

Priority: 2
Mission Supported: 2
Benefit to Community: 2
Requirement Operational Date: Fy06 Qtr 2 Budget Year
Customer Funding: None

Funding Offset:
None

Customer Funded Amount(\$): None

Requirement Type: GEOINT Standards and Specs

Functional Description of Requirement:

(U) Request that NGA engage with appropriate U.S. civil authorities to facilitate the implementation of grid coordinates in Homeland Security operations.

(U) To minimize operational friction during military support to civil authorities, USMC Chemical Biological Incident Response Force (CBIRF) based at Indian Head, MD requires the ability to use and exchange standardized map coordinates. The lack of a similar, standardized procedure by state, local, and many Federal Agencies is a critical deficiency in U.S. consequence management.

Performance Characteristics:

(U) Standardized map coordinates must be equivalent to Military Grid Reference System (MGRS) when referenced to North American Datum 1983 (NAD 83) or World Geodetic System 1984 (WGS 84), U.S. National Grid.

Current Capability:

(U) The United States National Grid (USNG) is the U.S. civil standard grid reference system, but is not used in operational activities for Homeland Security. Certain agencies use their own atlas grid, which are incompatible with DOD doctrine, training, maps, C2 systems, and GPS receivers. (U) While street addresses are important, they have innate operational and geospatial shortcomings and do not enable the use of GPS. In some scenarios, street-addressing infrastructure will be destroyed and we must plan accordingly.

(U) When coordinates are used, it is often various forms of latitude and longitude. These do not support operational requirements and are not compatible with maps and training standards.

Justification:

(U) To improve support of interoperability, command and control (C2), in the exchange and reporting of geospatial information in Homeland Security operations.

(U) The operational use of many different coordinate systems causes significant

operational friction, particularly in homeland security and disaster relief operations.

Impact if not Implemented:

(U) CBIRF's ability to respond to threats within the United States will continue to be severely hindered. There will be continued friction in Homeland Security operations in describing locations unambiguously.

Customer Design Constraints:

(U) Must be a standards based solution. The United States National Grid (USNG) is the U.S. civil standard grid reference system and presentation format for large-scale mapping, per Federal Geographic Data Committee (FGDC) standard FGDC-STD-011-2001. The USNG is functionally equivalent to Military Grid Reference System (MGRS).

Recommended Solution:

(U) That NGA engage with appropriate U.S. civil authorities to facilitate implementation of grid coordinates in Homeland Security operations. The intent of this requirement is not to replace street addresses as used by some agencies, but to supplement them with coordinates for civil response operations.

Customer Comments:

(U) This requirement strongly supports the need for NGA to engage with appropriate US civil authorities and extend to them the knowledge and benefit of DoD operational experience in the use of grid coordinates. The essential need for a single, standard coordinate system - as a communications medium (a language of location) is a new concept in the US civil community. Having a single grid reference system reduces training requirements and ensures frictionless exchange of location information between all committed forces and agencies. Based on hard earned experience in combat, all US ground forces are trained in the use of a single system - MGRS (equivalent to FGDC's USNG) for large-scale mapping applications. All large-scale hardcopy maps (>1:1,000,000-scale), Global Positioning System (GPS) receivers, and digital systems are designed with a single, standard grid - MGRS. This ensures interoperability and frictionless exchange of positioning information between people as well as machines.

- USNG has a minor difference between it and MGRS although both generate equivalent values when referenced to WGS-84/NAD83. NGA must ensure USNG (as the US civil equivalent to MGRS) is integrated into GEOTRANS. This capability was requested via NSG Requirement FY08-13 306.
- NGA needs to proactively provide the software to integrate MGRS and USNG into commercial products. This includes the capability to print MGRS/USNG grids on paper maps by commercial software vendors. This software code is already in NGA's possession.

Location Affected:

NATIONAL

Intended Recipient:

ALL HOMELAND SECURITY FUNCTIONAL AREAS

Validation: Validated

Validation Date: 9/28/2005

Validator Name: Donovan, Mark

Validator Comments:

This is a validated USMC requirement to support Marine operations in conjunction with the Department of Homeland Security and state/local authorities. The geospatial capabilities stated within this requirement will help to improve the interaction and coordination of military and civilian authorities to utilize a common reference system.