

# CRISIS MANAGEMENT DURING EXTREME WINTER WEATHER EVENTS

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## ABSTRACT

Over the last six years the UK has experienced some unusually extreme weather events. Many lessons have been learned from these, the key aspects being the planning/preparation in advance, coordination of the response and command escalation.

The Highways Agency is responsible for the operation, maintenance and improvement of the motorways and major roads in England. The resilience of the strategic road network it manages is critical to the economy of the nation. In response to the increased incidence and severity of extreme weather events and the need to respond to them more effectively we have developed a Crisis Management Manual. This sets out key pre-planning steps and different levels of escalation to be adopted depending on the seriousness of the likely impact of an incident.

The stages of escalation start at 'routine operations'. This is the business as usual level such as treating roads with salt to prevent ice formation. The next level is 'Regional Alert' which is used when there is the possibility of significant disruption due to heavy snow, strong winds or flooding. This level raises the state of readiness and makes sure that all our resources and suppliers are as prepared as possible, fully coordinated and that all communication lines are at a heightened state of readiness.

When an incident is in progress and requires a higher level of command it would be escalated to 'Regional Crisis'. There is an understanding across the organisation as to what this means and the process to ensure as swift a resolution as possible. If a number of regions are affected at the same time, or could become so, then consideration would be given to escalating to 'National Alert' level. This facilitates a national overview and the setting of a national strategy leaving the local teams to deal tactically with the issues in their regions. There is then the full 'National Crisis' level when central government itself would be fully engaged. Since we have had the manual we have not had one but an example could be something on the scale of 'Hurricane Sandy'.

## 1. INTRODUCTION

Maintaining resilience transport networks is a significant component in maintaining and developing economic prosperity. With the affects of climate change to further increase the frequency and magnitude of severe weather events it is essential we all improve our response to such events. The continued rise in public and political expectation and the immediacy of available communications puts considerable pressure on transport authorities to deliver. All this against a back drop of ongoing budget restrictions makes this a huge challenge. Being well prepared in advance of an event and having clear protocols and escalation procedures during the event gives us the best chance of the delivering the appropriate response and returning transport networks to full service as quickly as possible. This paper describes the crisis management process developed by the Highways Agency to manage crises or events that are potential crises on the motorway and trunk road network in England.

The crisis management process has evolved as part of the Highways Agency's drive to develop its capability in dealing with all crises. In recent years these have included pandemic flu, salt shortage, fuel protests, terrorism as well as severe weather. We already had a process for dealing with the most serious crises but this was rarely used and wasn't backed up with the required capability.

Following two very extreme winters which led to considerable pressure on our country's indigenous salt stocks it was apparent that the crisis process needed to better cover 'rising tide' incidents. The resulting Crisis Management Manual<sup>[1]</sup> was developed and implemented across the business in November 2011 and ensures a common understanding of the responsibilities, escalation levels and reporting processes. The document has since been further enhanced building on lessons learned from the very successful London 2012 Olympic Games; further challenging spells of extreme weather and major traffic collisions. The process is now well established across the Highways Agency but will continue to be reviewed and updated on an annual basis.

## 2. THE HIGHWAYS AGENCY'S RESPONSIBILITIES

The Highways Agency is an executive agency responsible for operating, maintaining and improving England's strategic road network (SRN) which comprises approximately 4,300 miles of motorways and all-purpose trunk roads valued at £108bn. The strategic road network is a nationally significant asset and is key in promoting growth of the UK economy with approximately four million vehicles using the network each day.

