



Western Cape Province Chief Fire Officers Committee

Established under the Fire Brigade Services Act (Act 99 of 1987) so as to promote the coordination, standardisation, regulation and mutual cooperation of the Fire & Rescue Services



FIRE & RESCUE SERVICE-NORMS AND STANDARDS

Typed Resource Definitions:

- WC TRD 100-1: FIREFIGHTING GROUND RESOURCES
- WC TRD 100-2: HAZARDOUS MATERIALS RESOURCES

TYPED RESOURCE DEFINITIONS CODING

100-1: Firefighting Ground Resources

100-2: Hazardous Materials Resources

100-3: Search and Rescue Resources

100-4: Aerial Firefighting Resources

200-1: Incident Management Resources

200-2: Emergency Support Resources

200-3: Public Works Support Resources

Alphabetical Listing of Terms Specific to 100-1, 100-2

Area Command Team, Firefighting

An Area Command Team is an interagency organization under the auspices of the (1) relevant Authority Having Jurisdiction to oversee the management of multiple incidents that are each being handled by an incident management team (IMT) organization; or (2) to oversee the management of a very large incident that has multiple IMTs assigned to it. Area Command has the responsibility to set overall strategy and priorities, allocate critical resources based on priorities, ensure incidents are properly managed, and that objectives are met and strategies followed.

Backburn

Used to specify fire set to spread against the wind in prescribed burning.

Backfire

A fire set along the inner edge of a fireline to consume the fuel in the path of a wildfire or change the direction of force of the fire's convection column.

Backfiring

Tactics associated with indirect attack, intentionally setting fire to fuels inside the control line to slow, knock down, or contain a rapidly spreading fire. Backfiring provides a wide defence perimeter and may be further employed to change the force of the convection column. Backfiring makes possible a strategy of locating control lines at places where the fire can be fought on the firefighter's terms. Except for rare circumstance meeting specified criteria, backfiring is executed on a command decision made through line channels of authority.

Boat, Fire

A vessel or watercraft designed and constructed for the purpose of fighting fires providing specified level of pumping capacity. The boat is designed with the ability to carry firefighting foam and personnel for the extinguishments of fires in the marine environment.

Biological Agent

Living organisms or the materials derived from them (such as bacteria, viruses, fungi, and toxins) that cause disease in or harm to humans, animals, or plants, or cause deterioration of material.

Breathing Apparatus Support (SCBA Support; Breathing Air, Firefighting)

A mobile unit designed and constructed for the purpose of providing specified level of breathing air support capacity and personnel capable of refilling self-contained breathing apparatus (SCBA) at remote incident locations (Compressor Systems or Cascade).

Bush Pumper, Firefighting

Any light, mobile vehicular unit with limited pumping and water capacity for off-road operations

Chemical/Biological (C/B) Protective Ensemble

A compliant vapour-protective ensemble that is also certified as being compliant with the additional requirements for protection against C/B warfare agents such as vapours, gases, liquids, and particulate (National Fire Protection Association [NFPA] Standard # 1991)

Chemical Warfare Agent

A chemical substance (such as a nerve agent, blister agent, blood agent, choking agent, or irritating agent) used to kill, seriously injure, or incapacitate people through its physiological effects.

Decontamination

The physical or chemical process of reducing and preventing the spread of contaminants from persons and equipment used at a hazardous materials (HazMat) incident. (NFPA Standard # 472)

Deployment

Departure of team or personnel from home unit or base

Engine, Fire (Engine Company)

Any ground vehicle providing specified levels of pumping, water, hose capacity, and staffed with a minimum number of personnel as per RTL.

Fireline

The part of a containment or control line that is scraped or dug to mineral soil.

Fireground

Operational area on which firefighters combat a fire

Geographical Incident Management Teams, Firefighting

A Geographical Incident Management Team is an interagency organization under the auspices of the Geographical Area Coordination Group composed of the Incident Commander (IC), and appropriate general and command staff personnel assigned to an incident, and trained and certified to the Type II level.

Type II level personnel may lack the degree of training and experience of Type I personnel in managing complex incidents at the type one level

Hazardous Materials (HazMat)

Any material that is explosive, flammable, poisonous, corrosive, reactive, or radioactive, or any combination thereof, and requires special care in handling because of the hazards it poses to public health, safety, and/or the environment.

