



CDEMA STANDARD

For:

Exercise Planning, Execution & Evaluation

Part 2

TSUNAMI AND EARTHQUAKE DRILLS



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The CHILESPANA project is a tripartite initiative between the governments of Chile and Spain along with the Caribbean Disaster Emergency Management Agency (CDEMA). The four-month project was designed to: “Strengthening of the Caribbean Disaster Emergency Management Agency (CDEMA) and its Member States in the areas of tsunami and earthquakes through a regional approach”.

The objective of this manual is to enhance the knowledge of CDEMA specifically in the establishment of standards for Tsunami and Earthquake drills and the execution thereof.

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While this manual was designed for use by CDEMA Participating States, it draws upon materials from the Exercise Design curriculum and good practices of the regional and international communities. Special mention goes to the following agencies:

- ❖ Australia - Emergency Manual Series
- ❖ Emergency Management Ontario, Canada - Guidelines for Development of an Exercise Programme
- ❖ Federal Emergency Management Agency, USA - Exercise Design
- ❖ Pan American Health Organization - Guidelines for Developing Emergency Simulations and Drills
- ❖ United Nations Educational, Scientific and Cultural Organization - How to Plan, Conduct and Evaluate Tsunami Wave Exercises

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Preface

This Manual of CDEMA standard for **Exercise Planning, Execution & Evaluation** is developed in several parts to cover a series of topics that will be used to exercise various hazards plans and Standard Operating Procedures in Caribbean Disaster Emergency Management Agency (CDEMA) Participating States. The first is the **General – Part 1**, which covers the background to CDEMA, the Regional Response Mechanism and gives a thorough and detail narrative of exercise design, plan, conduct and evaluation. Part 1 of the manual is to be used along with the other parts which will cover the other hazards when completed.

The **Tsunami and Earthquake Drills – Part 2**, is the first hazard specific exercise that will form a part of the manual. It has been designed as a “stand alone” manual which can be used either with or without the other parts. This will therefore mean that there will be some duplication which should assist in reinforcing certain sections.

This Manual was developed through a joint initiative between the Governments of Chile and Spain and the Caribbean Disaster Emergency Management Agency called the CHILESPANA initiative. This was also made possible through our regional partnerships with the Seismic Research Centre (SRC), the Caribbean Tsunami Information Centre (CTIC) and the Office of Disaster Preparedness and Emergency Management (ODPEM), Jamaica. Support was also provided through the (ONEMI)

The CDEMA Standard is based on the international standard. Where there are no known International Standard, CDEMA adapts those good practices and standards that are established by: FEMA, PAHO/WHO, Australia, New Zealand, Canada, OFDA etc. In most cases these standards are already fully integrated into our CDEMA training doctrine (In 1993 and 1995 CDERA pioneered two Exercise Design workshops which was based on the FEMA doctrine at the time).

In addition to the good practices and lessons learnt over the last 23 years, CDEMA (for this initiative) has also utilized the information and recommendations from recent projects that focused on Earthquakes and Tsunamis; such as the Earthquake Readiness Capacity Building (ERCB) Project and the Tsunami and Coastal Hazards Warning System (TCHWS) Project both started in October 2007 and ended in September 2009: these were very timely because twelve (12) CDEMA PSs were rocked by an earthquake on November 29, 2007 and the region has been put on Tsunami watch on a number of occasions since then.

Part 2 of this manual is focused on the designing, planning and evaluating of Earthquake and Tsunami Drills, but Part 1 (General) is to be used to guide individuals or groups in the design, planning, conduct and evaluation of exercises in general.

Users are encouraged to send comments or recommendations to the CDEMA CU at: cdemacu@cdema.org

Section 1 – Background & Introduction

1.0 Earthquakes and Tsunamis, even though not as frequent as hurricanes and floods, have caused significant damage in the Caribbean region. Unlike hazards like hurricanes, floods and droughts that can be predicted accurately, in most cases, the science for earthquakes and tsunamis have not yet reached that accuracy. However, the region has a rich history of notable earthquakes, some of which had generated tsunami over the years.

Some historical facts on Caribbean earthquakes and Tsunamis are listed below:

2.0 Notable Caribbean Earthquakes

- The Port Royal Earthquake in Jamaica on June 7, 1692

At the height of its glittering wealth Port Royal was consumed by an earthquake and two thirds of the town sank into the sea. This earthquake caused most of the city to sink below sea level and about 2,000 people died as a result of the earthquake and the following tsunami.

About 3,000 people died in the days following the earthquake due to injuries and disease.

[USGS \(October 21, 2009\). "Historic Earthquakes: Jamaica 1692 June 07 UTC"](#)



The sunken ruins of Port Royal 1692

- The 1907 Kingston Earthquake on January 14, 1907

On January 14, 1907, at exactly 3:30 p.m., the business and residential districts of Kingston, Jamaica, tumbled down after the first major shock of an earthquake, estimated to have lasted upwards of 35 seconds.



Great Earthquake Disaster. Corner King and Harbour Streets, Kingston, Jamaica, W.I.
Damaged buildings downtown Kingston, Jamaica after the 1907 earthquake

Major fires broke out immediately throughout the city, bringing further death and destruction.

The resulting human tragedy made this earthquake one of the worst disasters in Jamaica’s history, comparable to that of the

infamous 1692 Great Port Royal earthquake. Between 2,000 and 3,000 persons died while

thousands were left homeless. [Wikipedia Free Encyclopaedia “The 1907 Kingston earthquake”](#)

- The Dominican Earthquake of November 21, 2004

A strong earthquake rocked the Caribbean islands of Dominica and Guadeloupe on Sunday, killing at least one person and destroying numerous homes. The earthquake, measuring 6.0 on the Richter scale, shook the islands in early morning on 21 November 2004. The earthquake affected the northern town of Portsmouth where at least two dozen buildings were damaged. The tremor also damaged a power



transformer, leaving the northern half of the island of 70,000 residents without electricity.

The Vielle Case Catholic church destroyed by the 2004 earthquake –[Photo courtesy the UWI Seismic Research Centre](#)

Search and rescue efforts have been hampered by blocked/damaged roads, cut off by heavy rains and landslides, which occurred the previous week. Landslides have also isolated Grand Fonds in the north of the island, which has a population of about 500 persons. [PAHO on-line Article "Dominican Earthquake 2004"](#)

○ The Martinique Earthquake of November 29, 2007

The Martinique Earthquake was felt across the Caribbean (in 12 CDEMA PS) from BVI in the North to Trinidad and Tobago and Guyana in the South. It could also be felt in part in Venezuela and Suriname and French Guiana. Power outages were reported in Martinique, Dominica and Guadeloupe. The Eastern Caribbean islands also experienced telecommunications challenges.

After this earthquake, Caribbean countries (like Barbados) who felt that they were not in the "Earthquake Zone" started to pay attention to the earthquake threat.

○ The Haiti Earthquake of January 12, 2010

The Haiti earthquake caused major damage in Port-au-Prince, Jacmel and other settlements in the region. Notable landmark buildings were significantly damaged or destroyed, including the Presidential Palace, the National Assembly building, the Port-au-Prince Cathedral, and the main jail. Among the reported 230,000 killed were the Archbishop of Port-au-Prince and the Leader of the Opposition. The headquarters of the United Nations Stabilization Mission in Haiti (MINUSTAH),



One of the thousands of structures that were destroyed in Haiti

located in the capital, collapsed, killing many Peacekeepers, including the Mission's Chief. [Wikipedia](#)

[Free Encyclopaedia "The Haiti Earthquake, January 12, 2010"](#)

3.0 Risks of Caribbean Tsunamis

The historical record suggests that potentially destructive tsunamis occur at an average rate of 1-2 per century in the Caribbean. The hazard is not the same throughout the islands. The north-eastern Caribbean region near Puerto Rico and Hispaniola is more susceptible to tsunamis. The average rate of occurrence in this area has approached 1 every 50 years in the last 200 years. In other sub-regions such as the southern Caribbean there are no historical records of destructive tsunami impacts.

Distant earthquakes occurring outside of the region may generate tele-tsunamis. These pose a somewhat lower threat than tsunamis caused from local earthquakes. The primary tele-tsunami sources are the Azores-Gibraltar fracture zone that produced the well documented Lisbon Earthquake and Tsunami near Portugal in 1755 and the La Palma Volcano in the Canary Islands

○ The Indian Ocean Tsunami on December 26, 2004

An earthquake with an estimated magnitude of 9.1 struck the coast of Sumatra, Indonesia. This caused a huge tsunami which killed an estimated 227,898 people in 14 countries.



Coastal damage after the Boxing Day Tsunami in Indonesia

The “Boxing Day Tsunami”, as it was called, raised the awareness in the Caribbean throughout the globe to the threat of a tele-tsunami from such events.

- Kick-em-Jenny submarine Volcano

Kick 'em Jenny is a submarine volcano located 8km north of Grenada. The volcano is about 1300m high, and its summit is currently thought to be about 180m below the surface of the sea. As far as we know, Kick 'em Jenny is the only 'live' (likely to erupt again) submarine volcano in the Eastern Caribbean. It is also the most frequently active volcano in the region, erupting at least 12 times since it was discovered in 1939. Two of those eruptions, in 1939 and 1965, generated small tsunamis that were witnessed on the north coast of Grenada. Detailed studies of the physical structure of Kick-'em-Jenny were conducted between 2002 and 2004 however these studies have shown that the volcano does not currently pose an immediate tsunami threat, but it is possible that future eruptions could change this situation. [The UWI Seismic Research Centre “Grenada, Kick 'em Jenny”](#)

- Montserrat Volcano

On 18 July 1995, the previously dormant Soufrière Hills volcano, in the southern part of the island, became active. Eruptions destroyed Montserrat's capital city of Plymouth and two-thirds of the island's population was forced to evacuate. The volcanic activity continues, mostly affecting the vicinity of Plymouth, including its docking facilities, and the eastern side of the island around the former W. H. Bramble Airport, the remnants of which were buried by flows from volcanic activity on 11 February 2010.



Montserrat volcano erupting in 1995

There is a slim possibility of a major landslide from an erupting volcano causing a Local Tsunami in the Caribbean. [The Montserrat Volcano Observatory October 2, 2006](#)

4.0 Caribbean Preparedness Activities

The two projects that aided in preparing the CDEMA PS in Earthquake and Tsunami readiness in recent years are the ERCB and TCHWS projects that are explained below:

- The Earthquake Readiness Capacity Building (ERCB) Project – October 2007 to September 2009: Funded by the Government of Austria

This project contributed to the implementation of Outcomes 1 and 4 of the then Comprehensive Disaster Management Programme through enhancing community resilience in Participating States, mitigating and responding to hazards and assisting in strengthening institutional capacity at all levels. The Earthquake Readiness Capacity Building (ERCB) Programme was therefore a critical ingredient in framing a comprehensive and integrated approach in improving capacity and capability on earthquake management in CDEMA Participating States.

The ERCB project also increased collaboration between CDEMA CU and the teaching and research institutions in the region. Substantial links were established and maintained with the Seismic Research Centre (SRC) of the University of West Indies who has accumulated considerable research regarding seismic activity in the region.

- The Tsunami and Coastal Hazards Warning System (TCHWS) Project – October 2007 to September 2009: Funded by United States Agency for International Development Office of Foreign Disaster Assistance

The TCHWS Project was designed for “Empowering Coastal Communities to prepare for and respond to Tsunamis and Coastal Hazards”. The project supported the implementation in CDEMA PSs, of a Tsunami and Coastal Hazards Warning System through the development and dissemination of public awareness and education materials and early warning protocols and procedures.

