Test Plan D11 Command Center HF Contingency Network (D11CCNET)

Executive summary

The D11 Command Center HF Contingency Network is a set of CG AUX owned and operated HF and VHF deployable or fixed land radio facilities set up following a disaster that enables infrastructure-free strategic communications between the Command Centers within District Eleven.

During this one day test, CG AUX personnel will set up radios at multiple sites within D11 then use them to pass test message traffic to validate system functionality and tactics, techniques, and procedures.

Background

In the event of a catastrophic earthquake, a likely event in the D11 AOR, data circuits to Command Centers could be disrupted and therefore severely limit R21, COTHEN, chat, and email communications. The satellite and cellular phone channels may also be degraded or congested. Additionally, one of the lessons learned by Cal-OES is that during a contingency the tactical channels, primarily VHF radio, are saturated with responders, so having a long-range strategic comms channel provides significant value. Cal-OES's HF network is used in this way to connect their EOC's. The D11 Command Center HF Contingency Network provides an additional channel of communications, both voice and text, between Command Centers for strategic communications.

While the full TTP is still being developed, the concept has D11 AUX SOUTH and D11 AUX NORTH supporting each other where the unaffected area would send radios and radio operators into the affected area, under the assumption that those in the affected area would not be able to respond.

Date & Time Saturday, 24 October 2020

0800 – 1630 Pacific Daylight Time

Arrive and setup	0800-1000
In-Brief	1000-1030
Pass traffic	1030-1430
Debrief	1430-1500
Tear down	1500-1600
Final remarks	1600-1630

Locations	Sector San Diego	On the parade field located in front of the Response Department office
	Sector LA-LB	On the "Ball Field" next to Base exchange
	Sector San Francisco	In parking lot near helipad command center
	AIRSTA San Francisco	Parking lot just west of parade ground.
	District 11	Parking ACV near CGIARC HF hut on field behind D11 Commander Office (bldg. 52)
	AIRSTA Sacramento	At south end of parking lot east of hangar
	Sector Humboldt Bay	Front Parking Lot near Sector CC

Appendix A has diagrams of the specific setup locations.

Sector & AIRSTA Involvement

Involvement from the Sectors and Air Stations will be minimal. The only required involvement is permission to access the facility, permission to set up in locations identified in Appendix A, and use of bathrooms.

Additional participation is not required, nor is it allowed under current COVID restrictions. In the future, further Active Duty involvement is welcome if they are available. This could include passing test messages from the Command Center to the AUX HF site, then the receiving AUX HF site would deliver that message to the addressed Command Center. Other informal interaction, lunch together, meet and greet, brief tour of both Active Duty and AUX facilities, is encouraged to build relationships and understanding of capabilities.

COMMCOM Involvement

Not required, but we will invite them as a training & relationship building effort. Once we confirm the date of the test, we will reach out to COMMCOM to see if they are available. Details to follow.

Test Objectives

1. Pass voice and text communications from all participating Sectors and AIRSTA's to D11, and from D11 out to all participating Sectors/ AIRSTA's.

2. Pass voice and text communications from select Sectors/AIRSTA's directly to other select Sectors/AIRSTA's.

3. Validate that D11 AUX SOUTH and NORTH have sufficient radio operators and radio equipment in ready operating condition.

4. Identify, define, and specify the functionality and capability of a standard AUXcommsys deployable radio facility (See Appendix D for definitions) for temporary set up at each of the seven units including on CG Island.

5. Capture lessons learned sufficiently to create a job aid for setting up the radios and antennas at each location for future events. *

* An objective for the next test will be to validate those job aids.

Note: This test does not have as an objective to practice the activation of Auxiliarists, executing orders quickly, or logistics like transport by boat or sleeping in tents. These should be considered as objectives for next time.

Note: Following an actual earthquake, many units would shift to their COOP sites. This test is using routine permanent locations. Setting up at COOP sites should be considered for the next test.

VHF Guard

In accordance with CGAUX policy, whenever an AUX asset (vessel, aircraft, or radio facility) is deployed or underway, an arrangement for another land station to "take the guard" for the deployed asset via radio is required. Upon completion of set up at each deployed station, the lead operator will arrange for a "radio guard" facility either at the unit being supported or at some other acceptable AUXcommsys facility.

