Site Wide Industrial Hygiene Database

Site Wide Industrial Hygiene

LOCKHEED MARTIN

Site Wide Industrial Hygiene Database
Executive Summary

There are 2 major forces driving the need for a comprehensive site-wide information management system for industrial hygiene;   1) 10 CFR 850- the Chronic Beryllium Disease Prevention Program and 2) 10 CFR 851- the Worker Safety and Health Program. The key elements from these documents which the site-wide industrial hygiene system will address are;

- Assessing exposure hazards before work activities are conducted and utilizing control measures, monitoring equipment, and personal protective equipment to protect human health and the environment;
- Maintaining a record keeping system for exposure records that protects the confidentiality of workers while allowing the records to be transmitted to U.S. Department of Energy (DOE) upon request;
- Identifying facilities where hazards have been used and assessing the potential for exposure and maintaining this facility list;
- Implementing an exposure reduction and minimization program to maintain exposure as low as practicable based on measured exposure levels; and
- Assessing the effectiveness of the exposure control programs, noting areas for improvement and providing performance feedback to affected workers and groups.

The Site Wide Industrial Hygiene Database system is intended to serve as a single site-wide location for Industrial Hygiene information that will provide an effective means for the site contractors to meet these requirements.

The key elements of the system include;

Access to data: Today accessing data across the site is time consuming, costly and in some cases impossible.

Easy to use: The system needs to help individuals do their job. This lowers the cost of operation and improves quality. Features like online help, wizards with step by step processes and intuitive design aligned with industry standards will make the system easy to understand and use.

Flexible: Each company does work differently. The system needs to integrate well with the work flow for each company, not get in the way of getting the job done.

Secure: Empower the customer to do their jobs. Open what needs to be opened, but lock what needs to be locked down.

Lessons learned have taught us that it's not just a matter of getting the data down on a sheet of paper and storing the paper away, but rather getting the data loaded into an intelligent integrated system, one where data can be retrieved (data-mined) by area, hazard, similar exposure group, individual, or anything needed to support the customer. The system will assist in planning future work and budgets by providing tools to conduct statistical analysis and historical trending.

The SWIHD system will offer exposure assessments, records maintenance, facility hazard lists, employee notifications, and affected worker tracking. It will be flexible and conform to each company's way of doing business while collecting and processing the key data and meet the need to retrieve this critical information across time and contracts. It will offer each company a tool tailored to their workflow. It will take advantage of new technologies and will manage the flow of data keeping it accurate, precise, and up to date.

Security is not by chance, but rather by direction. The security of the system will permit easy access to authorized personnel, giving them the correct level of permission within their area.

The Industrial Hygiene system used today at Tank Farms is a good system and serves as the baseline for the Site Wide Industrial Hygiene system. The Tank Farms system, expressly created to meet the needs of Tank Farms, is great for Farms and Tanks, however, it is not so good for large numbers of buildings, wells and trenches.

The Site Wide system will offer a single location for accurate and up-to-date Industrial Hygiene information, affording opportunities which do not exist today to retrieve information immediately for management reporting, medical assistance, and work conditions monitoring.

It will serve as an invaluable resource in the mission to protect human health and the environment

Site Wide Industrial Hygiene Database Committee

Goal:
Create a contractor tailored system to collect, monitor, manage, report and record (create permanent record) Industrial Hygiene data to meet the requirements of the customer.

Objectives:
- Provide information to Perform statistical analysis
- Simplify the process of data capturing
- Be able to add a new survey type as needed
- Contractors need access (high speed – web)
- Establish a formal rule book administration authority, roles, access, etc.
- Flexible reporting and data mining
- Occupational Exposure Limits (OEL) at time of sampling needs to be carried forward into the permanent record
- Each portal needs to be contractor specific with a core of shared functionality
- Each contractor will see just their filtered set of data
- Doe needs a system that they can retrieve data (name/hid # driven) where, when, how, what an individual was exposed to.
- Return exposure results and tie it to sample, individual, and location

Issues/Concerns:
- Needs to interface with Site Occupational Medical Contractor (SOMC)
- User training
- Access from outside of HLAN. Is it necessary?
- Historical data – will legacy data be integrated into the system?
- 18-24 months Washington Closure Hanford (WCH) will have a very limited need
- Security requirements
- Software QA
- Software Control
- Chief Information Officer (CIO) process (form registration, etc.)
- Policies and processes
- Exposure assessment needs to be added – Washington River Protection Solutions, LLC (WRPS)
- Configuration control – system must be aware of locations even if the specific building has been removed
- Access to site-wide data. Who can? Who can't?

Site Wide Industrial Hygiene Database (SWIHD)

Project Management Plan

Developed for

Mission Support Alliance (MSA)

Washington Closure Hanford (WCH)

Washington River Protection Solutions (WRPS)

CH2M HILL Plateau Remediation Company (CHPRC)

Advanced Medical Hanford (AMH)

Department of Energy (DOE)

Prepared by

Lockheed Martin

**Approved for Public Release;
Further Dissemination Unlimited**

Patrice M. McEahern, Vice President
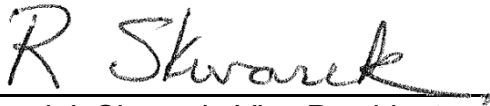CH2M Hill Plateau Remediation Company

Lori L. Fritz, Vice President
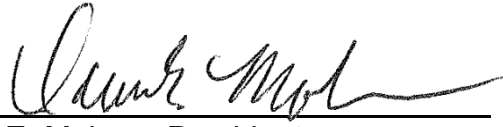Mission Support Alliance, LLC

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Washington River Protection Solutions LLC

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Central Washington Building and
Construction Trades Council

Contents

1 INTRODUCTION

1.1 Purpose

This software Project Management Plan (PMP) provides guidance for the addressing the design and development of an Industrial Hygiene system to be used at Hanford site-wide.

This PMP also describes the background, planning, and management of the application. It does not constitute a statement of product requirements.

1.2 Project Scope

The scope of the project is to design and develop a comprehensive system supporting the Industrial Hygiene operations at the Hanford Site. User training is provided on an as-needed basis. Additionally, recommendations will be provided for improving the Industrial Hygiene data management and reporting functionality for Mission Support Alliance (MSA), Washington Closure Hanford (WCH), Washington River Protection Solutions (WRPS), CH2M HILL Plateau Remediation Company (CHPRC) Department of Energy (DOE) and Advance Medical Hanford (AMH). Products produced during this effort include this PMP, system requirements, design specifications, test cases, and user guides.

Technical Reponses to the customer's Statement of Work are maintained in the Task Order Management System (TOMS) used by Lockheed Martin.

Involved stakeholders include:

- Contractors providing Industrial Hygiene support for the Hanford site.
- Laboratories who analyze the samples from the site.
- Equipment labs who manage site-wide equipment.
- DOE who provide oversight for all Health and Human Services for the site.
- AMH personal who provide health services for the employees.
- Lockheed Martin project team members, including supporting organizations at Lockheed Martin.

Additional details of stakeholders are provided in section **2.1 Organizational and Communication Structure**.

Interfacing systems include:

- Hanford PeopleCore (HPC)
- Laboratory Information Management System (LIMS)
- AdvanceMed Hanford (AMH)
- OMNILIMS (formerly LABCORE)

- Washington Closure Hanford (WCH)

This PMP covers the scope of changes as they apply to SWIHD, however, consideration and coordination with the project leads of these interfacing systems is required when making changes.

1.3   Project Overview

The SWIHD system was initiated to address several issues, including the need to improve data collection and reporting for the entire site. The current TFIH system captures survey data using Cold Fusion Web front end and a Microsoft SQL Server database back end. While the system works well for the Tank Farms, it lacks some functionality needed throughout the rest of the site. In addition, some of the information used by the Tank Farm and other contactors may be different depending upon the needs of each organization and should be filtered or restricted depending upon the contractors needs. The goal is have a system which allows some customization for data collection and processing for each contractor based up on their individual business requirements.

