

Virginia Information Technologies Agency



# Wireless 9-1-1 Call Processing Terms For The Telecommunicator

## Integrated Services Program Public Safety Communications



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## KEY TERMS FOR WIRELESS 911 Call Processing

- ◆ **CDMA (Code Division Multiple Access)** – A digital radio interface utilized by some North American PCS carriers.
- ◆ **Cell Sector** - One face of a cell antenna (typically 3-sided) that operates independently of the other sectors.
- ◆ **COS (Class of Service)** – A designation of the type of wireless location service. (MOBL, W911, WRLS, WPH1, WPH2)
- ◆ **COF (Confidence/Uncertainty Factor)** – Displays the estimated measurement area in meters based upon statistical calculations.
- ◆ **COP (Confidence Percentage)** – Displays the estimated percentage on how sure the Phase II location measurement is accurate.
- ◆ **ESN (Emergency Service Number)** - An ESN is a three to five digit number representing a unique combination of emergency service agencies (Law Enforcement, Fire, and Emergency Medical Service) designated to serve a specific range of addresses within a particular geographical area, or Emergency Service Zone (ESZ).
- ◆ **GPS (Global Positioning System)** - A satellite based Location Determination Technology (LDT).
- ◆ **GSM (Global System for Mobiles)** - International standard digital radio interface utilized by some North American wireless carriers.
- ◆ **Handoff** - The transfer of a wireless call in progress from one transmission site to another site without disconnection.
- ◆ **LDT- (Location Determination Technology)**- A system which computes the x and y coordinates of a wireless 9-1-1 caller.
- ◆ **MPC – (Mobile Position Center)** - serves as the entity which retrieves forwards, stores and controls position data within the location network.
- ◆ **MSC -Mobile Switching Center**- The wireless equivalent of a Central Office, which provides switching, functions from wireless calls.
- ◆ **NRF – No Record Found**- A condition where no ALI information is available for display at the PSAP.



- ◆ **NSI-Non Service Initialized**-Currently under FCC rules, CMRS providers must forward all wireless 911 calls, including those from NSI devices, to PSAPs.
- ◆ **pANI (Pseudo Automatic Number Identification)** A telephone number used to support routing of wireless 9-1-1 calls. It may identify a wireless cell, cell sector or PSAP to which the call should be routed. Also known as routing number.
- ◆ **Phase 0** is characterized by the wireless call being delivered to the PSAP on a 10-digit telephone line. There is no location information or callback number.
- ◆ **Phase I** delivers the call to the PSAP based on the cell site and sector receiving the call and provides the address of the cell site and call back number for the caller.
- ◆ **Phase II** is delivered to the correct PSAP using the same method as Phase I, but the actual location of the caller is provided as a longitude and latitude. However, the longitude and latitude may deviate from the caller's actual location by a margin of error.
- ◆ **Rebid** -A method used to query or request wireless Phase II caller location information (ALI). Vendors have various terms within their systems for this process. A listing of the vendors and the term they use follows:
  - ◆ **Rebid -TriTech**
  - ◆ **Rebid ALI - TCS(Formerly MicroDATA)**
  - ◆ **RTX-Intrado**
  - ◆ **Request ALI-Airbus DS Communications (Formerly Cassidian)(Sentinel)**
  - ◆ **Repeat-Interact**
  - ◆ **Retry ALI-Motorola -Emergency CallWorks**
  - ◆ **Update-Airbus DS (Vesta 911)**
  - ◆  - Zetron

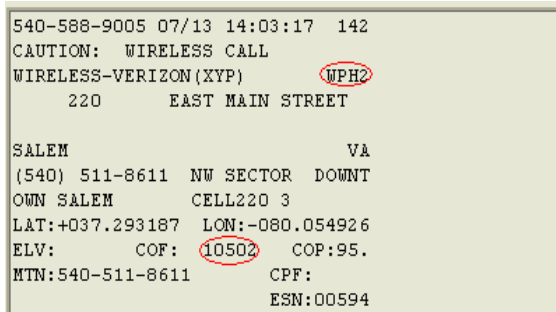
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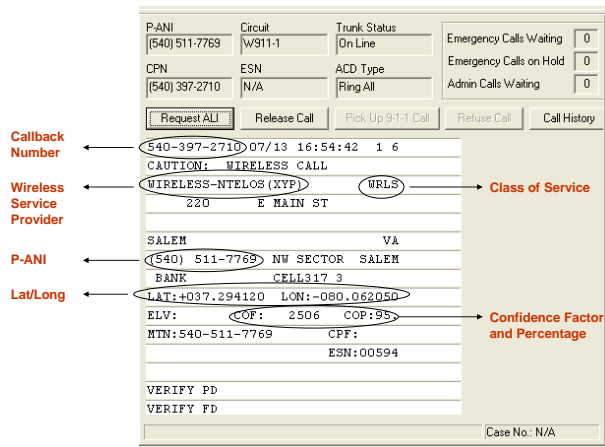
**Re-bidding the ALI for a wireless caller may be helpful when –**

- ◆ The call comes into the PSAP displaying the words “No ALI”.
- ◆ The call comes into the PSAP with Phase 1 information only. This includes callback number and tower location only.
- ◆ The caller is traveling and you need updated information about his/her location.
- ◆ If the COF is poor and you need to try to obtain a more accurate location. (Ex. The COF is 0 or very high)
- ◆ Re-bids only work while the call is still active.

