REACT
Trinidad and Tobago Council

POLICY ON THE USE OF CB RADIOCOMMUNICATIONS DEVICES

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INTRODUCTION

REACT traditionally utilized Citizens Band (CB) radio as its main mode of radio communication. Using a relay system of operators spread throughout Trinidad and Tobago and within the "Zone" system, REACT operators were able to assist in emergency communications over the years. The legality of using CB radio in Trinidad and Tobago has always proven to be a major concern for the organization. The introduction of alternative forms of radiocommunication devices namely the VHF radio, assisted greatly in REACT's ability to assist in emergency communications. However, equipment costs, battery maintenance, repeater failure for example, are real challenges that members face.

REACT is pleased to have contributed immensely to the national consultations and commends the Authority on its Authorisation Framework. This now makes it legal to operate CB radios in Trinidad and Tobago.

This policy outlines the guidelines for usage of CB radiocommunications devices for the REACT Trinidad and Tobago Council (RTTC).

The committee has been requested by the RTTC to develop a policy for the use of CB radio communications devices.

Importantly, all individuals/ citizens must adhere to the Authority's Framework. It is against this Framework, that the REACT Trinidad and Tobago Council recommends the guidelines contained herein.

LEGISLATION

The Telecommunications Act, Chap. 47:31 (the Act) ***Section (18) (1) (i)*** mandates the Telecommunications Authority of Trinidad and Tobago (the Authority) to:

> *"plan, supervise, regulate and manage the use of the radio frequency spectrum, including- the licensing and registration of radio frequencies and call signs to be used by all stations operating in Trinidad and Tobago or on any ship, aircraft, or other vessel or satellite registered in Trinidad and Tobago".*

Additionally, ***section 36(1)*** states:

No person shall-

a. establish, operate or use a radio-communication service;
b. install, operate or use any radio transmitting equipment; or
c. establish, operate or use any radio-communication service on board any ship, aircraft, or other vessel in the territorial waters or territorial airspace of Trinidad and Tobago, other than a ship of war or a military aircraft or satellite registered in Trinidad and Tobago without a licence granted by the Authority

DEFINITIONS

Base station refers to equipment normally fixed to a building.

CB handle is a code name used by a CB operator for identification.

Effective carrier power (ECP) is the average unmodulated power supplied to a transmission line.

Effective isotropic radiated power (EIRP) is the power that the transmitter appears to have if the transmitter was an isotropic radiator, i.e., if it radiates in all directions.

Effective radiated power (ERP) is the peak transmitted power output of the system in a given direction.

Fixed station refers to equipment intended to be used in a fixed location.

Integral antenna is a permanent fixed antenna, which may be built in and designed as an indispensable part of the equipment.

Mobile station refers to equipment normally fixed in a vehicle.

Portable station refers to equipment intended to be carried.

Public correspondence is defined as content that is communicated or broadcast via national radio, television, newspapers and other media services.

Telephone patch is a device used to connect a CB radiocommunications device to a telephone land line.

Transmit power is the transmitter power expressed in watts (W), either mean or peak envelope, as measured at the transmitter output antenna terminals.

POLICY CONSIDERATIONS

The use of CB radio communications devices rest with an individual as outlined in the Authority's Framework. It will be senseless to attempt to control the operations of an individual who is a member of REACT and is desirous of using CB radio.

It is recommended though that as a REACT Team, CB radiocommunication usage is an option for emergency communications. Therefore, should a REACT Team desire to utilise the CB radio system, the related guidelines below should be followed. Moreover, where a team acquires CB devices as part of their toolkit, the Technical Officer/ Team must ensure that all guidelines are followed in line with the Authority's Framework.

CALL SIGNS

Historically, REACT Call signs were used on the CB radio. As indicated in the Authority's Framework, call signs/ CB Handles will not be issued by TATT. REACT, as a professional leader in emergency communications recommends the member's official REACT Callsign be used ONLY when operating for and behalf of REACT for emergency communications.