Site	Guard
District Eleven, PACAREA RCC	Need
Sector Humboldt Bay	SECHB
Sector San Francisco	Need
Sector Los Angeles Long Beach	WJ@4WJ
Sector Los Angeles Long Beach	WJ@4WJ
Sector San Diego	NF114BT
AIRSTA San Francisco	Need
AIRSTA Sacramento	Need

Test Procedures and Details

Appendix B details the test's facilities, circuit details, and procedures.

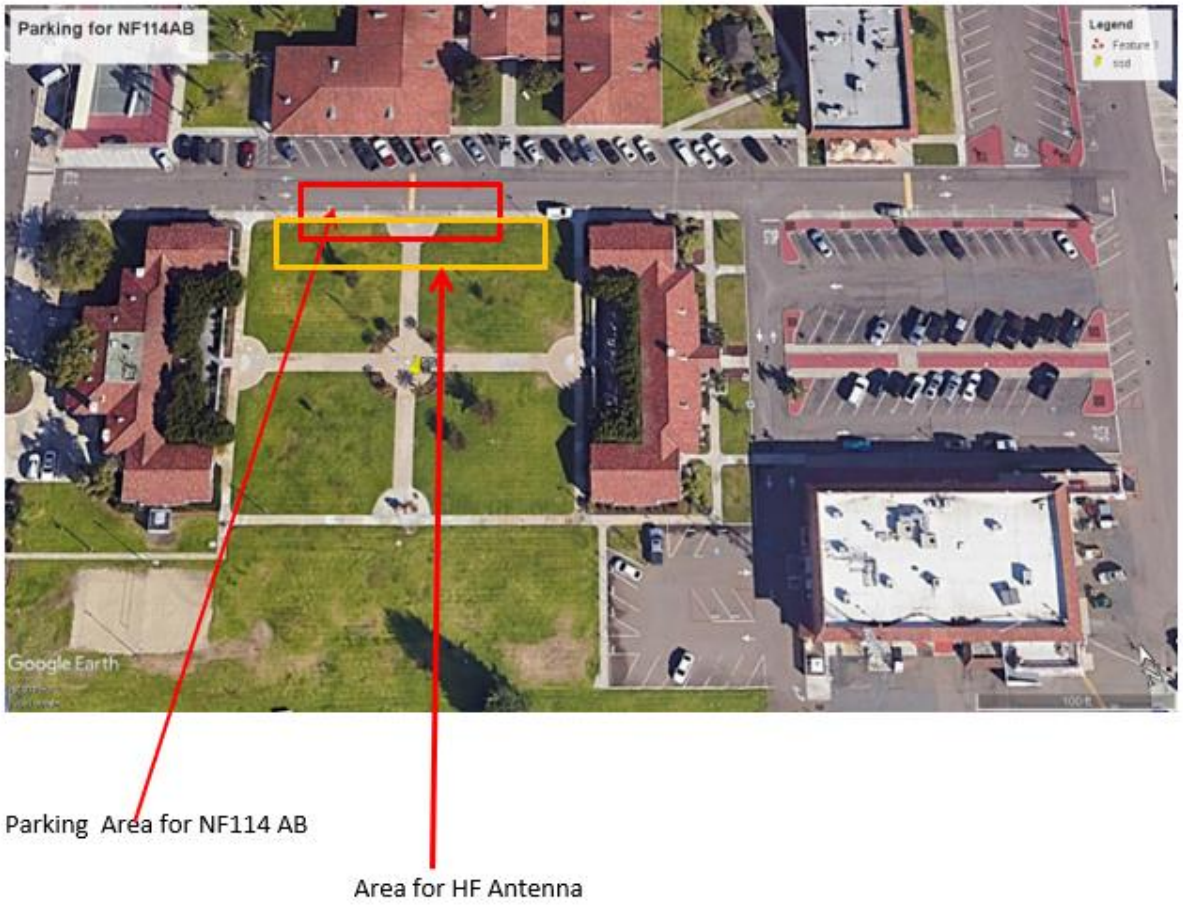
Logistics

Appendix C details travel, food, hotel, and other logistics for the test.

