.

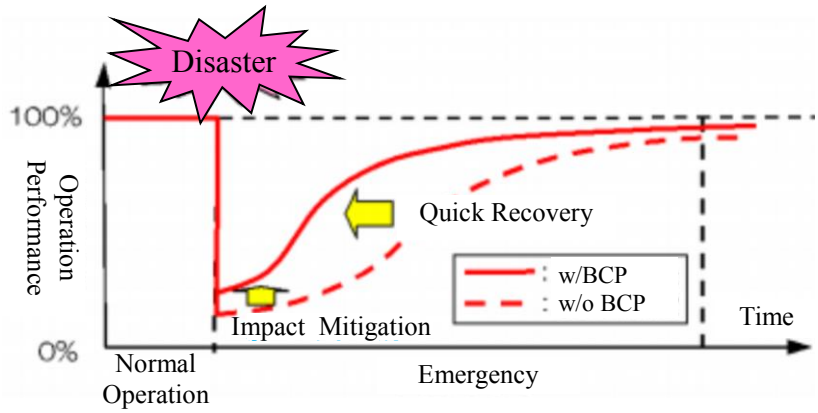

Figure 1. Concept of the BCP

Business Continuity Management (hereafter called BCM) is the management activity under a normal operation which continuously improves the BCP so that effective and reasonable business continuity will be ensured under an emergency.

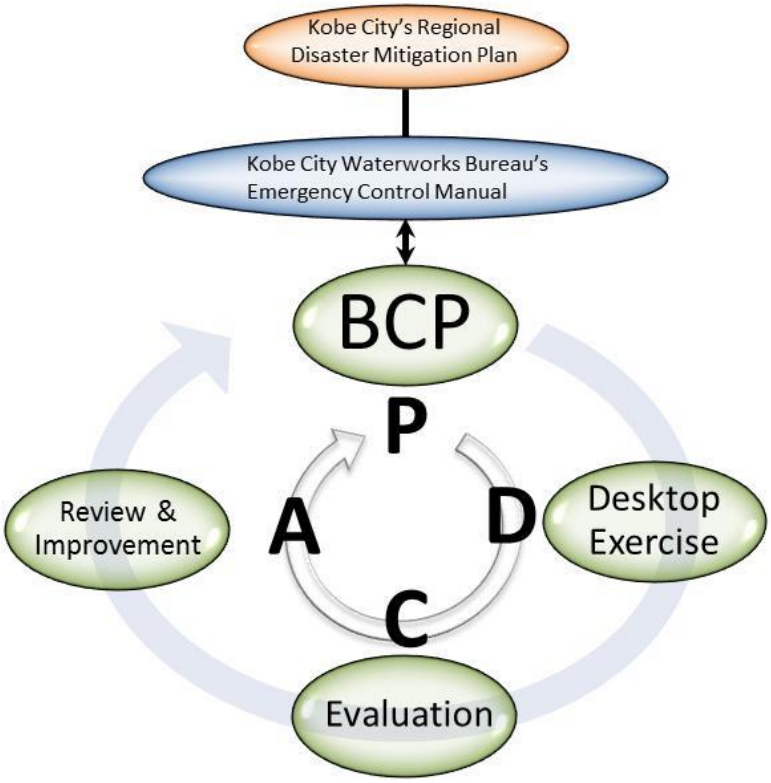

Figure-2. Concept of the BCM

ESTABLISHING THE BCP

Assumed Emergency

Many of BCPs are prepared focusing on the "root causes of an emergency", in other words, "cause events". This approach results in setting disaster by disaster countermeasures, which makes it difficult to apply the solution to complex cases. Another issue of this approach is that it cannot react to an unexpected case.

To continue important operations no matter what an emergency occurs, Kobe City Waterworks Bureau decided to focus on the "results from an emergency", in other words, "result events" when it sets up the BCP manual, rather than the "cause events".