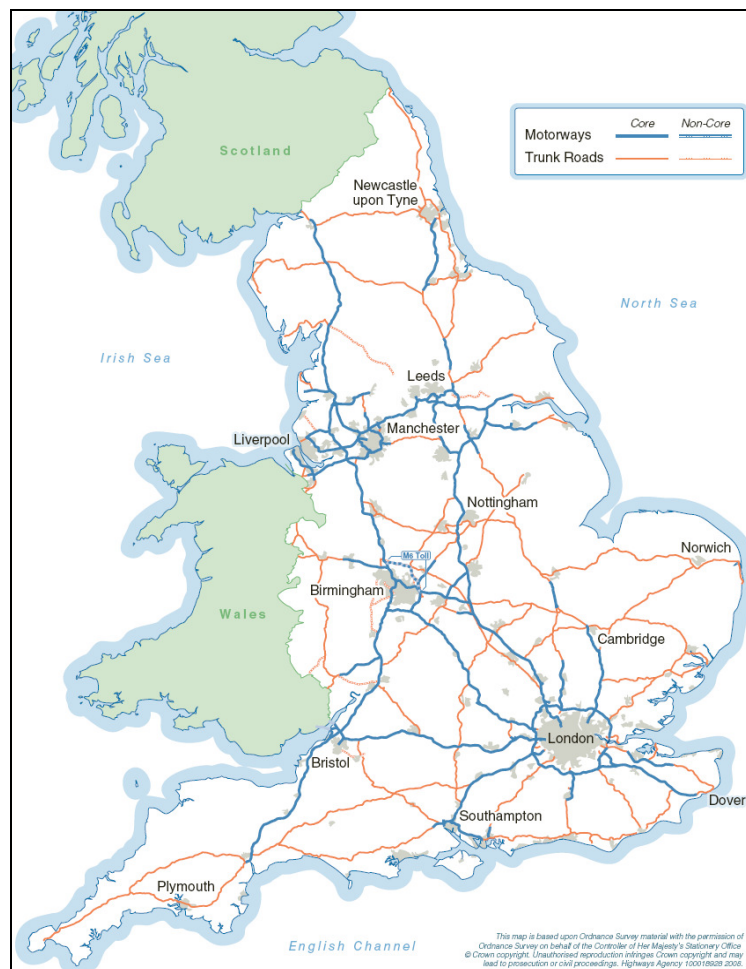


Figure 1 - Highways Agency's Strategic Road Network

Despite comprising only three per cent of England's road network, it carries one-third of all traffic. Around 80 per cent of all goods travel by road, with two-thirds of large goods vehicle traffic transported on our network. The Agency's core activities are:

**Operate** - We work hard to deliver a reliable service to customers through effective traffic management and provision of accurate and timely information. Our National Traffic Operations Centre and seven Regional Control Centres (RCC) work to provide information to customers before and during their journeys, and to reduce the number of incidents and manage incidents efficiently to minimise delays. The Highways Agency Traffic Officer Service (TOS) responds to around 20,000 incidents per month. Our traffic management incident clearance capability means our roads are safe, delays are minimised and journeys are reliable.

**Maintain** - We carry out routine maintenance and renewal of roads, structures and technology to keep the network safe, serviceable and reliable. We ensure our contractors deliver a high level of service on the strategic road network to support operational performance and the long term integrity of the asset. We usually refer to our contractors as Service Providers (SPs).

**Improve** - We undertake large scale improvements on the network through our programme of major schemes. Our managed motorways programme is increasing capacity and delivering substantial cost savings over conventional road widening. In addition, we are also delivering smaller scale schemes to improve congestion and safety at bottlenecks.

### **3. THE CRISIS MANAGEMENT MANUAL**

#### **3.1. General**

The aim of the manual is to provide guidance on managing the Highways Agency (HA) response to crises and emergencies. By following the guidance, all managers and teams within HA ensure that they are responding to the situation in a coordinated fashion, and not independently of other teams. This avoids confusion and duplication of effort.

Within the HA, the term crisis includes major incidents affecting the strategic road network, as well as other events or situations that are likely to have a significant disruptive impact on the HA network or business, such as severe weather. The term emergency is formally defined by the Civil Contingencies Act (2004)<sup>[2]</sup> as an event or situation which threatens serious damage to human welfare or the environment, or war or terrorism. Emergencies in this sense are typically of greater severity, complexity or duration than the majority of incidents attended by the emergency services or the Agency's Traffic Officer Service (TOS). Emergencies affecting the HA may not originate as traffic incidents, but may be other types of incidents that have an impact on either HA infrastructure or on road users.

The TOS, Emergency Planning Teams (EPTs) and our Service Providers (SPs) will be particularly involved in the initial response to emergencies and crises, but other teams within other parts of our organisation may also become involved in managing or supporting the response.

The Crisis Management Manual (CMM) provides guidance for managing crises and emergencies outside the routine work of the HA, including outlining the required response for certain unusual types of incident, or for specific high risk locations. The CMM also describes the escalation process for different stages of incident command.

For some emergencies, such as fuel shortages or severe weather, warnings are sometimes available in advance, allowing some extra preparations to be made. In these circumstances a 'Regional Alert' will be declared in the affected region to ensure a co-ordinated approach is taken to preparing for the situation. Similarly, a coordinated approach to national planning and preparation may be achieved through the declaration of a 'National Alert'. This will ensure that all parts of the Agency and teams are aware of each others work, and will help facilitate joint working. What we call critical incidents are relatively common within HA, with several expected to occur each week in each region – these are usually the more serious road traffic collisions that may involve injuries including fatal ones and/or significant closures for a period of time. We have well rehearsed plans and procedures in place for managing critical incidents and therefore it would not be necessary to use the CMM to manage these incidents, although some of the information in the manual may be of use during the more unusual incidents.