REACT Tactical call signs should be used for operations at the various EOCs. The following is recommended:

DMU	EOC STATION CALL SIGN	REACT TEAM
Couva/ Tabaquite/ Talparo	REACT CTTC	6005
Arima	REACT ABC	6008
Sangre Grande	REACT SGC	6008
Princes Town	REACT PTC	6009
Mayaro	REACT MRC	6009
Point Fortin	REACT PFC	6006
San Juan/ Laventille	REACT SJC	4928 and 4994
Tunapuna/ Piarco	REACT TPC	6007
Penal/ Debe	REACT PDC	6006

Chaguanas	REACT CBC	6005
San Fernando	REACT SFC	6006
Port of Spain	REACT PCC	2496 and 4928
Diego Martin	REACT DMC	4928
Siparia	REACT SRC	6006
ODPM	REACT TT	RTTC
TEMA	REACT TBG	6045

REACT Call signs to be used for Emergency Communications- TATT and ODPM to be informed.

It must be noted that once an operator uses his REACT Call sign, he/ she ought to be conscious that the organisation is being represented and all necessary protocols must be followed with regards to Radio Operating Procedures.

If the member is desirous of using his "handle", REACT will not be responsible for the said operator and disclaims any representations made by the member on behalf of REACT. Practically, there is no stopping a non- REACT member/ ordinary citizen choosing to call himself "REACT …….".

A listing of members assigned to the various DMUs will be kept. This is to be updated regularly. Names of members are to be supplied to DMUs as official REACT EComms Coordinators.

Teams should encourage the respective DMUs to apply for Equipment Certification and Fixed/ Base Station set up at respective DMUs since the equipment and antenna installation must be in keeping with the Authority's Framework.

RADIO OPERATING PROCEDURES FOR EMERGENCY COMMUNICATIONS (ECOMMS)

The following procedures for emergencies must be followed:

- Identify yourself at the beginning of each transmission especially where confusion may result if omitted.

- Operators must give their *REACT* call sign when they first start to talk and when they finish their communication.

- Listen before transmitting. Be sure you are not on the air with someone else.

- Know what you are going to say before you push the PTT switch.

- Hold the PTT switch down for at least a second before beginning your message to ensure that the first part of your message is not cut off.

- Talk across the face of your microphone. This technique makes the communications more understandable. In other words, hold the face of the microphone almost at
- a right angle to your face.

- Speak slowly, distinctly, clearly, and do not let your voice trail off at the end of words or sentences. Give each and every word equal force. For some this takes a lot of practice and conscious effort but do it.

- Never acknowledge calls or instructions unless you understand the call or instructions perfectly. If you do not understand, re-contact and "say again" the missed traffic.

- When you have understood the message, acknowledge the receipt with the words "copy", "received" or "acknowledged." The word "copy" is preferred.

- Always acknowledge calls and instructions. Nothing is more disruptive to the smooth flow of communications than dead silence in response to a message. If you cannot copy or respond to the call immediately, then tell the caller to "repeat" or "standby". Otherwise, acknowledge each call immediately.

- Under stress, many operators have a tendency to talk too fast. ACCURACY FIRST, SPEED SECOND.

- At times, radio conditions are poor and words must be overly exaggerated to be understandable. In general, speak slowly and distinctly to carry through static and weak signals.

- If you are relaying a message for another person, be sure you repeat the message exactly, word for word as it is given to you. If it makes no sense to you, get an explanation before you put it on the air. If necessary, refer the message back to the originator for clarification.

- There is no place for Ham radio "Q" signals or signals from any other radio service during official and emergency communications. They are too easily misunderstood, rarely save time, and often result in errors. Use "plain English" only.

- Do not act as a relay station unless Dispatch, or another radio station, asks for a relay and you can fulfill the requirement with your station.

- When transmitting numbers (house numbers, street & telephone numbers, etc.), always transmit number sequences as a series of individual numbers. Never say numbers in combinations.

- If a proper name needs to be transmitted, try to spell it out using the ITU phonetic alphabet. Do not use cute or self-invented phonetics. It may not be appropriate in official and emergency communications.

- Only transmit facts. If your message is a question, deduction, educated guess, or hearsay, identify it as such. Do not clutter up the air with non-essential information. Be careful what you say on the air. There are many groups listening. Many facts will be taken out of context even when carefully identified.

- If you do not understand the whole message given to you or if you missed a word out of the transmission, reply with "Say again. "Do not say "please repeat" because it sounds too much like the word "received" when conditions are poor.