This context is illustrated in Figure 1 below.
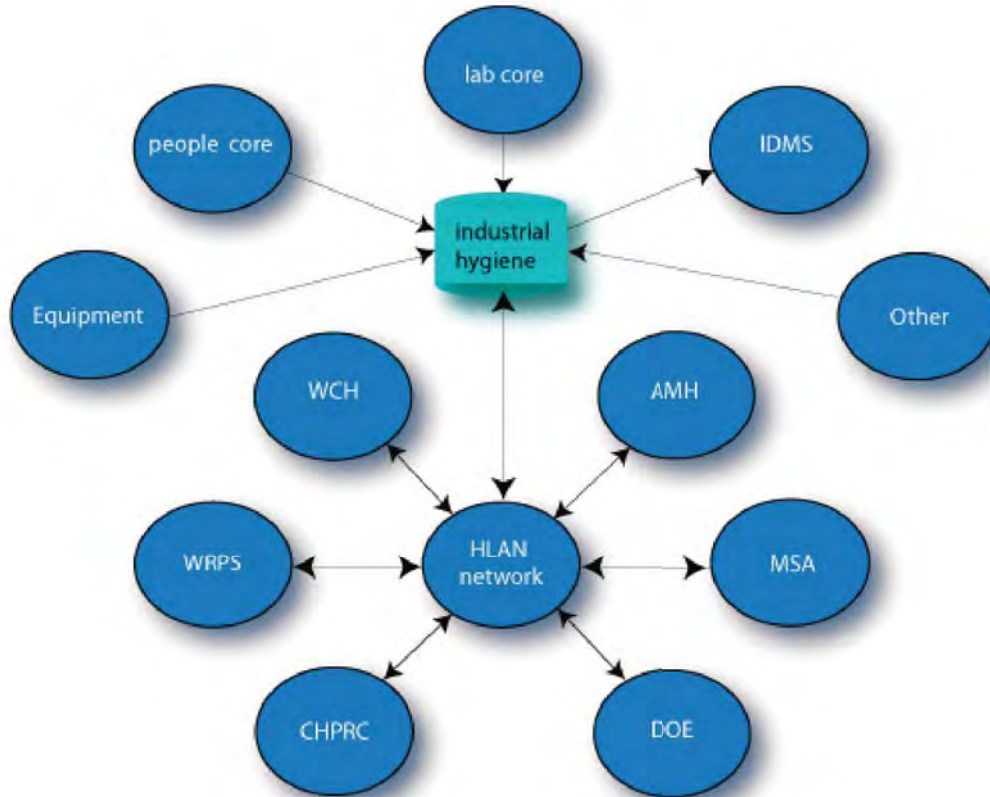
Figure 1. SWIHD Context Diagram.

Industrial Hygiene Hanford is designed to run as a web based application. The tools used to create and execute it are:

- Microsoft[1] SQL Server[2] (data tables, database triggers, and stored procedures)
- Cold Fusion[3] (application)
- HTML Help (context sensitive on-line help)

The application is designed to provide the look and feel common to web applications.

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[1] Microsoft is a registered trademark of Microsoft Corporation, Redmond, Washington.

[2] SQL Server is a trademark of Microsoft Corporation, Redmond, Washington.

[3] Cold Fusion is a trademark of Adobe, San Jose, California.

System security is controlled through the HLAN network logons by username and password. Application privileges are based on specific user needs. These needs have been grouped into roles that describe the different jobs SWIHD users perform.

The application is distributed by having a browser with access granted to the user. The database is hosted on an HLAN shared database server.

Acceptance criteria for each requirement are defined in the system requirements specification (SRS) document, DOE-0351, in the SWIHD Requirements Traceability Matrix (RTM), and in the SWIHD System Change Request (SCR) system. Any changes to these acceptance criteria will be made in accordance with Section 6.

All critical software shall be in compliance with the PHMC quality assurance program as defined in MSC-MP-599, *Quality Assurance Program Description,* to meet the requirements of 10-CFR-830.120, "Nuclear Safety Management Quality Assurance Requirements", and 10-CFR-820, "Procedural Rules for DOE Nuclear Activities". These requirements are implemented by MSC-PRO-309, *Controlled Software Management*. The HISI Controlled Software Determination Checklist is used to determine if software is critical.

The MSA requirements are implemented by Lockheed Martin through DOE-0351, "Lockheed Martin Quality Assurance Program Plan".

1.4 Tailored Processes

SWIHD has transitioned from the Organization Standard Software Practices to the Integrated Process Asset Library (IPAL) as part of the Lockheed Martin quality assurance program. Most project documentation has been updated. The tailoring matrix will be used to identify application specific tailoring.

In addition, the following Mission Support Alliance procedures will be followed for software quality assurance, security, and network/HLAN compatibility.

- MSC-PRO-311, Functional Security Requirements/Application Development
- MSC-PRO-596, Certifying Sensitive or Essential Computer Applications
- MSC-PRO-597, Preparing Contingency Plans and Disaster Recovery Plans
- MSC-PRO-4825, Telecommunications and Network Infrastructure Standards

The project's defined processes meet the intent of MSC-PRO-309, *Controlled Software Management*, requirements.

In accordance with 3-OPEN-PRC-0157, ADMS Process Improvement and Lessons Learned Flow Process, project planning lessons learned and process improvements are submitted to the ADMS repository. Lessons Learned are periodically reviewed and applied to the SWIHD project where applicable.

The following Lessons Learned was reviewed and applied to SWIHD.	
Submittal ID #:	
Title:	
Description of Activity (i.e. peer review, DAR...) that initiated the Lessons Learned and Analysis that was performed:	
Description of Lessons Learned:	
Recommendation or Action:	

2   PROJECT ORGANIZATION

The SWIHD project team is made up of members from MSA, WCH, WRPS, CHPRC, HAMTC, DOE, AMH and Lockheed Martin as outlined below.

2.1   Organizational and Communication Structure

Project team members of the SWIHD project are identified below and will be referenced in this document as Industrial Hygiene Project Management Team (SWIHDPMT).

Customers:

Mission Support Alliance, LLC

Dave Jackson, MSA SWS (site wide safety standards)

Carter Kirk, MSA S&H – Safeguards & Security Group

Carol Powe (Alt), MSA MA – Performance Assurance

Washington Closure Hanford

Raj Ganapathy, WCH SH – Safety & Health

Ken Way (Alt), WCH Safety, Health & Quality

Washington River Protection Solutions

Joyce Caldwell, WRPS Safety & Health

Nancy Butler (Alt), WRPS Industrial Hygiene

CH2M HILL Plateau Remediation Company

Clinton Graden, CHPRC OS & IH

Mike Schmoldt (Alt), CHPRC OS & IH

Lisa Hill, CHPRC OS & IH

HAMTC Representative

Mike Stoner, HAMTC Safety Rep

Michael J Urie, HAMTC/WRPS Safety IH

DOE-RL

Steve Bertness, DOE Safety and Engineering Division

Joy Flack, DOE Safety and Engineering Division

ORP

Richard Urie, DOE Verification and Confirmation Division

AMH

Lynn Gates, AMH Occupational Health Services

Lockheed Martin

Application Development and Maintenance Solutions

- T. G. Ibsen, Manager, Lockheed Martin Approval Authority
- G. L. Tracy, Project Lead
- Configuration Management (for file version management)
- Quality Assurance (for product and process reviews)

Product Integration and Support is provided by:

- Network and Telecommunication Engineering -- Client, Server & Infrastructure (NT-CSI) (for Software Distribution, SQL Server™ and NT support)

Activity requests for Software Distribution and NT-CSI support will be made using Lockheed Martin's SCR system, or the current approved mechanism. Email and calendar items will be used to communicate with both CM and QA as necessary.