Appendix A

Detailed location of HF radio sites

Location at Sector San Diego:



Location at Sector LA/LB

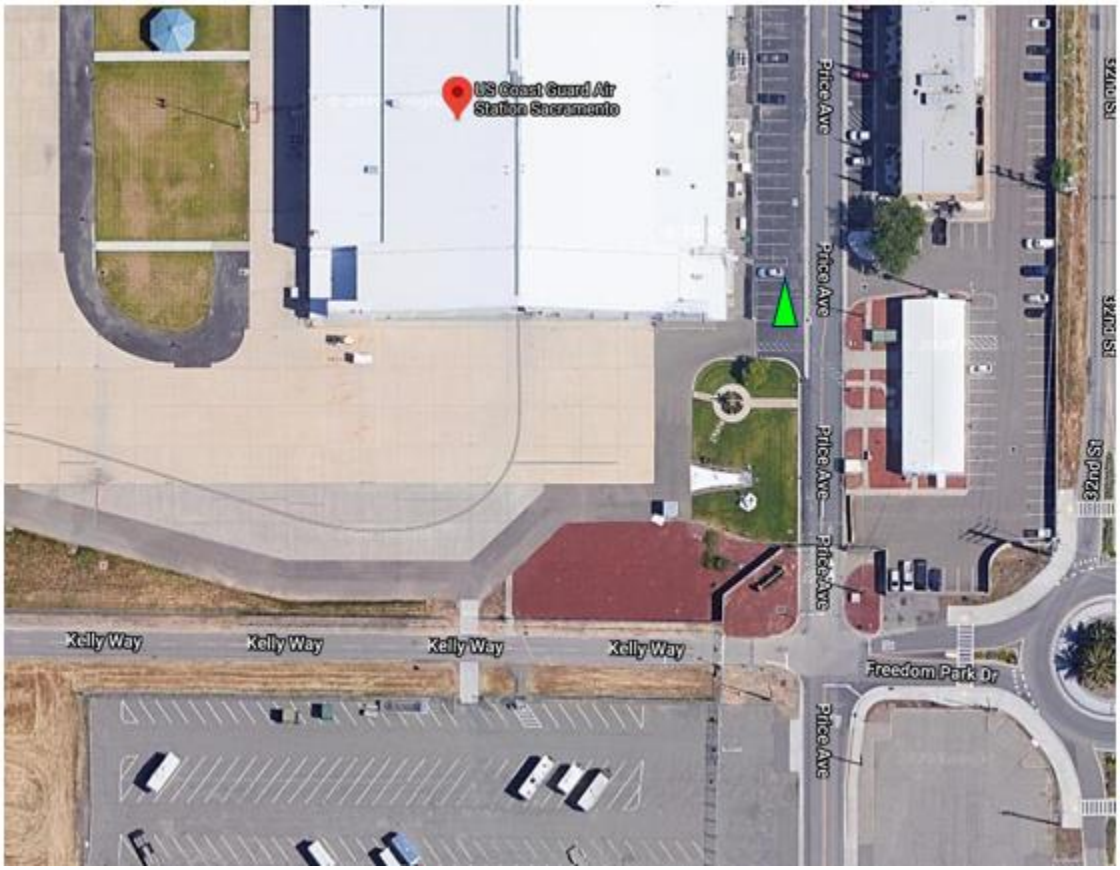
Location at Sector San Francisco

Location at Sector Humboldt Bay

Power will be supplied 120VAC from the building so an individual generator and gasoline can is not required. The head is located near the CC and I will have all access necessary to complete the mission. Facilities will cone off the area to be used at the COB Friday 23 October.

Please note using the power from the building will reduce mission risk of flammable liquid transport and refueling the hot generator. The receptacle is also powered by their on-site generator in the event of commercial power interruption. I believe the gain outweighs the need to be self-sufficient.

Location at AIRSTA Sacramento



Location at AIRSTA San Francisco

Location at D11

Pin labelled “AUX 11” is approximate location for Auxiliary Communications Vehicle (ACV) on Coast Guard Island

Appendix B

Test Procedures and Details

AUX Radio Facilities & Call Signs for Test

There will be a total of eight Auxiliary radio facilities deployed throughout the Eleventh District, each facility associated with a specific CG command center. The command centers, the tactical call sign and location for each associated AUX deployed facility are:

UNIT ID	***Voice Call Sign***	***RTX Call Sign***
District Eleven, PACAREA RCC	Aux One One	AUX11
Sector Humboldt Bay	Aux Hotel Bravo	AUXHB
Sector San Francisco	Aux Sierra Foxtrot	AUXSF
Sector Los Angeles Long Beach	Aux Lima Alpha	AUXLA
Sector Los Angeles Long Beach	Aux Lima Bravo	AUXLB
Sector San Diego	Aux Sierra Delta	AUXSD
AIRSTA San Francisco	Aux Foxtrot Air	AUXFXAIR
AIRSTA Sacramento	Aux McClellan Air	AUXMCAIR

In addition, several fixed land AUX radio facilities will be activated for the period of the Test and 24 hours before and after. Those facilities will act as alternate relay stations to assure that traffic can be successfully exchanged between the seven deployed stations. They will use their usual HF call signs and a list of the active stations will be published about 48 hours before the beginning of the test.