- Chewing gum, eating, and other activities with items in the mouth tend to clutter up the clarity of your speech. Avoid doing these activities when speaking

- Avoid angry comments on the air at all costs. Obscene statements are not necessary and are inappropriate in all communications.

- Sound alert. Nothing destroys confidence as much as a bored or weary sounding radio operator. If you are tired, get a relief operator.

- During an incident, refrain from using wisecracks and jokes. When providing emergency communications you must remember that it is serious business and should be treated as such at all times.

- Stay off the air unless you are sure you can be of assistance. It does no good to offer advice, assistance, comments or other input to a net unless you can truly provide clarification.

- Always know your location. If you are mobile or portable and moving around, always keep a sharp lookout for landmarks. You must be able, if called upon, the accurately describe your location at any time. This is particularly important if you with a search team or other mobile groups.

- If you check into an emergency net, you must monitor on the net talk group. If you must leave the talk group, ask permission from the NCS (Net Control Station). Report to the NCS when you return to the net. It is vital that the NCS know the availability of each station on the net and it is up to YOU to keep the NCS advised. However, if the NCS is very busy and you must leave the net, do so without interrupting the net.

- Net Control Operators frequently are very busy with work that is not on the air. If you call the NCS or dispatcher and do not get a reply, be patient and call again in a minute or two. If you have an emergency, say you have "Emergency traffic" after you identify yourself when you call the NCS. Be patient with the NCS and other stations.

The following are signs that should be used as guidance:

i. Use **REACT Call signs** to indicate **Routine Traffic.**

ii. Use ***"PRIORITY"*** to indicate needing a relay or action required within specific time limit.

iii. ***Use "EMERGENCY"*** only if report refers to situations in which injury or death is threatened and immediate action should be taken.

iv. Transmit messages (traffic) at handwriting speed. When sending long messages take frequent breaks and ensure that message is correctly received.

v. ***Under no circumstances*** argue with or criticize the control operator on the air during an operation.

vi. As far as possible, verify all messages before they are transmitted.

vii. There may be other authorized Call signs besides *REACT* Callsigns on an emergency net. Be sure to correctly identify and those Call signs correctly so as to avoid embarrassment and confusion.

ITU PHONETIC ALPHABET AND INTERNATIONAL TEN CODE:

The following table is a guide for communicators with regards to using the ITU Phonetic Alphabet and International TEN Code:

A	Alpha	N	November
B	Bravo	O	Oscar
C	Charlie	P	Papa
D	Delta	Q	Quebec
E	Echo	R	Romeo
F	Foxtrot	S	Sierra
G	Golf	T	Tango
H	Hotel	U	Uniform
I	India	V	Victor
J	Juliet	W	Whiskey
K	Kilo	X	X-ray
L	Lima	Y	Yankee
M	Mike	Z	Zule

RECORD KEEPING

The keeping of records is vital. The following is a guide:

ITEM	ACTION BY	REMARKS
Certification of Equipment	Individual member	Individual Use (Application to TATT)
Certification of Equipment	Team Technical Officer	Team Use/ DMU (Application to TATT)
Certification of Equipment	RTTC Technical Officer	RTTC Use/ ODPM (Application to TATT)
Antenna	Individual member	Conformity with TATT Authorisation Framework
Antenna	Team Technical Officer	Conformity with TATT Authorisation Framework
Antenna	RTTC Technical Officer	Conformity with TATT Authorisation Framework
Call Signs Database	Team Technical Officer	Updated quarterly
Call Signs Database	RTTC Technical Officer	Updated quarterly
Maintenance/ Equipment Checks	Team Technical Officer	Quarterly
Maintenance/ Equipment Checks	RTTC Technical Officer	Quarterly

ECOMMS NETWORKS

It is recommended that ECOMMS CB Networks be conducted. All particulars relative to Team In charge, dates, times and channels would be agreed to by the RTTC. All members would be notified.

The Net Controller is responsible for keeping and forwarding to the Net Manager, details of check-ins and other relevant information.