Mission Support Alliance (MSA), which is the application owner, has responsibility for the overall SWIHD operations and maintenance. MSA supports the Change Control Board that helps direct and control the changes. See section 6 *Configuration Management Supplement* for additional information.

Software maintenance and development are provided by the Application Development and Maintenance Solutions (ADMS) organization of Lockheed Martin.

MSA will be the primary point-of-contact to work with Lockheed Martin.

Customer needs are identified via meetings, phone calls, emails, and Lockheed Martin System Change Requests (SCRs) initiated through the SWIHD SCR system. Project

support is initiated through customer prioritized SWIHD SCR's. Project communication mechanisms are addressed in Section 3.4.1 *Communication Mechanisms*.

2.2   Organizational Boundaries and Interfaces

SWIHD is an integrated team effort. It is composed of people providing Contract Support and Lockheed Martin. MSA provides the funding, while the SWIHDPMT provides overall project direction and technical experts. Lockheed Martin provides the project lead, technical lead and programmers for software development and integration. The following are the specific organizations and key people for the project.

The project lead will issue periodic reports to keep management and members of the project informed of progress. In addition, a monthly schedule status will be provided, while work is being performed.

Support for Software Distribution, Database Administration, and Software Quality Assurance and Configuration Management will be provided from the following organizations.

- NT-CSI (for Database Administration & Software Distribution)
- Configuration Management/Quality Assurance

2.3   Project Stakeholder Roles and Responsibilities

The Project Stakeholder Matrix identifies the stakeholders and their associated role in the project. It is also intended to ensure there is a common understanding and commitment between the project personnel and the stakeholders for their defined roles and responsibilities.

Stakeholder commitment is achieved through the following mechanisms.
- Project Team: Meetings and/or emails
- Product Team: Meetings and/or emails
- Business Administration: Emails and when required, meetings
- Product Control: PRRB meetings and/or emails
- Product Integration and Support: SECB Meetings, SCR's, other meetings, and/or emails

Table 1 Project Stakeholder Matrix

Legend: P – Perform R – Review A – Approve C – Consult I – Inform Roles & Responsibility	Project Team	Project Manager	Customer	Users	CCB	Contracts	Finance	Procurement	PRRB	CM	QA	SEPG	SECB	NT-CSI (DATABASE)	NT-CSI (NT)	NT-CSI (SOFT. DIST)	Network Admin	CTS	NOC	Lab Instr. Controllers	HPC
Project Planning	PC	PA	A								R										
Contract Management		C	C			PA															
Technical & Cost Proposal		PA	RA			A	P														
Procurement		C	CA					PA													
Project Mgmt Plan	C	PA	RA								RA										
Project Schedule	C	PA	C		CI						C									CI	CI
Project Risk Management	PC	P	CI								R										
Project Training	PC	PA																			
Project Tailoring Matrix	P	R A									R										
Project Monitoring & Control	P C	R A	I		R						R										
Project Measures	PC	R	I		R						R										

Project Development Software	PC	RA	I					R			C	C	C			I	I
System Software	P	C	I						P		P	C	C			I	I
System Hardware		C	CI		C						P	P	P	C			
Requirements	CPR	CPA	CA	C	CI		R				C	C	C			I	I
System Change Requests	CPR	CPR	CPA	IC	R						C	C	C				RC
Requirements Traceability Matrix	CP	CPR	R				R										
Testing	CP	CPR	CPA	P			R									I	
Alternatives Analysis	CP	CPRA	CRA						R								
System Design	P	PRA	RA				R										
Implementation (code/construct)	P	CIR	CI				R		R		C	C	C				
Integration	P	CA	R				R		R		CP	CP	CP	CP		CI	CI
Validation	P	PCR	RA	C			R										
Deployment	P	CRA	RA		I	A	R				CP	CP	CP	CP	IP		I
Installation Plan	P	RA	I								R	R	R	R			I
User Manual	CP	CP	CPRA	I													

Process Area																	
User Training	CP	CP	CP	I														CI
Operations & Maintenance	CPRI	CPRI	CPRI	I	CPRI	R	R	R			R	CPI	CPI	CPI	CPI	CPI	CPI	CI
Configuration Management	P	P				R	R											
CM Supplement Plan	CI	PA				R												
QA Process Reviews	CP	CP					P											
QA Process Reviews	CP	CP						P										
Peer Reviews	PRA	PRA	CI								P	P	P	P				CI
Management Reviews	P	P							P									
Lessons Learned & Process Improvement	P	P								RA								
Decision Analysis and Resolution	CP	CPRA	CRA	CR		R						R	CRI					CI

2.4   Organizational Service Providers

There are currently no service providers external to ADMS.

NT-CSI, an Lockheed Martin internal organization, provides production support. Service requests for this group are initiated and completed using the Lockheed Martin SCR system.

2.4.1   Acquisition

Depending upon the customer request, software development tools, equipment, or other items related to the project may need to be procured for this project. In general, Lockheed Martin will develop specifications for MSA or the SWIHDPMT members for acquisition of equipment, according to MSC-RD-11408 - Property Management Requirements Document. The tables below contain existing hardware and software acquisitions that must be maintained for the support of SWIHD.

Customer Managed Acquisitions		
Item Name	**Description**	**Comments**
Label Printer Brother PT-9600PC	Printer to labels for the samples.	Labels to be placed on samples which are going to the lab.

Lockheed Martin Managed Acquisitions			
Software Product	**License Type**	**Quantity**	**Type of Use**
Software Modeling tools	Individual	2	Named
Cold Fusion version 10 or greater	Individual	5	Named
SQL server management tools	Individual	5	Named
Script X	10 pack	10	Site

2.5   Assumptions, Dependencies, and Constraints

The current system while functioning adequately for the Tank Farms operations is not showing the flexibility required for a site-wide solution. During this effort, Tank Farms operations will not be impacted.

Sufficient resources (i.e., staff with appropriate skills and technical expertise) are available from Lockheed Martin and the SWIHDPMT to meet the customer's schedule.

The bulk of the software development work can be done at Lockheed Martin facilities. Relocation of personnel to the outer area facilities will not be required.

Lockheed Martin's Integrated Process Asset Library (IPAL) meets the intent of MSC-PRO-309 requirements.

No safety class reviews are planned.

Ongoing support from the NT-CSI group is assumed as shown in the project plan and the Project Stakeholder Matrix. Basic support is funded from site overhead. Additional operations, like creating databases, are funded directly by the project via the use of the Lockheed Martin SCR system.

3   PROJECT MANAGEMENT AND OVERSIGHT

3.1   Management Objectives and Priorities

The primary project management goal is to deliver high quality SWIHD system within budget and schedule constraints. The project will adhere to standards as set forth by the IPAL. Priorities for maintaining SWIHD include:

- Ensure the production SWIHD application is operational and available for end-users.
- Meet all customer requirements as defined in the SWIHD System Requirements Specification and the Software Change Requests.
- Follow established software development standards that ensure quality software that adhere to the AD&MS Quality Assurance Plan (ADMS QA Plan).
- Complete the task/project on schedule.
- Complete the task/project within budget.
- Minimize costs.

An additional objective of this project is to support organization processes (for project management, product engineering and quality) within which this project is transitioning. To that end, various measurements are being collected regarding the project deliverables and processes. Project measures are being implemented per 3-OMES-PLN-0052, ADMS Integrated Measurement Plan.

3.2   Deliverables and Acceptance Criteria

SWIHD deliverables are validated and approved by the customer. Deliverables include software releases, documents as required, and training on an as-needed basis.

The customer may request additional deliverables during the course of the contract. At the time of the request, the customer and Project Lead will determine when the deliverable is expected.

Project/application documents will be updated according to section 4.3 *Data Management*.

