 ITSO Division	Division/Section: <b>ITSO Division /ITSO OCC Traffic Operations</b>	Rev No. <b>2</b>
	Document No: <b>ITSO/OCC/SOP/EOP04.005</b>	Effective Date: <b>Xx Dec 2020</b>
	<h2>Handling Hazmat Incidents</h2>	

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### DOCUMENT CONTROL

REV	DOCUMENT TITLE & COPY NUMBER	Date	Prepared by	Reviewed by	Approved by
0	Handling Hazmat Incidents Copy ____ of ____	15 <sup>th</sup> December 2009	Muhamad Ridha (OE)	Alfred Loh (SOE)	Soh Ling Tim (MOPN)
1	Handling Hazmat Incidents Copy ____ of ____	XX October 2013	Chiam Zhi Wei (DysOE) Chua Teck Leong (AOM, ITSO OCC)	Ng Soon Han, Frankie (DOM, ITSO OCC)	Yeo Se Lay (SM,Ops)
2	Handling Hazmat Incidents Copy ____ of ____	XX December 2020	Daniel Wu (AOM) Lye Keng Fatt (DM, ITSO OCC)	Ng Soon Han, Frankie (Mgr, ITSO OCC)	Yeo Se Lay (DDIT)

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### AMENDMENT HISTORY RECORD

Rev No.	Effective Date of Change	Section & Sub- Section Amended	Amendments/ References	Party Requesting for Change
1	XX Oct 2013	Whole Document	Due to organization change of division name from ITSC to ITSO.	DOM, ITSO OCC
2	XX Dec 2020	Whole Document	Due to change of Staff Designations in ITSO OCC. Delete SOE, insert DM Delete DySOE, insert DyAM	Mgr, ITSO OCC

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## Section 1. Introduction

- 1.1.1 Hazmat incidents can be terrorist related or be accident related. This procedure attempts to address ITSO OCC response to deal with such incidents.
- 1.1.2 ITSO OCC response to such incidents would be generalized in nature, as ITSO staffs are not specialized to give a specialist response to Hazmat incidents. A specialist response is best left to subject matter experts in specialized external agencies.
- 1.1.3 Main function of ITSO OCC response would be to secure site, activate the relevant emergency services and provide knowledge for expressways and road network if required.

## Section 2. Personnel Involved

- a) ITSO OCC staff
- b) LTM & VRS staff
- c) Other LTA department staff
- d) External Agencies

## Section 3. Actions & Process

### Sub-Section 3.1 Dealing with a Hazmat Spillage or Release

- 3.1.1 Upon receiving reports or confirmed reports of a Hazmat incident send LTM and RC to investigate and manage incident on site.
- 3.1.2 When RC or LTM arrive on site DM shall authorize the closure first than inform TP if situation poses an immediate danger. OE shall follow the general guiding principle stated in ITSO/OCC/SOP/AOP03.004 for total closures.
- 3.1.3 RC or LTM on site to exercise caution while approaching site to observe any signs of a possible chemical/gas release. If the signs are present, don on protective gear and cordon off area at a safe distance (At least about 50m), inform ITSO OCC and wait for the relevant expert external agencies to arrive on scene (this is to prevent the RC or LTM responding personnel from becoming casualties themselves). Signs of a chemical or gas attack:
  - a) Large number of people at the incident site falling sick, showing signs and symptoms such as watery eyes, vomiting, shortness of breath, redness of skin etc..
  - b) Three or more people collapsing for no apparent reason.
  - c) Many dead or sick animals in the affected environment.
- 3.1.4 DM shall escalate the incident to higher management via sms (Refer to Attachment 3), and they in turn will activate the LTA CMG. OE shall call the police and inform the police of the confirmed terrorist attack. Note for confirm reports of gas or hazardous chemical spillage or release to inform SCDF immediately as they might activate IPP for the surrounding buildings near the affected area. Inform NEA for handling of cleaning up the spillage or release together with SCDF.
- 3.1.5 OE to inform traffic watch of total closure and LTM & RC shall assist in closure, to secure the site for rescue and recovery operations. Assist the emergency services as required.

