Application Life Cycle Charter

for

Resource Ordering/Status System (ROSS)

Project

Prepared for:

National Wildfire Coordinating Group

Approved by: s/Don Artley   6/29/98
               National Wildfire Coordinating Group Chair

I.   Business Needs and Objectives

The National interagency wildland incident dispatching and coordination organization must automate the current manual resource status and ordering business process.   This system will provide accurate and timely information that will enable wildland fire managers to provide faster response and increase the cost-effectiveness of resource mobilization and demobilization. This project includes performing a complete business and technical requirements analysis, design, build, and rollout of an application. Where possible, the project will review and utilize past work (and systems) to incorporate previous business analysis and the lessons learned. The project scope will be structured to build upon success as time and dollars allow.

II.   Background and Problem Statement

Currently there are approximately 400 interagency and agency dispatch and coordination centers nationwide that perform resource status and ordering functions, which communicate primarily over the telephone. A very small percentage of these is handled via electronic mail and facsimile.   Several independent efforts to implement an automated resource status and ordering systems, including the AROS, RESTAT, OVERSTAT and MIRPS projects have been made. To date, no system that meets the national needs of the interagency dispatch community has been successfully implemented.

III.   Proposed Solution

Utilize a complete system lifecycle approach to develop and implement an interagency resource status and ordering system application. The project will use structured methodology (CASE) to further describe the information needs and business rules of the wildland incident dispatching and coordination community as related to resource statusing and ordering. By implementing this methodology, an automated resource status, ordering, and messaging system will be developed that reduces duplication, increases efficiency, and effectively meets the needs of the interagency wildland fire community.

IV.   Risks

A.   Loss of the National Wildfire Coordination Group's (NWCG) support and funding.
B.   Failure to meet established time frames.
C.   Project cost overruns.
D.   Failure to maintain commitment of project personnel for the long term.
E.   Loss of support by dispatch community.
F.   Competition of other projects for personnel and dollars.
G.   Inexperience of project leadership and team.
H.   Complexity and size of project.

V.   Critical Success Factors

   A.   Provide progress reports on a regular basis to project stakeholders (NWCG, Agency Officials, IRM and telecommunications personnel, dispatch and coordination community, and interested parties) that outline current tasks and deliverable date estimates, project costs and benefits, testing and validation plans, training opportunities, briefing schedules, and implementation plans. These reports will be delivered through methods established in a project communications plan.

   B.   Define appropriate resource needs to ensure critical resources are available at appropriate times.

   C.   Ensure proactive communication using project time management methods.

   D.   Establish methods to resolve differences within the project team.

   E.   Provide consistant project management and oversight from skilled and experienced personnel to ensure a well managed workload.

   F.   Establish and maintain a highly reliable communications network.

   G.   Develop and implement an appropriate rollout, training, maintenance, and support methods for the customers and administrators of this application.

VI.   Estimated Costs and Benefits

   The estimated life cycle cost is $16,901,000.

VII.   Schedule

Stage	Planned Start Date	End Date
Project Initiation/Planning	04/96	09/96
Business/Technical Requirements Analysis	09/96	08/98
Design	09/98	12/98
Prototype/Validation	01/99	05/99
Document/Build	01/99	10/99
Field Training/Testing/Validation	11/99	12/00
Rollout:		
Pilot	11/99	04/00
Full Implementation	05/00	12/00
Production	12/00	12/10

LIFE CYCLE PLAN

Resource Ordering/Status System (ROSS)

I. Business Need Information

A. Sponsor

National Wildland Fire Coordination Group (NWCG).

B. Description

The ROSS Project will result in a system that provides automated support to interagency dispatch and coordination offices within the wildland fire organization. The system will: 1) provide current status of resources available to support mobilization activities; 2) enable dispatch offices to exchange and track resource order information electronically; and 3) enable dispatch offices to rapidly and reliably exchange mission-critical emergency electronic messages.

C. Business Objectives and Scope

The primary objectives of ROSS Deliverables will be to:

- Eliminate the need to manually re-enter resource orders from other dispatch offices.
- Provide "near real-time" availability of resources throughout the nation.
- Allow geographic/national coordination centers to prioritize pending resource orders.
- Provide a single user interface regardless of organizational or system-specific requirements.
- Focus development efforts on common areas of resource status and ordering.
- Share information between the cooperating offices.
- Provide accurate information to management.
- Ensure system reliability during heavy mobilization periods using metrics as an evaluation technique.
- Establish an Application Programer Interface (API) specification for external systems.
- Ensure that the delivered system can be implemented at all levels of the dispatch organization including expanded dispatch operations.
- Ensure that mission-critical emergency electronic messages are exchanged rapidly and reliably between dispatch offices.

