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Developing and Delivering Exercises

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Emergency Planning College Position Papers

At the EPC we use Position Papers to define, for the guidance and information of the practitioners and partners we train, our institutional standpoint on good practice in resilience, emergency and crisis management.

They are free downloads from the Knowledge Centre on the college website. As such they are a part of our Public Programme and a *pro bono* service to the resilience community.

Please note that, whilst they represent our current understanding of good practice and will always be consistent with relevant and formal published guidance, doctrine and standards – they are designed to complement – not replace – formal government guidance. As statements of good practice they do not imply direction or mandate from central government. When they refer to specific products, models or methodologies (used to translate doctrine into practice) this does not constitute CCS endorsement or recommendation of the same.

As with our Occasional Papers, which have more of a discursive nature and purpose, they are peer-reviewed and subject to rigorous quality assurance to ensure that they will contribute effectively to the needs of practitioners and the customers and partners of the Emergency Planning College.

About this Guide

The purpose of this position paper is to describe the EPC's approach to planning, authoring and managing exercises which are designed to examine and validate organisations' resilience plans and arrangements. Whilst this is, we suggest, the primary aim of exercising in general, it is also recognised that exercising has other potential benefits which are important and add value to resilience arrangements and capabilities. These include:

- Embedding resilience plans and arrangements in the organisation;
- Confirming that people have the knowledge and skills to apply those plans and arrangements;
- Identifying gaps and areas for improvement in planning, training and arrangements.
- Supporting a strategy of integrated incident and crisis management, through an iterative cycle of planning, training and exercising leading to learning and improvement.

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We expect the paper to be useful in two important respects:

- First, it will promote an approach which is generally consistent in key principles, but can also evolve along with accepted norms of good practice and in line with the specific needs of the customer.
- Secondly, it allows us to articulate our current position on good practice in exercise design and management. We believe this meets a need that is coherent with our mission – which is to enhance the resilience of the UK. For that reason, we are publishing it as a free download for the information and guidance of all sectors of the resilience community.

It follows that the paper is a relatively high-level guide to how we will meet those needs. It describes and explains the main principles and a generalised design process, but is meant to be applied flexibly according to need; it is not intended as a technical check-list. It will guide the less experienced exercise manager, but also help to bring increased consistency and rigour to the work of the more experienced.

From the customer's perspective, it will encourage a better awareness of exercise design and management and so enable them to be a more informed partner. This will, in turn, give them an improved understanding of their role in the process and an enhanced ability to get the best learning out of their exercise.

Terminology

For the purposes of this paper, the following terms are used, and defined:

Role Title	Description
Customer	The organisation commissioning the exercise.
Provider	The organisation commissioned to develop and deliver the exercise.
Audience or Participants	The individuals and teams that are being observed and assessed in the exercise

Other terms are explained as and when it appears in the text.

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The Guiding Principles

Although exercises have a potential training and skill-development benefit, their primary purpose is to examine, test and validate a set of resilience arrangements, including plans and capabilities. For that reason our first principle is that you should **train the people before you exercise the plan**. There are several reasons for this.

- First, it is not good practice to place people in situations that are outside their normal scheme of work without training them for the challenges they will face. Since exercises generally impose extraordinary scenarios on people and teams, it follows that they should be trained in the plan, the arrangements and the behaviours expected of them in the exercise and, by inference, an actual incident or crisis.
- Secondly, if people are untrained in their roles and the plans and arrangements fail in exercise, it can be difficult to identify where the root causes lie; did the people not perform to expectations or were the plans and arrangements intrinsically inadequate? So, there is an important cost-benefit to ensuring that the people being tested in an exercise are fully trained in their exercise roles and responsibilities; it ensures better value-for-money in terms of organisational learning.
- Thirdly, exercises are (as a rule) relatively expensive when compared to training. It makes sense to use them for their intended purpose – not as a substitute for individual and team training.

Cycle of Planning, Training, Exercising & Learning

Our second principle is that **exercises must be arenas for “no fault” learning**. Individuals and teams should be confident that they can, when facing challenges in an exercise, experiment, test and explore different responses and potential solutions without fear of being seen to have “failed”. Creativity is important in incident management and essential in dealing with complex crises (see BS 11200: 2014 *Crisis Management: Guidance and Good Practice*), so it must be permitted and encouraged in exercises – even when it carries some risk of failure. The exercise should be seen as a safe and supportive environment in which to practice and learn.

Our third principle is that exercises should be managed throughout with very **close co-operation between the customer and the provider.** This starts with the definition of the scope, aim and objectives and continues through delivery to post-exercise evaluation, learning and lesson implementation.

Our fourth principle is that **planning, training, exercising and learning need to be a coherently managed and progressive cycle** designed to make tangible improvements to the organisation’s resilience and capability. In other words, exercises need to be seen as part of an overall resilience strategy, and not as “stand-alone” events held in isolation.

Our fifth principle is to **exercise realistically with learning outcomes in mind.** This means that exercises need to be based on scenarios that are technically sound and intellectually feasible. This is important because the exercise audience must be able to accept them as realistic and credible. Then, the exercise should extend the challenges placed on individuals and team beyond the level of “business as usual” – but in a safe and controlled way. There is no point in exercising to breaking point, testing to destruction or overwhelming the exercise audience. But they must be taken out of their zones of comfort and familiarity and stretched by the challenge of the extraordinary.

