Project Management Plan

Prepared by: IRWIN Core Team

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1.0   ABOUT THIS DOCUMENT

1.1   PURPOSE

This project plan is the top-level controlling document for the IRWIN project. This project plan defines the framework in which the IRWIN project will be executed. It defines the technical and managerial processes required to complete the project and meet the requirements as defined by the wildland fire business community.

1.2   TARGET AUDIENCE

The following are the target audience of this project management plan:

- IRWIN Business Lead
- IRWIN Project Manager
- IRWIN Core Team
    - Leadership Team
    - Development Team
    - Implementation Team
- IRWIN Extended Team

1.3   RELATED DOCUMENTS

Reference materials from which this project plan has derived some of its content.
- IRWIN – Integration Specifications
- IRWIN – Release Management Plan
- IRWIN – Testing Management Plan
- IRWIN – Business Plan
- IRWIN – Communications Management Plan

1.4   KEY DEFINITIONS, ACRONYMS, AND ABBREVIATIONS

- **IRWIN** – Integrated Reporting of Wildland-Fire Information
- **IRWIN Core Team**: The project team directly responsible for operating, maintaining and developing the IRWIN application.
- **IRWIN Extended Team**: The project team(s) of the applications exchanging data through IRWIN. The term extended team is used to refer to all application project teams as a whole or to a specific team. When referring to a specific application project team, that application name is used instead of IRWIN. For example, WFDSS extended team or FireCode extended team.

REQUIREMENTS & TESTING BACKLOG

Work Products that are developed using requirements for the business or defects reported by the Core and extended teams, as well as the Wildland Fire community – are stored in backlogs for iterative revision and action. These backlogs include:

- Business
- Development

IRWIN ANNUAL PLANNING

This strategic session is held after the business identifies and documents priorities for the coming year in the annual business plan. The purpose of the annual planning session is for the IRWIN project managers to review these priorities and to translate them into actionable epics, features and requirements.

IRWIN GROOMING

The team meets regularly to "groom" the backlog. The intent of these meetings is to ensure that the backlog remains populated with items that are relevant, detailed and estimated to a degree appropriate with their priority, and in keeping with current understanding of the project or product and its objectives. The Product Owner organizes these meetings; the Business Lead and Product Owner are essential participants, with support from the Technical Lead recommended and other staff included as needed.

IRWIN RETROSPECTIVE

The purpose of the retrospective is to inspect and adapt the IRWIN work products, teamwork and methods. The Retrospective will include two components – (1) the Demonstration and (2) Review. This will be completed on the Test environment. The meeting is organized by the Scrum Master, with mandatory participation by the Core Team.

IRWIN STANDUPS

The IRWIN standups are used as part of the stabilization of IRWIN Core Team development efforts and to support extended team integration of those efforts. They will be organized by the Scrum Master, and have a cadence appropriate to deployment. Non-deployment cycles will have weekly standups, with cycles nearer deployment being daily (exact date to be determined – generally early in the calendar year). Attendance will be mandatory for the IRWIN Core Team at all stand ups, with extended teams attending deployment stand ups.

2.0   PROJECT PURPOSE AND OBJECTIVES

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The IRWIN service is an investment, intended to enable an "end-to-end" fire reporting capability. IRWIN is tasked with providing data exchange capabilities between existing applications used to manage data related to wildland fire incidents.

IRWIN's goals are (1) reduce redundant data entry, (2) identify authoritative data sources, and (3) improve the consistency, accuracy, and availability of operational data.

Historically, data were entered into many unique systems. Often, basic fire information, like location, size, environmental conditions, and resources, was repeatedly entered into stand-alone systems as a foundation for their capabilities. As conditions change over the life of an incident, more timely and accurate information was entered into operational systems, while the original, outdated data remained in the supporting systems. Users tended to query systems they are most familiar with and consequently, may not have accessed the most up to date data available.

