



An Roinn Cosanta
Department of Defence

Strategic Emergency Management

Guideline 9 - Information Management

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Information Management

Crises create a complex information environment where the demand for information continuously increases. The systematic management of information during the planning and preparedness; response; and recovery phases of emergencies has a direct influence on emergency management outcomes.¹

Those who manage emergencies often have to make crucial decisions quickly and with limited information. For this reason, the quality of the information placed before emergency decision-makers is often a critical success factor.²

Introduction

Paragraph 5.6 of the *Strategic Emergency Management: National Structures and Framework* describes information management as an activity which must be considered in the planning and preparedness phase.

Information management includes strategies for the collection, collation, analysis, storage and dissemination of information, for decision makers in the National Emergency Coordination Group and as a tool for providing key messages for public information.³

Information management also supports information sharing. Including the exchange of information with other departments and agencies, as well as regional and local coordination centres in order to enhance shared situational awareness.⁴

During a crisis, information needs increase, as do individual stress levels and time pressure, thus greatly increasing the chances of information overload and miscommunication.

¹ Christine Hagar (ed.), *Crisis information management: communication and technologies* (Chandos information professional series, Oxford, 2012).

² *A Framework for Major Emergency Management* (2006), Appendix F10. p. 44

³ *Director's Guideline for CDEM Group and Local Controllers [DGL06/08]* (Wellington, 2014) (<https://www.civildefence.govt.nz/assets/Uploads/publications/Response-management-DGL06-08-Oct14-Revisions.pdf>) (3 Mar. 2023).

⁴ *Australian Disaster Resilience Handbook Collection* Second Edition (Melbourne, 2020) (https://www.aidr.org.au/media/8313/aidr_handbookcollection_emergencyplanning_2020.pdf) (3 Mar. 2023).

Proper information management minimises overload, miscommunications, information ambiguity, information filtering, information distortion, and conflicting instructions.

Information management is required to maximise the clarity of mission critical information exchanged between the national emergency coordination group, departments/agencies crisis management teams, as well as local and regional coordination centres.⁵

Principles of Information Management

A good information management system has the following characteristics:

- Provides a system for effective information sharing
- Develops situational awareness by creating a common operational picture
- Supports effective action planning

A common operating picture is an understanding of the situation based on the best available information, shared between all response agencies.

A common operational picture requires a standard information management system, standard operating procedures, agreed templates, and common terminology.⁶

A successful information management system must be scalable. This means that the information management system should be suitable for use within a department or agency crisis management team and easily transferable to the national emergency coordination group setting if a crisis escalates to one requiring national level coordination.

⁵ Thomas J. Housel, Omar A. El Sawy and Paul F. Donovan, 'Information Systems for Crisis Management: Lessons from Southern California Edison' in *MIS Quarterly*, x, no. 4 (1986), pp 389–400 (<https://www.jstor.org/stable/249195>).

⁶ *Director's Guideline for CDEM Group and Local Controllers [DGL06/08]* (Wellington, 2014) (<https://www.civildefence.govt.nz/assets/Uploads/publications/Response-management-DGL06-08-Oct14-Revisions.pdf>) (3 Mar. 2023).

Information sharing should comply with current data protection legislation as well as information and ICT security guidelines from participating departments and agencies.⁷

Information sharing can occur between departments and agencies using:

- Mobile device and computer applications.
- Applications supported by the Office of Government Chief Information Officer
- Department administrative applications
- E-mail
- Briefing papers and memos
- Situation updates
- Situation reports
- Documented telecommunications

The roles, responsibilities and arrangements for records management and storage should be agreed and document in the planning and preparedness phase.⁸

Methods of information sharing **MUST** be rehearsed in any exercise scenario being developed by lead government departments.

The Information Management System advocates that the normal reporting and filing structures should be utilised as much as possible, as these are used on a daily basis and are generally understood by all.

⁷ *National Incident Management System*, by Federal Emergency Management Agency, Third Edition (Washington, 2017) (https://www.fema.gov/sites/default/files/2020-07/fema_nims_doctrine-2017.pdf) (3 Mar. 2023).

⁸ *Australian Disaster Resilience Handbook Collection* Second Edition (Melbourne, 2020) (https://www.aidr.org.au/media/8313/aidr_handbookcollection_emergencyplanning_2020.pdf) (3 Mar. 2023).

Information Management Team⁹

All incoming data needs to be received, validated, analysed and displayed quickly and accurately in the form of information required for decision-making by the national emergency coordination group.

This process needs to be a distinct and self-standing management task undertaken by an information management officer, or a group of information management officers brought together as an information management team.

Information management teams require training and exercising in order to demonstrate competence and efficient delivery of information to decision makers in the national emergency coordination group setting.

Protracted emergencies may require a number of Information Management Teams working by rota to ensure continuity and to avoid burnout and stress.

Where appropriate an action management officer, may be appointed. The role of the action manager is to create an action plan.

The action plan should be displayed as part of the Information Management System.

The action manager must ensure that all actions are communicated to the relevant departments and agencies identified as responsible for specific tasks.

The action management officer may be a representative from a department/agency other than the lead government department.

⁹ Adapted for the strategic response from *A Framework for Major Emergency Management* (2006). Appendix F9. p. 43

Information Management Officer¹⁰

The role must be allocated to a senior official from the lead government department who has received training from the Office of Emergency Planning as an information management officer.

The information management officer will have responsibility for running the information management system in the national emergency coordination centre during exercises and activations of the national emergency coordination group.

The information management officer **is not** to be seen as a scribe. The information management officer is responsible for drawing the attention of the chair of the national emergency coordination group to key issues and actions which are required for decision making.

The information management officer also provides the accountability and ‘black box’ data for any after action report or inquiry following an activation; the information management system providing a contemporaneous record of decisions and the context within which they were made.

The information management officer must be an official trusted by those who will chair the national emergency coordination group on behalf of the lead government department.

Each lead government department should designate one primary information management officer or a small information management team.

Each information management officer should be aware of the national risk assessment and the role of their department in response, whether as lead government department or in support of another department.

The role of the information management officer is to obtain, process and present information to the main decision makers in the national emergency coordination group.

This is an active management task, to be undertaken by an official with a decision making mandate, appointed by the lead government department and trained by the Office of Emergency Planning.