- Exercise CARIBWAVE

Exercise CARIBWAVE is a biennial Tsunami response activity that is held in the Caribbean through sponsorship from the Tsunami and other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE-EWS) of Intergovernmental Oceanographic Commission (IOC) of the United Nations Educational, Scientific and Cultural Organization (UNESCO), the National Oceanic and Atmospheric Administration (NOAA) of the United States of America, and the US National Tsunami Hazard Mitigation Program (NTHMP). Exercise Caribe Wave/Lantex 2014 was conducted on 26 March 2014. The purpose of this exercise was to assist tsunami preparedness efforts in the Caribbean and Adjacent regions, including U.S. and Canadian East coasts

The Caribe Wave/Lantex 14 tsunami scenario simulates a tsunami generated by a M 8.5 earthquake located approximately 270 km off the Portugal coast. The initial dummy message was issued by the US Pacific Tsunami Warning Center (PTWC) and the National Tsunami Warning Center (NTWC) on 26 March 2014 at 10:05 UTC (Universal Time Coordinated), and disseminated over all their standard broadcast channels. The dummy message was issued to test communications with Tsunami Warning Focal Points (TWFPs) and National Emergency Management Organizations (NEMOs), who activated their response mechanism and started the exercise.

5.0 Standardization of Plans and Procedures in CDEMA PSs

The standardization of plans procedures, guidelines, doctrine and training is one of CDEMA's objectives that are embedded in its Training and Operations Doctrine. The many benefits for adopting this objective outweigh the challenges.

Presently the standardization within the CDEMA system includes the strategic, operational and tactical levels. To achieve standardization CDEMA has developed a number of policies, procedures and guidelines, utilizing models which are and adapted and utilized at the national level. Some of guidelines and models that are currently utilized are listed below:

- a. Comprehensive Disaster Management Policy
- b. Damage Assessment Policy, Plan& SOPs
- c. Disaster Legislation
- d. Emergency Housing Policy
- e. EOC SOP Manual
- f. Evacuation Policy
- g. Evaluation Guidelines for Events and Exercises
- h. Guidelines for Conducting National Plan Review

- i. Integrated Relief Plan
- j. Recovery Policy
- k. Search and Rescue
- l. Shelter Policy
- m. Standard Operating Procedures – Relief Ops
- n. Tsunami Response Protocols

6.0 Good Practices from Past Projects

Over the last 23 years CDEMA has accumulated a number of good practices that are used in Comprehensive Disaster Management (CDM). Some of these Good Practices that are identified from past projects; especially related to Exercises, are listed below:

- a. Exercise Planning, Design and Evaluation
- b. Exercise Hand-Book
- c. CDEMA Evaluation Guidelines

7.0 Purpose and Use of the Manual

The purpose of this manual is to provide guidelines and a national reference for the design, planning, conduct and evaluation of Earthquake and Tsunami Drills. This will help in the development of exercise programmes across the Caribbean not only for disaster managers but for the entire national security environment. With some enhancement it should also assist regional planners in developing and executing regional exercises.

The goals of this manual are:

- a. to provide a shared understanding of key concepts, principles and frameworks used in the Caribbean and good practices internationally
- b. to provide regional consistency in the terminology, management structures and documentation used in exercise management throughout CDEMA Participating States , and
- c. to provide guidelines, tools and other resources that will improve the quality of Tsunami/Earthquake exercise design, conduct and evaluation
- d. to provide guidance in the development of an Exercise Hand-Book which includes the technical aspects, staff requirements, administration, preparation and elaboration of an exercise budget.
- e. to understand the methodology used to involve in the Community, the Private Sector, NGOs, Religious Organizations and all the possible stakeholders involved in executing a Tsunami Drill.

Exercising is integral to the development of capability, as well as to the preparation of personnel to carry out their functions during actual events. This manual is designed to offer a series of checklists and prompts for exercise managers and provides a number of guidelines that will assist them in designing, planning, conducting and evaluating Tsunami/Earthquake exercises and drills.

Section 2 – Why Exercise?

8.0 Introduction

An exercise is a focused practice or a controlled, objective-driven activity used for testing, practising, reviewing or evaluating processes or capabilities (Including Plans, Procedures and Protocols), in a simulated situation requiring participants to function in the capacity that they would be expected in a real event. An exercise can be as simple as a planning group discussing an emergency plan or as complex as a major multi-agency event involving several organisations and participants.

Regardless of size, exercises are useful to:

- evaluate plans
- explore issues
- promote awareness
- train personnel
- develop or assess competence
- demonstrate capability
- practise interoperability
- validate training
- identify gaps
- evaluate equipment, techniques and processes

9.0 Analysis of the Need

Over the last five (5) years CDEMA has been actively engaged in assisting its Participating States in enhancing its disaster management plans. Whilst major strides have been achieved in this area, there is need for the standardization of and the testing and evaluation of these national and agencies (disaster) response plans. The last CDEMA sponsored Exercise Design training were held in 1993 and 1995 respectively. At that time it was based on the FEMA Exercise Design Manual. Whilst training in this area, over the years, has been sourced by a number of CDEMA Participating States through various other donor agencies there is an urgent need to standardize the methodology, terminology and procedures in order to bring Exercise Design on a par with the other CDEMA training doctrine.

The models for exercise design and management that are identified as the international standard are:

- a. the Federal Emergency Management Agency (FEMA – USA) Model
- b. the Emergency Management Ontario Model (Canada)
- c. the Australian Model, and
- d. the Pan American Health Organization/World Health Organization Model
- e. the UNESCO/IOC Tsunami Wave Exercise model

10.0 The Exercise Management Model

The success of an exercise depends on whether a structured approach has been adopted. The exercise management model highlights the phases required to design, plan, conduct and evaluate an effective exercise. This is done in four (4) specific phases:

10.1 Concept development phase

All exercises begin with the identification and analysis of the exercise need to determine the aim and objectives. This could be to test, evaluate, assess, practise or demonstrate aspects of policy, plans, procedures, systems or training.

Given the aim and objectives, the scope, style and participants are determined.

The concept development phase concludes with the production and approval of an exercise concept document.

10.2 Planning phase

Exercises need to be carefully planned and managed. Even the smallest of exercises requires a coordinated approach to its design, conduct and evaluation. Establishing a planning team and identifying the functions that need to be managed are essential to ensure the success of any exercise.

10.3 Conduct phase

The conduct of the exercise involves detailed coordination by the exercise control (EXCON) staff, which initiates and controls the various stages of the exercise as it unfolds to meet the objectives.

10.4 Evaluation phase

Exercise evaluation should include an analysis of the management of the exercise, as well as the participants' responses to the developing scenario. Evaluation outcomes should contribute to an organisation's learning and improvement.

11.0 Building an Exercise Program

A progressive exercise program involves the combined efforts of many agencies, departments, or other entities in a series of activities that increase in complexity until mastery is achieved. Building an exercise program is a little like planning a single exercise; except that the activities take place on a much larger scale. Plans are developed by an Exercise planning committee/Team and are based on a careful examination of the national disaster response plan. The development of an exercise program has many facets, including:

- Analysis of capabilities and costs.
- Scheduling of tasks.
- Public relations efforts.
- Development of a long-term plan.

Careful work on the long-term plan will carry over into the design of individual exercises.

12.0 Establish a Planning Committee

Exercises require careful planning around clearly identified goals. Only through identifying exercise goals, then designing, developing, conducting, and analysing the results can those who are responsible for emergency operations be sure of what works and what does not.

A comprehensive exercise plan requires the combined efforts of many people; it is not a one-man job. For a national program, the team/committee should consist of representatives from every major government agency in the jurisdiction and from private, NGO and volunteer organizations that are large enough to have exercise mandates:

12.1 The Planning Committee

- a. National Disaster Office
- b. National Meteorological Department
- c. Police /Fire department
- d. Defence Force (If available)
- e. Airport/Sea-Ports
- f. Ministry of Public works/Transport
- g. Ministry of Health
- h. Ministry of Education
- i. Ministry of Housing
- j. Red Cross Society
- k. Volunteer Organizations
- l. Utilities: (i) Telecommunications, (ii) Electricity, (iii) Water
- m. Religious Organizations
- n. Non-Government Organization
- o. Private Sector Organization
- p. Universities/Scientific Organizations
- q. Others

12.2 Leading the Planning Process

The representative from the National Disaster Office should take the lead for the initial coordination. However, it is recommended that a Chairperson is elected by the committee. The role of the NDO would then change to that of support, advice and mentor. The Committee would then meet to analyse what they need to do to support one another. Often organizations can meet the exercise needs of more than one agency at a time. This teamwork can help establish important relationships among participating organizations.

In the later stages, members of the committee can also serve on exercise design teams to design individual exercises and then to execute them (as Controllers and

Evaluators). However, these representatives will not be tested during the exercises because they would have been too involved intimately with the exercise scenario. It is therefore important to ensure that key individuals that need to be evaluated are not involved in the exercise design and planning processes.

12.3 Goal Setting

Because a comprehensive exercise program usually extends over several months, it is important to set long-term goals or develop a mission statement. Without this, the program is likely to lack focus and continuity.

12.4 Schedule and Sequence

When the preliminary steps of organizing the team and establishing a mission statement and its goals have been completed, the hard work of drawing up a plan can take place. Developing the exercise program plan involves:

- a. Laying out a series of exercises that can meet the needs of the various participating entities.
- b. Organizing them into a workable sequence and time schedule.

13.0 Exercise Planning Format

An exercise program plan can use any format, but it should include the following elements:

- a. A timeframe
- b. A problem statement
- c. Long-range goal(s)
- d. Functional objectives
- e. A schedule
- f. Exercise descriptions, including:
 - Type of exercise
 - Participants
 - Purpose
 - Rationale

A sample plan format is shown at **Annex A**. This is a hypothetical example of a country's exercise plan.

Section 3 – Exercise Design

14.0 Types of Exercises

There are five (5) MAIN types of activities in a comprehensive exercise programme:

- a. Orientation Seminar
- b. Drill
- c. Table-Top
- d. Functional
- e. Full Scale

These activities build from simple to complex, from narrow to broad and from least expensive to most expensive. It could be implemented from theoretical to realistic and from a singular activity to multiple activities. When carefully planned to achieve specified objectives and goals, this progression of exercise activities provides an important element of an integrated emergency preparedness system.

This “**Part 2**” of the manual will discuss the **Drill** in detail. However, information on the other types of activities/exercises in the comprehensive exercise programme is included in **Part I** of the CDEMA EXERCISE PLANNING AND EVALUATION MANUAL.

14.1 The Drill

The drill is a coordinated, supervised exercise activity, normally used to test a single specific operation or function. With a drill, there is no attempt to coordinate organizations or fully activate the EOC. Its role in an exercise program is to practice and perfect one small part of the response plan and help prepare for more extensive exercises, in which several functions will be coordinated and tested. The effectiveness of a drill is its focus on a single, relatively limited portion of the overall emergency management system. It makes possible a tight focus on a potential problem area.

Drills are carried out in “real” time and each of the participants assumes the role that he or she customarily performs in his/her regular work. It should be as realistic as possible, employing any equipment or apparatus for the function being drilled.

While Drills are used to test specific operations, they are also used to provide training with new equipment, to develop new policies or procedures, or to practice and maintain current skills. Drills are a routine part of the daily job and organizational training in the field, in a facility, or at the EOC. Some examples of drills run by different organizations are listed below:

- a. EOC: - Call out procedures
- b. Public works: - Locating and placing road barriers under time constraints
- c. Public health and safety: - Site assessment and sampling
- d. Health Sector: - Locating specific types of blood within a time constraint

- e. Military: - Activation and mobilization drill
- f. Airport: - Fire Department response to the furthest part of a runway within a given time
- g. Chemical plant: - Evacuation and isolation of spill area and valve system shutoff
- h. Stadium, complex or community: - Evacuation to a safe area in a specific time

14.2 Objectives of drills

- a. Test the relevance and effectiveness of plans, protocols, procedures, guidelines, and other operational mechanisms for emergency response.
- b. Evaluate abilities and the use of techniques, tools, resources, and actions related to the organization of emergency response operations.
- c. Improve coordination and application of specific techniques for risk reduction and control of consequences on the part of multiple actors and organizations.
- d. Evaluate general response of community groups, professional groups, administrative personnel, response teams, and others that have specialized training in response to specific emergencies.

