Swedish Civil Contingencies Agency

Date	Reg no	Edition
2012-04-30	2011-2836	

Manual for Cross-border shoreline oil spill response exercise



ENSACO

CENTRAL BALTIC INTERREG IV A PROGRAMME 2007–2013

EUROPEAN UNION
EUROPEAN REGIONAL DEVELOPMENT FUND
INVESTING IN YOUR FUTURE

The publication reflects the author's views and the Managing Authority cannot be held liable for the information published by the project partners

Summary

By experience form the Interreg IV A project EnSaCo (Environmental and Safety Management Cooperation on Shoreline Oil Spill Response) and in particular from the exercise BOILEX (Baltic Sea Oil Spill Exercise) conducted within the project, a need for a cross-border oil spill response exercise regime specifically dedicated for shoreline operations and land based organisations, has been identified. This proposal of a manual for cross-border shoreline oil spill response exercise has been outlined by the EnSaCo partner MSB, Swedish Civil Contingencies Agency with consultancy assistance from SSPA Sweden AB. The exercise, tentatively called BALEX SHORELINE, shall belong under the framework of the Helsinki Convention and constitute an additional type of exercise to the established BALEX exercises.

The manual is divided into three main phases; planning, conducting and evaluation of the exercise and may be applied for different types of exercise themes and at optional levels of complexity and number of participating organisations. This document is to be considered as a living document that may be updated and complemented when more experience from cross-border shoreline exercises are gained. For organisations that not yet have established detailed cooperation plans, small scale exercises with a limited number of organisations involved, may be a good starting point for shoreline exercises.

This manual has been prepared by
SSPA Sweden AB for the Swedish Civil Contingencies Agency
SSPA Report No: 2009 5118-5, 2012-04-30
Order No: 50005577,2012-02-02

SSPA project manager and author of report:
Björn Forsman, Phone +46 31 772 9059, E-mail: bjorn.forsman@sspa.se

Table of contents

1 Introduction - Scope and application

1.1 Background

Experience from the Interreg IV A project EnSaCo and in particular from the exercise BOILEX conducted within the project, has identified a need for a cross-border oil spill response exercise regime specifically dedicated for shoreline operations and land based organisations. This proposal of a manual for cross-border shoreline oil spill response exercise has been outlined by the EnSaCo partner MSB, Swedish Civil Contingencies Agency with consultancy assistance from SSPA Sweden AB.

1.1.1 International cross-border exercise

There are established regimes for regular international exercises within HELCOM (Response manual, Ch 10) and within the Copenhagen agreement (Ch 3.§ 3.6). Traditionally the exercise activities conducted within these regimes are focusing on marine response issues and activities performed at sea and typically engage national coast guard agencies, maritime administrations and organisations with sea based oil recovery resources and vessels. Most oil spill accidents, however, also result in shoreline contamination. The large number of organisations and the different duties they have in different countries make cross-border cooperation much more complex for the shoreline response than for offshore response. In particular for potential large scale spills, shoreline contamination may occur along hundreds of kilometres of beaches and shorelines. Such events are also likely to include cross-border pollution and situations when the national preparedness resources and organisations cannot cope with the response needs only by their own resources. For these scenarios it is essential that effective mechanisms for cross-border international cooperation are well established and ready to operate efficiently. In order to achieve this it is necessary to conduct common shoreline exercises.

1.1.2 Framework of agreement for shoreline response cooperation

The EnSaCo proposal for cross-border shoreline oil spill response exercise, tentatively called BALEX SHORELINE, shall belong under the framework of the Helsinki Convention and constitute an additional type of exercise to the established ones (BALEX Alpha, Bravo, Charlie, Delta and Echo).

The new exercises are arranged under supervision from the Response group of HELCOM and its Expert Working Group on Shoreline Response.

1.1.3 Important reference documents and related exercise agreements

The basis for the proposed BALEX SHORELINE is found in BSAP Rec. 28E/12, stating that: "*Every sub-region should have adequate equipment and trained personnel to protect the coast, especially vulnerable habitats and areas (Baltic Sea Protected Areas, BSPAs) and to ensure immediate and appropriate action on shore. Shoreline response capacity should be addressed and arranged in its complexity within sub regional agreements between adjacent Contracting States. Such agreements are aimed at ensuring fast and sharp reaction when a second and/or third tier or transboundary pollution accident has occurred.*"

Other related training/exercise guidelines and agreements that may be coordinated or combined with BALEX SHORELINE include:

Exercises arranged within the Copenhagen Agreement (CEX), NORDRED agreement and exercises that may be arranged as a follow-up of the Baltic Master II project.

