

European Glossary

*for WILDFIRE TRAINING,
EXERCISES AND SIMULATION*



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Partners



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HUMANITARIAN AID AND CIVIL PROTECTION

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List of Abbreviations and Acronyms

AR	Augmented Reality
CNVVF	Corpo Nazionale dei Vigili del Fuoco (Italy)
CPD	Continuing Personal Development
DIREX	Exercise Director
ENB	Escola Nacional de Bombeiros (Portugal)
ENDEX	End of exercise
ENTENTE	ENTENTE pour la forêt Méditerranéenne (France)
ETA	Estimated Time of Arrival
EUFOFINET	European Forest Fire Networks Project
EVALPLAN	Exercise Evaluation Plan
EXDIR	Exercise Director
EXPLAN	Exercise Plan
FEMA	Federal Emergency Management Agency (USA)
IC	Incident Commander
ICS	Incident Command System
ICT	Information and Communication Technology
IGNIS	Initiative for Global Management of Big Fires through Simulation
JI	Joining Instructions
JITT	Just-In-Time-Training
LMS	Learning Management System
NFRS	Northumberland Fire and Rescue Service (UK)
PDP	Personal Development Plan
SMA	Subject Matter Advisor
SME	Subject Matter Expert
STARTEX	Start of exercise
TMS	Training Management System
TNA	Training Needs Analysis
TTX	Table Top Exercise
VET	Vocational Education and Training
VR	Virtual Reality

Chapter 1:

Introduction

1.1 Preamble

For effective collaboration across national borders on any technical or emergency issue, the establishment of a common language is crucial. A common language is also vitally important for sharing knowledge and experience in the development and delivery of suitable training courses.

The EU co-financed European Forest Fire Networks Project⁵ (EUFOFINET), which concluded in 2012, produced an extremely valuable resource for fire and rescue services and wildfire specialist across Europe. The EUFOFINET partners created the “*European Glossary for Wildfire and Forest Fires*”, a document that contains more than 800 terms and associated definitions arranged within thirteen thematic chapters. The EUFOFINET partners consulted an extensive number of resources and wildfire specialists from the EU and around the world to produce this document. The glossary was colour-coded and designed in a user-friendly format to enable its effective use as both a reference document and a training resource. Since its original publication in English, the EUFOFINET glossary has been translated into at least 5 languages and further translations are expected in the near future.

Prior to the commencement of the EU co-financed IGNIS Project (IGNIS), and despite the significant efforts of the EUFOFINET Project partners, there was no suitable glossary of terms and definitions in use in Europe for wildfire and forest fire training and, therefore, no common language for the IGNIS partners to use. This situation posed a difficulty to the partnership in terms of establishing a common understanding around technical and practical issues, particularly with regards to the subjects of simulation and virtual reality. The EUFOFINET partners had originally proposed to include a chapter dedicated to wildfire training terminology within their glossary, but there was insufficient time and resources for them to complete this task.

Following the identification of the gaps in common terminology, and the suggestion from other organisations that a wildfire training glossary would be a beneficial addition to aid European cross-border working, the IGNIS partners decided to set themselves the task of creating new thematic chapters to present terms and associated definitions connected to wildfire training, exercises, and simulation and virtual reality. The partners decided the glossary would be designed and presented in a similar style to the *European Glossary for Wildfires and Forest Fires* and that the new glossary chapters would be an extension, rather than a replacement, of the original European glossary. This means that the glossary is divided into a number of thematic and colour-coded chapters that can be viewed together as a whole document or independently. For ease of use of the individual chapters as stand-alone reference resources, some terminology and definitions that are relevant to more than one of the thematic chapters has been repeated. For example the term and definition for “exercise director” appears within both Chapters 4 and 5.

⁵ EUFOFINET was co-financed by the European Union through the INTERREG IVC Programme. Further information about the EUFOFINET Project, and copies of the final project deliverables, are available online at: <http://www.northumberland.gov.uk/Fire/Partners.aspx#internationalfireescuepartners>

The development and compilation of this new glossary has been led by Northumberland Fire and Rescue Service (UK) as lead partner on the IGNIS Project for Communications. NFRS has experience and a proven track record of this type of work after having successfully coordinated the production of the “*European Glossary for Wildfire and Forest Fires*” (2012) for the EUFOFINET Project. NFRS was assisted in the production of this new glossary by all the IGNIS partners and members of the IGNIS Project Advisory Board, an independent board established to quality assure and validate the IGNIS project activities and deliverables. The end result is a glossary containing more than 230 terms and associated definitions.

The IGNIS partners propose that this glossary and the glossary produced in 2012 as part of the EUFOFINET Project should be viewed as useful reference documents and training resources for all practitioners in Europe involved in wildfire prevention, preparedness, response and recovery. This new glossary incorporates some of the relevant original terminology included within the 2012 glossary, to ensure that the two glossaries coexist seamlessly. The *European Glossary for Wildfires and Forest Fires* (2012) remains a valuable resource for terminology related to fire behaviour, the wildfire environment and wildfire operations. This new glossary produced by the IGNIS Project supplements the original glossary with more specialist terminology related to wildfire training, exercises and simulation and virtual reality.

Northumberland Fire and Rescue Service and the IGNIS partners believe that the glossary has significant potential to improve cross-border work and collaboration for wildfire and forest fire training. This glossary will also be useful for enhancing cross-border wildfire training and exercises.

The *European Glossary for Wildfire Training, Exercises and Simulation* (2018) and the *European Glossary for Wildfires and Forest Fires* (EUFOFINET, 2012) are both publicly available online on the IGNIS Project website⁶ and on the Northumberland Fire and Rescue Service website⁷.

1.2 Structure of this document

This glossary is divided into 5 chapters. For information and convenience, a list of abbreviations and acronyms used throughout this document is included on page 5.

This first chapter has presented a summary about the IGNIS Project and the purpose of the glossary. It has also explained that this glossary is an extension of the *European Glossary for Wildfire and Forest Fires* (EUFOFINET, 2012).

Chapter 2 presents some background information on the IGNIS Project, including a summary of the project aims, methods and deliverables. This is then followed by Chapter 3, which is named “*Wildfire Training and Professional Development*”. This section presents terms and associated definitions related to training and professional development of firefighters and wildfire specialists.

The following chapter is named “*Training Exercises*” and presents terms and associated definitions related to the design, planning and delivery of wildfire training exercises. This is then followed by a chapter called “*Simulation and Virtual Reality*”, which presents terms and associated definitions related to the design and delivery of simulation and virtual reality exercises. This chapter presents technical terminology which is required to be able to design and deliver simulation and virtual reality training for incident command exercises for multiple types of emergencies (including, but not limited to, wildfires).

⁶ www.ignis-project.eu

⁷ <http://www.northumberland.gov.uk/Fire/Partners.aspx#internationalfirerescuepartners>

Please note there are a number of terms that are relevant to two or more of the thematic chapters included within this glossary. These terms and definitions have been repeated within multiple chapters for ease of reference.

The glossary culminates with a bibliography chapter which provides a list of books, reports and online resources that were reviewed and consulted during the development process and which have informed the end-product.

1.3 Contact details for further information

If you would like further information about the IGNIS Project or this glossary, please visit the IGNIS website at www.ignis-project.eu or contact the coordinating author:

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Chapter 2:

The IGNIS Project

2.1 Project summary

The IGNIS project (Initiative for Global Management of big fires through Simulation), brings together the knowledge and experience of emergency service partners from four different European countries: France, Italy, Portugal and the United Kingdom. The project was delivered over a 24-month period, between January 2016 and December 2017. The European Commission's DG ECHO co-financed the project through the Civil Protection Financial Instrument.

The key aim of the IGNIS Project was to improve the command and coordination of wildfire incidents through the development of simulation training for incident commanders at wildfire incidents. To achieve this aim, the project partners developed and tested a mobile simulation tool and training packages that can be used within the partner countries and across Europe to train fire officers in how to safely, effectively and efficiently command and control large wildfires.

The simulation tool used during IGNIS consists of a network of computers that run advanced gaming-style software (the simulator). The simulator presents officers with a realistic virtual environment that is as close to real-life conditions as possible. The IGNIS partners developed four large-scale scenarios that can be played on the simulator. These scenarios present incident commanders with a number of different challenges and all of them require the successful management of significant impacts on local communities, property, the environment and major infrastructure. The scenarios also require incident commanders to manage multiagency response to the simulated incidents and cross-border assistance from another country.

2.2 The IGNIS Partnership

The IGNIS Project was delivered by a strong partnership of four organisations from four EU countries:

- ENTENTE pour la forêt Méditerranéenne (France)
- Escola Nacional de Bombeiros (Portugal)
- Corpo Nazionale dei Vigili del Fuoco (Italy)
- Northumberland Fire and Rescue Service (United Kingdom)

All four organisations entered the IGNIS Project with valuable prior experience having previously participated in EU co-financed projects with a transnational focus. In addition, all four partner organisations occupy important roles at a national level within their respective countries in terms of developing and delivering wildfire training and writing and/or providing advice and guidance to influence the development of policies and procedures.

The involvement of a northern European partner within the IGNIS Project reflects the growing concerns about wildfire across the whole continent and the accepted need for practitioners working in all regions of Europe to share good practice and collaborate across national borders on issues related to wildfire.

The following sub-sections provide a summary overview of the four partner agencies and their responsibilities.

2.2.1 ENTENTE pour la forêt Méditerranéenne (EPLFM) - FRANCE

EPLFM is the lead and coordinating partner on the IGNIS Project.

ENTENTE is a public civil protection body in France with the overall aim of protecting people and the environment from natural disasters and technological hazards. Within this role, ENTENTE plays a key role as a State partner for protection from wildfires and forest fires.



With 29 local authorities, ENTENTE unites 14 French counties and departmental fire and rescue services. Since 2004, ENTENTE has been open to the regions of France, with the Corsican local authority the first to join.

EPLFM is divided into 4 key departments with specific responsibilities and expertise.

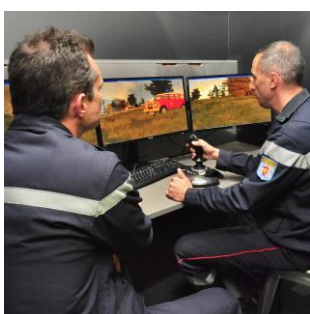
The Information and Prevention Department of ENTENTE is responsible for designing and implementing prevention actions. This department serves as the communications department of ENTENTE and is also in charge of implementing prevention campaigns both for and with local authorities. These prevention campaigns can be targeted at one or more different social groups, including professionals, residents, tourists and students.

The training department of ENTENTE (called ECASC), is responsible for developing and delivering innovative and highly specialized training to civil protection professionals in the fields of rescue and natural and technological risks. Since its creation in 1967, ECASC has been heavily implicated in the development and delivery of training on forest fires. The key focus of the department is to deliver training that enables professionals to carry out interventions in a common and coherent approach and to implement the national reference guides of the Ministry of the Interior.

The Test and Research Department of ENTENTE (called CEREN) is responsible for developing and implementing scientific studies and experiments to inform natural hazard research. In particular, CEREN tests and evaluates the impacts of different hazards and interventions on personnel, equipment and the environment. CEREN cooperates nationally and internationally with many researchers, universities and industries to deliver high quality Research and Development programmes and studies.

New Technologies Department (called PONT) is a multidisciplinary team specialized in Geographical Information Systems (GIS). The PONT department serves risk management professionals and, more specifically, specialises in GIS and GPS work and training focused on forest fires in the southern area of France.

Find out more at <http://www.entente-valabre.com/>



2.2.2 Escola Nacional de Bombeiros (ENB) – PORTUGAL

The National Fire Service School (ENB) is a private non-profit organization owned by the National Authority for Civil Protection (ANPC) and the Confederation of the Portuguese Firefighters (LBP).

ENB is recognized by the Portuguese Government as a public utility entity and the pedagogic authority for the Portuguese firefighter's technical training. Established on 4th of May 1995, ENB has more than two decades of experience on developing the skills and expertise of firefighters and other civil protection agents. This know-how is properly recognized and certified at national and international level.



The ENB is based in Sintra, and has two more national training centres, one specialized in wild forest fires, in Lousã, and the other focused on industrial and urban incidents, in S. João da Madeira. At the regional level, the School has 38 Local Training Units strategically distributed and a network of 1800 local trainers that assure the training in the 436 Portuguese fire stations.