14.3 Drill Characteristics

Format – Where will it take place	In the actual field or facility where the response is required. Using the actual kit and equipment	<ol style="list-style-type: none"> 1. Assess equipment capabilities 2. Test response time (in real time) 3. Personnel training 4. Assess interagency cooperation 5. Verify resource and staffing capabilities
Leaders - Who	Manager, supervisor, department head, or designer	
Participants - Who	Personnel for the function being tested May include coordination, operations, response personnel	
Facilities - What	Facility, field, or EOC	
Time – For how long	½–2 hours duration	
Preparation – Time to plan	Easy to design, 1-3 months Participants may need orientation	

15.0 Exercise Design Considerations

15.1 Determine the Scope

The key to designing and conducting a successful exercise is to understand from the outset what the purpose and scope of the exercise is.

Determining the scope of an exercise means putting realistic limits on:

- a. The issues identified in the needs assessment.
- b. The resources available (including finance and personnel) to be used and the functions or agencies that are expected to participate in the exercise.
- c. Directives from the “Policy Level” leadership

The scope must be broad enough so that the objectives can be achieved and measured by all participating agencies, and narrow enough to exclude any unnecessary activities or participation.

For example, in a Tsunami Drill/Exercise the Planning Committee will determine the scope after considering the following factors:

Factors and Actions

Factors	Action	Remarks
1.	Operations: The type of behaviour(s) planned for the players. Will the exercise test notification methods, communication flow, decision-making, resource allocation and/or user competency such as understanding or following a plan or standard operating procedures?	This information must be one of the first in the planning process
2.	Countries or stakeholders involved: Which country /regions/ communities/ agencies will be involved?	For Command, Coordination and Communication purposes
3.	Hazard and risk scenario: A relevant priority problem is selected (e.g., local, regional, distant source tsunami)	It must be relevant to the approved plan
4.	Degree of realism: A decision should be made early in the design phase as to how realistic the exercise will be (such as the amount of stress, complexity and time pressures the exercise will generate).	The more realistic, the higher the difficulty level for planning and execution
5.	Level of Participation: Will it include the Policy level leadership and the operational entities?	This will set the “pitch” for the exercise
6.	Budget/Resources: The estimated budget allocated for the exercise including the preparation phases prior to it	The Budget will define the quantum of the exercise
7.	Date and time: A date and time for the exercise is selected, allowing as much lead time as possible for scheduling and design purposes.	This is key in designing the Exercise Programme

15.2 Exercise Control Staff

The Exercise Control Staff can be selected from the Exercise Planning Team as long as they have the skill sets required for the roles and responsibilities laid out in paragraphs 15.3 to 15.6 below.

This is the group that is responsible for ensuring that all exercise aims and objectives are achievable during exercise play.

15.3 Exercise Control Staff Roles

Exercise Control staff roles may include the following:

- a. Exercise Director
- b. Evaluator(s)
- c. Agency representatives (Coordinators/Controllers)

15.4 Exercise Control Staff Responsibilities

Exercise Control staff at the national level is responsible for:

- ❖ Managing the input into the exercise
- ❖ Facilitating the progress of the exercise scenario through the controlled flow of information in the control documents/injects or the Master Schedule of Events List (MSELS)
- ❖ Representing all agencies external to the exercise including non-participating and supporting agencies that are notionally exercising their arrangements
- ❖ Controlling and coordinating the actions of role players
- ❖ Providing corrective advice to agencies to facilitate the flow of events
- ❖ Ensuring appropriate risk management strategies are undertaken during the exercise
- ❖ Monitoring the Master Schedule of Events List, and releasing control documents in accordance with the Master Schedule of Events List

15.5 Exercise Director

The Exercise Director supervises the speed and flow of the exercise and addresses any issues during the exercise. The Exercise Director does this by monitoring the Master Schedule of Events List (MSELS) to ensure that the exercise is proceeding according to plan.

Where the exercise has unanticipated actions or resource requirements the Exercise Director determines how to maintain the exercise flow or bring it back in line. They are also responsible for maintaining order and professionalism during the conduct of the exercise as well as attending to observers. Observers could include VIPs, invited guests and new or inexperienced staff.

On completion of the exercise the Exercise Director will be involved in the production of the end of exercise report and may have responsibilities to implement recommendations made in the report.

15.6 Evaluation Team

Exercise Evaluators are appointed to observe and evaluate selected objectives during the exercise. Evaluators should be subject matter experts in the field they are evaluating, such as: warning centre operations, emergency response, or in specific agency areas of responsibility.

- a. The Exercise Evaluators are responsible for:
- b. Evaluating against allocated objectives and/or key performance indicators KPIs)
- c. Observing and assessing processes, procedures and techniques
- d. Evaluating and reporting on achievement of outcomes and the extent to which the overall exercise objectives have been met
- e. Evaluating the effectiveness of exercise facilitation and management
- f. Providing input into the exercise debrief

Note: An evaluator does not generally mentor, coach or act as exercise controller.

External agency representatives act on behalf of their agency during both the design and delivery phases of the exercise.

Responsibilities include:

- a. Being the main point of contact for their agency
- b. Providing expert advice and input from the department or agency they represent
- c. Having input into the scenario and providing control documents as required
- d. Ensuring their agency input is consistent with that of other agencies, and the aims and objectives of the exercise
- e. Responding to requests from exercise participants through either prepared control documents or the creation of new control documents

During the delivery of the exercise, agency representatives may become simulators or role-players where they will respond to requests from exercise Players through either prepared control documents or the creation of new control documents.

15.7 Exercise Timeline

An exercise timeline outlines the timeframes for reaching significant milestones, such as planning conferences, training, exercise conduct, and after-action reporting. This is particularly important when planning major exercises. Timelines will vary based on exercise scope and complexity. For example, exercise planners generally employ longer timelines for tabletop exercises than for drills, workshops and seminars, and longer timelines still for full-scale exercises. Timelines may also vary based on the experience that your organization may have in conducting exercises, the resources that are available, and the size of the planning team.

At **Annex B** is an example matrix with timelines.

15.7.1 Exercise Milestones and Timeline

When developing the timeline, the exercise planning Team will select the date for the exercise and then working backwards, inserting the key milestones into the timeline. There are certain timeframes that must be adhered to such as issuing the Exercise Booklet no later than 21 days before the exercise – these must be worked into the timeline.

The main milestones for developing a Tsunami drill are listed below:

a. Exercise Timelines

- ❖ Collect necessary background information
- ❖ Define objectives of the drill
- ❖ Design the exercise according to the objectives and scope of the drill
- ❖ Determine the parameters to be evaluated according to the purpose, objectives, and scope of the drill
- ❖ Designate the participants and assign them specific responsibilities
- ❖ Write the script and scenario for the drill
- ❖ Define the evaluation methodology and instruments

- ❖ Identify the site for construction and staging; make site visits
- ❖ Identify administrative and logistical needs and seek resources
- ❖ Construct scenes and prepare the work area
- ❖ Advance verification of preparations
- ❖ Develop emergency plan for the drill
- ❖ Write documentation for the drill
- ❖ Disseminate public information about drill
- ❖ Prepare simulators/performers and other participants
- ❖ General verification of preparations
- ❖ Circulate Exercise (Players) Handbook
- ❖ Carry out drill
- ❖ Evaluate performance of participants
- ❖ Evaluate general organization of drill
- ❖ Deliver final report on drill

b. Exercise Checklist

A checklist can be useful when designing and managing exercises. See **Annex D**

c. Exercise Planning Meetings

Exercise, planning meetings are a very important aspect of the development of the exercise. See **Paragraph 12.0** above. During the exercise planning meetings the Exercise Planning Team will:

- ❖ Determine the exercise objectives.
- ❖ Tailor the scenario.
- ❖ Develop the sequence of events and associated messages.
- ❖ Assist in the development and distribution of pre-exercise materials.
- ❖ Help conduct pre-exercise training sessions.

Ultimately, team members will be good candidates to act as simulators or controllers in a functional exercise.

d. General Exercise Communications

The key to a successful exercise is communication. Exercise Planning Teams must ensure regular communication is maintained throughout the planning process.

Section 4 – Participants Exercise Hand-Book

16.0 Development of the Participants Exercise Hand-Book

The Exercise Handbook is designed for all participants. Participants include the following:

- a. **Players** – those exercise participants that will be functioning in a role that they will fulfil during a real event. The only job of the players is to respond as they would in a real emergency to the messages that they receive during the exercise. All of the decisions and actions of the players take place in real time and generate real responses and consequences from other players.
- b. **Simulators** – Perform as “Role Players” (Head of State, Reporter, Casualty, Telephone 911 Operator etc.).
- c. **Controllers** - The controller supervises the simulation or overall conduct of the exercise, making certain that it proceeds as planned and that objectives are reached. The controller must be able to view the exercise as a whole and to think quickly on his or her feet. Players often make unanticipated decisions, and the controller must be able to respond to these.
- d. **Evaluators** - The evaluators observe the actions and decisions of the players in order to later report what went well and what did not. To do this, evaluators need to be familiar with the objectives, the exercise scenario, and the jurisdiction or organization that is undertaking the exercise.
- e. **Observers – The Observer** note exercise progress and record observations, taking care to remain unobtrusive in the process.

The following topics are to be considered when putting together of the exercise Hand-Book:

- a. The date of the exercise,
- b. Its aim and objectives,
- c. The exercise scenario(s),
- d. General conduct and arrangements,
- e. Further information on additional resources available, such as guidelines, checklists, manuals, supporting websites, press releases, etc.

Once the outline scenario has been developed by the Exercise Planning Team, the exercise Handbook is to be produced.

The Exercise Handbook provides detailed information about the conduct of the exercise to exercise participants, including:

- a. Exercise overview,
- b. Scenario(s) details,
- c. Parameters and assumptions describing how the exercise will be carried out,

- d. Master Schedule of Events List {MSELS} - (timeline listing all messages and injects, including the exercise start and exercise end messages), See example at **Annex E.**
- e. Products issued, including how they will be disseminated,
- f. Post-exercise evaluation method and questionnaire forms.

The Exercise Hand-Book can be printed in hard copy, or distributed electronically to the Exercise Participants. The Exercise Planning Team, Coordinators/Controllers and Evaluators will also receive the confidential sections including the MSELS etc. (These will not be shared with the Exercise Players for obvious reasons). The suggested composition of the Exercise Handbook is:

- a. Table of Contents
- b. List of Acronyms
- c. Forward
- d. Exercise purpose,
- e. Exercise aim,
- f. Exercise objectives and key performance indicators,
- g. Exercise scope,
- h. Exercise appointments (including the Exercise Planning Group),
- i. Roles and Responsibilities (TORs)
- j. Timelines and Deadlines
- k. Pre-Exercise Check-lists
- l. Methods of communication,
- m. Public information strategies (media arrangements etc.),
- n. Exercise conduct
- o. Evaluation strategy (including Evaluators appointments if appropriate),
- p. Observer programme arrangements,
- q. Annexes: Budget and expenditure, Ex Scenario, Injects, Logistics, etc.

Note: Some Annexes may be labelled Confidential and will not be shared with the Exercise Players, Support and Administrative staffs.

16.1 Exercise Documentation

Exercise Documentation may include (but is not limited to):

- a. Circular Letter announcing the Exercise
- b. Exercise Hand-Book
- c. Master Schedule of Events List (MSEL), and additionally
- d. Exercise Evaluation Guidelines / Evaluation forms
- e. Planning meeting agendas and minutes

- f. Briefing notes and presentations to participants
- g. Participant lists
- h. Media or press releases
- i. Guidelines on specific Hazards
- j. Relevant Check Lists
- k. Staff memos and Observer invitations
- l. Financial records
- m. Collated feedback from hot and cold debriefs
- n. Corrective action plans
- o. Summary reports
- p. Collated Exercise evaluations
- q. Exercise Summary Report, including findings and recommendations

16.2 The Exercise Scenario

The exercise scenario is a narrative that describes an event to which the exercise participants will need to respond to. It provides a brief description of the events that have occurred up to the minute the exercise begins. The scenario has two important functions.