¹⁰ Adapted for the strategic response from *A Framework for Major Emergency Management* (2006). Appendix F10. p. 45

The information management officer will act as the principal source of information between departments, agencies, local and regional coordination centres and between the national emergency coordination centre and the public. This is to ensure that information exchange is consistent and current.

This does not mean that other members of the team will not themselves form points of interface between centres; chairpersons, other members of co-ordination groups, specialist advisers and media liaison professionals will each have their own functions and their own liaison networks.

The principle remains however, that whenever information is shared between the national emergency coordination group and other groups that there is constant and explicit reference to the shared information array, populated by the information management officer and their team, particularly the 'Recognised Current Situation' board.

While information is primarily 'bottom up' and 'top down' it is critical in a multi department response that information is also disseminated horizontally, as decisions and actions of one department may impact the decisions of other departments.

The Information Management Officer is not limited to receipt, collection and collation of information, but must be prepared to actively seek out information.

Setting the Objectives¹¹

Information management officers should form part of the lead government department emergency management group as referenced in para 9 of SEM Guideline Document 6 - Planning and Exercising.

Information management officers will need to decide in the planning and preparedness phase what the strategic aims and objectives will be for each emergency type that they have responsibility for. These strategic aims and objectives will require the approval of the emergency management group, and should be agreed by senior management.

Information management officers should understand what information decision-makers will need to know in the event of an activation of the emergency coordination group in each of the emergencies that their department has responsibility for by virtue of Annex 'A' of SEM.

¹¹ 'UNHCR|Emergency Handbook' (<https://emergency.unhcr.org/entry/49519/emergency-information-management-strategy>) (3 Mar. 2023).

It is important that information management officers set up regular meetings with senior officials who may chair the national emergency coordination group so that they can understand what is expected of them in a crisis, the information that they need to display and that the senior official is reminded of the importance and relevance of the information management officer role.

These meetings should be held biannually at minimum or as soon as practicable following the appointment of a new senior officials or a transfer of functions.

Additional meetings may take place following an activation of NECC (debrief) or following an exercise to review lessons learnt.

The emergency management group of the lead government department, must ensure that information management is included as an agenda item during any coordination or planning meetings and that the information management officer is part of the emergency management group.

The information management officer will need to develop, and have approved, clearance procedures for the release of information in coordination with the relevant communications officers and ministerial advisers, to ensure that information is appropriate to release and validated before being disseminated and made public.

Linking with regional and local level coordination structures¹²

In many situations where the national emergency coordination group is convened, parallel structures may already be convened at local and regional level under the guidance of the *Framework for Major Emergency Management*.

In the event of a crisis beginning at local coordination level, the lead agency, as determined by the *Framework for Major Emergency Management* should inform its parent Department of the declaration, as part of that agency's mobilisation procedure.

SEM Annex 'A' identifies the lead government department for each emergency type in line with Ministerial responsibility.

¹² Adapted for the strategic response from *A Framework for Major Emergency Management* (2006). Pp. 63-64

Where the lead government department is a department other than one of the members of the National Steering Group, (Health; Justice; Housing, Local Government and Heritage, Transport and Defence) as designated under the *Framework for Major Emergency Management*, the chair of the National Steering Group must inform both the lead government department and the lead agency of the designation.

When notified, the lead government department will be responsible for activating its own internal emergency/crisis management arrangements and making contact with the relevant local or regional coordination group through the information management officer.

Local Coordination Centres (LCC) are already identified in predetermined locations. These locations are normally in the county hall of relevant Local Authority.

The lead government department information management officer should seek a briefing from the local or regional coordination centre information management officer with respect to the current situation using the generic information management system.

Communications pathways should be designated and agreed at this stage. These include:

- Development of contact lists including phone numbers and e-mail addresses between LGD and LCC information management teams
- Agree schedule of regular briefings dependent on the speed of the evolving situation.
- Agree regular updates to be provided in the form of SitReps to an agreed e-mail account. (Template included at Appendix 2)
- Agree procedure for providing emergency situation updates

Based on the initial briefing provided by the local coordination centre, the lead government department information management officer in consultation with their emergency management group must determine if the crisis is one which requires activation of the national emergency coordination group in line with the thresholds set out in the lead government department's scenario specific plan.

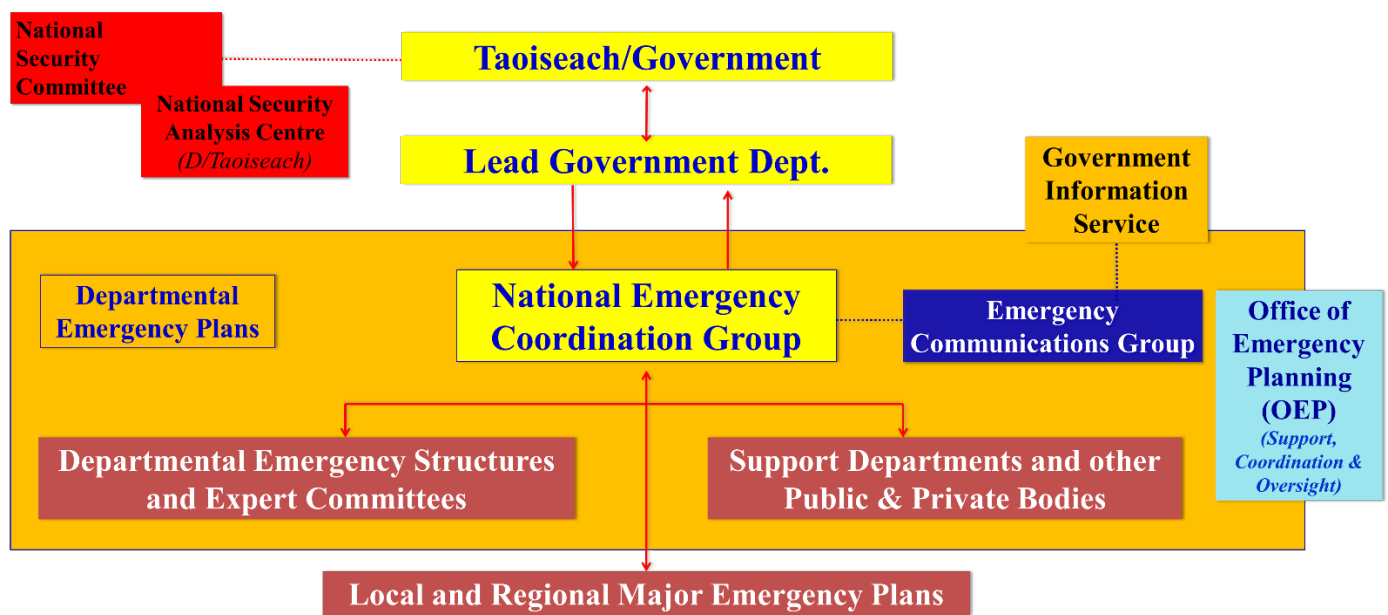
The arrangements described above are for linking the local response to a major emergency with strategic emergency management structures in a "bottom up" situation.