In 2014, ENB has defined a new Strategic Plan for Firefighter's Training for 2014-2016 based on: improve knowledge access, ensure training quality and foster innovation. Since then, ENB has developed new training courses in partnership with universities and international organizations, introduced a quality management system and built a simulation centre next to a new training camp.

To address the risks that the Mediterranean forest and the Portuguese firefighters have faced in recent decades, ENB has become progressively specialized in fighting wild forest fires. This knowledge combines strong operational experience acquired by monitoring the large-scale fires that every year occupy thousands of firefighters, with the research developed by universities and laboratories and, more recently, with the use of virtual reality simulation training and testing.

Find out more about ENB at <http://www.enb.pt/>



2.2.3 Corpo Nazionale dei Vigili del Fuoco (CNVVF) – ITALY

The Department of firefighters, public rescue and civil defense (Dipartimento dei Vigili del Fuoco, del Soccorso Pubblico e della Difesa Civile) is composed of eight central directorates, eighteen regional offices and one hundred provincial commands, with around eight hundred stations throughout the country.

The National Fire Corps (Corpo Nazionale dei Vigili del Fuoco - CNVVF) is within the overall responsibility of the Ministry of the Interior and has a duty to provide urgent technical rescue, even in events in which non-conventional substances are involved, and to carry out fire prevention services. CNVVF operates all over Italy, except in the Valle d'Aosta region and the Bolzano and Trento provinces. CNVVF has approximately 35.000 professional and volunteer units.



According to Italian law, the National Fire Corps is a key part of the civil protection system. The Corps also carries out rescue services abroad, within the framework of international agreements.

Every day, every night, firefighters are ready to intervene to rescue people, to safeguard assets, to protect the environment. The rapid response, expertise and experience gained from previous activities of civil protection are essential for the relief of people affected by natural and other major disasters.

The CNVVF works as a basic component of the National Service of Civil Protection and assures, within its technical expertise, the management of emergency technical operations in accordance with the degree of coordination required by the current legislation. In terms of extinguishing forest fires, the central and peripheral structures of the CNVVF provide urgent technical assistance to regional jurisdictions. In case of a prior agreement, the CNVVF also provides the regions with resources, equipment and personnel necessary to suppress and extinguish forest fires.

Fire protection services are entrusted to the exclusive jurisdiction of the Ministry of the Interior, which exercises its activities through the CNVVF. Fire protection is the overriding public interest function intended to achieve the safety of human life, the protection of property and the protection of the environment through the promotion, study, preparation, testing of measurements, standards, devices and modes of action aimed at preventing or limiting the occurrence of a fire and its connected consequences.

Find out more at <http://www.vigilfuoco.it/asp/home.aspx>
and at <http://www.vigilfuoco.it/asp/ReturnDocument.aspx?IdDocumento=4733>



2.2.4 Northumberland Fire and Rescue Service (NFRS) – United Kingdom

Northumberland Fire and Rescue Service (NFRS) provides fire and rescue cover to the County of Northumberland, the northernmost county in England. The County covers a land area of almost 2,000 square miles (approximately 500,000 hectares) and is home to approximately 316,000 people. 51% of the county's population live on urban land that forms just 3% of the county land area, with a particularly strong concentration of people living within the Southeast corner of the county. This pattern makes Northumberland the most sparsely populated county in England, with only 63 people living per square kilometre, and brings a number of challenges for delivering services.



Northumberland
Northumberland County Council

NFRS's key operational activities and responsibilities include responding to and, where appropriate, preventing: fires; road traffic accidents; flooding incidents; wildfires; hazardous material and chemical incidents; major incidents including terrorist attacks; and providing other humanitarian services such as extracting casualties from wreckage and debris. Northumberland Fire and Rescue Service also provide expertise and support to other regions of the UK.

There are currently 15 community fire stations in Northumberland which deliver services 24/7, 365 days a year by utilising full-time, day staffing and retained (part-time on call) firefighters. They offer community safety advice and education and respond to emergency calls. NFRS has a front-line operational fleet of 21 fire engines and a number of specialist vehicles. These include an incident support vehicle providing front line command and control facilities, a high volume pump, a specialist rescue vehicle for attending road traffic collisions and other specialist rescues, a specialist wildfire unit, 3 water rescue teams with vehicles/boats and a fleet of over 20 4x4 support vehicles, some fitted with specialist cutting equipment and water fogging systems.

Wildfires are a significant issue in Northumberland and NFRS has been proactively working to improve wildfire prevention, preparedness, training and response for a number of years. NFRS is now considered one of the leading Fire and Rescue Services in the UK for wildfire training and operational issues, delivering training to firefighters and land management agencies in the UK, Republic of Ireland and Denmark.

Find out more at <http://fire.northumberland.gov.uk>



2.3 IGNIS Project Independent Advisory Board

The IGNIS partners recruited an independent panel of advisors to observe, assess, evaluate and provide constructive feedback on the project activities. The IGNIS partners approached leading experts in the fields of wildfire suppression, incident command and emergency service training and also experts within countries not already represented within the IGNIS partnership.

The IGNIS Project advisory board included a number of wildfire and incident command experts from different European countries, as shown below.

Name	Role/Position	Organisation	Country
Kim Lintrup	Chief Fire Officer	Frederiksborg Fire and Rescue Service	Denmark
Francis Dixheures	Training Directorate	DINAPHI	Belgium
Andy Bowers	Deputy Chief Fire Officer	Hampshire Fire and Rescue Service	UK
José Moura	National Operational Commander	National Civil Protection Authority	Portugal
Pablo Calvo	Chief of Fire Service Training	General Directorate of Civil Defence and Emergencies	Spain
Sinisa Jembrih	Chief Fire Officer	Zagreb Fire Department	Croatia
Gilles Dusserre	Manager and Fire Officer	Mines Schools of the Alès and Fire and Rescue Service of the Gard	France

The advisory board members brought a significant amount of knowledge and experience to the project and were specifically tasked with ensuring that the final training packages were appropriate for use across Europe. In short, the primary function of the board was to provide external quality assurance for the project activities. The secondary function of the board was to assist the IGNIS partners in promoting the project within their own countries and more widely through their own contact networks.

The advisory board held its first meeting in France in September 2016 in conjunction with the project partners' second training workshop (see Section 2.4). The advisory board members then attended the national exercises held during the project and four members of the board attended a second advisory board meeting held in Northumberland (UK) in June 2017. The majority of the advisory board members also attended the final project conference.

While attending the national exercises, the advisory board members observed the exercises taking place and completed assessment forms to provide their valuable feedback about the design and implementation of the exercises. The advisory board members also attended some of the debrief sessions held immediately after the national exercises to join these discussions and provide further feedback.

2.4 Activities and deliverables completed during the project

Many important activities and deliverables have been organised and developed during the course of the IGNIS Project. The following is a list of some of the main activities and events:

- Organisation of Steering Committee Meetings and Technical Committee Meetings to coordinate the project activities.

- Publication of over 60 technical articles and press releases detailing the project activities.
- Initial meeting of the project partners, hosted by ENTENTE in Valabre (France), 31st January to 2nd February 2016.
- First training workshop on *“Using Simulation for Wildfire Incident Command Training”*, hosted by ENTENTE in Valabre (France), May 2016.
- Second training workshop on *“Using Simulation for Wildfire Incident Command Training”*, hosted by ENTENTE in Valabre (France), September 2016.
- *National Wildfire Incident Command Simulation Exercise*, hosted by Escola Nacional de Bombeiros in Sintra (Portugal), 14th to 18th November 2016.
- *National Dissemination Event*, hosted by Escola Nacional de Bombeiros in Sintra (Portugal) on 17th November 2016.
- *National Wildfire Incident Command Simulation Exercise*, hosted by Corpo Nazionale dei Vigili del Fuoco in Rome (Italy), 8th to 12th May 2017.
- *National Dissemination Event*, hosted by Corpo Nazionale dei Vigili del Fuoco in Rome (Italy) on 11th May 2017.
- *National Wildfire Incident Command Simulation Exercise*, hosted by Northumberland Fire and Rescue Service in Cramlington (UK), 12th to 16th June 2017.
- *National Dissemination Event*, hosted by Northumberland Fire and Rescue Service (UK) on 15th June 2017.
- *Final Conference and Dissemination Event*, hosted by ENTENTE and all of the IGNIS Partners at the CESIR in Valabre (France) on 10th January 2018.

In addition to the organisation and successful delivery of the listed activities and events, the IGNIS Partners have also produced several important deliverables for the benefit of the project team and for the benefit of other organisations around Europe. These deliverables are all publicly available and include:

- Four large-scale virtual reality simulation exercises, aimed at senior incident commanders⁸
- IGNIS Exercise Reference Manual
- Reports on all the IGNIS Project Simulation Exercises
- Business Model Report for the creation of an IGNIS Resources Centre
- *European Glossary for Wildfire Training, Exercises and Simulation* (2018)

The IGNIS partners have also played an important role in trialling, testing and providing feedback on a simulation package used by numerous emergency services around the World. The detailed feedback provided by the highly experienced instructors, wildfire specialists and incident command specialists within the IGNIS team has helped to further develop, enhance and improve the software

⁸ Aimed at Level 3 and 4 Incident Commanders in the UK and their equivalents within the other project countries.

available for wildfire simulation exercises. The IGNIS partners also successfully trialled an incident command assessment tool with the wildfire simulation software.

2.5 Beyond IGNIS

During the closure of the IGNIS Project Final Conference, lead officers from all four partner agencies and one organisation represented on the independent advisory board signed a Statement of Intent to continue the work that has been started during the IGNIS Project.

The Statement of Intent commits the IGNIS partnership to:

1. Developing efforts to ensure that the European Union and the European Civil Protection Mechanism recognise the importance of using interactive virtual reality tools and the use of simulators in training programmes on prevention, preparedness and emergency response this, through a new, effective training method that makes use of simulation tools.
2. From the technological resources and knowledge acquired within the scope of the IGNIS project, the IGNIS partners will create the IGNIS Fire Resources Centre, gathering data, knowledge, skills and experience about the development, spreading and sharing of simulation tools dedicated to crisis and risk management;
3. The IGNIS partnership chooses to invite other European training centres and civil protection organisations to share these objectives and sign the statement of intent.

In addition to continuing the highly successful partnership focused on simulation training, the IGNIS partners are now exploring other ways to collaborate with one another on wildfire training issues. The IGNIS partners believe that the IGNIS Project represents a starting point for more collaboration and cooperation which will be of benefit to all four countries.

Chapter 3 – Training

Training: “The process of teaching/learning new skills to enable an individual to complete a particular job or activity.”



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Chapter 3 – Training

Term	Definition
Accelerated learning	An intensive learning programme which enables material to be learnt in a relatively short period of time.
Accreditation	A process of quality assurance for certifying competence in a specific subject or area of expertise. Accreditation can be applied to both training programmes and training providers.
Accreditation body	An organisation that is authorised to certify competence in a subject or area of expertise. Accreditation by an accreditation body can be applied to both training programmes and training providers.
Active learning	<p>A form of learning and/or teaching which aims to actively engage students in the learning process. Active learning requires students to be engaged through a variety of different learning techniques such as reading, writing, talking, listening, reflecting, practising and exercising.</p> <p>Active learning courses usually aim to:</p> <ul style="list-style-type: none"> • develop individuals' skills rather than simply convey information • promote higher order thinking (i.e. critical thinking and analysis) <p>Students on active learning courses not only need to complete tasks and activities; they will also be required to think about what they are doing and why they are doing it.</p>
Adaptation	Modifying the content or design of existing training material to better fit current needs and requirements.
Agenda	A list, plan or outline of the sessions to be covered during a training course.
Anecdote	A short account of an incident or event. Anecdotes may be used by instructors to help provide a real-life illustration of a particular concept or idea to students on a training course.
Aptitude	"The ability of an individual to acquire a new skill or to show the potential for acquiring a skill" ⁹ .
Aptitude test	"A test to predict a person's ability to acquire a new skill or to show the potential for acquiring a new skill" ¹⁰ .
Assessment	<p>The action of assessing someone or something.</p> <p>A wide variety of methods or tools that can be used to evaluate, measure and document:</p> <ul style="list-style-type: none"> • educational needs of learners • learning progress • knowledge and skill acquisition • a person's performance on a set task(s) <p>Assessment is typically followed by certification.</p>
Assessor	A person who evaluates the knowledge, understanding and/or performance of a learner or instructor.
Assumed knowledge	Knowledge that learners are assumed to already have prior to attending a training course.
Attitude	A predisposition or tendency to behave in a particular way to an idea, object, person or situation.

