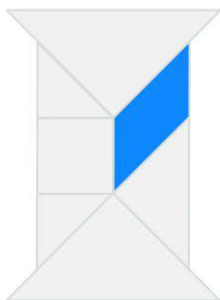




EXERCISE CONTROL MANUAL

A REFERENCE FOR PROFESSIONAL EXERCISE DESIGN AND DELIVERY.



A SIMPSON CONSULTING RESOURCE

Simpson Consulting specialises in professional emergency management, resilience, assessment and workforce development. <https://simpsonconsulting.online>

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This resource is designed to support learning and workforce development on resilience, business continuity and emergency management.

Information contained in this resource, including the historical event details, is from publicly available sources. Historical emergency information has been *summarised and adapted* to support the use as a training reference and should not be seen as a full representation of certain events.

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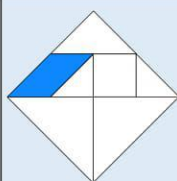
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Contact us if you are interested in commercial opportunities – on nzrichardsimpson@gmail.com.



The tangram is a Chinese puzzle consisting of a square card or board cut by straight incisions into different-size pieces. To complete a tangram puzzle, the player copies a black silhouette by arranging the tangram pieces. In this way, it is possible to make thousands of unique images.

The parallelogram is the only piece with no reflection symmetry, only rotational symmetry. The only way to create certain images is to change your perception from two to three dimensions and to flip this piece.

In planning and workforce development, we must first have an outline of our goal, then explore how to combine staff, stakeholders, assets, systems and processes – in order to pursue our vision.

Sometimes it takes a fresh perspective to help us see how the pieces fit together.

THE EXERCISE CONTROL MANUAL – IN A NUTSHELL

The **Exercise Control Manual** (this document) is a guiding document and can be read as a stand-alone reference.

The **Historical Scenario Resources** (available online from Simpson Consulting) are supplementary documents to this **Manual**.

EXERCISE DESIGN

You are an emergency manager, trainer or educator who has designed and run exercises in the past and has a working knowledge of resilience and emergency management.

You likely have existing processes that you need to follow, and you may also follow formal government guidelines around exercise design and delivery. This Manual and the Historical Emergency Scenario resources complement and build on these.

You won't find a checklist in this document for you to book catering and set up a projector. You know what you're doing. This Manual gives you tools to look at your motivations behind the exercise, the political and other dynamics in play, and what approach would have the highest likelihood of success.

- Figure out the style of exercise you are looking to deliver.
- Consider your own current strengths, opportunities and pressure points.
- Determine the type/structure of exercise.
- Determine the right approach to your own emergency scenario design.
- Decide the main principles behind your own exercise scenario, based on or informed by real historical events.

EXERCISE DELIVERY

The second section of the document gives you an easy toolkit template. It is a simple, generic set of 'Rules of Play' that you can use in your own exercises.

The **Historical Emergency Scenario** series of resources are available on our website as a supplement to this **Manual**. While you can take and adapt this scenario content for any style of exercise, those resources all follow the generic 'Rules of Play' format for ease-of-use.

- Refer to the detailed guide for the 'Rules' that can be adapted to a tabletop discussion/wargame.
- Review and use the blank forms and templates.
- Practice the game play with a trial exercise (included).

We can help you tailor your exercise design to suit your needs.

Contact simpsonconsulting.taupo@gmail.com for a no-obligation discussion

SECTION 1 – INTRODUCTION

Exercises validate your emergency and continuity planning. They build hard skills, confidence and trust in a safe environment.



A good exercise sticks in the mind.

All too often a Planning Team has limited time, budget and resources. With demands to tailor the exercise objectives, to brief control staff and evaluators, and to lock in the right site and participants, there is often little opportunity to delve deeply into the emergency scenario itself.

A strong, detailed exercise scenario is a must-have. An immersive exercise prompts Participants to act realistically, to absorb the content and to explore different approaches. A good scenario is one where Participants trust the setting and the scope of their own role. This

is the case whether it is a back-of-the-envelope run-through at a busy café, or an exercise with props, effects and a cast of hundreds.

Participants should trust the exercise will provide fair feedback on their actions and decisions. The events and the consequences of their actions should be logical and realistic within the context of the exercise setting (*if your setting is a zombie apocalypse, "should" your zombies be able to run, swim, or shuffle?!).*



Your agency may have formal and/or government guidelines around the process of creating an exercise. *Alongside this*, are your exercise personnel confident, prepared and knowledgeable? Is the design and content well-structured, interesting and professional? Does your scenario stand up to scrutiny (evidence-based and internally consistent)?

SECTION 2 – EXERCISE DESIGN

EXERCISE DESIGN PRINCIPLES

In this section, we will cover how your exercise is perceived by those signing off and paying for the exercise (Sponsors), and by the Participants themselves.

After all:

- An exercise will only happen if your Sponsors support the rationale.
- Participants will only engage and learn, if the exercise delivers on (or exceeds) their prior expectations.
- Sponsors & Participants will only accept 'lessons learned' and exercise outcomes if they feel it was a genuine, honest reflection of their status and capabilities.

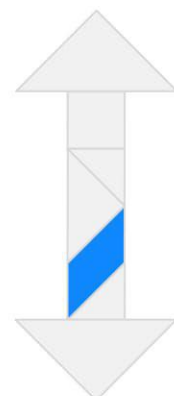
We will look at your own situation as a team tasked to design and deliver an exercise, including timeframes, budget, expertise and the perceptions and assumptions of your exercise sponsors and participants.

This will inform what type of exercise you should focus on delivering, and other

considerations you may need to keep in mind during the design process.

Next, we will look at the importance of a strong 'scenario', and how you can use information about historical emergencies to fast-track your design. We'll then review what style of scenario will suit your needs.

After this section we will move to the **Exercise Delivery** section. That section of the **Guide** gives guidance on delivering a Historical Scenario exercise in any format, as well as standardised 'Rules of Play' that you can use to design and deliver an exercise in a tabletop discussion.



EXERCISE CYCLE

The general approach to emergency exercises is that design and delivery informs training, which benefits planning and preparedness, prompting further analysis and improvement. Exercise evaluation and feedback spurs further analysis and improvement.

The key is having a 'continuous improvement' mindset, where the focus is on challenging

assumptions, building on successes and having honest, open conversations before, during and after each exercise.

The general approach assumes a few things.

Mainly, it assumes your exercise is created in an environment of support from Sponsors and Participants, and one that will foster open, constructive conversations. Let's explore this in a little more detail.



Figure 1: CDEM Exercise Design Cycle (NZ)

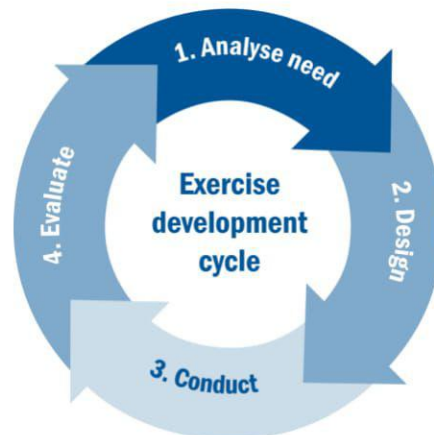
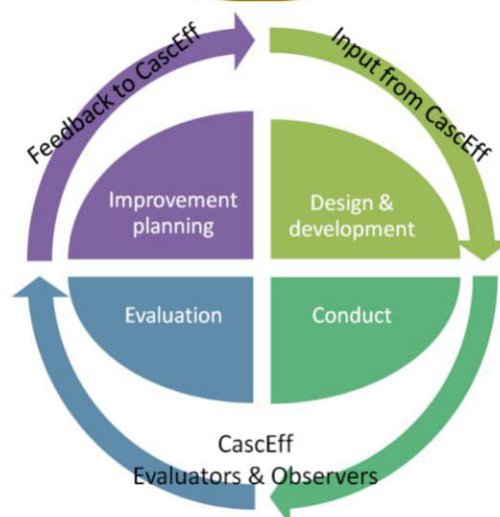


Figure 2: HSEEP Exercise Cycle (US)



Figure 3: CascEff Exercise Design Cycle (EU)





THE EXERCISE PROPOSAL

So you are creating a resilience exercise...