1.2 Organisation of exercise

1.2.1 Organising and participating organisations

National competent authorities responsible for shoreline oil spill response in the HELCOM member states are requested to take part in the exercises.

Other relevant organisations engaged in shoreline response at national, regional or local level in the member states to be invited by the respective national competent authority. Regional and local rescue services organisations often have a key role in shoreline protection operations but it is also recognised that a large number of other organisations, from governmental to municipal level, may be engaged in shoreline response and protection issues. In large scale operations support from armed forces or home defence may be requested and engaged as well as representatives from various governmental agencies and regional and municipal administrations and boards.

Experience from the BOILEX case

In the BOILEX exercise, 85 different organisations mainly from Sweden, Finland, Estonia and Russia were engaged as participants or observers.

In total 350 participants and observers took part in the three days of exercise and evaluation session.

This shoreline exercise was conducted in parallel with an offshore exercise arranged under the Copenhagen Agreement Exercise (CEX).

1.2.2 National competent authorities

The following organisations are recognised as competent authorities responsible for shoreline oil spill response in the HELCOM member states:

Member state	Competent authority shoreline response Name of Organisation	Other involved organisations
Estonia	Estonian Rescue Board	Estonian Police and Border Guard
Finland	Finnish Environment Institute – SYKE	Finnish Rescue Services
Russia	State Marine Pollution Control, Salvage and Rescue Administration, (SMPCSA)	St Petersburg Environmental Committee
Sweden	Swedish Civil Contingencies Agency – MSB	Swedish Coast Guard
Latvia *	Marine and Inland Waters Administration	Latvian Coast Guard Services
Lithuania *	MRCC of the Lithuanian Navy	
Poland *	Marine Search and Rescue Service	Maritime Office
Germany *	Central Command for Maritime Emergencies (CCME), Marine Pollution Response Inshore	
Denmark *	Admiral Danish Fleet, Maritime Environment National Operations Branch	

*** For the non-EnSaCo partners, the final competent authorities are to be identified/appointed by the respective partner countries. Only indicative information given in the table.**

1.2.3 NGO´s and volunteers

Wildlife protection and rehabilitation are important components in shoreline spill response planning and operations and in most countries NGO´s have an important role in this area and should be included in the exercise plans.

Volunteers represent an important resource for shoreline spill response and clean-up and should be considered in the planning process.

1.2.4 Exercise level – Involved partner countries and observers

Exercises are organised at different levels of complexity, different number of participating partner countries and participants. Examples of levels are:

- International cross-border exercise with external observers
- Regional cross-border exercises with external observers from other partner countries and regions

- Bi-national cross-border exercises with external observers from other partner countries
- National exercises with responsible national shoreline response organisations
- Local exercises with local shoreline response organisations

Based on the countries involved, the exercise language is normally English but for national exercises, the native language can be chosen. For bi-national exercises, it is recommended to use English during exercising and documentation even if another common language may be used for informal communications.

1.2.5 Frequency and regularity of exercises

The partners shall determine the need for, appropriate time and frequency of the exercises at the respective level. BALEX SHORELINE exercises can also be integrated and coordinated with other regular BALEX exercises or CEX.

The basic assumption is that one international or bilateral BALEX SHORELINE exercises should be conducted every year.

Exercises at national or local level can be decided whenever the partner country identifies a need for exercising.

1.2.6 Lead country and host organisation

For exercises at international level, the lead country is to be selected/proposed by HELCOM Response meeting for a period of one year. Preferably the host role shall be divided according to a rota scheme among the HELCOM partner countries.