⁹⁹ Source: Department of Homeland Security Training Glossary (2015), p10: <https://training.fema.gov/devres/docs/508/dhs-training-glossary.pdf>

¹⁰ Source: [Department of Homeland Security Training Glossary](#) (2015), p10.

Chapter 3 – Training

Term	Definition
Behavioural change	The ability of a learner to act differently, to do new things, or to do old things in new ways. Behavioural change is often the intended result or outcome of a training course. ¹¹
Benchmark	A standard or point of reference which can be used when comparing things.
Bypassing	A technique that allows learners to skip certain parts of a training course due to their prior knowledge and/or qualifications they have already attained.
Case study	“A teaching method in which students are presented with a situation that could contain a short narrative with background, main issue, and events that led to a problem or decision.” ¹²
Certificate of attendance	A document confirming that an individual has attended a training course.
Certificate of training	A document acknowledging that an individual has attended a training course/programme and has successfully completed the requirements of the training course/programme.
Certification	The process of proving that a person or organisation has achieved a particular status or level of achievement. One of the most common types of certification is professional certification, where a person is certified to be competent to complete a job or task. Professional certification is usually achieved through an individual passing an exam or assessment and/or completing a programme of study. Certifications may be permanent or they may be time-limited. If they are time-limited, an individual will need to be re-certified to maintain their competency to perform a job or task.
Classroom management	Techniques used by instructors to control and facilitate learning within a real or virtual classroom.
Competences	“Competences include the knowledge, judgement, skills, energy, experience and motivation required to respond adequately to the demands of one’s professional responsibilities.” ¹³ For an individual to be assessed as “competent” they need to demonstrate the ability to perform tasks and duties to the minimum standard expected of all individuals required to perform the same role or function.
Contact hours	The amount of time that a learner spends in direct contact with instructors when participating in a training course.
Contingency plan	A pre-prepared alternative plan which can be implemented if circumstances change. ¹⁴ Training for wildfire incidents often teaches learners to develop contingency plans in case conditions change in future and the original plan is no longer safe or appropriate.
Continuing Professional Development (CPD)	The methods and means by which professionals maintain, improve and broaden their knowledge and skills and develop and enhance their personal qualities and competencies during their careers.
Continuous improvement	The process of constantly seeking to change and improve an individual’s or organisation’s performance.

¹¹ Adapted from following source: [Department of Homeland Security Training Glossary](#) (2015), p11.

¹² Source: [Department of Homeland Security Training Glossary](#) (2015), p13.

¹³ Source: Cabinet Office (2012) [Lexicon of UK Civil Protection Terminology](#), Version 2.1.1: Definition for “competences”:

¹⁴ Source: [European Glossary for Wildfire and Forest Fires](#) (2012), p51.

Chapter 3 – Training

Term	Definition
Course development	The creation of new training materials or courses.
Course pre-learning	Learning activities that must be completed prior to attending a training course or training programme. A common type of course pre-learning is for learners to be asked to read particular documents or websites.
Course prerequisites	The conditions a student must fulfil prior to undertaking a course. Common course prerequisites include: successful completion of other training courses prior to taking another course; achievement of a specific qualification or standard; and/or completion of pre-course reading/learning.
Curriculum	An overview of the content of a training course.
Deficiency	Failure to meet a set standard and/or failure to achieve the required level of performance.
Personal development	Learning or other types of activities that prepare a person for additional job responsibilities and/or enable him/her to acquire knowledge or skills.
Digital competence/digital literacy	“The ability to use information and communication technology (ICT).” ¹⁵
Distance learning	A method of teaching where learners and instructors do not meet in a physical classroom but use the Internet, email, mail and or video conferences to participate in and deliver training courses. The key advantage of distance learning is that learners who live a distance away from one another and/or the training centre do not need to travel to a physical location to receive the training. Learners and instructors engaged in distance learning can receive and deliver the training from their normal place of work or even from home. Distance learning can be delivered via the means of a virtual classroom.
Drill	A standardised technique or procedure that prepares learners to complete tasks in an instinctive and spontaneous manner.
E-Learning	The delivery of training using electronic means. E-Learning typically includes training delivered via the Internet but it can also include other types of electronic media such as TV, CD-ROM/DVD, audio tapes and videotapes. Sometimes also referred to as “online training” or “web-based training”.
Enrolment	The process of joining a training course or training programme. It can also be commonly referred to as “registration”.
Evaluation	Systematic process of measuring or observing and judging how individuals, procedures or programmes have met objectives. ¹⁶
Evaluation form	A form designed to gather feedback from learners regarding their opinions and judgements about a training course that they have attended. The feedback gathered via evaluation forms should be used by training providers to evaluate their training courses and to identify potential areas for improving future courses. Sometimes referred to as “feedback form”.

¹⁵ Source: [EUROPASS Terminology of European Education and Training Policy](#)

¹⁶ Source: [Department of Homeland Security Training Glossary](#) (2015), p25.

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Term	Definition
Exercise	<p>“An exercise is a simulated emergency in which players carry out actions, functions, and responsibilities that would be expected of them in a real emergency. Exercises can be used to validate plans and procedures, and to practice prevention, mitigation, preparedness, response, and recovery capabilities.</p> <p>Well-designed and executed exercises can be the most effective means of:</p> <ul style="list-style-type: none"> • Testing and validating plans, policies, procedures, training, equipment, and interagency agreements • Training personnel and clarifying roles and responsibilities, as supported by plans and procedures • Improving interagency¹⁷ coordination and communications • Identifying gaps in resources and training, and identifying areas for improvement • Improving individual and organisational performance through practice¹⁸ <p>Exercises should also be based around best practice and should create an experience that participants can refer back to when attending future incidents.¹⁹</p> <p>Please note that other terminology specifically related to exercises is provided in Chapter 4 (Exercises) and Chapter 5 (Simulation and Virtual Reality) of this glossary.</p>
Flexible learning	A range of learning approaches that provide learners with greater choice of when, where and how they learn. Flexible learning can include: distance learning, online learning, self-paced learning, self-directed learning, and/or combinations of more than one of these specific types of learning.
Game-based learning	“A training method in which a game is used to either teach information or to assess student's possession of skills/knowledge.” ²⁰
Gamification	The process of applying game designs and concepts to training courses.
Gaming	“A training method in which a game is used to either teach information or to assess student's possession of skills/knowledge.” ²¹
Granularity	The degree to which training content can be subdivided into smaller and smaller pieces or chunks.
Guest speaker	An individual who is invited to deliver a presentation or lecture at a training course to provide information about a topic area in which he/she is considered an expert or specialist.
Handout	A document provided to a learner which contains key reference material regarding the content of a training course (or part of a training course) or an

¹⁷ Multiagency

¹⁸ Source: *Guidelines for the Development of an Exercise Program* from the Ontario Ministry of Community Safety and Correctional Services (2016):

https://www.emergencymanagementontario.ca/english/emcommunity/program_resources/exercise/exercise_guidelines_main.html

¹⁹ This additional sentence is based on information supplied by Craig Rayner at XVR.

²⁰ Source: [Department of Homeland Security Training Glossary](#) (2015), p27.

²¹ Source: [Department of Homeland Security Training Glossary](#) (2015), p27.

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Term	Definition
Icebreaker	A game or activity that is designed to facilitate communication and interaction between learners on a training course. Icebreakers are normally used at the start of a training course to introduce learners to one another and/or to help learners feel more relaxed around one another.
Information and Communication Technology (ICT)	Technologies that provide access to information through telecommunications, such as the Internet, wireless networks, mobile phones etc.
Instruction	The process by which instructors transfer knowledge and skills to learners.
Instructional material	Any items that are prepared for and used during a training course to help facilitate the general learning process (for example, handouts, lesson plans, videos, audiovisual aids etc.).
Instructor	A person responsible for teaching and instructing others. Also commonly referred to as a <i>trainer</i> .
Instructor assessment	Formal or informal feedback provided to an instructor to evaluate their performance. Instructor assessments enable instructors to identify areas for improvement in their training delivery.
Joining Instructions (JI)	A document providing information about a training course or training programme that a learner is registered to complete. JI's usually include information about: <ul style="list-style-type: none"> • the learning objectives and course content • the training course venue, dates and times • course prerequisites • any equipment required for the course See also: <i>course prerequisites, learning objective, learner and training course</i>
Just-In-Time-Training (JITT)	"Training that provides learning when it is actually needed and used on the job". ²²
Knowledge	"Facts, information and skills acquired through experience or education." ²³
Knowledge retention	The process of learning and capturing knowledge so that it can be recalled and used at a later date. Knowledge retention can be applied to individuals and organisations. In the context of individuals, knowledge retention concerns the ability of an individual retain knowledge they have learned during a training course or exercise. In the context of organisations, knowledge retention concerns the ability of an organisation to capture the knowledge of individual employees so that the organisation can use this knowledge in the future.
Leadership training	Training individuals to become effective leaders. Leadership training will usually involve teaching key qualities expected of good leaders, such as: communication skills, management skills and the ability to motivate others.
Learner	A person being taught knowledge and/or new skills. Sometimes also referred to as a "trainee".
Learning	The process of acquiring knowledge about a subject and/or a new skill.
Learning and development strategy	An organisation's plan for developing and maintaining the knowledge, capabilities, skills and competencies of its workforce. A learning and development strategy is an important part of an organisation's overall business strategy.

²² Source: [Department of Homeland Security Training Glossary](#) (2015), p35:

²³ Source: Oxford Dictionaries: <https://en.oxforddictionaries.com/definition/knowledge>

Chapter 3 – Training

Term	Definition
Learning environment	The physical setting in which learning, study or instruction takes place. This can include a classroom, job site, computer centre/room, an individuals's home or another place.
Learning Management System (LMS)	A piece of computer software that enables an organisation to manage and administer its training information. LMS normally allow organisations to manage employees training records and training history, manage training courses, issue joining instructions and generate statistical reports. May also be referred to as a Training Management System (TMS).
Learning objective	"A statement in specific and measurable terms that describes what the learner will know or be able to do as a result of engaging in a learning activity." ²⁴
Learning styles	The different ways that people learn. Most learners have a preferential method for how they absorb, process, comprehend and retain information. For example, some learners may prefer and/or perform better if they receive verbal instructions for a task while others may prefer and/or perform better if they receive written instructions. "Individual learning styles depend on cognitive, emotional and environmental factors, as well as one's prior experience. In other words: everyone's different." ²⁵ Trainers/instructors need to take into account the types of learning styles that are preferred by their learners to ensure that their lesson plans and teaching techniques are going to be effective and appropriate.
Lesson plan	A written guide for trainers/instructors which provides direction for how to accomplish the learning objectives of an individual lesson and/or a whole training course. Lesson plans will usually include details about the content of the course/lesson and how that content should be communicated and taught. Lesson plans will also normally outline specific requirements for individual sessions such as the equipment, instructional material and instructional aides.
Lifelong learning	The provision of learning and training opportunities throughout people's lives to enable continuous development and improvement.
Mandatory training	Any training that must be completed by an employee for them to be able to undertake their job.
Mentor	Someone who offers his or her wisdom of past experience to help another individual to enhance or advance their career. Mentors may provide assistance to others in performing job tasks or acquiring new skills. ²⁶
Mnemonic	A word, rhyme or phrase which is designed to help learners to memorise a concept, idea or procedure.
Modular training	Training composed of a number of standardised units (or modules) that can be used together as a course but which can also be separated from each other, rearranged and/or reused for other training courses.
Off-the-job training	Training completed away from the place that an individual is involved in their normal working activities.
On-the-job training	Training completed while an individual is completing their normal working activities.