Why?

What are you, your managers and your staff saying 'around the water cooler'?

- "Just" to meet regular rules or requirements?
- Because you have a fresh new plan to test?
- Because you haven't run one in a while?
- Is the topic "flavour of the month"?
- Is it because staff are itching for a challenge, or because "everyone knows" you have problems to iron out?
- Are there underlying issues, personalities, politics or other 'elephants in the room'?
- Will some participants have topics they may not be prepared to discuss? Why?

Take a good, hard (private) look at your senior management, stakeholders and Participants. Why do they think you are having an exercise?

Would they agree with you publicly? privately?

Your Sponsors, design team and Participants will have their own assumptions and opinions. This will be based on existing relationships, how much

experience and professionalism they see in you and your Exercise Planning Team, how much support they think you are getting from staff, management and national agencies.

Participants and internal and external staff may have strong opinions about the exercise. They will carry these into the room. This will affect how they behave in the exercise, how much they offer and how much they learn.

Prior assumptions can fast-track engagement, or hamstringing an exercise before it begins.

These assumptions about the exercise should be considered alongside the operational details of the exercise design process.

Let's look at how you can do this...

Before you turn the page, look at the table below.

What conversations may be already happening about your exercise?

Are there already key champions or critics?

Who? How vocal is their support or critique?

How influential are they (regardless of their level)?

What are the opinions about the reason for the exercise?

"They have been flogging this horse for a long time but things will never change."

or

"If this works, we will be able to get a real handle on these tricky problems."

What is the common opinion about who is turning up?

"Why isn't X coming? If they were serious about this it would be a priority for them in their role."

or

"If X is coming we should invite someone at the equivalent level. It will be a good way to ensure this topic is on their radar."

What are your underlying politics? Will it be a safe environment for discussion?

"Everyone knows what the real problem is, but they will never raise that hot-button topic with X in the room."

or

"Wow, they actually came out and said that is one of the outcomes they are focusing on for the exercise. That's brave!"

What do people think is driving the exercise timeframe?

"They're just doing this because it's the flavour of the month. I wish we were doing it six months ago when it really mattered, rather than to tick a box."

or

"This links with our other schedules and projects. If we can bring up these topics, it will be great way to get the discussion going at the right time."

How much challenge are Participants willing to accept in front of peers?

"If they expect X team or Y to come in and act like that in front of everyone, they must be joking."

or

"I know there are personalities and egos, but I have a sense we will leave all that at the door, and have an open, honest discussion."

Will pressure cooking issues and difficulties be seen as proactive or a 'failure'?

"It would be political dynamite to have a real debate. Most likely we'll pat each other on the back and that will be it."

or

"It is great to see they are front-footing this issue. If we can be up-front about where we are, we can start making a real change."

How much support are your agency, your staff and your Team seen to have to run the exercise?

"They mean well, but it's a huge task for a small team. If they're not backed by the right people, any outcomes will be buried no matter what comes up."

or

"I can tell this is not just lip service. There has been a lot of talk about using these exercises as a real way to drive change."



WHAT IS A "SUCCESSFUL EXERCISE"?

Read the following descriptions "interagency preparedness exercises". These exercises could ostensibly have similar Aims and Objectives, be well-designed, well-facilitated and useful from a training and improvement perspective, but each rely on different assumptions. How much is the approach being led by who is planning the exercise, their priorities, their personalities and the culture of the agency?

Have you ever attended an exercise or workshop geared up and ready for one type, and found it was another? How did this make you feel?

None of these exercise types are "good" or "bad". The main point is that if participants and Sponsors were expecting one exercise type and find they have walked into another, you may have a rebellious audience and a final report that quickly gets 'filed' away!

The back-slapper

- Round-table introductions of roles and priorities,
- Frank, open discussion about emergency scenarios. Representatives at all levels are encouraged to provide opinion and insights at any time.
- Group activities such as sticky notes and mood boards to collate feedback and ideas.
- Final report is a high-level overview, values, goals and collective approach for ongoing work.
- Exercise photos and quotes are included in the agency newsletters and a media release sent out to publicise how groups are working collaboratively.



Image 1: Teamwork

The exam



Image 2: Test

- Guest speakers present technical research, followed by a Q&A and a group discussion about joint policy.
- Participants demonstrate their roles within a structured scenario, with external Evaluators.
- Hot debrief includes Evaluators giving constructive, high-level feedback
- Tabulated information is sent to line managers to as evidence for individual learning goals.
- A confidential evaluation and list of high-level recommendations is circulated to all agencies.
- A summary report is published online.

The pressure cooker

- Participants may need to meet competency levels to join, and are assessed on technical skill, decision-making, innovation and resilience.
- The setting simulates physical, mental and psychological pressure of a real emergency.
- Scenario grows in scale and complexity, past the capacity to manage with available resources.
- Evaluators give feedback to each participant on performance and areas for improvement as per a fixed set of Indicators.
- A confidential report and corrective action plan is presented to senior agency representatives.



Image 3: US Navy Seal (BUD/S) training

MANY VARIATIONS

'Back-slapper', 'Exam' and 'Pressure cooker' are shorthand for the level of testing versus training and planning opportunities the exercise will allow, and the focus on 'hard' elements (like measurable skills) versus 'soft' (like networking and creative thinking) elements.

There are many different definitions of exercises, but the main question is how to ensure the exercise environment achieves your aim and objectives.

As you can see in the table below, the exercise style has a big impact on the final product no matter the exercise structure:

		Exercise style		
		'Back-slapper' format	'Exam' format	'Pressure cooker' format
Exercise structure	Workshop / seminar	Industry networking and preparedness event.	Interagency strategic planning day.	Intensive 'Landmark' ¹ or 'Tony Robbins' ² style event.
	Tabletop / wargame	Roadshow of a joint planning / response approach.	Validating a specific interagency plan.	Joint capability/readiness assessment.
	Functional / full-scale	Normal staff induction / orientation.	Professional certification exercise.	Formal response simulation exercise.

YOUR TURN – EXERCISE STYLE:

Where will participants and sponsors expect to see your exercise on the continuum? Think about how you can structure your pre-exercise material/communications, as well as the exercise itself, so it is clear what type of exercise your guests are walking into.

Tick where your exercise might sit on this gradient:

	More unstructured / open format / 'high level'...
<p>An aspirational networking session (a back-slapper)</p> <p>A targeted preparedness session (an exam)</p> <p>A thorough readiness trial (Pressure cooker)</p>	"It will be great to finally share some out-of-the-box thinking about the direction we are all going, and how we could collectively move from the 'status quo' to driving toward some really substantive change!" <input type="checkbox"/>
	"This will be a great chance for feedback on how our role relates to others', and to showcase the value that we add to an emergency response. I will also get the chance to table some technical points that we can clear up together, once and for all!" <input type="checkbox"/>
	"I will need brush up on my skills and bring my 'A' game. They will probably put us through the wringer this time, but this type of exercise is a great way to figure out how prepared we are for the real thing!" <input type="checkbox"/>
	More structured / formal / 'granular'...