*****SCHEDULE B DETAILS (See Appendix 3)**

Schedule B of the Framework identifies particular requirements. These include:

Class Licence Category Type

Type 1- End- User devices or customer premise equipment (Registration NOT required) ITU Class of Emission 8K00A3E

Type 2- Base Stations

Type 3- Fixed Stations (Registration Required) ITU Class of Emission 4K00J3E, 4K00R3E, 4K00H3E

Explanation of ITU Class of Emission 8K00A3E

8K00 indicates it's the 8Khz bandwidth

A indicates it's the AM/ double Side band/ full carrier

3 indicates it's a single analog channel

E indicates its telephony/ voice

So 8K00A3E is an ITU designator that signifies a wireless radio which transfers data over a modulated wave using single analog channel signal. The signal transmits at 8.00 Khz (8K00) maximum bandwidth. This policy has been adopted and approved by the REACT Trinidad and Tobago Council on 4th October 2020 and remains in force until such time of amendment or revocation by the RTTC.

Ravindranath Goswami
President, RTTC

Technical Officer, RTTC

Team President, 2496

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Team President, 4928

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Team President, 4994

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Team President, 6005

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Team President, 6006

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Team President, 6007

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Team President, 6008

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Team President, 6009

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Team President, 6045

APPENDIX 1

EXTRACTS FROM THE AUTHORIZATION FRAMEWORK FOR CITIZENS BAND RADIOCOMMUNICATIONS DEVICES

BACKGROUND

The Citizens Band radiocommunications service, or CB radiocommunications (CB radio), is one of several personal radiocommunications services. It is intended to be used for two-way voice communication by hobbyists and the general public. These devices may offer long-range communication, depending on atmospheric conditions.

CB radio is commonly used by truck drivers and motorists for everything, from relaying information regarding road conditions and other travel information to basic socialising and friendly chatter. The Citizens Band radiocommunications service, or CB radiocommunications (CB radio), is one of several personal radiocommunications services. It is intended to be used for two-way voice communication by hobbyists and the general public. These devices may offer long-range communication, depending on atmospheric conditions.

CB radio is commonly used by truck drivers and motorists for everything, from relaying information regarding road conditions and other travel information to basic socialising and friendly chatter.

PURPOSE

The aim of the **Authorisation Framework for Citizens Band Radiocommunications Devices (the Framework)** is to inform the public about the authorisations required regarding the use of CB radiocommunications devices. The motivation for this authorisation approach has spawned from numerous requests from the public to utilize the service for personal use. These radios will be typically used by the public for personal communication and by **non-governmental organisations (NGOs) assisting in disaster relief response.**

APPENDIX 2

LICENCE EXEMPT VERSUS TATT CLASS LICENCE REGIME

In its *Spectrum Management Policy and Authorisation Framework for the Telecommunications and Broadcasting Sectors of Trinidad and Tobago* (the Authorisation Framework), the Authority has defined three types of licences that may be granted. These are:

a. Spectrum licences
b. Station licences
c. Class licences

The Authority recognised the need to develop a class-licensing regime for the use of low-power, low-interference-potential and mass-market consumer devices which operate within specific technical and operational parameters. As such, the Class Licence will authorise users of such devices to operate in designated spectrum band(s) on a shared basis, subject to:

a. specific terms and conditions.
b. specific technical operating parameter.

The class-licensing process is intended to be a simplified authorisation process, such that minimal administrative and financial burdens are imposed on the Authority and users of class-licensed devices.

Currently, zero fees are imposed by the Authority for a Class Licence, thus reducing the administrative and financial burdens in licencing these devices for use in Trinidad and Tobago. Users will only be required to get their equipment certified through the equipment certification process and not have to fill out any additional forms to apply for a separate licence or be required to pay any annual fees to the Authority.

INTERFERENCE

CB service has been designed specifically to minimise harmful interference1 to other radio services. However, there may be instances where CB radio transmissions may cause harmful interference to other radiocommunications services, for example, when the output power of the CB radio is too high. In order to minimise the likelihood of these occurrences, the operators of CB radiocommunications devices shall:

i. use equipment certified by the Authority.
ii. not tamper with the CB devices and/or make modifications to the power output or the number of channels.
iii. not use any amplifier to boost the transmit power.