²⁴ Source: [Department of Homeland Security Training Glossary](#) (2015), p38:

²⁵ Source accessed on 29.01.18: <https://teach.com/what/teachers-know/learning-styles/>

²⁶ Definition adapted from the definitions for "coach" (p15) and "mentor" (p40) within the following source: [Department of Homeland Security Training Glossary](#) (2015):

Chapter 3 – Training

Term	Definition
Onsite training	“Training conducted at a work site (e.g. in a training room) but not on-the-job.” ²⁷
Peer review	Evaluation of the training courses and products and/or performance of an individual, group or organisation by subject matter experts or specialists. In more general terms, peer review is a form of quality assurance performed by appropriately qualified members of a profession/relevant field of expertise that are external to the team or organisation being evaluated.
Performance improvement	Improving the effectiveness and/or efficiency of an individual, group or organisation to perform a particular function, role or activity. One of the ultimate aims of a training course or training programme is normally to improve the performance of the learner.
Personal Development Plan (PDP)	An action plan that outlines how an individual will develop and improve over a defined period of time. PDPs should include SMART objectives/actions and progress against these actions should be regularly reviewed. PDPs are a product of the personal development planning process.
Personal Development Planning	The process of reflecting on one’s performance, achievements, strengths and weaknesses. The process should culminate in the production of a Personal Development Plan (PDP) which identifies ways and means for development and continuous improvement.
Pilot course	A trial run of a new training course with the aim of evaluating its suitability. Pilot courses can also be used to identify potential changes and improvements for future courses.
Procedural knowledge	Knowledge that helps an individual to perform a given task. Procedural knowledge normally takes the form of a series of steps or actions (and sometimes also available alternatives) that need to be performed to complete a given task. With practise and repetition, procedural knowledge can become an automatic process which allows an individual to perform a task without conscious awareness of what they are doing.
Professional development	The methods and means by which professionals maintain, improve and broaden their knowledge and skills and develop and enhance their personal qualities and competencies during their careers. Also commonly referred to as Continuing Professional Development (CPD).
Qualification	Document confirming an individual has passed an examination or has completed a training course or programme.
Quality assurance (QA)	The process of ensuring that a desired level of quality and/or performance is achieved from a product, individual, group or organisation. It is considered best practice for organisations to QA their training courses and activities. Quality assurance is commonly abbreviated to QA.
Quiz	A knowledge test administered by an instructor/trainer to a learner(s). The primary purpose of a quiz is to measure the degree to which knowledge has been learned and retained by a learner(s).
Recertification	To renew a certification. See <i>certification</i> for further information.
Refresher training	A training course or programme which aims to help learners recall and reinforce previously acquired knowledge and skills.

²⁷ Source: [VOCEDplus Glossary](#)

Chapter 3 – Training

Term	Definition
Registration	The process of joining a training course or training programme. It can also be commonly referred to as <i>enrolment</i> .
Remediation	The process of providing supplemental instruction in order to correct or further enhance a learner's performance which will in turn reinforce learning objectives.
Revalidation	To renew a validation. See <i>validation</i> for further information.
Self-assessment	The process of evaluating oneself or one's actions, behaviours and/or performance.
Self-directed learning	A process where learners take the initiative in identifying their own learning/training needs. Learners following self-directed learning will formulate their own learning/training goals, identify resources and appropriate training courses and evaluate their learning performance and outcomes. Self-directed learning can empower learners to take more responsibility for their learning and development.
Self—paced learning	Training or instruction that proceeds at the speed decided by the learner. Self-paced learning is a student-centred learning approach where learners are provided with the tools they need in order to learn at their own pace. Through self-paced learning, learners may also be able to make choices about the sequence and focus of their learning.
Sequential training	Organising training in a specific order to ensure that basic knowledge and skills are delivered first and this is then followed with a succession of more complex knowledge and skills. Sequential training helps learners to gradually learn more complex knowledge and skills and continually reinforce previously learned material.
Skill	An ability to perform a task or activity that comes from training and/or practise.
Skills decay	A decrease of learned skills over a period of time. Also referred to as "skills fade".
Skills gap	Identification of the missing skills that an individual, team or organisation require in order to adequately perform a job or activity.
Skills audit	A process for identifying the skill gaps of an individual, team or organisation.
SMART Objectives	SMART is an acronym used to provide a guide for developing appropriate and effective goals and objectives. SMART stands for: S = Specific M = Measurable A = Achievable R = Realistic T = Time-bound (i.e. there is a deadline). SMART should be used when developing objectives for a training course or training exercise.
Statutory training	Any training that an employee is required to complete by law to be able to undertake their job. Statutory training is a specific type of mandatory training.
Stress	"The harmful physical or psychological reactions that occur when people are subject to excessive demands, unrealistic expectations and/or threatening situations. Signs of stress may be cognitive, emotional, physical and/or behavioural." ²⁸

²⁸ Source: [European Glossary for Wildfire and Forest Fires](#) (2012), p48.

Chapter 3 – Training

Term	Definition
Stressor	“An event or stimulus that induces stress.” ²⁹
Subject Matter Advisor (SMA)/Subject Matter Expert (SME)	An individual who is recognized as having proficient knowledge and skills in a particular topic or subject area.
Study	To devote time and attention to acquiring knowledge of a particular subject(s). It is often used to describe time spent reading written material such as books and web-based resources.
Tabletop exercise (TTX)	An exercise which is designed to test the ability of an individual or a group to discuss, respond to and resolve a situation. Table top exercises are commonly used by the emergency services to practice and train for emergency situations. Simulation technology provides opportunities for emergency services to make table top exercises more visual and realistic. Table top exercise can be abbreviated to TTX.
Test	An examination or procedure intended to assess the knowledge, understanding and/or performance of an individual. In a more general sense, a test can be described as an examination or procedure used to assess the quality, performance or reliability of a process, person or piece of equipment/machine.
Train the trainer	Training that teaches and prepares participants to be able to deliver training to others (as an instructor). Can also be referred to as “train the instructor”.
Trainer	A person responsible for teaching and instructing others. Also commonly referred to as an <i>instructor</i> .
Training	The process of teaching/learning new skills to enable an individual to complete a particular job or activity.
Training aid	Any item or device which is used to assist and/or enhance training and the learning process.
Training course	A series of lessons, lectures, units or modules that teach learners the knowledge and skills required to complete a particular job or activity.
Training history	A written and/or electronic record that documents the training, certifications and qualifications completed by an individual. Organisations maintain training histories for their employees.
Training management system (TMS)	A piece of computer software that enables an organisation to manage and administer its training information. TMS normally allow organisations to manage employees training records and <i>training history</i> , manage training courses, issue <i>joining instructions</i> and generate statistical reports. May also be a Learning Management System (LMS).
Training need	Training that an employee needs to complete in order to undertake their job safely and/or effectively.
Training needs analysis (TNA)	A process that identifies any gaps between the knowledge, skills, capabilities or competencies that employees currently have compared with those that they require to undertake their work safely and/or effectively. TNA's can be used to address knowledge and skills gaps at the organisational level, group level and individual level.

²⁹ Source: [European Glossary for Wildfire and Forest Fires](#) (2012), p48.

Chapter 3 – Training

Term	Definition
Training pathway	A sequence or series of learning activities that enables individuals to develop their knowledge and skills in order to progress towards a desired goal or role. For example, firefighters wanting to become incident commanders or wildfire specialists will need to progress along a training pathway by completing specific learning activities and training courses before they can successfully achieve their goal. The term is sometimes used interchangeably with the term “learning pathway”.
Training philosophy	A statement outlining an organisation's attitude towards training.
Training programme	A series of training courses.
Training provider	A person or organisation that designs, develops and delivers training courses.
Training specification	A plan, instruction, or protocol for a training course or training programme. The term training specification may sometimes be used interchangeably with the term training standard; however, there are differences between these two terms. Training specifications only become training standards after they have been accredited by an accreditation body.
Transfer of training	The ability of a person to effectively apply knowledge, skills, abilities and/or attitudes learned during training to their work activities.
Transferability	A measure of the degree to which the knowledge, skills, abilities and/or attitudes that are taught through training can be applied to the working environment.
Unit	A unit is part of a qualification and/or training course. It will usually be the smallest part of the qualification/course that can be evaluated, validated or certified. A unit can be specific to one particular qualification or common to several qualifications.
Upskilling	Acquiring and improving skills. Upskilling can be achieved by completing further training.
Validation	Assessment of an action, decision, plan or training course to establish that it is: (1) correct or appropriate; (2) being implemented (and/or recorded) as intended; and (3) delivering the intended outcome.
Virtual classroom	An online classroom that allows participants to communicate with one another to deliver and receive training. Virtual classrooms usually allow participants to view presentations or videos, interact with other participants, and engage with resources in work groups. Participants remotely access a virtual classroom via a personal computer or other mobile device, which enables training to be delivered simultaneously to participants in numerous different locations.
Visualisation	To form a picture of someone or something in your mind.
Vocational Education and Training (VET)	Education and training which aims to equip individuals with occupational knowledge and skills required for their job.
Wildfire³⁰	“Any uncontrolled vegetation fire which requires a decision or action regarding suppression. Wildfires are commonly classified according to size and/or impact upon suppression resources.” ³¹

³⁰ Within some parts of the world, alternative terms are used in place of the term wildfire. Some of the more common alternatives include: bushfire, wildland fire, forest fire, grass fire and vegetation fire.

³¹ Source: [European Glossary for Wildfire and Forest Fires](#) (2012), p22.

Chapter 3 – Training

Term	Definition
Workshop	A meeting where a group of people are involved in an intensive discussion and/or activity on a specified subject or project.
Workplace assessment	“The gathering and judging of evidence during normal work activities in order to determine whether a required standard of competence, knowledge or skill has been achieved. Workplace assessment usually involves observation of work in progress, checking the product(s) of a work activity, and receiving oral responses to questions posed while work is in progress.” ³²
Workplace learning	A term for any learning or training undertaken in the workplace. Workplace learning can include: <ul style="list-style-type: none">• On-the-job training - training completed while an individual is completing their normal working activities.• Onsite training - “Training conducted at a work site (e.g. in a training room) but not on-the-job.”³³

³² Source: [VOCEDplus Glossary](#)

³³ Source: [VOCEDplus Glossary](#)

Chapter 4 – Exercises

Exercise: “...a simulated emergency in which players carry out actions, functions, and responsibilities that would be expected of them in a real emergency. Exercises can be used to validate plans and procedures, and to practice prevention, mitigation, preparedness, response, and recovery capabilities.”³⁴



© Northumberland Fire and Rescue Service (NFRS)

³⁴ Source: [Guidelines for the Development of an Exercise Program](#) from the Ontario Ministry of Community Safety and Correctional Services (2016).

Chapter 4 – Exercises

Term	Definition
Assembly area	<p>The gathering place for deployable resources prior to the start of a training exercise.</p> <p>More than one assembly area may be established if an exercise involves multiple sites or events. The assembly area will provide a safe location in close proximity to the exercise from which units can be sent directly to the site, allowing exercise directors/staff to simulate actual response times for responding units in a lower-risk environment.</p> <p>Assembly areas can also be used within simulated virtual training environments. They may be a physical place that is visible to exercise participants or they may be purely a functional location that is not visible to exercise participants but which is used by the exercise operator(s) to temporarily store deployable units while waiting to place them into/take them out of a particular exercise scenario.</p> <p>An assembly area should not be confused with a “holding area” or “staging area”.</p>
Command	“The authority of an agency to direct and control resources. Command is delegated to an individual.” ³⁵
Contingency plan	<p>A pre-prepared alternative plan which can be implemented if circumstances change.³⁶</p> <p>Training exercises for wildfire incidents often teach learners/participants to develop contingency plans in case conditions change in future and the original plan is no longer safe or appropriate.</p>
Crisis	<p>A crisis can be defined in multiple ways. Below are two different definitions used in different contexts:</p> <p>“General definition: an inherently abnormal, unstable and complex situation that represents a threat to the strategic objectives, reputation or existence of an organisation.</p> <p>Personal: acute emotional reaction to a powerful stimulus or demand.”³⁷</p>
Crisis management	“Strategically-directed activities to prevent, respond to, mitigate the effects of and recover from a crisis.” ³⁸
Discussion-based Exercises	These are exercises that are used to familiarise learners/participants with an organisation’s current plans, policies, agreements, and procedures. Discussion-based exercises may also be used to enable participants to collaborate together and develop new plans, policies and procedures. Examples of specific types of discussion-based exercises include: seminars, workshops, table top exercises (TTX), and games. ³⁹
ENDEX	Phrase used by the exercise director to indicate the end of an exercise to all participants.