¹ <https://www.landmarkworldwide.com/>

² <https://www.tonyrobbins.com/>

Example

Julie is the Emergency Manager at Trinity Systems, a human resources software company that employs 200 people in four national locations.

Julie has been given short notice to upgrade her routine cybersecurity workshop to a major exercise, and to make it the main corporate exercise for the year.

She has been asked to re-schedule other training so she can deliver the exercise next month, and to ensure the full Executive Team can participate.

There has been a lot of media coverage recently about a cybersecurity breach in the United States by a group of anonymous hackers using the Humdinger Virus. The virus targeted the personnel and payroll systems of four large US companies (none linked to Trinity Systems) – leading to the publication of thousands of employee records on various torrent and dark web sites. Julie suspects this has prompted the change of exercise.

The CIO has had an offline conversation with Julie. He says the Chief Executive's increasing concern about cybersecurity is a good thing, but, in the CIO's opinion, it is distracting from some of their more pressing resilience priority of testing their new back-up servers and recovery systems.

Exercise Type

Julie feels the priority for the exercise is on demonstrating concrete solutions to a problem that is already well-defined, so she rules out a '**back-slapper**'-style exercise.

The CIO says his team are up for a challenge, but they may feel uncomfortable performing in front of the Executive Team. Also, some of the Executive are not IT-savvy and cybersecurity is both complex and complicated. Julie does not know how some of the Executive would react to being put on the spot, so she rules out a full '**pressure cooker**'.

Therefore, Julie is considering a two-stage exercise:

- For one exercise, selected IT staff will work through their response protocols in an '**Exam**' format, with some '**pressure cooker**' elements for the more experienced people, and
- In another exercise, the Executive Team will be asked to simulate an '**Exam**'-style discussion around key strategic decisions. She will introduce some '**back slapper**' elements to ensure the session can serve as a training opportunity for some of the Executive, and to allow the CIO and key staff a chance to guide the discussions. It is also a way to use the exercise as a platform to champion some of the exciting new innovations of the team.

YOUR TURN – FIRST IMPRESSIONS OF OWN EXERCISE NEEDS

Copy the next two pages so you can re-use.



Write y

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write you	
What is h	
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(Circle	
St. / O	ting osts.
St. / O	order to ive dia, s,
St. / O	ge to e with ts.

What are your strengths and weaknesses for meeting these Aims? (<i>Strength</i> = In scope/support / <i>Opportunity</i> = to think creatively / <i>Pressure point</i> = Constraints or risk)		Possible obstacles to consider – depending on exercise type		
(Circle)	(Questions to consider)	Back-slapper	Exam	Pressure cooker
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St. / Op				haves for the e sting.
St. / Op				on itting may be
St. / Op				rcise ns and pared nlined'
St. / Op				s event in, cs as Team um as ves.

Example	
Julie defines the role of Trinity Systems as a 'key agency'. The Chief Executive has said she wants an 'internal' exercise with no external participation or observers.	
Julie thinks about the current Strengths, Opportunities and Pressure Points of herself, of her team, and of Trinity Systems.	
- Strengths	hands-on
- Opportunities	resources
- Threats	ones
- Pressure Points	ne
- Strengths	during
- Opportunities	entation
- Threats	the key
- Pressure Points	and
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EXERCISE STRUCTURE

One of the initial decisions will be the type of exercise to run.

The list below provides a summary of the types of exercises available.

Refer to your organisation's guidelines for more information on the types of exercises available.



Exercise type		
Teaching/		
Seminar		...y to strategy.
Workshop		ective-
Orientatio		ures.
Discussion		
Tabletop Exercise (T		ng and portunity ilities and
Game – si facilitated discussion 'wargame		sions and otions.
Testing/Sh		
Game – co		m solving
Drill		e training
Traditiona Kriegsspie		ogistical) ation 'ne'
Functiona exercises		
Full-Scale exercise	a real incident, incl. mobilising actual resources.	In pressured environment. Test operational procedures.



YOUR TURN – EXERCISE STRUCTURE

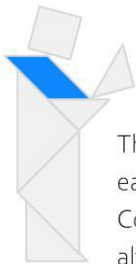
Consider what type of exercise you will focus on, given your aims, strengths, opportunities, pressure points, and the current expectations of management and your participants. Consider your exercise Objectives

Tick a box below:	
<input type="checkbox"/> Teaching/train	
Orientation, work	Exercise (real-time game or drill) – to
<ul style="list-style-type: none">- Cost-effective- Can be delivered in time/budget.- Can be a way to engage staff and/or at different levels of skill and response.- Limited testing of skills/knowledge.- Little to no role-play opportunity.- Significant opportunity for the session 'owner' to observe.- Very good way to generate new ideas and buy-in.- Good way to test gaps in an organization's knowledge, especially if the topic is controversial.	<ul style="list-style-type: none">- Can be used to test a process or procedure.- Can be scaled once planning is complete.- Resources may be required to prepare.- Can be used to engage staff and/or at different levels of skill and response.- Can be used to test a process or procedure.- Outcomes may be difficult to measure if participants do not role-play).- Opportunity to modify the exercise.- The exercise might be 'too easy'.- A successful exercise should be realistic, and be a good way to increase readiness.- A high cost:benefit ratio may be inclined to make goals too easy.

Example	
Julie has been asked to release a statement on the company's website.	
<ul style="list-style-type: none">- Exercise to test the company's ability to respond to a crisis.- Exercise to test the company's ability to respond to a crisis.	

EXERCISE DESIGN – THE PURPOSE OF SCENARIOS

THE ACADEMIC PART...



"Scenarios are attempts to describe in some detail a hypothetical sequence of events that could lead plausibly to the situation envisaged."

– Herman Kahn & Anthony J Weiner³

The term 'scenario' as an analytical tool dates to the early 1950s, with Herman Kahn's work at the RAND Corporation to define states of the world within which alternative weapons systems or military strategies perform.

Nowadays, the meanings and uses of "scenarios" vary. New Zealand Civil Defence and Emergency Management defines 'scenario' as *"a narrative that describes an event that exercise participants need to resolve."* Walker (2011) refers to a hypothetical, but plausible, situation to *"make situations more concrete, so users can treat a proposed response strategy or crisis management system within a self-consistent and plausible set of circumstances."*

Walker (2011) quotes Kahn and Weiner (1967), saying although plausibility is a virtue in a scenario, a writer should not limit himself to the most plausible possibilities, since after all, *"history is likely to write scenarios that most observers would find implausible not only prospectively but sometimes, even, in retrospect."*

For this reason, a scenario does not have to be completely realistic. One based on an invented location or a science fiction setting can be an engaging, effective topic⁴.

Overall, a good, credible scenario needs to be internally consistent, that is, the consequences should follow logically from the decisions and actions of the participants, based on the understood rules of the fictional setting.

Exercise events and timeline face scrutiny from subject matter experts who will also be feeling the pressure to perform as participants. One of the worst

things to hear from a Participant is *"it wouldn't really happen that way"*. Regardless of whether the Participant is right or wrong, it means they have started to focus on the exercise design rather than his or her own performance.