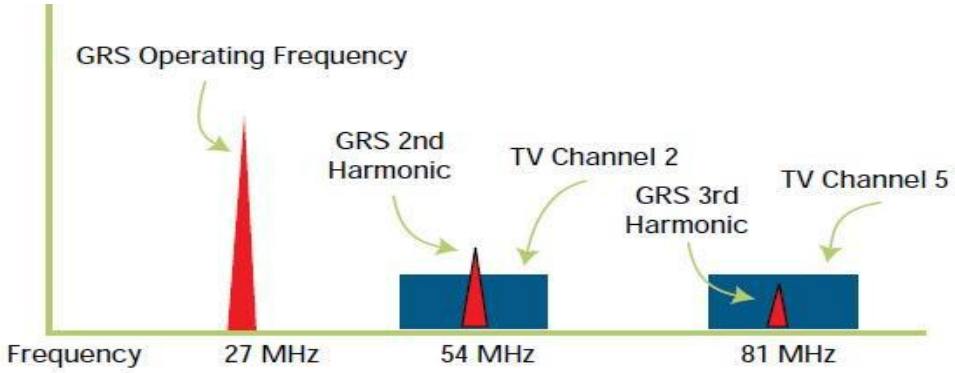

Figure 1. Possible harmonic interference that can be caused by CB radios

APPENDIX 3

CB RADIOCOMMUNICATIONS FRAMEWORK GUIDELINES:

The Authority shall:

1. *authorise CB radiocommunications devices in accordance with its Class Licensing Regime.*

2. *require registration of all fixed stations as stipulated in section 3.4 of the Authority's Class Licensing Regime.*

3. *permit CB radiocommunications devices to be used for personal or non-commercial communication.*

4. *allow the use of only fixed, mobile and portable CB radiocommunications devices certified by the Authority, in accordance with the Equipment Standardization Framework.*

5. *prohibit the modification of all CB radiocommunications devices.*

6. *allow the frequencies allocated to CB radiocommunications devices to be shared amongst all users.*

7. *prohibit the use of any external amplifier for boosting the output power above 4 watts.*

8. *limit the maximum ERP of CB devices to operate on AM (A3) — 4 watts (carrier power) SSB — 12 watts (peak envelope power).*

9. *prohibit CB operators from integrating their CB radiocommunications devices to the Public Switched Telephone Network or rebroadcasting any transmission over this medium.*

10. *restrict CB radiocommunications devices to voice communication only.*

11. *allow CB radio fixed antenna systems to be erected 5 meters higher than the highest point of the building or tree on which it is mounted. However, the highest point of the antenna must be no more than 18 meters above the ground. Fixed antennas shall comply with Town and Country Planning regulations. Fixed antennas located near airports shall also comply with the Civil Aviation*

    Authority's restriction.

12. *not certify the use of fixed, mobile or portable CB radiocommunications devices which do not conform to these Framework guidelines.*

13. *not assign call signs or CB handles (code names) to individuals.*

14. *not allow the use of call signs issued by the Authority, for example, amateur or maritime radio, on the CB radiocommunications device channels while communicating.*

15. *not permit the use of CB radiocommunications devices for public correspondence.*

16. *not permit the use of CB radiocommunications devices for obscene, derogatory or inappropriate transmissions.*

17. *mandate that CB operators refrain from causing harmful interference to other CB radiocommunications devices or any other broadcast receiver (e.g., television and AM/FM receivers).*

18. *not protect, nor shall the users of CB radiocommunications devices claim protection from, harmful interference caused by similar or other radiocommunications devices.*

19. *amend Table 1, Second Schedule, Telecommunications (Fee) Regulations, 2006 by deleting the reference to "CB Station Licence" and removing the licence and application fees payable.*

20. *require all operators of CB radiocommunications devices to give priority access to ODPM, regional corporations, CB radio operators directly involved in emergency relief operations and first responders to the following five channels (3,5,7,9,11), in the event of local or national emergencies to assist in emergency communication.*