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3.1.6 The CMG shall take over the management of the incident as soon as it is practicable.

3.1.7 Affected area to remain close until it is declared safe by the relevant authority.

## **Section 4. Abbreviations**

CMG Crisis Management Group  
 EMAS Expressway Monitoring Advisory Service  
 ITSO Intelligent Transport Systems Operations  
 IPP In house Protection Plan  
 LTA Land Transport Authority  
 LTM Land Transport Authority Traffic Marshals  
 NEA National Environment Agency  
 Nparks National Parks  
 OE Operations Executive  
 OCC Operations Control Center  
 PTZ Pan Tilt Zoom Camera  
 RC Recovery Crew  
 DM Deputy Manager  
 SPF Singapore Police Force  
 SCDF Singapore Civil Defense Force  
 TM Traffic Management  
 TP Traffic Police  
 VRS Vehicle Recovery Service  
 VMS Variable Message Signs

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## ATTACHMENT 1- HAZMAT INCIDENT CHECKLIST (TUNNEL)

Time	Incident Zone OE	Other Zone OE	DM
H + 0 min	<input type="checkbox"/> Detects from CCTV any HAZMAT spillage inside tunnel & any signs of drivers outside vehicle that appeared walking unsteadily and sudden large number of vehicles losing control  <input type="checkbox"/> Inform DM & Create Hazardous Material IR.  <input type="checkbox"/> Close affected sections of expressway and activate more LTM & VRS to assist for total closure if required. Note if chemical or poisonous gas is suspected or confirmed, instruct LTM & VRS to position at least 200m away from incident site (as recommended by SCDF)	<input type="checkbox"/> Inform SCDF & TP on suspect hazard spillage and nature of incident. <ul style="list-style-type: none"> <li>➤ Spillage location</li> <li>➤ Casualties</li> <li>➤ Camera to view</li> <li>➤ Access route.</li> </ul> <p><b>* Call SCDF again at (H + 1 To 3) if unable to determine the access route to incident site.</b></p>	<input type="checkbox"/> Strategize with VRS & LTM DO on how best to secure the affected site  <input type="checkbox"/> Assist to call external agencies if required  <input type="checkbox"/> Inform OE on SCDF and SPF access route.  <p><b>* Call SCDF again at (H + 1 To 3) if unable to determine the access route to incident site.</b></p>

H + 1 To 3 min	<ul style="list-style-type: none"><li><input type="checkbox"/> Call Traffic Watch.</li><li><input type="checkbox"/> Affect total closure if required</li><li><input type="checkbox"/> Monitor traffic condition and modify (if necessary) response plan</li><li><input type="checkbox"/> Clear non-incident bound traffic</li><li><input type="checkbox"/> Open VX door <i>(If access from non-incident bound only and as instructed by SCDF on site)</i></li></ul>	<ul style="list-style-type: none"><li><input type="checkbox"/> Assist to handle public queries if any.</li><li><input type="checkbox"/> Assist to liaise with other agencies</li><li><input type="checkbox"/> Call One-Call-Center <b>(6538 8330)</b>.</li><li><input type="checkbox"/> Call LTOC.</li><li><input type="checkbox"/> Assist to adjust traffic light at junction where more green time is needed for vehicles exiting the affected expressway</li></ul>	<ul style="list-style-type: none"><li><input type="checkbox"/> Call DDIT. <b>(9668 3651)</b> for clearance to affect total closure if required</li><li><input type="checkbox"/> Call KPE if there is a potential spillover to KPE</li><li><input type="checkbox"/> SMS incident to Key Officers.</li></ul>
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Time	Incident Zone OE	Other Zone OE	DM
Arrival of VRS & LTM	<input type="checkbox"/> Check VRS & LTM on site is assisting to secure site and control traffic  <input type="checkbox"/> Get latest update from VRS or LTM on site and confirm on site if there is any infrastructure damage  <input type="checkbox"/> Update Traffic Watch.	<input type="checkbox"/> To assist as required or directed by DM.  <input type="checkbox"/> To continue to carry out own zone duties.	<input type="checkbox"/> Inform RIMS and Maintenance staff (Duty HP) if required. Number can be obtained from 1 call LTA 62255582.  <input type="checkbox"/> Update DDIT & CMG.  <input type="checkbox"/> Once SCDF or SPF scene commander arrives, assist and follow instructions as required. As they will be in charge of incident scene management & investigation.  <input type="checkbox"/> Update KPE on expected congestion (if required): <ul style="list-style-type: none"> <li>➤ Junctions</li> <li>➤ Adjoining expressway</li> </ul>
Arrival of SCDF and Police.	<input type="checkbox"/> Monitor and receive update on site from VRS or LTM & Update IR  <input type="checkbox"/> Provide necessary assistance to SCDF or SPF as directed by DM.	<input type="checkbox"/> To assist as required or directed by DM.  <input type="checkbox"/> To continue to carry out own zone duties	<input type="checkbox"/> Info update to DDIT (9668 3651) & CMG  <input type="checkbox"/> Render assistance and act in accordance to SCDF or SPF scene commander in ITSO OCC as far as practicable