The project scope encompasses all business functions related to the resource ordering and status process. This requires a detailed business analysis that identifies and documents (in the form of models and detail descriptions) all business processes, business rules, and data items related to the resource ordering and status business. The following functions shall be included in this project:

- Provide data input, update and delete all resource order fields.
- Assign, release, reassign, and track all resource types.
- Send, receive, and forward all resource ordering and status information between all offices with the system implemented.
- Produce an array of standardized reports useful to all levels of the interagency community. Reports that show resource utilization, status, and location will be helpful.
- Provide report writing capability to allow users the ability to produce custom reports without the use of outside support.
- Provide travel arrangement documentation and flight planning.
- Provide real-time status of resource orders.
- Provide documentation of financial information, including information required for reimbursable mobilization of resources.

The delivered system shall have the capability to status and track all tactical, logistical, service, and support resources mobilized by the wildland dispatch community. The system shall be capable of operating within a multi-tiered dispatch organization (National, Geographic Area, Zone, Local) in an expanded dispatch environment.

Dispatch business functions not within the scope of this project include:

- Compilation and distribution of situation reports.
- Designation of preparedness levels.
- Decision making processes that lead to the ordering and assigning of resources.
- All decisions/actions regarding a resource after it has been delivered to an incident.

D. Business Requirements

- System must provide resource status information in a timely basis, within five minutes of a status change event.

- System must place and receive resource orders between geographically dispersed interagency dispatch and coordination offices, at all levels within the dispatch and coordination community.

- System must reliably operate and link wildland incident dispatch offices from five federal land management agencies (USFS, NPS, BIA, BLM, FWS) and General Services Administration, Federal Emergency Management Administration, State land management organizations and other cooperators.

- System must be able to transmit, receive, store, forward, and archive generated and ad-hoc messages from all cooperating agencies with 99 percent reliability and accessability network wide, within five minutes or less (transmit to receive).

- System network must be segmented in such a manner as to provide redundant communication paths.

- System network must be designed in such a manner that network outages do not adversely affect operations in the remainder of the network.

E. Benefits and Beneficiaries

The ROSS application will provide the incident dispatch community with a critical decision support and resource order processing tool. The application will benefit users in the following ways:

- Eliminate the need to manually re-enter resource orders from offices other than the offices where the data originates.

- Provide "near real-time" availability of resource throughout the nation.

- Allow geographic and national coordination centers to prioritize pending resource orders and the pre-positioning of resources.

- Provide a single user interface regardless of organizational membership or computer system used.

- Share information between offices.

- Provide timely and accurate information to management.

Beneficiaries of the ROSS system include wildland incident dispatch offices from five federal land management agencies (USFS, NPS, BIA, BLM, FWS) and states, General Services Administration, Federal Emergency Management Administration, State land management organizations and other cooperators.

F.   Security Requirements

The information collected by ROSS is public information and is not classified as sensitive. However, users must have a valid system logon and password to use the application.

Data will be periodically archived and stored using normal system operational backup and security procedures. Disaster recovery procedures will be developed and implemented.

G.   Relationship to other initiatives

1. Agency -

    FS
    The Forest Service will implement a new qualifications system (REDCARD) that will reside on the corporate platform. Data from this system will be exchanged with the ROSS application.

    BLM, BIA, FWS, NPS

    None identified.

2. Departmental -
    None identified.

3. Multi-agency -
    The National Association of State Foresters is currently developing the Incident Qualifications System which is functionally equivalent to the Forest Service REDCARD application. Data from this system will be exchanged with the ROSS application.

    The Department of Interior wildland agencies (NPS, FWS, BIA, BLM) currently maintain a Qualifications System, which is functionally equivalent to the Forest Service REDCARD application. Data from this system will be exchanged with the ROSS application.

    The Forest Service is currently developing the next revision of the National Automated Cache System. This new version is an Y2K compliant interagency replacement. The system is called ICBS (Interagency Cache Business System). Data from this system will be exchanged with the ROSS application.