Where a lead government department activates the national emergency coordination group prior to the activation of local or regional coordination centres, in a "top down" situation, the lead government department information management officer must establish communications pathways to any regional or

local coordination centre which may be required to activate in response to the emergency. These pathways should be in a similar vein to those identified above.

The lead government department, if not a member of the National Steering Group, must include the parent department for the lead agency at local and regional level in the communications pathways to ensure good governance and that policy area responsibilities are maintained.

The relationships between different levels of co-ordination, and the related information flows, are illustrated below.



Information Management Systems¹³

The purpose of information management in an emergency is to facilitate decision making. The quality of the information that is presented to decision-makers is crucial to effective decision-making, and is recognised as a key determinant of outcome. Decision makers in crisis situations may be required to make critical decisions based upon incomplete information. Therefore, information management officers must, making use of best available information, produce information for decision-makers that is as timely, accurate and as unambiguous as possible.

Decision makers require organised contextual presentation of the current situation, qualified by the occurrences which brought about the situation, while avoiding the volumes of incoming raw data.

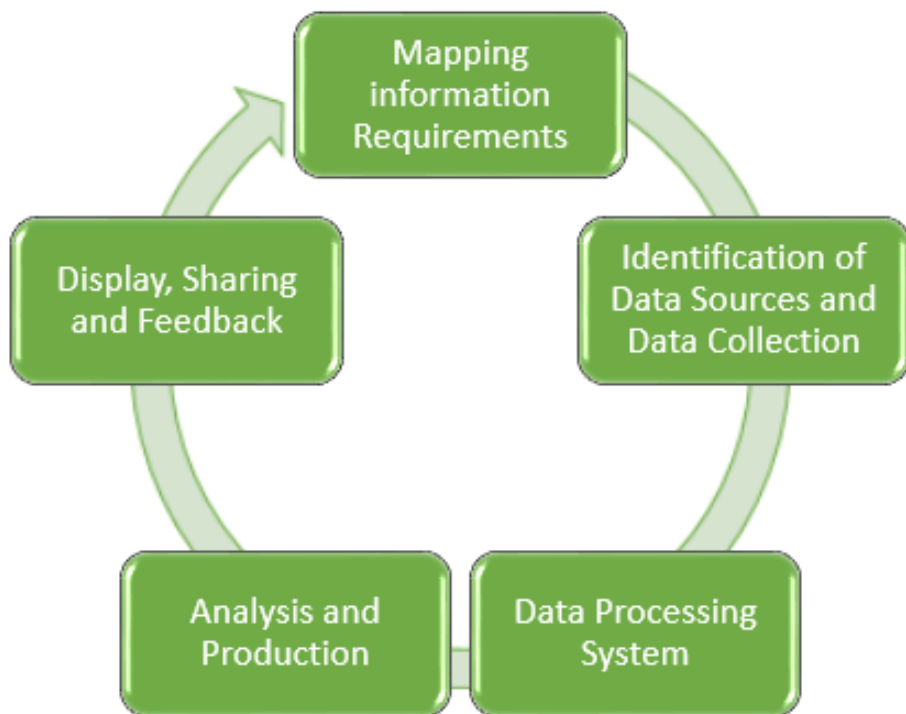
¹³ Adapted for the strategic response from *A Framework for Major Emergency Management* (2006). p. 65

Confronted with a deluge of unfiltered data, key decision makers in crisis situations can themselves become immersed in making sense of the raw data, to the detriment of timely decision-making and delivery.

Information Management Cycle

A typical information management cycle is illustrated below.

The chair of the national emergency coordination group together with their senior officials, emergency management group, crisis management team and information management officer, should hold meetings in between convening sessions of the national emergency coordination group to reflect on each element of this cycle.



Information Management Display¹⁴

An information management display must be readily visible to everyone with a decision-making or advisory role.

Information displays provide the basis for effective decision making, and must be the prime and common source of information for both strategic co-ordination and communications to the public and media.

There should be a readily available facility to exchange information between different elements involved in the response. Therefore, a generic information management system is needed which is common and used by all co-ordination centres from on-site upwards through local and regional and on to national co-ordination levels, where appropriate.

The common generic information management system and recommended 4 board display is described in Appendix 1, The Information Managers Handbook.

A comprehensive record should be kept of the 4 board system along with key presentations made to the national emergency coordination group.

These records provide a rationale for key decisions and actions aligned with the information available to decision makers at the time. This provides a context within which decisions were taken for future analysis and investigation.

While the lead government department will operate the generic information management system, each department and agency retains their own subsidiarity in decision making and therefore should ensure that they maintain their own record keeping systems.

In order to guarantee interoperability it is important to maintain a common approach to information management systems at all responding levels

¹⁴ Adapted for the strategic response from *A Framework for Major Emergency Management* (2006). Appendix F10. p. 45

Information Requirements¹⁵

In order to support effective information management in the response phase, each lead government department's scenario specific plan and generic emergency response plan should specify the systems and arrangements that are in place to facilitate the gathering, sharing, processing and use of information arising from an emergency for which they responsibility.

This should be called the lead government department information management strategy.

The information management strategy of the lead government department should set out arrangements for how each supporting department and agency as well as local and regional coordination centres can contribute to and benefit from the sharing of key information.

Each lead government department should have generic and scenario specific response plans that should assist the information strategy by informing a broad specification for the information requirements for the lead government department, supporting departments and agencies as well as local and regional coordination centres and set out communications pathways and information flow between them.