Re-opening of Tunnel	<ul style="list-style-type: none"><li><input type="checkbox"/> Wait for clearance from DM for Tunnel opening.</li><li><input type="checkbox"/> Once clearance given, VRS to sweep both bound tunnel clearance before re-opening to public use.</li><li><input type="checkbox"/> Inform LTM and VRS to commence Tunnel re-opening</li><li><input type="checkbox"/> Remove response plan and close IR and release VRS and LTM when no longer required</li></ul>	<ul style="list-style-type: none"><li><input type="checkbox"/> Update Traffic Watch</li></ul>	<ul style="list-style-type: none"><li><input type="checkbox"/> Seek confirmation from Police or SCDF scene commander that recovery process has completed and it is safe to open.</li><li><input type="checkbox"/> Update DDIT and permission to re-open Tunnel. <b>(9668 3651)</b></li><li><input type="checkbox"/> Once permission given to declare incident stand down and instruct OE to commence opening of Tunnel</li><li><input type="checkbox"/> Update KPE &amp; CMG</li></ul>
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## ATTACHMENT 2- HAZMAT INCIDENT CHECKLIST (OPEN EXPRESSWAYS)

Time	Incident Zone OE	Other Zone OE	DM
H + 0 min	<input type="checkbox"/> Detects from CCTV any HAZMAT spillage & any signs of drivers outside vehicle that appeared walking unsteadily and sudden large number of vehicles losing control  <input type="checkbox"/> Inform DM & Create Hazardous Material IR.  <input type="checkbox"/> Close affected sections of expressway and activate more LTM & VRS to assist for total closure. Note if chemical or poisonous gas is suspected or confirmed instruct LTM & VRS to position at least 200m away from incident site (as recommended by SCDF)	<input type="checkbox"/> Inform SCDF & TP on suspect hazard spillage and nature of incident. <ul style="list-style-type: none"> <li>➤ Spillage location</li> <li>➤ Casualties</li> <li>➤ Camera to view</li> <li>➤ Access route.</li> </ul> <p><b>* Call SCDF again at (H + 1 To 3) if unable to determine the access route to incident site.</b></p>	<input type="checkbox"/> Strategize with VRS & LTM DO on how best to secure the affected site  <input type="checkbox"/> Assist to call external agencies if required  <input type="checkbox"/> Inform OE on SCDF and SPF access route.  <p><b>* Call SCDF again at (H + 1 To 3) if unable to determine the access route to incident site.</b></p>

