S

ENGINEERING CHANGE NOTICE

Page 1 of 2 87 12-29-99

1. ECN 657752

Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	4. USQ Required?	5. Date
Supplemental ○	DA WHITE, S0-09, 373-1511	○ Yes ◉ No	12/21/99
Direct Revision ◉			
Change ECN ○			
Temporary ○			
Standby ○			
Supersedure ○			
Cancel/Void ○			

6. Project Title/No./Work Order No.	7. Bldg./Sys./Fac. No.	8. Approval Designator
AZ-101 MIXER PUMPS	241-AZ	Q DM 12/29/99

9. Document Numbers Changed by this ECN (includes sheet no. and rev.)	10. Related ECN No(s).	11. Related PO No.
HNF-SD-WM-CSCM-035, REV 0	NA	NA

12a. Modification Work	12b. Work Package No.	12c. Modification Work Completed	12d. Restored to Original Condition (Temp. or Standby ECNs only)
○ Yes (fill out Blk. 12b) ◉ No (NA Blks. 12b, 12c, 12d)	NA	NA Design Authority/Cog. Engineer Signature & Date	NA Design Authority/Cog. Engineer Signature & Date

13a. Description of Change

13b. Design Baseline Document? ○ Yes ◉ No

This ECN is being generated in order to incorporate the additional requirements of the DAS and include the Gamma Cart DACS. Also note change of title to reflect new scope.

14a. Justification (mark one)	14b. Justification Details
Criteria Change ◉	-Change document to reflect new scope of mixer pump DAS and include the Gamma Cart Control System.
Design Improvement ○	-This modification will not change collective dose since it has no impact on radiological sources, contamination control, or shielding.
Environmental ○	
Facility Deactivation ○	
As-Found ○	
Facilitate Const. ○	
Const. Error/Omission ○	
Design Error/Omission ○	

15. Distribution (include name, MSIN, and no. of copies)

W.D. Winkelman---S5-05----1
G.R. Tardiff-----S5-05----1
W.E. Bryan-------S5-05----1
J.R. Bellomy-----R1-56----1
J.L. Homan-------R3-72----1
D.A. White 50-09 1

RELEASE STAMP

DATE: DEC 29 1999
STA: 4
HANFORD RELEASE
ID: 2

ENGINEERING CHANGE NOTICE

1. ECN (use no. from pg. 1): 657752

16. Design Verification Required	17. Cost Impact		18. Schedule Impact (days)
	ENGINEERING NA	CONSTRUCTION	NA
○ Yes	Additional ○ $ _____	Additional ○ $ _____	Improvement ○ _____
◉ No	Savings ○ $ _____	Savings ○ $ _____	Delay ○ _____

19. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 13. Enter the affected document number in Block 20.

SDD/DD	☐	Seismic/Stress Analysis	☐	Tank Calibration Manual	☐
Functional Design Criteria	☐	Stress/Design Report	☐	Health Physics Procedure	☐
Operating Specification	☐	Interface Control Drawing	☐	Spares Multiple Unit Listing	☐
Criticality Specification	☐	Calibration Procedure	☐	Test Procedures/Specification	☐
Conceptual Design Report	☐	Installation Procedure	☐	Component Index	☐
Equipment Spec.	☐	Maintenance Procedure	☐	ASME Coded Item	☐
Const. Spec.	☐	Engineering Procedure	☐	Human Factor Consideration	☐
Procurement Spec.	☐	Operating Instruction	☐	Computer Software	☐
Vendor Information	☐	Operating Procedure	☐	Electric Circuit Schedule	☐
OM Manual	☐	Operational Safety Requirement	☐	ICRS Procedure	☐
FSAR/SAR	☐	IEFD Drawing	☐	Process Control Manual/Plan	☐
Safety Equipment List	☐	Cell Arrangement Drawing	☐	Process Flow Chart	☐
Radiation Work Permit	☐	Essential Material Specification	☐	Purchase Requisition	☐
Environmental Impact Statement	☐	Fac. Proc. Samp. Schedule	☐	Tickler File	☐
Environmental Report	☐	Inspection Plan	☐	NA	☒
Environmental Permit	☐	Inventory Adjustment Request	☐		☐

20. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

Document Number/Revision	Document Number/Revision	Document Number/Revision
	NA	

21. Approvals

	Signature	Date		Signature	Date
Design Authority	Daryl Jarboe	12-20-99	Design Agent		
Cog. Eng.	Daryl Jarboe for W D Winkleman	12-20-99	PE		
Cog. Mgr.	Dan Duncan for D.C. Bauer	12/27/99	QA		
QA	W K Adams	12/28/99	Safety		
Safety			Design		
Environ.			Environ.		
Other			Other		

DEPARTMENT OF ENERGY

Signature or a Control Number that tracks the Approval Signature

ADDITIONAL

S

AZ-101 Mixer Pump Demonstration Data Acquisition System and Gamma Cart Data Acquisition Control System Software Configuration Management Plan

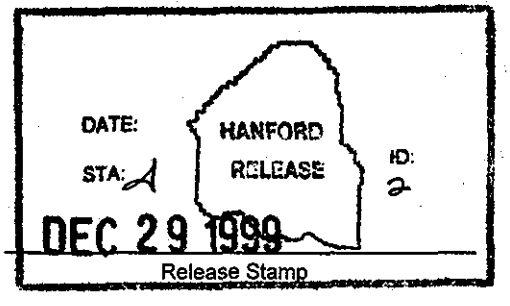
D.A. White
Lockheed Martin Hanford Company
Richland, WA 99352
U.S. Department of Energy Contract DE-AC06-~~96RL13200~~ 99RL-14047

EDT/ECN: ECN 657752 UC: 2000
Org Code: LK870000 Charge Code: 106837
B&R Code: EW3130000 Total Pages: 20 21
12-31-99

Key Words: W-151, DAS, DACS, Mixer Pumps, Software, Configuration, AZ-101 AZ, 241-AZ-101, Control System, Gama Cart, Sludge Mobilization Cart

Abstract: Describes the configuration control for AZ-101 Mixer Pump Data Acquisition System and Gamma Cart Data Acquisition and Control System software.

12/28/99
Release Approval Date



Release Stamp

Approved For Public Release

RECORD OF REVISION

(1) Document Number: HNF-SD-WM-CSCM-035

(2) Title

AZ-101 MIXER PUMP DEMONSTRATION DATA ACQUISITION SYSTEM AND GAMMA CART DATA ~~ACQUISITION CONTROL SYSTEM SOFTWARE CONFIGURATION MANAGEMENT PLAN~~

Change Control Record

(3) Revision	(4) Description of Change - Replace, Add, and Delete Pages	Authorized for Release	
		(5) Cog. Engr.	(6) Cog. Mgr. Date
0	(7) Initial Revision, Approval EDT 618419, 1/02/97	N/A	N/A
RS. 1	ECN 657752. Incorporate the new DAS requirements of DAS and include Gamma Cart DACs. Change title.	12-29-99	12/29/99

AZ-101 MIXER PUMP DEMONSTRATION DATA ACQUISITION SYSTEM AND GAMMA CART DATA ACQUISITION CONTROL SYSTEM

SOFTWARE CONFIGURATION MANAGEMENT PLAN

December 1999
Lockheed Martin Hanford Company

TABLE OF CONTENTS

1.0 INTRODUCTION

1.1 PURPOSE

This Software Configuration Management Plan (SCMP) provides the instructions for change control of the AZ101 Mixer Pump Demonstration Data Acquisition System (DAS) and the Sludge Mobilization Cart (Gamma Cart) Data Acquisition and Control System (DACS).

1.2 SCOPE

This plan applies to the DAS and Gamma Cart DACS system software used by the current waste tank operations contractor. It includes the computer software source and executable code. This also applies to special (i.e., non-standard) configurations of vendor software (e.g., Windows NT 4.0 login/security configuration, etc.)