The more major incidents are unplanned events that require the implementation of special arrangements by one or more of the emergency services, over and above their normal operating procedures. Major incidents affecting the HA network are likely to have a much more significant impact than most critical incidents. These could include multiple fatal collisions or significant network damage. Under these circumstances it is possible that the provisions of the CMM may be called upon.

### 3.2. How the guidance is organised in the CMM

#### 3.2.1. *Generic guidance*

Part 1 of the manual provides guidance about the generic response to crises and emergencies. This guidance is applicable whatever the nature of the crisis.

#### 3.2.2. *Functional guidance*

Part 2 provides functional detail about the response to specific types of incidents including severe weather (forecasting, snow, ice, high winds), flooding, industrial hazards, CBRN (chemical, biological, radiological and nuclear), mass evacuation, welfare of customers trapped on the network, transportation of sensitive loads, security, business continuity management, fuel shortages and pandemic flu. These are guided by a National Risk Register for Civil Emergencies<sup>[3]</sup> published by the government. Any of the risks detailed could affect any part of the network or our business.

#### 3.2.3. *Regional & Site Specific Information and guidance*

Part 3 is different in each of the regional versions of the CMM, and provides information specific to the region and site specific plans. These plans have been developed due to the increased risk of an emergency at some locations i.e. sites that pose a risk to the operation of the network, either due to an intrinsic hazard (e.g. fuel storage sites) or due to the vulnerability of the site to other risks (e.g. flood risk).

### 3.3. How the Manual is used

The Crisis Management Manual (CMM) is principally intended as a reference document to provide guidance during emergencies that are unfamiliar to managers and staff due to their severity, unusual nature, or due to the scale and complexity of the multi-agency emergency response. It may also be used in the run-up to emergencies when a warning is available. The Crisis Management Manual does not contain a detailed list of specific actions for every type of emergency - it is more about the expected doctrine to follow.

# 4. COMMAND AND CONTROL

## 4.1. General

It is important that there is a recognised command structure in place to manage incidents, emergencies and crises. The HA has adopted the UK Emergency Services Gold, Silver, Bronze (GSB) Command structure for providing escalating levels of command authority as required. As part of the GSB structure, the HA has a detailed process for incident escalation called the *Incident Command Escalation Stages (ICES)* process. To facilitate understanding this chart is produced in an A3 format suitable for notice boards and is referred to as the Incident Command Escalation Stages (ICES) diagram<sup>[4]</sup>. Although reproduced in a scaled down version below a more readable and expandable version is available on request.