Circuit Details

Since the complete set of Command Centers in D11 numbers 7, and there is specified a need for communications between pairs of Command Centers, there is a total of 21 possible "circuits" (all of which are bi-directional) to be established and maintained during the test. Each of the end points of these circuits will have an AUXcommsys deployable facility located at each location.

The specific circuits are:

Circuit #	Circuit End Points	Distance	BRG	Spectrum
1	D11CC -- SECSDG	450	139	HF
2	D11CC -- SECLALB	350	139	HF
3	D11CC -- SECSFO	7	289	VHF
4	D11CC -- SECHUMB	242	336	HF
5	D11CC -- AIRSTA SFO	13	216	VHF
6	D11CC -- AIRSTA SACTO	77	36	HF/VHF
7	SECSDG -- SECLALB	95	318	HF/VHF
8	SECSDG -- SECSFO	456	321	HF
9	SECSDG -- SECHUMB	686	327	HF
10	SECSDG -- AIRSTA SFO	451	321	HF
11	SECSDG -- AIRSTA SACTO	472	330	HF
12	SECLALB -- SECSFO	357	321	HF
13	SECLALB -- SECHUMB	591	329	HF
14	SECLALB -- AIRSTA SFO	351	321	HF
15	SECLALB -- AIRSTA SACTO	383	333	HF
16	SECSFO -- SECHUMB	235	337	HF
17	SECSFO -- AIRSTA SFO	13	6	VHF
18	SECSFO -- AIRSTA SACTO	78	41	HF/VHF
19	SECHUMB -- AIRSTA SFO	239	156	HF
20	SECHUMB -- AIRSTA SACTO	215	137	HF
21	AIRSTA SFO -- AIRSTA SACTO	88	37	HF/VHF

Test Procedures, Success Measures

1. Upon completion of set up at each deployed station, the lead operator will arrange for a "radio guard" facility either at the unit being supported or at some other acceptable AUXcommsys facility.

2. **[STARTEX]** D11 Command Center sends an "immediate" precedence message (in ICS-213 record message format) addressed to the four Sectors and two AIRSTA's in D11 requesting to know the current staffing levels for the Sector and AIRSTA command centers for the current radio day and the two radio days following. The message requests that an "acknowledgement of receipt" message be returned to D11 Command Center with a "priority" precedence

3. The message is hand delivered to the senior operator of the AUXcommsys comms facility (the ACV) on CG Island.

4. The message is filed on the D11 Command Center HF Contingency Network by an operator of the CG Island AUXcommsys facility for delivery to the addressees.

5. The message is routed via appropriate net stations for delivery to the four Sector Command Centers and two AIRSTA's. The specific routing and delivery is not pre-defined, but in no case shall commercial or public systems such as internet-based email, cell phone, landline phone, sat phone, internet chat, or the like be used.

6. Once delivered to the sector/airsta Command Centers, the operator of the deployed station for each unit shall create an "acknowledgement of receipt" service message (priority precedence) addressed to the D11 Command Center giving the time of delivery of the original message and file that message with the D11 Command Center HF Contingency Network.

7. The simulated CDO of each sector/airsta command center shall create an "Immediate" precedence message (in ICS-213 record message format) addressed to the D11 Command Center providing the information requested above in paragraph 1. *(This message and the one defined in Section 1 will be pre-written and delivered in a sealed envelope to the AUXcommsys lead for each of the units for use during the test)*

8. The message will be delivered to the deployed AUXcommsys facility at each unit and filed on the D11 Command Center HF Contingency Network for delivery to the D11 Command Center. The time of delivery to the addressee will be noted.

9. The AUXcommsys CG Island radio facility will be the delivery point of the messages from Sectors and AIRSTA's addressed to the D11 Command Center and if requested, a printed copy of incoming messages will be hand delivered to the CGD11 D(t). **[ENDEX]** when all filed messages have been delivered or the closure time of the test (1500) is reached.