- a. It gives the background and sets the mood for the exercise, captures the participants attention and motivates them to continue (it is important participants are motivated to participate in the exercise).
- b. It also sets the stage for later action by providing information that the participants will need during the exercise.

The Exercise Planning Team will develop the overall exercise scenario (or series of scenarios). Department/Agency Exercise Planning Teams can build detail from the overall scenario to create their department/agency exercises.

16.3 Developing the Scenario

The Exercise Planning Team will solicit assistance and technical expertise from the lead response agencies and requisite technical entities to produce the scenario or scenarios, and to decide on the sequencing and technical requirements for exercising.

The detail of the scenario is not normally made available to exercise participants before the exercise. Instead, it is used by the Exercise Planning Team from each agency/department/ministry to write the exercise. The general outline of the scenario (such as an earthquake generated off the coast of Chile, causing a Pacific-wide tsunami) would be sufficient information to provide to exercise participants.

The scenario will also help in the writing of the Master Schedule of Events List (See example at **Annex E**).

16.4 Master Schedule of Events List (MSEL),

The exercise will be controlled by the Master Scenario Events List (MSEL), which is the primary document used by controllers to manage the exercise, to know when events

are expected to occur, and to know when to insert event implementer messages into the exercise. In other words, the MSEL provides the framework for monitoring and managing the flow of exercise activities. The MSEL is restricted for use by controllers, simulators, and evaluators.

A MSEL contains a chronological listing of the events and injects that drive the exercise play. The MSEL links simulation to action, enhances exercise experience for players, and reflects an incident or activity that will prompt players to implement the policy or procedure being tested.

Each MSEL record contains (as a minimum):

- a. Designated scenario time
- b. Event synopsis
- c. From (Organization/Position)
- d. Mode to be used for delivery (Radio, email, phone, fax etc.)
- e. Expected action (player response after an MSEL inject is delivered)
- f. Intended player (agency or individual player for whom the MSEL inject is intended)
- g. Notes section (for controllers and evaluators to track actual events against those listed in the MSEL, with special instructions for individual controllers and evaluators)

The MSEL is published separately from this control plan. (A sample MSEL page is provided at **Annex E**).

The MSEL is the collection of exercise events that support the exercise scenario, exercise objectives, and points of review. The MSEL includes events that are player actions and events that must be injected by controllers. All events listed in the MSEL are in chronological sequence. Some events are identified as key events because without them the exercise might falter. Weather-related activity is an example of a key event. Controllers will use the MSEL in this form to monitor and manage exercise flow.

16.5 Message Injects

Message injects are typically used in exercises that involve multiple simulated activities. The “Injects” are usually delivered via a Simulation Cell (SIMCELL), or Simulator/Facilitator and are used to simulate the actions, activities, and conversations of an individual, agency, or organization that is not participating in the exercise but that would likely be actively involved during a real event. To enhance realism, photographs and/or audio/visual (A/V) recordings specific to the community are incorporated into the exercise documents and multimedia presentations. The following should be noted when using Injects:

- a. Times listed on an inject should reflect the time an inject should occur
- b. These times should be as realistic as possible and should be based on input from functional area representative
- c. If the activity occurs sooner than anticipated, the time should be noted but play should not be interrupted

Section 5 - Exercise Conduct

17.0 Overview

The exercise conduct phase includes starting, managing and finishing the exercise. The principles outlined during the conduct phase may be applied across discussion, functional and field exercises. Regardless of the size of the exercise being conducted, exercise managers should be aware of a range of exercise management issues to be managed, including but not limited to:

- pre-exercise activities
- roles of exercise staff during the conduct of the exercise
- occupational health and safety (OHS) issues
- briefings
- debriefings

17.1 *Pre-Exercise Activities*

A range of pre-exercise activities will need to occur before an exercise begins. These activities are required to prepare agencies and individuals for their participation in the exercise. These activities may take the form of:

- notifications – agency/political/senior officials/community/media
- rehearsals/new training
- final review of exercise documentation
- final technology and communication requirements and checks
- establishing facilities
- equipment familiarisation
- discussion exercise(s), seminar(s) and/or workshops
- development or review of plans and procedures

17.2 *Exercise Staff Roles*

The people who run and support the exercise conduct are called the exercise control (EXCON) staffs. Also known as the Directing Staff or White Cell, they are drawn from the participating agencies and the Exercise Planning Committee. EXCON staff should be identified early to allow for clear lines of command and communication to be established, as well as enable the rehearsal and training of EXCON functions. EXCON staff should avoid any unnecessary interference with exercise players during the exercise and should be clearly identifiable by wearing tabards. The role of EXCON staff is to ensure the exercise is conducted in a safe and effective manner. They should monitor participants/players, help create a realistic atmosphere, keep the exercise running smoothly, make rulings for participants, introduce scenario information and guide participants/players towards achieving the stated objectives. The generic exercise control structure (below) provides an overview of common roles in exercise control. Some functions are common to all exercises; others are only relevant in limited circumstances.

17.3 Exercise Controller

The exercise director(s) appoints an exercise controller who is in turn responsible for selecting and appointing people to the functions required to conduct the exercise. The exercise controller is responsible for:

- managing all exercise conduct activities to ensure adequate opportunities to achieve the exercise objectives
- safety and risk management during the conduct phase in accordance with the approved plans

a. Exercise Control (EXCON) function

The Exercise Controller leads the EXCON team, which is responsible for:

- overseeing the conduct of the exercise
- ensuring that participants have the opportunity to achieve the aim and objectives
- managing the master schedule of events list
- simulating activities not performed by the participants
- contributing to the post-exercise report

b. Safety officer(s)

Safety must take precedence over exercise activities and safety officers must immediately intervene if safety is compromised. Depending on the size of the exercise, more than one safety officer position may be required: these officers will report to a chief safety officer who is directly responsible to the exercise controller. Safety officers should be located and monitor activity wherever field activities are being conducted.

c. Scenario tracking team

The scenario tracking team monitors the progress of the Master Schedule of Events List and injects the scenario information wherever required to progress the exercise. It may also simulate the roles of organisations that are not participating in the exercise.

d. Logistics

A Logistics Officer may be appointed to coordinate and manage logistic requirements. This may involve:

- liaising with venue owners or operators
- coordinating catering and welfare requirements
- arranging transport of personnel and equipment
- commissioning the construction of props, models or other elements required for the scenario
- procuring additional equipment, consumables and resources (e.g. lighting, portable toilets)
- setting up registration or administration areas for exercise control

e. Evaluation

The exercise evaluation coordinator or team will manage the evaluators during the conduct of the exercise. This includes ensuring that evaluators are able to move between venues to observe key parts of the scenario and be present at

the various debriefs. The evaluation coordinator also ensures the relevant evaluator reports are submitted in a timely fashion at the conclusion of the exercise.

Further detail on the role of evaluators is detailed in the evaluation chapter of this handbook.

f. Media

The media function is responsible for handling any real media requirements during the exercise, including distributing a media release before the exercise begins (if necessary) and coordinating exercise footage and interviews to promote the exercise in news media.

g. Observers Coordinator

Exercises may attract observers, ranging from VIPs to members of participating organisations. To ensure observer safety and minimise disruption to the exercise, the following should be considered:

- appointing an observers coordinator to ensure:
- an observers program is developed
- a set of joining instructions is distributed, detailing a meeting time and place on the day, along with an overview of the exercise
- where possible an exercise viewing area is established, where observers have access to the exercise, but can in no way interfere with proceedings
- any personnel escorting observers are thoroughly briefed on the exercise scenario, its aim and objectives
- personnel are allocated responsibilities that may include meeting and escorting observers to predetermined viewing areas, explaining the exercise aim and objectives, providing a running commentary on the exercise and answering observers' questions

h. Other possible roles

Depending on the size and complexity of the exercise it may be necessary to appoint personnel to fulfil other roles.

Role Player Manager – role players are integral to the conduct of many field exercises but they must be closely managed. The success of an exercise can largely depend on how well they are briefed and work within the parameters of the exercise.

Role players provide realism and create an emotional perspective to the activity. They adopt the roles of casualties, victims, bystanders and other people affected during an exercise. Role players are often made up to appear injured (known as moulage).

Sometimes they are used to act as media representatives or political figures, particularly in field exercises.

The Role Player Manager's duties normally include:

- ensuring role players are registered on arrival
- pre-exercise role player briefings, including details of expected 'role' behaviour and possible reactions during the exercise

- coordinating moulage
- positioning the role players pre-exercise
- managing role player welfare (e.g. hydration, shade, warmth, sun screen) during the conduct of the exercise
- arranging for debriefing and deregistration of role players at the conclusion of the exercise

All role players must be registered before they are deployed into the exercise and then deregistered before leaving the exercise area.

Following the exercise a formal debriefing for role players provides them with a vital forum to share their experiences of the exercise. A unique insight into how the responders dealt with the situation can also be gained.

It is also important to allow role players to de-role following an exercise. That is, they need to go through a process of 'stepping out of character' to minimise any unexpected psychological effects. This can occur naturally as part of the exercise debrief, or may require a conscious activity where the role player has been in-role for some time, or the role has been particularly demanding.

It is also important that role players are thanked after participating in an exercise, given they are often volunteers who give up their time to help out.

Staging area manager – manages the deployment of participants from a predetermined staging area during field exercises.

Security – manages access to exercise sites.

Damage control – in all field deployment exercises the damage control officer is responsible for assessing, recording and reporting on any damage caused during the exercise. In some instances any such damage may need to be repaired and the venue/site returned to pre-exercise conditions. The damage control officer should ensure that pre- and post-exercise venue inspections are completed.

IT and Communications Support – manages systems being used during the exercise.

17.4 Briefings

For the best opportunity to achieve the objectives and ensure a successful exercise, it is essential that briefings are conducted for participants, role players, EXCON, evaluators and observers.

All exercise briefings should follow a consistent format for ease of understanding, as well as support any exercise instructions people have received before the exercise.

Briefings should be accurate, concise and sequential. The **SMEACS** format is recommended because it presents the important information in a logical sequence and is currently used by many emergency management agencies.

- *Situation* – describes what has happened and perhaps what has been done
- *Mission* – describes what is to be achieved (aim, objectives)
- *Execution* – how objectives are to be achieved: what needs to be done, not how to do it

- *Administration* and logistics – administrative and logistical arrangements (e.g. transport, catering)
- *Command* and communication – command structure and communication arrangements for the exercise
- *Safety* – including welfare and ‘No Duff’ explanation (see definition below) Specific briefings will be required for the different functional roles being undertaken during the conduct phase.

Consider specific briefings to the following groups:

- exercise staff
- observers
- role players
- participants
- evaluators
- media

a. Exercise Control (EXCON)

Briefing exercise staff is essential to allow them to clarify their role during the exercise and ensure they understand the scenario and how it will unfold. In some cases it may be appropriate to conduct a rehearsal with EXCON staff to confirm timings and familiarise them with the exercise environment.