Many types and sources of information will be common to a broad range of scenarios. Information requirements can include, but are not restricted to:

- Maps: topographic; political; transport; drainage; etc.
- Weather: forecasts, plume dispersion predictions;
- Response resources: emergency services; local community; private companies; utilities; and
- Demographic data: population; locations of vulnerable centres of population

¹⁵ Adapted for the strategic response from *A Framework for Major Emergency Management* (2006). Appendix F10. p. 46

Data Sources

Providing information for a common operational picture is a complex undertaking. This task is further complicated by advancing technology increasing the mediums through which information can be transmitted and received.¹⁶

Sources of data need to be defined and tested to demonstrate that data from different sources can be combined to provide an effective basis for decision-making.¹⁷

It is recommended that each department should have a dedicated emergency management folder containing information relevant to their response remit, i.e., emergency plans, procedures, information management strategy, etc.

Each department's emergency management folder should be available remotely, out of hours and reviewed on a regular basis.

ICT security arrangement with respect to VPN, remote access, etc. should be agreed and tested between each department and the National Emergency Coordination Centre.

Verbal sources¹⁸

How people talk and what they talk about can provide significant context about an evolving situation.

It is safe to say that in an initial standing up of the national emergency coordination group, that the majority of briefings will be hastily organised and be verbal in nature.

All verbal communications should be documented, time indexed and those participating noted.

¹⁶ Christine Hagar (ed.), *Crisis information management: communication and technologies* (Chandos information professional series, Oxford, 2012). p.122

¹⁷ *A Framework for Major Emergency Management* (2006). Appendix F10. p. 47

¹⁸ Christine Hagar (ed.), *Crisis information management: communication and technologies*. p. 122

Notes of verbal briefings should be filed, according to the standards agreed as per the departments information management strategy, to allow for analysis and to provide the initial context for the information management system and the decision makers.

Video sources¹⁹

Video as information is now readily available from numerous sources including, streaming video from news organisations, video feeds from social media, CCTV provided by response organisations at the scene of an incident or by members of the public who documented an incident on smart phones or other devices.

Video is not always a suitable information medium for the national emergency coordination group as it tends to bring strategic decision makers down into the operational realm.

However, video can be utilised to provide context for strategic decision makers and should be considered as a source of possible information once carefully analysed.

Use of screen shots from videos may be an alternative.

Video and any screen shots generated from video should be documented, shared and filed according to the standards outlined in the Principles of Information Management section of this document.

Documents sources²⁰

Often forgotten by organisations while responding to crises are the notes from pre-activation briefings, white board sketches, e-mail correspondence leading up to that crisis, etc.

Where documentation is not already in a digital format, such as hand written notes and sketches, these should be digitised by scanning or photographing and filed according to the standards agreed as per the information management strategy.

¹⁹ Ibid. p. 124

²⁰ Ibid. p. 127

Data processing systems

The core principle of any data processing system is to present information in a useful and accessible format, as a basis for decision making for the national coordination group.

There are many combinations of technique, facilities and equipment which can capably support the information management function.

The 4 board system, as described in Appendix 1, is designed for use on standard white boards which can be displayed to decision makers in any setting.

The national emergency coordination centre provides a set of digital white boards which information managers should use to provide information management services to decision makers in the national emergency coordination group.

The benefits of the digital white boards is that content record by hand can be transmitted to decision makers logging into a national emergency coordination group remotely.

Digital white boards also provide the facility to present video and audio content should this be required by decision makers.

The digital white boards in the national emergency coordination centre are also web enabled to allow for digital content such as social media, weather models, etc. to be integrated into the 4 board system.

All information management officers are required to familiarise themselves with this technology as part of their initial information management officer training and at regular intervals thereafter, but at least biannually.

While there are multiple levels of redundancy for power and communications at the national emergency coordination centre, information managers should also make themselves comfortable in the use of standard white boards which will be provide as a secondary backup in the event of a catastrophic loss of power to the national emergency coordination centre.

Data collection planning²¹

The lead government department information management officer may establish a data collection plan for each of the emergencies for which the lead government department is responsible. This data collection plan should form part of the information management strategy as discussed in the 'Information requirements' section.

The purpose of a data collection plan is to standardise the recurring process of collecting crisis information.

A data collection plan is typically a matrix that describes the essential elements of information that will be required for informed decision making, for each emergency type.

The data collection plan lists sources, methods, and schedules for collecting various items of information.

The data collection plan typically includes items such as:

- Incident area, location and boundaries.
- Local government, HSE and An Garda Síochána administrative boundaries impacted
- Lead agency impacts at tactical level
- Lead agency service impacts at operational level
- Supporting agency impacts at tactical level
- Supporting agencies service impacts at operational level
- Societal impacts;
- Economic impacts;
- Political impacts;
- Public health impacts;
- Impacts to public transportation system
- Impacts on communications infrastructure

²¹ *National Incident Management System*, by Federal Emergency Management Agency, Third Edition (Washington, 2017)

- Hazard specific information
- Seismic or other geographic data
- Impacts to critical infrastructure
- Military capability and supports
- Civil defence capabilities and supports
- Voluntary Emergency Services, capabilities and supports
- Current weather updates
- Aerial assets
- Disaster/Emergency declaration status
- Impact on planned activities
- Financial support
- Demographic data
- Locations of vulnerable centres of population

Information management officers can accomplish data gathering using a wide variety of methods:

- Emergency services control room logs
- Public safety messaging from local government
- Monitoring of national or local radio and television
- Monitoring of social media
- Monitoring of 24 hour news video feeds
- Reading SitReps from responders or local coordination centres
- Recording inputs from government departments
- Recording inputs from supporting agencies
- Recording inputs from technical specialists such as Met Éireann or the Environmental Protection Agency

- Recording inputs from utility providers such as Irish Water, Gas Networks Ireland, ESB Networks and EirGrid
- Recording inputs from local government, HSE and An Garda Síochána delivered via video conferencing to the local or regional coordination centres.

Data Validation and analysis²²

Information management officers need to be experienced officials within the lead government department emergency management architecture. This is because information management officers are responsible for delivering situational awareness to the chair of the national emergency coordination group

Information management officers are required to review data to determine:

- If it is complete or incomplete
- Accurate or inaccurate
- Embellished
- Outdated
- Misleading

Information management officers should validate data to determine its importance for inclusion on the information management boards and to turn raw data into information that is useful for decision making.