It does not apply to reports and data generated by the software except where specifically identified. Control of information produced by the software once it has been exported is the responsibility of the receiving organization.

Associated design basis documentation is found referenced in the System Descriptions, RPP-5572 (DAS) and RPP-5576 (Gamma Cart), (i.e., including system diagrams and taglist), and reference to the P&ID set and other documentation.

Any changes in the design of the affected systems require an associated ECN to update the appropriate design baseline documents. Problem reports submitted to correct implementation errors can be performed by using the provisions of this plan. Changes to design basis documentation, via ECN, will require evaluation of impacts to the AZ-101 Mixer Pump DAS and Gamma Cart DACS. Changes to the DAS or Gamma Cart DACS requested via CR (Change Request) need to be evaluated for associated changes to design basis documentation via ECN.

1.3 OVERVIEW

The primary purpose of the AZ-101 Mixer Pump DAS is to provide monitoring and data acquisition of several key parameters in tank 241-AZ-101. No controls are provided by this system. For more information regarding this system, please refer to the DAS System Description, RPP-5572.

The primary purpose of the Gamma Cart DACS system is to monitor total gamma radiation activity at energy levels above Cesium-137 in Tank 241-AZ-101. For more information regarding this system, please refer to the Sludge Mobilization Cart System Description, RPP-5576.

1.4 DEFINITIONS

Production: Pertaining to the status of a given system following acceptance by the customer.

Software Change Request and Problem Report (SCR/PR): A document which identifies a proposed change to or suspected problem with the AZ-101 Mixer Pump DAS or Gamma Cart DACS software and also documents changes that are made. An SCR/PR may identify a new function, modify an existing function or report suspected problems of the software.

Software Configuration Management (SCM): A set of management disciplines within the context of the software engineering process that applies technical and administrative direction and surveillance. It identifies and documents the functional and physical characteristics of a product, controls changes to those characteristics, and it records and reports the change processing and implementation.

2.0 MANAGEMENT

2.1 ORGANIZATION

Lockheed Martin Hanford Company (LMHC)--shall be designated as system owner, operator and maintenance authority.

Facility Design Authority--shall be designated as providing project direction for implementation and testing of the AZ-101 Mixer Pump DAS and Gamma Cart DACS during development.

DAS Cognizant Engineer--shall be designated DAS developer, maintainer and custodian.

Gamma Cart DACS Cognizant Engineer--shall be designated Gamma Cart DACS developer, maintainer and custodian.

2.2 RESPONSIBILITIES

Function	Individual	Responsibilities relative to this plan:
Software Owner	Cog. Engineer Manager	o Assigns Design Authority (Cognizant Engineer), who is CCB member o Assigns the Software Administrator(s)
Design Authority	AZ101 MIXER PUMP Design Authority	o CCB Chair o Represents Owner(s) In Approvals o Approve test results of changes before placing in operation. Screen SCR/PR for appropriateness before forwarding to DAS Cog Engineer for analysis and estimating. o Accept/prioritize work proposed by SCR/PR. o Approve or disapprove completed testing results from SCR/PR implementation
Software Administrator	DAS Cog. Engineer Gamma Cart DACS Cog. Engineer	o Control authorized users, privilege levels and passwords. o Overall Responsibility For SCM o Evaluate and implement changes resulting from SCR/PR. o Evaluate SCR/PR for impact on cost, schedule, & deliverables. o Maintain SCR/PR and SCR/PR log (log is paper-based and contained in a binder). o Maintain a library of all associated correspondence, personnel assignments, documentation, deliverables, reports, logs, software, etc., in their most up-to-date version o Ensure backup and recovery of application and software. o Ensure proper labeling and storage of backup media. o Ensure correct software is installed for production use. o Ensures problem reports are distributed to users.
Software Engineer(s)	As assigned or contracted by DAS or Gamma Cart DACS Cog Engineer	o Do the work identified in SCR/PR and conduct tests. o Ensure adequate tests are performed. o Document test results and include with change request, or indicate supporting document number if applicable. o Obtain independent review.
Report problems and submit change requests	Anyone assigned to AZ101 Mixer Pump Test	o Identify and report problems on a SCR form. o Submit changes on a SCR form.