Realism is sometimes cited as a problem in exercises, where participants may be tempted to act and describe their actions strictly in accordance with operational procedures⁵. The test of a good scenario is one that breaks participants out of that operational comfort zone by engaging them in a meaningful, memorable way in order to foster an authentic, rather than rote, response.

Participants who engaged and immersed act in a genuine, realistic way even though – by the nature of an exercise – it is an artificial setting.

THE NEED FOR ACCURACY

The purpose of emergency management exercises is to provide and validate skills and knowledge for real situations whose consequences, by their nature, may be severe. Barzashka (2019) gives a good summary about why accurate, disciplined and systematic exercise planning is essential:

"Analytical wargaming needs to be scientific. If wargaming tools are to underpin evidence-based analysis that informs national security and defense policy, wargames should adhere to scientific standards. Wargame producers should follow the requirements of good academic and good intelligence analysis. As former National Intelligence Council chair Tom Fingar writes, 'the standard for performance [in intelligence analysis] can be no lower and arguably should be higher than those' in academic disciplines. That's because the impacts of intelligence analysis can be 'far more consequential.' The same goes for wargaming analysis." And ... you could say the same for emergency management.

³ <https://www.hudson.org/research/2214-the-use-of-scenarios>

⁴ Consider the US CDC's famous zombie scenario, which fostered public interest in 'normal' outbreaks and infection

control and the relatively mundane topics of hand hygiene, influenza vaccination and personal preparedness in general
<https://www.cdc.gov/cpr/zombie/index.htm>

⁵ Trnka & Jenvald (2006).

In a recent article⁶ challenging the wargaming approach in the Compton (senior matter expert in Defense) criticized professional wargaming to revise the wargaming brought in new wargaming me

"The [new] game the fact that multiple narratives for why it mattered innovation emerge

THE LITERATURE

A scenario can solutions and to (2000), to prevent (2010), to reduce question existing indicate thinkable desirable future tool to improve (Wilson, 2000)

A good resource is the 'CascEff' Union project for Programme for (also known as consisted of two coordinated by Sweden. Although 2017, the website

The aim of CascEff the cascading effects consequences environments. dependencies and developed an I to enable improve

incidents (and the reduction in collateral damage and

T⁸,

ys scenarios onmental state Crisis – the anagement between the enario where credible and the generate es in the

enario based on own as a l to develop a counterfactual d done this instead," which o) use to oast

reasoning – i.e. a at makes the ves history g), has the amount of 12).

, the series of until the ood of these

where the ped (if they are (Hendrickson,

⁶ 'The Obstacles Jon Compton, O paper.



This is why diverging from a historical scenario is more than a few minutes. Tailoring the scenario to the business alters the cascade of consequences. These consequences are the divergence from the original historical scenario for a scenario that is *intermediate* and not *immediate*. A change to the cascade of events.

In short, you are and the situation

Participants must that their subsequent consequences. an authentic way to actual ability to

THE FORM OF

deLeon (1975) is important in so

Time setting:

At the simplest should consider the original historical *antecedent, intermediate* detail were an everyday, in your own day, in your own at the same scale

There are pros decision will determine objectives. A tailored scenario *current events* a temptation to be ostensibly more this could include

- Lack of detail of daily staff detail at all
- Lack of knowledge term **effect** that are currently detailed in *immediate* a new business

- A focus on the **immediate** business, staffing

overall holiday period (which begs day!).

ages – e.g. an a new IT when it is

y to 'name and the risk of cease itself – if concerns

cal scenario to ncy and or demographic and as much should know in

gency outside ample choose to I are currently i-risk area, to meet with both this ings.

rcise on a es the chance practice topics gencies, and/or at itself.

conditions il only to what with trivia is ame.

ed to meet keeping

on ed participants

appropriately collate, analyse and interpret a lot of incoming information.

More experienced people want a lot of context to "miss the forest for the trees" and get down in technical details, but they lack consistency of

Knowledge, skills and players:

The fewer skills you bring, the more you need more skilled people to describe the scenario.

- How much expertise do you have?
- Is the expertise knowledge 'higher level'?
- How will you address 'failure', or 'Will experts be the system facilitator or observer' (aka the 'facilitator' or 'observer'?)
- Consider the participants' knowledge

NEXT-GENERATION

The RAND Corporation's ground in the report for the key categories of "wargaming". Wargaming systems utilising software

- **Decision** manipulation a decision the result

- **Scenario** – representing the effects of the

to and depicting of conflict and and from different and

ying an n with your

main steps for work by on & Ralston

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as key decision

dependencies:

basis of their ainty and ertainty; ory line as a

the scenario to ate to the

ely consider the **analysis, scenario esis** of content. nplates and ise experience Control Team and findings for

¹⁰ Janet D Stern article about the and training to making.

Elizabeth M.

elaborated for testing the incident evolution methodology.

USING HISTORICAL

THE RATIONALE

Actual emergence of a crisis can be difficult to identify in detail accurately.

Even small errors in data can lead to large errors in results. Participants should be aware of the risks of investing in decisions based on technical details.

A scenario based on historical events is consistent (provides a concise but thorough overview of actions and implications), the events occurred at the locations, the events occurred at the times they *actually* happened.

Stepping into the shoes of the crisis provides an appreciation of the consequences of the crisis, the structures, policies, and procedures within today. Crisis eye-witness accounts and studies allow us to see the crisis from different angles, including the consequences.

Historical events can provide unexpected solutions.

People are unlikely to see unexpected ways of validating and testing procedures. It is often based on limited information.

A robust, concise scenario is also a platform for the same event (the same event and objectives).

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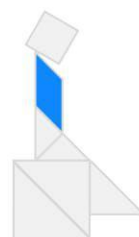
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This table has 'strawman' examples of a "fully 'as-is'" or "fully 'tailored'" scenario, to highlight extremes. In reality, all historical scenarios should be tailored in some degree to your own exercise needs, and the degree of tailoring will vary with the nature of the exercise.		'As-is' (historic)	'Tailored' scenario
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Example

Julie is the Vice President of Operations and is responsible for the operations of the company. She is currently reviewing the company's operations and is looking for ways to improve efficiency and reduce costs. She has identified several areas where the company is currently inefficient and is looking for ways to improve these areas. She has identified the following areas for improvement:

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DESIGNING SCENARIOS FROM HISTORICAL EVENTS

SCOPE – KEY CONTENT TO CHECK



The list below¹³ will help you check off the main elements of a strong scenario.

You can use this to work through the detail of a scenario if you already have one in mind. Each **Historical Scenario Resource** scenario includes this information in the overview:

- Exercise name.
- Place.
- Initial event/impact.
- Description of the **initial system**, including more details on the initial event.
- Brief description of the **course of events** (until the start of the exercise)
- Time span.
- Description of **cascading effects**; **types of dependencies**, **systems involved** after the spread from the initial system.
- Real and possible **consequences**.
- Is the scenario **local, regional, national or international**? Are there cross border effects?
- Description of the different **organisations (/stakeholders) involved** and the relation between them.
- Where can **more detailed information** be found or obtained? For example a technical report or more information that is not related to the current exercise aims and objectives.
- Are there **similar real events** that are not exactly the same, but could be of interest?
- Does the scenario **differ in any sense from the historic event**? In what way?

¹³ This list is based on the CascEff (2016, Annex II) scenario-building template.

RESPECT THE SOURCE!

The people



When gathering scenario detail, and tailoring a historical scenario, it is important to keep in mind that these are *real* events. Respect the victims, those affected by the emergency and the emergency response staff involved.