1.2.7 Location of exercise area/areas

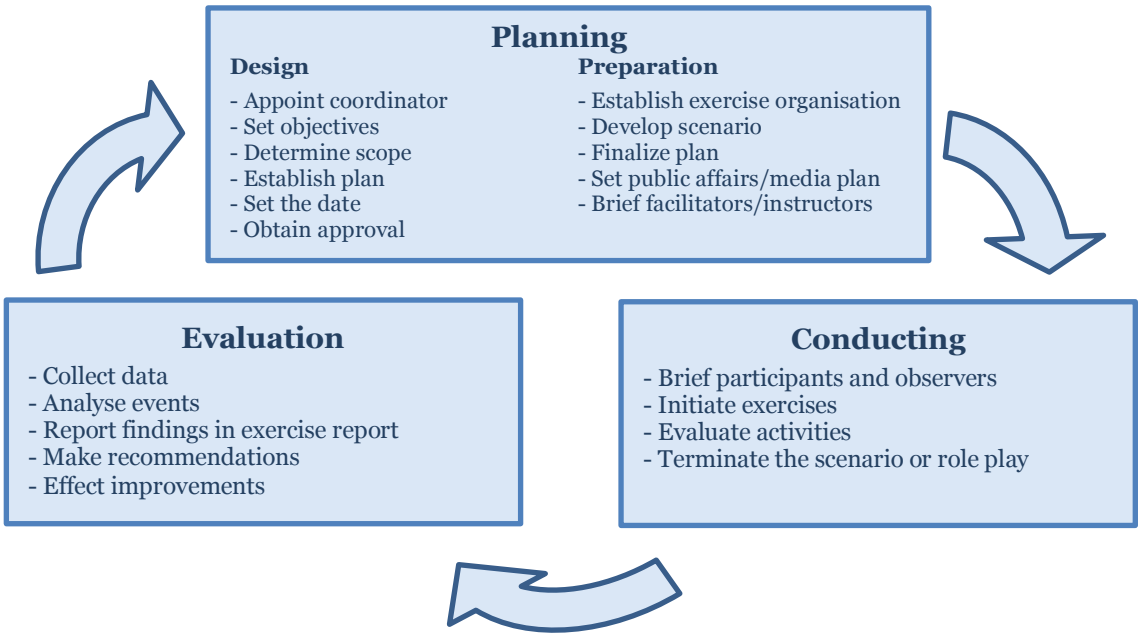
The location of exercise area or areas is to be selected or proposed by the host organisation.

1.2.8 Time of exercise

The time of exercise is to be selected or proposed by the host organisation.

2 Planning the exercise

The three phases **Planning, Conducting** and **Evaluation** collectively describe the process for creating and running realistic and successful exercises. The planning phase is the longest, about 10 months, and careful planning is essential for a successful exercise. The exercise itself is the shortest phase, 1-3 days, and if anything has been overlooked in the planning phase it will disturb the performance of the exercise. The evaluation phase may last up to 2 months and ensures that all exercise experience is managed and used for further improvements in the next exercise. The sketch below illustrates the exercise cycle and some of the components in the three phases.



The general objective of the exercise is to raise the level of expertise and preparedness for cross-border shoreline oil spill response. New and harmonised practical management tools and efficient cooperation methods, including oiled wildlife response will be developed and practised among authorities, NGOs and educational institutions in the HELCOM member states. The exercise focus is on training but may also include elements of testing of organisational structures or technical equipment.

Learning and education by lecture sessions and presentations may also form important components of an exercise schedule. All components are important for development,

enhancement and implementation of cross-border shoreline oil spill contingency plans and response capacity.

2.1 Designing the exercise

The design phase sets the objectives and scope and sets out the timetable necessary for completion. Clear and well formulated objectives are essential for a successful exercise.

2.1.1 Type of exercise – Specific exercise objectives

A number of alternative types of exercises are identified, each with a specific objective and theme to be particularly addressed. Based on experience from other exercises or real incidents, one or more themes may be selected as the main focus of the exercise. So far the following four types are identified:

Type a) Command structure and cross-border cooperation

The command structure exercising can be arranged on the basis of gradually escalating severity of the spill scenario and follow a chronological chain starting from, and including alarm exercise, from local level, to regional, to national and to international level.

Due to the large number of involved organisations and their respective mandates, management structures organised according to the "incident command system (ICS)" are considered appropriate in many countries. Exercising with multinational functional groups e.g. focussing on:

- System and incident command
- Environment protection and waste management
- Allocation of resources
- Information internal and external

This type of exercise may be efficient in a table top mode. Decision support tools for environmental sensitivity and resource allocation mapping as well spill drift and spreading forecast models are useful in table top exercise mode.

Type b) Communication and coordination of response resources

The communication links between governmental organisations in different countries, between regional and local operational organisations and between NGOs and the response command, are essential for efficient response and include many different land-land and land-sea links. Establishment of contacts and communication channels may prevent language difficulties and other obstacles for rapid assistance with technical equipment and personnel.

Different mechanisms for requests for assistance and allocation of international resources can be trained and tested.

Type c) Shoreline response operations

Shoreline response material and equipment are not frequently used in real spill situations and regular training is therefore important. The exercise area should preferably be selected to represent characteristic sensitive shoreline types. Simulation of oil is difficult for shoreline exercises and there is no established adequate substitute for real oil at shoreline response exercise and demonstration of equipment.