Hazardous Material Response Team

An organized group of individuals that is trained and equipped to perform work to control actual or potential leaks, spills, discharges, or releases of HazMat, requiring possible close approach to the material. The team/equipment may include external or contracted resources.

Hazardous Materials Incident

Uncontrolled, unlicensed release of HazMat during storage or use from a fixed facility or during transport outside a fixed facility that may impact public health, safety, and /or the environment.

HazMat Task Force

A group of resources with common communications and a leader. A HazMat Task Force may be pre-established and sent to an incident, or formed at the incident.

HazMat Trained and Equipped

To the level of training and equipment defined by the National Fire Protection Association (NFPA).

Incident Management Team

A command team comprised of the Incident Commander (IC), appropriate command, and general staff personnel assigned to an incident

Liquid Splash-Protective Ensemble

Multiple elements designed to provide a degree of protection for emergency response personnel from adverse exposure to the inherent risks of liquid-chemical exposure occurring during hazardous materials (HazMat) emergencies and similar operations. The liquid splash-protective ensemble is either an encapsulating or non-encapsulating ensemble. (National Fire Protection Association [NFPA] Standard # 1992)

Mobile Communications Centre (Mobile Emergency Operations Centre [EOC]; Mobile Command Centre; Continuity of Operations Vehicle)

A vehicle that serves as a self-sustaining mobile operations centre capable of operating in an environment with little to no basic services, facilitating communications between multiple entities using an array of fixed and/or wireless communications equipment, providing appropriate work space for routine support functions, and providing basic services for personnel in short-term or long-term deployments.

Release

Any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment (including the abandonment or discharging of barrels, containers, and other closed receptacles containing any hazardous substance or pollutant or contaminant).

Rescue

To access, stabilize, and evacuate distressed or injured individuals by whatever means necessary to ensure their timely transfer to appropriate care or to a place of safety.

Vapour Protective Ensemble

A vapour protective ensemble or garment that is intended for use in an unknown threat atmosphere or for known high health risk atmospheres is vapour tight, and is in compliance with National Fire Protection Association (NFPA) Standard # 1991, "Standard on Vapour-Protective Ensembles for Hazardous Materials Emergencies."

Water Truck

A truck with a permanently mounted water tank with the capabilities of dispensing potable or non-potable water. . Uses can range from delivering potable water to shelter locations, non-potable form for irrigation, assisting in wildfire situations, dust control, compaction requirements, flushing of storm conveyance sanitary sewer lines, and washing areas of dirt, debris, and dust.

Weapons of Mass Destruction (WMD)

(1) Any destructive device defined as any explosive, incendiary, or poison gas, bomb, grenade, rocket having a propellant charge of more than 4 ounces, missile having an explosive or incendiary charge of more than 1/4 ounce, mine or device similar to the above);

(2) any weapon that is designed or intended to cause serious bodily injury through the release, dissemination, or impact of toxic or poisonous chemicals, or their precursors; (3) any weapon involving a disease organism; or (4) any weapon that is designed to release radiation or radioactivity at a level dangerous to human life.

WMD Chem/Bio

A short-hand phrase for “weapons of mass destruction chemical/ biological,” in reference to those substances that were developed by military institutions to create widespread injury, illness, or death

Zone, Contamination Reduction (Warm Zone)

The area between the Exclusion Zone and the Support Zone. This zone contains the personnel decontamination station. This zone may require a lesser degree of personnel protection than the Exclusion Zone. This separates the contaminated area from the clean area and acts as a buffer to reduce contamination of the “clean” area.

Zone, Exclusion (Hot Zone)

The area immediately around a spill or release and where contamination does or could occur. The innermost of the three zones of a hazardous substances/material incident. Special protection is required for all personnel while in this zone.

Zone, Support (Cold Zone)

The “clean” area outside of the contamination control line. In this area, equipment and personnel are not expected to become contaminated. Special protective clothing is not required. This is the area where resources are assembled to support the hazardous substances/materials release operations