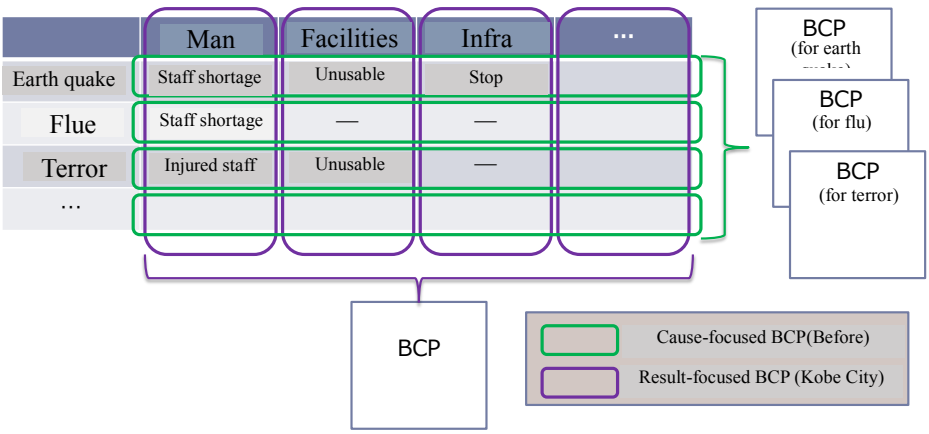

Figure-3. Damage assumptions of Kobe City Waterworks Bureau's BCP

Procedure for Establishing the BCP

The purpose of crisis management activities in Kobe City Waterworks Bureau is sharing common understandings about an emergency and enhancing the ownership feeling among staff. Workshop style lecture was adopted since the staff participative plan setting will penetrate the BCM more effectively in the organization as countermeasures for an emergency.

Two workshops were held in 2014, selecting 39 staff, which account for 5 % of total number of staff, both from office workers and from technical workers. The first workshop specified emergencies that the waterworks bureau may encounter and discussed the issues and countermeasures for businesses, organizations, and individuals. The second workshop selectively focused on a water leakage case and analyzed what needed to be done in chronological order. Surveys were carried out on those participants and effectiveness of the workshop was measured. After the first workshop, positive responses ("Strongly can" or "can") to a question of "How much can you image an emergency concretely which applies to Kobe City Waterworks Bureau?" accounted for 20 %, while after the second workshop, the positive responses to the same question reached up to 59 %. This result implies that the staff participative workshop improved the awareness against emergency among staff.

Figure-4. Workshop at Kobe City Waterworks Bureau

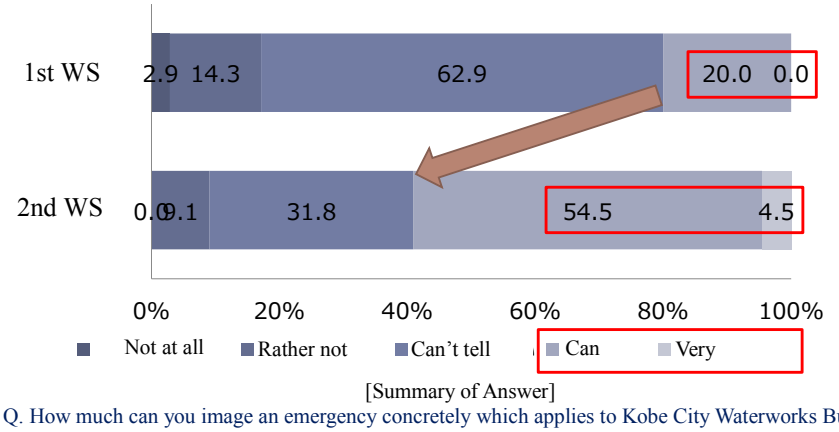

Fig-5. Survey result comparison between the first and the second workshops

In 2015, based on the outcome from the workshop, operation flow was clarified. Survey on priority of operations was carried out to each department and a proposal of the BCP was prepared.

In 2016, a desktop exercise was performed to confirm that the proposed BCP is sufficient and to find out if there is anything to add to it. Staff from each department gathered in an online conference room. The assumption was that a suspect was captured at a distributing reservoir facility. Public relations and the manual format were pinpointed as improving areas after the exercise.

The new BCP of Kobe City Waterworks Bureau has just been prepared in January 2017 incorporating the feedbacks from the desktop exercise.

STRUCTURE OF THE BCP

Kobe City Waterworks Bureau prepared a crisis management operation manual in 2012, integrating separately prepared manuals for natural disasters, abnormal water quality problems, terrors, etc. after reviewing each content. While it enabled to find any countermeasures in one manual, the large volume brought a difficulty for a staff to find out an appropriate section quickly.

To solve that issue, Kobe City Waterworks Bureau's BCP consists of three parts, which makes it easier to use as a manual: 1. "Operation list" which analyzes operations under disaster, 2. "Operation flow chart" which clarifies the operation flow in chronological order, 3. " Operation card" which is a checklist of the operations listed in the "Operation list".