The judgement and intuition of exercise authors and directors is crucial here, to strike this careful balance. If this balance is struck, the exercise is more likely to be stimulating and enjoyable for the audience and, therefore, probably more valuable as a learning experience. Designers should avoid clichéd scenarios and profoundly unrealistic combinations of events. These can distract an audience, encourage them to challenge scenarios on point of detail or feasibility and lead them to disengage from the exercise.

Our sixth principle is that **post-exercise evaluation, lesson identification and improvement needs to be conducted with a very high level of rigour.** In the first place, facilitators need to observe individuals and teams at work during the exercise, and gather evidence about their behaviour and performance, and the fitness-for-purpose of the plan and its associated arrangements. They should report against the objectives of the exercise, and back up their observations with evidence. The observations and the evidence should be included in the post-exercise report.

When it comes to studying the report, there is a need on the part of the customer for open mindedness, critical reflection and a commitment to make changes as a product of the exercise outcomes. An exercise provider can facilitate this process, by providing a good exercise and an insightful post-exercise report, but actually making it happen falls to the leadership of the organisation.

The core principles summarised:

Train the people before you exercise the plan

Exercises must be arenas for “no fault” learning

Close co-operation between the customer and the provider

Planning, training, exercising and learning need to be a coherently managed and progressive cycle

Exercise realistically with learning outcomes in mind

Post-exercise evaluation, lesson identification and improvement needs to be conducted with a very high level of rigour

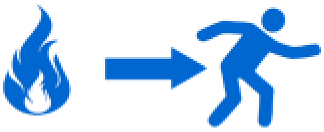
Types of Exercises

Various exercise types are available and the choice may be determined by a number of factors. These include, cost, time and purpose – but also the level of assurance the client needs.

Although the types are easily differentiated, they may be combined in any number of ways – within a single overall exercise or programme of exercises. Ideally, the choice should be driven by the most appropriate way of achieving the exercise aim. In practice, constraints of budget, time, resources and safety may condition the choice to one extent or another.

Exercise Type	Description
 Drill	A co-ordinated and supervised activity which is usually employed to exercise a single specific operation, procedure or function in a set of incident response arrangements. Examples might include the activation of a control room, the testing of a call-out system, a building evacuation or other pre-planned activity in support of a response plan. A drill tends to be controlled by directions from the exercise controller(s), rather than injects. There should, however, be some form of structured reflection and debriefing after the event, and a report identifying lessons and recommendations for change.

 Discussion Exercise (DiscX)	This is typically an exercise in which the participants, usually working in teams, are required to reflect upon the organisation's response to one or more hypothetical scenarios. It is a form of "what if..?" gaming. It can, if approached with critical thinking and rigour, be a useful way of familiarising teams with their plans and arrangements. More importantly, it can be used to test the assumptions that are built into those arrangements. Critical thinking and a tolerance for constructive challenge are the key notes, to avoid the common fault of teams becoming too ready to accept their own rationalisations – which often tend to be optimistic. These exercises are not intrinsically complex, but to achieve the desired outcome they do need external, and expert, facilitation and reporting. They also need good design and imagination.
 Table-Top Exercise (TTX)	This is an exercise in which participants are given specific roles to perform, either as individuals or groups – which reflect the composition of at least part of a response team. They are usually presented with a scenario that develops over time and often tend to become more challenging and complex as the exercise progresses. They receive phased injects that represent this evolving series of events, giving them incidents and problems to respond to and decisions to make. Such exercises are normally held in a meeting room. As with simulations (CPXs), injects can be presented in a number of ways, including paper hand-out, e-mail, telephony and simulated media. Group behaviour is observed and the outputs evaluated, with evidence of performance against the exercise objectives captured and reported as usual.
 Simulation or Command-Post Exercise (CPX)	This is an exercise in which a group of people, usually representing a control centre team and/or a decision-making team, react to a simulated incident happening elsewhere. The details of the event are presented to them in forms and by media which replicate the way information would flow in a real event. The exercising audience operates in as close to real conditions as possible but there is no "live play". All activity in the scenario is notional. Inputs to the exercising agency will be from exercise controllers acting as the

	different agencies that the audience will communicate with during an emergency or incident. Ideally, such exercises should be held *in situ* – the place from where a real response would be managed. It should also use the same range of information and communication systems as that which is available to responders in a real event. These exercises tend to be complex and require considerable planning and development time. They can assess the information management skills and processes of control room staff in tandem with the decision-making team which uses their product to create shared situational awareness, define strategy and make decisions.
 Live Exercise (LIVEX)	This is an exercise involving at least some element of live, rather than simulated, play – leading to people and assets being physically deployed on notional tasks.

It is important to note that hybrid variants which combine two or more of the above are entirely feasible and fairly common. This is best illustrated by an example, as follows.

Specific design considerations for each type of exercise are given later in this guidance.