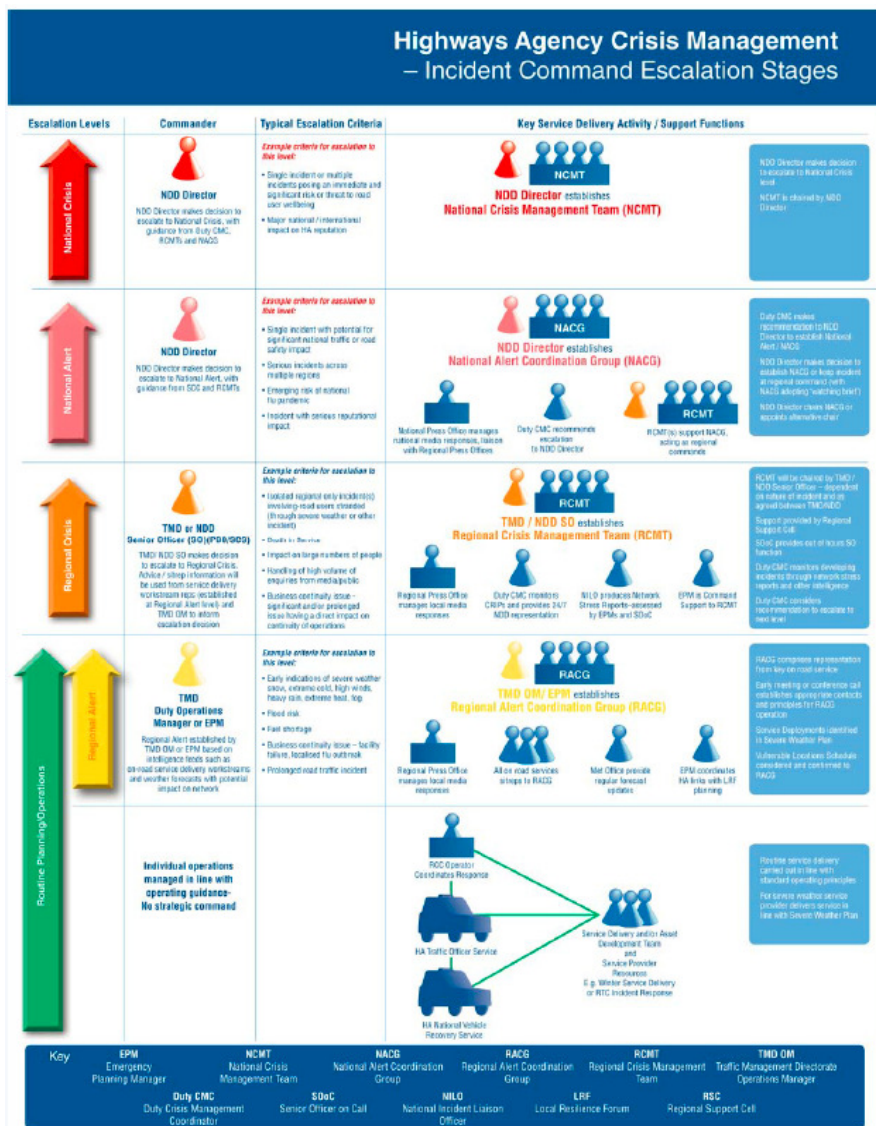


Figure 2 - Incident Command Escalation Stages (ICES) Diagram

The incident command escalation allows for the Strategic (Gold) level of command to be at either regional or national level, and also includes a regional alert phase where enhanced monitoring and communication can take place without the need to further escalate the incident to a higher level of command.

## 4.2. Gold, Silver, Bronze Command Structure

The GSB Command Structure provides for three levels of Command Authority:

### 4.2.1. *Gold – Strategic Command*

This is the highest level of command and sets out the over-arching strategic aims and objectives for the HA. Gold Command also sets out the overall strategy for achieving the objectives. Within HA, the Gold level of command can be provided at either a regional or national level depending on the circumstances of the incident.

### 4.2.2. *Silver – Tactical Command*

The Silver level of command sets out and directs the tactical options that will be used to deliver Gold Command's overall strategy. Within HA, the Silver level of command will usually be managed within regions.

### 4.2.3. *Bronze – Operational Command*

This level of command carries out the operations required to deliver the tactics set out by the Silver level. Routine traffic incidents will often be managed by Traffic Officers and/or Service Providers at the Bronze level only. Many critical incidents may require both Bronze and Silver levels of command. Crises and major emergencies will usually require all three levels of Command to ensure efficient and effective management of the situation.

## 4.3. Generic Escalation Criteria

The GSB Command Structure provides a system for escalating incident command to higher levels of command authority when required. Similarly, when these higher authority levels are no longer required the system allows for de-escalation to the most appropriate level of command for the incident. In broad terms command should be escalated to the next higher level of command authority (Bronze, Silver, Gold) when:

- The Incident Commander can no longer manage the response with the resources available to them and/or
- They require support/authority to activate additional resources or authorise decisions and/or
- The Incident Commander believes the incident is of such significance that a higher level of command authority is required to manage the response

Incident Commanders should consider escalation if they believe that any of the above criteria may be met. It is better to escalate early and stand down than to wait and compromise the incident response. There are specific criteria for escalation to National Alert included in paragraph 5.5.

## 4.4. De-escalation Process

The GSB Command Structure also provides a system for de-escalating incident command to the most appropriate level of command authority as required. In broad terms, command is de-escalated to the next lower level of command authority (Gold, Silver, Bronze) when the need for the higher level of authority is removed. This de-escalation tends to occur when the incident is under control and is close to being, or has been, resolved.

In certain circumstances e.g. where the recovery process is likely to be long, complicated or requires considerable resources, the higher command authority may remain in place for some considerable time after the initial incident has been resolved.

## 5. INCIDENT ESCALATION

### 5.1. Overview

The well-established Gold, Silver, Bronze command structure forms the framework for incident management within HA.

Almost all incidents (including critical incidents) will be managed at a Bronze or Silver Level. This will happen as part of routine service delivery by the Traffic Officer Service and/or Service Providers. A small number of incidents or situations may have the potential to cause more significant impacts, either to the operation of the HA network, its business, or to the reputation of the Agency. In these cases, it may be necessary to escalate the incident command.