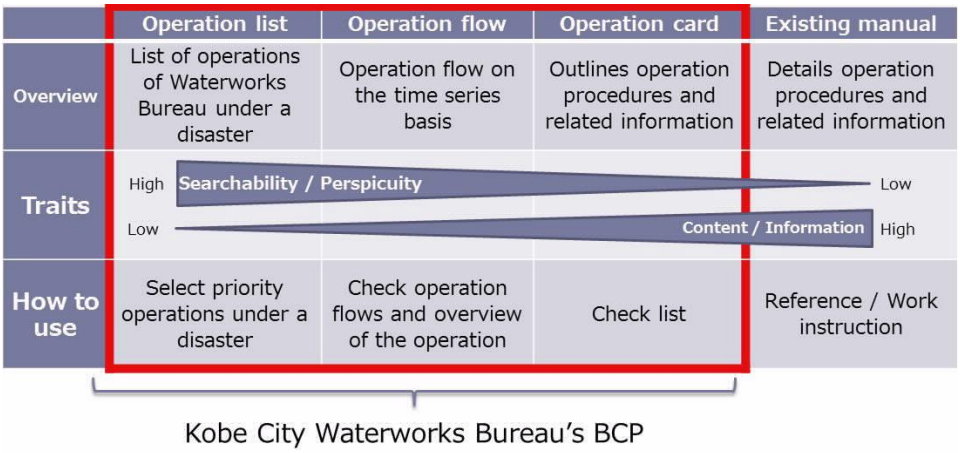

Figure-6. Structure of Kobe City Waterworks Bureau's BCP

Operation List

A operation list was prepared. This will help to understand the overview of Waterworks Bureau's operations (normal and emergency operations) and will benefit to make operations more effective. The operation list includes information about each operation regarding the department in charge, existence of manuals, and the inputs / outputs for that operation.

The operation list also includes priorities at each timing after the occurrence of a disaster with a range of "in a few hours", "in a few days", and "in a few weeks". Those priorities were set based on the survey of each department. The range will allow the staffs to cope with unexpected events such as when the assumption did not match the actual disaster.

Category 1=Temporal 2=Normal	Dept.	Operation	Input	Output	Priority			Assumptions			
					Within a few hours	Within a few days	Within a few weeks	Staff shortage	Fund and material shortage	Facility and equipment shortage	Water pollution ,etc
1	All	Safety Check		Form A	High	Low	Low			○	
1	General affair Section	Collect safety information	Form A		High	Middle	Low			○	
…	…	…	…	…	…	…	…				

Figure-7. Operation list

Operation Flow

The operation flow analyzes the operations listed on the operation list in chronological order basis from the occurrence of a disaster and to the completion of the recovery. It will accommodate a smooth communication between the central office and the branch offices. The operation flow explicitly shows “What process a department is working on in the entire process” and “What will be delivered to the department (INPUT) and what should be done by the department and who is to receive the results (OUTPUT)”.

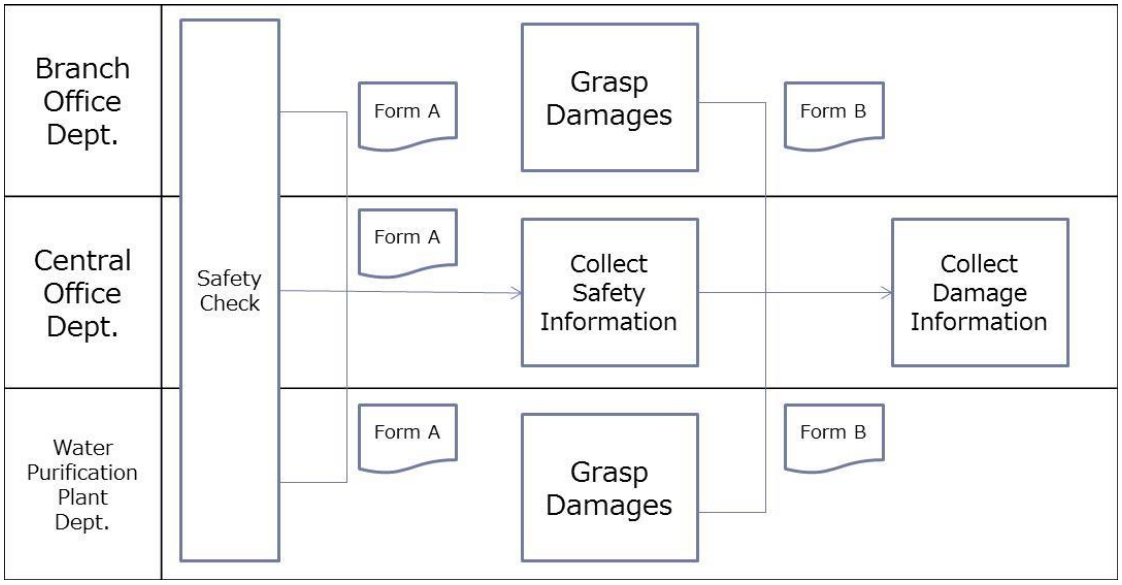

Figure-8. Operation flow

Operation Card

The operation card will enable each staff to complete an allocated operation no matter who it is. It includes a check list of operations listed in the operation list. The card consists of basic information (department of a staff in charge, name of the staff, when to perform the operation), operation procedure, related information (existence of manuals or contacts), and other special information. The related information section includes , so that a staff can quickly open a correct page of the existing manual, when needed.