Case Study – A Hybrid of Exercise Types

The EPC was commissioned to deliver a major exercise for an English county Local Resilience Forum, designed to test the wide-area response to an incident at a nuclear power station. The exercise involved:

- Live play and drills at and around the site.   This required site operatives and local responders at the operational (front-line) level to actually carry out procedures on the ground and in the vicinity to respond to a notional incident.
- The local tactical and strategic co-ordinating groups activated their control rooms and responded to pre-scripted and “free-play” prompts injected by exercise controllers, according to the evolving scenario.   This was simulation/CPX activity.
- The plant operator and other specialist agencies operated and responded from their own control centres, again in simulation/CPX mode.

- Central government and the UK national crisis management centre (COBR) operated from their own ministerial control centres or were role-played by controllers respectively, in a hybrid TTX/CPX mode.

This was a large and complex exercise. It goes without saying that it required very considerable planning, management and co-ordination by a large team of expert exercise and resilience specialists. Also, it had the budget and resourcing levels that go with that complexity.

Such an exercise needs a sophisticated exercise management mechanism. The EPC uses a specialised web-enabled tool to do this in such exercises. This is a back-room exercise management system (invisible to the exercise audience) which is designed to handle this level of complexity, but also to bring flexibility to less complex exercises.

Another form of hybridisation refers to an overall exercise programme. Organisations may choose to test the validity of their plans and arrangements in a graduated manner. This might include a drill to test a plan activation protocol, a discussion exercise to familiarise people with the plan and test its assumptions, followed by a more challenging TTX leading eventually to a full-scale simulation, activating several levels of its response mechanism – perhaps with a live-play component.

Choosing which type or combination of exercise types involves certain trade-offs. Generally speaking:

- Going up the scale from discussion exercises to simulation and live play involves more cost, more planning time and greater levels of distraction from ordinary business. But they become progressively more realistic and more challenging, leading to more nuanced learning outcomes and, therefore, have a potential for better ultimate value.
- Moving from testing a single team in a single part of the organisation, to a multi-level and multi-agency exercise construct, also progressively adds complexity, cost and distraction from normal business. But, again, it adds realism, challenge and supports a more forensic examination of the organisation's capability – leading to potentially better learning outcomes.

We recommend that the ideal start point for consideration is the exercise aim, which should precede choices about which exercise type to opt for. In practice, however, there may constraints (such as budget and time) which drive the choice. A summary of possible considerations, against some generic exercise aims, is given in the table below:

Generic Aim	Preferred Exercise Type	Comments
To develop and practise information management and/or leadership teams	TTX Simulation/CPX	The choice depends on the degree of realism required
To develop and practise the team at the operational level	Drill Livex	The distinction here is between carrying out one or more prescribed actions, or taking part in an unfolding scenario
To test communication links, connectivity or information passage in an operational situation	Livex	
To confirm knowledge and awareness of processes, plans and procedures.	Discx	Other exercise methods may also assist in this, but they will be compromised if this knowledge and awareness is under-developed.
To experiment with plans, processes or potential response strategies	Discx	Followed by CPX or Livex if resources allow, to confirm assumptions and choices

The choice of exercise format is critical. Customers and the provider must be aware of the implications of their choice, and so understand the potential benefits and limitations on what can be achieved through each exercise construct or combination. This is a matter for careful consideration and informed discussion at the initial project scoping stage, and the aim must be one that is achievable within the constraints of the type of exercise chosen.

Case Study - Hybrid Training and Multi-Exercise Programme

EPC staff were involved in the preparatory exercises for people and multi-agency delivery teams prior to a major international sports event that covered four UK counties. It was a novel event, and it was outside the direct experience of many of those involved in its control and safe management.

At the start of the project it was obvious that there was no clear and common understanding of the challenges involved or what the management framework for the safety of the event was going to look like. So, the process began with a series of workshops and training sessions to define the strategy, identify the planning process and then share and test this understanding.

This was followed by a graduated series of table-top exercises, within partner organisations and then in a multi-agency context. The exercises developed in intensity and level of challenge as people and teams became more comfortable in their roles and responsibilities. The process culminated in a multi-level, multi-agency simulation that tested the main control room staff and all leadership teams with a high level of realism. In this way, the considerable reputational risks inherent in the event were managed, mitigated and a very complex event delivered safely.

The Initial Planning Meeting

There will normally be some preliminary dialogue between the customer and the provider, whilst the former defines their needs and considers their options around what sort of exercise they want and who they want to provide it for them. This may involve a number of preliminary discussions, meetings and possibly a competitive tendering process to select the provider. Once the customer has made their choice and commissioned a provider, the detailed preparation should begin with an initial planning meeting.

This meeting should define the following:

- The customer's organisational context, their overall intention and the general outcomes they require;
- The exercise aim and its supporting objectives;
- The budget and options available;
- The type of exercise chosen, its general format and the target audience(s);
- The delivery date, location and logistical resources/services required on-site, including the provision of space, rooms, communications and connectivity requirements as determined by the type and scale of the exercise selected;
- The overall co-ordination and consultation, including development and communication milestones, key decision points and channels of communication;
- Information needed from the customer, especially regarding their plans, arrangements and any technical consultations around the detail of the scenario;
- The exercise name and outline scenario;
- The inclusion of any other agencies e.g media, technical advisors and support facilities such as catering and transport as required;

- Identification of the key team members and contact details on both sides. The key figures at this stage are the provider's nominated exercise director and the customer's senior responsible owner. These individuals are likely to be in day-to-day contact throughout the design and delivery;
- General arrangements and staffing for exercise management, observation & evidence capture, debriefing and post-exercise reporting;
- Administrative and financial arrangements;
- Safety considerations, privacy, security and site-access control arrangements;
- Arrangements to support human needs, such as car parking, refreshments, rest areas and toilets in the exercise location(s).
- Arrangements for preparatory site visit(s) and any necessary further consultations.