The customer will approve each application release before it can be implemented. All SCR's included in the release must be thoroughly tested to ensure the acceptance criteria are met. Tasks performed under SCR's will be tested against criteria defined by the customer or SCR Point-of-Contact. If the customer does not wish to participate in the testing, either the Project or Technical Lead is authorized to act in the customer's place. Larger development activities may require an *Acceptance Test Procedure* be written. In those instances, deliverables will be validated and approved by the customer as defined in the *Acceptance Test Procedure* and *Acceptance Test Report.* Test cases and other documentation must be created or modified as appropriate.

Acceptance criteria for each requirement are defined in either a mini-system requirements specification (mini-SRS) document or as part of the SCR. Any changes to these acceptance criteria will be made in accordance with section 6.0 Configuration Management Plan Supplement.

3.3   Risk Management

Risk management will include the use of Risk Radar[4] to document and track the project risks. As a management tool, Risk Radar will contain the current risk status and management strategies for any initial projects risks as well as any new risks identified. Basic risks to the SWIHD project include:

- Availability of software and database development staff

  Every effort will be made to maintain planned staffing levels with appropriate technical skills. Some of the developers are senior employees with large amounts of vacation; deliverables will be scheduled to work around known blocks of vacation.

- Funding

  Funding levels are critical to maintaining the resources needed to complete tasks on schedule. Changes to customer funding should be communicated as soon as known to allow for necessary plan and schedule modifications.

- Schedule risk

  Discussions of project status will be held on an as needed basis, as defined at the time of approved work for a release.

- User availability

  User participation in most tasks will be critical; leading to the possibility of schedule modifications should user availability change. Project impacts due to this factor will be communicated during regular status meetings.

3.4   Monitoring and Controlling Mechanisms

This section describes the communication mechanisms, reviews, and reporting conducted to monitor progress, budget, and issues.

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[4] Risk Radar is a trademark of American System Corporation.

3.4.1 Communication Mechanisms

- HISI Profile – An SWIHD profile will be maintained in the Hanford Information Systems Inventory (HISI) system so that common project and infrastructure information will be available to Hanford site personnel with access to HISI.

- The SWIHD Change Control Board (CCB) meeting will be used to review project schedule and to communicate cost and schedule status.   CCB members and other invited stakeholders participate in these meetings.

- The Systems Engineering Control Board (SECB) reviews SWIHD requests to implement new technologies. The SECB provides for a dialog on computer security requirements, Hanford computing environment impacts, and alternative solutions.

- Informal and continuous communication among project stakeholders is critical to projects success. Informal channels such as phone calls and emails between Lockheed Martin staff and users are used to address technical and other issues.

- Customer needs are identified via meetings, phone calls, emails, and SCR's. These needs are communicated to the CCB for evaluation.

- The SWIHD SCR system is used to initiate project support and track subsequent activity against the SCR.

- The Lockheed Martin SCR system is used to initiate communication with and obtain support from other Lockheed Martin support organizations (i.e. NT-CSI). SCRs generated in the customer SCR system and approved for work, will trigger the need to initiate an SCR in the Lockheed Martin SCR system.

- Team meetings - Periodic project status meetings will be conducted to discuss technical topics, personnel, coordination issues, cost, development activities, and schedule progress. These meetings will be documented.

- Periodic status reports – The project lead will issue a periodic report to keep members of the project team and customer informed of progress.

3.4.2 Conflict and Issue Management

Project issues will be handled based upon the severity of the issue. Most issues can be resolved via discussions and/or email. More significant issues will be taken before the CCB who will determine the appropriate course of action. Some issues may result in an SCR that is prioritized and assigned as tasks to complete.

All technical issues that have not been resolved and/or closed will be reviewed by the CCB as determined by the customer. If an issue cannot be resolved by the CCB, then both the Lockheed Martin Project Manager and the Customer will determine the corrective action and to ensure a timely resolution. If necessary, issues will continue to be escalated up the management chain per procedure as appropriate until resolution is achieved.

Internal issues that arise concerning project performance (QA, Risk, schedule, budget, technical, support), will be handled according to the escalation process referenced above.

The System Engineering Change Board is engaged for resolution of interdepartmental issues.

3.4.3 Management Reviews

The following is a summary of the management reviews that are conducted for SWIHD:

Review Name or Title	Frequency	Attendees
GYR (Green, Yellow, Red Chart)	As requested	
Project Management Plan Review	Annually	Project Team Lead
Project Performance (schedule and cost) Reviews	2 – 3 times per year	Project Team Lead and Members, stakeholders as needed.
ESC Project Review	As requested by the ADMS ESC.	ADMS ESC Members, Project Manager/Lead
Project Team Review	At a minimum Monthly.	Project Team Lead and Members, stakeholders as needed
Project Manager Review	Monthly	Project lead, Project Manager
CCB SCR Review	As needed	CCB members
SECB Review of new technology.	Weekly	SECB members
Customer Review	As needed	Customer and Team Members

3.4.4 Measurement Collection and Usage

For a complete description of the information needs, usage, collection and storage mechanisms, refer to 3-OMES-PRC-0058, ADMS Measurements Procedure and 3-OMES-PLN-0052, ADMS Integrated Measurement Plan. SWIHD collects the four ADMS common measures: Cost, Defects, Customer Satisfaction, and Timely Closing of Corrective Actions.

3.5   Other Project Reviews

The following sections identify other project reviews that are conducted.

3.5.1   Process and Product QA Reviews

Quality Assurance operates on a calendar year schedule, and the SWIHD project operates on a fiscal year schedule. QA reviews will be scheduled on the project's calendar, see 3-EPQA-PLN-0011 ADMS QA Plan, section 3.2.1. A completed QA PMP product review is considered QA approval.

Review Name or Title	Frequency
QA Process Audit • Project Monitoring and Controls (PMaC)	As scheduled by ADMS QA, currently Quarterly.
QA Process Audit • Configuration Management (ECFG) • Quality Assurance (EPQA)	As scheduled by ADMS QA, currently: Semi-annually for ECFG Annually for EPQA
QA Process Audit • Measurements Planning (OMES) • Measurements Implementation (OMES) • Risk Management (PRSK) • Project Planning (PLNG) • Requirements Management (DRQM) • Development Analysis and Design (DAaD) • Development Implementation (DIMP) • Development Integration and Test (DIaT) • Development Deployment (DPLY) • Validation (DVAL)	As scheduled by ADMS QA. currently: Annually
QA Product Review • Project Management Plan (PMP)	As established by ADMS Software QA. Currently annually.
QA Product Review • Requirements Specification (RS)	If the Modified Waterfall Lifecycle is utilized for a large SCR, RS review will take place during the development phase as needed.
QA Product Reviews • Configuration Management	As scheduled by ADMS QA.

Review Name or Title	Frequency
Supplement Plan (CMSP) • System Design Description (SDD) • System Test Plan (STP)	
Quality Assurance Product Reviews of other products	As defined by the project scope and schedule.

3.5.2 Formal and Technical Project Reviews

Review Name or Title	Frequency	Attendees
Requirements Review	As necessary.	Requirements Analysts, Project Lead, Customer, User groups, Sponsor
Design Review	As necessary	Architects, Customer Tech Reps
Test Review	By release.	Project Technical Lead, Customer, Sponsor
Baseline audit of production versus MKS[5]	As scheduled by ADMS CM Lead	Project CM Rep, ADMS CM Lead
Production Readiness Review	Scheduled in accordance with project activities	PRRB, Project Lead / Project Technical Lead

3.6 Resource Requirements

The following sections provide details of the staffing, facility and other resource needs for the SWIHD project.

3.6.1 Staffing Plan

The following staff resources are estimated for this project. The project staffing plan is based on need and expected availability of resources, fluctuating at different phases of the SWIHD project. Staffing will be maintained based on Task Orders and deliverables.

Resources Required During a Fiscal Year.

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[5] Trademark of Mortice Kern Systems Inc

Resource	Project Support Area	% of Effort
Management/Administration	Project Administration	4
Project/Technical Lead	Project Management	6
Quality Assurance	Reviews/Audits	4
Project Team	Daily User Support/ Development	86
	TOTAL	100

The SWIHD team will consist of the following:

- Program Manager,

  Responsible for overall resource management, budget, schedule, staffing and training related to the project scope.