100 - 1 : FIREFIGHTING

RESOURCE		ENGINE (Urban Pumper)						
CATEGORY	<ul style="list-style-type: none"> • FIREFIGHTING [ESF #4] • HAZARDOUS MATERIALS [ESF#10] • SEARCH & RESCUE [ESF #9] 	Call Sign Designation	ENGINE - E -				Drive Train	4x 2 or 4x4 TRUCK
MINIMUM CAPABILITIES		TYPE I	TYPE II	TYPE III	TYPE IV	TYPE V	TYPE VI	TYPE VII
COMPONENT	METRIC							
EQUIPMENT	PUMP CAPACITY (l/min)	3850	2250	1850	1800	190	190	190
	TANK CAPACITY (litres)	1800	1800	1800	2800	1800	1000	800
	HOSE (63mm)	360m (12 X 30m)	300m (10 x 30m)	150m (5 x 30m)	90m	90m	90m	90m
	HOSE (38mm)	300m (10 X 30m)	150m (5x 30m)	300m	90m	90m	90m	60m
	Hose (25mm)	60m	90m	200m	90m	90m	90m	60m
	LADDER	9-10m OR 13.5m / 3 Extension	9-10m / 3 Extension	6 m / 2 extension	--	--	--	--
	Optional: HYDRAULIC RESCUE (JAWS of LIFE)	Full Set with rams and chains	Full Set with rams and chains	Combo-Set	Combo-Set	--	--	--
PERSONNEL	PERSONNEL	4 (excl. driver and Officer)	3 (excl. driver and Officer)	3 (incl. driver)	2 (incl. driver)	2 (incl. driver)	2 (incl. driver)	2 (incl. driver)

RESOURCE		TANKER PUMPER (Water Tender)				
CATEGORY	<ul style="list-style-type: none"> • FIREFIGHTING [ESF #4] • HAZARDOUS MATERIALS [ESF#10] 	Call Sign Designation	TANKER - T -		Drive Train	4x 2 or 4x4, 6 x 6 TRUCK
MINIMUM CAPABILITIES		TYPE I	TYPE II	TYPE III	TYPE IV	
COMPONENT	METRIC					
COMPONENT	PUMP CAPACITY (l/min)	1200	1135	450	250	
	TANK CAPACITY (litres)	10000	7000	4000	3500	
COMMENTS	All Types to have connection compatibility of being able to have direct pump connection to Engine or Bush Pumpers.					

RESOURCE		FOAM TENDER, FIREFIGHTING					
CATEGORY	<ul style="list-style-type: none"> FIREFIGHTING [ESF #4] HAZARDOUS MATERIALS [ESF#10] 	Call Sign Designation	FOAM TENDER -FT-			Drive Train	4x 2 or 4x4 TRUCK
MINIMUM CAPABILITIES							
COMPONENT	METRIC	TYPE I	TYPE II	TYPE III	TYPE IV	OTHER	
EQUIPMENT	TANK CAPACITY – CLASS B FOAM CONCENTRATE (litres)	2000	1000	800	500		
	FOAM MONITOR	Fixed	Fixed	Fixed	Fixed		

RESOURCE		BUSH PUMPER (Rural Pumper)					
CATEGORY	<ul style="list-style-type: none"> FIREFIGHTING [ESF #4] 	Call Sign Designation	PUMPER -BP-			Drive Train	4x4 TRUCK/ MEDIUM TRUCK or LCV
MINIMUM CAPABILITIES							
COMPONENT	METRIC	TYPE I	TYPE II	TYPE III	TYPE IV		
EQUIPMENT	PUMP CAPACITY (l/min)	1250	750	450	250		
	TANK CAPACITY (litres)	1800	1000	600	600		
	HOSE (63mm)	--	--	--	-		
	HOSE (38mm)	300m	90m	60m	60m		
	Hose (25mm)	200m	90m	60m	60m		
PERSONNEL	PERSONNEL	2	2	2	2		

RESOURCE	AERIAL FIRE TRUCK (Ladder or Platform)				
CATEGORY	<ul style="list-style-type: none"> • FIREFIGHTING [ESF #4] • SEARCH & RESCUE [ESF#9] 	Call Sign Designation	LADDER -L- or PLATFORM -P-	Drive Train	4x 2 or 4x4 LARGE TRUCK
MINIMUM CAPABILITIES					
COMPONENT	METRIC	TYPE I	TYPE II	TYPE III	TYPE IV
EQUIPMENT	AERIAL (m)	37+	30	22	22
	ELEVATED STREAM (l/min)	1800	Same as Type I	1200	1200
	GROUND LADDERS (m)	50	Same as Type I	30	12
PERSONNEL	PERSONNEL	4 person team	Same as Type I	3 person team	2 person team