The Incident Command Escalation Stages (ICES) process provides guidance on which level of command is appropriate during different stages of incidents, and who should carry out which role. A summary of the ICES stages is shown below and summarises the more detailed ICES diagram.

The five stages are described in more detail in paragraphs 5.2, 5.3, 5.4, 5.5 and 5.6.



Figure 3 – The Five Stages of Escalation

### 5.2. Routine Operations

*Routine Operations* is the first stage of the Incident Command Escalation Stages (ICES).

During routine operations, HA resources respond to incidents following standard procedures. Bronze and/or Silver Commanders may be nominated to lead the response, and different services may work together at the same incident. However, there will be no strategic command of incidents during routine operations. There will be communication between services through existing interfaces, such as our regional control centre and service providers, but there is no need to establish any enhanced crisis management arrangements.

As part of routine operations, “horizon scanning” is undertaken nationally and regionally to monitor the potential for future emergencies. Warning services will be monitored such as the Met Office National Severe Weather Warning Service<sup>[5]</sup>, and the Flood Forecasting Centre Flood Guidance Statements. Intelligence reports will also be received from a number of sources such as Local Resilience Forums (made up of multi-agency responders in the locality) or the Police that may give warnings of civil emergencies such as fuel shortages, public protests or terrorist activity. The HA Emergency Planning Team will brief other teams on emerging issues, and if necessary will issue a Regional Alert, which is the next stage of the ICES process.

### 5.3. Regional Alert

*Regional Alert* is the second stage of the Incident Command Escalation Stages (ICES).

Although many emergencies occur without warning, some do have warnings or can occur as 'rising tide' emergencies. For example, potential disruptions caused by fuel shortages or severe weather can sometimes be predicted a number of days in advance. It is possible to take advantage of this warning to ensure that we are as prepared as far as possible to deal with the potential disruption. Additional planning can be done, based on the latest guidance and intelligence. The situation can be closely monitored, and extra resources placed on standby if required.

The regional Emergency Planning Team (EPT) or the RCC Duty Operations Manager (OM) would issue a REGIONAL ALERT when there is a warning that an emergency may be likely in the near future, but has not yet happened. For example this may include when warnings of severe weather have been received, or when intelligence reports suggest there is a heightened risk of other types of emergency. When considering escalation to Regional Alert other parties would be consulted such as service providers who may have additional intelligence on weather forecasting and network conditions. Declarations would be circulated by email using a standard Regional CMM distribution list. However, if urgent actions are required, then notification would also be made by telephone.

The Emergency Planning Team (EPT) or RCC Duty OM would confirm appropriate contacts within each workstream and where required will arrange for each to provide regular Situation Reports (Sit Reps) to give a coordinated evolving view of the situation. These Sit Reps are combined to create a consolidated Regional CRIP. The CRIP would be circulated by email to the relevant people and teams using the standard regional CMM distribution list. During a Regional Alert all available sources of information are monitored to give the best possible information about the condition on the network and potential risks.

Once a Regional Alert has been declared, a telephone conference call of the Regional Alert Coordination Group (RACG) would take place as soon as possible. This ensures that appropriate planning and arrangements are being made to prepare for the potential emergency or disruption. Incident governance arrangements are confirmed at the first conference call including arrangements for communicating challenges that are encountered through the Regional Alert phase. Clarification should always be given that any party within the RACG can propose an escalation, together with evidence to support the proposal – this is very important to ensure that on-road service delivery disciplines who experience difficulties on the network are under an obligation to communicate this immediately and propose escalation if necessary.

Ongoing RACG teleconference calls may be held during a Regional Alert to ensure that there is full visibility of key issues and to ensure situational awareness. It is a requirement that all parties read and understand the CRIP ahead of any conference calls/meetings. It may often be necessary to take items offline to fully resolve and then report back to the group, either through email or conference call if of high enough priority. The RACG should comprise representation from all regional stakeholders together with national teams and Met Office joining where their involvement would be of benefit to them or to the region.

If the situation deteriorates, or an emergency occurs, then the incident should be escalated to the next stage of the ICES process, Regional Crisis, and potentially to National Crisis. In many cases, the Regional Alert may pass without an incident or emergency occurring. Once the risk has decreased to normal levels, a notification would be issued to end the Alert status.



#### 5.4. Regional Crisis

*Regional Crisis* is the third stage of the Incident Command Escalation Stages (ICES).