An example is the location of a fire (latitude/longitude). A 2008 interagency efficiency report identified that an interagency dispatcher may enter this data up to 26 times in different systems. Once the dispatcher has received what is needed from each system, he/she generally does not go back and update each system when more current location information becomes available.

When questions arose about individual fires, there were often multiple answers depending upon which data source was queried for the answer. While all of the answers were valid in their specific context, there was no authoritative data source for a consistent answer. This presented a challenge for both the interagency fire community and line management at all levels of fire management agencies and departments.

Multiple studies and analysis over the years identified a need for a more integrated approach to managing wildland fire occurrence data. These analyses include but are not limited to:

- National Interagency Fire Statistics Information Project (NIFSIP), September 1998
- Fire Statistics Task Group Proposal to NWCG, August 2003
- Report of the eGov Disaster Management Task Group to the National Fire and Aviation Executive Board, March 2006
- Fire Occurrence Reporting System (FORS) Study for the National Fire and Aviation Executive Board, February 2007
- National Wildland Fire Enterprise Architecture Blueprint, Version 2.0, July 2008
- Management Efficiency Assessment of the Interagency Wildland Fire Dispatch and Related Services, August 2008

In addition to data inaccuracies, the capability to access the data and exploit it for lessons learned, planning for future events, and to inform decisions about future requirements was not readily available. The desire to execute historical analysis was a laborious process requiring considerable hours or the creation of "one off" initiatives to answer the question at hand. This

Data Integration Service capability reduces this burden by ensuring data in separate applications are linkable through the use of referential integrity of a unique ID stored in all partner applications.

Further complicating matters was the need to incorporate non-federal partners data. IRWIN assists with this requirement by providing a simplified, standard methodology and process for non-federal agencies to use to contribute data to the national wildland fire data set.

By interconnecting systems, new and updated information would automatically be available to different interagency systems. For some systems, data may be pre-populated and validated instead of manually being re-typed and updates are automatically available to all partner applications. Such a capability supports a number of needs and provide benefits throughout the wildland fire community, including:

- Allow consistent reporting of data
- Reduce duplicate entry of data
- Identify authoritative sources of data
- Speed access to data located in diverse source systems
- Increase data accuracy
- Increase the availability of data

Fire reporting is a key function of wildland fire management and can impact many processes and systems of the wildland fire enterprise, including:

- Operations
- Logistics
- Public Information
- Intelligence
- Planning
- Research

The IRWIN project is designed to align with national IT strategies, including:

- NWCG Strategic Plan Version 14, Goal 5 – Program Implementation and Delivery, September 2010
- USDA Technology Architecture Development - Architecture Guidebook, Version #1, 2010
- 25 Point Implementation Plan to Reform Federal Information Technology Management, 2010
- Department of the Interior FY 2011-2016 Strategic Plan Mission Area 1, Goal 4 by focusing on improved access to, timeliness, and accuracy of decision data

IRWIN supports wildland fire incident information collection, management, sharing, analysis, and reporting. The goals for IRWIN are to:

- Minimize redundant entry of fire incident data
- Improve the consistency of data for reporting by multiple agencies
- Provide a single point of access to timely, quality data, and
- Utilize a cloud platform that is scalable and flexible to meet current and future demands.

