The USNG: It's Time to Stop Adopting and Start Implementing

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The United States National Grid (USNG) was adopted several years ago by the State of Florida and the Florida Fire Chiefs' Association as the standard geo location tool for disaster response. Unfortunately, actual implementation into our standard response and preparedness planning has lagged far behind.

The USNG is the geographic grid reference system identified by the National SAR Committee as the primary catastrophic incident search and rescue geo-referencing system that must be used by federal land SAR responders. Additionally, the USNG has been designated as the primary reference grid for interfacing between land and air based SAR operations. It is important to note that US military assets, one of the largest force multipliers in disaster response operations, uses a grid system which is functionally the same as the USNG, known as the Military Grid Reference System (MGRS). Land based DoD responders are therefore able to share location based information immediately upon joining disaster operations. The Chairman of the Joint Chiefs of Staff directed use of the USNG by the military in support of homeland security and homeland defense in Directive CJCSI 3900.01C.

It is time for the fire service and all first responders to begin training on the USNG and using the system in our everyday response. Emergency Management also should begin implementing the USNG into all emergency plans, and then train on and exercise those plans. We should also insist that our vendors include the USNG as part of any software or hardware we purchase, including CAD systems.

The Fire Service has always been a leader in innovative tools, the Halligan bar was a tool invented by the Fire Service and because it is a great tool it is now located on every fire apparatus in the nation. USNG is a great tool as well.

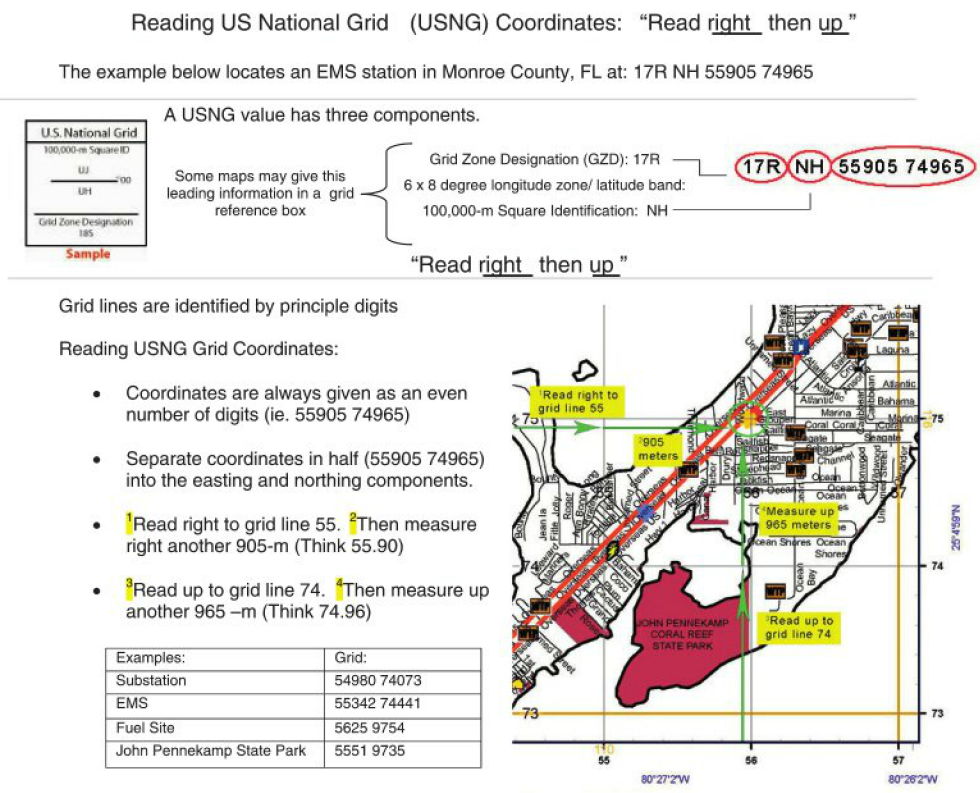
US National Grid – the tool you need

When you need a tool such as a Halligan bar, you either already have it or you get it from your vehicle. What about geospatial tools; when street address fails, when off-road or in the wilderness, what should be your number one go-to tool? For ease of use and consistent with military operations since 1949, the tool for positional reporting and navigation for land-based operations is **US National Grid** (USNG).

As noted above, USNG is effectively the same as the Military Grid Reference System (MGRS) which is used by the military and is a derivative of Universal Transverse Mercator (UTM) which hikers employ routinely. It can be displayed on your smartphone easily using several available navigation apps, and most GPS units built in the past 5 years include the USNG and/or the MGRS. However, a GPS receiver is not mandatory. Paper maps still rule and all should include USNG grid lines when created. Computer aided dispatch and mobile data terminals can also be made to display properly labeled grids. All maps need a grid system in order to be most usable. Maps currently in use or those found in office supply or convenience stores typically display non-interoperable "bingo" grids. Maps from the Internet are generally devoid of grid lines and thus are effectively just 'pictures'. What responders need are properly labeled USNG maps.

USNG can specify areas of 1 Kilometer, 100 meters or 10 meters with as little as four, six or eight digits respectively and without dashes, decimal points or degrees. This facilitates easier radio communications of coordinates.

17R LP 5573 4568 represents a coordinate with precision of 10 meters square (33 x 33



Feet). When the components 17R LP are truncated by trained local users, **557 456** represents 100 square meters (330 x 330 Feet) and **55 45** is the 1 Km square area. In words, **5573 4568** is a location 30% right and 80% up in 100 meter grid **557 456**.

USNG area references can be used tactically. 100 meter or 10 meter grids can identify helispots or homes in combination with or in place of the paradigm of street address, as appropriate. An out-of-area strike team has no familiarity with local addresses, but when versed in the simple x-y nature of USNG, finding a location can be less stressful and certainly more efficient.

The Florida State Fire Marshal (as the lead for ESF 4 and 9) and the Florida Division of Emergency Management began adoption in 2006, and the USNG was added to both the FFCA's Statewide Emergency Response Plan and Florida's Comprehensive Emergency Management Plan in 2010. As referenced above, the National Search and Rescue Committee designated USNG as the coordinate system for all land search & rescue operations as of November 2011. Despite the more recent requirements, Florida's Urban Search & Rescue teams have trained with USNG since 2007.

When the street addressing system is unfamiliar, blown away, burned over, flooded or is non-existent in rural or wilderness areas, the interoperable coordinate system to report position and to navigate by is the **United States National Grid**.

We will be providing more details on the operational use of the USNG in future articles. For more information, go to the Florida Division of Emergency Management website at: http://www.floridadisaster.org/gis/USNG or the Federal Geographic Data Committee website at: http://www.fgdc.gov/usng.