2.3 INTERFACE CONTROL

The 101AZ Mixer Pump Demonstration DAS interfaces with two other systems: These are the AZ-702 Ventilation System Distributed Control System (also referred to as the Micon DCS), the PLC located in the 801A instrument building in AY Farm. These systems are connected and communicate via the Hanford Local Area Network (HLAN).

The Allen Bradley PLC located in the 801A instrument building is currently set up to collect data from the Westronics thermocouple multiplexor which is connected to numerous T/C's in tank AZ101.
Data from the Micon DCS will be written to a CSV (fixed-format text) file residing on a UNIX server within the Micon DCS which the AZ-101 Mixer Pump DAS will periodically poll. Maintenance of this file is the responsibility of the Micon DCS team. Any modifications to the CSV file (e.g., format) should be communicated to the AZ-101 Mixer Pump DAS Change Control Board via an SCR/PR. Also, if changes in file format are required for the AZ-101 Mixer Pump DAS operations, necessary modifications shall be communicated via the Micon DCS change control process.

The Gamma Cart DACS System operates as a standalone device.

2.4 IMPLEMENTATION

This SCMP becomes effective whenever a problem or change request is identified after the initial release has been made. Overall responsibility for the SCM activity rests with the DAS/Gamma Cart DASC Cog Engineer described in Section 2.2. Each change to the DAS configuration must have an approved SCR/PR. Appropriate ECN's to change baseline control documentation will proceed the implementation of the SCR if a new feature or function is being implemented or a change to hardware is involved.

2.5 POLICIES AND PROCEDURES

Configuration management of DAS items will be in accordance with LMH-PRO-2778, IRM Application Software System Life Cycle Standards, particularly with regards to Software Control, Change Request And Problem Reports, and Document Approvals.

3.0 SOFTWARE CONFIGURATION MANAGEMENT ACTIVITIES

Configuration Management will be applied to the AZ-101 Mixer Pump DAS and Gamma Cart DACS per the requirements established and steps provided herein.

3.1 CONFIGURATION IDENTIFICATION

3.1.1 Application Software

Design basis documentation which sets the foundation for the configuration of the DAS and Gamma Cart DACS is found in the DAS System Description, RPP-5572, and Gamma Cart System Description, RPP-5576 (i.e., logic diagrams, HMI screen designs, taglist, etc.), and associated references.

The Human-Machine Interface (HMI) software for the DAS is Citect. The Gamma Cart DACS uses RSView as the HMI software. The DAS and Gamma Cart DACS systems run on separate Pentium class personal computers with Windows NT as the operating system.

The HMI software creates a number of different file types specific to an application, which are used to create an operator interface environment.

Each production software release shall be a grouping of the code and executable software products, and any modifications to vendor software (e.g., configurations, etc.). The release is assigned a unique release number by the AZ-101 Mixer Pump DAS or Gamma Cart DACS Cog Engineer. A designator will also be used to designate the phase (ATP for acceptance testing, OTP for operational testing, or SYS for an operational system). The software release number is of the form R.r. Please refer to the sample form in the Release Cover Sheet and Revision Record, Appendix B. The release form shall also note operating system and development tool revision numbers in Section 7 of this same form.

3.1.2 Software Products

Each software product (e.g., the application software development packages, the operating system software, the network communications software, etc.) is assigned a unique product name and release version number by the appropriate vendor and will be used as identification as much as practical on the software release documentation.

3.1.3 Computer Hardware

Computer hardware, such as installed field data acquisition components is controlled by normal Hanford administrative procedures (e.g., H-2 drawing system via Engineering Data Transmittals

(EDT) and Engineering Change Notices (ECN)). Configuration control is required by the SCMP only for the cases of 1) identification of the minimum equipment necessary for operation and 2) evaluation of the impact caused by field hardware changes that are part of the design basis documentation set--via an SCR/PR.

