**Section 728.300 Engineering**

a) 9-1-1 telecommunications service provides terminating only service that connects a person who has dialed the universal emergency service number 9-1-1 to a PSAP assigned to receive wireless 9-1-1 calls. Consistent with subsections (b) and (c) of this Section, 9-1-1 telecommunications service shall be provided through either dedicated direct trunking or tandem trunking.

b) Dedicated trunking

1) Dedicated Trunking shall be the standard method of providing originating 9-1-1 circuits. Originating trunks shall initially be designed assuming a minimum offered load of 1.00 CCS (expected traffic load) per 1000 wireless connections to be served or a minimum of two trunks, whichever is larger. Within one month of the on-line date of the provision of wireless 9-1-1 service, each trunk group shall be re-evaluated by the wireless carrier and maintained to assure that there is less than 1% blockage of calls placed to 9-1-1 during the average busy hour of the average busy day. Each trunk group shall be sized to deliver calls to the selective routing switch being engineered in such a manner that will meet or exceed a P.01 grade of service or a minimum of 2 trunks. A wireless 9-1-1 originating trunk group may be designated to deliver traffic for a 9-1-1 system or multiple 9-1-1 systems depending on local call handling agreements or service requests.

2) Alternative incoming 9-1-1 trunking methods may be utilized if technology and/or local telecommunications facilities can be designed and implemented. The quantity of trunks and related switching components in the telephone network shall be engineered in accordance with 83 Ill. Adm. Code 725.500 for the interoffice and inter-toll network to ensure completion of calls placed to 9-1-1 during the average busy hour of the average busy day. System management shall not employ any such alternative incoming 9-1-1 trunking method without first obtaining the approval of the Commission's 9-1-1 Program.

c) Diverse routing shall be provided for all wireline trunking facilities used to transport and terminate the wireless 9-1-1 call where facilities are available.

d) Default routing shall be provided in the event that a wireless 9-1-1 call cannot be selectively routed. The level of default routing shall be negotiated between the 9-1-1 service provider, the wireless carrier and system management.

e) Each telecommunications carrier shall adopt practices to minimize the possibility of service disruption on all circuits associated with 9-1-1 service to a PSAP. Such practices shall provide for circuit guarding at all terminations with protective devices that will minimize accidental worker contact. Such practices shall also contain procedures for physical or virtual identification of all 9-1-1 circuit appearances with special warning tags and/or labels, and identification of circuits in company records.

f) Wireless carriers shall provide information to system management of changes that affect the identification and location information needed by an authorized wireless 9-1-1 answering point at least 10 business days prior to changes being made. The media used in providing this information shall be mutually agreed upon by the carrier and system management.

g) Prior to an authorized wireless 9-1-1 answering point going on-line, wireless and local exchange carriers shall obtain and retain a contact telephone number for each system management in the event of an outage or failure of the 9-1-1 system.

h) Wireless carriers shall adopt practices that enable notification of a primary point of contact with system management to begin within 15 minutes after a confirmed outage with the system, and also advise the primary point of contact as to the magnitude of the outage.

i) Wireless carriers shall adopt practices that provide for notification of a primary point of contact with system management to begin within 15 minutes after the confirmed restoration of 9-1-1 services.

j) When all 9-1-1 circuits are busy in the originating mobile switching office, the switching facility, where equipped to provide the function, shall route the caller to an announcement or busy tone or reorder tone. When an all-trunks busy condition occurs in an intermediate switching facility, that machine shall, where equipped, route the caller to an appropriate backup answering location, announcement, busy tone or reorder tone.

k) Wireless carriers shall provide to system management emergency phone numbers for contact on a 24 hours per day, 7 days per week basis for network and security.