A Regional Crisis should be declared by the Regional Director or the RCC Duty Operations Manager (or their nominated deputies) when an incident or situation occurs that requires strategic coordination at the regional level. A message would be sent to all relevant business units informing them that a Regional Crisis has been declared and that a meeting of the Regional Crisis Management Team (RCMT) will be held. The time and location for the first RCMT meeting should be notified immediately (this may be held in person or via teleconference).

The Regional Crisis Management Team (RCMT) will be established to lead the response to a Regional Crisis, responsible for the deployment of appropriate Agency resources (both direct and service provider). The RCMT will ensure that appropriate contingency plans are implemented as well as managing the associated communication issues. The RCMT is a decision making group operating under the direction of the Chair who will be the region's Gold Commander. This decision making group will be supported by the Regional Support Cell (RSC). The Support Cell provides logistical and admin support to the RCMT.

It is not intended that the RCMT would be stood up full time to manage an emergency. The group will meet to agree strategic intentions which will be communicated to staff managing the situation within the region. The frequency of RCMT meetings will be set by the chair, depending on the nature of the emergency. Usually the group will meet once or twice a day during an emergency, but this could be more frequent if the situation is changing rapidly, and where strategic guidance is needed more often. During long running emergencies such as a flu pandemic, the RCMT may meet less often - perhaps only once a week.

A key task for the RCMT is to formulate and agree the strategic objectives of the incident response and provide broad guidance to tactical commanders on how this should be achieved. This is called the 'Statement of Commander's (or Strategic) Intent' This Statement is not intended to reduce or constrain tactical freedom but to guide tactical commanders in the overall manner in which the response will be managed. The bullet points below outline key elements to be considered when drafting a Statement of Commander's Intent:

- 'Commander's Intent' is the broad strategy that the Commander/Manager wishes to adopt to achieve the strategic objectives.
- The Statement of Commander's Intent should not seek to address any and all eventualities, but should provide broad guidance on actions.
- It provides sufficient information that more junior commanders/managers - in this case the Silver Commanders - have a clear understanding of the overall concept the Commander wishes to adopt in achieving their strategic objectives.
- A Statement of Commander's Intent should provide sufficient guidance that a more junior commander can take advantage of opportunities or take actions to mitigate risks that have not been explicitly stated in the overall plan. Done well this statement should almost be like the decision maker having the Commander at their side when something unexpected occurs - they know instinctively what to do to achieve the overall purpose.
- The Commander's Intent statement should be strategic and not stray into tactical issues.

## 5.5. National Alert

*National Alert* is the fourth stage of the Incident Command Escalation Stages (ICES).

A National Alert should be declared where national coordination would add value to the Agency's planning or response activity. Coordination may be required between a number of regions who are all affected by the same situation, or between national teams from a number of different directorates. For example, a National Alert may be declared to oversee the Agency's preparedness in the days or hours leading up to a period of forecast severe weather that is likely to have a significant impact on more than one region. A National Alert may also be established to provide strategic overview or leadership during situations involving a number of serious regional incidents having the potential for a national impact, but not severe enough to implement a full National Crisis. When a 'National Alert' is declared, the notification will be issued by email to senior managers and all relevant business units using the national CMM distribution list.

The principal objective of the National Alert Coordination Group (NACG) is to provide a focal point to bring together all teams and directorates involved in the response to an emergency situation. The NACG will also be established to coordinate preparedness in advance of an incident where a warning or notice period is available (for example when warnings are received of severe weather or terrorism).

The NACG may be established when national *coordination* would be of benefit, but full establishment of the National Crisis Management Team (NCMT) is not required. The NACG may also be established when a level of national *command* is required but the situation does not warrant the activation of the NCMT. The NACG is responsible for liaising with external national stakeholders, making key strategic decisions affecting the future operations or reputation of the Highways Agency and providing strategic direction to the RCMTs and/or RACGs.

For national incidents, there is a Duty Crisis Management Coordinator (Duty CMC) who acts as the single point of contact for recommending the decision as to whether to escalate to a national level. In addition, the role of the Duty CMC is to provide a national command support lead function to the HA's National Gold Commander during an incident. This involves a number of responsibilities in support of the HA National Gold Commander including:

- acting as a specialist advisor on crisis management and incident response 24/7
- coordinating national crisis management arrangements and engagement with the regions
- overseeing of crisis management reporting and reporting to central government
- undertaking a support staff lead role for the HA Gold Commander
- primary contact point for all Regional Crisis Management Teams

The criteria for considering national escalation are as follows:

- any incident likely to affect more than one region (e.g. a large-scale natural disaster)
- any incident requiring the cross-regional transfer of HA assets to facilitate resolution
- any incident resulting in multiple deaths or serious injury involving HA staff or customers or the general public

- any incident likely to attract serious negative media attention and/or severely impact the image, reputation or public perception of the HA
- any incident with severe financial or operational implications
- any incident involving the threat or occurrence of terrorist activity
- any incident requiring the intervention of or coordination with central, regional or local government or national resources (e.g. Army)

Escalation to National Alert will automatically trigger full Crisis Management Reporting. This involves all affected regions (i.e. those at Regional Alert or Regional Crisis) issuing Regional CRIPs three times a day. Information from the Regional CRIPs will be combined with national information to create a National CRIP (see Chapter 6).