³⁵ Source: *European Glossary for Wildfire and Forest Fires* (2012), p44: <http://www.northumberland.gov.uk/Fire/Partners.aspx#internationalfireescuepartners>

³⁶ Source: *European Glossary for Wildfire and Forest Fires* (2012), p51: <http://www.northumberland.gov.uk/Fire/Partners.aspx#internationalfireescuepartners>

³⁷ Source: Cabinet Office (2013) *Lexicon of UK Civil Protection Terminology*, Version 2.1.1: Definition for “crisis”: <https://www.gov.uk/government/publications/emergency-responder-interoperability-lexicon>

³⁸ Source: Cabinet Office (2013) *Lexicon of UK Civil Protection Terminology*, Version 2.1.1: Definition for “crisis management”: <https://www.gov.uk/government/publications/emergency-responder-interoperability-lexicon>

³⁹ Definition based on the types of exercise presented within the *Guidelines for the Development of an Exercise Program* from the Ontario Ministry of Community Safety and Correctional Services (2016)

Chapter 4 – Exercises

Term	Definition
Estimated Time of Arrival (ETA)	“The predicted time that a resource will reach a specified destination” ⁴⁰ [during a training exercise].
Event	<p>Something that takes place or happens during a training exercise (either within a simulated or virtual environment). Events reflect an incident or activity and should act as a prompt for participants to implement a specific policy or procedure that is expected. The events included within a training exercise should be designed to correspond to the learning outcomes of the exercise and/or the competency standards of the assessment being conducted through the exercise.</p> <p>Events can be classified as either major events or minor events:</p> <ul style="list-style-type: none"> • Major events are key events or occurrences during an exercise that are important for achieving the overall objectives of the exercise. • Minor events are specific problem situations during the exercise to which participants must respond.
Exercise	<p>“An exercise is a simulated emergency in which players carry out actions, functions, and responsibilities that would be expected of them in a real emergency. Exercises can be used to validate plans and procedures, and to practice prevention, mitigation, preparedness, response, and recovery capabilities.</p> <p>Well-designed and executed exercises can be the most effective means of:</p> <ul style="list-style-type: none"> • Testing and validating plans, policies, procedures, training, equipment, and interagency agreements • Training personnel and clarifying roles and responsibilities, as supported by plans and procedures • Improving interagency⁴¹ coordination and communications • Identifying gaps in resources and training, and identifying areas for improvement • Improving individual and organisational performance through practice”⁴² <p>Exercises should also be based around best practice and should create an experience that participants can refer back to when attending future incidents.⁴³</p> <p>There are two general types of exercises:</p> <ul style="list-style-type: none"> • Discussion-based exercises – These are exercises that are used to familiarise learners/participants with an organisation’s current plans, policies, agreements, and procedures. Discussion-based exercises may also be used to enable participants to collaborate together and develop new plans, policies and procedures. <i>Definition continued on next page.</i>

⁴⁰ Source : *European Glossary for Wildfires and Forest Fires* (2012), p52 - <http://www.northumberland.gov.uk/NorthumberlandCountyCouncil/media/Fire-and-Rescue/European-Glossary-for-Wildfires-and-Forest-Fires.pdf>

⁴¹ i.e. multiagency

⁴² Source: [Guidelines for the Development of an Exercise Program](#) from the Ontario Ministry of Community Safety and Correctional Services (2016)

⁴³ This additional sentence is based on information supplied by Craig Rayner at XVR.

Chapter 4 – Exercises

Term	Definition
Exercise (continued from previous page)	<ul style="list-style-type: none"> Examples of specific types of discussion-based exercises include: seminars, workshops, table top exercises (TTX), and games.⁴⁴ Operations-based exercises - These are exercises that are used to validate plans, policies, agreements, and procedures, clarify roles and responsibilities, and identify resource gaps within an operational environment. Examples of specific types of operations-based exercises include drills, functional exercises, and full-scale exercises.⁴⁵
Exercise briefing	<p>A meeting held prior to or during an exercise in which relevant information is exchanged.⁴⁶</p> <p>Briefings are important tools for providing information about exercises to participants/players, observers, role players, operators and/or the exercise conduct team. Exercise briefings may take place on the day of the exercise, but they may also need to take place a number of days prior to the exercise, depending upon the exercise size, scope and objectives. It may be necessary to provide a separate briefing to each of the following groups of participants in an exercise to ensure that each group only receives the information that is relevant to their role:</p> <ul style="list-style-type: none"> Exercise directors and operators Exercise participants Role players and victim actors Members of the exercise evaluation team Exercise observers <p>Briefings provide opportunities for the exercise director(s) and/or other exercise staff to distribute exercise documentation and provide instructions and administrative information to participants/players. Briefings should also be delivered prior to the start of the exercise to the exercise conduct team (and any other personnel involved in managing/delivering the exercise) to ensure that they have all the information they require and that they are fully aware of the exercise objectives and how the exercise will be run. All exercise briefings should be managed to provide participants with opportunities to ask questions about the exercise.</p>
Exercise cycle	<p>A systematic approach to continuous improvement of emergency management. The exercise cycle can be divided into four main phases:</p> <ul style="list-style-type: none"> Planning Conduct Evaluation Introduction of corrective actions <p>All phases are closely related and contribute, as a whole, to a process of continuous improvement. They affect not only the success of the current exercise but the design and success of future exercises.</p>

⁴⁴ Definition based on the types of exercise presented within the [Guidelines for the Development of an Exercise Program](#) from the Ontario Ministry of Community Safety and Correctional Services (2016)

⁴⁵ Definition based on the types of exercise presented within the [Guidelines for the Development of an Exercise Program](#) from the Ontario Ministry of Community Safety and Correctional Services (2016)

⁴⁶ Based on the definition of “briefing” in: [European Glossary for Wildfires and Forest Fires](#) (2012), p43.

Chapter 4 – Exercises

Term	Definition
Exercise Director(s)	The person(s) with ultimate responsibility for managing and controlling a training exercise. The exercise director(s) will normally lead a team(s) of other personnel involved in the planning and running of an exercise. Also commonly referred to as the EXDIR or DIREX.
Exercise debriefing	<p>A meeting held after an exercise to review what happened during the exercise and to gather comments from all involved about the different key elements of the exercise.</p> <p>Exercise debriefings can take two different forms:</p> <ul style="list-style-type: none"> • Hot debriefing – a brief meeting held immediately after the end of the exercise. It allows participants, role players, operators, the evaluation team, the exercise director and any other personnel directly involved in the exercise to provide some immediate feedback. It provides an opportunity to capture events while they remain fresh in everyone's minds and also provides an opportunity to assess the general level of satisfaction/dissatisfaction with regards to the exercise. • Cold debriefing – a more comprehensive meeting held a number of days, weeks or months after the completion of the exercise. Cold debriefings allow participants, role players, operators, the evaluation team, the exercise director and any other personnel directly involved in the exercise to consider and discuss all of the key elements of the exercise in some detail. Findings from the hot exercise debrief should be fed into and discussed during the cold exercise debriefing. A key objective of the cold debriefing is to produce key recommendations regarding the design, implementation, management and evaluation of future exercises. These recommendations should feed directly into the continuous improvement process facilitated by the exercise cycle. <p>Functional and large-scale exercises will most likely require both a hot and cold debriefing, while smaller scale exercises may only require a hot debriefing. The findings and recommendations produced during the hot and cold debriefings should be documented within the final exercise report.</p>
Exercise evaluation	<p>The process of observing, assessing and recording activities and decision-making behaviours that take place during an exercise. This process should aim to assess the degree to which the exercise objectives have been achieved/not achieved, while also noting the strengths and weaknesses of the exercise design and delivery.</p> <p>The exercise evaluation team (or individual) is responsible for evaluating the exercise in accordance with the roles, responsibilities and instructions provided to them by the exercise planning team within the exercise evaluation plan (EVALPLAN).</p>

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Term	Definition
Exercise evaluation plan (EVALPLAN)	<p>The EVALPLAN provides the exercise evaluation team with guidance and obstructions on the methodology that should be used to evaluate the exercise.</p> <p>The evaluation team will need to use the EVALPLAN in conjunction with the EXPLAN to evaluate the exercise and to provide appropriate feedback to the exercise director and/or exercise debrief(s).</p> <p>The EVALPLAN will often contain guidance on some or all of the following:</p> <ul style="list-style-type: none"> • Exercise scenario • Evaluation methodology and observation techniques • Roles and responsibilities of the exercise evaluation team • Evaluation communications plan – i.e. instructions that outline when and how the findings and recommendations of the exercise evaluation team should be shared and communicated with others.
Exercise evaluation team	<p>A group of people with responsibility for observing, assessing and recording activities and decision-making behaviours that take place during an exercise. In order to ensure objective feedback is provided to the exercise planning team and/or exercise directors, members of the exercise evaluation team should not normally have played any other role in the design or delivery of an exercise.</p>
Exercise narrative	<p>A brief description of the events that have occurred prior to the commencement of an exercise. The narrative sets the scene for the exercise and provides important information that participants will need during the exercise.</p>
Exercise observer	<p>An individual who observes and witnesses an exercise but who plays no active role in the design or delivery of that exercise. There are numerous reasons for observers being involved in exercises, particular those on the larger-scale. For example, it may be desirable to invite members of the public or members of the media to observe an exercise take place in order to generate some media coverage or it may be desirable to invite subject matter experts/advisors from other organisations to observe to provide external feedback regarding the design and delivery of the exercise.</p>
Exercise operator	<p>The person who is responsible for operating and controlling the computer software that creates and runs a simulation exercise.</p>
Exercise Participants Handbook	<p>A document that provides exercise participants with information they require in order to participate fully and effectively in an exercise. The information contained within the handbook is usually discussed at the participant briefing which should be conducted prior to the start of the exercise.</p> <p>Exercise handbooks will not always follow exactly the same structure as there should be flexibility to adapt to the particular type and content of an exercise.</p> <p><i>Definition continued on next page.</i></p>

Chapter 4 – Exercises

Term	Definition
Exercise Participants Handbook <i>(continued from previous page)</i>	<p>As a guide, a typical structure for an Exercise Participant's Handbook is as follows⁴⁷:</p> <ul style="list-style-type: none"> • Scope, purpose and objectives; • Scenario/narrative; • Procedures and responsibilities (exercise conduct team and participants); • Artificiality and simulations; • Real emergency procedures; • Communication procedures; • Permissible simulations; • Equipment to use; • Meetings (Briefing and debriefing); • Assessment Questionnaire; • Reports
Exercise plan (EXPLAN)	<p>A document that provides a summary of the training exercise which is typically distributed prior to the start of the exercise. The EXPLAN will present the exercise objectives and scope and will also assign tasks and responsibilities. The EXPLAN is generally intended for exercise participants/players, observers and members of the evaluation team, although it will also be a useful reference document for the exercise directors and other exercise staff (such as exercise operators and role players).</p> <p>Examples of some of the information that is often presented within an EXPLAN include:</p> <ul style="list-style-type: none"> • Exercise objectives • Background • Duration • Date and time of exercise • Exercise organisation/management/control • Roles and responsibilities • Exercise rules • Safety and security issues • Administration and logistics • Communications • Schedule of events (including briefings and debriefings) • Maps and directions (i.e. to enable participants to find the exercise site) <p>The actual content of any given EXPLAN will depend upon the type of exercise, the personnel and organisations involved and the exercise objectives.</p> <p>The EXPLAN may be provided to participants on the day of the exercise during the briefing, but it may be necessary to circulate it to participants prior to the date of the exercise.</p>

⁴⁷ Source: FEMA (2003) [Course IS139 - Exercise Design](#)

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Term	Definition
Exercise planning	<p>The process of developing a plan for a training exercise.</p> <p>One of the keys to success for a training exercise is timely and proper planning. A thorough and comprehensive planning process helps to identify potential flaws and constraints to the exercise design and/or to the procedures of the organisation(s) involved (ANPC, 2012)⁴⁸.</p> <p>The Federal Emergency Management Agency⁴⁹ (FEMA) (2003) recommends that exercise planning is delivered using an eight-step process:</p> <ol style="list-style-type: none"> 1. Assess needs; 2. Define scope; 3. Write a statement of purpose; 4. Define objectives; 5. Compose a narrative; 6. Write major and detailed events; 7. List expected actions; 8. Prepare messages.
Exercise planning team	A group of individuals required to work together to design and plan an exercise. The size of the exercise planning team will depend upon the size, scope and objectives of the exercise. For example, large-scale exercises that require a large number of resources will require a much larger exercise planning team than a smaller-scale exercise such as a drill, seminar or workshop.
Exercise player	A person who participates in an exercise as a student to receive training and/or to be assessed.
Exercise programme	A planned series of exercises developed by an organisation or group of organisations.
Exercise report	The exercise report should contain the aims, objectives, and planned outcomes of the exercise, along with an outline of the exercise scenario and planning process. It should also contain an evaluation section in which positive and negative observations are recorded and recommendations are made. The report should be compiled after the hot and cold debrief in order to provide feedback to the exercise participants. ⁵⁰
Exercise rules	The verbal and/or written instructions provided to exercise participants regarding the scope and extent of the exercise, key administrative and logistical matters, safety procedures and any other important information they require in order to fully participate.
Exercise scenario	An outline of a simulated emergency situation which will be used for a training exercise.
Exercise scope	The limitations within which a training exercise will be conducted. The exercise scope will determine realistic limits on personnel, resources, hazards, the geographic area and exercise activity. The exercise objectives will affect the required exercise scope.