*****SCHEDULE B - OTHER SPECIFIC TECHNICAL OPERATING PARAMETERS*****

Parameter	**Requirement /Maximum Value (AM)**	**Requirement / Maximum Value (SSB)**
Max. Transmitter Output Power (dBm)	36	40.79
Antenna Gain	For every 1 dB antenna gain above 0Db, the output power must be reduced by the 1 dB	For every 1 dB antenna gain above 0Db, the output power must be reduced by the 1 Db
Unwanted Emissions Limits	• 25 dB attenuation 4-8 kHz from the center frequency • 35 dB attenuation 8-20 kHz from center frequency • 53 + 10 log (P) Db in any frequency band removed by greater than 250% of the authorized bandwidth. Where P is the transmitter outpower in Watts. • 60 dB an any frequency band centred on a harmonic of the carrier frequency	• 25 dB attenuation 2-6 kHz from the center frequency • 35 dB attenuation 6-10 kHz from center frequency • 53 + 10 log (P) dB in any frequency band removed by greater than 250% of the authorized bandwidth. • 60 dB an any frequency band centred on a harmonic of the carrier frequency

APPENDIX 4

RULES GUIDING THE OPERATION OF CITIZEN BAND RADIOCOMMUNICATION DEVICES

The Authority shall:

1. *require registration of all fixed stations as stipulated in section 3.4 of the Authority's Class Licence Regime.*

2. *permit Citizen Band (CB) radiocommunications devices to be used for personal or non- commercial communications.*

3. *allow the use of only fixed, mobile and portable CB radiocommunications devices certified by the Authority, in accordance with the Equipment Standardization Framework.*

4. *prohibit the modification of all CB radiocommunications devices.*

5. *allow the frequencies allocated to CB radiocommunications devices to be shared amongst all users.*

6. *prohibit the use of any external amplifier for boosting the output power above 4 watts.*

7. *limit the maximum ERP of CB devices to operate on AM (A3)- 4 watts (carrier power) SSB- 12 watts (peal envelope power)*

   .

8. *prohibit CB operators from integrating their CB radiocommunications devices to the Public Switched Telephone Network or rebroadcasting any transmission over this medium.*

9. *restrict CB radiocommunications devices to voice communication only.*

10. *allow CB radio fixed antenna systems to be erected 5 meters higher than the highest point of the building or tree on which it is mounted. However, the highest point of the antenna must be no more than 18 meters above ground. Fixed antennas shall comply with Town and Country Planning regulations. Fixed antennas located near airports shall also comply with the Civil Aviation Authority's restrictions.*

11. *not certify the use of fixed, mobile or portable CB radiocommunications devices which do not conform to the Authorisation Framework guidelines.*

12. *not assign call signs or CB handles (code names) to individuals.*

13. *not allow the use of call signs issued by the Authority, for example, amateur or marine radio, on the CB radiocommunications device channels while communicating.*

14. *not permit the use of CB radiocommunications devices for public correspondence.*

15. *not permit the use of CB radiocommunications devices for obscene, derogatory or inappropriate transmissions.*
16. *mandate that CB operators refrain from causing harmful interference to other CB radiocommunications devices or any other broadcast receiver (e.g. television and AM/ FM receivers).*

17. *not protect, nor shall the users of CB radio communications devices claim protection from, harmful interference caused by similar or other radiocommunications devices.*

18. *require all operators of CB radiocommunications devices to give priority access to ODPM, regional corporations, CB radio operators directly involved in emergency relief operations and first responders to the following five channels (3,5,7,9,11) in the event of local or national emergencies to assist in emergency communications*

APPENDIX 5

CB RADIO COMMUNICATIONS DEVICES: CHANNEL NUMBER AND FREQUENCES

Channel No.	(MHz)	Channel Designation
1	26.965	
2	26.975	
3	**26.985**	**Reserved for emergency communication in the event of a local or national emergency**
4	27.005	
5	**27.015**	**Reserved for emergency communication in the event of a local or national emergency**
6	27.025	
7	**27.035**	**Reserved for emergency communication in the event of a local or national emergency**
8	27.055	
9	**27.065**	**Reserved for emergency communication only**
10	27.075	
11	**27.085**	**Reserved for emergency communication in the event of a local or national emergency**
12	27.105	
13	27.115	
14	27.125	
15	27.135	
16	27.155	
17	27.165	
18	27.175	
19	27.185	

20	27.205	
21	27.215	
21	27.225	
22	27.255	
23	27.235	
24	27.245	
25	27.265	
26	27.275	
27	27.285	
27	27.135	
28	27.155	
29	27.295	
30	27.305	
31	27.315	
32	27.325	
33	27.335	
34	27.345	
35	27.355	
36	27.365	
37	27.375	
38	27.385	
39	27.395	
40	27.405	