## **COMMUNICATIONS UNIT**

Date:	Time:		E #	
Incident Name: _		Incident #		
Company /				
Contractor:			Equipment ID:	
Agreement #		Equipme	nt Make:	
VIN/Serial #		Equipmen	nt Model:	
	EQUIPMENT TYPE / (See below/agreement for specific		ES	
	Type 1 – Internet	<b>Type 2</b> – 1	No Internet	

## MINIMUM EQUIPMENT REQUIREMENTS

	Not all inclusive; for additional clarification refer to the agreement (SF-1449 section D)		Yes	No
1	Equipment VIN/serial # matches resource order (Schedule of Items)	D.6.3.1		
2	Check-in process completed	D.6.5.3		
4	Agreement: One complete copy	D.8		
5	<b>Self-contained:</b> Unit arrived fully operable within 2 hours of arrival at the incident, unless otherwise negotiated.	D.1		
6	<b>Minimum 20' length x 7' wide:</b> Excluding tongue, minimum 20' of unit is intended to include all of the space as usable space by the Government.	D.2.1.1		
7	<b>Space:</b> Partitioned to provide a separate space for radio operators.	D.2.1.1		
8	<b>Technician:</b> Capable of setting up/providing maintenance on the unit & qualified to maintain/program the provided equipment (i.e., radios, computers, etc.).	D.2.1.1		
9	<b>Air Conditioning Unit(s):</b> Self-contained, climate-controlled unit to maintain 70-75° F temperature in unit.	D.2.1.1		
10	<b>Heating System:</b> Sufficient to provide heating commensurate with the internal dimensions, no free-standing heaters (heating system to maintain 70-75 °F temperature in the unit).	D.2.1.1		
11	Wheel Chocks: Two (2) sets minimum, one set for each side of unit.	D.2.1.1		
12	Trailer stabilizers: Required if unit is configured as a trailer.	D.2.1.1		
13	White boards: 3 each, recommend 36" L x 24" H.	D.2.1.1		
14	Cork boards: 3 each, recommend 36" L x 24" H	D.2.1.1		
15	Internal Lighting: Sufficient to provide adequate light for nighttime operations.	D.2.1.1		
16	Outside Lighting: Sufficient to provide light for all entrance ways (two-way directional security light).	D.2.1.1		
17	Steps: If needed, to provide safe entry/exit from the unit.	D.2.1.1		

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18	Chairs: Provided for each workstation, minimum of three (3) chairs.	D.2.1.1		
19	Surge protection: On all electrical, radio, and data devices.	D.2.1.1		
20	Fire Extinguisher: 2A 10BC Securely mounted with a current annual inspection tag.	D.2.1.1		
21	<ol> <li>Workstations:         <ol> <li>Three (3) desktop/countertop workstations or work area large enough to accommodate 3 radio operator stations with chairs.</li> <li>Min. individual desk top workspace provided shall be 18" deep by 36" long.</li> </ol> </li> <li>Must be wired for phone with headsets at each workstation into a labeled punch box mounted outside.</li> </ol>	D.2.1.2		
22	All-In-One Fax/Copier/Scanner/Printer:  1. Two (2) reams of paper appropriate for the machine, for initial start-up.  2. In addition to the consumables that come with that equipment at the time of dispatch, one (1) additional set of consumables is required (i.e., toner, ink, or other supplies necessary to keep the machine fully operable).	D.2.1.6		
23	Awning: If one is provided it shall be a workable standard trailer awning.	D.2.1.1		
24	<b>Windows:</b> If provided they shall provide for natural lighting and airflow. An undamaged screen will completely surround the window area for windows that can open.	D.2.1.1		
	Electrical Power Requirements			
25	<b>Minimum 120 Volt:</b> 50 Amp AC service entrance with disconnect switch to master breaker.	D.2.1.3		
26	AC 4-Plex Receptacles at all dispatch stations/workstations: No more than two 4-plex outlets for each 20-amp electrical breaker.	D.2.1.3		
27	AC service extension cable: 20-foot, 50-amp extension cable	D.2.1.3		
28	AC 3 Pin Twist-Lock to Standard 3 Pin Adapters: 20-amp service	D.2.1.3		
29	Battery Backup: DC (battery) backup with a minimum of 200 AH capacity and capacity to power all radio equipment for at least one operational period (one shift).  1. Battery must have a master disconnect or breaker switch.  2. Battery must be physically isolated from work area for personnel safety.  3. Battery must be a sealed, non-ventilating type, such as gel-cell.	D.2.1.3		
30	Charging System: DC charging system to maintain battery backup.	D.2.1.3		
31	<b>Auxiliary Connection:</b> Two auxiliary 12-volt connection power points near radio equipment.	D.2.1.3		
32	<b>Power inverter:</b> One DC to AC power inverter sufficient to operate three (3) laptop computers.	D.2.1.3		
33	<b>External Generator:</b> One (1) each AC generator kit to include one (1) generator with a minimum output capacity of 6000 Watts (6Kw), grounding rod, clamp and cable, one (1) each five (5) gallon fuel container meeting all DOT safety specifications. Generator shall not exceed 65 dB(A), Sound Pressure Level at 7 meters.	D.2.1.3		
	Radio and Electronic Equipment			
34	<b>Radio Equipment:</b> Must be ready for immediate use upon arrival at the incident base facility or Incident Command Post (ICP), <i>pending frequency programming</i> .	D.2.1.4		
	Vendor provided:  1. All radio frequency programming software and any necessary programming hardware.			
35	Interface devices or personal computers required by the specific manufacturer make and model of radio equipment provided within the unit.	D.2.1.4		

UHF-FM Base Station: Minimum of one (1) UHF-FM mobile radio that will operate from

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406-420 MHz (minimum).