⁴⁸ Source: ANPC (2012) [Guia para o Planeamento e Condução de Exercícios no Âmbito da Proteção Civil](#)

⁴⁹ Source: FEMA (2003) [Course IS139 - Exercise Design](#)

⁵⁰ Definition based on the definition of a “final exercise report” presented within the [Guidelines for the Development of an Exercise Program](#) from the Ontario Ministry of Community Safety and Correctional Services (2016).

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Term	Definition
Exercise statement	A broad statement explaining the overall aim of the exercise. The statement focuses and controls the exercise and facilitates the selection of appropriate exercise objectives. The statement also clarifies the purpose of conducting the exercise.
Expected action	The action(s) that an exercise participant is predicted to take in response to an event. Expected action(s) should be based around policies and procedures the participant is predicted to apply and follow in response to an event. ⁵¹
Full-scale exercises	<p>Full-scale exercises are the most complex and resource intensive type of exercise to plan and implement. Full-scale exercises are normally conducted in real-time and focus on the implementation and testing of plans, policies and procedures of one or multiple responding organisations. They typically involve mobilisation of large numbers of personnel and resources that are deployed to the scene of a simulated incident. During the exercise, personnel are required to implement the actions that would be required of them at a real incident.</p> <p>Throughout the duration of a full-scale exercise, many activities occur simultaneously. For example, a full-scale exercise can simultaneously test the command, communication and decision-making skills of the incident commander and of the other sector commanders deployed at the scene. This means that the level of support needed to plan and conduct a full-scale exercise is greater than that needed for other types of exercises. A large team of instructors/directing staff will be required in order to plan and manage an effective and successful full-scale exercise.⁵²</p>
Functional exercises	<p>Functional exercises are single or multi-agency activities designed to test policies, plans and procedures and/or to evaluate the performance of emergency responders that perform a particular function or role within the Incident Command System (ICS).</p> <p>Functional exercises focus on management, direction and command and control functions. All other elements of the emergency and organisation are simulated for the purpose of a functional exercise. For example, functional exercises do not involve the mobilisation and deployment of resources on the ground – the movement of personnel and equipment is always simulated.</p> <p>Functional exercises are commonly used to train and/or assess emergency service commanders on their command and decision-making skills. They may also be used to train and assess the responses to an emergency by personnel operating within an emergency service call centre/dispatch centre.</p> <p>Functional exercises can be complex and require a significant amount of planning and preparation. The likely responses, behaviours and actions that will be exhibited by the participants need to be anticipated and the relevant information and resources need to be compiled and/or created to ensure that the exercise staff (i.e. exercise director, exercise operator and/or role players) are able to supply suitable information and responses within realistic time-scales.⁵³</p>

⁵¹ Including a contribution from Craig Rayner at XVR.

⁵² Based on the information on “full-scale exercises! contained within [Guidelines for the Development of an Exercise Program](#) from the Ontario Ministry of Community Safety and Correctional Services (2016) .

⁵³ Definition based on information presented within the [Guidelines for the Development of an Exercise Program](#) from the Ontario Ministry of Community Safety and Correctional Services (2016)

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Term	Definition
Game exercises	<p>“A training method in which a game is used to either teach information or to assess student's possession of skills/knowledge.”⁵⁴</p> <p>Games are simulations of operations that often involve two or more participants/teams using rules, data, policies and procedures that depict an actual or assumed real-life emergency situation. Game exercises explore the outcomes of players' responses and can be used to help participants understand the potential consequences of their actions. Games are an important tool that can be used to explore the way decisions are made and the consequences of those decisions and behaviours. Decision-making during games can be real-time, slow and considered or rapid and more challenging, depending on the exercise objectives and design.⁵⁵</p> <p>Game exercises allow students to gain experiences and knowledge that they may not have obtained from attending past incidents.⁵⁶</p>
Hazard	“Anything which has the potential to cause harm.” ⁵⁷
Incident	“An occurrence or event that requires action to prevent or minimise loss of life, damage to property or damage to the environment.” ⁵⁸
Incident Command	“The authority of an agency to direct and control resources at an event/occurrence which requires action to prevent loss of life or damage.” ⁵⁹
Incident Commander	“The nominated competent officer who has overall responsibility for safety, tactics and management of resources at a wildfire incident.” ⁶⁰
Incident Command Point	“The geographic location where the Incident Commander is based.” ⁶¹
Incident Command Support	“Any person or assignment that provides direct assistance to the Incident Commander.” ⁶²
Incident Command System (ICS)	“A standardized emergency management system which is specifically designed to allow its users to adopt an integrated organisational structure equal to the complexity and demands of single or multiple wildfire incidents. An ICS provides a standard framework within which individuals and teams present at an incident can work together safely and effectively.” ⁶³
Map	“A graphical representation of an area which depicts the relative positions of features and landmarks.” ⁶⁴ Maps are usually key reference and planning tools used during training exercises and emergency incidents.
Map layer	“A map of a single thematic feature, such as contours, roads, or rivers and streams. Each map layer is usually stored as a separate file in a Geographic Information System (GIS) and overlaid to produce topographic or other maps.”

⁵⁴ Source: [Department of Homeland Security Training Glossary](#) (2015), p27.

⁵⁵ Paragraph based on the text on “games” presented within the [Guidelines for the Development of an Exercise Program](#) from the Ontario Ministry of Community Safety and Correctional Services (2016)

⁵⁶ Source: Additional sentence from Craig Rayner, XVR.

⁵⁷ Source: [European Glossary for Wildfires and Forest Fires](#) (2012), p45.

⁵⁸ Source: [European Glossary for Wildfires and Forest Fires](#) (2012), p45.

⁵⁹ Source: [European Glossary for Wildfires and Forest Fires](#) (2012), p45.

⁶⁰ Source: [European Glossary for Wildfires and Forest Fires](#) (2012), p46.

⁶¹ Source: [European Glossary for Wildfires and Forest Fires](#) (2012), p53.

⁶² Source: [European Glossary for Wildfires and Forest Fires](#) (2012), p53.

⁶³ Source: [European Glossary for Wildfires and Forest Fires](#) (2012), p45.

⁶⁴ [European Glossary for Wildfires and Forest Fires](#) (2012), p73.

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Term	Definition
Map overlay	“The combination of several map layers with the same map projection to create a new output map layer which shows the relationship between them. It is visually similar to stacking several maps of the same area.” ⁶⁵
Medical emergency	“An injury or illness that poses an immediate risk to a person's life or long term health.” ⁶⁶ Medical emergencies may form part of a specific exercise scenario or they may occur in real-life during training exercises.
Message	<p>An exchange of information during a training exercise, either via radio or by some other means, where there is no need for a face-to-face briefing to take place.⁶⁷ Messages may take place between exercise participants, between exercise staff (i.e. exercise directors, exercise operators and role players) and between exercise staff and participants.</p> <p>Messages can help drive, support and compliment the exercise narrative and should be written with the overall exercise objectives in mind. Messages should also be written in order to prompt decision-making and actions that are expected within current plans and procedures.</p> <p>There are two different types of messages used during training exercises:</p> <ul style="list-style-type: none"> • Pre-scripted messages – messages that are developed prior to the exercise. Pre-scripted messages will be primarily based primarily on expected behaviour. • Spontaneous messages – messages that are developed during an exercise when players react in a way which is different to that which was expected. Spontaneous messages are sometimes known as “free play” as they can be used by an exercise director, operator or role player to induce or steer participants to react.⁶⁸
Multi-agency exercise	An exercise directly involving more than one organisation.
Multi-Agency Strategic Holding Area (MASHA)	<p>“A pre-identified space which is large enough to accommodate the command and logistical support structures of all agencies required for a major incident [or exercise]”⁶⁹</p> <p>The term strategic holding area is sometimes abbreviated to MASHA.</p>
“No Duff, No Duff, No Duff!”	<p>Standard warning given by the exercise director or other directing staff during a training exercise to indicate a real-life hazardous situation. It may often be accompanied by the phrase ENDEX.</p> <p>An alternative phrase that is sometimes used is “No Game, No Game, No Game!”.</p>
“No Game, No Game, No Game!”	<p>Standard warning given by the exercise director or other directing staff during a training exercise to indicate a real-life hazardous situation. It may often be accompanied by the phrase ENDEX.</p> <p>An alternative phrase that is sometimes used is “No Duff, No Duff, No Duff!”.</p>

⁶⁵ Original definition adapted from Julia McMorow of the University of Manchester (UK). Definition was originally included within the [European Glossary for Wildfires and Forest Fires](#) (2012), p74.

⁶⁶ Source: [European Glossary for Wildfires and Forest Fires](#) (2012), p46.

⁶⁷ Based on the definition for “message” within [European Glossary for Wildfires and Forest Fires](#) (2012), p53.

⁶⁸ Aside from the first sentence, the majority of the definition for “message” is based on the information contained within [Guidelines for the Development of an Exercise Program](#) from the Ontario Ministry of Community Safety and Correctional Services (2016) .

⁶⁹ Source: Cabinet Office (2012) [Multiagency Strategic Holding Areas: A Guide to the Identification, Inspection and Establishment of Multi-Agency Strategic Holding Areas](#)

Chapter 4 – Exercises

Term	Definition
Operations-based Exercises	These are exercises that are used to validate plans, policies, agreements, and procedures, clarify roles and responsibilities, and identify resource gaps within an operational environment. Examples of specific types of operations-based exercises include drills, functional exercises, and full-scale exercises. Common characteristics of operations-based exercises include actual response and mobilisation of resources and personnel, usually over an extended period of time. These exercises may involve single or multiple organisations. ⁷⁰
Post-exercise clean up	The process of taking-down and removing equipment and any other facilities used during an exercise. Post-exercise clean-up needs to be considered within the exercise planning process and arrangements and responsibilities should be outlined within the final exercise plan.
Rapid onset emergency exercise	A type of simulated emergency exercise which develops quickly and usually with immediate effects, thereby limiting the time available to consider response options. This type of emergency exercise contrasts with a rising tide exercise. ⁷¹
Rising tide emergency exercise	A type of simulated emergency exercise which develops relatively slowly and the final impact(s) may not be apparent early on. This type of emergency exercise contrasts with a rapid onset exercise. ⁷²
Role	The function or part played by a person or thing within a simulated or virtual environment and/or during a training exercise.
Role player	A person who imitates the character and behaviour of a person with a particular role as part of a training exercise. Role players are commonly used in training exercises to help add realism to simulations, virtual worlds and table top exercises.
Sector	A specific area of an incident or exercise which is under the control of a Sector Commander. ⁷³
Seminars	An informal discussion which is designed to familiarise participants with new or updated plans, policies or procedures (for instance, new or updated Standard Operating Procedures SOPs). ⁷⁴ Seminars can be used to discuss and gain an awareness of multiagency response to emergency situations and scenarios. They can also be effective for generating feedback about plans, policies and procedures which can be used as a foundation for developing new plans, policies, procedures or larger exercises (such as functional exercises or full scale exercises). Seminars are typically conducted in a lecture-based format with limited feedback or interaction from participants. They do not typically require a formal and or comprehensive exercise report; however, it is considered good practice to produce a concise seminar report that captures the discussions, issues raised, and, if appropriate, any actions that were decided. ⁷⁵ Seminars share some similarities with “workshops” but there are distinct differences concerning the objectives and level of interaction of participants.

