DEPARTMENT OF THE ARMY
ASSISTANT CHIEF OF STAFF FOR INSTALLATION MANAGEMENT
600 ARMY PENTAGON
WASHINGTON, DC 20310-0600

REPLY TO
ATTENTION OF

DAIM-MD (AR 210-20)

16 OCT 2001

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Data Standards for Computer Aided Drafting and Design (CADD), Geographic Information Systems (GIS) and Related Technologies

1. Interim policy and guidance for Geographic Information Systems (GIS) technologies is enclosed for immediate compliance and implementation.

2. HQDA is developing a strategy to increase data compatibility, eliminate redundant GIS efforts, and integrate installation GIS databases and applications across the Army into an enterprise system. This interim policy and guidance is the first step in that process. HQDA has established the Army Range Sustainment Integration Council (ARSIC), GIS subcommittee, to coordinate this policy.

3. This guidance identifies the goals and standards necessary to establish an enterprise GIS system within the Army. The standards for creation, collection, maintenance, storage, and distribution of installation geospatial data are provided. Implementation of these standards is essential to support Army installation management decisions and to maximize mission effectiveness. Execution of these standards at all Army levels supports compliance with Executive Order 12906 and other national and DoD guidance. This guidance will reduce duplication of installation GIS data creation, collection and applications, and enable the delivery of standardized products. Accordingly, it is the vehicle to promote the life-cycle management of geospatial data and serves as a technical guideline for GIS at all Army installations.

4. Your cooperation is essential to successfully implement and develop an Army Enterprise GIS. The Point of Contact for this effort is Linda Smith, 703-692-9222, DSN 222-9222, linda.smith@hqda.army.mil. Thank you for your support.

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INTERIM POLICY AND GUIDANCE
FOR
GEOGRAPHIC INFORMATION SYSTEMS (GIS)
TECHNOLOGIES

1. **Purpose**. This document provides policy guidance on standards affecting the collection and creation of spatial data within the Department of Army.

2. **Scope**. This policy statement applies to all HQDA-funded (in-house or contracted) geospatial data creation, collection, acquisition, modification and editing.

3. **Background**. Standardization of GIS data documentation, formats, accuracy, and definition increases the Army's ability to compile data across functional areas, promotes data sharing, and reduces duplication of effort. Using current Federal and DoD standards will assist in these efforts.

4. **Enterprise GIS**. Assistant Chief of Staff for Installation Management (ACSIM), Plans and Operations Division is the lead for establishing Army guidance for enterprise GIS, and will coordinate actions at HQDA to foster enterprise GIS development. Army GIS programs and offices must take steps to establish integrated GIS data and systems on installations to allow for sharing across functional areas (engineers, resource management, range management, environment, housing, etc.) and at all Army levels. The enterprise approach will eliminate stand-alone GIS databases and applications.

5. **Data Documentation**. All GIS data will be documented in accordance with the Federal Geographic Data Committee (FGDC) Content Standards for Digital Geospatial Metadata. Both '*Mandatory*' and '*Mandatory as Applicable*' fields, as defined by the FGDC Standards, shall be completed for each GIS data layer. Existing GIS data shall be documented, to the extent possible, no later than 1 March 2002. Numerous compliant metadata software programs are readily available on the Internet, http://www.fgdc.usgs.gov, to assist in this effort.

6. **Data Sharing**. The National Spatial Data Infrastructure (NSDI) and Executive Order 12906 (April 13, 1994) state that all GIS data will be shared to avoid wasteful duplication and promote effective and economical management of resources. All federal agencies are required to participate in the NSDI as per EO12906. Army GIS personnel shall share data across functional and organizational lines, with other federal, state and local governments, and non-governmental organizations (NGO's) in accordance with applicable state and federal laws. Army Installations shall work with Reserve Component Training Sites to pursue mutually beneficial partnerships

7. **Data Standards**. The Spatial Data Standard for Facilities, Infrastructure and Environment (SDSFIE) shall be followed for geospatial database table structure, nomenclature, attributes, and symbology to allow for data integration. Installations are encouraged to utilize a Structured Query Language (SQL) compliant relational database for SDSFIE implementation. The SDSFIE and related documentation can be downloaded from the CADD and GIS Technology Center homepage at http://tsc.wes.army.mil.

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8. **Projections and Datums.** All GIS data shall use North American Datum (NAD) of 1983, or World Geodetic System (WGS) of 1984 coordinate system datums, and the North American Vertical Datum of 1988 (NAVD88) to ensure data alignment and accuracy. Data should be displayed using an appropriate projection for installation use. The projection and datum must be documented in the metadata and provided whenever the data is distributed. A resource for explanation of projections and datums can be found in the following Corps of Engineers manual on geospatial mapping (EM 1110-1-2909), http://www.usace.army.mil/inet/usace-docs/eng-manuals/em1110-1-2909/c-11.pdf. This manual addresses issues related to geospatial mapping including datums, scales, and the resulting accuracy.

9. **Data quality.** All GIS data shall be created and maintained at a quality and resolution that ensures accuracy and usefulness for installation management and mission support. All GIS data created shall meet the Federal Geographic Data Committee Standard Geospatial Positioning Accuracy Standards, Part 3: National Standard for Spatial Data Accuracy, FGDC-STD-007.3-1999. Army geospatial data requirements are further defined in Engineering and Design, Geospatial Data and Systems, EM Manual No. 1110-1-2909, 1 Aug 1996. General info on GIS quality standards are at: http://front.gis.state.mn.us/committe/stand/New_dataqual.htm. The National Standard for Spatial Data Accuracy can be downloaded from: http://www.fgdc.gov/standards/documents/standards/accuracy/chapter3.pdf.

10. Further implementation guidance is pending.