3.0 GENERAL ASSUMPTIONS

- The Data Integration Service is made up of the IRWIN APIs (Incident and Resource) and the suite of tools to support its operation and community understanding (Observer, Line Up, Current Wildfire Service, etc.)
- The focus of the Data Integration Service is on high-value investment opportunities (i.e. – reduction of redundant data entry, improve data quality, etc.)
- The solution development is meant to be iterative, i.e. not perfect the first time
- No implementation will be made that creates a barrier to business workflows or encourages data silo-ing
- Data Integration Service will be a trusted agent for the brokering of information between participating systems
- Data Integration Service will provide data look ups and calculations using community provided authoritative data layers so connected systems can ease computing resources
- Participating systems will make their contracted support personnel available to IRWIN staff during the discovery and development phase
- The Data Integration Service will interact with federal and non-federal applications
- IRWIN does not transform data – participating application are responsible for providing data in NWCG data standard compliant format
    - In those instances where an approved NWCG data standard does not exist, the IRWIN Core Team will submit a proposed data standard based on the most common format utilized by partner applications
- The Data Integration Service will provision data from authoritative data sources for use by other applications
- IRWIN is transactional in nature, i.e. focused on operational data, and is not a historical repository
- Data from the Integration Service will be archived at some point (to be determined) after a final fire report has been approved

4.0 EXTERNAL DEPENDENCIES AND CONSTRAINTS

- Dependencies
  - Partner applications enabling extended team member participation in the IRWIN development project
  - NWGC data standards exist for the data IRWIN will orchestrate
  - Participating applications comply with NWCG data standards
  - Support from the business community and leadership as to the value of Data Integration Services
  - The IRWIN extended teams manage their own development scope, schedule and budget within IRWIN's overall scope, schedule and budget
- Constraints
  - Environment connectivity and extended team application stability could potentially reduce response time for data exchange.
  - Fire season results in reduced availability of personnel to collaborate on development activities.
  - Readiness of extended team systems during the development and testing process to allow extended team users to participate in validating the quality of the work products.
  - Business alignment with project goals, schedules and scope,
  - As the government moves toward a more matrixed project management and business lead structure it provides a challenge for IRWIN to coordinate the business requirements gathering, development and specifically testing for effective data integration.

5.0   RESOURCE REQUIREMENTS

5.1 KEY CORE AND EXTENDED TEAM ROLES

Key Core Team Roles	Key Extended Team Roles*
Project Manager	Project Manager
Business Lead	Business Lead
Product Owner	System Administrator
Technical Lead	Database Administrator
Scrum Master	Application Administrator
Database Designer	Developer
Data Architect	Security Officer
API Developer	COR
Development Coordinator	Data Steward
Contracting Officer	
COR	
Security Officer	
Budget Analyst	
Solution Hosting Specialist	
Infrastructure Manager	
Infrastructure Lead	
Infrastructure Analyst	
Implementation Lead	
Implementation Analyst	
O&M Application Lead	

*Key roles for the extended team are relative to the IRWIN project, not to the overall management of the partner application.

5.2 SOFTWARE AND HOSTING ENVIRONMENT REQUIREMENTS

The IRWIN development utilizes commercial off-the-shelf (COTS) software wherever possible. The application is designed using SQL Server, ArcGIS Server, and ArcGIS Online.

IRWIN uses the following environments:

Table 5.1 IRWIN API Environments

Environment	Hosting Location	URL
Development	Esri	Internal
Test	Amazon Cloud – West Coast Data Center	https://irwint.doi.gov
Operational Acceptance Testing (OAT)	Amazon Cloud – West Coast Data Center	https://irwinoat.doi.gov
Production	Amazon Cloud – West Coast Data Center	https://irwin.doi.gov

Each application that partners with IRWIN for data exchange should have a corresponding environment in which to conduct development and testing activites.

6.0   PROJECT ORGANIZATIONAL STRUCTURE

The following diagrams reflect the organization structure for IRWIN Core team. Figure 6-1 displays the IRWIN Core Team primary roles and the individuals responsible for them.