Information management officers should base their analysis on a thorough understanding of the problems and the situation.

Information management officers should provide timely and objective analysis and be cognisant of missing or unknown data.

²² *National Incident Management System*, by Federal Emergency Management Agency, Third Edition (Washington, 2017)

Language²³

The use of common terminology helps officials from different disciplines, departments, agencies, and organisations, communicate and effectively coordinate activities.

It is important that departments and agencies at all levels of the response use simple language, avoid the use of acronyms, codes, jargon and abbreviations and adhere to common terminology where agreed.

Information management officers should use plain language in all communications during a crisis response, whether oral or written, to help ensure that personnel are disseminating information in a timely and clear manner and that all intended recipients understand. Personnel

Organisations with information which may compromise the security of the State or individuals should include in their information management strategy a methodology and system to encrypt information to maintain security.

Although plain language is appropriate during most incidents, tactical language is occasionally warranted due to the nature of some incidents e.g., during an ongoing terrorist event. In such instances, guidance on the appropriate use of specialized tactical language should be incorporated in the lead government department information management strategy.

Information Dissemination²⁴

Information must not only be presented within the national emergency coordination centre, as a basis for decision-making, it must also be readily transferable between coordination centres and to a broader audience, as required.

Security and confidentiality issues should be considered in advance, and included in the lead government department information management strategy for each crisis/emergency that it is responsible for.

High priority should be given to presenting information to maximise the effectiveness of response, without undue compromise of highly secure information.

²³ *National Incident Management System*, by Federal Emergency Management Agency, Third Edition (Washington, 2017)

²⁴ Adapted for the strategic response from *A Framework for Major Emergency Management* (2006). Appendix F10. p. 48

A key principle for the dissemination of information is to transfer information between coordination centres under the heading of the information management system: Recognised Current Situation; Key Issues; Strategic Aim/Priorities; and Actions. This facilitates greatly the process of information management for a coordination centre in receipt of information from a number of operational centres.

Information Management Coordination Meetings²⁵

Breakout room 4 at the national emergency coordination centre is assigned for information management coordination meetings and is available to the chair of the national emergency coordination group and their team. This room has been outfitted with 4 monitors to allow for analysis and review of each the 4 boards of the information management system concurrently.

The chair of the national emergency coordination group together with the information management officer should convene a meeting of the chairs and information management officers of the relevant local and regional coordination groups in order to exchange pertinent information and to ensure a common operational picture is shared across the tactical, operational and strategic levels of the response.

These inter-coordination centre meetings should be held at intervals commensurate with the speed of evolution of the crisis.

Information shall be exchanged utilising the 4 board system common across on-site, local, regional and strategic coordination centres.

²⁵ 'UNHCR|Emergency Handbook' (<https://emergency.unhcr.org/entry/49519/emergency-information-management-strategy>) (3 Mar. 2023).

Challenges in modern information management

Given the geopolitical situation at the time of publication, it is important for information management officers to note that there are actors who may wish to manipulate information either intentionally or unintentionally for their own purposes.

Information management officers need to be capable of determining the reliability of information source before including the information into any products for dissemination to decision makers.

False or misleading information, supplied to decision makers at national emergency coordination group level may damage the group's reputation and negatively impact its ability to coordinate the national level response.

Misinformation²⁶

This is the spreading of unintentionally false information. Examples include internet trolls who spread unfounded conspiracy theories or web hoaxes through social media, believing them to be true. Misinformation can have the effect of sowing divisiveness and chaos in a target society, as the truth becomes harder to discern.

Disinformation²⁷

Unlike misinformation, disinformation is intentionally false. Examples include planting deliberately false news stories in the media, manufacturing protests, doctoring pictures, and tampering with private or sensitive internal departmental communications before their widespread release.

²⁶ Congressional Research Service (2018). *Information Warfare: Issues for Congress*.

²⁷ Ibid

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Appendix 1 - The Information Managers Handbook



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Information Management Officer Handbook

Appendix 1 - Guideline 9 Information
Management

Acknowledgement

This handbook is adapted for the strategic level from the handbook developed under the *Framework for Major Emergency Management*, which was developed on foot of recommendations arising from students on “Train the Trainer” courses for Information Managers held in late 2007 and early 2008. The Handbook attempts to capture the benefits of the training experience during application of the information management system set out in the *Framework for Major Emergency Management*. The contribution of students, trainers and the international consultants, OCTO, who were contracted to provide the initial two courses, to the development of the information management system and this handbook is acknowledged.

The Information Manager's Handbook

Introduction

Since 2006, Ireland's policy on emergency planning has been separated along strategic and operational lines. At the national level, strategic emergency management arrangements are coordinated across government utilising the *Strategic Emergency Management National Structures and Framework* (2017) suite of documents. These documents form the basis of strategic policy in the area of emergency planning. The aim of this document and its associated annexes is to ensure that all state bodies, at the national level are prepared for, and capable of responding quickly and efficiently to, any large-scale emergency.

At the local and regional levels, operational emergency management arrangements are coordinated across the principal response agencies and principal emergency services utilising the *Framework for Major Emergency Management* (2006), which is currently under review. This document sets out how operational and tactical level organisations work together in the management of major emergency incidents and how they interact with national level structures as outlined in the *Strategic Emergency Management National Structures and Framework*.

The *Framework for Major Emergency Management* identifies the critical importance of sound Information Management systems in achieving effective inter-agency co-ordination. The nature of major emergencies is such that managers have to make crucial decisions under time and other pressures, and with limited information. For this reason, the quality of the information placed before decision-makers is often a critical success factor in emergency management.

The purpose of this handbook is:

- to provide a single reference source for information managers, and
- to support inter-agency training of information managers.

This handbook should be read in conjunction with the SEM Guideline Document 9 - Information Management

Information Management

In speaking about the Lockerbie disaster in 1988, (Neil Macintosh, local authority Chief Executive, stated:

The quality of the response is only as effective as the reliability of the information which is available

Information Management is generally viewed as the collection and processing of information from one or more sources, and the distribution of that information to one or more audiences. The objective of Information Management is characterized by the phrase

Getting the right information to the right person at the right place at the right time.

In an emergency situation, particularly in the early stages, the demand for reliable information may outstrip its availability to decision-makers. This leads to what may be termed a demand-provision gap. In most cases, this is not because the information (or at least the data from which the information could be generated) does not exist, but because it is not accessible to the key decision-makers at the point and time needed.