This may sound like a lot of points for a single meeting, but it must be remembered that preliminary discussions will have taken place. The meeting should lead to the production, by the exercise provider, of an exercise planning document. This is then confirmed and signed off by both parties – as the agreed basis for further work.

The Exercise Planning Document

This should summarise the above and form the agreed reference point for further discussions and consultation around the development and delivery of the exercise. This initial reference point is needed to control and manage any changes to the project plan, as the design and authorship progresses. It should include:

- A change protocol, for managing changes to the requirements and deliverability assumptions as the design progresses, and;
- A "lock-down" point, when the written exercise is signed-off in entirety and agreed for delivery.
- A plan for subsequent meetings and milestone-reporting. As far as meetings are concerned, we would expect to see:
- The initial planning meeting;
- A site visit;
- A mid-point meeting to confirm "direction of travel" and progress;
- A final "lock down" meeting to confirm the design and finalise arrangements on the day.

If the exercise is a complex one that involves a number of different teams and agencies, it may be useful to insert another meeting soon after the initial planning meeting. This may be needed to confirm that all of the participating teams and agencies:

- Agree to the plan;
- Are aware of what information and/or facilities they may have to provide to make it work;
- Are aware of their own tasks and responsibilities;
- Have the right expectations of how the exercise will be constructed and delivered;
- Feel fully engaged and consulted.

Obviously, the above are interspersed with regular and frequent dialogue along lines of communication defined in the exercise planning document.

It is a consideration at this stage to decide on documentation protocol. There is merit in using the exercise name in the header of all documentation, to distinguish it clearly from operational documents. Occasionally, clients may wish to give the documentation an actual or exercise classification or handling instruction. Actual classifications protect sensitive information and restrict its circulation. Exercise classifications are used to oblige the audience to handle documents and information as if they carried an actual classification. Customers may also specify levels of security clearance required by the design and delivery team.

Forming the Design and Delivery Team

The customer should appoint a single point-of-contact who liaises with the exercise director throughout the design and development process. His/her roles are to:

- Represent the customer's interests;
- Ensure that progress is maintained;
- Provide any detailed organisational information needed by the authorship team;
- Approve design choices made along the way;
- Organise final sign-off of the exercise and its acceptance for delivery.

The provider should nominate an exercise director. This will be the person responsible for planning, delivering and evaluating the exercise, and the client's main point-of-contact throughout the process. He/she will normally be the person who directs and controls the delivery of the exercise *in situ* on the day.

He/she may be supported by a team, possibly comprising:

- Additional developers who work on the technical details of the scenario and its main events list (MEL). These may or may not be also used as support facilitators and controllers;
- Support facilitators who observe teams in action, possibly deliver injects and capture evidence of behaviours and responses that will inform the post-exercise evaluation;
- Role-players who act as external stakeholders or other levels within the organisation that are not being exercised directly, delivering injects and responding to exercise play as it develops. Note that some agencies (e.g. the military, call these individuals “controllers”);
- Back-room facilitator(s) who manage information flows and ICT systems that support the exercise delivery;
- Media specialists who pre-script inputs and/or act on the day as journalists, or provide other *ad hoc* media feeds;
- The client’s observers and commentators.

Some of the above may be supplied by the customer, if they so choose. If such people are included in the delivery team on the day, it follows that briefing, and possibly some training, will be required. Ideally, the composition of the team should be agreed and defined in the exercise planning document. Briefing the delivery team, ensuring that it has the right skills for the job and preparing it for its tasks, as well as managing it on the day, is the responsibility of the exercise director.

Personnel needs will, of course, be determined primarily by the nature and complexity of the exercise. For example, a single-team discussion exercise or lower-end TTX may need only a single exercise director throughout the design, delivery and post-exercise stages. With more complex exercises, the requirement for the sort of support staff identified above will have to be considered.

Defining the Aim and Objectives of the Exercise

Determining the exercise aim is a fundamental requirement. It is a key to success and helps the planners ensure that the exercise meets the customer’s expectations. It is worth spending time to make sure that the aim is right for the job and accepted by the client. It should be expressed in terms of what they are trying to achieve by sponsoring the exercise. We recommend that both parties think about this carefully, and do not settle for a ready generic stereotype.

We suggest that it should consist of one sentence, with one measurable verb and no use of the word “and”. This helps to focus the design and avoid a “split” aim.

Objectives are slightly different. They should be a list of the supplementary functions that need to be demonstrated by the audience and assessed by the exercise team, in order to support the achievement of the aim. They may represent what specific departments or agencies in the exercise audience are required to do to help deliver the aim, or the specific stages or actions that a team is required to go through to support it.