Figure 6-1 - IRWIN Integrated Project Team

IRWIN Integrated Project Team

7.0   PROJECT WORK PLAN
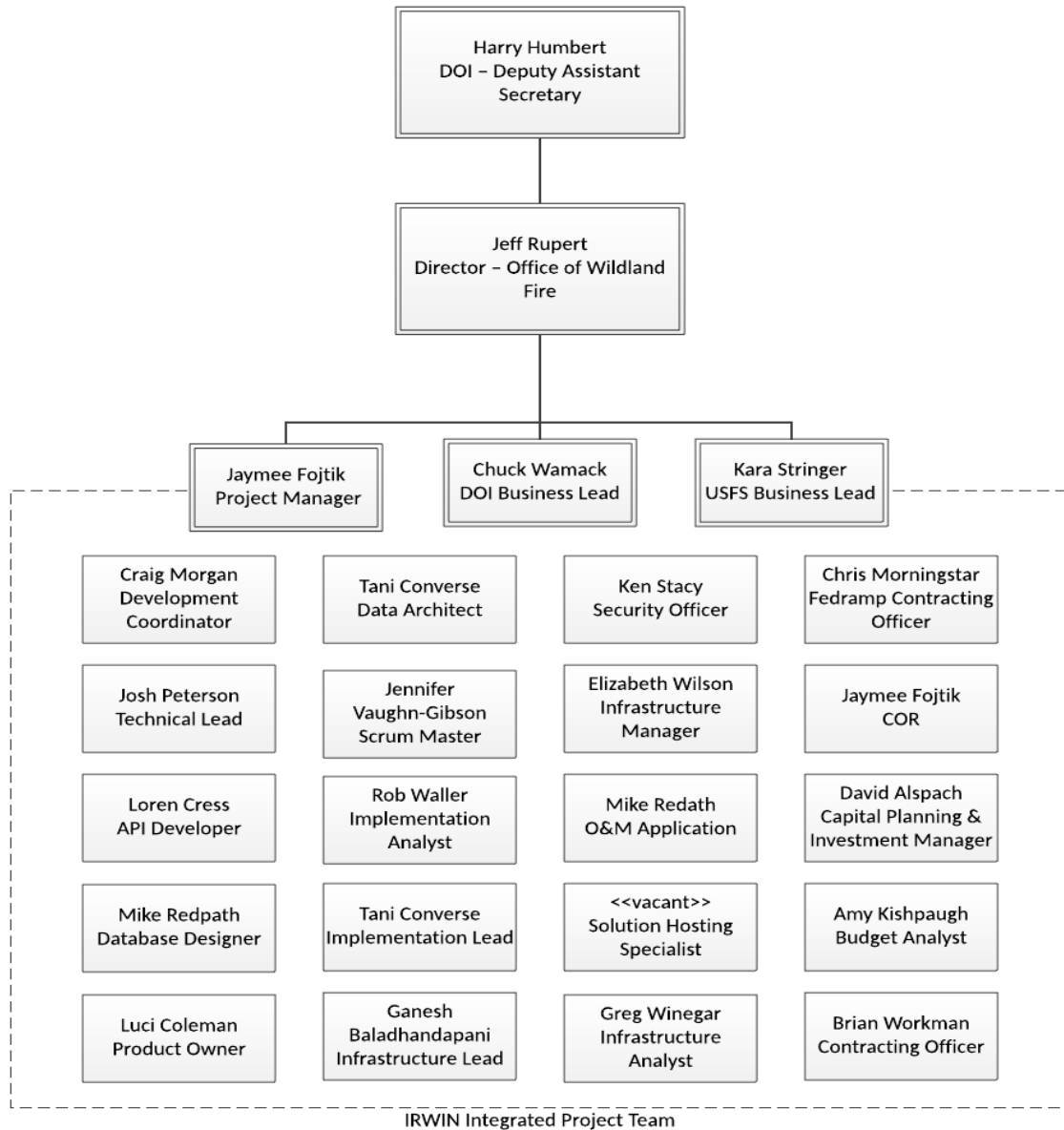
The implementation methodology was to onboard 5-6 participating applications per year.   The development of data exchange capabilities via IRWIN will be completed over two years with on-going Operations and Maintenance for the life of the IRWIN investment (through 2026).