RESOURCE	ENGINE STRIKE TEAM (Fire)				
CATEGORY	<ul style="list-style-type: none"> • FIREFIGHTING [ESF #4] • SEARCH & RESCUE [ESF #9] 	Call Sign Designation	STRIKE TEAM	Drive Train	ANY
COMPONENT	METRIC	TYPE I	TYPE II	TYPE III	TYPE III
Equipment	Engine, Fire	5	5	5	5
Personnel	Strike Team Leader	1	1	1	1
	(per) Engine	4	3	3	3
	Total	21	16	16	16
COMMENTS	Strike Team defined as the number of resources with common communications and a leader. TYPE refers to the actual Typed Resource Definitions for Engines				

Resource	MOBILE COMMAND UNIT (Also referred to as "Mobile EOC")				
CATEGORY	COMMUNICATIONS [ESF #2]	Call Sign Designation	COMMAND -C-	Drive Train	4x 2 or 4x4
MINIMUM CAPABILITIES		TYPE I	TYPE II	TYPE III	TYPE IV
COMPONENT	METRIC				
Vehicle	Chassis	13-15m custom trailer, Bus, conventional panel van chassis or diesel motorhome chassis with or without side-out room	10-12m motorhome, chassis with or without side-out room, conventional panel van or LWB/SWB minibus chassis	LWB/SWB Panel van or minibus or custom built 7-10m trailer or converted caravan (trailer or caravan does require additional tow vehicle)	Converted SUV or minibus, motorhome/caravan or custom built 7-10m trailer (caravan or trailer does require additional tow vehicle)
	Interior	6-10 work stations with private meeting area for command personnel	4-6 work stations with private meeting area for command personnel	2-4 workstations	1-2 work stations
Equipment	Radio Frequency Transceivers	RF communications with adjoining agencies, including air band. At least two tactical ICS simplex frequencies with Central Communications rack	RF communications with adjoining agencies, including air band. At least two tactical ICS simplex frequencies	RF communications with adjoining agencies, including air band. At least two tactical ICS simplex frequencies	RF communications with adjoining agencies.
	Internet Access Speed and Fax System	High Bandwidth capabilities via satellite such as INMARSAT or VSAT	High Bandwidth capabilities via satellite such as INMARSAT or VSAT.	Cellular System	Cellular
	Power Generation System	Auxiliary and AVR Generators	Auxiliary and AVR Generators	Auxiliary and AVR Generators	AVR Generator

RESOURCE		MOBILE COMMAND UNIT (Also referred to as "Mobile EOC")			
MINIMUM CAPABILITIES		TYPE I	TYPE II	TYPE III	TYPE IV
COMPONENT	METRIC				
Equipment	On Scene Video Monitoring	Through fixed camera system with streaming via 3G/4G or satellite	Through fixed camera system with streaming via 3G/4G or satellite	Through fixed camera system with streaming via 3G/4G	No
	Computer Aided Dispatch	Yes	Yes	Yes	No
	Voice Communication	Landlines, Cellular and Satellite	Landlines, Cellular and Satellite	Cellular or Satellite	Cellular
	Computer /Server Capabilities	Same as Type III	Same as Type III	Hardwired or Wireless LAN with AVR and Power surge protection	Basic 3G Laptop
Personnel	Function	Same as Type II except Driver /Operator to be minimum Station Officer rank.	Same as Type III plus: ICT Support Radio Communications Support	Same as Type IV	Driver /Operator
	Deployment Capabilities	All types should be capable of: <ul style="list-style-type: none"> • Operating in an environment with little or no basic facilities , including no electrical service and phones lines • Providing own power generation and fuel supply to operate a minimum of 3-4 days from station • Sustaining long term deployment as well as short term responses • Facilitating communications between multiple agencies (Provincial and municipal agencies) • Operating as FCP, ICP and EOC • Minimal Set up time 			