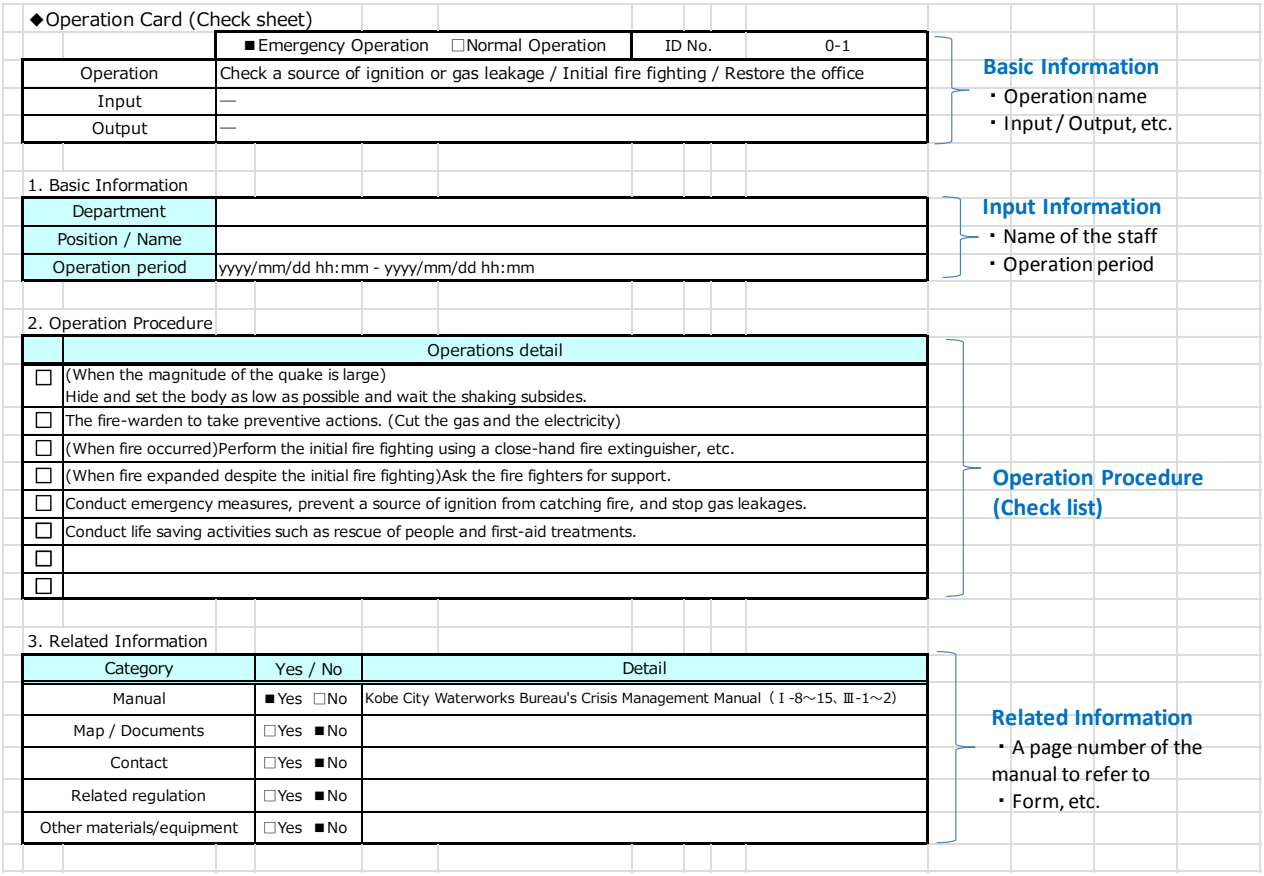

Fig-9. Operation card

FUTURE ACTIVITIES

Kobe City Waterworks Bureau has been working on preparing the BCP focusing on the "result events", not "cause events", so that we can cope with variety of disasters.

The BCP-based desktop exercise was held and it enhanced ownership feeling against emergency among staff. Our plan is to make the BCP more complete and to set up the BCM so that we can effectively continue business even under an emergency environment.