Type d) Shoreline wildlife response and protection

Oil wildlife management is often an urgent and labour intensive activity in the shoreline response. A number of dedicated NGOs have established resources and networks of expertise and educated volunteers. BALEX SHORELINE provides a forum for important exercising together with and under the management of professional rescue services and environmental protection authorities.

It is important that the specific objectives of the exercise are defined with care and are thoroughly formulated. Specific areas or themes to be targeted and the relation between components of information, learning, exercising, testing, demonstration and regular drills for validation of the organisation's operability, must be clear. The objectives should also be carefully designed and adjusted to the knowledge profiles of the participants and their prior experience from exercising. For large scale complex exercises everything must function without confusion and failure of exercise objectives. For small scale exercises, however, it is not equally critically and also exercise failures may gain valuable experience, identify response gaps and reveal weak links. Such experience may also trigger and initiate efforts for enhancement of response plans and organisations.

2.1.2 Modes of exercising

Based on the specific exercise objectives, appropriate modes and methods for the exercise can be selected. The following modes of exercises are identified as applicable for the various focus areas. The table below illustrates a number of different common combinations but other combinations may also be suitable.

Type of exercise / *Mode of exercise*	Command structure	Communi-cation	Shoreline response	Wildlife response
Table top	✓			
Scenario cases, Role play	✓	✓		✓
Field exercises, Hands on		✓	✓	✓
Combined with sea exercise	✓	✓	✓	✓

2.1.3 Scope and duration

Other important tasks to be conducted within the design phase include:

- Define the size and location of geographical scope
- Combine appropriate type and mode of exercise to serve the specific objectives
- Define the time schedule for design, preparation, conducting and evaluation
- Establish a budget and define financial issues
- Appoint an exercise organisation
- Define location and venues and make reservations
- Distribute first announcements
- Design invitations

2.2 Preparation for the exercise

The preparation phase describes the steps taken to create the exercise and prepare and organize fully for exercise activities. All functions and roles of the exercise organisation must be settled in detail.

2.2.1 Different target groups – differentiated programs

Depending on the target groups approached and invited it may be important to outline differentiated programs for e.g.:

- Planners
- Responders
- Observers

- VIPs
- Media

2.2.2 Prepare the schedule

Develop the time schedule starting with a rough preliminary outline that successively will be refined and more precise. The schedule can typically be divided into a number of presentation, exercise and evaluation sessions. In addition to the specific program sessions, allow enough time for inception and finishing sessions, breaks and meals.

2.2.3 Exercise scenario

The exercise scenario may be based on known or generic accidents cases but must be considered as realistic. It shall include enough detailed information to provide answers to relevant response questions. The design of the exercise scenario includes:

- Definition of the oil spill – type and quantity of oil, location of spill source, distribution and severity of shoreline contamination, weather conditions etc.
- Definition of the time line, report intervals, information packages and identification a number of operational scenario phases for real time exercise sessions.

2.2.4 Documentation of plans and information documents to participants

All exercise plans must be documented and an Exercise plan prepared.
Ensure that minutes of meetings in the exercise planning/management group are documented and disseminated to all relevant parties.

It is of utmost importance that all participants, observers and others get consistent and precise documentation (in writing) on the time schedule, their roles and responsibilities. Prepare instructions for mail distribution and hand-outs including shoreline maps and sea charts showing oil spill drift and trajectory forecasts.

2.2.5 Public affairs/media aspects

Real shoreline spill response operations usually attract a large media interest. A well-established media contact function is important and may form part of the exercise. Media may be invited as exercise observers and journalists may be engaged for training of the media team.

2.2.6 Occupational safety, security and environmental protection

Rules and instruction on occupational safety, security and environmental protection should be prepared and disseminated.

Experience from the BOILEX case

The time schedule for the BOILEX exercise illustrates the complexity of a large scale combined shoreline and offshore exercise. The BOILEX exercise included sessions both with national groups and functional multinational groups focussing; System command, Incident command, Environment and waste, Resources and Information.