RESOURCE	RAPID INTERVENTION UNIT (Firefighting and Rescue)				
CATEGORY	<ul style="list-style-type: none"> • FIREFIGHTING [ESF #4] • SEARCH & RESCUE [ESF#9] 	Call Sign Designation	RIU -RIU-	Drive Train	4x 2 or 4x4 LCV or Medium truck
MINIMUM CAPABILITIES		TYPE I	TYPE II	TYPE III	
COMPONENT	METRIC				
EQUIPMENT	Pump Capacity (l/min)	450	450	250	
	Tank Capacity (litres)	600	600	600	
	Rescue (Jaws of Life)	Hydraulic Pump: 720 Bar <ul style="list-style-type: none"> • Combo Set • 1 back-up unit 	Hydraulic Pump: 720 bar <ul style="list-style-type: none"> • Combo Set 	Hydraulic Pump: 720 bar Combo Set	
	Rescue (Cutting)	<ul style="list-style-type: none"> • 1 X Reciprocating Saw • 1 x Chain Saw -carbide 	<ul style="list-style-type: none"> • 1 X Reciprocating Saw • 1 x Chain Saw -carbide 	1 x Chain Saw -carbide	
	Hose (38mm)	150m	90	90	
	Hose (25mm)	60	60	30	
	Cribbing and Stabilisation	Same as Type II	<ul style="list-style-type: none"> • 6 blocks, 4"x4"x24" 12 blocks, 2"x4"x24" • 6 pair wedges, 4"x4"x18" • 2 step cribbing 	-----	
	Pulling Equipment	<ul style="list-style-type: none"> • 1x 4000kg. Cap, chassis mounted • 1 hand winch, (come-a-long type), 2 ton and may be chain or cable, webbing Type not accepted. • 1 chain, 3/8 x 6 ft., grade 70 transport chain-w/clevis hooks • grade 70 transport chain-w/clevis hooks 	-----	-----	
	Medical	Same as Type II	Long spine board, 1 KED, 3 extrication collars(2 adult & 1 paediatric), O ₂ Cylinder with 15 lpm regulator , bag-valve mask (adult, child & infant), 1 portable suction unit, Jump Bag	Long spine board, 1 KED, 3 extrication collars, bag-valve mask (adult, child & infant) , Jump Bag	
PERSONNEL	Personnel	2 (VMR II +BLS)	2 (VMR I +BLS)	2 (VMR I+ BLS)	

RESOURCE	FIRE BOAT				
CATEGORY	FIREFIGHTING [ESF #4]	Call Sign Designation	FIRE BOAT -FB-	BHP	
COMPONENT	METRIC	TYPE I	TYPE II	TYPE III	
Personnel	Pump Capacity (LPM)	18000	4000	1000	
COMMENTS	Fire Boats may vary in length, draft and related firefighting equipment				

RESOURCE	FUEL TENDER (Petrol, Diesel, AvGas, aka Fuel Tanker)				
CATEGORY	<ul style="list-style-type: none"> TRANSPORTATION [ESF #1] PUBLIC WORKS and ENGINEERING [ESF #3] 	Call Sign Designation	FUEL TENDER -PT-	Drive Train	4x 2 or 4x4 LCV or Truck
COMPONENT	METRIC	TYPE I	TYPE II	TYPE III	
Supply	Fuel	3800	400	200	
COMMENTS	These vehicles may vary widely and ALL types must have Transport Service Permit for Dangerous Goods				

RESOURCE	CREW TRANSPORT (FIREFIGHTING CREW)				
CATEGORY	FIREFIGHTING [ESF #4]	Call Sign Designation	CREW BUS -CB-	Drive Train	ANY
COMPONENT	METRIC	TYPE I	TYPE II	TYPE III	
Personnel	Passengers	30	20	10	
COMMENTS	Vehicles may be buses, mini-buses, vans and special crew carrying vehicles equipped to carry firefighters.				

RESOURCE	WILDLAND FIREFIGHTING GROUND CREW					
CATEGORY	FIREFIGHTING [ESF #4]		KIND	<ul style="list-style-type: none"> • CONTRACTED SEASONAL <i>or</i> • PERMANENT RESERVIST FIREFIGHTER 		
COMPONENT	METRIC	TYPE I	TYPE II A	TYPE II B	TYPE III	TYPE IV
Personnel	Fireline Capability	Initial Attack / can be broken up into smaller units, fireline construction, complex firing operations (back-burning)	Initial Attack/ can be broken up into smaller units, fireline construction, firing to include burnout	Initial Attack, fireline construction, firing to include burnout	Initial Attack, fireline construction, firing to burnout	Fireline construction, fireline improvement, mop-up and rehabilitation
	Personnel	20	18-20	18-20	18-20	18-20
	Skills & Qualifications					
	Experience	80% 1 season or more	60% 1 season or more	60% 1season or more	60% I season or more	60% 1 season or more
	Full-Time Organized crew	Yes	No	No	No	No