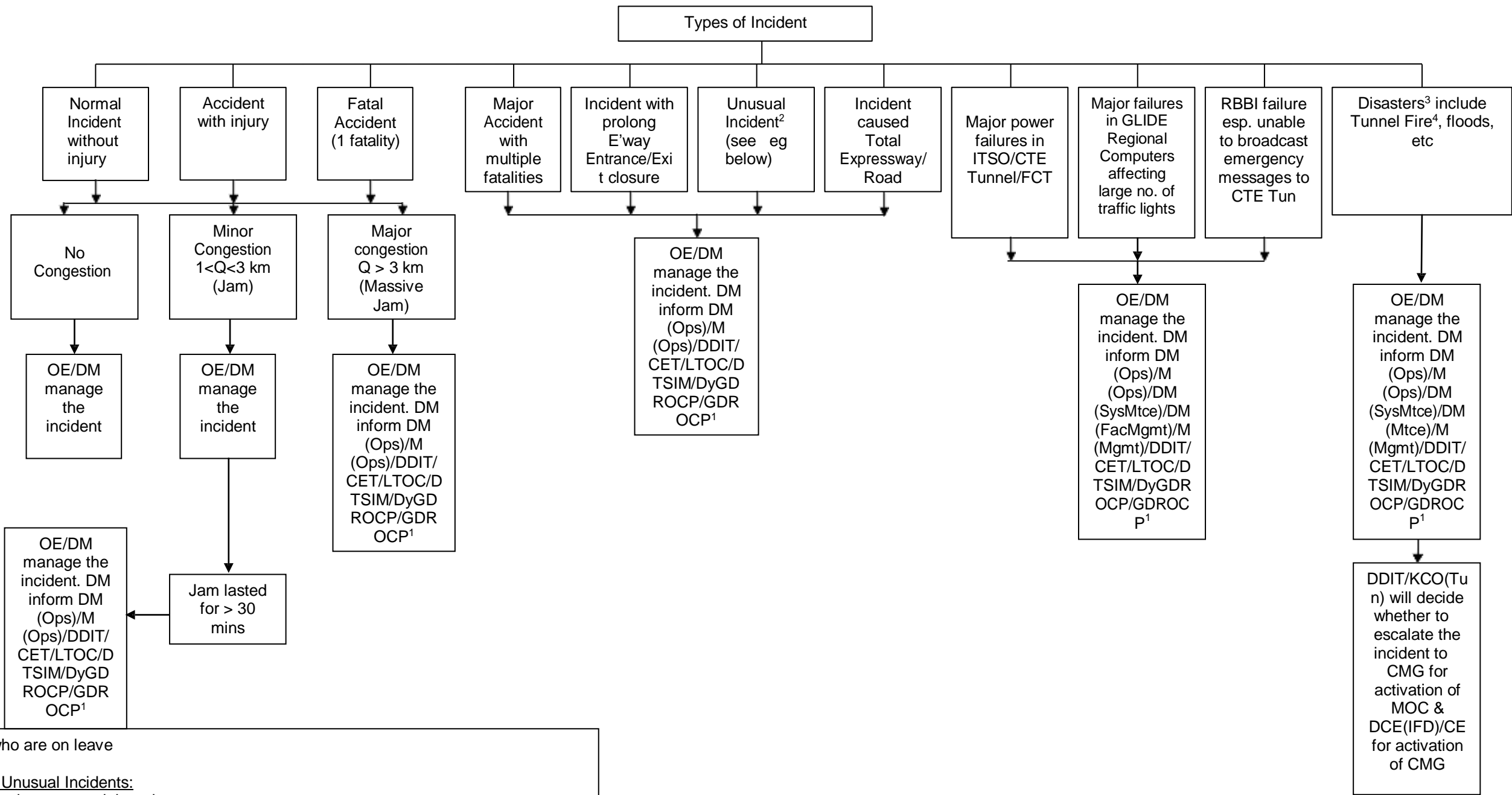
H + 1 To 3 min	<ul style="list-style-type: none"><li><input type="checkbox"/> Call Traffic Watch.</li><li><input type="checkbox"/> Monitor traffic condition and modify (if necessary) response plan</li><li><input type="checkbox"/> Clear non-incident bound traffic</li></ul>	<ul style="list-style-type: none"><li><input type="checkbox"/> Assist to handle public queries if any.</li><li><input type="checkbox"/> Assist to liaise with other agencies</li><li><input type="checkbox"/> Call One-Call-Center <b>(6538 8330)</b>.</li><li><input type="checkbox"/> Call LTOC <b>(6396 2952)</b>.</li><li><input type="checkbox"/> Assist to adjust traffic light at junction where more green time is needed for vehicles exiting the affected expressway</li></ul>	<ul style="list-style-type: none"><li><input type="checkbox"/> Call DDIT. <b>(9668 3651)</b></li><li><input type="checkbox"/> Call KPE if there is a potential spillover to KPE</li><li><input type="checkbox"/> SMS incident to Key Officers.</li></ul>
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Time	Incident Zone OE	Other Zone OE	DM
Arrival of VRS & LTM	<input type="checkbox"/> Check VRS & LTM on site is assisting to secure site and control traffic  <input type="checkbox"/> Get latest update from VRS or LTM on site and confirm on site if there is any infrastructure damage  <input type="checkbox"/> Update Traffic Watch.	<input type="checkbox"/> To assist as required or directed by DM.  <input type="checkbox"/> To continue to carry out own zone duties.	<input type="checkbox"/> Inform RIMS and Maintenance staff (Duty HP) if required. Number can be obtained from 1 call LTA 62255582.  <input type="checkbox"/> Update DDIT & CMG.  <input type="checkbox"/> Once SCDF or SPF scene commander arrives, assist and follow instructions as required. As they will be in charge of incident scene management & investigation.  <input type="checkbox"/> Update KPE on expected congestion (if required): <ul style="list-style-type: none"> <li>➤ Junctions</li> <li>➤ Adjoining expressway</li> </ul>
Arrival of SCDF and Police.	<input type="checkbox"/> Monitor and receive update on site from VRS or LTM. Update IR  <input type="checkbox"/> Provide necessary assistance to SCDF or SPF as directed by DM.	<input type="checkbox"/> To assist as required or directed by DM.  <input type="checkbox"/> To continue to carry out own zone duties	<input type="checkbox"/> Info update to DDIT (9668 3651) & CMG  <input type="checkbox"/> Render assistance and act in accordance to SCDF or SPF scene commander in ITSO OCC as far as practicable