<table>
<tr><th>Date</th><th>Day 0
26 Sept</th><th colspan="3">Day 1
27 Sept</th><th colspan="3">Day 2
28 Sept</th><th>Day 3
29 Sept</th></tr>
<tr><td>Focus</td><td>Prep. day</td><td>Observers</td><td>VIP</td><td>Table Top exercise</td><td>Observers</td><td>VIP</td><td>Field exercise</td><td>Conclusions and evaluation</td></tr>
<tr><td rowspan="3">AM</td><td rowspan="6">Arrival of participants and exercising units
Preparation of exercise</td><td colspan="3">Panel discussion: Alarm, agreements, cross-border</td><td rowspan="3">12 obs. groups, rotate 8 field stations both on land and at sea</td><td>-</td><td rowspan="3">Large field exercise with units from different organisations and nationalities including NGOs and wild life rehabilitation</td><td>Evaluation Field exercise</td></tr>
<tr><td rowspan="2">Observers’ seminars:
Oiled Wildlife
Education
Finnish and Estonian oil spill response</td><td rowspan="2">-</td><td rowspan="2">National groups:
Sweden
Finland
Estonia
Russia</td><td rowspan="2">VIP program</td><td>Panel discussion
Lecture ICS and Revenue of Incident Commanders from Field exercise</td></tr>
<tr><td>VIP program</td><td>Closure</td></tr>
<tr><td>Lunch</td><td colspan="3">Lunch</td><td colspan="3">Lunch</td><td>-</td></tr>
<tr><td rowspan="2">PM</td><td>Observers’ seminars</td><td>VIP program</td><td>Functional groups*</td><td rowspan="2">As above</td><td>VIP program</td><td rowspan="2">As above</td><td>-</td></tr>
<tr><td colspan="3">Presentation of table top exercise</td><td>-</td><td>-</td></tr>
<tr><td>Evening</td><td>Pub and exhibition</td><td colspan="3">Open ship</td><td colspan="3">Formal dinner</td><td>-</td></tr>
</table>

3 Conducting the exercise

The actual accomplishment of the exercise consists of initiating and maintaining the exercise by simulating, monitoring, controlling and facilitating activities to ensure that the exercise remains within the design parameters. It also involves documentation of the participants' activities and termination of the exercise.

3.1 Exercise leader, Facilitators, Rapporteurs, Observers, Support

In particular for complex exercises a pre-exercise, final rehearsal and briefing sessions are important. Modes of internal communication, instruction from/to exercise management need to be clear.

3.2 Roles and instructions, Real-time/compressed time sessions

For role play exercises, detailed rules must be formulated, disseminated and briefed before the role play session. Different sets of rules should be prepared for the play controllers and for the responders/response commanders.

The instructions to the participants as well as to the facilitators must be very clear and adapted to the knowledge of the participants and their prior amount of experience from exercising. The participants should also be informed about all available tools such as environmental sensitivity maps, resource allocation maps, oil spill contingency plans and documents, maps, sea charts and other available supporting tools and documents.

It should be recognised that, for many of the participants, the exercise event may be their first contact with oil spill response issues and plans and the method of training and exercise is often also quite new to many of them.

3.3 Emergency plans

There are always a number of factors affecting the exercises conditions and which cannot be fully controlled or predicted. Therefore it is important to try to identify things that may go wrong and to be prepared for how to manage unforeseen events.
For example if field exercises are included it is usually good to ensure that there are reserve plans in case of storm etc.

Reserve plans in case key role personnel get impeded or key function equipment fail may also be considered.

3.4 Logs and documentation

The conducting phase is relatively short and often very intense. Therefore it is important to apply well prepared routines and tools for logging of all events during each exercise phase and document all observations. Designated personnel may be appointed to take notes, fill in computerised log books, record discussions, take photos or make video recordings.

3.5 Food, Entertainment,

Distribution and supply of food to involved personnel is an important logistical function in real shoreline response operations. For exercise situations it is also important to provide good meals at appropriate intervals and to keep the participants happy and enthusiastic also outside the regular exercise sessions. Specific diet restrictions should be collected in advance and recognised for all meals. Various entertainment programs and formal dinners are often included in large scale two- or thee-days exercises. Note that policies regarding alcohol may vary between organisations in different countries.

3.6 Safety, Security

In particular for field exercises it is important to inform all participants about relevant safety instructions and what to do in case of an emergency. The exercise organisation shall also ensure that routines and resources for various types of incidents and accidents are established and known among involved personnel.

Avoid that unauthorized persons disturb the exercise by appropriate information to the public or other external personnel not actively involved in the exercise. Use clear name badges, check lists and count the number of participants after all field sessions.

Experience from the BOILEX case

A full scale cross-border exercise encompassing several types of learning and testing objectives becomes very complex with many parallel activities and interacting groups of personnel and expertise. Everyone must be well aware of and trained in his/her exercise role to make it effective and realistic.