Exercise briefings usually include details relating to the general idea, special ideas, master schedule of events and safety instructions, and amplify information contained in the exercise instructions and/or exercise plan. The EXCON briefing should include the:

- exercise aim and objectives
- key aspects of the scenario
- roles and responsibilities of EXCON staff
- communications plan (including organisational structure)
- information, communication and technology systems
- intervention strategies (circumstances under which EXCON will intervene and re-guide participants)
- actions in the event of unforeseen circumstances
- post-exercise requirements

Individual exercise staff may receive separate instructions tailored for their specific function, such as:

- evaluator instructions
- site staging instructions
- arrangements for the media and visitors
- damage control
- specific safety instructions

b. Participants/Players

Briefing of exercise participants is essential to allow them to engage effectively in the exercise. The briefing should include:

- exercise aim and objectives
- evaluation focus and expectations
- roles and responsibilities during the exercise
- exercise scope and rules
- information, communication and technology systems
- actions in the event of unforeseen circumstances
- 'No Duff' arrangements (see definition below)
- post-exercise arrangements
- safety

c. Safety briefing

The safety briefing should include information relating to:

- site-specific considerations (e.g. hazards, out of bounds)
- 'No Duff' arrangements (see definition below)
- identifying, managing and reporting hazards
- the process for reporting any injuries incurred during the exercise
- monitoring environmental conditions
- monitoring the welfare of all participants throughout the exercise (including stress-related health issues)

d. Evaluators

In addition to the general briefing about the aim and objectives of the exercise, evaluators need to understand their role as articulated in the exercise evaluation plan. This may include:

- observing participants' responses and recording their observations
- observing and assessing processes, procedures and techniques
- evaluating and reporting on the achievement of objectives

e. Observers

Observers need to be briefed on any restrictions placed on them. It should be highlighted that they are only observing the exercise and should not provide input at any time, other than for a safety issue.

f. Role players

It is essential that role players are fully briefed on their involvement before the exercise begins, particularly on use of the term 'No Duff'.

Role players should be informed that they may withdraw from the exercise if they feel unsafe, unwell or anxious about events. The role player briefing should include the withdrawal process.

g. No Duff

All messages relating to authentic injuries or incidents must be prefixed by the word 'No Duff'. Should such an event occur, the safety officer, in consultation

with the exercise controller, may pause or stop the exercise to manage the real event.

17.5 Starting the Exercise

For the exercise to start effectively, several activities need to be completed just before the scheduled start time. These may include:

- final test of information, communication and technology systems
- last-minute briefing for all exercise staff, confirming readiness to proceed
- positioning simulated casualties, props and special effects
- positioning of EXCON staff and support personnel
- positioning of exercise participants/players
- advice to the exercise controller that all is ready

An exercise can start in many ways although it must be coordinated by the exercise controller. Discussion exercises usually begin with the facilitator introducing the subject to the participants. Functional exercises may be started by an incoming message or a written script that normally introduces the first piece of scenario information. Usually field exercises will begin via a radio or telephone message that an incident has taken place, followed by some type of response by a participating agency.

17.6 Managing the Exercise

The exercise is managed by EXCON staff in accordance with the master schedule of events. The exercise controller can call a temporary halt to the exercise to change its direction, speed it up or slow it down to ensure the exercise objectives can be achieved.

EXCON staff support the exercise controller by ensuring that all is proceeding well at each location and that appropriate inputs occur in accordance with the master schedule of events. EXCON staff needs to be prepared to react to participant responses and take appropriate action.

The EXCON team should conduct regular briefings to ensure effective management of the exercise; that is, momentum is being maintained and the objectives are being achieved. By maintaining communication, EXCON maintains control and an overview of exercise activities. Situational awareness may be also be achieved by:

- monitoring the actions of participants and role players
- audio/video and/or other information technology aids
- field reports from exercise staff

The exercise management strategy should be linked to the exercise aim and determine the intervention strategy for EXCON staff.

EXCON staff may:

- pause and guide (if participants and exercise activities are moving away from the objectives)
- stop, debrief and reset (if exercise activities move well outside of the intended objectives)
- stop the exercise (in the event of a major safety issue)

EXCON staff may also:

- let mistakes run to see if the participants can overcome barriers to the achievement of the objectives
- let perceived mistakes run to see if the participants develop a new method for achieving the objectives (Is it actually a mistake or is moving outside the expected response actually the best course of action?).

17.7 Exercise Conduct Issues

a. Exercise communication

There will normally be two components to exercise communications: one for participants and one for exercise staff. Exercise staff needs to be in contact with one another throughout the conduct stage of the exercise. This is most commonly achieved by using mobile phones and/or a separate radio network (control network). Normal communication protocols are appropriate for the control network.

It is crucial that exercise staff protocols are identified and agreed to before the day of the exercise and communicated to all members of EXCON.

It is preferable for EXCON staff to have a phone network uninterrupted by external calls.

Receiving other business calls during an exercise can be extremely distracting and disruptive to the exercise.

Participants' communication is normally on radio channels monitored by exercise staff and other agency personnel. To avoid confusion with real events, exercise messages sent on normal agency communications channels must be prefixed by the word 'exercise'.

In field and functional exercises in particular, maintaining a separate communications network between the participants and EXCON needs to be considered. This provides a platform for the managed introduction of exercise special ideas and/or serials and also serves as a control mechanism for the exercise controller.

b. Site security

Exercises may need to be cordoned off from the public. Equipment, props and other resources may also need to be protected. A security coordinator may be appointed to:

- manage site access
- coordinate protection of physical assets
- establish perimeters
- prevent unauthorised filming and photography and the disclosure of operational procedures

c. Identification of exercise staff

In all exercises the proper identification and roles of exercise staff is essential. This serves to differentiate them from participants and role players and, in large multi-agency exercises, to identify particular roles. This is normally achieved

through the use of tabards/vests, name plates or arm bands depicting role title (e.g. safety officer).

d. Managing real events

The term 'No Duff' should be used to indicate that a real event or injury has taken place. It will then be the decision of the exercise controller as to whether the exercise needs to pause or stop.

17.8 Finishing the exercise – ENDEX

Finishing the exercise is a controlled activity. The exercise controller is responsible for finishing the exercise in a pre-arranged manner and communicating an appropriate message to all participants. An accepted term for concluding the exercise is 'ENDEX'.

The exercise may end in accordance with:

- a designated time, according to the master schedule of events
- achievement of all objectives
- completion of designated tasks
- if it is not safe to continue with the exercise
- if other activities (including a safety breach or actual responses) hinder the progress of the exercise or render the objectives unachievable

In any case the exercise controller must consider strategies, should it be necessary, to terminate the exercise before the pre-arranged time.

During a field exercise a progressive stand-down of agencies/capabilities can begin when they have achieved their respective objectives, as long as it does not affect the continuing functions of other participants and has been approved by the exercise controller. It is important not to overlook the activities required to repatriate the exercise site and return equipment to its pre-exercise state. While this will largely be the responsibility of logistics, the time and effort required should not be underestimated and the staff involved must be given every opportunity to participate in designated post-exercise activities.

a. Debriefing the exercise

A series of debriefs will be required at the conclusion of an exercise. Depending on the scale of the exercise these may include:

- hot debrief (immediately post-exercise) for: Participants, EXCON and role players
- agency-specific debrief
- formal multi-agency debrief involving all participants and EXCON staff
- exercise management debrief

In all cases, the debriefing must be planned and communicated to those who need to be involved.

While briefings usually start with general information and then become more detailed in subsequent briefings, the reverse is the case with debriefs. That is,

detailed information is collected at a lower level, with that information contributing to higher-level and subsequent debriefs.

An essential component of a successful exercise is the ability to debrief the activities of the conduct phase. This particular aspect can be undertaken at various times during the exercise depending on the activities occurring at the time. The debriefing may be conducted at the end of an activity or at the end of the exercise and is generally divided into two categories: hot debrief and formal debrief.

b. Hot debrief

An immediate debrief should be provided for all participants and staff to capture information and feedback while it is still fresh in people's minds. This debrief would normally be conducted by the team leader or supervisor of a functional area or capability to help identify issues or concerns.

The hot debrief enables all participants to gain an insight into how the exercise was conducted and how their role may have influenced the exercise.

The hot debrief should include but be not limited to:

- what worked well or what didn't work well
- safety issues
- what, if any, immediate action is required

It may not be possible to capture the responses of all participants in a face-to-face forum. Consideration should be given to the development of a participant survey, which can be completed remotely and collated as part of the exercise evaluation.

c. Formal debrief

Conducting a formal debrief after the exercise provides an opportunity for key agency representatives and exercise staff to highlight areas of concern, as well as the positive outcomes of the exercise.

This debrief is more formal and is led by an experienced facilitator. It should focus on strategic multi-agency aspects of the exercise that may require further discussion and clarification, and possibly recommend future actions.

Participants' contributions to debriefings can be verbal or written. In either case information collected at formal debriefings must be recorded so it can be used in the exercise report.

As with briefings, a standard format for debriefings should be adopted and an agenda distributed and followed.

At the start of any debrief the facilitator should clearly state the aim and objectives. The following is a guide for what may be covered in exercise debriefs:

- analyse the exercise to determine what worked well, what didn't work well and areas for improvement without apportioning blame
- address specific questions that arise from the achievement or non-achievement of objectives
- acknowledge good performance

- seek constructive information
- focus on improving procedures and training
- explore the appropriateness and effectiveness of the exercise itself
- record relevant information to enable reports to be compiled
- summarise major points and suggest follow-up action

Debriefs are not to be confused with the evaluation process; however, the outcomes will form part of the data collected for completing the post-exercise report.

18.0 Media/Public Information

18.1 Public Information/Press Release

Prior to each exercise, the planning team should develop a written release to be disseminated to media outlets. This release informs the media (and the public) about general exercise information. Prior to an operations-based exercise, it is particularly important to release information about exercise activities that may impact the public.

Prior to any operations-based exercise, announcements should be made to the public. This precaution will alleviate any confusion on the part of passing motorists or pedestrians. It will also help the public avoid congestion near the exercise site by providing suggestions for alternate routes. Announcements can be made on local television or radio, in local newspapers, through mass mailings or pamphlets, and/or on signs near the exercise site.

Additionally, this information can be distributed to observers and senior officials (e.g., VIPs, management). The document should not contain detailed scenario information, such as the hazard or venue, or any information that could hinder exercise outcome if read by a participant.

Typically, the contents of an exercise public information/press release should include:

- ❖ Introduction:
 - outcomes
 - Purpose
 - Scope and duration
 - General scenario (e.g., location, goals, objectives)
 - Participating organizations, grouped by locality and functional area

18.2 Media Policy

During operations-based exercises, media may be allowed to film certain activities but should be cautioned not to interfere with exercise play. Unless media is invited to participate in the exercise, a guide (typically an Emergency Information Officer [EIO] or designee) should escort media at all times.

Section 6 – Exercise Evaluation

19.0 Evaluation Plan

The evaluation plan is finalised once exercise requirements have been defined. Whilst the evaluation is conducted during the actual exercise, the evaluation tool and/or associated forms are developed during the design phase of the exercise. The evaluation plan is contained in the Exercise Hand-Book. The handbook will provide information on the exercise scenario, schedule of events, conduct, evaluation tools and schedule. Each agency, Ministry or department is responsible for appointing its own exercise evaluators. If agency exercise evaluators are appointed, the Exercise Planning Team should provide them with a document in writing that provides:

- a. **Evaluator instructions:** step-by-step instructions for evaluators regarding what to do before they arrive (e.g. review exercise materials, wear appropriate clothing for assignment), as well as how to proceed upon arrival, during the exercise, and following its conclusion.
- b. **Evaluator tools:** Exercise-specific evaluation guidelines and analysis forms, the Master Schedule of Events List, blank paper or timeline forms. Reference materials or background information if decision-making or written SOPs if operating procedures are being evaluated, may be good for the evaluator to have. Clocks or other quantitative measures of performance, or video/photographic equipment may also be useful.
- c. **Evaluation Tools**

The format and content of evaluation tools for Tsunami Wave exercises may vary over the course of time. An evaluation guideline or analysis form will prompt the evaluator(s) to look for certain actions in the exercise and will allow them to determine whether or not objectives and key performance indicators were met. Examples of Evaluator's Checklist are attached at **Annex C**

20.0 Evaluating the Exercise

20.1 Why Evaluate?

The process for evaluating an exercise should start with the initial concept meeting and continue through until the final debriefings have been completed, reports are issued and corrective actions are agreed on. Exercise managers need to consider whether it is their responsibility only to evaluate the exercise and report on the outcomes to be resolved, or whether they should also implement and track corrective actions as part of the resolution process.

Even the smallest of exercises should incorporate an exercise report, although this will be less detailed than for a large-scale exercise. Conducting a thorough evaluation is not a minor undertaking, and may require dedicated staff and careful consideration.