3.1.4 Documentation

Each AZ-101 Mixer Pump DAS or Gamma Cart DACS document is assigned a unique name, number, and revision in accordance with the LMHC documentation procedures and are documented in the Release Cover Sheet and Revision Record. See Appendix B, Section 6 for a sample listing.

The DAS Cog Engineer shall keep SCR/PR forms in local project files in log form. When a Release of the AZ-101 Mixer Pump DAS or Gamma Cart DACS occurs, the Lead Engineer will establish either 1) a file with the information related to that release or 2) will produce an RPP document to formally document the Release sheet and associated SCR/PRs.

3.1.5 Application Reports

Control of application reports generated by the AZ-101 Mixer Pump DAS or Gamma Cart DACS is not provided under this SCMP, and is the responsibility of the software user organizations.

3.1.6 Removable Media Labels

The removable media will record the following information on the label:

- Media identifier (i.e., disc number)
- Software identification
- Software revision identification ("R.r", "R" = major and "r" = minor software changes, e.g. 1.0)
- Software or data name or description
- Responsible organization and DAS/Gamma Cart DASC Cog Engineers' names
- Recording date and time.

3.1.7 Directory Nomenclature

Original or backup source and executable software placed on media containing multiple versions/revisions shall be segregated using the available directory/ subdirectory structure.

A major directory shall be provided for the software product, labeled with the product mnemonic. Subdirectories shall be provided for each major revision. Each minor revision shall be contained in a separate sub-subdirectory, uniquely identified with the appropriate revision number. The subdirectory name shall contain the major and minor revision number, separated by a period. For example:

E:\AZ101\R1\R1.0 Would contain all source and executables for the initial product release.

E:\AZ101\R1\R1.1 Would contain the source and executables for the first minor release.

E:\AZ101\R4\R4.3 Would contain the source and executables for the third minor release of the fourth major product release.

3.2 CONFIGURATION CONTROL

SCR/PR approvals are recorded and submitted using the SCR/PR form. See Appendix A for an example of the form.

cc:Mail approvals for processing SCR/PRs may be substituted for handwritten approvals. When cc:Mail approvals are used a copy of the cc:Mail approval must be attached to the SCR/PR.

Telephone approvals for processing SCR/PRs may be used, but subsequently, must be documented on the SCR/PR form or with a cc:Mail approval.

3.2.1 Routine Change

Routine changes to the software will be processed as described in this section. Refer to section 3.2.2 for emergency hardware changes.

Responsible Person	Description of Action
Anyone In AZ-101 Mixer Pump DAS/ Gamma Cart DACS Organizations	Prepare a SCR/PR to identify a problem with or request a change to the software. Ensure that evaluation is performed of design basis documentation changes (via an SCR/PR and attached ECN) for potential changes to the AZ-101 Mixer Pump DAS or Gamma Cart DACS. Forward the SCR/PR to a Design Authority/DAS (Gamma Cart DACS) Cog Engineer. Include recommendations on how to proceed when appropriate.
Design Authority /DAS Cog Engineer /Gamma Cart DACS Cog Engineer	Determine which SCR/PRs are appropriate and forward to the Software Engineer for analysis and hours estimate. Evaluate whether the change is an emergency or routine SCR/PR.
DAS Cog Engineer Gamma Cart DACS	If routine, assign a SCR/PR Number and enter it in the log. See example in Appendix B.