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D.2.1.4

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	1. Capability for 10 (minimum) preset channels.				
	2. Provide a nominal power output of at least 30 watts (minimum).				
	3. Be user programmable without the need of a computer (although computer programming				
	capability is also a requirement).				
	4. Each radio will have a desk mic or handheld mic with a speaker providing sufficient				
	adjustable volume to be heard in a noisy working environment.				
	5. Programming instructions for user and computer programming will be available.				
2.5	<b>Spacing:</b> VHF and UHF radios must be separated by at least six feet to allow two (2) Radio				
37	Operators (RADOs) to operate the different radios with little to no interference.	D.2.1.4			
	VHF-FM P25 Digital Base Station: Consisting of a minimum of one (1) VHF-FM				
	mobile radio.				
	Each radio will have a desk mic or handheld mic with a speaker providing sufficient				
	adjustable volume to be heard in a noisy working environment.				
	2. Programming instructions for user and computer programming will be available.				
	3. Each radio will conform to the following requirements:				
	a. A P25 Digital VHF-FM two-way mobile radio: with a matched broadband				
	antenna (Antenna Specialists ASPR7490, Maxrad MWB5803, or				
	equivalent), provide selection of analog wideband (25.0 kHz), analog				
	narrowband (12.5 kHz), and P25 Digital narrowband (12.5 kHz), channel				
38	spacing on each channel operating from 138 MHz to 174 MHz. The radio	D.2.1.4			
30	shall be frequency-synthesized, equipped with a CTCSS sub-audible tone	D.2.1.4			
	encoder having a minimum of 32 selectable tones meeting the current				
	TIA/EIA-603 standard, and develop a minimum of 30 watts nominal output				
	power.				
	b. <b>Transceivers:</b> Set to operate in the narrowband mode unless local				
	requirements dictate otherwise. All radios must have the ability to be				
	programmed in the field by the radio operator without the aid of a computer				
	or the services typically found in a radio shop.				
	c. All P25 digital radios: Operating with current software as shown on the				
	www.fs.fed.us/fire/niicd/Hotsheet/Hotsheet.html. Only exception is more				
	up-to-date software versions as released by the manufacturer.				
	Base Station Antennas:				
	1. VHF-FM – Broadband antenna (Antenna Specialists ASPR7490, Maxrad MWB5803,				
	or equivalent). Note: Antennas supplied with new radios do not meet these requirements.				
	<ol> <li>UHF – Broadband antenna tuned to the proper frequency band for each required base station radio.</li> </ol>				
39	3. At least two (2) magnetic mounted antennas with an 8' (minimum) RF cable for both the	D.2.1.4			
	VHF-FM and UHF-FM frequency bands are required.				
	4. Antennas may be mounted on masts or mounted directly to the trailer. Antennas will be				
	placed as far apart from each other as possible for frequency separation. Antennas may				
	be detached from the unit for transport.				
	<b>RF Cables:</b> RF cable terminations will be accessible from both inside and outside the unit.				
	1. VHF cables shall be terminated with 'UHF' connectors. UHF cables shall be				
	terminated with 'N' connectors.				
40	2. A selection of inter series adapters will be provided.	D.2.1.4			
	3. All cables will be permanently labeled.	2.2.1.1			
	4. In addition to the base station RF cables, there shall be an additional VHF cable from				
	each work position to an outside jack box.				
	5. All cables shall be RG-213, RG-8, or better.  Telephone/Internet Service/Access				
1	<b>Telephone service/customer entrance panel:</b> One (1) each to accommodate a minimum of seven (7) pre-wired telephone jacks (RJ-11 all wired back to the RJ-66 surge				
42	protected punch down block), prewired telephone jacks installed as follows:	D.2.1.5			
	1. One (1) for each workstation, so a total of three (3).				
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	2. 3. 4.	Two (2) external phone jacks mounted to the outside of the unit.  Two (2) additional jacks located elsewhere in the unit.  Seven (7) pre-wired internet ports (RJ-45), mounted either next to or adjacent to the seven (7) prewired telephone jacks.						
43	Telepl	hone handsets: Three (3) each, one near each workstation or work area.	D.2.1.5					
44	1. 2.	System (not wireless): Capable of providing service to each workstation.  Cat 6 (or better) ran to each workstation which shall terminate at a patch panel located inside the unit for easy connection to a powered switch (i.e., LAN system).  Two (2) Cat 6 (or better) that runs from the patch panel to two (2) RJ-45 connections in the entry panel.  Power over Ethernet switch with a minimum 8 port data switch.	D.2.1.5					
45	1. 2. 3. 4. 5.	Let Capability (required only on Type 1): Establish a minimum level of service little internet access and is for government use only.  Minimum bandwidth: 1.5Mbps Download speed, 768kbps Upload speed.  Wireless router with port address translation and DHCP capability for internal IP address assignment.  The ability to support for 3DES IPSec tunneling is required to support end to end solutions where remote access is needed.  Minimum Hardware: WI-FI Access Points: 802.11 b/g/n with WPA key encryption options.  Browser administrated.  Power over Ethernet capable.  POE 8 port data switch.  Contention ratio maximum 15-1.	D.2.1.6					
	Equipment meets agreement specifications							
Insp	ector:	Da	te:					
Оре	erator:	Print Sign  Print Sign  Print Sign  Contractor given the opportunity to correct noted deficiencies (See Remarks)  Contactor success noted deficiencies	sfully cor	rected				
Insp	ector:	Print Sign	te:					
RE	<b>REMARKS:</b> (Note in detail any deficiencies, pertinent information, comments, etc.)							
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