Evaluation can include input from all aspects of the exercise and should be informed by:

- outputs from the exercise planning process and planning meetings
- observations from exercise staff
- outputs from the exercise debriefs
- observations/reports from the exercise evaluator(s)

The output from the evaluation should be a written report. This might include observations, findings, treatment options or recommendations based on the information gathered during the exercise. The outcomes from one exercise may not be appropriate to all situations and therefore any corrective action needs to be carefully considered.

The exercise evaluation should include two components:

1. Exercise outcomes [participants' performance against objectives], and
2. Exercise management [what you as an exercise management team have learned/ would improve]

For each of these components, the exercise report should attempt to answer the following questions:

- What did we plan to do [what were the objectives]?
- What did we achieve – how did this differ from what was planned [were objectives met and if not, how did the outcomes differ]?
- Why did it happen [what led to the objective(s) not being achieved as planned]?
- What can be done differently in the future [what improvements need to be made]?

Outcomes from an exercise should contribute to an organisation's learning and improvement. Evaluation methods are not designed solely for use during exercises; they are also transferable to real-time operations and other activities (e.g. training, performance reviews). While real-time operations will not be structured and pre-planned as exercises (particularly in terms of the scripting aspect), the design of objectives for the evaluation can be modified to reflect the active operational situation and gather lessons from the real-time deployment of capabilities. These types of lessons are an indispensable input to the development of any capability.

20.2 Objectives

Sound objectives are essential not only to a successful exercise, but also to its evaluation. A good exercise planning team will produce achievable, measurable objectives. Evaluators should help with this process – in some instances they will need to identify objectives that need to be revised or improved to meet the required outcomes.

Evaluators may be placed in the situation of being brought into the exercise late in the planning process where the existing objectives are not achievable and/or measurable and will therefore need to be revised.

As outlined in the Concept chapter of this handbook, these objectives should conform to the **SMART** criteria; that is, *Specific, Measurable, Achievable, Realistic* and *Task-related*. A challenge for evaluators will be to ensure the objectives meet these criteria, and that standards or performance measures exist for them. The ideal situation for an evaluator is for a capability to have clear objectives with measurable standards. Where these do not exist, the evaluator will have to help develop measurable standards against which to evaluate.

The focus for evaluators during any activity should be on reporting against the objectives. On occasion, evaluators may identify things outside the objectives that

merit reporting, but this is generally the exception rather than the rule. In addition to the design of robust objectives, it is critical to identify the means by which achievement of these will be measured. This can be done via performance measures or standards, which may:

- exist as part of current standard operating procedures (SOPs), or
- need to be developed before the activity is conducted

It may be that for the testing of new SOPs, such standards need to be developed as a product of the activity or through interaction with the relevant organisation. These will subsequently need to be tested and evaluated for their validity. Standards provide evaluators with a benchmark against which to assess performance, and are used to quantify the objectives to reflect aspects of the task that are critical to successful performance. These aspects, will determine what evaluators measure and use as evidence to support their conclusions about performance during the activity.

20.3 Evaluation process

There are four stages in the exercise evaluation process:

1. Plan and coordinate the evaluation
2. Observe the exercise and collect data
3. Analyse the data
4. Develop the exercise report

These four stages begin with pre-exercise evaluation planning and conclude with the development of the exercise report. By using an exercise evaluation process, exercise planners ensure the exercise aim and objectives inform a focused evaluation, which produces actionable outcomes.

20.4 Plan and Coordinate the Evaluation

Planning and coordination support an effective and successful exercise evaluation. The planning process should include the:

- appointment of an Evaluation Team Leader
- examination and review of exercise objectives to determine the requirements of the evaluation
- development of an evaluation plan
- identification, training and briefing of evaluators

a. Appoint Evaluation Team Leader

The evaluation team leader should be appointed at the start of the concept phase to oversee the evaluation process. The evaluation team leader should be a member of the exercise planning team and be familiar with:

- the identified need, aim and objectives of the exercise
- plans, policies and procedures of the participating organisation(s)
- inter-agency coordination issues
- data collection and analysis techniques

b. Determine Evaluation Requirements

An analysis of the aim and objectives of the exercise will determine the evaluation requirements. These include the plans, tools and evaluators needed to effectively collect data and analyse information. Discussion activities may not require the same level of evaluation planning as deployment (functional or field) exercises. More complex exercises involve multiple evaluators, possibly in different locations, and require more detailed planning to ensure the evaluation is coordinated.

c. Training and Briefing of Evaluators

Once evaluation requirements have been determined, the evaluation coordinator manages the identification, training and briefing of evaluators. The evaluation requirements determine how many evaluators will be needed, what kind of subject matter expertise they require, how they are assigned during an exercise, and what kind of training and briefing they need before the exercise.

d. Identifying evaluators

Evaluators need appropriate expertise in evaluation. They also need to either have subject-matter expertise or be able to identify requirements for and manage subject matter experts to help the evaluation where required. An evaluator may also be called on to provide impartial and supportive guidance. The role of evaluator is not meant to be adversarial or confrontational.

Evaluation needs to be considered in the exercise management process from the initial concept development. During this phase, evaluation needs to inform and support the development of the aim and objectives. Exercise planners need to revisit objectives throughout the planning process to ensure they can still be achieved. External evaluators may contribute their subject-matter expertise from outside the agency to be evaluated, and must therefore understand jurisdictional and agency variations.

e. Assigning evaluators

During deployment exercises, evaluators will be assigned to observe different activities based on their subject-matter expertise. They may be assigned to look only at individual tasks or capabilities. They may be asked to look at organisations or at particular functions across the exercise or organisations (e.g. Leadership within an organisation or command, control, coordination, communication and information management across an agency or across multiple agencies).

A deployment exercise master schedule of events provides a timeline and location for all expected exercise events. Reference to a master schedule of events can help the evaluation coordinator determine the times at which specific evaluators should be at certain locations. Evaluator assignments should be decided on, recorded and communicated to evaluators before the exercise is conducted.

f. Briefing and training evaluators

Evaluators will need to be briefed and may also need to be trained before the exercise. Briefing/training should address all aspects of the exercise, including the exercise aim and objectives; the scenario; participants; and evaluator roles, responsibilities and assignments. During or before the training, evaluators should be provided with copies of the following materials to review:

- exercise documents, such as the scenario for discussion-based exercises or the exercise plan, evaluation plan and master schedule of events for deployment exercises
- evaluation materials and tools and evaluator assignments
- appropriate plans, policies, procedures, legislation and agreements of the exercising organisation(s)

Any training provided should also address the roles and responsibilities of evaluators during the various stages of an exercise. Evaluator responsibilities include the following:

- **Pre-exercise:**
 - examine the exercise aim, objectives and exercise instructions
 - identify key and trigger points of the activity
 - develop a data collection plan to enable objective reporting on the performance of capabilities against the stated objectives (through demonstrated performance and evidence)
- **During exercise:**
 - gather evidence to be able to demonstrate/report on performance within the specific capability
 - participate in scheduled meetings/briefings as required
 - act as a forward observer for EXCON staff to report on activities in real time versus exercise time
 - where requested and after consultation with EXCON staff, provide injects to the exercise to help exercise flow
 - be contactable
 - provide feedback to participants and clarify observations made (e.g. through hot debrief)
 - assess situational awareness of participants
 - assess flow of information and analyse root cause of problems
 - consult with other evaluators about the effect of good or poor performance
- **Post-exercise:**
 - compile and review the data collected to make comments and recommendations
 - analyse and summarise outcomes
 - develop treatment options
 - identify good as well as poor performance
 - transfer and articulate findings in the post-exercise report

g. Conduct evaluator briefings

The evaluation coordinator should brief evaluators to ensure roles, responsibilities and assignments are understood. For functional and field exercises, this briefing often includes a tour of the exercise site so that evaluators become familiar with the venue and know where they should position themselves to best observe exercise activity.

h. Development of an evaluation plan

The evaluation plan should contain the following:

- exercise information
- aim, objectives, scope and focus of the evaluation (these may be different from those of the exercise)
- key evaluation questions
- methods for data collection and analysis
- security, safety and ethics
- risk management strategy
- evaluator preparation – training, briefings etc
- reporting requirements
- timeframes
- aide-memoires, evaluation tools

20.5 Observe the Exercise and Collect Data

Exercise observations and data collection can differ between discussion and functional/field exercises.

a. Discussion exercises

Discussion exercises tend to focus on higher-level issues involving the plans, policies and procedures of an organisation/jurisdiction. As such, many discussion exercises break participants into syndicate groups to facilitate smaller group discussions. In these smaller group discussions, evaluators and/or scribes may need to be present to record proceedings and capture observations and outcomes.

After the syndicate groups have finished their discussions, the entire group usually reconvenes in plenary to address any multi-agency issues or conflicting opinions. Although individual evaluators are assigned to record discussions within a designated group, all evaluators should capture the information aired in this open discussion.

A debrief with the exercise planning team, facilitators and evaluators should be held immediately afterwards to collect observations and thoughts about the exercise conduct. This will provide an opportunity for evaluators to clarify any points.

Following the exercise, evaluators may also supplement the data collected during the discussions by collecting additional data from participants through interviews or questionnaires.

b. Functional/field exercises

Evaluation of deployment exercises requires observations to take place where the exercise activities are occurring. After an exercise, the information recorded by evaluators is used to analyse whether or not the activities and tasks were successfully performed and the objectives achieved.

During exercises, evaluators need to keep accurate records of their observations. Evaluators should take detailed notes as well as consider other means of

recording data, such as the use of personal recording devices. Any electronic recording of exercises should be in accordance with the policies/procedures of the participating organisations.

Because numerous exercise activities may be occurring simultaneously, evaluators need to plan to be placed to observe those activities most relevant to the objectives they are evaluating. Some examples of evaluators' observations include:

- any deviations from plans or procedures
- timeliness of response/completion of tasks
- effectiveness of, or shortcomings in, command and control
- processes and arrangements that work well and should be maintained and/or enhanced
- creative, adaptive problem solving
- equipment issues that affect participant efforts
- exercise management issues that affect the ability of participants to achieve objectives

Evaluators should not interfere with or disrupt the conduct of the exercise. However, it may be necessary for an evaluator to interact with participants during the exercise if he or she has a question about something observed. These questions should not influence the manner in which participants respond to the scenario and be as brief as possible.

c. Collecting supplementary data

The evaluation team may wish to collect additional data immediately after the exercise. For example, useful sources of information could include logs, message forms and maps. These records can help evaluators validate their observations and identify the effect of inaccurate information on performance.

20.6 Develop Exercise Evaluation Documents

These can include:

- evaluation plan
- data collection tools
- information for evaluators
- evaluation report templates

Evaluation templates that may be populated with the questions/objectives of the evaluation have been provided. These can form a useful guide for evaluators to ensure they are gathering the correct evidence to evaluate performance relative to the objectives.

a. Guidance for templates

Once the evaluation plan is written it can be submitted to the relevant approving body for sign off. The data collection plan template is simply a means for evaluators to develop an aide memoire for them to ensure they are:

- observing the correct activities
- in the right place at the right time

- covering all the information required to report against the objectives
- aware of any relevant standards or measures that need to be applied to performance

When completed before an exercise, they may also identify issues or questions that must be resolved before the exercise starts so that the evaluation can be conducted effectively. The evaluator report template provides guidance on what needs to be reported against following the activity, and contains several important sections that are briefly described here.

b. Observations

These are records of the noteworthy facts or occurrences from the activity: they form the evidence for the evaluation conclusions. Important observations should be recorded in terms of:

- I. what worked well and why, and
- II. what didn't work well and why

This identifies both good performance and areas for improvement to support the learning and development of individuals and capabilities.

c. Issues

A matter drawn from the evidence (observations) collected that needs to be further considered. These are generally negative, flagging problems associated with performance.

d. Treatment options

Potential solutions for addressing issues identified during the activity. These are optional rather than mandatory – they should only be included if they are concrete, realistic and feasible.

Each of these areas is reported relative to each objective, and for each there is also a section detailing whether the objective was achieved or not (or partially), accompanied by a summary of why (or why not).