Re-opening of Expressway	<ul style="list-style-type: none"><li><input type="checkbox"/> Wait for clearance from DM for Expressway opening.</li><li><input type="checkbox"/> Inform LTM and VRS to commence Expressway re-opening</li><li><input type="checkbox"/> Remove response plan and close IR and release VRS and LTM when no longer required</li></ul>	<ul style="list-style-type: none"><li><input type="checkbox"/> Update Traffic Watch</li></ul>	<ul style="list-style-type: none"><li><input type="checkbox"/> Seek confirmation from Police or SCDF scene commander that recovery process has completed and it is safe to open.</li><li><input type="checkbox"/> Update DDIT and permission to re-open Expressway. <b>(9668 3651)</b></li><li><input type="checkbox"/> Once permission given to declare incident stand down and instruct OE to commence opening of Expressway</li><li><input type="checkbox"/> Update KPE &amp; CMG</li></ul>
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ATTACHMENT 3

ESCALATION OF INFORMATION ON INCIDENTS



<sup>1</sup>To exclude those who are on leave

<sup>2</sup>Some examples of Unusual Incidents:

- (a) Abnormal massive jam on arterial roads
- (b) Huge obstacles such as fallen trees (affecting > 50% of carriageway)
- (c) Road cave-in
- (d) Serious upheaval of road surface
- (e) Flooding
- (f) Serious road settlement, subsidence or undulating carriageway over a considerable length of road
- (g) Unauthorised works on roads that adversely affect traffic flow / unusual events on roads
- (h) Severe damage to overhead gantry/cantilever sign causing massive jam or posing safety hazard (Also to inform DM (Fac Mgmt) & M (Mgmt) if it is an EMAS sign)

<sup>3</sup>Disaster – Please refer to the LTA CMG Minor Disaster List

<sup>4</sup>For Tunnel fire, SCDF takes command and control of the rescue and recovery operations

**SMS Message**

- (a) Est. Nos. of SMS per incident: (i) Start of an incident (ii) updates when there is a change in status (iii) End of an incident.  
Min. = 3nos.
- (b) Format : <Time> : <New or U/D> : <Type of incident> : <Location> : <Actions taken> : <Impact of incident>  
E.g. 0650hrs : New – Accident CTE(AYE) aft PIE(Changi) on Ln 1. TP & TW informed. Congestion 4km up to AMK Ave 1