10. A log of all transmissions (sent and received) shall be kept. This may be in written or electronic form. If electronic, it shall follow the format of either ICS-309 or CG-2614A. In addition, the electronic log from FLDIGI shall be saved and forwarded to a designated person at then end of the test.

11. A summary report will be generated by the CGD11 D(t) indicating the success of the test AUXcommsys resources in meeting the standards of accuracy for all messages as well as the "speed of service" objectives for the message precedence which are: IMMEDIATE – 30 minutes to 1 hour after filing time, PRIORITY – 1 to 6 hours after filing time.

D11CCNET – ICS-205-CG

1. Incident Name D11 Command Center HF Contingency Network (D11CCNET)	2. Operational Period (Date / Time): 0800 24 OCT to 1600 24 OCT PDT				INCIDENT RADIO COMMUNICATIONS PLAN ICS 205-CG
3. BASIC RADIO CHANNEL USE					
SYSTEM / CACHE	CHANNEL	FUNCTION	FREQUENCY	ASSIGNMENT	REMARKS
HF Contingency Comms	A3G	Calling & Working	3203.0 kilohertz	All of test period, and throughout D11	MAX 100 watts upper sideband output voice and data
HF Contingency Comms	A4I	Calling and Working	4048.6 kilohertz	All of test period, and throughout D11	MAX 100 watts upper sideband output voice and data
HF Contingency Comms	B5D	Calling and Working	5253.5 kilohertz	All of test period, and throughout D11	MAX 100 watts upper sideband output voice and data
HF Contingency Comms	B5E	Working	5322.5 kilohertz	All of test period, and throughout D11	MAX 100 watts upper sideband output voice and data
HF Contingency Comms	C6B	Calling and Working	6972.8 kilohertz	All of test period, and throughout D11	MAX 100 watts upper sideband output voice and data
HF Contingency Comms	C7D	Working	7542.0 kilohertz	All of test period, and throughout D11	MAX 100 watts upper sideband output voice and data
HF Contingency Comms	D8C	Calling & Working	8002.3 kilohertx	All of test period, and throughout D11	MAX 100 watts upper sideband output voice and data
HF Contingency Comms	D8D	Working	8035.3 kilohertx	All of test period, and throughout D11	MAX 100 watts upper sideband output voice and data
VHF "LMR" channels	Yankee 6	VHF Operations	150.6875 megahertz	All of test period, and throughout D11	Max 50 watts for portables narrow band FM and data
VHF "LMR" channels	Yankee 7	VHF Operations	150.7625 megahertz	All of test period, and throughout D11	Max 50 watts for portables narrow band FM and data
VHF "LMR" Repeater	Yankee Sierra	VHF Coordination	150.7 MHz rptr xmit, 149.2 MHz rptr rcv, 136.5 PL	All of test period, and throughout D11	Max 50 watts for portables, narrow band FM and data
VHF "LMR" Repeater	Mt. Diablo	VHF Coordination	150.7 MHz rptr xmit, 149.2 MHz rptr rcv, 072N/127.3	All of test period, and throughout D11	Max 50 watts for portables, narrow band FM and data
4. Prepared by: William Scholz, Mgr PACAREA HF Contingency Net					Date / Time 5 OCT 2020 1820Z
INCIDENT RADIO COMMUNICATIONS PLAN					ICS 205-CG (Rev.07/04)

Appendix C

Test Logistics

NOTE: This is logistics for the TEST. This does not address logistics or preparations for an actual event

COVID 19 Guidance Waivers:

A request for a waiver to allow for two Auxiliary members to work with and staff each of the deployed radio facilities has been submitted to the CGD11 RDML's office and a positive result is expected on or about 09 OCT. Waiver request will include specific identification of base access where needed

Orders for facilities:

Orders for deployment of a total of nine CGAUX radio facilities will be requested. Seven of these will be the primary facilities supporting the seven command centers and two will be "backup" facilities in place if needed. The orders will be requested as soon as the waivers in the above paragraph are issued, but in any case no later than 10 October to allow sufficient time for issuance. Since the personnel staffing the facilities are being issued orders under the CG's TDY process, the orders referenced in this paragraph are permissive and non-reimbursable only and are issued for liability purposes only.