The report is prefaced with an executive summary (for which there is guidance in the template) that summarises what the exercise was, what was being evaluated, whether the capability was successful overall in the achievement of its objectives, and what the identified issues and treatment options were.

e. Information for evaluators

This simply refers to any SOPs, jurisdictional/capability or other materials relevant to the activity that evaluators need to be aware of to conduct the evaluation accurately and meaningfully. This information may be given in various forms, including printed/ electronic documents or verbal briefings.

20.7 Analyse Data

During data analysis, the evaluation team consolidates the data collected during the exercise and identifies demonstrated strengths and areas for improvement. Functional and field exercises tend to yield higher amounts of data than discussion-based exercises and thus require a more comprehensive data analysis phase.

a. Identifying root cause and developing recommendations

To ensure the exercise evaluation process produces a report that produces useful, actionable outcomes for improving an organisation's capabilities, it is

critical for evaluators to discover not only what happened, but why it happened. Each task not completed as expected offers evaluators the opportunity to search for a root cause. A root cause is the source of or underlying reason behind an identified issue. To arrive at a root cause, an evaluator should attempt to trace the origin of each event back to earlier events and their respective causes. Root cause analysis may also require the review and evaluation of an organisation's emergency plans, policies and procedures.

Uncovering root causes enables the development of actionable solutions that can be described in the subsequent exercise report. While these solutions are based on the evaluation team's experience and best judgement, the responsibility for implementing recommendations ultimately lies with the participating organisations.

b. Conducting analysis

- Organisations able to successfully fulfil their roles and responsibilities? If not, why?
- What were the key decision/trigger points?
- Were any resource issues identified?
- Do the current plans, policies and procedures support an effective response to an event? Were participants familiar with the relevant plans, policies and procedures?
- Were there any multi-agency coordination issues that need to be addressed?
- What should be learned from this exercise?
- What strengths were identified?
- What areas for improvement were identified?

20.8 Develop the exercise report

Any exercise evaluation should result in the development of an exercise report, however brief, that describes what happened, good performance and areas for improvement, and makes recommendations. For a small exercise there may be one evaluator who produces a one-page report. For a large exercise there may be a number of individual evaluator reports that need to be analysed and summarised into the final exercise report. The exercise evaluation team may be asked to draft the exercise report. Exercise reports should be produced to effect change and improvements. They do not have to be long / large to do that. Exercise reports should clearly identify areas/issues to be improved and/or enhanced. They should include enough contexts for each issue or provide links to that context (e.g. individual evaluator reports as annexes). If treatment options or recommendations are known they can be included. The length of the report is not likely to increase its effectiveness.

The exercise report should contain the following:

- Introduction – executive summary
- Background – aim, objectives, scope, participating organisations
- Evaluation – commentary on objectives (observations, recommendations)
- Conclusions.

The exercise director is responsible for finalising the exercise report and submitting it to those responsible for approving/releasing it and then to those responsible for resolving the issues that have been identified.

a. Resolution of evaluation findings

The resolution process should involve (as a minimum) the following steps:

- **Identify the findings/issues** and the improvements or remedial activities required.
 - Where issues have been identified and validated, existing treatment options should be considered as well as alternatives that are appropriate to the organisation and its development goals
- **Finalise the report.**
 - The draft report should be reviewed and any necessary amendments made so it can be finalised and distributed to the appropriate individuals, units or organisations.
- **Track implementation of the corrective action plan.**
 - Where a corrective action plan has been developed (i.e. a plan for implementing remedial training/equipment enhancements/revised SOPs), an individual should be asked to track the plan's progress or specific actions within it. That is, the corrective action plan should have a timeline for implementation and those responsible should report on progress at appropriate intervals to ensure the momentum in enhancing the capability (through addressing identified performance problems) is not lost.

Conclusion

21.0 In Conclusion, the Exercise Director is responsible for finalizing the Exercise Report and submitting it to the authorities who are responsible for approving and releasing it. There must be “Follow up Actions” which will ensure that those whose are responsible for resolving the issues that were identified have been identified.

A suggested Exercise Report Template is below.

EXERCISE REPORT TEMPLATE

Suggested list of contents:

SECTION	HEADINGS
INTRODUCTION	- (Introduces the exercise in the form of an executive summary)
BACKGROUND	- Background to the exercise Exercise management Exercise aim Expected exercise objectives Exercise scope Participating organisations
EVALUATION REPORT	- Structure of the report Commentary (for each outcome) Objective Rationale for objective Observations Recommendations
CONCLUSIONS	- (Summary of the key findings and evaluator’s comments)
ATTACHMENTS	- Consolidated list of recommendations and follow up actions Glossary of terminology and acronyms Exercise diagrams

ANNEXES

ANNEX A

Template for a Comprehensive Exercise Program Plan

Working from the needs assessment you completed for your jurisdiction or organization in the previous unit, develop a plan for a comprehensive exercise program to address those needs. Include the key elements discussed in the last section. You can use the following worksheet in developing your plan. If this format doesn't work for you, change it to meet your needs.

Comprehensive Exercise Program Planning Worksheet	
<p>Time Frame:</p> <p>Present Problems:</p> <p>Long-Range Goal:</p> <p>Functional Objectives:</p>	
<p>Month:</p> <p>Exercise:</p> <p>For:</p> <p>Purpose:</p> <p>Rationale:</p>	

Activity: Develop a Comprehensive Exercise Program Plan (Continued)	
<p>Month:</p> <p>Exercise:</p> <p>For:</p> <p>Purpose:</p> <p>Rationale:</p>	
<p>Month:</p> <p>Exercise:</p> <p>For</p> <p>Purpose:</p> <p>Rationale:</p>	
<p>Month:</p> <p>Exercise:</p> <p>For:</p> <p>Purpose:</p> <p>Rationale:</p>	
<p>Month:</p> <p>Exercise:</p> <p>For:</p> <p>Purpose:</p> <p>Rationale:</p>	

Building an Exercise Program

Plan Format	Sample Plan: Comprehensive Exercise Program
Timeframe	<p>Note: During the previous year, several table tops and functional exercises were held to test weaknesses in Communications, Alert and Notification, and Individual/Family Assistance. The series of exercises might take less time in some communities.</p> <p>The exercise program extends over an 18-month period.</p>
Present Problems	<p>This program has been formulated to address problems arising as a result of rapid population growth. According to experts, possibilities for a mass casualty incident are increasing. Personnel involved in the functional areas listed below have not been tested in the last year.</p>
Long-Range Goal	<p>To work toward a full-scale exercise testing all important functions in the context of a mass casualty incident. This will satisfy FEMA requirements and full-scale exercise requirements for the hospital and airport, by involving these agencies.</p>
Functions to be Tested	<p>Health and Medical, Public Information, Coordination and Control (EOC Operations, Incident Command)</p> <ul style="list-style-type: none"> ▪ To determine the adequacy of plans and procedures within the following functional areas to handle a mass casualty incident: Health and Medical, Public Information, Coordination and Control (EOC Operations, Incident command). ▪ To test the ability of the above-named functional areas to communicate and coordinate their response efforts during a mass casualty incident. ▪ To test the ability to obtain adequate resources (locally and through mutual aid agreements) in the above-named functional areas to handle a mass casualty incident.
First Month	<p>Exercise: Orientation</p> <p>For: Emergency Management staff and heads of various agencies: Mental Health Association, State Funeral Director, County Coroner, County Fire, County Police</p> <p>Purpose: To review new plans and procedures for dealing with mass casualty incidents.</p> <p>Rationale: Inform those who are unaware of plans and gain support and additional input from department leaders.</p>
Second Month	<p>Exercise: Orientation</p> <p>For: Emergency management staff and heads of various agencies: fire, police staff, county Public Information Officer (PIO)</p> <p>Purpose: To review new plans for mass casualty incidents with responders</p> <p>Rationale: Gain support and additional input from first responders and acquaint them with leadership's plans</p>
Fourth Month	<p>Exercise: Training course with functional exercise</p> <p>For: Responders and incident commanders; Emergency management staff; various chiefs, captains, lieutenants from fire and police; Emergency Medical Services (EMS), mental health, Radio Amateur Civil Emergency Services (RACES), funeral directors, county coroner, county PIO</p> <p>Purpose: To provide training in field mass casualty incident response</p> <p>Rationale: This is a training session in the FEMA Field Mass Casualty Incident Response course. This course provides an excellent overview of specific needs related to a mass fatality incident. The course culminates in a functional activity.</p>

Building an Exercise Program (Continued)

Plan Format	Sample Plan: Comprehensive Exercise Program
Seventh Month	Exercise: Drill
	For: Fire, police, EMS, coroner, funeral directors
	Purpose: To set up the Incident Command System (ICS) for responding to mass fatality incidents
	Rationale: Establish ICS to support needed functions and tasks
Eighth Month	Exercise: Drill
	For: PIO, fire, police, Emergency Manager
	Purpose: To set up Joint Information Centre (JIC)
	Rationale: Acquaint participants with the PIO function and JIC operations, test equipment and lines of communication
Ninth Month	Exercise: Drill
	For: Mental health, funeral directors, PIO, clergy, Emergency Manager
	Purpose: To set up a family assistance centre
	Rationale: Acquaint participants with the office equipment and test role as support to the victims' families
Eleventh Month	Exercise: Tabletop exercise
	For: Incident Command, PIO, police, fire, EMS
	Purpose: To pull together the three functions tested in the previous drills in the context of a mass
	Rationale: casualty incident as the result of a hotel fire Address and resolve potential communication and coordination problems among the Incident Command, PIO, police, fire, and EMS before the functional exercise
Fourteenth Month	Exercise: Functional exercise
	For: Communications, coordination and control, ICS and EOC, PIO, health and medical
	Purpose: To test additional functions for mass fatality in the context of a plane crash: Emergency public information effectiveness, health and medical mass casualty, coordination and control, ICS, and EOC operations
	Rationale: Identify preliminary shortfalls and test overall coordination before full-scale exercise
Fifteenth Month	Exercise: Table top exercise
	For: Communications, coordination and control, ICS and EOC, PIO, health and medical
	Purpose: To correct and retest problems identified in preceding functional exercise
	Rationale: Work out potential problems discovered in the previous functional exercise and make adjustments necessary before the full-scale exercise
Eighteenth Month	Exercise: Full-scale exercise: Airplane crash
	For: All agencies: heads of agencies and responders
	Purpose: To test all functions in the context of a mass casualty airplane crash
	Rationale: The exercise fulfils full-scale requirements for FEMA, Federal Aviation Administration (FAA) requirements for airports, and Joint Commission on Accreditation of Healthcare Organizations (JCAHO) Certification for the hospital