Information Management and Strategic Emergency Management

One of the key objectives of the *Strategic Emergency Management National Structures and Framework*, as stated in paragraph 9, is to facilitate timely and effective response through efficient and coordinated operations.

The key to achieving this objective is the recognition that the co-ordination of response is a specific function in emergency management. The *Strategic Emergency Management National Structures and Framework*, assigns lead government department responsibility to one of 8 government departments for each of 50 emergency/crisis types listed in Annex 'A'. One of the key tasks of the lead government department is to ensure that all relevant information is available for decision making at the national emergency coordination group if convened to manage the crisis. This is achieved through the operation of the generic information management system introduced by the *Framework for Major Emergency Management*.

Structures for interagency coordination at local and regional level

There are 3 Principal Response Agencies (PRAs) and these are the Health Service Executive, Local Government and An Garda Síochána. Each PRA has a Principal Emergency Service (PES). The National Ambulance Service (NAS), local authority Fire and Rescue Services and An Garda Síochána are defined as Principal Emergency Services. For many major emergency scenarios, at the local and regional level, lead agency responsibility is specified in Table 7.1 of Appendix F7 to the *Framework for Major Emergency*

Management. This is similar to the way that Annex 'A' of the *Strategic Emergency Management National Structures and Framework* assigns lead government department responsibility for each of 50 emergency types.

Where it is not immediately obvious who is to be the lead agency, the default option is for the local authority to take the role.

The lead agency is tasked with the co-ordination role and chairs local co-ordination meetings, both on-site and in the local coordination centre (LCC). The LCC is a predetermined off-site location where the local coordination group meets. This group is charged with coordinating the operational issues associated with the emergency.

The coordination of response effort, at the local and regional levels, using the 4 board information management system is now standard practice for all principal response agencies. To ensure that a consistent approach to information management is adopted at all coordination levels the same 4 board system will now be used in the national emergency coordination centre by the national emergency coordination group.

Introduction to Information Management and Inter-Agency Co-ordination

A *Framework for Major Emergency Management* and the *Strategic Emergency Management National Structures and Framework* recognises the role of Information Management as being key to the successful management of a major emergency. The *Framework for Major Emergency Management* states (5.4.6.1) that:

“The purpose of information management in a major emergency is to facilitate decision-making. The quality of information presented to decision-makers is crucial to effective decision-making, and is recognised as a key determinant of outcome. Decision-makers in major emergency situations are likely to have to make critical decisions based upon incomplete information. Thus, great efforts should be made to generate information for decision-makers that is as timely, accurate and as clear as possible”.

Guideline Document 9 of the *Strategic Emergency Management National Structures* on Information Management requires that the information management officer;

must be a senior official from the lead government department who has received training from the Office of Emergency Planning as an information management officer. and

will have responsibility for running the information management system in the national emergency coordination centre during exercises and activations of the national emergency coordination group.

The effective operation of the Information Management system is one of the keys to achieving successful coordination for emergencies requiring a national level response. For the information management system to work all government departments, agencies and stakeholders need to share the information available to them on the nature of the emergency situation and its impact on their policy areas. The information gained from other departments and agencies participating in the response, and the advice of relevant experts, all contribute to a more complete picture of the incident, which will facilitate the goal of effective emergency management.

The Generic Information Management System

The purpose of an information management system is to assemble available data, and to present decision makers with relevant information in a timely way, as a sound basis for their decision making function. To achieve this objective is seen to require three components:

The selection of suitable personnel to undertake the task.

The information management officer must be a senior official with a decision making mandate from the lead government department. Although based on a low-tech series of whiteboards for its introduction, information management is more than a “board marking” task. Rather it is a process where a manager with experience of dealing with large amounts of information is given the task of sourcing, questioning, processing and presenting relevant facts about the situation to enable the national emergency coordination group make decisions relevant to each departments policy mandate.

While initial training will be provided on low-tech whiteboards, the national emergency coordination centre is fitted with digital white boards which allow for a greater range of information display, transmission of information and recording of data.

Depending on the stage of the emergency and the availability of resources at that stage, the information manager may be working alone initially, or may be leading a small team of people who undertake functions associated with the information management system under their direction.

A universally used, generic system.

The *Framework for Major Emergency Management* introduces a generic information management system, which it is agreed all the principal response agencies will use when they take on the role of lead agency. On publication of Guideline Document 9 of the *Strategic Emergency Management National Structures and Framework*, the Government Task Force on Emergency Planning agreed that the same system would apply to information management by the national emergency coordination group.

For the information management system to be useful when emergencies requiring national level coordination occur, it has to be relatively simple and straightforward and to be known and understood by all who contribute input to it, and use its output, as well as those who work it.

As noted above, for its introduction across the lead government departments, a low-tech display system, based on four whiteboards is used, supplemented in the national emergency coordination centre by digital white board technology. This 4-board system is explained in later sections of this handbook. The system is intended to operate with simple resources, using readily available materials and existing communication mechanisms.

Exchange of information between centres

The capability to facilitate the exchange of information between centres is vital and agreed common formats are required for this exchange to happen efficiently and in a timely fashion.

Selection of information management officers

The ability to undertake the information management role is seen as independent of rank or grade within an organisation. The ideal candidate for this role is a senior official with a decision making mandate within the lead government department with experience of dealing with large amounts of information on a regular basis. The skills of the information manager officer in an emergency situation builds on the day-to-day skills of an official, recognising and extracting salient information. Information management training builds on standard management skills, and shapes these skills for use in an emergency/crisis management situation.

The information management system

Information management should provide decision makers with information that will allow them to make decisions appropriate to the policy mandates of departments and agencies.

The information management officer's task is an active rather than a passive one. The information management officer should try, where possible, to anticipate the information that may be required and seek this information from available, reliable sources. The information management officer has to seek information, question it and, where appropriate, validate acquired information; sort it, group it, prioritise it and then display it, ensuring that what is being presented on the information management boards are both facts and safe deductions, and not suppositions. The information management officer should also identify any gaps in the information, and seek whatever additional information is required to fill the gaps.