Logistics for and Identification of Deployed Facilities and Personnel

	Participants	Equipment	Transportation	Food	Bathrooms
Sector San Diego	Arrant, 1209711 Simpson, 1239491	Radios and Antennas located at Facility NF114AB.	Arrant driving from Valley Center, Simpson driving from Vista	Provided by AUX participants	In PX building
Sector LA-LB - 1	Schultz, 1223249 Rosario, 3000327	Radios and Antennas from Facility NM114PC	Schultz driving from Monrovia, Rosario driving from Redlands	Provided by AUX participants	In PX building
Sector LA-LB - 2	Olson, 1174509 Galante, 1145556	Radios and Antennas from Facility **???**	Olson driving from Long Beach, Galante driving from Pasadena	Provided by AUX participants	Either in PX building or in Marine Exchange
Sector San Francisco	Torio, 1245638 Gin, 1245415	Radios and Antennas from Facility NM11JR	Driving from local area	Provided by AUX participants	**????**
Sector Humboldt Bay	Vanderhyde, 1240759	Radio & Antennas from NM11RT	Vanderhyde driving from Redding	Provided by AUX participants	In Command Center Bldg
District 11	Busch, 3000279 Scholz, 1145248 Leoppard, 1228313	Auxiliary Comms Vehicle, NM11MA, Backup from NM114OL	Busch local. Scholz drive separate from SoCAL Leoppard drive from Truckee	Provided by AUX participants	Gym, Exchange, or 50-7 will be open
AIRSTA Sacramento	Stanton, 1248695 Sellstrom, 1211033	Radio and Antennas from NM11KF	Stanton driving from local area, Sellstrom driving from ???	Provided by AUX participants	**????**
AIRSTA San Francisco	Paz, 1162961 Chang, 1174320	Radio & Antennas from NM11AQ	Paz and Chang driving from local area	Provided by AUX participants	**????**

Appendix D

AUXcommsys Facility Definitions

The following category and capability descriptions are intended to standardize AUXcommsys radio facilities which will operate as a part of the "D11 Command Center HF Contingency Network" (D11CCNET). They shall not be used as minimum standards for facilities supporting other missions unless specifically requested by the mission commander. There are three levels of operational capability and three categories of physical implementation.

PHYSICAL CATEGORIES:

DEPLOYABLE -- For the D11CCNET activations and tests there will be a minimum of seven USCG units supported and all require that a deployable AUXcommsys facility be moved to a location designated by the unit commander, erected, antennas installed, and the combined facility be successfully tested and operated for the duration of the test. Deployable facilities are, by definition, not operational while in transit.

MOBILE – In support of the six deployed facilities (and the fixed facility on CG Island) there may be one or more mobile (including hand held portable) facilities. These facilities will be set up in such a fashion that they can provide a radio link between the "deployable" facility and the supported command center if required.

FIXED – Since the intent of the test is to provide a "radio only" strategic communications channel between specific pairs of command centers and since the vagaries of ionospheric propagation may make "long distance" relays of messages necessary, some currently existing and authorized AUXcommsys "fixed land" facilities will be "stood up" to support operations of the test as needed.

OPERATIONAL CAPABILITY DEFINITIONS:

PATROL COMMS (PC) – VHF (tactical) Voice on AUX LMR channels, VHF Marine "Government" channels, antenna is usually vehicle mounted. Power can be provided by transport vehicle

LIMITED OPERATIONAL COMMS (LOC)– the same as PC with addition of RTX VHF with or without a dedicated RTX radio. Separate antennas for each radio, elevated to at least 15 feet AGL. Power provided by battery bank, recharged by solar or other "non-commercial" sources. Minimum operational time for power is 8 hours. Computer for RTX may be shared with other applications.

FULL OPERATIONAL COMMS (FOC) – the same as LOC with addition of HF voice and HF RTX. HF shall have a maximum RF output capability of 100 watts, antenna shall be an NVIS configuration with a maximum SWR of 2:1 on all specified frequencies. Power provision shall be as "LOC" and the minimum operational time shall be 12 hours. Computer for RTX shall be dedicated to that function alone. Where possible a USB interfaced printer shall be provided.

Category / Operational	Patrol Comms (PC)	Limited Operational	Full Operational
Deployable	None	None	XXXX
Mobile	XXXX	XXXX	XXXX
Fixed	None	XXXX	XXXX

Appendix D

Circuit Illustration