7.1 EXTENDED TEAM COORDINATION

IRWIN will initiate discussions with an application team based on the Planned Application List and targeted schedule (See 8.1). Both project teams conduct an initial, high-level readiness assessment based on the extended team application life cycle and functional business requirements. If this readiness assessment is positive, the teams will negotiate and outline:

- Roles
- Responsibilities (Scope)
- Milestones (Schedule)
- Key contacts

The communication process and timelines are defined and scheduled as appropriate.

Because of variations in application and contract life cycles as well as business function, the activity schedule will differ between partner applications. The annual activities described below reflect a generalized grouping of activities.

7.2 DISCOVERY AND PROTOTYPING

The IRWIN Core Team will facilitate a series of face-to-face and virtual meetings with the extended team(s). These meetings will present progressive specificity in the description and cataloging of workflows, data mapping, technology and infrastructure requirements. This effort will conclude with a prototype of the data exchange activities between the two applications. Activities include:

- Identifying partner application function and capabilities related to IRWIN data exchange
- Capturing data dictionaries, technical artifacts, product information, infrastructure hosting, schematics, etc.

  - Conceptual Data Model (Word doc, PDF, etc.)
  - Data Dictionary documentation (Word doc, PDF, etc.)
  - ER diagram with entities, attributes, relationships, etc. (Visio, ER/Studio, PDF, etc.)
  - Flat file data exchange sample, if any (txt, csv, xml, json)
  - Partial or complete database backup file of Test, Dev, or Prod instance (i.e. Oracle .dmp, SQL Server .bak, .mdf, etc.)
  - General application documentation (Users guide, training materials, etc.)
  - Infrastructure description: What environments exist (Development, Test/QA, UAT, Stage/Pre-production, Production, etc.)
- Defining business rules, workflows with a series of face-to-face and virtual meetings

- Prototyping key functions and structures

Outcomes of the Discovery process will be that each extended team will produce:
- Design document
- Scoping document
- Milestones

7.3 DEVELOPMENT, TESTING & ACCEPTANCE

7.3.1 API Read Write Capability

Once extended team system modifications are complete, the extended team and Core Team will conduct a series of tests resulting in data exchange in a production environment. Activities include:

- Defining design artifacts to support mutual understanding of development activities
- Coordinating mutual access to testing environments
- Conducting and reviewing integration and user testing
    - IRWIN will complete internal acceptance testing (IAT) for each iteration's work products before notification of releasable product on the Test Environment for Extended Team functional testing
        - IAT may be based on review of automated testing
    - Integration testing will be based primarily on extended team scenarios that test the interaction between systems and workflows that focus on data transmission between those systems
    - User testing on all released work packages will be supported by the participating systems on their pre-production environment
- Production Deployment requires:
    - IRWIN Integration Specification updates
    - Defining and documenting synchronization protocols in the event of down time or system failure
- "Go Live" activities are governed by the following dependencies:
    - Participating systems have training materials and help desk staff enabled to reflect IRWIN integration
    - IRWIN has infrastructure support personnel in place
    - IRWIN business leads understand and are able to support the workflows and data flows for the extended systems
    - IRWIN support tools are updated to reflect the current capabilities and support business rules

7.3.2 Read Only Capability

It is the intent to move read only systems off the IRWIN API and onto the Current Wildfire Service.

Moving the read only systems off the IRWIN API will alleviate the need for the read only systems to reengineer or update their systems when IRWIN deploys additional releases and updates.

Additional capabilities for read only access will be captured by the implementation team and analyzed by the business as a use case in support of the community.

7.3.3 Support Tools

There are tools developed for the IRWIN community to monitor the health of system interaction, support administration, functionality and documentation. The tools (i.e. Observer, Line Up Tool, the Current Wildfire Service publication script, etc.) were developed based on the community's requirements, expressed as User Stories that are developed and the resulting work product (new features and resolved issues) are promoted from Test to OAT and eventually to the Production environment. This development cycle is dynamic (does not follow the annual release pattern of the API); testing is completed on the Test environment via review of the acceptance criteria / User Story benefit in order to gain acceptance as part of the monthly Retrospective demo's. Accepted work products are promoted to the OAT environment for subject matter expert (SME) review. Promotion to the Production environment is governed by Request For Change (RFC) and the availability of release notes and user guides.