- Project Lead/Manager,

  Responsible for all aspects of the design, implementation, testing and quality; directs all staff and works with Program manager to ensure that personnel are adequately trained to perform assigned functions; serves as the focal point of contact between ADMS project organization and SWIHDPMT personnel; and provides the reporting interface to Lockheed Martin management through the Program manager.

- Quality Assurance,

  Responsible for reviewing project products and processes for compliance with Lockheed Martin processes.

- Project Team (Technical Lead, Programmers),

  Responsible for the design, coding, documentation, and configuration control, testing and quality of software and deliverables; works with the user organization and project manager to design and implement project deliverables.

Staff technical resources required to continue supporting the project in O&M mode includes:

- Programmer/developers experienced with:
    - SQL Server
    - Cold Fusion
    - Microsoft .Net Tools
    - Programmer/developer familiar mobile technology
    - MKS-SI

The SWIHD project training plan provides the current training requirements and staff skills.

3.6.2 System Facilities, Software, Tools, and Equipment

Existing site database servers and user's computer workstations will be used. The software will be upgraded as necessary to maximize the use of the resources available on the Hanford site.

3.6.2.1 Server Hardware and Operating System Software

SWIHD production and development will be performed on site-standard computers and operating system. These computers will be shared with other projects to divide the costs.

NT-CSI will provide server hardware and operating system support.

3.6.2.2 Application Software

The application software primarily controls the user interface and formulates requests for data from the server. The application software along with the DBMS is responsible for administering data integrity and business rules. Application logic and algorithms are also coded in the server application software. Enforcing the business rules at the application server in this manner provides several benefits:

- streamlines the user interface
- business and application rules are administered centrally:
    - eliminates replication of proprietary business logic
    - strengthens data quality and integrity processes
    - improves data planning
    - reduces network traffic between the client and the server

3.6.2.3 Database Management System (DBMS)

Microsoft periodically withdraws support for older versions of its software; long-term support will be best assured by providing upgrades to the latest version of the software approved for use at Hanford.

3.6.2.4 Security

Access to the SWIHD system is controlled via multiple levels of security. A user must first have access to the Hanford Local Area Network (HLAN) which is controlled by

Network Securities user Id and password. The user must then have an SWIHD application user role defined to them. Once the user has access to the application, they are only allowed to perform the functions that are assigned to the specific roles they are assigned to.

3.6.2.5 System Facilities, Software, Tools, and Equipment Summary

System Facilities, Software, Equipment, Tools or other project needs	Usage	Special Considerations
Planning and Project Management		
ARM	Reporting Audit Results and Findings Resolution	Used with E-STARS
Excel[6]	Software Size Estimating	None
E-STARS	Electronic Action Tracking	None
Calendar, MS Project	Project Scheduling	None
Lockheed Martin System Change Request (SCR) Application	Document and track changes to the allocated production server (operating system, database engine) and application baseline. Document and track changes to the development server (operating system, database engine) baseline. Initiate communication with and obtain support from additional Lockheed Martin organizations	None
SWIHD System Change Request (SCR) Application	Track user requested changes, enhancements, errors and measurement data.	None
Risk Radar	Management of project risks	None

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[6] Excel is a trademark of Microsoft Corporation.

System Facilities, Software, Equipment, Tools or other project needs	Usage	Special Considerations
Task Order Management System (TOMS)	Repository for contractual financial data (allocation and used)	None
Hanford Standard Desktop	Daily operations (email, etc)	None
Product Engineering		
Site-standard computers	Client/Server Production and Development	NT-CSI will provide server hardware and operating system support
Operating system	Client/Server Production and Development	NT-CSI will provide server hardware and operating system support
SQL Server DBMS	Application development, operation and maintenance	NT-CSI will provide DBMS support
MS Access[7]	Requirement Traceability Matrix	None
MS Word[8]	Document production and maintenance	None
Windows[9] XP environment for client development tools	Software application development, operations and maintenance	None
Cold Fusion[10]	Develop and maintenance	None
Engineering Support		
MKS-SI	Software Configuration Management	None

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[7] Access is a trademark of Microsoft Corporation

[8] Word is a trademark of Microsoft Corporation.

[9] Windows is a trademark of Microsoft Corporation.

[10] Cold Fusion is a trademark of Adobe Corporation

System Facilities, Software, Equipment, Tools or other project needs	Usage	Special Considerations
Software Distribution	Used to deploy the barcode software to the desktop computer.	Via HLAN Software Distribution for download to the desktop computer.

3.6.3 Training Requirements

SWIHD is expected to operate in an environment where current skill sets are adequate to meet the needs of the system.

The SWIHD Project Training Plan (SWIHD.TrainingPlan.doc) includes the current skill level of each team member. Each team member's Individual Training Plan is maintained with any skill upgrade or other project training needed.

As updates are requested, or projected for the near term, there will be an assessment as to whether current skills are adequate to meet those needs. Training specific to those needs will be addressed at that time.

3.6.4 Travel Requirements

No travel is required for this project.

4   TECHNICAL PROCESS

4.1   Project Lifecycle Model

SWIHD is intended to replace or enhance the existing production system and will follow a modified Waterfall software life cycle model integrated into an information engineering methodology.

Information Engineering raises the focus of the project and sets a clearly defined goal and scope for the project to follow.

- Initial strategy planning of the project defines and manages project scope by setting goal and the direction for the project.
- Business area analysis drills down into what the system needs to do. This is based upon the business functions performed by the customer to achieve the goal identified during the strategy planning process.
- Systems design captures all the requirements needed to address the business functions identified by the customer. The systems design is directly

based upon the individual areas of the business which were defined during the business area analysis process.
- Development of the final solution is based upon the system design specifications collected during this process.

Figure 1 Information Engineering Model

Once the baseline set of requirements have been established additional work or modifications to the system will utilize the Operations and Maintenance (O&M) Lifecycle.

The O&M life cycle model was selected based on historic usage and the following project characteristics:

- All changes are being made against a product baseline. A production version of the product exists.
- Depending upon the scope of the changes, several Software Change Requests may be combined to create a new release.
- Changes to the system resulting from this O&M activity will result in a new baseline.
- Phases will overlap as appropriate for the changes in progress.
- The SCR module often takes the place of the requirements stage, though one may be required for additional clarification of the SCR. One major difference is in the amount of documentation required. For example, in the design phase a simple change to the existing SDD is normally required rather than a new document.
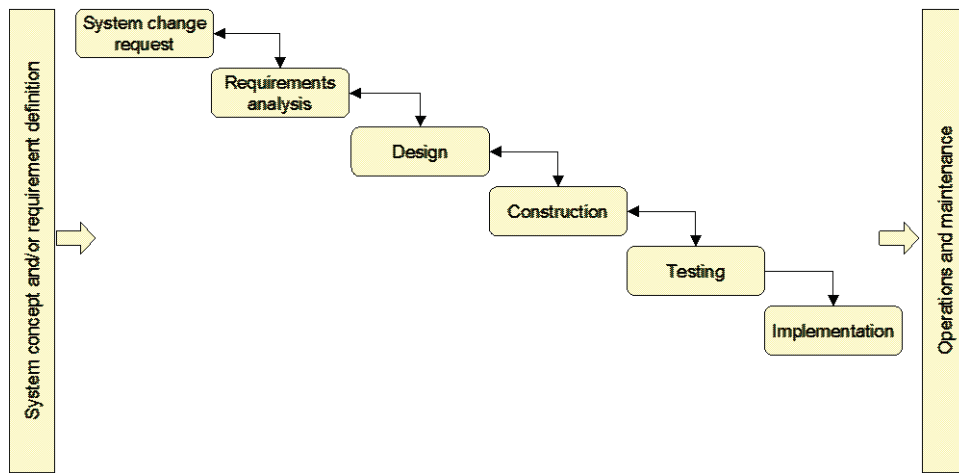
Figure 2 Operations and Maintenance Life Cycle Model

SWIHD uses an internal SCR system to capture user requirements, acceptance criteria and other necessary details for problems, enhancements and new functions. Some system changes authorized for work by the customer may require support from other Lockheed Martin groups which may initiate SCR's being placed in the Lockheed Martin SCR.