The Historical Resources Series are not an emergency management "game". The objective within the exercise is not, for example, to 'prevent' the injury or death of the victims of the emergency or to 'correct' the performance of the responders who were there at the time. This attitude toward a real historical emergency is a disservice to those affected by the event, and also ignores the complexity of the real situation. After all, even the largest exercise is only a snapshot of a portion of the whole emergency event, which itself is occurring in a wider historical context.

The standardised "rules of play" in this **Guide** is focused on using the events, injects, timeline and actions to prompt discussion, rather than to 'gamify' the event into a wargame.

Although any good exercise should be compelling, immersive and interesting, the main purpose is to strengthen response capacity and preparedness. The intention is not to use real disasters or tragedy as entertainment.

The content



Even the most comprehensive scenario – or formal report, or Commission of Inquiry – only presents an artificial summary of certain elements of the actual event.

The Historical Resources are based on the publicly available (sometimes redacted) information about the event, information which has been advised by the agencies named in the document. Wherever possible, the information in the Historical Resources comes from final, formal and independent reports.

It is important to note that although these formal reports/inquiries were accepted by the commissioning agency, it does not mean the recommendations were accepted, or that the full report was accepted by all agencies.

While the Historical Scenario Resource series includes factual records of some errors or identified issues that were reported, the content in the scenario should not be seen as a commentary on the quality or an allocation of blame for events in the actual historical response.

GETTING THE MOST OUT OF A PRE-DETERMINED TIMELINE

How do you balance the need for a strong scenario with one that allows Participants to complete actions and influence outcomes?

This is the challenge for any emergency exercise. This depends on:

- Experience, and subject matter expertise, of the Control Team (to decide on new consequences that are "off script")
- The amount, and specificity of the exercise aims and objectives (specific, detailed aims and objectives usually require a more directive scenario and timeline).

In short, like any other emergency management exercise, there are some elements of **WHAT** happens that the Participants cannot control.

The purpose of the exercise is for the Participants to test, discuss and practice **HOW** events and actions happened, **WHY** they may have happened and the details they have control over in the scenario, including the impacts of their decisions.

Historical Resource scenarios have an outline of the event and the challenges involved in the response. These challenges are in different levels, as shown in the table over the page:



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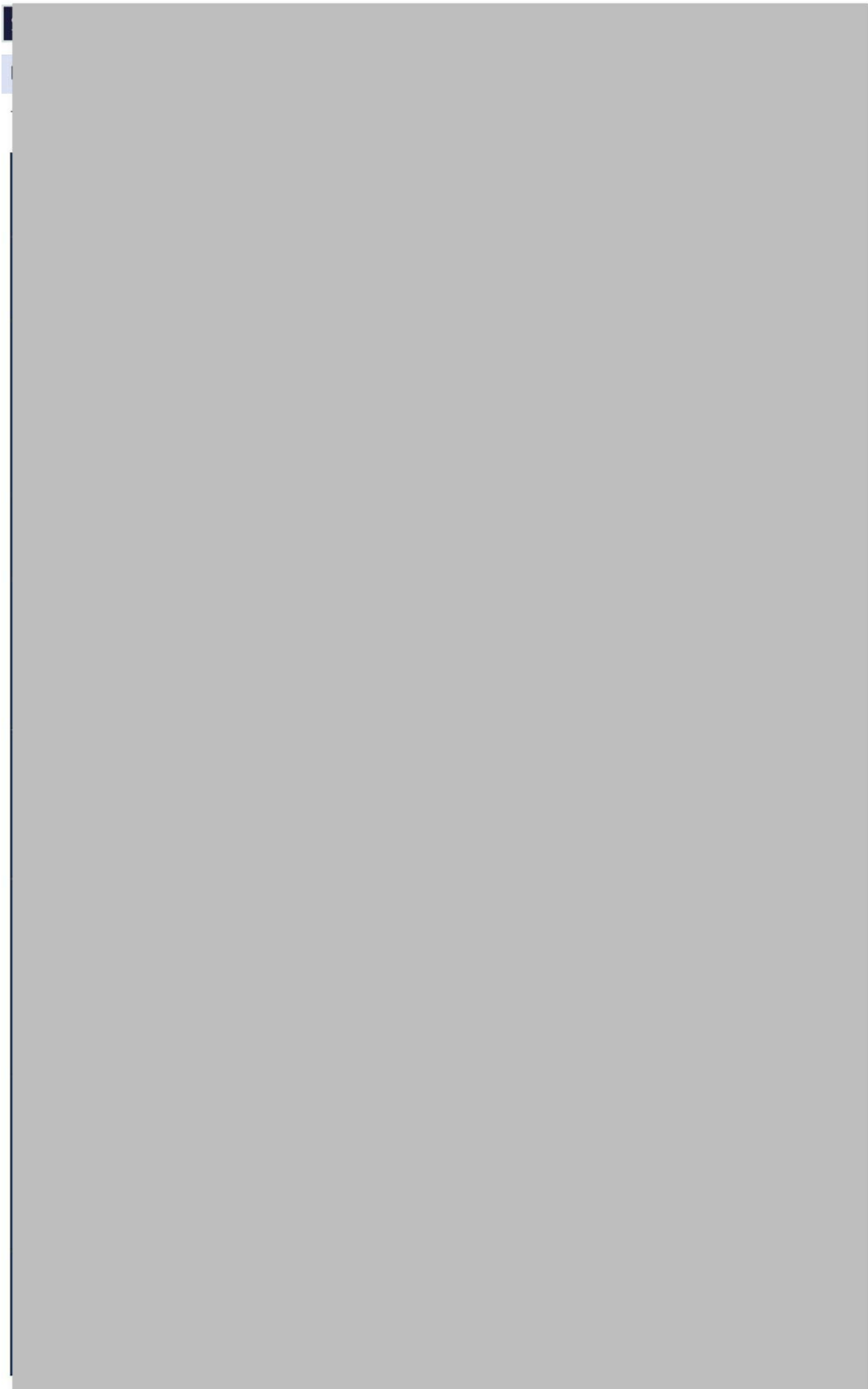
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EXERCISE START

We will assume the exercise development, preparation, setup and start has followed the usual (e.g. HSEEP or CDEM guided) steps.

WELCOME AND INTRODUCTION

An exercise usually starts with coffee and drinks, networking, late arrivals, health and safety briefing, formal welcome and overview of the exercise purpose and short scenario description, following the.

After that, it is time to begin the exercise itself ...

INTRODUCE STANDARD RULES OF PLAY, AND SCENARIO CONTENT

Each Historical Resource has a brief guide for Participants of the Rules of Play.

Participants break into groups (ideally one Facilitator and six to eight Participants each).

Each Participant receives the following (*from the Historical Resource template*):

- Participant Guide to the standard Rules of Play.
- Case cards (Pro and Con) – divided equally between Participants face-down.
- Agency update (once Participant roles agreed in the **Exercise Scope form**).

The following is shared between all Participants:

- Exercise Scope Form
- Exercise maps and charts (differs depending on Historical Emergency resource)
- Capacity Sheets
- Other exercise material

The Participants then familiarise themselves with:

- the current scenario status,
- the scope of their own role and responsibilities in the context of the exercise,
- the generic Rules of Play, and
- their main aims (i.e. their definition of 'success') for the emergency response.