In both cases, they should – the greatest extent possible- follow the adage SMART, in that they are:

- Specific;
- Measurable;
- Achievable;
- Realistic;
- Time-referenced.

As a rule-of-thumb, we suggest that 5-6 objectives are appropriate for a 1-day exercise. A larger number of objectives may be either unachievable or distracting.

Case Study – Exercise Aim and Objectives

The EPC was commissioned to provide an exercise for the crisis management team of a large private-sector company. Discussions started with a general intent on the part of the company to hold an exercise for the top team. It wanted to demonstrate its commitment to resilience.

After detailed discussion and examination of the sort of potential risks it faces, the following aim and objectives were selected:

- Aim of the exercise

To assess the capability of the top management team in dealing with a major disruption to its customer services and communication networks.

- Objectives

For the top team to demonstrate that they:

- **Critically analysed a complex, evolving situation:**
- **Created and maintained shared situational awareness;**

- **Set an appropriate strategy to deal with the implications of the crisis for customers, the organisation and its reputation;**
- **Made decisions which were appropriate, defensible and recorded;**
- **Communicated proactively with key internal and external stakeholders.**

Note that the aim is expressed as something for the provider to achieve, whereas the objectives are things the audience must demonstrate its ability to do, and against which they are assessed. The exercise will have met its aim if it has created the environment in which all of those objectives can be fairly, objectively and evidentially assessed.

The scenario was then designed, and the main events list populated with injects, in order to ensure that the exercise required the audience to demonstrate those actions.

The Scenario and Start States

The outline scenario is agreed at an early stage so that detailed development of it can start right away. It is essential that it is realistic, credible and has enough nuances and depth to support the amount of exercise activity that will be needed. The exercise director must have access to any technical or expert advice that will be needed to ensure this. If there is a key skill in scenario development it is in modelling the plausible. In an incident or crisis many events are technically possible, but if the scenario stretches the audience's credulity they will struggle to engage with it.

On, or perhaps before, the exercise day the scenario (as it stands at the beginning of the exercise) needs to be described to the audience, so that they can familiarise themselves with the notional situation and make the necessary suspension of disbelief. This can be a verbal briefing, supported by a written narrative and, perhaps, supported by additional documentation. Examples might include:

- Maps in paper or digital format;
- Media reports;
- Weather reports;
- Demographic data;
- Response plans and protocols;
- Asset registers;
- Staff lists and contact details.

The need for any additional documentation will be driven by a number of factors, including the complexity of the scenario and the audience's familiarity with the physical environment and organisational context in which the exercise is set. If the scenario is one that gradually and visibly builds until an incident is declared, it can help to orientate the audience to the task (and get them "in role") by gradually "drip-feeding" scenario developments over the days prior to the exercise.

It is good practice to give the different teams and role-players in an exercise "start states". These identify the assets (human and material) that are available to them to notionally deploy in response to the scenario. It may also describe the readiness-to-move of those assets, and identify any policy or capability constraints that the audience must work within. This adds realism, and mitigates the tendency for exercise audiences to lose track of the realities of what assets are available and how quickly they can be expected to create an effect.

A final consideration is not to over-burden the audience with scenario and start-state detail just for sake of local colour. The greater the level of scenario detail, the longer it will take audiences to "read in" and absorb the detail. This could eat significantly into exercise time and delay the point when the team begins to organise itself and starts work. A careful balance needs to be struck here.

The Main Events List (MEL)

The MEL is a tool used in table-top, simulation and live exercises, where the play is driven by a series of deliberately phased and sequenced injects which develop the unfolding scenario and present the audience with issues and problems that require some form of response. These injects are generally pre-scripted, for introduction at a specified point in the exercise or as and when the exercise director chooses.

The MEL is the "backbone" of the exercise, and the means by which the director controls its progress. However, it is a guide and not a fixed sequence. He/she may choose to react to the responses of the exercise audience by inserting *ad hoc* or unscripted injects, and vary the pace and tempo of injects in response to how the audience is managing their tasks. Some injects may be optional, to be presented or held back at the exercise director's judgement. Others may be planned for but deliberately unscripted. This is usually because their precise detail depends on the choices made by one or more individuals or teams in response to earlier injects. This is usually known as "free play". It can give the exercise a highly dynamic and realistic quality, but it needs to be managed carefully.

It is critical that the exercise director knows at all times which injects have been presented to which team(s). Maintaining this situational awareness in a fast-moving and complex exercise is a challenge: it needs expertise, attention to detail and a high level of personal organisation. This is why the exercise director should have no other tasks on the day. He/she should never "double hat" their role with, say, observation or role-play.

We do not believe that exercise design and delivery is a black art. Any reasonably experienced resilience professional can learn the discipline. But it does take practice to become expert at it, especially in the role of exercise director. Naturally, we recommend that individuals “learn the ropes” on the generally simpler discussion and table-top exercises, before progressing onto the management of more complex simulations and live exercises.