System change requests that have been completed are held and implemented in blocks when directed by the customer.

The life cycle phases and activities that will be followed in the SWIHD project for the O&M lifecycle are described in the table below.

Life Cycle Phase/Activity	Project Activity Scope	Related Process
Planning	Development of PMP and establishing project commitments and deliverables	3-PLNG-DIR-0053, *ADMS Operations and Maintenance Project Planning Process Directive*
Requirements Development and Management	Gather, refine, document, and baseline requirements. The requirements are typically captured in the SCR itself rather than requiring a separate requirements document. The *upgrades* are planned and the requirements for a system product, such as the functional and performance capabilities, are defined and documented.	3-ECFG-PRC-0034, *ADMS Product Baseline Change Procedure* Appendix A, Section 2.3

Life Cycle Phase/Activity	Project Activity Scope	Related Process
Design	Develop system architecture, components and overall design. The designs for architecture, components, interfaces, and data structures are created, documented, and verified to satisfy requirements.	3-ECFG-PRC-0034, *ADMS Product Baseline Change Procedure* Appendix A, Section 2.3
Code and Unit Test	Develop, peer review and test system components.	3-ECFG-PRC-0034, *ADMS Product Baseline Change Procedure* Appendix A, Section 2.4 3-EVER-PRC-0063, *ADMS Peer Review Procedure*
Product Integration	The integrated product is created, debugged and prepared for formal testing.	3-ECFG-PRC-0034, *ADMS Product Baseline Change Procedure* Appendix A, Section 2.5.2
Deployment	The product is integrated into an operational test environment and tested to ensure that it performs as required. If the product passes this test then the customer accepts the system and it is released to production.	3-DPLY-DIR-0105, *ADMS Production Release Process Directive* Appendix A, Section 3
Management and Engineering Support Process		
Configuration Management	Refer to Sections 4.3 and 6	3-ECFG-PLN-0006, *ADMS Configuration Management Plan*
Quality Assurance	Refer to Section 3.5.1	3-EPQA-PLN-0011, *ADMS Quality Assurance Plan*
Project Management	Refer to Section 3.4	2-PMaC-DIR-0046, *Project Monitoring & Control Process Directive*
Decision analysis and support	Release queue determination by priority - The CCB determines priority and release contents based on priority. The decisions are documented in the CCB meeting minutes and entered into the SWIHD SCR system.	3-OMES-DIR-0098, *ADMS Decision Analysis and Resolution Process Directive* Appendix A – Section 2.2.3

Life Cycle Phase/Activity	Project Activity Scope	Related Process
Decision analysis and support	Release queue determination by financial impact – SCRs may require financial estimating in order to determine course of action. A financial estimate is obtained and the CCB reviews and determines action. The decisions are documented in the CCB meeting minutes.	3-OMES-DIR-0098, *ADMS Decision Analysis and Resolution Process Directive* 3-PLNG-PRC-0044, *ADMS Technical and Cost Proposal Procedure* Appendix A – Section 2.2.3
Verification	Peer reviews will be performed on the following work products on an as updated or created basis: Project Management Plan (PMP) CM Plan Supplement Training Plan System Requirements Specification (RS) System Design Document (SDD) Conversion Plan Installation Plan Test Plan Implementation Plan User Manual Code	3-EVER-PRC-0063, *ADMS Peer Review Procedure*
Verification	System and Integration tests are performed prior to release to the customer. Acceptance criteria for each requirement is derived and documented in an SCR specific SDD prototype document.	3-ECFG-PRC-0034, *ADMS Product Baseline Change Procedure* Appendix A, Section 2.5
Verification	PRRB Review	3-ECFG-PRC-0034, *ADMS Product Baseline Change Procedure* Production Readiness Review Board Procedure, MSC-PRO-16677

Life Cycle Phase/Activity	Project Activity Scope	Related Process
Validation	Products are evaluated to determine if requirements have been satisfied and acceptable. All requirements and associated products for SCR's identified for the pending release will be validated. Acceptance criteria for each requirement is derived and documented in an SCR specific SDD prototype document, which is attached as hardcopy to the SCR.	2-DVAL-DIR-0167, *Product Validation Process Directive* Validation methods include execution of tests as documented in SCR or acceptance test plan for final acceptance testing. Appendix A, Section 2.5.3
Lessons Learned and Process Improvements	Utilized during planning and process closeout activities	3-OPEN-PRC-0020 *ADMS Lessons Learned and Process Improvement Procedure*

4.1.1 Modified Waterfall Model

The modified Waterfall model will be used when the hourly effort required to implement an SCR reaches the "large scale" size as defined in 3-ECFG-PRC-0034, *ADMS Product Baseline Change Procedure*, section 3.0 Implementation. A separate schedule will be developed for these types of efforts and this section will be updated to reflect any SCR specific requirements or processes.
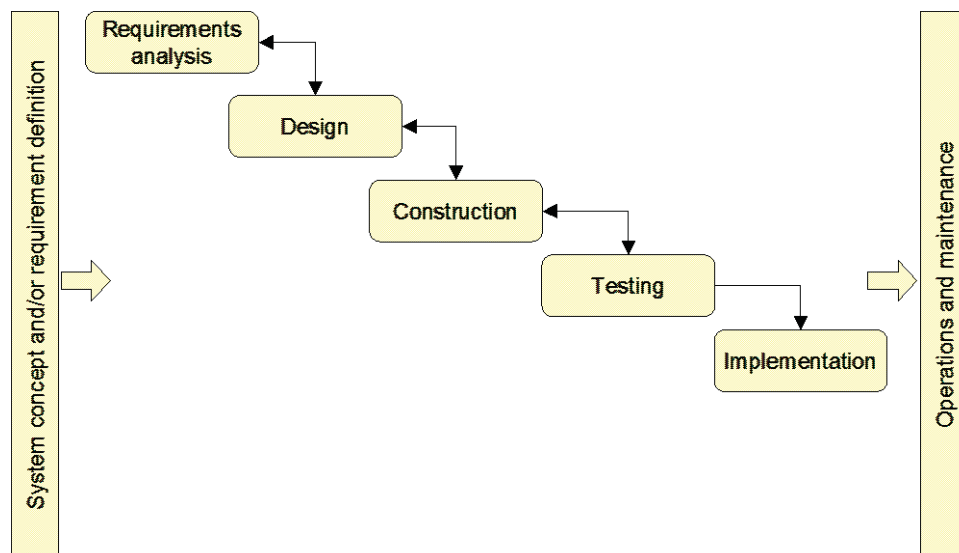
Figure 3 SWIHD Modified Waterfall Life Cycle

The following phases and activities are within the scope of the project for the modified Waterfall lifecycle model:

Life Cycle Phase/Activity	Project Activity Scope	Related Process
Planning	Development of PMP and establishing project commitments and deliverables	3-PLNG-DIR-0053, *ADMS Operations and Maintenance Project Planning Process Directive*
Requirements Development and Management	Gather, refine, document, and baseline requirements	2-DQRM-DIR-0034, Requirements Development and Management Process Directive
Design	Develop system architecture, components and overall design	2-DAaD-DIR-0058, System Design Process Directive
Code and Unit Test	Develop, peer review and test system components	2-DIMP-DIR-0059, Code and Unit Test Process Directive 3-EVER-PRC-0063, *ADMS Peer Review Procedure*
Product Integration	Integrate, system test, final acceptance test of system	2-DiaT-DIR-0074, Integration and System Test Process Directive HNF-7358, SWIHD *Test Plan*
Deployment	Deliver system to the customer environment	3-DPLY-PRC-0066, ADMS Production Release Procedure
Management and Engineering Support Process		
Configuration Management	Refer to Section 4.2	3-ECFG-PLN-0006, *ADMS Configuration Management Plan*
Quality Assurance	Refer to Section 3.5.1	3-EPQA-PLN-0011, *ADMS Quality Assurance Plan*
Project Management	Refer to Section 3.4	2-PMaC-DIR-0046, *Project Monitoring & Control Process Directive*
Decision analysis and support	As defined by the scope of the SCR	3-OMES-DIR-0098, *ADMS Decision Analysis and Resolution Process Directive* Appendix A – Section 2.2.3
Verification	Peer reviews will be performed for the work products defined within the SCR.	3-EVER-PRC-0063, *ADMS Peer Review Procedure*

Life Cycle Phase/Activity	Project Activity Scope	Related Process
	Testing activities will be defined for the scope of the SCR	
Validation	As defined by the scope of the SCR	2-DVAL-DIR-0167, *Product Validation Process Directive*
Lessons Learned and Process Improvements	Utilized during planning and process closeout activities	3-OPEN-PRC-0020 *ADMS Lessons Learned and Process Improvement Procedure*

4.2   Configuration Control

SWIHD will follow an organized approach, in accordance with IPAL directives and specifically section 2.1.1.2 of the ADMS Configuration Management Plan. Version control will be based on MKS Source Integrity (MKS-SI). Items under development will be placed under configuration management at the point that unit testing is completed. The product configuration will be managed to identify those items (including documents) to be delivered at each phase and the items that make up the finished product. Electronic copies of project documents identified as crucial to the project will also be stored in the MKS-SI tool.

Two different tools are used to handle change requests, according to whether the requested change is against the allocated baseline or is due to a user requested change in the system:

- All application changes and enhancements are tracked and controlled through the SCR systems.
  - SCR's can have the following status: New, On Hold, Modification Required, Awaiting Development, Active, Release, Done or Cancelled.
- The CCB will approve changes to requirements.

  - The CCB will review requests. The CCB will be responsible for all planning, oversight and implementation activities during maintenance and development activities. Subject matter experts will be involved in the review if it is deemed necessary. During the review, SCR's will be approved and prioritized for work.
  - When a group of SCR's have been completed and ready for release to production, an Lockheed Martin SCR will be created requesting necessary Lockheed Martin organization support for that release.
  - The program manager and the technical lead have authority to:
    - Grant MKS-SI access
    - Migrate code from development to test and to development.

4.3   Data Management

Data management will be implemented through the use of formally issued documents when appropriate and project files. Where appropriate, the documents listed in the

following table will be delivered to Hanford Document Control to be issued as formal documents. It is assumed that any team members, customers, or users can request access to all documents and data.

Please refer to 3-ECFG-PLN-0006, *ADMS Configuration Management Plan* for an explanation of "Formal" and "Informal".

Data/Record Management

Data Item	Formal/Informal	Storage Location	Collection & Update Schedule	[11]Security Level of Data	-Source- Medium / Format
Configuration Management Plan Supplemental	Formal	In PMP which is stored in MKS-SI	Review annually.	Authorized Access by HID	Electronic/MS Word
Customer & CCB Meeting Minutes	Informal	MKS-SI	As generated.	Authorized Access by HID	Electronic/MS Word
Project Presentations	Informal	MKS-SI	Per Management Request	Authorized Access by HID	Electronic/MS PowerPoint
Hanford Information System Inventory (HISI)	Informal	HISI	Every release.	Customer or contractual security procedures apply[33]	Web Application/Web Browser
Project Data Dictionary	Informal	SWIHD database	Review before each release.	Customer or contractual security procedures apply[33]	Electronic/SQL Server
Project Management Plan	Formal	MKS-SI Site Controlled Document	Upon updates.	Customer or contractual security procedures apply[33]	Electronic/MS Word
Project Measurements	Informal	ADMS Measurements repository.	Defined in ADMS Measurement Procedure (3-OMES-PRC-0058)	Authorized Access by HID	Electronic/MS Word Electronic/MS Excel Electronic/MS Project

11 Subject to customer or contractual security procedures: MSC-PRO-592 Unclassified Computer Security Control Program Management Control Process; MSC-PRO-596 Certifying Sensitive or Essential Computer Applications; MSC-RD-12439 Data and Information Management Standards

Data/Record Management

Data Item	Formal/ Informal	Storage Location	Collection & Update Schedule	[11]Security Level of Data	-Source- Medium / Format
Project Reviews (Peer, Technical)	Informal	MKS-SI, Project Files	As generated.	Authorized Access by HID	Electronic/MS Word
Project Risks	Formal	MKS-SI, Risk Radar Tool	Monthly	Authorized Access by HID	Risk Radar application
Project Schedule/ Calendar	Informal	Project Files, MKS-SI	Quarterly	Authorized Access by HID	Electronic/MS Project
Project Team Meeting Minutes	Informal	MKS-SI	As generated.	Authorized Access by HID	Electronic/MS Word
Project Training Plan	Informal	MKS-SI	As necessary.	Authorized Access by HID	Electronic/MS Word
QA Audit Reviews	Informal	QA Database	As defined in schedule.	Authorized Access by HID	Electronic/ESTARS & ARM
System Evaluations (e.g. Alternative Analysis, DARs)	Informal	MKS-SI	As generated	Authorized Access by HID	Electronic/MS Word
SWIHD Application and Source files	Informal	SWIHD Database – application Reports on application server	As received or generated.	Customer or contractual security procedures apply[33]	Application server
System Change Requests (SCRs)	Informal	SWIHD Database Lockheed Martin SCR system	As received or generated.	Authorized Access by HID	SWIHD SCR System Lockheed Martin SCR System
System Design Document (SDD)	Formal	MKS-SI Site Controlled	Updated annually Annual addition of	Customer or contractual security procedures apply[33]	Electronic/MS Word

Data/Record Management

Data Item	Formal/ Informal	Storage Location	Collection & Update Schedule	[11]Security Level of Data	-Source- Medium / Format
		Document	the SCRs completed the previous year.		
Requirements	Formal	MKS-SI SWIHD RTM db Site Controlled Document	As received or generated.	Customer or contractual security procedures apply[33]	Electronic/MS Word
System Test Plan	Formal	MKS-SI Site Controlled Document	Review before every System Test.	Customer or contractual security procedures apply[33]	Electronic/MS Word
System Test Reports	Formal	MKS-SI Site Controlled Document	Every release.	Authorized Access by HID	Electronic/MS Word
Tailoring Matrix	Informal	Project Files, MKS-SI	When updated.	Authorized Access by HID	Electronic/MS Word
Test Cases	Formal	MKS-SI	Every release.	Customer or contractual security procedures apply[33]	Electronic/MS Word
User Manual / On-Line Help Guide	Informal	MKS-SI	Annual	Customer or contractual security procedures apply[33]	Electronic/MS Word HUH web application SWIHD application
Version Description Document	Informal	HISI	Every release.	Customer or contractual security procedures apply[33]	Electronic/MS Word

5   WORK PACKAGES, SCHEDULE, AND BUDGET

This section will describe schedule, dependencies, and resources required.

SWIHD considers a work package as a bundle of items that are ready to be released to the production application. A uniform process, which supports maintenance of a high level of traceability for any changes to the application, is controlled via SCR's. A System/Software Change Request (SCR) Tracking System has been set up to track the workflow for modification and enhancements to SWIHD. All SCR's received must be presented to the CCB. The CCB accepts or rejects the SCR and establishes a priority for it. The software change must be completed, tested, approved by the submitter and other affected parties, and documented prior to being released. The release of application software is approved when the work package is complete, customer sign off has been obtained, and impacts to other systems are determined.