7.4 PRODUCTION, OPERATIONS & MAINTENANCE (O&M)

7.4.1 API O&M

The IRWIN Core and Extended Teams will continue to coordinate with each other as ongoing application management may impact the partner application(s). It is anticipated that early participants in the IRWIN data exchange may be asked by the stakeholder community to make additional modifications to allow for data available from more recent additions.   If this situation arises, the extended team and Core Team will enter condensed discovery, prototype and development phases. O&M activities include:
- Maintaining each application within agreed upon Service Level Agreements (SLAs)
- Coordinating application upgrades, refreshes and/or modifications and any associated down time
- Participating in annual Integration testing

7.4.2 Support Tools
The IRWIN Core Team will support the suite of tools that provide support for O&M activities. These tools include:

- Maintaining each tool within the suite to support the agreed upon Service Level Agreement (SLA)
- Coordinating application upgrades, refreshes and/or modifications and any associated down time
- Maintaining user guides and feedback products

7.5 USER'S GUIDES AND HELP DESK FUNCTIONS

IRWIN's primary function is to orchestrate data between applications. The limited user interface primarily supports administrative and facilitation roles. The most visible effect of the IRWIN capability will be within individual applications exchanging data through IRWIN. For example, some fields may not be editable and the conflict detection and resolution processes may be different. Help desk process will be affected as support staff will need to understand what data is being exchanged and what to do if connectivity between partner applications or IRWIN is slow or down.

The following roles are anticipated for support of IRWIN O&M:

For all issue resolution the general principles are:

All partner applications will have clearly identified Points of Contact (POC) for the IRWIN Core Team to coordinate with in order to resolve issues.
-and-
Notifications will be made to stakeholders identifying the issue, if known, and indicating expected resolution timelines.

Data issue resolution:
- Tier 0 (if applicable) IRWIN Business Leads
  - 1st line of troubleshooting for issues identified by users is to loop in the applicable systems associated with the issue
- Tier 1 the applicable systems supports and resolves the issue supported by the IRWIN business leads.
  - Issues with IRWIN functionality will most likely be identified through a partner application interface, i.e. data not available or updates not reflected, etc.
  - Partner application users will:
    - Define
    - Replicate
    - Document
    - Report
  - If the help desk cannot resolve the issue or confirms that communication between a given application and IRWIN is not occurring as expected, they will elevate the help desk ticket to the IRWIN Analyst for resolution.

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- Tier 2 if necessary the IRWIN business leads contact the IRWIN implementation team technical analyst to troubleshoot and resolve the issue

Application Availability or Performance issue resolution:
- Tier 0 (if applicable) IRWIN Core Team identifies a potential issue with the infrastructure or the functionality of the API through reviews of the system health monitors
- Tier 1 the O&M teams (infrastructure and application) will coordinate to analyze the issue
    - The O&M teams will analyze the basic system health from their perspective areas of responsibility.
- Tier 2 Support (IRWIN Infrastructure Team)
    - The IRWIN Infrastructure Manager is responsible for:
    - providing diagnostic support
- Tier 2 Support (IRWIN Core Team)
    - The IRWIN O&M Application Analyst is responsible for:
        - providing diagnostic support
        - notifying partner applications of issues and expected resolution
- Timelines will be determined for response, resolution or elevation at each tier

