

# Pikes Peak Regional Communications Network

Policy # 01-2011

Adopted: March 2, 2011

Approved by:



## OFFICIAL POLICY – Maintenance and Alignment of User Radio Equipment

**DATE:** March 2, 2011

**PURPOSE:** To promote high quality end-to-end communications over the Pikes Peak Regional Communications Network (PPRCN), which performance depends in part on maintenance of the network infrastructure, but also depends in part on maintenance and tuning of user radios.

**SCOPE:** All personnel and agencies operating radios on the PPRCN Network

### GENERAL DESCRIPTION:

This policy is intended to provide for notification procedures and guidance about expectations of all parties. The maintenance, repair, and alignment of radios operating on the PPRCN 800 MHz Digital Trunk Radio infrastructure helps facilitate both the optimum performance and the radios coverage ability as experienced by operators of individual user radios, and also provides added assurance that individual user radios will not cause communications quality degradation for other users of the system.

On January 5, 2011 the PPRCN Board authorized the purchase of a Locus DiagnostX test receiver. This is a specialized receiver designed to identify user radios that are in need of maintenance. The receiver is tuned to the inbound control channel (receive) frequency at the site where it is installed, and it records the user radio ID and then analyzes and stores the results for each user radio's transmit frequency and other radio transmission parameters. Thus it is able to identify which specific radios need maintenance.

The DiagnostX receiver 1) measures the received power level from user radios and the carrier frequency transmitted by all user radios within radio range that are accessing the system at the chosen receiver frequency, 2) upon the receipt of a sufficiently large number of samples from each user radio the DiagnostX receiver internally creates and maintains data about off-frequency transmissions, indexing the results to the user radio's system ID, and 3) when the samples recorded from user radios exceed thresholds chosen in the test setup, data is recorded internally for subsequent retrieval. When the receiver is queried it reports the system IDs and transmission characteristics found on user radios whose performance has fallen

outside the set tolerance range and therefore needing to be serviced. A time and date stamp is also logged for each record.

## **BACKGROUND:**

Paragraph 19 of the standard PPRCN Participation Agreement reads thus:

***19. Repair and Maintenance of Radios: Unless otherwise agreed to in writing between the Participant and the PPRCN, which writing, if entered into, shall be referred to as the aforementioned Exhibit C, the Participant shall be responsible for maintaining and repairing all radios used by the Participant in the Trunked Radio System. In addition, the Participant shall only have such maintenance and repair performed by persons and entities that have been approved in writing by the PPRCN.***

## **Policy:**

The PPRCN Systems Manager will routinely gather information from the DiagnostX test equipment's database and provide reports that show members of the Technical Committee at regularly scheduled meetings the radios currently recorded as exceeding test setup limits. The PPRCN System Manager will also communicate out-of-limits test results to all participant agencies who own radios appearing in DiagnostX records. User radio owners will be requested to forecast dates by which remedies are planned.

The System Manager will be responsible for tracking and reporting to the PPRCN Members, Participants and the PPRCN Board concerning user community compliance with this Maintenance and Alignment policy. Accordingly, means shall be employed to conveniently track notification and response communications between the System Manager and Member or user agencies relative to radio problems, and to document remedies already undertaken, or the plans a radio owner has made to remedy his radio problems in the near future.

Notifications and responses may be communicated by mailed letter, faxed letter, by e-mail, or some other form of written communication.

For both PPRCN Members and PPRCN Participants, the System Manager will track both notifications and agency responses to notifications, will follow up on forecasts by user agencies, and will examine historical records for persistent individual radio performance difficulties.