In terms of pace and tempo, it is worth reiterating the need for audiences to be stretched, but not overwhelmed. They need time to deal with issues and also reflect upon them, in order to complete tasks and learn as they go along. It is surprisingly common to see very busy exercises that deny their audiences this latitude, to the extent that effective learning ceases. Teams become overloaded by the pace of the exercise, morale suffers and without a sense of achievement relatively little learning is possible

The technical management of injects within the MEL is worth a mention here. Each of them should have a unique reference number, a place in the sequence of events and a clear indication of which teams are to receive it and when. It should also be supported by a brief description of how the audience is expected to respond to it. This forms a useful prompt for observers and an indicative standard against which to measure the audience’s performance.

Simulated Media Inputs

Media play during an exercise can take the form of simulated news reports by print, broadcast and net-based media, as well as simulated social media activity. It can add realism and urgency, if it is well made and used imaginatively. It can also extend the experience of the exercise audience into a multi-media environment and add variety and realism to the way in which injects are presented.

Interactive media inputs can take the form of the requirement for press statements, press conferences and interviews that require preparation and delivery by elements of the exercise audience. If conducted and analysed by media professionals on the exercise delivery team, they can be very challenging and effective learning experiences for members of the audience.

Media play of this nature will add to the cost of the exercise, and so it needs careful consideration. We do not, for cost-benefit reasons, recommend its use as mere “background colour” or as an attempt to add verisimilitude to the scenario. However, we do recommend its use if it directly supports the aim or a particular objective of the exercise.

Starting the Exercise

Before the exercise, the customer and the provider should agree on the content, dissemination and timing of joining instructions for each member of the audience.

These should give the outline details of the exercise, its aim and timings – plus directions to the site, any necessary "housekeeping" information and identify the exercise role the individual will play.

On the day, the entire exercise audience should be gathered together for a single initial briefing. If this is not possible, a similar scripted brief should be prepared and delivered to each group, to ensure a common level of initial understanding and awareness. This can build on information given in the joining instructions and should include:

- The aim and objectives;
- The identity and roles of the delivery team;
- A summary recap of the scenario;
- The outline of the exercise (how it will work) and timings;
- Protocols for "time-outs", requests for information and any code words in use;
- Provision for human needs;
- Health and safety considerations.

In a sizeable, multi-team exercise, some consideration needs to be given to arrival arrangements, signing in procedures and signage/direction to ensure that all members of the audience find their way to their assigned workspace. This is fine detail, but if it is not correct and seamless on the day, the audiences' first impression of the exercise and its delivery team will be one of poor organisation.

After the initial briefing, the audience should disperse to their assigned workspaces. If they are new to each other, it makes sense to give them a short period of time for introductions and settling in.

After that, the delivery of the first inject signals the start of exercise "play". Alternatively, the code word "Startex" may be sent before the first inject to ensure that the audience knows that it is now in exercise mode, and that all subsequent directions are to be treated as exercise play.

Capturing Observations During the Exercise

Since this involves direct reporting on the performance of an individual or team, it needs credibility, rigour and accuracy – as well as a reasonable measure of tact and sensitivity. It also needs to be a matter of record so that that recommendations based on the observation are defensible and evidence-based. In general, observations and evidence should focus on team activities and outcomes – and not on personalities or individual behaviour.

Observers should be trained and required to report according to a prescribed template. This template should include;

- The observer's name, the team under observation, the time and the location where the observation was made;
- The point in exercise time, related to the last inject that was presented to the team under observation;
- What was actually observed and why it differed from reasonable expectations (for better or worse as an outcome);
- Any extenuating factors that may have caused or predisposed the team to take the actions discussed.

Observations and evidence capture should be factual and evidential, and above the influence of personal views, prejudice and professional conceit. An observation should only be included in the post-exercise report if it can be justified, related to an exercise objective and is demonstrably fair.

Maintaining Realism

The need to maintain realism should be a main consideration throughout the design and delivery stages. It is vital for catching and holding the attention and engagement of audiences. We have already discussed the direct relationship between realism and exercise complexity, but there are generic considerations that can guide exercise delivery teams to maintain greater levels of realism in any exercise type. The key points to bear in mind are (in no particular order of importance):

- Create an exercise environment free of distractions and interruptions, so that audiences can concentrate totally on the tasks in hand and immerse themselves in the exercise;
- Ensure the scenario is credible, that all injects are plausible and their technical premises are correct;
- It is difficult to make scenarios entirely original, but it is imperative to avoid clichéd and overblown ones that that will strain the credulity of an informed audience;
- Observers need to be as unobtrusive as possible, consistent with fulfilling their role;
- Manage the flow of the exercise consistently, without unrealistic lulls in activity or unscheduled pauses;
- Manage planned date and time shifts in the scenario carefully. Ensure that there is a recognisable stop, readjustment and new start to give audiences who are immersed in the exercise the opportunity to adjust;
- Where possible create surprise and realistic “friction”;

- Controllers should be rigorous about the audiences' selection and deployment of assets – and ensure that they are not simply inventing them or assuming that they are available.

Having said that, not all injects need to be constructive, useful or accurate within the logic of the exercise. Realism demands that some of them should be partly or wholly false, ambiguous, conflicting or uncertain – but otherwise plausible. Injects of this nature are introduced to clutter the picture and make it more challenging for teams to create accurate situational awareness. This is a reflection of reality that should be introduced into exercises - but not overdone.