The Facilitator also has:

- A set of round markers (or NZ\$1 coins)
- Two double-sided dice
- Facilitator inject cards
- Facilitator notes and prompts from the scenario
- Control Documents to hand to Participants at key exercise stages, and a Master Schedule of Events document for own reference.
- Exercise scenario detail that can be used if needed to answer questions and expand the scenario.

EXERCISE FLOW

The exercise runs as follows:

EXERCISE SCOPE (EXERCISE SCOPE SHEET)

After an initial update about the emergency event, the group agrees the roles and responsibilities of the exercise Participants, and what they want to achieve during the exercise.

EXERCISE STAGES (EXERCISE STAGE SHEETS (<6) AND SUPPLEMENTARY INFO)

The Facilitator introduces new information at the start of each exercise Stage – which represents a certain period of time.

The group may also be using maps, capacity tracking charts, data, graphs and other information to get familiar with what's happening.

The group talks through the main events in the new timeline.

ACTIONS

Participants suggest actions that they would take during that Stage.

For simple actions – the Facilitator accepts that the action has happened.

For complex actions, actions where not all Participants agree, or where the Facilitator would like Participants to explore the topic in more detail – the group uses a 'Turn sheet' to guide the discussion.

'TURN SHEET' ACTION DISCUSSIONS (TURN SHEET)

A Participant(s) propose a specific action, then the group shares their thoughts about the likelihood of the action succeeding (Pros) or failing (Con).

The Facilitator determines (via weighted dice roll) whether the action has succeeded, and makes a judgement about the result of the action.

The group discusses the consequences of this result, how it affects them and their goals in the exercise.

END OF STAGE (/END OF EXERCISE)

The group updates their records to show the new situation.

The group continues talking through events and proposed actions until the end of the Stage.

The Facilitator introduces a new Stage, or announces the end of the Exercise.

The section starting over the page has detailed information and examples about the exercise forms.

You can find blank templates of these forms at the back of the document.

You can also find a short example exercise at the back of the document.

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Standard Project Form
DATE: 11/11/2011

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"Strategic, Operational, Tactical??"

This terminology often causes confusion. Different agencies have different ways to define and describe these levels of goal and intention-setting, and the same terms are sometimes used in different ways:

- The **The New Zealand Defence Doctrine (4th Ed.)**¹⁴ follows usual military definitions of 'Strategic', 'Operational', 'Tactical' responsibilities, 'Operation' having a formal, high-level definition (i.e. "a military operation").
- The **'Gold, Silver, Bronze'** system in the UK¹⁵ describes a 'Strategic, Tactical, Operational' hierarchy of decision-making, with the term 'Operational' being used in reference to the management of "hands-on" work. For this reason, it is often used in private sector emergency plans that can easily align the thinking with their typical structures (e.g. Board, Management, Staff).
- The **'National Incident Management System (NIMS)'**¹⁶ (US) describes the 'Operations Section' as responsible for planning and performing 'tactical' activities. NIMS is focused on resource sharing, so while the 'State' and 'Federal' levels are described it is more in the context of providing support rather than taking responsibility for 'strategy', which is more loosely defined than in some other systems.
- The **The New Zealand Coordinated Incident Management System (CIMS)** uses geographic terms to describe a reporting hierarchy and the level of coordination required for the Response (regardless of the severity). The levels are 'National (NCC)', 'Regional (ECC)', 'Local (EOC)', 'Incident (ICP)', with a 'Community' level being defined as interacting with the other levels but sitting outside the formal hierarchy.
CIMS 3rd Edition uses a classification matrix based on the (geographic) response level and severity of the required response, with four 'Severity' definitions from 'Minor' to 'Severe'. In CIMS:
 - o 'Tactical' is defined as "task-specific planning and actions to achieve a strategy... where the operation or campaign is executed." The term is not frequently used in the document.
 - o 'Operational' is defined as "the planning and command, control and coordination of actions or campaigns to achieve strategic outcomes. The operational level links strategy to tactics by establishing operational objectives and end states, initiating actions, and applying resources..."
 - o The document makes a distinction between a 'Strategy' – a statement of "the general direction of operations ... 'what we need to do'" and 'Strategic' management – "the macro dimension ... relates to the strategic aim or purpose..."

The following show the general alignment between the formal definitions and the terms in this Guide:

This Guide	UK (G/S/B)	US (NIMS)	NZ (CIMS)	NZ Military
Strategy	'Gold'	'Area/Unified Command'	National/regional Strategy.	Strategic
Operations	Silver / Tactical Coordinating Group	Area/Incident/Unified Command	Regional / Local (/Unified) Control	Operation / Tactical
Tactics	Bronze (operational command)	Operations Section; tactical activities	Incident Level Control / Operations	Tactical operations

¹⁴ Refer <http://www.nzdf.mil.nz/downloads/pdf/public-docs/2017/NZDDP-D-4th-ed.pdf> pp17-23.

¹⁵ Refer to the UK Government's 'Emergency responder interoperability lexicon':
<https://www.gov.uk/government/publications/emergency-responder-interoperability-lexicon>

¹⁶ https://www.fema.gov/media-library-data/1508151197225-ced8c60378c3936adb92c1a3ee6f6564/FINAL_NIMS_2017.pdf



Link between exercise intentions and exercise Aim, Objectives, Key Performance Indicators

The exercise intentions describe what Participants want to achieve within the context of the scenario, while the Aims, Objectives and KPIs describe the intent of the exercise itself.¹⁷ In other words, “success”...

- for the Participants is focused around responding to the hypothetical scenario itself to the best of their abilities, based on their role and responsibilities in the event, while 'success'..
- for the Facilitator and Control team is about delivering a good exercise that gives an opportunity for training, skills building, learning, networking, qualifications validation and other real outcomes.

Participants may be encouraged to discuss their own exercise intentions for their group (which may be a KPI in itself) or the Control Team may write them in advance in order to fast-track the exercise start.

Either way, the Facilitator needs to ensure that the exercise intentions line up with what the Control Team want the Participants to get out of the exercise (Objectives) and that the actions to achieve the intentions are a good way to demonstrate this (KPIs).

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¹⁷ Aims, objectives and the tool to be realised,

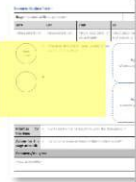
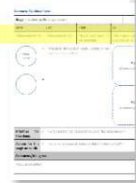
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¹⁸ CDEM Exer
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²⁰ Contextu...ing. For example a role-playing member of the Control Team deciding to act suspiciously in front of a law enforcement player in order to ensure Participants test information-sharing capabilities (HSEEP, April 2013).

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PARTICIPANT ACTIONS WITHIN EACH STAGE

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Figure 4: Turn Sheet

MATRIX GAMES

"[Matrix games] are not intended to be fiercely competitive, with obvious winners and losers. Instead they operate with the players working to generate a credible narrative." – Major Tom Mouat²¹

The standardised exercise **Rules of Play** are inspired by the 'matrix game' approach, and adapted for emergency management scenarios and the emphasis of cooperative rather than competitive gameplay.

The Matrix Game concept was originally designed by Chris Engle²² in 1988, beginning as a concept of "verbal analysis wargaming"²³. The challenge posed was to find a way to base a game play on the intricacies of verbal communication while ensuring the system can "produce repeatable, reliable and valid output that some way retains the flexibility and subtlety of words' meanings."

"Start with a problem. Say what happens next. There is no order of play. Anyone can add to or alter what happens. All players may ask a player to roll if they don't like what they said. Roll... [Either the action happens and cannot be altered [or] it does not happen and cannot happen in the game. The game ends when the problem is solved." - Chris Engle

Over the years, Chris Engle refined this concept²⁴ into a system called "matrix gaming". This is a very popular gaming system, an example of which is the military, political and humanitarian agency (among others) exercises available for free and for sale on the PAXsims blog²⁵.