⁷⁰ Definition based on the types of exercise presented within the [Guidelines for the Development of an Exercise Program](#) from the Ontario Ministry of Community Safety and Correctional Services (2016)

⁷¹ Source: definition adapted from definition for “rapid onset emergency” within the Cabinet Office (2013) [Lexicon of UK Civil Protection Terminology](#), Version 2.1.1.

⁷² Source: definition adapted from definition for “rising tide emergency” within the Cabinet Office (2013) [Lexicon of UK Civil Protection Terminology](#), Version 2.1.1.

⁷³ Source: [European Glossary for Wildfires and Forest Fires](#) (2012), p67.

⁷⁴ Source: Homeland Security Exercise and Evaluation Program (date unknown) [Terminology, Methodology, and Compliance Guidelines](#)

⁷⁵ Based on information about “seminars” included within the [Guidelines for the Development of an Exercise Program](#) from the Ontario Ministry of Community Safety and Correctional Services (2016)

Chapter 4 – Exercises

Term	Definition
Stimulus	Any event, situation, condition, signal or cue that provokes a response from a learner.
Strategic Holding Area (SHA)	<p>A pre-identified space which is large enough to accommodate the command and logistical support structures of a single emergency service required for a major incident [or exercise].</p> <p>The term strategic holding area is sometimes abbreviated to SHA.</p>
Stress	“The harmful physical or psychological reactions that occur when people are subject to excessive demands, unrealistic expectations and/or threatening situations. Signs of stress may be cognitive, emotional, physical and/or behavioural.” ⁷⁶ Training exercises are often designed to replicate or reproduce the types of stress that might be experienced during an emergency incident.
Stressor	“An event or stimulus that induces stress.” ⁷⁷
Symptomology card	<p>A symptomology card explains the signs and symptoms that a victim actor should portray during an exercise. The card may also include other information that may be required by emergency responders treating the victim during the exercise.</p> <p>Symptomology cards often include the following information:</p> <ul style="list-style-type: none"> • Vital signs (e.g. blood pressure, respiration) • Symptoms (e.g. dizziness, pain nausea) • Trauma injuries (e.g. lacerations, wounds, broken limbs) • Acting instructions (e.g. disorientation, emotional distress, unconscious, language barriers, physical limitations)⁷⁸
Table top exercise (TTX)	<p>Table top exercises (TTXs) typically involve discussion by key staff, decision makers, and elected and appointed officials. This type of exercise is generally held in an informal setting intended to generate discussion of various issues regarding a hypothetical, simulated event. They can be used to enhance general awareness, validate plans and procedures, and/or assess the types of systems needed to guide prevention, response, and recovery from a defined event.</p> <p>These exercises are aimed at facilitating an understanding of concepts, identifying strengths and shortfalls, and/or achieving a change in attitude. Participants are encouraged to discuss issues in depth and are provided with opportunities to develop decisions through slow-paced problem solving rather than the rapid, spontaneous decision-making that occurs under actual emergency conditions.</p> <p>Table top methodologies can be sub-divided into two different types:</p> <ul style="list-style-type: none"> • Basic TTX - the scene set by the scenario materials remains constant. This scene describes an event or emergency incident and takes participants through the phases to the simulated present.

⁷⁶ Source: [European Glossary for Wildfire and Forest Fires](#) (2012), p48.

⁷⁷ Source: [European Glossary for Wildfire and Forest Fires](#) (2012), p48.

⁷⁸ Based on information about symptomology cards within the [Guidelines for the Development of an Exercise Program](#) from the Ontario Ministry of Community Safety and Correctional Services (2016)

Chapter 4 – Exercises

Term	Definition
Table top exercise (TTX) (continued from previous page)	<ul style="list-style-type: none"> • Advanced TTX – the exercise advances through the delivery of a number of pre-scripted messages. The Exercise Director (or other exercise staff) introduces problems one at a time in the form of a written message, simulated telephone call, videotape, or other means. Participants then discuss the issues raised by each problem, using appropriate plans and procedures. Player decisions are incorporated as the scenario continues to unfold.⁷⁹
Victim actors	<p>A trained actor, role player or volunteer that is tasked during an exercise with portraying a victim injured during a simulated emergency. Victim actors can provide a higher level of realism to exercises and can be used to simulate victim care.</p> <p>Each victim actor should normally be provided with a unique symptomology card which explains the signs and symptoms that they should portray, as well as other information that may be required by emergency responders treating the victim during the exercise.</p> <p>Victim actors should receive a briefing prior to the exercise to explain their role, responsibilities and the symptomology card. They should also be instructed to not step out of character except in the event of a real emergency.</p>
Workshops	<p>Workshops are an informal discussion that involve a relatively high level of participant interaction and discussion. The key focus of a workshop is on creating or writing a particular product (such as a policy, procedure, exercise plan or exercise programme). To be effective, workshops need to be focused on a specific issue and the desired outcome or product must be clearly defined to all participants.⁸⁰</p> <p>Workshops share some similarities with “seminars” but there are distinct differences concerning the objectives and level of interaction of participants.</p>

⁷⁹ The definition on TTXs is copied from (or in some places adapted and based on) the description of TTXs within the [Guidelines for the Development of an Exercise Program](#) from the Ontario Ministry of Community Safety and Correctional Services (2016)

⁸⁰ Based on information about “workshops” included within the [Guidelines for the Development of an Exercise Program](#) from the Ontario Ministry of Community Safety and Correctional Services (2016)

Chapter 5 – Simulation and Virtual Reality

Simulation: “A realistic representation of the real world.”

Virtual Reality: “a three-dimensional, computer-generated environment that can be moved through and explored. Through virtual reality, a person becomes immersed in a virtual world within which they can manipulate objects and perform a series of actions.”



Chapter 5 – Simulation and VR

Term	Definition
Assembly area	<p>The gathering place for deployable resources prior to the start of a training exercise.</p> <p>More than one assembly area may be established if an exercise involves multiple sites or events. The assembly area will provide a safe location in close proximity to the exercise from which units can be sent directly to the site, allowing exercise directors/staff to simulate actual response times for responding units in a lower-risk environment.</p> <p>Assembly areas can also be used within simulated virtual training environments. They may be a physical place that is visible to exercise participants or they may be purely a functional location that is not visible to exercise participants but which is used by the exercise operator(s) to temporarily store deployable units while waiting to place them into/take them out of a particular exercise scenario.</p> <p>An assembly area should not be confused with a “holding area” or “staging area”.</p>
Augmented reality (AR)	<p>Augmented reality is computer generated content which is overlaid onto a real-world environment. It essentially creates a composite view of real-world and computer-generated data.</p> <p>Augmented reality hardware can include both hand-held devices and devices that you can wear, such as headsets and glasses.</p> <p>Augmented reality shares some similarities with virtual reality, although they are essentially two different technologies that can be used for simulation training. Augmented reality literally adds to or expands on reality, but it does not replace it. On the other hand, virtual reality replaces reality with a completely virtual environment.</p> <p>Augmented reality is commonly abbreviated to AR.</p>
Avatar	<p>An image that represents a person in the virtual world. Avatars are commonly used within simulation software to represent players who can move themselves around in a virtual world.</p>
Browser	<p>A computer application which provides users with the ability and tools (such as zoom and pan) to access and navigate around a virtual world.</p>
Components	<p>The internal hardware within a computer system. Some of the components included within a typical computer system include the motherboard, computer processor (CPU) and hard drive.</p>
Computer network	<p>A set of computers connected together for the purpose of sharing resources and/or information.</p> <p>Simulators are commonly composed of a network of computers connected via a switch or hub which runs simulation software that generates a virtual world for training and/or assessment.</p>
Computer script	<p>A computer script is a list of commands that are executed by a computer programme without the need for user interaction. Scripts may be used to automate processes on a computer or simulator.</p>
Computer script language	<p>Simple programming language that can be used to write computer scripts. Script languages are typically designed to be very fast to learn and write.</p>

Chapter 5 – Simulation and VR

Term	Definition
Computer system	A complete and functional computer, including all of the hardware and software required to make it functional for the user. Computer systems are important elements of virtual reality simulators.
Event	<p>Something that takes place or happens within a simulated and/or virtual environment. Events reflect an incident or activity and should act as a prompt for participants to implement a specific policy or procedure that is expected. The events included within a simulation exercise should be designed to correspond to the learning outcomes of the exercise and/or the competency standards of the assessment being conducted through the exercise.</p> <p>Events can be classified as either major events or minor events:</p> <ul style="list-style-type: none"> • Major events are key events or occurrences during an exercise that are important for achieving the overall objectives of the exercise • Minor events are specific problem situations during the exercise to which participants must respond
Event Master List	A chronological list of event and injects that drive and guide a training exercise (including simulation exercises). The Event Master List provides a structure that links simulated events to the actions that the exercise director wants a participant to take in order to meet the exercise objectives.
Exercise	<p>“An exercise is a simulated emergency in which players carry out actions, functions, and responsibilities that would be expected of them in a real emergency. Exercises can be used to validate plans and procedures, and to practice prevention, mitigation, preparedness, response, and recovery capabilities.</p> <p>Well-designed and executed exercises can be the most effective means of:</p> <ul style="list-style-type: none"> • Testing and validating plans, policies, procedures, training, equipment, and interagency agreements • Training personnel and clarifying roles and responsibilities, as supported by plans and procedures • Improving interagency⁸¹ coordination and communications • Identifying gaps in resources and training, and identifying areas for improvement • Improving individual and organisational performance through practice”⁸² <p>Exercises should also be based around best practice and should create an experience that participants can refer back to when attending future incidents.⁸³</p>
Exercise operator	The person who is responsible for operating and controlling the computer software that creates and runs a simulation exercise.
Exercise player	A person who participates in an exercise as a student to receive training and/or to be assessed.

⁸¹ i.e. multiagency

⁸² Source: [Guidelines for the Development of an Exercise Program](#) from the Ontario Ministry of Community Safety and Correctional Services (2016).

⁸³ This additional sentence is based on information supplied by Craig Rayner at XVR.

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Term	Definition
Exercise script	A piece of text that provides a detailed explanation and chronology of events and conditions within a training exercise and scenario. Scripts are extremely important for ensuring that the learning objectives or competency requirements of a simulation training exercise are achieved or covered.
Exercise statement	A broad statement explaining the overall aim of the exercise. The statement focuses and controls the exercise and facilitates the selection of appropriate exercise objectives. The statement also clarifies the purpose of conducting the exercise.
Expected action	The action(s) that an exercise participant is predicted to take in response to an event. Expected action(s) should be based around policies and procedures the participant is predicted to apply and follow in response to an event.
Game-based learning	“A training method in which a game is used to either teach information or to assess student's possession of skills/knowledge.” ⁸⁴
Game exercises	<p>“A training method in which a game is used to either teach information or to assess student's possession of skills/knowledge.”⁸⁵</p> <p>Games are simulations of operations that often involve two or more participants/teams using rules, data, policies and procedures that depict an actual or assumed real-life emergency situation. Game exercises explore the outcomes of players’ responses and can be used to help participants understand the potential consequences of their actions. Games are an important tool that can be used to explore the way decisions are made and the consequences of those decisions and behaviours. Decision-making during games can be real-time, slow and considered or rapid and more challenging, depending on the exercise objectives and design.⁸⁶</p> <p>Game exercises allow students to gain experiences and knowledge that they may not have obtained from attending past incidents.⁸⁷</p>
Gamification	The process of applying game designs and concepts to training courses.
Gaming	“A training method in which a game is used to either teach information or to assess student's possession of skills/knowledge.” ⁸⁸
Hardware	The physical parts of a computer system. Hardware can be divided into internal and external hardware. The term internal hardware refers to the computer components, including the motherboard, computer processor (CPU) and hard drive. The external hardware is sometimes referred to as the “peripherals” and can include monitors, keyboards, mice, joysticks and printers.
Hide/unhide objects	A software function which enables an exercise operator to make objects and avatars visible/invisible to exercise players within a virtual environment. <i>Definition continued on next page.</i>

⁸⁴ Source: [Department of Homeland Security Training Glossary](#) (2015), p27.

⁸⁵ Source: [Department of Homeland Security Training Glossary](#) (2015), p27.

⁸⁶ Paragraph based on the text on “games” presented within the [Guidelines for the Development of an Exercise Program](#) from the Ontario Ministry of Community Safety and Correctional Services (2016)

⁸⁷ Source: Additional sentence from Craig Rayner, XVR.