If reality, in the form of external events, does intervene - and the exercise director wishes to step out of exercise play and pass a "real" message without the risk that it is interpreted as "play", the normal practice is to prefix the message with an agreed code word. This tells the audience that it is real message and not part of the exercise.

Responding to Problems Within a Team

There are several reasons why a team in an exercise audience may struggle to meet the exercise objectives, and so under-perform against expectations. These include:

- Personality clashes and pre-existing animosities;
- Lack of confidence and experience;
- Lack of clarity about what was expected of them;
- Inability to process information fast enough to "stay ahead" of the incident;
- Disagreements about the meaning and interpretation of the scenario and exercise information;
- Flawed situational awareness;
- Unwillingness to engage with the exercise or recognise its learning value.

The role of the observer is crucial here. If he/she suspects that the team is not working properly and or performing as expected, they should consult with the exercise director. A judgement will have to be made about if, when and how to intervene. This is particularly important if other teams in the exercise construct depend on that team's outputs for information or direction.

If an intervention is required it may be enough to simply correct or improve the team's situational awareness and orientation to its tasks – giving it a new start and the means to go forward. However, there may also be a requirement for some tactful reorganisation of roles within it. This should be very sensitively handled.

If the performance of other teams depends on this team's outputs and it continues to fail to deliver, the last resort will be for the observer to role-play its function – in order to keep momentum going for the remainder of the exercise and allow other groups to meet their objectives.

This would be a worst-case and a very unusual occurrence, but the exercise delivery team should be prepared for the eventuality and able to discuss options for intervention.

Concluding the Exercise

There are a number of ways in which the exercise may be brought to an end. It may reach a resolution, having worked through the entire MEL and any *ad hoc* "free play" that has been introduced. Alternatively, it may reach the point where it has fulfilled its purpose and met the aim, to the extent that the customer and exercise director agree to bring it to any early close.

At that point the code word "endex" is usually transmitted or passed to the audience by the exercise director.

What then happens depends on the process decided in advance. Good practice suggests an immediate "hot debrief" should be held. This brings teams together and invites them to provide initial, impressionistic feedback to the delivery team and the customer, whilst the experience is still fresh in the mind. Skilled exercise directors usually shape this discussion to give it a form that can be captured and used in the post-exercise report. An example is to ask the teams or individuals for short lists of things that went well and things that went less than well. This may also be supported by a paper-based personal evaluation sheet.

Follow-up actions by the customer and the exercise director should be explained to the audience. The audience then disperses and the delivery team "tear down".

Following Up the Exercise

The exercise director gathers together the evidence assembled by any observers and its supporting evidence, debriefs his/her own team and starts to compile the post-exercise report. We normally offer to submit the report and to present its key findings face-to-face to the senior management of the customer organisation and key stakeholders.

A suggested format for the post-exercises report is as follows:

- A summary of the key factual details of the exercise, such as dates, participants, outline scenario, aim and objectives;
- Comments on the exercise, including reflection on its design, administration, management and delivery;

- A summary of the main findings, grouped into good performance and areas suggesting a need for improvement;
- The recommendations to the client, including remedial actions and/or ways to develop and continue to build on success;
- A list of the detailed observations of the delivery team, with supporting evidence wherever possible, which are mapped to the objectives. This may take the form of a separate annex to the report.

There may also be a “cold debrief”. This may or may not involve the exercise director, but it should do. This is normally held sometime after the exercise, when the participants have been able to read the post-exercise report and reflect in more detail on the outcomes of the event.

Whether or not a cold debrief is held, organisations are advised to identify the lessons and recommendations they wish to follow-up on, assign responsibility for their implementation and determine a reporting schedule. This will convert lessons that have been identified into lessons which have been demonstrably learned and implemented.

Specific Considerations for Discussion Exercises

These may be a compelling option because they are relatively cheap and can be delivered at short notice. Having said that, the exercise director (and his/her team if applicable) still need to ensure that they are – as for any exercise – very familiar with the client’s organisation. They will need to study and learn its business environment, structures, culture and operating risks, in order to select the right themes for discussion and appreciate the context around choices made by the audience.

The process for design and delivery that we recommend is as follows:

- Scope and prepare as per the general guidelines discussed above;
- On the day, hold an initial briefing on the aim and objectives of the exercise and an outline of the event;
- Organise the audience, preferably into two or three teams, to allow comparison and contrast of outputs.
- Set a series of problems for discussion. These have to be carefully selected to provide enough challenge for serious discussion and analysis. Preferably, they should be dilemmas, without clear procedural solutions and without “win-win” solutions. They should be designed to test the limits of the plan and to challenge the assumptions upon which it is based. We suggest roughly one problem or topic per hour of exercise time, to allow for orientation, analysis, discussion and debate;
- Allow the audience time to consider the issue, discuss its implications, identify options and make a collective decision;

- Invite the audience to present and defend its conclusions to the exercise director and any other syndicates that might be in play;
- Discuss, compare and contrast findings;
- Collect observations and evidence and collate them into a post-exercise report.

Specific Considerations for Table-Top Exercises

We suggest that TTXs are potentially valuable experiences which are relatively cheap and relatively easy to design and deliver. They can be a good choice of exercise format and create good learning outcomes.