## 5.6. National Crisis

*National Crisis* is the fifth stage of the Incident Command Escalation Stages (ICES).

During very serious incidents, such as an extreme severe weather event, a national crisis would be declared if the regional responses have been unable to contain the incident impact. However during an extreme incident such as a serious terrorist attack, it is likely that a National Crisis would be declared almost immediately to ensure that the most senior level of command is in place.

The decision to declare a National Crisis and establish the National Crisis Management Team will be made by a Network Board Director, who will lead the Agency's response, supported by the NCMT and RCMTs as required. This leaves the HA Chief Executive available to represent the HA in central government. The purpose of the NCMT is to provide a co-ordinated national response to a major emergency and to maximise strategic support to affected Regions under the direction of a national Gold Commander.

The NCMT will be made up of senior HA directors and staff as required by the nature of the particular crisis. The NCMT Gold Commander will be the Network Board Director. The NCMT will be supported by the Duty Crisis Management Coordinator through which all communication with the NCMT will be made.

## 5.7. Recovery Phase

Following the emergency response phase of major emergencies, there will often be a period during which a number of organisations work together to restore normality to the area and community. This recovery phase may last from a few hours or days to several months or even years. Although distinct from the emergency response phase, recovery should be an integral part of the response from the very beginning, as actions taken during the response phase can influence the longer-term outcomes for a community.

This phase may require significant repairs or replacement of local infrastructure, economic support to re-establish affected business and commerce, and psychological or social support for members of the public and/or emergency responders. Within major emergencies, this meaning of recovery should not be confused with the common usage of the word 'recovery', i.e. recovery of damaged or broken down vehicles to allow the restoration of network capacity. Vehicle recovery may often take place during the emergency response phase within the first hours.

The recovery phase of an emergency will often be managed using the same Gold / Silver / Bronze command and control structure, although the organisations involved may be different. The Emergency Services are unlikely to be significantly involved, with Local Authorities, Government Agencies, and Voluntary Organisations taking a leading role. There may be an ongoing need to maintain Regional and/or National Crisis Management Teams to provide strategic leadership during the recovery phase.

## **6. SITUATIONAL AWARENESS AND REPORTING**

### **6.1. Overview**

During emergencies, it is essential organisations involved have accurate and up to date information about the incident and the emergency response. It is also important that the right individuals and teams within those organisations have access to timely information.

There are a number of established reporting processes that are followed during emergencies to ensure information is shared efficiently. Initial notifications must be made to the relevant people and organisations, and all parties must agree responsibility for providing regular updates or Situation Reports (Sit Reps) which allow for the creation of the Regional CRIP and National CRIP (Commonly Recognised Information Picture). There are three main types of reports that will be used when Crisis Management Reporting is established:

### **6.2. National Network Overview Reports**

During normal business, National Network Overview reports are issued to a wide circulation at 0830 and 1800 every day. A third report is issued at 2100 each day to a scaled down distribution list of key staff on duty. These reports provide a national snapshot of significant network incidents, as well as other useful information such as severe weather alerts and the ICES level of each region. The frequency of these reports may be increased during incidents / events where the picture is changing fast.

### **6.3. Regional Commonly Recognised Information Picture (Regional CRIP)**

When a Regional Alert or Regional Crisis is declared within a region, a process of information reporting and collation will begin. Individual teams or business units will produce Situation Reports (Sit Reps) giving details of their preparation for, or response to, the situation. These Sit Reps will be combined into a Regional Commonly Recognised Information Picture (CRIP) which is circulated to the people and teams involved in responding to the emergency.

There is a standard template for the Regional CRIP and this is the required method of providing ongoing information to members of the Regional Alert Coordination Group (RACG) or the Regional Crisis Management Team (RCMT), and ensures that all decision makers have access to the same information. The Regional CRIP template includes a regional Red/Amber/Green network stress assessment that is completed for inclusion in the National CRIP. This RAG assessment is intended to give an overall indication of the impact of the situation in each region. These are: Red – Highly stressed, Amber – Stressed and Green – Routine.