Exercise planning meeting requirements

Serial	Exercise Planning Meetings	Description	Exercise Type	Timings prior to Exercise
1.	Concept and Objectives meeting	<ul style="list-style-type: none"> ❖ Identifies the type, scope, objectives and purpose of the exercise, and may include discussion on resources, location, date, duration, planning team and participants, assumptions etc. ❖ Outcomes should include: <ul style="list-style-type: none"> ○ Agreement on exercise type, scenario, capabilities, tasks and objectives. 	Functional, full scale or a series of exercises	Prior to, or concurrent with initial planning meeting
2.	Initial planning meeting	<p>Lays the foundation for exercise development.</p> <ul style="list-style-type: none"> ❖ Gathers input from Exercise Planning Team on the scope, design, objectives, scenario, exercise location, schedule, duration, and other details required to develop exercise documentation. ❖ Assigns responsibility to planning team members. ❖ Outcomes should include: <ul style="list-style-type: none"> ○ Planning schedule, ○ Clearly defined, obtainable, measurable capabilities, tasks and objectives, ○ Identified exercise scenario variables (e.g. threat, scenario, scope of hazard, venue, conditions), ○ Participant list, ○ Outline communications plan for how planning team will communicate, ○ Availability of source documents needed to draft the exercise, ○ List of established dates for completion of corrective actions and responsibilities, ○ List of critical activities for next planning conference, ○ Agreed date, time and location for next planning conference and actual exercise. 	All	<p>Discussion based exercises: 3 months</p> <p>Operations based: 6 months</p>
3.	Mid-term planning meeting	<p>Resolves logistical and organizational issues that arise during planning such as scenario and timeline development, scheduling, logistics, administrative requirements, and draft documentation review.</p> <ul style="list-style-type: none"> ❖ May be held separately or in conjunction with a Master Schedule of Events List conference. ❖ Outcomes should include: <ul style="list-style-type: none"> ○ Agreement on final exercise details, ○ Fully reviewed exercise scenario timeline (Master Schedule of Events List), ○ Fully reviewed exercise documentation, ○ Well-developed injects, ❖ Agreed date, time and location of final planning meeting. 	Operations based	3 months
4.	Final planning meeting	<p>Uses a forum to review the process and procedures for exercise conduct final drafts of exercise material, and logistical requirements.</p> <ul style="list-style-type: none"> ❖ Ensures there are no major changes made to the design or scope of the exercise or to any supporting documents. ❖ Outcomes should be: <ul style="list-style-type: none"> ○ Attendees have clear understanding of, and give final approval for exercise processes and procedures, ○ Exercise documentation approved, ○ Last minute issues are resolved, ❖ Logistical elements are confirmed. 	All	<p>Discussion based: 6 weeks</p> <p>Operations based: 6 weeks</p>

Evaluator Checklist	
Evaluator: _____	Date: _____
Location: _____	
Objective No.: 1	<i>Warning</i>

Objective: *Demonstrate the capability to initiate public warning procedures at the EOC, to include activation of the Emergency Alert System (EAS).*

Performance Criterion 1

[Fill in the performance criterion/anticipated action as identified for your exercise]

Points of Review:

Please answer the following: Y = Yes, N = No, NA = Not Applicable, NO = Not Observed

Performance Criterion	Y	N	NA	NO
1.				
2.				
3.				
4.				

Comments:

Evaluator Checklist

Evaluator: _____

Date: _____

Location: _____

Objective No.: **2**

Direction & Control

Objective: *Demonstrate the capability of the local EOC to coordinate comprehensive response activities.*

Performance Criterion 1

[Fill in the performance criterion/anticipated action as identified for your exercise]

Points of Review:

Please answer the following: **Y = Yes, N = No, NA = Not Applicable, NO = Not Observed**

Performance Criterion	Y	N	NA	NO
1.				
2.				
3.				
4.				

Comments:

NARRATIVE SUMMARY FORM

Objective Number: _____ Criterion Number: _____

Evaluator: _____ Location: _____

Issue:

A specific statement of the problem, plan or procedure that was observed.

Discussion:

A discussion of the issue and it's specific impact on operational capability.

Corrective Action Recommendation:

Recommended course(s) of action to improve performance or resolve the issue to improve operational capability.

Office of Primary Responsibility:

The department, agency or organization responsible for implementation of Corrective Actions.

Department, Agency or Organization: _____

Individual Responsible: _____

Title: _____ Date Assigned: ___ / ___ / ___

Suspense Date: ___ / ___ / ___

Exercise Planning Timelines

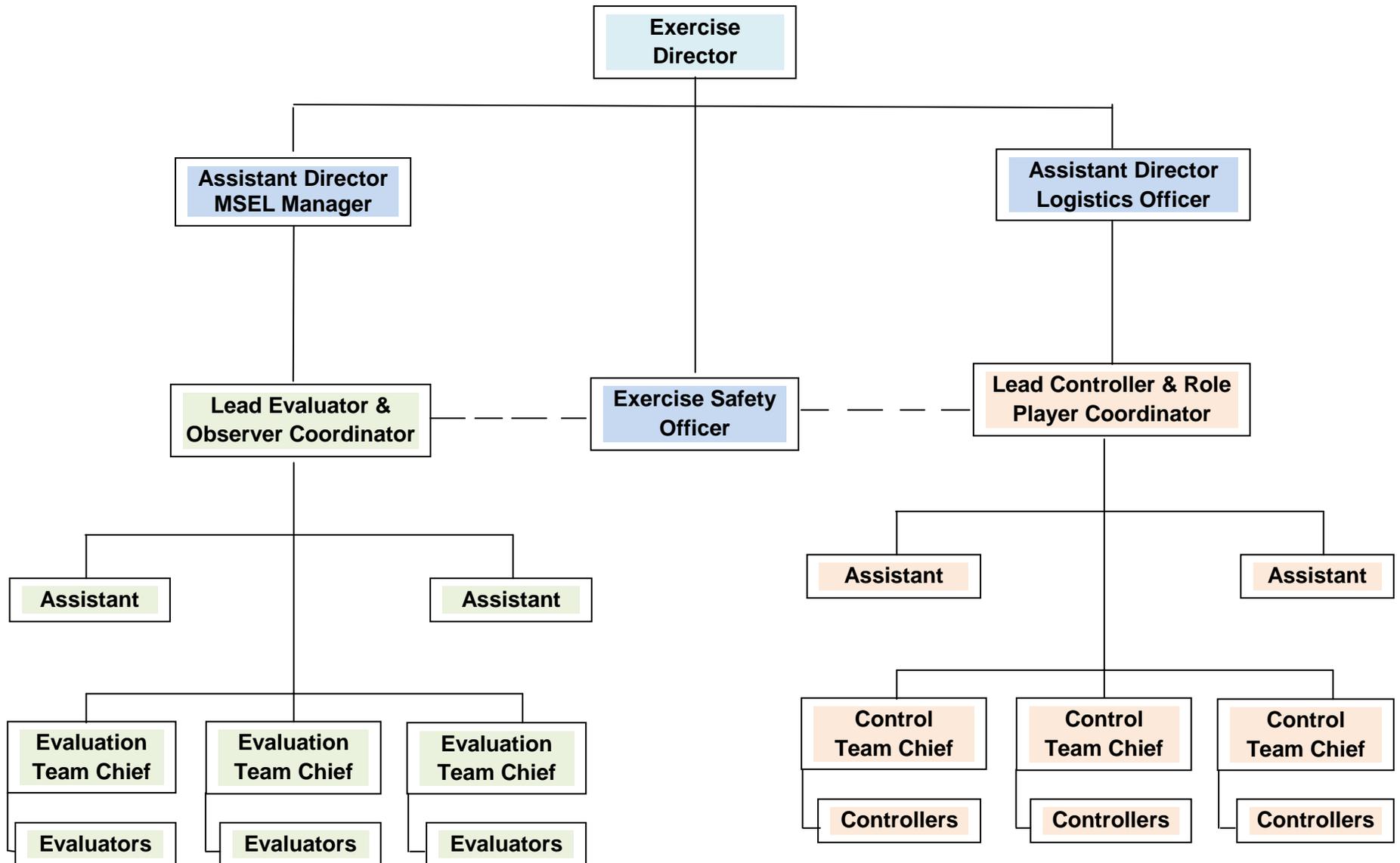
Activity	Responsible Party	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Check List
Collect necessary background information										
Define objectives of the drill										
Design the exercise according to the objectives and scope of the drill										
Determine the parameters to be evaluated according to the purpose, objectives, and scope of the drill										
Designate the participants and assign them specific responsibilities										
Write the script and scenario for the drill										
Define the evaluation methodology and instruments										
Identify the site for construction and staging; make site visits										
Identify administrative and logistical needs and seek resources										
Construct scenes and prepare the work area										
Advance verification of preparations										
Develop emergency plan for the drill										
Write documentation for the drill										
Disseminate public information about drill										
Prepare simulators/performers and other participants										
General verification of preparations										
Carry out drill										
Evaluate performance of participants										
Evaluate general organization of drill										
Deliver final report on drill										

ANNEX E

Master Schedule of Events List {MSELS}

INJECT CELL	DATE	TIME	TITLE	LOCATION	FROM	TO	INJECT MODE	DESCRIPTION	IMPLEMENTOR	EXPECTED ACTION
TTO	4/7	10:00	Earthquake 7.8 strikes	Gulf of Paria	UWI Seismic Research Center	ODPM	E-mail	Earthquake Notification	- A magnitude 7.8 earthquake occurred in the Gulf of Paria, Trinidad and Tobago. - The earthquake epicenter was located approximately 3 kms west of the Caroni Swamp. - Tremors were felt across a wide swath of TTO, throughout the entire island.	- ODPM alerts appropriate agencies and forwards information to CDEMA
TTO	4/7	10:02	Communication to First Responders to inform of situation	ODPM HQ, Tacarigua	ODPM	Municipal Corporation DMUs, First Responders	All communication media available	ODPM notifies the first responders of the earthquake.	- Message Flash: _____ _____ _____	- Health EOC and Municipal Corporation EOCs should be activated. - Contact should be made to TEMA in Tobago to inform them of the situation.
TTO	4/7	10:06	Reports of runway damage to Piarco International Airport (PIA)	Piarco	ODPM	Civil Aviation	E-mail	Inform Ministry of Works & Transport (MOWT) ESF on Damage to PIA	- Damages to the airport Include: _____ _____ _____	- Checks would be made at Crown Point International Airport (Tobago) for damage; - If not damaged, it would be designated for use as the airstrip for relief.
TTO	4/7	10:10	Initial Reports of destruction, Injuries and Fatalities	Island wide	Public	ODPM	E-mail / Radio	Reports of Damages	- Reports of mass destruction, injuries and fatalities throughout the country are pouring in. - Details include: _____ _____ _____	- As reports come in, the ODPM would activate at a Level 2 calling out appropriate ESFs.
TTO	4/7	10:15	Air assets undamaged and available for emergency operations.	Disaster Areas (Location of Air Assets)	SAUTT	ODPM	SAT Phone / Radio	SAUTT reports that their Air assets are available.	- SAUTT reports that it has ____ type ____ aircraft standing by at _____ location to conduct aerial assessments.	- ODPM would request SAUTT helicopter to conduct an aerial assessment.
TTO	4/7	10:30	TEMA Report	Scarborough, Tobago	TEMA	ODPM	SAT Phone / Radio	TEMA reports that it has received no calls of danger to life or property on the island of Tobago.		
TTO	4/7	10:32	Major damage reported in Chaguanas	Chaguanas	TTFS	ODPM	E-mail / Radio	TTFS reports major structural damage and victims trapped inside of buildings in Chaguanas.	- Major structural damage and victims trapped inside of buildings and under rubble. - An isolated fire has been reported in Centre City Mall. - A major water main has been ruptured and thousands of gallons of potable water are being gushed onto the M	- ODPM requests SAUTT aircraft confirm these damages.

Exercise Evaluation & Management Team



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1. IS-138 Exercise Design Course Documents, Washington, D.C: FEMA,
2. How to Plan, Conduct and Evaluate UNESCO/IOC Tsunami Wave Exercises, IOC, UNESCO, 2011
3. Tsunami Preparedness, Civil Protection Good Practices Guide, IOC, UNESCO, 2013
4. Guidelines for Developing Emergency Simulations and Drills, Washington, D.C: PAHO/WHO, 2011.
5. Tsunami Preparedness Information Guide for Disaster Planners, IOC, UNESCO, 2008
6. Managing Exercises - Australian Emergency Manual Series Principles and Reference, Australia, 2012
7. Guidelines for Development of an Exercise Programme – Emergency Management Ontario, Canada, February 2010

TSUNAMI INFORMATION

Tsunamis are formed by a displacement of water - a landslide, volcanic eruption, or slippage of the boundary between two of the earth's tectonic plates - slabs of rock 50 to 650 feet (15 to 200 km) thick that carry the Earth's continents and seas on an underground ocean of much hotter, semi-solid material.

Tsunamis can travel up to 600 mph (965 k/ph, 521 knots) at the deepest point of the water, but slow as they near the shore, eventually hitting the shore at 30 to 40 mph (48 to 64 k/ph, 26 to 35 knots). The energy of the wave's speed is transferred to height and sheer force as it nears shore.