Responsible Person	Description of Action
Cog Engineer	Analyze SCR/PR and estimate hours and impact to complete and implement. Determine if SCR/PR requires a major or minor revision. Evaluates SCR/PRs with Design Authority and/or CAM and decides to accept, modify, reject, or defer. Prioritize accepted SCR/PRs. Forward to Software Engineer(s) to do work. Plan with Software Engineer(s) how and to what extent changes to the software will be tested and documented. Forward appropriate problem reports to vendor if it is a problem in vendor's product.
Software Engineer	Do the work identified in SCR/PR and conduct tests. Ensure that changes that cannot be tested in a test environment are conducted in a manner that will not have adverse affect on the software production environment. Document test results and include with change request, or indicate supporting document number if applicable. Obtain independent review. Provide change documentation to Lead Engineer.
DAS Cog Engineer Gamma Cart DACS Cog Engineer	Group one or more SCR/PR's into a planned release. Evaluate the results of the tests with Independent Reviewers (e.g., the Design Authority, etc.) to determine if the changes (individually and as a whole) are acceptable for a test\production release. Request approval of CCB to place release into the test\production environment.
Design Authority	Approve or disapprove placing a release in the test\production environment.

DAS Cog Engineer – Gamma Cart DACS Cog Engineer	Schedule implementation. Place source code and executable files for the release on floppy disks, labeled per 3.1.6. Alternatively, place source code and executable files on labeled release optical of CD-ROM disks in a directory\ subdirectory identified per 3.1.7. This copy shall be treated as the master/original release copy. Place source code and executable files on the secure fileserver backup partition (<password>) in a directory\subdirectory identified per 3.1.7. This copy shall be treated as the backup release copy. The partition password shall be controlled by the Custodian and shall be disclosed only to those with a need to know. Turn over media (e.g., floppy or optical disks) to custodian. Obtain close-out signatures. Update the Software Change Request and Problem Report information for the AZ-101 Mixer Pump DAS or Gamma Cart DACS System. Prepare documentation, secure approvals and place in project file.
DAS Cog Engineer Gamma Cart DACS Engineer	Verifies signatures on documentation. Verifies removable media are properly labeled. Stores removable media in a media storage cabinet designated by the DAS Cog Engineer/Gamma Cart DACS Cog Engineer. Verifies backup exists in a properly identified subdirectory on the backup partition. Verify that the SCR/PR closeout is distributed to the initiator, and others as appropriate.

3.2.2 Emergency Changes

Emergency changes may be initiated to correct software problems that are interfering with the software operation.

Responsible Person	Description of Action
Anyone In AZ-101 Mixer Pump DAS/Gamma Cart DACS Organizations	Submit a phone request or cc:Mail to DAS (or Gamma Cart DACS) Cog Engineer, Design Authority, or Manager identifying problem.
DAS Cog Engineer /Gamma Cart DACS Cog Engineer or Software Engineer	Evaluate whether the change is an emergency or routine SCR/PR. (Note: definition of an Emergency is up to the discretion of design authority) If emergency, then ensure all actions and documentation described for a routine change are completed as soon as possible following an emergency change to the system software.

3.3 CONFIGURATION STATUS ACCOUNTING

The configuration status of all controlled items is shown on the Release Cover Sheet. In addition, the status of all SCR/PRs and associated releases will be maintained and be available on the AZ-101 Mixer Pump DAS or Gamma Cart DACS directory.

3.4 AUDITS AND REVIEWS

The AZ-101 Mixer Pump DAS, Gamma Cart DACS and associated documentation, including software change control, will be available for audit during normal working hours. The AZ-101 Mixer Pump DAS and Gamma Cart DACS Managers should periodically audit the project file and change control documentation to ensure compliance. Other surveillance and audits are the responsibility of other outside organizations and are outside the scope of this plan.

All changes and tests shall be reviewed (verified) by an independent technical person. For minor changes and releases, test results may be attached to the SCR/PR.

Should changes require major modifications or enhancements, the Lead Engineer, software engineer and cognizant manager will determine if a formal plan will be prepared. The formal plan will identify appropriate technical, V&V and QA reviews consistent with LMHC procedures and commensurate with the complexity of the change.

3.5 ACCESS CONTROL

Access control for operation of the AZ-101 Mixer Pump DAS or Gamma Cart DACS software is provided by the application. Each provides for an authorized user list and associated privilege levels. Authorized users are required to provide a user name and password. Authorized users and passwords for access will be assigned and controlled by the DAS/Gamma Cart DACS Cog Engineers.