Overview of the 4-Board Information Presentation System

The information management system as outlined in the both the *Framework for Major Emergency Management* and the *Strategic Emergency Management National Structures and Framework*, is structured into four fields, moving from left to right as the display is viewed from the co-ordination table:

- Recognised Current Situation,
- Key Issues,
- Strategic Aim/ Priorities and
- Actions.

The national emergency coordination centre will use four boards for information display, one for the each of these fields. The national emergency coordination centre has 2 digital white boards which simulated the 4 board system. This approach allows the information management officer to focus on the process of information management in the same manner as utilising the low-tech white board systems. The boards are arranged in a defined sequence starting on the left with Recognised Current Situation, and followed in order by Key Issues, Strategic Aim & Priorities and finally on the right the Actions Board. The sequence of boards and their location with respect to the wedge shaped decision-makers table is illustrated in Figure 1. below. Due to the ergonomic set up in the national emergency coordination centre, each board will be visible on the monitors located in the pit and on the walls as well as on the digital white boards.

This structured information display enables the national emergency coordination group to work systematically from left to right, identifying key issues from the recognised current situation board, considering them in the context of the strategic aim & priorities, and finally recording and tracking decisions/actions taken to manage the issues identified.

Figure 1. Information Management Structure



Recognised Current Situation

The Recognised Current Situation board would start normally as a blank sheet. The challenge for the information management officer is to present a coherent version of the information to hand. It is probably best to address each emergency situation from first principles, as pre-prepared boxes can lead to “boxed” perceptions, particularly under pressure.

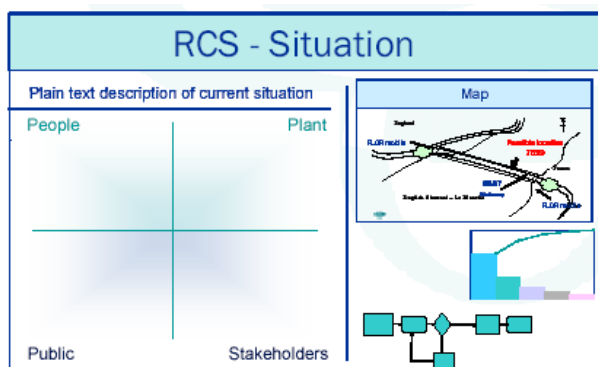
As an initial approach, the board can be divided into multiple sectors, and initial headings that seem appropriate to the situation should be used to describe the sectors. The number of divisions of the board and the naming of the sectors can change and develop if required. Maps, sketches, diagrams, technical drawings etc. can enhance the recognised current situation display. One consideration is to divide the board into sections based on the information specified in the lead government department information management strategy.

The Information Management Officer may populate the sections of the RCS with the names of critical departments to record the current situation from their perspective.

The information management officer’s objective with respect to this board is to keep the information current. It will change continuously, and needs to be recorded (digital camera option) as it is amended.

The presentation should be appropriately scaled and sufficiently neat to ensure that it is easily readable by anyone in the national emergency coordination centre. Figure 2 below provides an illustration of a Recognised Current Situation board.

Figure 2. Recognised Current Situation Board



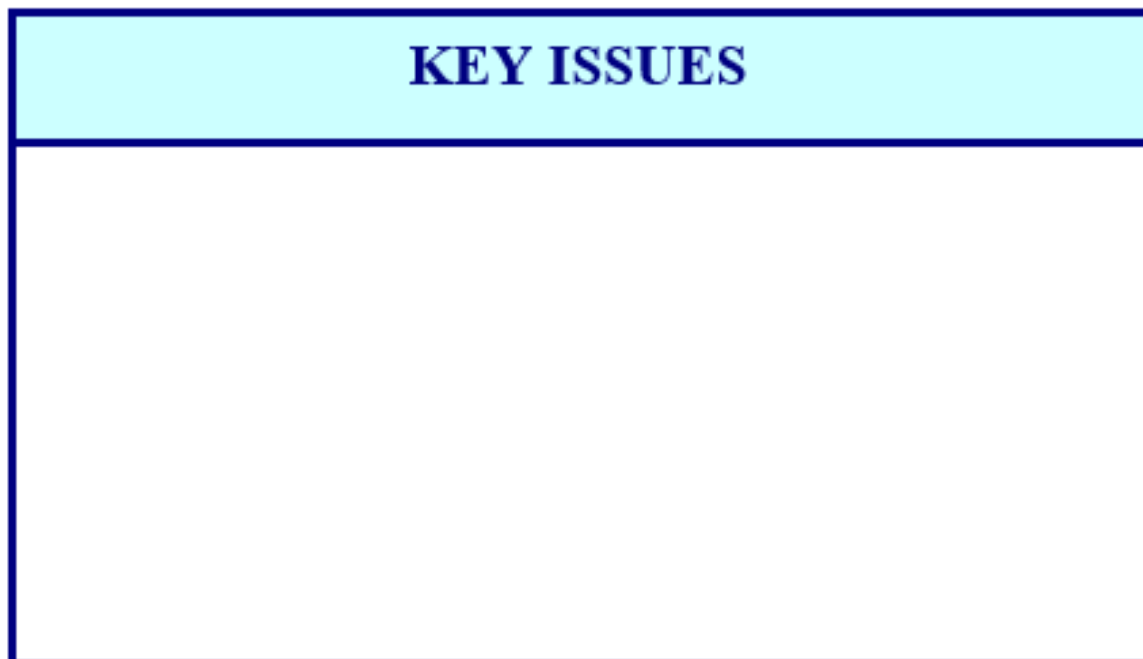
Key Issues

The key issues board displays the important issues that are identified or deducted as emerging from the developing situation, and requiring consideration and resolution by departments and agencies attending the national emergency coordination centre. These issues will be different for each type of emergency.

It is possible for either the information management officer or the national emergency coordination group to identify key issues for this board. When the information management officer identifies a key issue and writes it up on this board, it is important to bring it to the attention of the Chair of the national emergency coordination group, who will decide how it should be dealt with in association with the other department and agency representatives.

The key issues board helps the chair to hold focus on the aspects of the crisis that the national emergency coordination group need to address. Figure 3 below illustrates the Key Issues board.

Figure 3. Key Issues Board



Strategic Aim and Priorities

This is the third board in the sequence. The strategic aim and priorities in the management of the emergency are set by the Chair of the national emergency coordination group in their role as lead government department for the response. Unlike the other boards that are actively managed by the information management officer, the Chair of the National Emergency Coordination Group directs the content of this board. This can be completed in advance of any emergency which the lead government department has responsibility for.