The regional network stress assessment does not necessarily relate only to network closures. For example, the region may be assessed as stressed (Amber) or highly stressed (Red) if large numbers of resources are involved in keeping a situation under

control, or where severe weather is having a significant impact on the network conditions. Similarly, the region may be assessed as routine (Green) even if a route is closed, as long as diversion routes are coping adequately with the traffic levels. The frequency of production and distribution of Regional CRIPs will depend on the nature of the incident, and may vary from several times a day during fast moving situations, to once a week or less during slow-burn issues.

#### 6.4. National Commonly Recognised Information Picture (National CRIP)

During emergency situations or periods of significant network stress, the final stage of escalating reporting is to establish the National CRIP. The National CRIP will provide a comprehensive report of the situation and will include a summary of incidents, network status and impact, weather warnings, and logistical or resource challenges. The National CRIP will be created by combining information received from affected regions (via Regional CRIPs) with national information. The National CRIP summarises the overall Red/Amber/Green stress assessment for each region which gives an easy to understand national picture of 'network stress'.

#### 6.5. Battle Rhythm

Battle rhythm is a term that describes the regular, structured and timely flow of information between different teams and organisations during emergencies. Times of expected reports and updates are agreed in advance, with staggered times as the information flows up or down a chain of command. Establishing a battle rhythm enables organisations and teams to know when they can expect to receive further updates and to plan their own reporting.

## 7. MISCELLANEOUS ISSUES

### 7.1. Mutual Aid and Staff Welfare

During an emergency, the resources of some teams, regions, or organisations are likely to be severely stretched. It may be appropriate for other unaffected teams, regions, or organisations to provide support to those that are affected. The welfare of staff responding to emergencies is an absolute priority. During such events it is likely that both staff and managers will be operating at increased levels of activity and stress. It is important to understand the risks associated with working during such times.

### 7.2. Media

Emergencies and major incidents can generate significant interest from local, national and international media often within a short time of the incident occurring. It is therefore essential that the organisation is ready to react to requests from the media and proactively provide accurate information to the public whilst supporting the multi-agency response.

### 7.3. Stand down process

At the conclusion of any incident or operation the Commander would issue a formal 'Stand Down' message. However, it is possible that there may be a requirement for strategic leadership even after the emergency phase of an incident and when roads have reopened. The RCMT, NACG or NCMT as appropriate would not stand down until the group has reviewed the situation and agreed that all outstanding actions could be managed through normal business.

#### 7.4. Hot, Cool and Cold Debriefs

Following any serious incident a thorough process of debriefing is followed. Debriefs are designed to capture what worked well and what did not work so well. It encourages a process of review in order to promulgate best practice and permit plans to be modified to ensure lessons are learnt. Debriefing guidance sets out a process that must be followed following incidents that meet certain criteria described in the guidance. Hot, cool and cold debriefs may all be required depending on the circumstances.

#### 7.5. Updates to Crisis Management Manual

The Crisis Management Manual (CMM) is a living document. The CMM is regularly updated to reflect new information, changing procedures and best practice as highlighted through debriefs of real incidents, emergency exercises and national guidance.

### 8. CONCLUSIONS

Since its launch in November 2011, the Crisis Management Manual (CMM) has been utilised at all stages except the full national crisis level. In the UK we have had some very significant flooding events and unusually widespread and extreme snow events. The CMM has helped ensure the very best preparation in advance of their arrival, management during the event and successful recovery.

In preparation for the Olympic Games the CMM was adapted to account for the additional governance structures involved but essentially the CMM operated as usual. The London 2012 Olympic and Paralympic Games were a great success. Not least because of the success of the Great Britain team. More importantly, the transport networks stood up well to the challenge of large increases in demand. Incidents and events affecting the strategic road network were handled efficiently and effectively ensuring the maximum possible capacity was maintained at all times.

The manual has been updated twice since its launch incorporating lessons learned not only from the Olympic Games, but other events and incidents experienced. There will be an ongoing annual cycle to keep the manual updated and fine tuned to maintain its effectiveness to adapt to any changes in the risks that need to be managed. In parallel, further briefing, training and exercising will ensure the organisation continues to make full and consistent use of the manual and that staff remain sharp and ready to respond as required.

The Crisis Management Manual continues to be a vital tool in ensuring the strategic road network remains resilient in the most challenging of circumstances. This is vital for the prosperity of the nation and it is important to our many customers and stakeholders that are so dependent on our network 24/7 and throughout the year.

### REFERENCES

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