However, there are some behaviours that can legitimately be called characteristic of audiences in table-top exercises. They need to be planned for and mitigated in the exercise design and authorship. These are:

- A tendency to stretch reality, with the repetitive assignment of assets to tasks without reference to what is actually available and without reference to the time it may take to field those assets even if they are available;
- An excess of rationalisation. In the language of critical thinking, rationalisation implies the justification of choices and decisions that were arrived at by less than rigorous means. This arises because audiences are sometimes not really challenged about the legitimacy of their choices. If you are an experienced trainer and exercise manager, ask yourself how many times have you heard something like “we have a plan for that” or “we know how to deal with that”. These are brush-off solutions designed to avoid critical analysis. It can be challenging for a facilitator to break through that wall without creating a confrontational situation;
- A related behaviour is early closure. This is brought about by a desire on the part of audiences to prove themselves expert by the rapid resolution of a problem – probably without detailed, critical analysis of all its implications and dimensions;
- In fairness to the exercise audience, it can be difficult to retain focus and commitment in a table-top exercise, because the situation requires a fairly high degree of suspended disbelief and “credibility fatigue” can set in. The task of the facilitator and exercise director is to maintain momentum, energy levels and challenge the audience if it slips into complacency.

These traits are not peculiar to TTXs and may be equally visible in discussion exercises. But they are less common in simulations and live exercises. This is probably due to two factors; the first is their intrinsically lower level of realism, and the second is their familiarity. Most exercises are table-tops. The solution is to have really compelling scenarios that stretch people beyond their comfort zone, together with the expectation of constructive challenge and the need to defend solutions against forensic and persistent enquiry.

Specific Considerations for Simulation/CPXs

Like the larger type of TTX, these exercises usually need a designed exercise control (Excon) structure. The exercise director will normally be supported by a team, as discussed above. He/she may employ an excon manager, so that attention can be focused on controlling the MEL and managing the pace and tempo of the exercise

These exercises also have an enlarged requirement for the establishment, testing and operation of information and communication technologies. This can add a considerable logistic burden and, of course, additional cost.

Simulations/CPXs can be run in mock-up control rooms created especially for the exercise. We generally advise against this approach if a real control room exists. It is expensive, logistically complex and ultimately cannot replicate the actual control centre in which the audience will be working in a real incident. So, unless there is a pressing reason why it is not available, such exercises should be held *in situ*.

Specific Considerations for Live Exercises

The points made above, about the organisation of an exercise control and the need for robust communications, apply for live exercises as well.

Venue is also a significant factor, with choices to be made about:

- The possible need to be shielded from public view;
- The control of damage to the site and its restoration after the event;
- The impact of adverse weather;
- Public information and messaging if any aspect of the exercise is exposed to public view;
- The provision for human needs;
- Access control, transport and signage.

The most significant additional risk in live exercises is safety. We recommend using a safety team which focuses entirely on assessing the exercise for emerging safety risk and potential impact on the public. The head of this team needs immediate access to the exercise director and authority to stop the exercise at any point when a risk reaches unacceptable levels.

Summary: The Main Generic Success Criteria

Satisfying the following criteria will not guarantee success, but it will improve the chances of the exercise meeting its aim and satisfying the various stakeholders. They are:

- Identify and confirm the aim and objectives at the outset;
- Appoint a competent and experienced exercise director;
- Appoint a skilled and experienced exercise design team;
- Ensure a single chain of communication between the client and the exercise director;
- The exercise location and its facilities must be fit for the task;
- Consult with experts to ensure that the scenario is credible, authoritative and realistic;
- Engage constantly with the client and with other agencies represented in the exercise;
- Confirm that client exercise audiences are fit and trained for their roles in the exercise;
- Communicate constantly to keep all partners and stakeholders informed of progress and development;
- The exercise needs to be controlled and managed imaginatively and flexibly;
- Ensure that post-exercise reporting is rigorous, supportive and objective.

Conclusion

Developing and delivering a good exercise with positive learning outcomes is a demanding and skilful art. It can involve considerable resource and commitment from both the client and the provider, and demands very close co-operation between the two if it is to be done well.

This guide has laid out our basic design principles for exercising and their context, which is an integrated cycle of planning, training, exercising and learning. We have also discussed the various types of exercise that are available, as well as the combinations of them that may be made in hybrid exercise forms.

We have also provided a scheme for the overall process of exercise management which identifies the key considerations at each stage of it. As with other disciplines, exercise management at all stages of its life cycle from design to delivery, depends on good communication, transparency and shared understanding between the customer, the provider and the audience.

Whatever its technical merits and design features, your exercise is likely to stand or fall by the quality and effectiveness of this communication and stakeholder engagement.

It is also recognised that exercises are usually bespoke for an organisation and its people. The exceptions are generic exercises embedded in a standardised training course or workshop. For that reason, we invite you to use this paper as a general guide, not as a prescription. We hope it will help people act as more informed customers, and thus get the best learning value out of their exercises. We also hope it will help exercise planners, directors and facilitators to develop their art and bring rigour – and flexibility - to their processes and activities.

Finally, it defines the EPC's current approach to the discipline and what we identify as good practice. This is based on the distilled experience of providing a large number of exercises to a very wide range of customers at all levels of complexity.

Suggested Further Reading

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