3.6 BACKUP AND RECOVERY

Backup of the source code and executable files that constitute each product release is done by the DAS/Gamma Cart DACS Cog Engineers onto the fileserver backup partition selected at the time of release. The DAS/Gamma Cart DACS Cog Engineers are responsible for verifying that the backup is in place and the appropriate files exist.

Recovery shall be accomplished by rewriting the appropriate files from the master media onto the production fileserver or its replacement. Should the master media be simultaneously corrupt, recovery shall be from the backup fileserver partition.

4.0 TOOLS, TECHNIQUES AND METHODOLOGIES

Tools and instructions for software administration and usage are contained in Ref. 1.

4.1 TEST ENVIRONMENT

All AZ-101 Mixer Pump DAS/Gamma Cart DACS hardware and software modifications and enhancements will be completed and certified in a test environment where possible. These changes will be implemented into the production environment only after the Design Authority has reviewed and approved the test results and the Change Control Board has approved the implementation. Modifications and enhancements will be grouped logically into production releases.

5.0 SUPPLIER CONTROL

The DAS/Gamma Cart DACS Cog Engineers will ensure that new releases and installation of the vendor application and software product are tested prior to its being placed in production. Changes in vendor application and/or software product will be processed as a change request or problem report with the same approval requirements as a locally generated change.

The DAS/Gamma Cart DACS Cog Engineers will maintain a software project file or binder of all software-related project documentation, correspondence, and project-produced documents. Vendor

provided materials and manuals will be maintained by the DAS/Gamma Cart DACS Cog Engineers. This software project file or binder will maintain the most current version of all documents for the life of AZ-101 Mixer Pump DAS.

6.0 RECORDS COLLECTION AND RETENTION

The AZ-101 Mixer Pump DAS software developer will process software development and maintenance records in accordance with LMH-PRO-2778, IRM Application Software System Life Cycle Standards. These records include at a minimum the SCR/PR logbook and SCR/PR form entries, and will be kept by the DAS/Gamma Cart DACS Cog Engineer in local project files.

7.0 REFERENCES

1) LMHC INFORMATION RESOURCE MANAGEMENT PROCEDURES

LMH-PRO-2778, IRM Application Software System Life Cycle Standards

2) LMHC ENGINEERING PROGRAM

LMH-PRO-244, Engineering Data Transmittal Requirements
LMH-PRO-440, Engineering Document Change Control Requirements

3) User Manual for the AZ-101 Mixer Pump DAS, RPP-5529

4) Programmer Guide for the AZ-101 Mixer Pump DAS, RPP-5530

4) AZ-101 Mixer Pump DAS System Description, RPP-5572

5) Sludge Mobilization Cart System Description, RPP-5576

APPENDIX A: AZ101 MIXER PUMP SOFTWARE CHANGE REQUEST AND PROBLEM REPORT FORM

SOFTWARE CHANGE REQUEST OR PROBLEM REPORT	
NOTE: Submitter Fills In Parts 1-8 (NON-GRAY)	FOR DAS COG USE ONLY
1. SCR Type: [ ] Problem [ ] Enhancement	SCR Number:
2. Submitted By:	Date:
3. Project Name:	TPCN, W/O:
4. Software Program Name:	Current Ver/Rev:
5. Submitter's Priority [ ] (1= Critical 2= Very Important 3= Important 4= Inconvenient 5= Interesting)	6.Requested Completion Date:
7. Task/Change/Problem Title (One Sentence Description):	
8. Detailed Description/Justification (Attach Additional Sheet If Necessary):	

FOR DAS COG USE ONLY: Software Change Request Or Problem Report Resolution:	
Decision By:	[ ] Accept [ ] Modify [ ] Reject [ ] Defer
Assigned To:	Target Release Date:
Solution Comments/Impact:	
Software Programs, Modules or Files Affected:	
Required Testing	
Task Completed By:	Date:
Verified By:	Date:
Actual Release Version:	Date:
Closed By:	Date:

These instructions are for preparing the Change Request or Problem Report. If more space is needed, use blank pages and attach to the SCR/PR form. This will be the record of the change request or problem report.