RESOURCE	INCIDENT COMMAND TEAM (FIREFIGHTING)					
CATEGORY	FIREFIGHTING [ESF #4]	KIND		• TEAM		
COMPONENT	METRIC	TYPE I	TYPE II	TYPE III	TYPE IV	TYPE V
Personnel	Incident Commander (IC)	Yes	Yes	Yes	Yes	Yes
	Safety Officer (SO)	Yes	Yes	Yes	Yes	Yes
	Communications Officer (CO)	Yes	Yes	Yes		
	Operations Section Officer (OSO)	2	2	Yes		
	Planning Section Officer (PSO)	Yes	Yes			
	Liaison Officer (LO)	Yes	Yes	Yes		
	Public Information Officer (PIO)	Yes	Yes			
	Logistics Officer (LGO)	Yes	Yes			
	Resources Unit Officer (RUO)	2	Yes			
	Finance/Admin Officer (FAO)	Yes	Yes			
	Division / Group Officer	4	2			
	Air Operations Officer (AOP)	Yes				
	Air Support Officer (ASO)	Yes	Yes			
	Ground Support Unit Leader (GSL)	Yes				
<p>NOTES: ICS Structures can comprise of officials from the AHJ or be a mix of officials from the AHJ and other supporting or mutual aid agencies, including Local, District or Provincial entities as well as private contracted agencies. The Chief Fire Officer or Incident Commander (if not the Chief Fire Officer) must satisfy himself/herself that any person tasked to fulfil any role within the ICS Structure has the required skills, knowledge and experience to fulfil such role.</p> <p>IMPORTANT: When the decision is made to set-up a Type II structure; the Chief Fire Officer must inform the Provincial Sub-Directorate for Fire Brigade Services irrespective of whether added support is needed or not.</p>						

100 - 2 : HAZARDOUS MATERIALS

Resource		HAZARDOUS MATERIALS RESPONSE UNIT (Also referred to as “ HazMat” or “CBR”)			
CATEGORY	HAZARDOUS MATERIALS [ESF #10]	Call Sign Designation	HAZMAT -HZ-	Drive Train	4x 2 or 4x4
MINIMUM CAPABILITIES		TYPE I	TYPE II	TYPE III	TYPE IV
COMPONENT	METRIC				
Equipment	Detection	Same as Type III plus : CBR WMD	Same as Type III plus : Unknown Chemicals	Presumptive testing and identification of chemical substances using a variety of sources to be able to identify associated chemical and physical properties. Sources may include printed and electronic reference resources, safety data sheets, field testing kits, specific chemical testing kits, chemical testing strips, data derived from detection devices, and air-monitoring sources	
	Air Monitoring	Same as Type II plus: (WMD Chem/Bio Aerosol Vapour and Gas) Advanced detection and monitoring includes WMD Chem/Bio detection Instruments	Same as Type III plus: The use of advanced detection equipment to detect the presence of known or unknown gases or vapours that may incorporate instruments that differentiate between two or more flammable vapours, and may directly identify by name a specific flammable or toxic vapour	(Basic Confined Space Monitoring; Specific Known Gas Monitoring). The use of devices to detect the presence of known gases or vapours. The basics begin with ability to provide standard confined space readings (oxygen deficiency percentage, flammable atmosphere Lower Explosive Limit [LEL], carbon monoxide, and hydrogen sulphide)	

Resource	HAZARDOUS MATERIALS RESPONSE UNIT (Also referred to as “HazMat” or “CBR”)				
CATEGORY	HAZARDOUS MATERIALS [ESF #10]	Call Sign Designation	HAZMAT -HZ-	Drive Train	4x 2 or 4x4
MINIMUM CAPABILITIES		TYPE I	TYPE II	TYPE III	TYPE IV
COMPONENT	METRIC				
Equipment	Radiation Monitoring Detection	<p>Same as Type II plus: Identify and establish the exclusion zones after contamination spread. Ability to identify some, but not all, radionuclides). Ability to conduct environmental and personnel survey. All survey teams members equipped with accumulative self-reading instruments (dosimeters)</p>	<p>Same as Type III plus: (Alpha Detection) Basic criteria include detection and survey capabilities for alpha, beta, and gamma</p>	<p>(Beta Detection; Gamma Detection) The ability to accurately interpret readings from the radiation-detection devices and conduct geographical survey search of suspected radiological source or contamination spread. Basic criteria include detection and survey capabilities for beta and gamma</p>	
	Protective Clothing: Ensembles	<p>Same as Type II plus: <i>(Weapons of Mass Destruction (WMD) Vapour Protective CPC; WMD Liquid Splash Protective CPC).</i> Levels of CPC vapour protection are: Vapour-Protective, Flash Fire Protective option for Vapour Protective, and Chemical/Biological Protective option for Vapour Protective, all of which must be compliant with NFPA Standard # 1991, current edition</p>	<p>Same as Type III plus: <i>(Vapour-Protective CPC; Flash Fire Vapour- Protective CPC)</i> Levels of CPC vapour protection are: Vapour-Protective, and Flash Fire Protective option for Vapour-Protective both of which must be compliant with NFPA Standard # 1991, “Standard on Vapour Protective Ensembles for Hazardous Materials Emergencies,” current edition.</p>	<p>(Liquid Splash-Protective CPC) Chemical Protective Clothing (CPC), which includes complete ensembles (suit, boots, gloves) and may incorporate various configurations (encapsulating, non-encapsulating, jumpsuit, multi-piece) depending upon the level of protection needed. Level of CPC liquid protection is: Liquid Splash-Protective, which must be compliant with NFPA Standard # 1992, current edition</p>	