As quick, cheap, relatively simple games to develop and run, matrix games are more rules-driven and structured than pure (facilitated discussion) seminar games, but much less rigorous than games based on analysis and pure simulation. Discussion are based on oral arguments, focused on "the participants' intended effect, rather than the means involved."²⁶

In other words, the exercise focus is on the intangible elements of culture, relationships, structured planning and leadership rather than demonstrating skills.

For example, a paramedic stating they would perform a triage and treatment of a patient would be asked to focus on the rationale behind their decision and the consequence of the action, rather than be asked to perform a timed (simulated/real) sequence of actions based on the patient's specific clinical symptoms.

HISTORICAL RESOURCES RULES OF PLAY

These standard Rules of Play use principles inspired by the dialogue-driven approach in matrix gaming and similar systems, and combines them with the standard structure of emergency management tabletop and wargame exercises.

One of the main principles is of collaborative gameplay, rather than competition.

The goal within the Historical Resources is for Participants to support each other to collectively learn, demonstrate skills and find solutions to meet the exercise Objectives²⁷.

²¹ Major Tom Mouat – Practical Advice on Matrix Games -

<http://www.mapsymbols.com/PracticalAdviceOnMatrixGamesV11.pdf>

²² Chris Engle - <https://sites.google.com/view/free-engle-matrix-games/matrix-game-links>

²³ <https://drive.google.com/file/d/1JV5XjOzqywVfKh8S4xuCcWfVRxo8tRpg/view>

²⁴ Chris Engle – "A short history of matrix gaming" - <https://paxsims.wordpress.com/2016/07/26/engle-a-short-history-of-matrix-games/>

²⁵ <https://paxsims.wordpress.com/>

²⁶ Neil Ashdown "OSINT Analytics; Matrix games provide additional tools for analysis" – Janes Intelligence Review, September 2018 - https://paxsims.files.wordpress.com/2018/08/jir1809_osint.pdf

²⁷ While there is an optional points component in the **Turn Sheet** process, this does not affect game play and points are achieved through collaborating with others.



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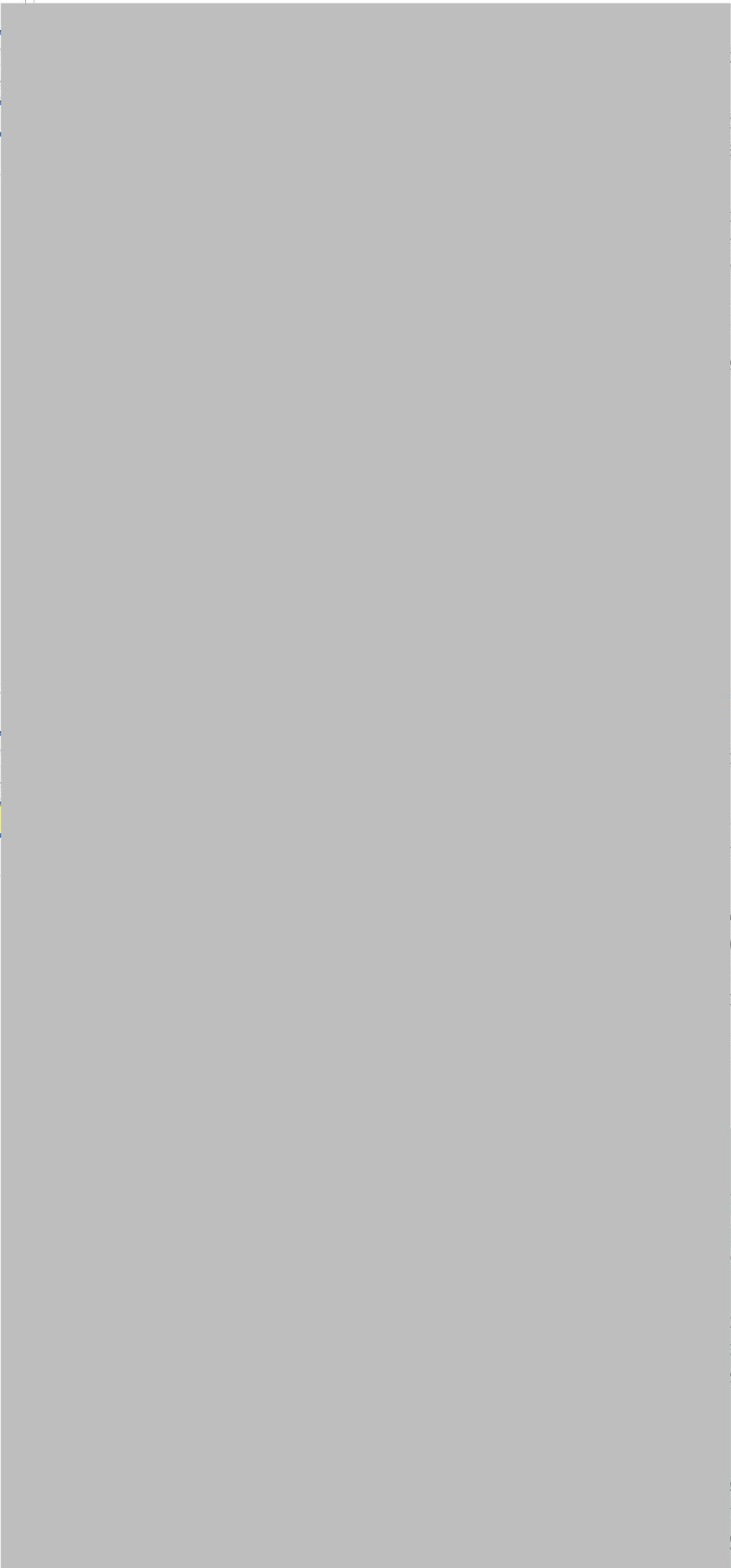


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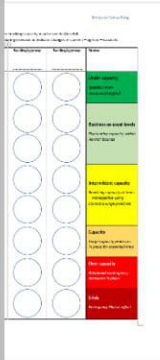
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MAPS

Maps are used in Historical Resource scenarios when it is useful to show – and track – the position of personnel, events and sites.

The Historical Resources are designed as a discussion reference for tabletop exercises. The maps are only meant as a visual reference.

The resources are not 'tactical wargames', therefore there are no rules around movement, manoeuvres or turn-taking on the maps.

The Facilitator should make a judgement call about whether proposed movements are reasonable (given the timeframe, terrain, environmental factors, etc.).

MAP HEXES AND MARKERS

Each map is overlaid with a hex grid with a numbered (row, column) value.

Every hex grid is the same size, which allows Participants to use the same sized markers on all maps. Using the same sized marker at different scales is not an issue – local or region-scale maps are usually a discussion reference for the approximate location of Command and Control sites, while incident-scale maps are a discussion reference for the deployment of personnel and resources.

The same sized markers can be used as the markers for the maps, the Stage Update Form and the Capacity Tracking Sheet. The best size is around 23mm diameter, i.e. a NZ\$1 coin, A\$2 or US quarter.

EXAMPLE

Below are two maps from the 'Bridge Collapse' Historical Resource. The Facilitator notes for this scenario includes a table with a description of various key sites. Three of these sites are shown below.