5.1   Dependencies

The Task Order specific Project Schedule describes the ordering of the project tasks.

5.2   Project Size Estimate and Estimation Rationale

SWIHD is in an operation and maintenance mode.   Each SCR has a preliminary estimate performed prior to customer approval to proceed. The estimate is documented in the SCR. When approval to begin work is given, a more accurate estimate is provided when additional requirements are provided.

SWIHD estimating technique is based on project experience and size of activity requested on an SCR.

5.3   Budget and Resource Allocation

MSA provides the funding for O&M development. Allocation is directed by the project lead based on the annual Statement of Work (SOW) and the Technical Response. That allocation is documented in the Task Order Management System (TOMS) used by Lockheed Martin.

5.4   Schedule

The SWIHD Change Control Board (CCB) works with the Lockheed Martin Technical Lead to determine which tasks are to be included in the releases as well as to balance workload based on contract deliverables, the urgency, and the importance of the task.

6   CONFIGURATION MANAGEMENT PLAN SUPPLEMENT

The ADMS Configuration Management Plan, 3-ECFG-PLN-0006, covers general CM practices. The SWIHD Configuration Management (CM) Supplement Plan (this section) specifies the practices used by the SWIHD team for configuration management activities as required by the organizational plan. Additional information can be found in section 4.2 *Configuration Control* and section 4.3 *Data Management.*

6.1   Baselines

Baselines of the SWIHD application will be created at defined points in the lifecycle. After development of a new release is complete, a baseline will be created and used to establish the testing environment. If no issues are found during testing, then this baseline will be presented to the PRRB and used to create the production version. If issues are found in testing, then work returns to the development environment and the cycle repeats until no issues are identified during testing that the customer is not willing to accept into production.

6.2   Configuration Identification

All configuration-controlled items are identified in the Data Management Plan. Production files are controlled via the use of MKS-SI.

6.3   Control Change Board Membership

The specific board membership may transition as the program/project moves through the lifecycle. CCB members responsibilities are to make sure that proposed changes do not impact the day-to-day operations and that those areas that are critical to the mission is given its due priority. Core CCB membership includes the following roles:

- CCB Chairperson.

  The technical lead serves as the CCB Chairperson. The chairperson directs the activities of the CCB and advises board members in their tasks. The chair has the authority for pursuing or deferring proposed changes and for implementing CCB decisions.

- Project Manager/Technical Lead

  The technical lead is responsible for ensuring that the impact of change is reflected in program/project technical planning and commitments. This includes updating the project management plan (PMP) or software engineering plan and related planning and management documents, as those work products are impacted.

- Customer Representative

  The primary customer that controls the funding source has the responsibility for ensuring that the scope of the program/project and delivery plans are consistent with planned budgets, need dates, and/or other customer determined constraints as applicable. The Customer Representative is also responsible for approving completed SCR's (i.e. Customer Acceptance Testing).

- Other Standing or Ad Hoc Members
  Other standing or ad hoc members include relevant stakeholders and other technical entities. These participants are responsible for assessing the impact of change requests relative to the program/project responsibilities of their respective organizations.

7 REFERENCES

This document was based on:

ADMS Plans

3-ECFG-PLN-0006, ADMS Configuration Management Plan
3-EPQA-PLN-0011, ADMS Quality Assurance Plan
3-OMES-PLN-0052, ADMS Integrated Measurement Plan
3-PLNG-PLN-0001, ADMS Program Management Plan
3-PRSK-PLN-0004, ADMS Risk Management Plan
3-OPEN-PRC-0020, ADMS Lessons Learned and Process Improvement Procedure.

IPAL

2-DAaD-DIR-0058, LMES&S System Design Process Directive
2-DAaD-TMP-0138, LMES&S System Design Description Standard
2-DiaT-DIR-0074, LMES&S Integration and System Test Process Directive
2-DIaT-TMP-0078, LMES&S System Test Plan Template
2-DIaT-TMP-0079, LMES&S Test Report Template
2-DIMP-DIR-0059, LMES&S Code and Unit Test Process Directive
2-DQRM-DIR-0034, LMES&S Requirements Development and Management Process Directive
2-DVAL-DIR-0167, LMES&S Product Validation Process Directive
2-OMES-DIR-0062, LMES&S Measurement and Analysis Process Directive
2-OMES-DIR-0149, LMES&S Decision Analysis Process Directive
2-PMaC-DIR-0046, ADM Project Monitoring & Controls Process Directive
3-DPLY-PRC-0066, ADMS Production Release Procedure
3-ECFG-PRC-0022, Production Readiness Review Board Procedure
3-ECFG-PRC-0034, ADMS Product Baseline Change Procedure
3-ECFG-STD-0132, Version Description Document Standard
3-EVER-PRC-0063, ADMS Peer Review Procedure
3-OMES-PRC-0058, ADMS Measurement Procedures
3-OMES-DIR-0098, ADMS Decision Analysis Resolution Process Directive
3-OPEN-STD-0085, ADMS Tailoring Matrix Standard
3-OPEN-STD-0014, ADMS Project Tailoring Matrix Standard
3-PLNG-DIR-0053, ADMS Operations and Maintenance Project Planning Process Directive
3-PLNG-PRC-0044, ADM Technical and Cost Proposal Procedure
3-PLNG-PRC-0045, ADM Project Estimating Procedure
3-PLNG-STD-0048, ADMS Project Management Plan Standard
3-PMaC-PRC-0025, ADM Escalation Procedure

Hanford

MSC-PRO-309, *Controlled Software Management*, Fluor Hanford, Richland, Washington.

MSC-PRO-311, *Functional Security Requirements/Application Development*, Fluor Hanford, Richland, Washington.

MSC-PRO-596, *Certifying Sensitive or Essential Computer Applications*, Fluor Hanford, Richland, Washington.

MSC-PRO-597, *Preparing Contingency Plans and Disaster Recovery Plans*, Fluor Hanford, Richland, Washington.

MSC-PRO-4825, *Telecommunications and Network Infrastructure Standards*, Fluor Hanford, Richland, Washington.

DOE-0351, Rev 0, *SWIHD System Requirements Specification*

DOE-0353, Rev 0, *SWIHD Software Design Description*

DOE-0354, Rev 0, *SWIHD Test Plan*

7.1   Acronyms and Definitions

- ADMS – Application Development and Maintenance Solutions (also written as AD&MS).

- ARM – Audit Resolution Module provides LMIT personnel the capability of originating, tracking and closing actions/audits. ARM interfaces with E-STARS to provide a method of routing action items from audits.

- CCB -- Change Control Board. A group of people who meet monthly to discuss SCRs, software releases, system problems and solutions, and other issues related to the operation and modification of the application. This board includes the system owner, software developers, and representatives from the user community.

- CM -- Configuration Management.

- Concurrent – A software license that allows any number of people to have software but limits the number that may be using it at one time. Contrast with "Named."

- CTS -- Customer Technical Support.

- DBMS -- see Database Management System.

- DOE – Department of Energy.

- E-STARS – The Electronic Suspense Tracking and Routing System (E-STARS) is an application that provides web-based action tracking and reporting.

- IPAL – Integrated Process Asset Library.

- LMES&S – Lockheed Martin Enterprise Solutions & Services.

- MKS-SI -- MKS Source Integrity.

- MSA – Mission Support Alliance.

- NOC -- Network Operations Center.

- NT-CSI -- Network & Telecommunications Engineering – Client, Server, and Infrastructure

- PHMS -- Project Hanford Management System.

- PRRB -- Production Readiness Review Board.

- QA – Quality Assurance.

- SDD -- Software design description. A document containing the detailed design of an information system.

- SECB -- System Engineering Control Board.

- SEPG -- Software Engineering Process Group.

- SPMP -- System Project Management Plan. The controlling document for managing a software project.

- TOMS – Task Order Management System.

- WBS -- Work Breakdown Structure.

8   CHANGE HISTORY

Date	Change Author	Change Summary