Resource	HAZARDOUS MATERIALS RESPONSE UNIT (Also referred to as “ HazMat” or “CBR”)				
CATEGORY	HAZARDOUS MATERIALS [ESF #10]	Call Sign Designation	HAZMAT -HZ-	Drive Train	4x 2 or 4x4
MINIMUM CAPABILITIES		TYPE I	TYPE II	TYPE III	TYPE IV
COMPONENT	METRIC				
Equipment	Technical Reference	Same as Type III plus : <i>(WMD Chemical/Bio)</i>	Same as Type III plus : <i>(Plume Air Modelling; Map Overlays)</i> At a minimum, technical references will have the ability to outsource additional capabilities and have one source for air-modelling capability	(Printed and Electronic) Access to and use of various databases, chemical substance data depositories, and other guidelines and safety data sheets, either in print format, electronic format, stand-alone computer programs, or data available via telecommunications. The interpretation of data collected from electronic devices and chemical testing procedures	
	Special Capabilities	Same as Type II plus: <i>(Digital Imaging Documentation Capability)</i>	Same as Type III plus: <i>(Heat Sensing Capability; Light Amplification Capability)</i>	(Gloves and Other Specialized Equipment Based on Local Risk Assessment) Additional resources that augment the capabilities of the team	
	Intervention	Same as Type II plus: <i>(WMD Chem/Bio Agent Confinement)</i> Advanced capabilities should include ability to intervene and confine incidents involving WMD Chem/Bio substances	Same as Type III plus: <i>(Liquid Leak Intervention; Neutralization; Plugging; Patching; Vapour Leak Intervention)</i>	(Diking; Damming; Absorption) Employment of mechanical means of intervention and control such as plugging, patching, off-loading, and tank stabilization. Environmental means such as absorption	

Resource	HAZARDOUS MATERIALS RESPONSE UNIT (Also referred to as "HazMat" or "CBR")				
CATEGORY	HAZARDOUS MATERIALS [ESF #10]	Call Sign Designation	HAZMAT -HZ-	Drive Train	4x 2 or 4x4
MINIMUM CAPABILITIES		TYPE I	TYPE II	TYPE III	TYPE IV
COMPONENT	METRIC				
Equipment	Decontamination	Same as Type II plus: <i>(WMD Chem/Bio)</i> Capable of providing decontamination for known and unknown contaminants and WMD Chem/Bio.	Same as Type III plus: <i>(Unknown Contaminants)</i> Capable of providing decontamination for known and unknown contaminants.	(Known Contaminants Based on Local Risk Assessment) Must be self-sufficient to provide decontamination for members of their team. Capable of providing decontamination for known contaminants.	
	Communications	Same as Type II plus: <i>(Secure Communications)</i>	Same as Type III plus: <i>(Wireless Data)</i>	Personnel utilizing CPC shall be able to communicate appropriately and safely with one another and their team leaders	
Personnel	Training	Same as Type II	Same as Type III	All personnel must be trained to the minimum response standards in accordance with the most current editions of NFPA Standard # 471, "Recommended Practice for Responding to Hazardous Materials Incidents," NFPA Standard # 472, "Standard for Professional Competence of Responders to Hazardous Materials Incidents up to Technician Level	
	Staffing	5 personnel	5 personnel	5 personnel	
	Sustainability	Same as Type II	Same as Type III	Capability to Perform Three (3) Entries in a 24-hour Period	