It is considered crucial in terms of successful emergency management that the strategic aim is established very early in the process or preferably in the planning and preparedness phase. This will ensure that all proposed activities and actions are considered in terms of contribution to achieving this aim, and that extraneous activities do not divert the attention and resources of the national emergency coordination group into less beneficial areas.

Statements about priorities should start with an imperative verb. The priorities are simply one-line directives that will deliver the strategic aim. For example, rather than simply list “societal impacts” as a priority the imperative should be to “identify communities affected” or “identify humanitarian needs”.

As issues emerge and are added to the key issues board, they should be considered in the context of the strategic aim and priorities for the national level response, to ensure that the national emergency coordination group pursue and action those issues that will deliver on the strategic aim/objectives.

Priorities are generally best restated periodically as a package, as opposed to cascaded.

Strategic Aims Priorities

Actions

The Actions board is the final one in the series, located on the right-hand side of the display.

The function of the Actions board is to generate a comprehensive list/ display of decisions/ actions taken in the co-ordination centre. The format of this board is structured to include the time (24hr clock) at which they were directed, what the action/ decision is, who is responsible for delivering them, and by what time delivery is expected to be completed. The latter may be only an estimate initially, in which case it should be refined as time passes.

The Actions Board, as illustrated in Fig 5 below thus provides the means by which actions are placed, monitored, audited and completion recorded.

The Priorities will be the main source of Actions. Unlike the Priorities, Action points can be cascaded without loss of coherence. As the actions are completed they can be struck through with a red marker to indicate that they are completed.

Figure 4. Actions Board

ACTIONS			
TIME	ACTION	BY WHOM	EXP. TIME COMP

Practical Tips for Information Managers (arising from the experience in training courses)

Marking Up the Display Boards

- Always ensure you have a good stock of marker pens available in the co-ordination centre;
- Make sure they are non-permanent markers!!;
- Always use black marking pens for writing up the boards – they are the most legible;
- Ensure the boards are legible from the co-ordinators desk – you are working to support them;
- Use red markers to strike through to indicate Actions are complete;
- Use a digital camera to record contents of board before erasing it;
- Have a clock in the photo frame to ensure that time is recorded;
- Always use block capitals when writing

Staff

- Remember you may have to operate the system on your own until staffing resources become available to assist you;
- Consider how best to use the personnel available to support you, and give them clear assignments;
- Think of/ plan for replacement staff for extended duration operation of the centre, and for yourself;

Recording the Information Flows

- Use standard message sheets to take down incoming information;
- Use a slightly separated place to left of display to receive phone/ radio/ other incoming messages;

Exchanging Information Between Centres

Regular exchange of information between co-ordination centres should be a feature of emergency management. As the generic Information Management Boards will be employed at all co-ordination levels they provide a template for this information exchange. The Recognised Current Situation information will provide the most useful element of the exchange between levels. The Strategic Aim and Priorities may be communicated initially and on revision and Key Issues that need input from a higher level may be escalated for further resolution. Otherwise, Key Issues and Action Boards on the other hand, would be unnecessarily detailed and will not normally be exchanged between co-ordination centres.

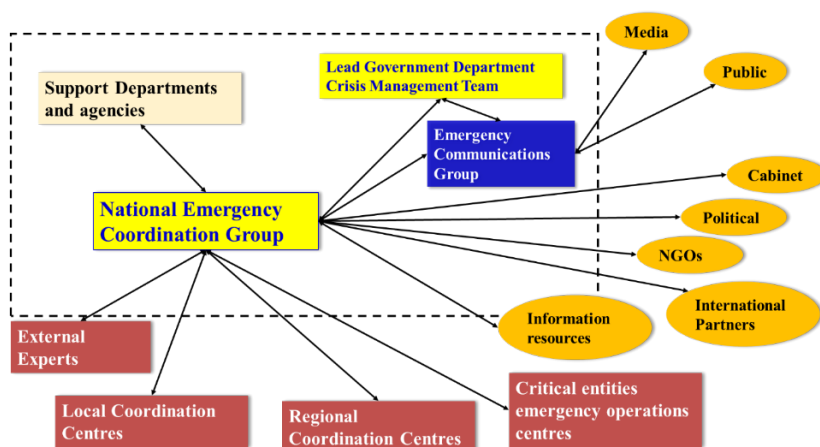
Recording of Boards

The content of the display boards should to be recorded at regular intervals, and certainly before any major change. The most basic means to do this is by digital photography, either by having a clock in the frame or by marking the time of each photographic capture on the board before the picture is taken.

Basic information flow in the national emergency coordination centre

Figure 6 below provides a basic outline of the information flow at the site.

Figure 6. Information flow



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²⁸ Based on the model proposed by Thomas J. Housel, Omar A. El Sawy and Paul F. Donovan, 'Information Systems for Crisis Management: Lessons from Southern California Edison' in *MIS Quarterly*, x, no. 4 (1986), pp 389–400 (<https://www.jstor.org/stable/249195>).

Declaration of a major emergency ‘Bottom Up’

If an emergency situation evolves in a ‘Bottom up’ scenario, it is important for information management officers, of the lead government department, to understand the systems in place which ultimately resulted with the activation of the national emergency coordination centre.

In the event of an incident occurring which causes or threatens death or injury, serious disruption of essential services or damage to property, the environment or infrastructure beyond the normal capabilities of the principal emergency services in the area in which the event occurs, then the first attendance officer can declare a major emergency utilising the mnemonic METHANE.

- M** Major Emergency Declared
- E** Exact Location of the Emergency
- T** Type of Emergency (Transport, Chemical etc)
- H** Hazards, present and potential
- A** Access/egress routes
- N** Number and type of casualties
- E** Emergency services present and required

Appendix 2 - Situation report (SitRep) Template

Emergency Management Situation Report

General Report

STATUS:

SitRep Number:

Department/Agency Name:

Other:

Date:

Emergency Category:

Ongoing
May Occur
Ending

Description:

General Situation:

Meteorological Situation:

Actions Taken to Date:

Reports From Specific Locations

Location 1:

Situation (Loc 1):

Prognosis/Forecast (Loc 1):

Location 2:

Situation (Loc 2):

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