A small scale pre-exercise may be one way to check and prepare key roles for a large exercise. For organisations that not yet have established detailed cooperation plans, small scale exercises with a limited number of organisations involved, may be a good starting point for shoreline exercises.

4 Evaluating the exercise

The evaluation phase consists of collecting and analysing data, documenting findings and recommendations for improvement, and ensuring information is fed back to management. As contingency plans are revised and updated, the exercise programme is similarly adjusted to take into account of the lessons learned from prior exercises.

4.1 Planning the evaluation phase

There is a number of established optional evaluation methods regulary applied among exercise organisors but no one specifically designed for shoreline exercises. In the BOILEX exercise a modified accident investigation method was applied (the“Acci Map” approach) and proved useful for the BOILEX evaluation. When determining an adequate evaluation approach the following issues are important in the planning of the evaluation phase:

- Define the evaluation steps and reporting formats
- Modes of collection of data during the exercise
- Arrangements for formal evaluation session
- Define the structure of evaluation report
  – evaluation report to whom, for whom? Different reports for different levels?
- Two phase reporting; first a draft for circulation and comments, then the final
- Feedback and findings

4.2 Evaluators, Questionnaires and Indicators of success

For a large scale exercise it may be important to appoint an EET, Exercise Evaluation Team and to select evaluators to form the team.

In addition a set of evaluation indicators should be defined based on the specific objectives formulated for the exercise.

Evaluation forms and questionnaires should be designed in a way that they are simple to complete and that the results reflect the objectives and indicators formulated.

By the use of indicators and reported evaluation results, the achieved result shall be compared versus the specific exercise objectives, goals, expectations and formulated indicators of success. In addition records of costs and time effort may be used to derive exercise efficiency indicators and facilitate cost-benefit considerations.

4.3 Exercise evaluation report – contents to be included

The host organisation of the lead country is responsible for the preparation of an exercise evaluation report. The following information shall be included as a minimum:

- A short summarising description of how the exercise was planned with references to the plan documents, which may be included as attachments.
- Summary of the exercise conducting phase including:
  - Basic data on time, schedule and conducted activities.
  - Listing of participating organisations and participants in attachments.
  - Short descriptions on presented scenario, command structure, communication issues, field exercise and learning sessions.

4.4 Lessons learnt, feedback and updating of manual

The evaluation phase of the exercise provides input for improvements of future exercises and should be used for regular updating of the exercise manual. The main exercise output of learning and testing processes are, however, to be formulated as recommendations on organisational improvements and refinement of shoreline spill contingency plans.

4.4.1 Make recommendations

Based on the results reported in the exercise report and from the feedback received from the evaluators and participating organisations, the exercise organising shall formulate recommendations concerning future exercises and possible improvements with respect cross-border shoreline contingency planning and cooperation. The recommendations may also include more specific recommendations addressing the own organisation or to organisations directly subordinated the organiser.

4.4.2 Implementation of recommendation

Formulated conclusions and recommendations may e.g. be related to national, regional or local spill preparedness and contingency plans. It is important that such recommendations also are effected and implemented as modifications in the real contingency plans, organisations and documentation.

Checklist

1. Set time scope ☐
2. Appoint exercise manager ☐
3. Insurance of personnel ☐
4. Maps and coordinates ☐
5. Optional plans in case of bad weather ☐
6. Appoint exercise organisation ☐
7. Diplomatic clearance ☐
8. Custom issues ☐
9. Civil liability for injuries or damages ☐
10. Medical treatment preparedness ☐
11. Shuttle transfer office field site ☐
12. Meals and accommodation ☐
13. Press release ☐
14. Media invitation ☐
15. …… ☐
16. …… ☐
17. …… ☐
18. …… ☐
19. …… ☐
20. …… ☐
21. …… ☐
22. …… ☐
23. …… ☐
24. …… ☐
25. …… ☐
26. …… ☐
27. …… ☐
28. …… ☐
29. …… ☐
30. …… ☐
31. …… ☐
32. …… ☐
33. …… ☐
34. …… ☐
35. …… ☐
36. …… ☐
37. …… ☐
38. …… ☐
39. …… ☐
40. …… ☐
41. …… ☐
42. …… ☐
43. …… ☐
44. …… ☐
45. …… ☐
46. …… ☐
47. …… ☐
48. …… ☐
49. …… ☐
50. …… ☐