1.0 Overview

The Federal Emergency Management Information System (FEMIS©)[(a)] is an emergency management planning and response tool that was developed by the Pacific Northwest National Laboratory[(b)] (PNNL) under the direction of the US Army Soldier and Biological Chemical Command (SBCCOM). This ***System Administration Guide for FEMIS Version 1.5*** provides information necessary for your System Administrator to maintain the FEMIS system.

The FEMIS system is designed for a single Chemical Stockpile Emergency Preparedness Program (CSEPP) site that has multiple Emergency Operations Centers (EOCs). Each EOC has personal computers (PCs) that emergency planners and operations personnel use to do their jobs. These PCs are connected via a local area network (LAN) to servers that provide EOC-wide services. Each EOC is interconnected to other EOCs via a wide area network (WAN).

Thus, FEMIS is an integrated software product that resides on client/server computer architecture. The main body of FEMIS software, referred to as the FEMIS application software, resides on the PC client(s) and is directly accessible to emergency management personnel. The remainder of the FEMIS software, referred to as the FEMIS support software, resides on the UNIX server. The support software provides the communication, data distribution, and notification functionality necessary to operate FEMIS in a networked, client/server environment.

The UNIX server provides an Oracle relational database management system (RDBMS) service, basic file management services, and ARC/INFO GIS (geographic information system) capabilities (which is optional). PNNL developed utilities, which reside on the server, include the Notification Service, the Command Service that executes the Evacuation model, and AutoRecovery.

This client software includes the FEMIS application, government furnished dispersion and evacuation models, and Commercial-Off-The-Shelf (COTS) software applications, such as the ArcView GIS.

The FEMIS PC software accesses the site-specific database on the server and returns data to the PC. The user can then add, edit, or delete information; make decisions; displays maps; or use other FEMIS functionality. Information is passed back to the FEMIS database and notifications are made to other FEMIS users.

To operate FEMIS, the application software must have access to a site-specific FEMIS emergency management database. Data that pertains to an individual EOC's jurisdiction is stored on the EOC's local server. Information that needs to be accessible to all EOCs is automatically distributed by the FEMIS database to the other EOCs at the site.

(a) FEMIS software was copyrighted in 1995 by Battelle Memorial Institute.

(b) Pacific Northwest National Laboratory is operated for the US Department of Energy by Battelle Memorial Institute under Contract DE-AC06-76RLO 1830.

The FEMIS databases have been developed in conjunction with Innovative Emergency Management, Inc. (IEM) and the personnel at each site. The validated database will be provided by PNNL when FEMIS is installed at your site. Please refer to the ***Database Management Guide for FEMIS Version 1.5*** for further information.

Proper installation of the FEMIS software is crucial to the operations of the emergency management system. Many software elements must be installed on a variety of servers and client workstations. Each must be installed and configured according to specifications for proper interoperability. Please refer to the ***Installation Guide for FEMIS Version 1.5*** for further information on installation, including directory structures and other configurations.

1.1 Point of Contact

We encourage you to contact us with suggestions or to ask questions. You can contact us by mail, telephone, fax, or E-mail:

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1.2 Document Organization

This document is organized into 15 sections, as follows:

Section 1.0 – Overview – discusses the FEMIS software system.

Section 2.0 – FEMIS Monitoring Tools – describes how to use the FEMIS monitoring tools to check the status of database replication and the system.

Section 3.0 – FEMIS Notification Service – describes the FEMIS Notification Service that is used to coordinate new data input.

Section 4.0 – FEMIS Command Server – describes the FEMIS Command Service that is used by PCs to launch the Evacuation model.

Section 5.0 – FEMIS Meteorological Application – describes the FEMIS meteorological applications and their uses.

Section 6.0 – FEMIS Contact Daemon – discusses the FEMIS contact protocol used in all network communication.

Section 7.0 – FEMIS Data Exchange Interface (DEI) – discusses the FEMIS Data Exchange Interface application, which is used to support the transfer of data from the Emergency Management Information System (EMIS) to FEMIS.

Section 8.0 – FEMIS GIS Database – describes the FEMIS GIS database and the components of the spatial database.

Section 9.0 – FEMIS Oracle Database – describes the FEMIS Oracle database which manages the relational database and replication.

Section 10.0 – FEMIS Evacuation Applications – describes the FEMIS Evacuation model interface.

Section 11.0 – Server Network Time Protocol Set Up – describes how to set up and synchronize the server time.

Section 12.0 – Security Measures – describes the security provided with FEMIS.

Section 13.0 – Backup Strategy – discusses the recommended backup strategy for file system and Oracle database backups.

Section 14.0 – FEMIS UNIX Server – discusses the maintenance and troubleshooting for the FEMIS UNIX server.

Section 15.0 – FEMIS PC Utilities – describes the utilities available with the FEMIS application.

1.3 Software Products

FEMIS integrates the following Commercial-Off-The-Shelf (COTS) software products.

Table 1.1. Integrated COTS Software Products

Software Application	Software Company
ArcView GIS	Environmental Systems Research Institute, Inc. (ESRI)
Microsoft Windows 2000/NT	Microsoft Corporation
Oracle and Oracle ODBC Driver	Oracle Corporation
Samba	Samba Team (open source project)
Solaris	Sun Microsystems, Inc.

FEMIS integrates the following government-furnished software products.

D2PC (February 2000)	US Army Soldier and Biological Chemical Command (SBCCOM)
PARDOS v3.1 (May 1997)	US Army SBCCOM
Evacuation SIMulation Model (ESIM v2.1f13)	Oak Ridge National Laboratory