Application Not functioning As Expected issue resolution:
- Tier 0 (if applicable) IRWIN Extended Team identifies a potential issue with the functionality of the API and notify the IRWIN Implementation Analyst
    - Tier 1 the IRWIN Implementation Analyst is responsible for:
        - Defining the issue
        - Replicating the issue
        - Documenting in the issue tracker:
            - Priority
            - Status
            - Assigned to
            - Project
            - Category
        - Reporting the issue
        - Providing diagnostic support to the issue reporting party
        - notifying partner applications of issues and expected resolution
        - Timelines will be determined for response, resolution or elevation at each tier
- Tier 2 the IRWIN Implementation Analyst will escalate the issue to the IRWIN Core Team for prioritization by the business and action from the development team

8.0   SCHEDULE AND MILESTONES

8.1 DATA INTEGRATION SERVICES PARTNER APPLICATIONS & ENGAGEMENT TIMELINES

The following applications are priorities for data exchange through the Data Integration Services. The associated dates are based on current understanding of priority and ability to integrate. These are adjusted, as needed, based on business, stakeholder and extended team input.

Table 8-1 Planned Partner Engagements for V5

System	Integration Pattern	Implementation Year	Integration Type
CAL FIRE	Incident API	2019	ReadWrite
INFORM	Incident API	2019	ReadWrite
IFTDSS	Incident API	2019	Read-Only
Integrated Resource Ordering Capability (IROC)	Incident & Resource APIs	2019/20	Read-Only
NIFC ArcGIS Online	Incident API	2019	Read-Only

8.2 IRWIN GENERAL ITERATION SCHEDULE

The IRWIN Core Team will utilize the following general development schedule:

Table 8-2 IRWIN General Iteration Schedule

Task Name	Duration
IRWIN Iteration	28-31 Days
Grooming	Ongoing
Work Product Completion / Defect Resolution	25-28 days
Retrospective / Demo	2 hours

9.0   MONITORING AND CONTROL

The project status will be monitored on a monthly basis, including project priorities re-alignment and project budget review. The project priorities will be defined in the project grooming and planning activities. The project budget will be defined through monthly invoicing and monthly project status reports.

10.0   COMMUNICATIONS PLAN

10.1   COMMUNICATIONS PROTOCOL

The communication goal of the IRWIN Project Team is to provide relevant, accurate and consistent information to the organizations at all times. Effective communication with stakeholders will encourage support and cooperation and allow the project to accomplish its goals. This communication goal will be accomplished through the following activities:

- Dissemination of information on planned project activities, progress during performance and results through the communication channels outlined in this plan are implemented to establish interagency support.
- The IRWIN Project Team maintains an open door policy to all project stakeholders. Answers to questions and responses to concerns will be addressed as quickly and completely as possible.

An IRWIN Communication Framework is established and outlines standard operating procedures for communication within the project, with management and IRWIN stakeholders.

10.2 COMMUICATION DOCUMENTS AND FREQUENCY

Effective communication is an essential component of project success. Table 10-1 below identifies the communication documents for the IRWIN project, the primary recipients of the documents, the person(s) responsible for creating and updating the documents, and the frequency of document updates.

Table 10-1. IRWIN Project Communication Matrix

Document	Recipients	Responsibilities	Update frequency
Executive status report	Executive Sponsors	Project Manager	Quarterly or as needed
Departmental Weekly Report Contribution	Department Director	Project Manager	As needed
Briefing paper(s)	IRWIN Stakeholders	Business Lead	As needed
Risk management document	Executive Sponsors, Integrated Project Team	Project Manager	Quarterly
Issue management document	Executive Sponsors, Integrated Project Team	Project Manager and Business Lead	Quarterly
Change control document	Project Manager	Change Control Board (CCB)	As needed
Project schedule	Project Team, Investment Review Boards (IRB, IRDB)	Project Manager	As needed
Project charter	Executive Sponsors, Project Team	Project Manager	As needed
Acquisition Plan	Project Team	Project Manager	Annually
Implementation plan	Project Team,	Project Manager	Beginning of each Deployment Release
IRWIN Portal/Website Updates	IRWIN Users	Project Manager	As needed

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