-Note: Replace "Mixer Pump DAS" or "DAS" with "Gamma Cart DACS" when referencing the Gamma Cart system

Submitter (Anyone assigned to AZ101 MIXER PUMP may submit) :

1. Indicate if this is a problem report or request for enhancement.

2. Record the name of the person submitting the form and the date.

3. Record AZ-101 Mixer Pump DAS for project.

4. Record AZ-101 Mixer Pump DAS for software program name.

5. Record submitter's evaluated priority as shown.

6. Provide a requested completion date, or leave blank if unknown.

7. Provide a single sentence title of problem or enhancement.

8. Provide a description of the changes requested or the problems being reported. Provide justification if this is a change request. Attach additional sheets if necessary.

DAS COG Engineer:

a. On receipt, enter into the AZ-101 Mixer Pump DAS SCR/PR Log. Enter the next SCR number on the form.

b. Enter the date received.

c. Enter charge number if known, otherwise, leave blank.

d. Enter current Version/Revision of the product.

e. Review change request or problem with CCB personnel per matrix in Section 2.2. Note that SCR/PR may require attached cost estimate and planning by the Lead Engineer if extensive change or testing are anticipated. Mark accept, modify, reject or defer as appropriate.

Design Authority signs "decision by" block, and proceed to step f if accepted.

f. Assigns a Software Engineer in the Assigned To field and a Target Release Date as appropriate.

g. Software Engineer fills in solution, impacts and comments area, and identifies programs, modules and files to be affected. A list may be attached. Also documents/performs testing as identified by the Lead Engineer and attaches test results or additional verification documentation.

h. Software Engineer signs "Task Completed By" block and passes to independent reviewers (e.g., CCB chair and DAS COG Engineer).

I. Independent reviewer(s), at a minimum including the Design Authority, signs "Verified By" block.

j. When included in a release, place release version in "Actual Release Version" block.

k. DAS COG signs "Closed By" block when complete or rejected.

APPENDIX B: AZ-101 Mixer Pump DAS/Gamma Cart DACS RELEASE COVER SHEET & REVISION RECORD

RELEASE COVER SHEET & REVISION RECORD

1. Software ID (Name): Rev:

2. Release Type: [ ] Initial Release [ ] Change [ ]App Des [ ] Sfty Cls

3. Abstract

4. Software Files (or attach directory listing)

5. Software files record storage media and location

6.Documentation	Title	Number	Rev
Requirements			
Design			
Design Verif.			
Validation			
User			
Config. Cntl.			

7. Environment	Description	Rev	IL/Sfty Class
Hardware			
Oper. Software(s)			
Language(s)			
Comm. Networks			

8. Released for: [ ] Integration [ ] Operational Test [ ] Operation

9. Approvals

Cog Engineer:_____ _____ Date:_____

Design Authority:_____ Date:_____

Cog Manager :_____ Date:_____

Instructions for the Release Cover Sheet & Revision Record

Fill out as indicated. See example as follows:

1. Provide Software Name and new revision number.
2. Check release type. Indicate Approval Designator and Safety Class (SC, SS, GS).
3. Provide an abstract describing the product being released. Indicate if only a portion of the software is being modified.
4. List all source and executable files that are being released, and where they reside. Attaching a directory listing is acceptable, if it includes the full name of the file, creation date and time (combination is version identification). Date on all files may be set to release date, time may be set to indicate the release version number (e.g. 2.07a).
5. Indicate source and executable file master type (floppy disk, optical, magnetic tape), media serial number and storage location. The DAS/Gamma Cart DACS Cog Engineers will hold this media.
6. List the documentation components for the release.
7. List the operational environment of the software.
8. Check the reason/limits for the release.
9. Provide approval signatures as required by SCMP.