⁸⁸ Source: [Department of Homeland Security Training Glossary](#) (2015), p27.

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Term	Definition
Hide/unhide objects (continued from previous page)	The hide/unhide function is commonly used to help save time as it enables exercise designers to place objects and avatars in locations within a virtual world where they think they will be needed or requested by exercise players. The object or avatar can be placed in the virtual world and then hidden until an appropriate request is made or action taken by an exercise player.
Icon	A symbol or image on a computer screen which represents an object, person, process or function. Icons are commonly used as simple representations of more complex things or actions.
Injections/Injects	<p>Introducing or reintroducing something to an exercise player during a training exercise. An injection can take many different forms, depending upon the training scenario and objectives.</p> <p>A commonly used type of inject for simulation training is to provide contextual information to help construct the operating environment of the exercise. This is commonly achieved, for example, through the use of role players to communicate important pieces of information to an exercise player, either via face-to-face meetings or via radio messages.</p> <p>Injects may also be required if a participant in an exercise does not respond to an event in a way that was originally predicted. These types of injects can be referred to as “contingency injects” and will be used by an exercise operator/director/facilitator to maintain the realism of the exercise and to enable the exercise to continue.</p>
Inventory	An itemised list of the potential items and avatars that can be placed and used within a simulator and virtual environment.
Location point	A specific and pre-identified place within a simulated environment. Location points can be strategically placed by developers to assist exercise operators and other exercise directing staff in navigating around a virtual environment during a training exercise. For example, common location points may include a starting location for the incident command post during a wildfire exercise.
Map	“A graphical representation of an area which depicts the relative positions of features and landmarks.” ⁸⁹ Maps are usually key reference and planning tools used during training exercises and emergency incidents.
Map layer	“A map of a single thematic feature, such as contours, roads, or rivers and streams. Each map layer is usually stored as a separate file in a Geographic Information System (GIS) and overlaid to produce topographic or other maps.”
Map overlay	“The combination of several map layers with the same map projection to create a new output map layer which shows the relationship between them. It is visually similar to stacking several maps of the same area.” ⁹⁰

⁸⁹ [European Glossary for Wildfires and Forest Fires](#) (2012), p73.

⁹⁰ Original definition adapted from Julia McMorow of the University of Manchester (UK). Definition was included within [European Glossary for Wildfires and Forest Fires](#) (2012), p74.

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Term	Definition
Messages	<p>An exchange of information during a training exercise, either via radio or by some other means, where there is no need for a face-to-face briefing to take place.⁹¹ Messages may take place between exercise participants, between exercise staff (i.e. exercise directors, exercise operators and role players) and between exercise staff and participants.</p> <p>Messages can help drive, support and compliment the exercise narrative and should be written with the overall exercise objectives in mind. Messages should also be written in order to prompt decision-making and actions that are expected within current plans and procedures.</p> <p>There are two different types of messages used during training exercises:</p> <ul style="list-style-type: none"> • Pre-scripted messages – messages that are developed prior to the exercise. Pre-scripted messages will be primarily based primarily on expected behaviour. • Spontaneous messages – messages that are developed during an exercise when players react in a way which is different to that which was expected. Spontaneous messages are sometimes known as “free play” as they can be used by an exercise director, operator or role player to induce or steer participants to react.⁹²
3D Modelling	The use of computer software to create a virtual three-dimensional model of a physical object. 3D modelling is an important tool used within virtual reality, augmented reality and simulation training.
Model	<p>The term “model” can have at least two different definitions, depending upon the context in which it is used. A model can be:</p> <ul style="list-style-type: none"> • A 3D representation of a person or thing which is typically on a smaller scale than the original; or, • A thing or person used as an example to follow or imitate.
Modelling	<p>“The process of creating a representation of part of the real world and subjecting it to some form of parameters and variables for the purpose of predicting, simulating or describing the real world.”⁹³</p> <p>Modelling is an important tool used within virtual reality, augmented reality and simulation training.</p>
Multimedia	<p>The use of multiple different types of media.</p> <p>Virtual reality simulators typically incorporate multimedia through the use and integration of images, videos, text and/or audio.</p>
Navigation	“The process of planning, following and monitoring progress along a pre-defined route of travel.” ⁹⁴
Navigation techniques	<p>“A range of tools and techniques that enable navigators to locate their position in relation to other known locations and landmarks.”⁹⁵</p> <p>Navigation techniques are used by participants to move around in both real-world and virtual-world training exercises.</p>

⁹¹ Based on the definition for “message” within [European Glossary for Wildfires and Forest Fires](#) (2012), p53.

⁹² Aside from the first sentence, the majority of the definition for “message” is based on the information contained within [Guidelines for the Development of an Exercise Program](#) (2016)

⁹³ Source: [European Glossary for Wildfires and Forest Fires](#) (2012), p74.

⁹⁴ Source: [European Glossary for Wildfires and Forest Fires](#) (2012), p74.

⁹⁵ Source: [European Glossary for Wildfires and Forest Fires](#) (2012), p74.

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Term	Definition
“No Duff, No Duff, No Duff!”	Standard warning given by the exercise director or other directing staff during a training exercise to indicate a real-life hazardous situation. It may often be accompanied by the phrase ENDEX. An alternative phrase that is sometimes used is “No Game, No Game, No Game!”.
“No Game, No Game, No Game!”	Standard warning given by the exercise director or other directing staff during a training exercise to indicate a real-life hazardous situation. It may often be accompanied by the phrase ENDEX. An alternative phrase that is sometimes used is “No Duff, No Duff, No Duff!”.
Objects	A wide variety of potential things placed within a simulation and/or virtual world which an exercise player can see, move and/or interact with.
Operating system	The most important programme that runs on a computer. Operating systems provide a software platform on top of which other programmes can run. The choice of operating system will determine which software programmes can be run on a computer.
Peripherals	The external hardware of a computer system. Common peripherals within a computer system include monitors, keyboards, mice, joysticks and printers.
Rapid onset emergency exercise	A type of simulated emergency exercise which develops quickly and usually with immediate effects, thereby limiting the time available to consider response options. This type of emergency exercise contrasts with a rising tide exercise. ⁹⁶
Rising tide emergency exercise	A type of simulated emergency exercise which develops relatively slowly and the final impact(s) may not be apparent early on. This type of emergency exercises contrasts with a rapid onset exercise. ⁹⁷
Role	The function or part played by a person or thing within a simulated or virtual environment and/or during a training exercise.
Role player	A person who imitates the character and behaviour of a person with a particular role as part of a training exercise. Role players are commonly used in training exercises to help add realism to simulations, virtual worlds and table top exercises.
Role player script	A document provided to a role player prior to the commencement of a training exercise. The role player script should explain the exercise scenario and the role(s) that the individual is required to perform. This document should also include any other key details about the exercise that the role player should know, such as explanations of what information the role player should and should not provide to the exercise participants.
Script (computer programming)	A list of commands within a piece of computer software. Computer script may be used to automate processes on a computer or simulator.
Serious games	An umbrella term for any game-based activities that have a primary purpose other than pure entertainment. Serious games provide a risk free environment to practise and assess essential skills, such as command and control of emergency incidents.

⁹⁶ Source: definition adapted from definition for “rapid onset emergency” within the Cabinet Office (2013) [Lexicon of UK Civil Protection Terminology](#), Version 2.1.1.

⁹⁷ Source: definition adapted from definition for “rising tide emergency” within the Cabinet Office (2013) [Lexicon of UK Civil Protection Terminology](#), Version 2.1.1.

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Term	Definition
Simulation	A simulation is a realistic representation of the real world. According to FEMA (2015), “Simulations provide an opportunity for the student to practice procedures, tasks, or problems in approximation to real-world scenarios.” ⁹⁸
Simulator	A computer system and/or software that artificially (re)creates specific conditions or characteristics from the real world for the purpose of training.
Software	Programmes and applications that run on computers.
STARTEX	Phrase used by an exercise director to inform all participants that an exercise has started.
System requirements	The minimum level of hardware required to run a piece of software.
Table top exercise (TTX)	An exercise which is designed to test the ability of an individual or a group to discuss, respond to and resolve a situation. Table top exercises are commonly used by the emergency services to practice and train for emergency situations. Simulation technology provides opportunities for emergency services to make table top exercises more visual and realistic. Table top exercise can be abbreviated to TTX.
Thematic map	“A map which shows data concerning one or more specific themes or subjects connected to a particular geographical area. Some relevant examples include maps presenting land use and maps presenting rainfall.” ⁹⁹
Time delay	<p>A time delay is when something happens later than originally planned or expected.</p> <p>When commanding a real wildfire incident, there will usually be time delays between making decisions and observing the consequences of those decisions. Time delays can present challenges for simulation training, although they are not necessarily always a problem. Unrealistic time delays however, can disrupt the experience of a person training within a virtual environment. This disruption can also cause an individual to change their behaviour. A good virtual environment will minimise the chances of unrealistic time delays.</p>
Topographical map	<p>“A map produced for the principle purpose of portraying and identifying the shape and features of the land surface.”¹⁰⁰</p> <p>A practical understanding of how to read and use a topographical map is an important element of wildfire and wildfire incident command training as topography will influence rate and direction of firespread. Topography will also have an important influence on wildfire suppression tactics and mobility of firefighting resources around a wildfire incident. Topographical maps are often produced and used during table top exercises and simulation exercises for wildfire incidents. They may also be important for training for other types of emergency, such as flooding.</p>

⁹⁸ Source: [Department of Homeland Security Training Glossary](#) (2015), p52.

⁹⁹ Source: [European Glossary for Wildfires and Forest Fires](#) (2012), p75.

¹⁰⁰ Source : [European Glossary for Wildfires and Forest Fires](#) (2012), p76.

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Term	Definition
Transparent technology	<p>Technology that is easy to use, intuitive in nature, and not the focus of the learning experience. Transparent technology is used to simplify users' experiences and limit their interaction to the key elements/programmes that are essential for the learning experience and learning outcomes. Seamless technology is particularly useful for simulation scenarios as it reduces the complexity of the simulator and removes the need for prior knowledge and experience of simulator systems.</p> <p>Transparent technology is also sometimes referred to as "seamless technology".</p>
Trigger	<p>An action or event that automatically initiates a subsequent action or event. Triggers are planned and pre-established prior to running a simulation exercise and can be automated within some software packages. Common triggers that can be included within a simulated wildfire exercise can include:</p> <ul style="list-style-type: none"> • An avatar interacting with or manipulating a specific object • An avatar walking or driving to a particular location • An event that occurs after a specified time period
Seamless Technology	<p>Technology that is easy to use, intuitive in nature, and not the focus of the learning experience. Seamless technology is used to simplify users' experiences and limit their interaction to the key elements/programmes that are essential for the learning experience and learning outcomes. Seamless technology is particularly useful for simulation scenarios as it reduces the complexity of the simulator and removes the need for prior knowledge and experience of simulator systems.</p> <p>Seamless technology is also sometimes referred to as "transparent technology".</p>
Virtual classroom	<p>An online classroom that allows participants to communicate with one another to deliver and receive training. Virtual classrooms usually allow participants to view presentations or videos, interact with other participants, and engage with resources in work groups. Participants remotely access a virtual classroom via a personal computer or other mobile device, which enables training to be delivered simultaneously to participants in numerous different locations.</p>
Virtual Reality (VR)	<p>A basic definition for virtual reality is "near reality". In more technical terms, virtual reality can be defined as a three-dimensional, computer-generated environment that can be moved through and explored. Through virtual reality, participants become immersed in a virtual world within which they can manipulate objects and perform a series of actions. A good virtual environment will provide appropriate real-time responses to a person as they explore and perform actions.</p> <p>Virtual reality shares some similarities with augmented reality, although they are two different technologies that can be used for simulation training. Augmented reality literally adds to or expands on reality, but it does not replace it. On the other hand, virtual reality replaces reality with a completely virtual environment.</p> <p>Virtual reality is commonly abbreviated to VR.</p>

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Term	Definition
Virtual world	<p>A computer-based simulated environment which may be populated by one or more participants who take the form of an avatar.</p> <p>A virtual world can be used to deliver training to one or multiple participants by enabling them to simultaneously and independently explore the virtual world, observe actions and events taking place, and communicate with other participants, role players and/or training officers.</p>
Visualisation	<p>To form a picture of someone or something in your mind.</p>

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