The markers (to cut out prior to the exercise) have a short title and initial map reference. For example the command post of the NorthWest division of the EMS units was set up on map reference D-4,6 (Map D, the hex at row 4, column 6).

At certain stages (prompted by a note in the Stage Update Forms), the Facilitator will place the circular markers on the map, to show the initial location of key personnel, incident control sites and facilities.

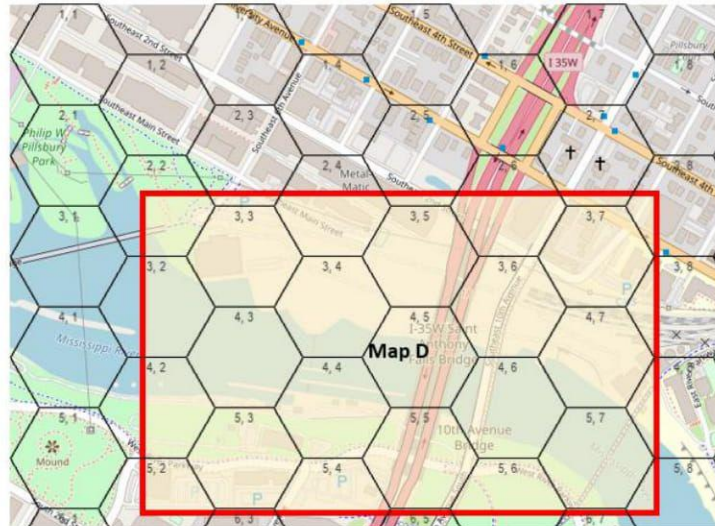
Once the markers are placed at the initial location, the Participants can discuss, and change/move these markers as an action if necessary.

Map ref.	Short Title	Site name	Location	Description	
D-4,6	EMS-NWDiv	EMS Northwest Division		The road to the river flat below the power plant (to NW Division) was narrow and had a blind corner. Access/egress limited (transportation delays), usual access blocked by the collapsed bridge. Alternative route – through an off-road construction zone – not widely known by most responders.	EMS-NWDiv D-4,6
D-8,1	<u>LawCP</u>	Law Enforcement Command Post	12 th St River Parkway	In parking lot that served the city's Red Cross headquarters and a commercial establishment.	LawCP D-8,1
C-7,4	<u>FAC1</u>	Family Assistance Center	1500 Washington Ave South	Holiday Inn Metrodome (<i>changed to Courtyard by Marriott in September 2013</i>).	FAC1 C-7,4

The maps below are shown at different scales, i.e. the yellow box with a red border on Map C represents the area of Map D.

This allows Participants to use multiple maps at the same time during an exercise, for example they may use markers on Map C to show the locations of Control Centres, Welfare sites, etc., while using markers in Map D to represent the location of sites, personnel and equipment at the incident level in Map D.

Map C (example only - not to scale with markers):

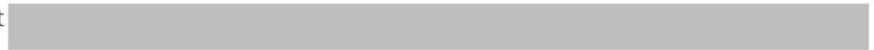


Map D (example only - not to scale with markers):



BLANK TEMPLATES (TO PRINT & USE)

These templates can be found online at



EXERCISE SCENARIO

Emergency title

Outline scenario

Exercise timeline

	Date/time	
1	<Stage start>	<stage>
2		
3		
4		
5		
6		

Overall exercise

<response goals>

Strategic	
Operational	
Tactical	

Roles and responsibilities

Role/responsibility	Name
<scope of each scenario>	<names of people in group who are responsible for each area>
Other agencies	

SCENARIO UPDATE FORM

Stage <number> of <total>	<Exercise name>
Start	
<Stage date/time>	<of key activity (-of-Stage)>
<div><time marker></div> <div></div>	<div><ator></div> <div></div> <div><ator></div>
Priorities for this stage:	
Actions for this stage are until:	
Comments/thoughts	
<discussion notes>	

TURN SHEET

Exercise name:

Stage name


Participant/team:

Proposed actions
reason why:

Rationale for choice		Weighting
+	Pro 1: Title	<div></div>
	Pro 2: Title	
	Pro 3: Title	
-	Con 1: Title	<div></div>
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Consequences to Strategy		

CAPACITY TRACKING SHEET

- Determine key facilities/agencies where tracking capacity may be needed/useful.
- Place and move markers (1NZ\$1 coin) during exercise to indicate changes in current – agreed – capacity.

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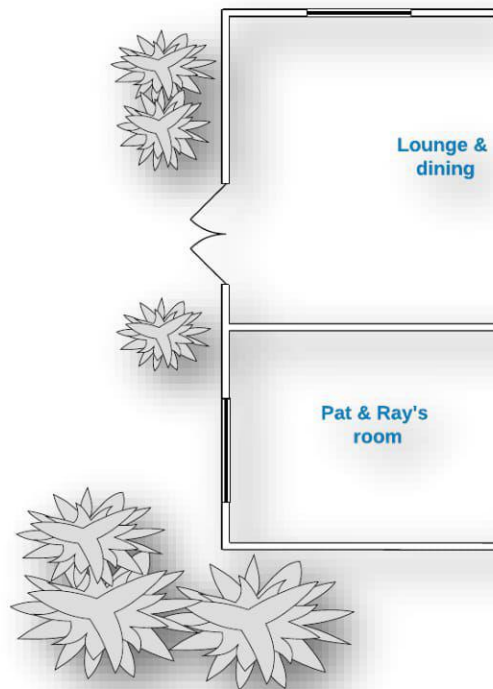
EXAMPLE EXERCISE – PRE-WRITTEN SCENARIO

This is a simple exercise to introduce the Exercise Planning Team and Participants, to the standardised Rules of Play.

*You can try out the exercise yourself as a way to prepare to design the exercise,
or for Participants to practice before taking part in a larger exercise.*

This image can be found via the following link. Feel free to use and/or edit for your exercise:

- Online image file: <https://www.lucidchart.com>
- Editable link (using a free Lucidchart account)



Stage 1 & 2 of 6	Exercise 1
Start	
0800hrs Mon 05 th 1988 ...	
<div><time marker></div>	
<div></div>	
Priorities for this stage:	
Actions for this stage are until:	rm.
Comments/thoughts	
<discussion notes>	
Facilitator's notes	
<div><div><div><div>- The family go</div><div>- The neighbor</div><div>- gardening/pr</div><div>- There have b</div><div>- The family ha</div><div>- Both Pat and</div></div></div><div>Suggested Particip</div><div><div><div><div>- Inform family</div><div>- Check and co</div><div>- Confirm how</div><div>- Clean outside</div><div>- Make alterna</div></div></div></div></div>	<div>ficant</div> <div>fic info.</div>

Stage 3 & 8		Trial Exercise 1
Start		
1630hrs Tu 1988 ...		ng day
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Stage 5 & 6		Trial Exercise 1
Start		
0500hrs Wed 1988 ...		house
<div data-bbox="108 344 233 517"><time marker></div> <div data-bbox="108 517 233 689"></div> <div data-bbox="108 689 233 862"></div> <div data-bbox="108 862 233 1070"></div>		<div data-bbox="1241 344 1422 689">ator)></div> <div data-bbox="1241 689 1422 1070">ator)></div>
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IMAGES

- Image 1: Courtesy of Rosi Anwar – <https://www.pexels.com/photo/teamwork-561003/>
- Image 2: Courtesy of EUCOM media library – photo by Senior Airman Nathanael Callon - <https://www.eucom.mil/media-library/photo/17995/eucom-photo>
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