Even though this call shows WPH2 for Phase II, notice the extremely high COF (meters). Another re-bid should be performed if you need to know where the caller is because this would be no help.



**Sample ALI Screen**





***Things to remember when processing wireless 911 calls.***

- ◆ All wireless phones can call 911 even if they do not have activated service.
- ◆ Wireless calls are routed by the cell sector, not by the caller's location.
- ◆ A cell tower often takes in more than one jurisdiction.
- ◆ Some GPS phones use the voice channel to retrieve location data. This could cause an interruption in the voice communication.
- ◆ Note whether call status is "On Line" or "Hung Up." Check conference window to see if 911 Trunk appears.
- ◆ A proper confidence factor is not delivered on all calls (it may be 0 or exceed 1,000 meters) If this is the case, a re-bid should be done.
- ◆ Do not let newer technology take the place of common sense. Always ask the caller their location. Technology such as the re-bid was intended for callers who cannot tell you their location.
- ◆ Always be aware of the factors that can affect cell reception. The following factors can contribute to decreased cell reception.
  - ◆ Buildings – Tall buildings can interfere with coverage and often people cannot get reception inside of large buildings.
  - ◆ Terrain – deep valleys and tall mountains
  - ◆ Weather – Rain and humidity can decrease the cell signal



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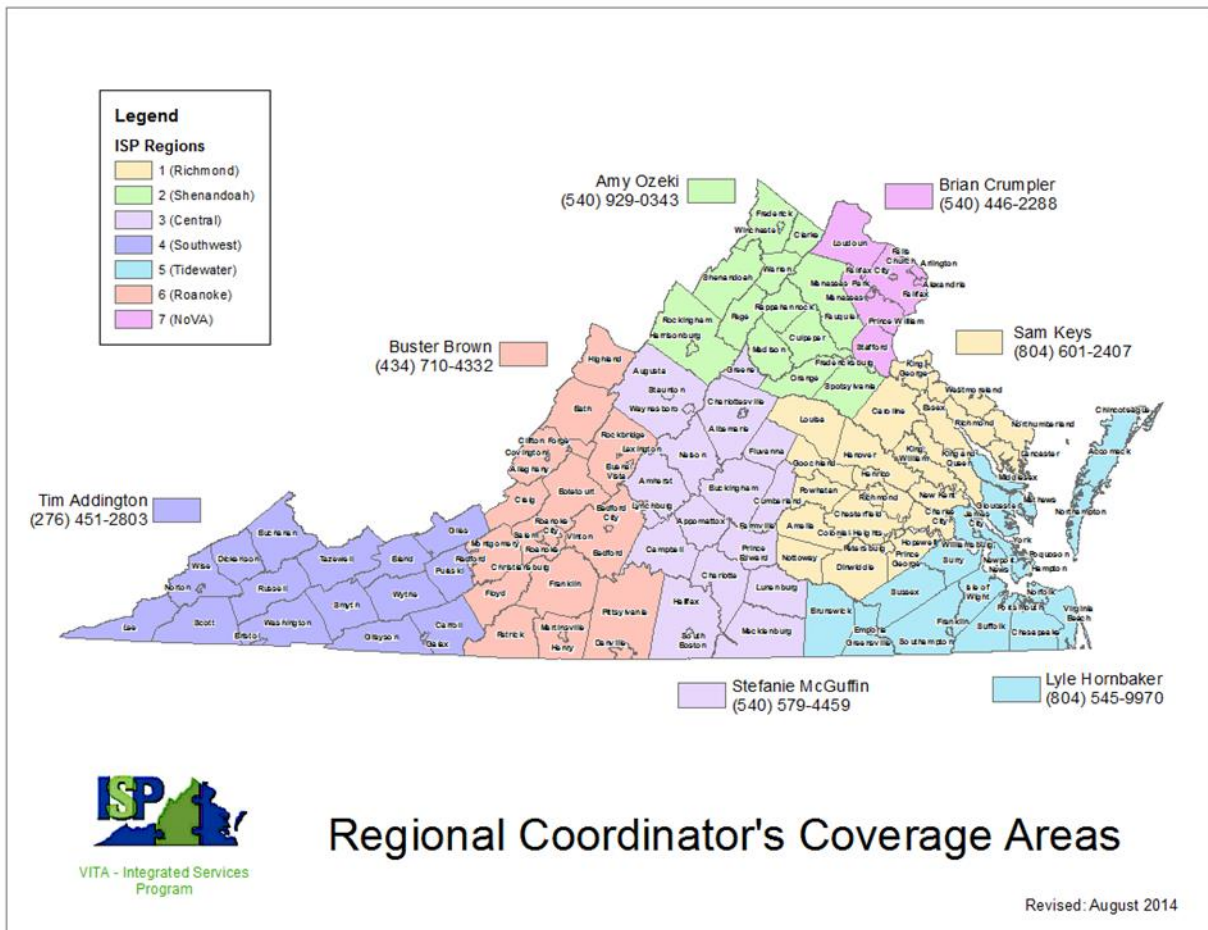
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