H.   Performance Measures

1. Input: Funding.
               FTEs.

2. Output: Time for processing and posting status, orders and messages.

Number of resource orders process correctly.

3. Outcome: More efficient, reliable and accurate resource ordering, statusing and messaging.

I.   Application Risks

- Loss of the National Wildfire Coordination Group's (NWCG) support and funding.

- Failure to meet established time frames.

- Project cost overruns.

- Failure to maintain commitment of project personnel for the long term.

- Loss of support by dispatch community.

- Other projects competing for personnel and dollars.

- Inexperience of project leadership and team.

- Project complexity and size.

J.   Critical Success Factors

- Provide progress reports on a regular basis to project stakeholders (NWCG, Agency Officials, IRM and telecommunications personnel, dispatch and coordination community, and interested parties) to outline current tasks and deliverable date estimates, project costs and benefits, testing and validation plans, training opportunities, briefing schedules and implementation plans. These reports will be delivered through methods established in a project communications plan.

- Define appropriate resource needs to ensure critical resources are available at appropriate times.

- Ensure proactive communication using project time management methods.

- Establish methods to resolve differences within the project team.

- Provide consistant project management and oversight from skilled and experienced personnel to ensure a well managed workload.

- Establish and maintain a highly reliable network.

- Develop and implement appropriate rollout, training, maintenance and support methods for the customers and administrators of this application.

II.   Information Architecture

A.   Information Components

Develop or purchase an automated system to provide access to interagency resource information and the ability to manipulate and distribute the data between cooperating agencies. This application implements a portion of the ``protection'' focus area FS Enterprise model.  ROSS supports the ``Interagency Resource,`` ``Order Resource,'' ``Assign Resource,`` and ''Release Resource`` in the ''Protection and Use`` Major Information Area. ROSS also implements the ``Implementation Response'' Business Event in the NWCG Wildland Fire Business Model.

B.   Hardware Requirements

- Mission Critical.
- Hardware availability seven days a week, 24 hours a day with 99 percent reliability.

C.   Software Requirements

- Commercial Off The Shelf (COTS) will be used where appropriate and feasible.

D.   Telecommunications Requirements

- Network connection compatible with a wide range of access protocols.
- Dial-in access.
- Intermittent or on-demand access.
- System must be able to transmit, receive, store, forward and archive generated and ad-hoc messages from all cooperating agencies with 99 percent reliability and accessability network-wide within five minutes or less (transmit to receive).
- System network must be segmented in such a manner as to provide redundant communication paths.
- System network must be designed in such a manner that network outages do not adversely affect operations in the remainder of the network.

E.   Department Computer Center Requirements

Department computer systems (USDA and DOI) will be evaluated as a potential host for the central site portions of the ROSS database and/or application.

III.   Phases

A.   Milestones

Stage	Planned Start Date	End Date
Project Initiation/Planning	04/96	09/96
Business/Technical Requirements Analysis	09/96	08/98
Design	09/98	12/98
Prototype/Validation	01/99	05/99
Document/Build	01/99	10/99
Field Training/Testing/Validation	11/99	12/00
Rollout:		
Pilot	11/99	04/00
Full Implementation	05/00	12/00
Production	12/00	12/10

B.   Methods

Where applicable, the Forest Service CASE* Methodology or NWCG approved CASE* Methodology will be used in design and development.

The project will, where possible, utilize project management standards as established by the Project Management Institute (PMI) Standards Committee and documented in the publication titled, ``A Guide to the Project Management Body of Knowledge.``

The Software Approval Distribution Process (SADP) will be followed and involve IRM staff from the interagency F&AM community throughout the life cycle.

Periodic progress reviews will be conducted by representatives from the NWCG and specific agency personnel.

C. Deliverables by Phase

1. Project Initiation/Planning: A work planning document that includes the following items related to the ROSS project:

   - Project Description
   - Current Environment
   - Project Intent
   - Project Objectives
   - Project Scope
   - Project Phases
   - Project Resources Required
   - Funding Required.

   This document shall be titled, ``Resource Ordering and Status System Project Work Plan'' and shall be submitted by the ROSS Project Team Leader and Project Manager. It shall be approved by the NWCG. The document shall be considered a living document, subject to period update and review.

2. Business and Technical Requirement Analysis: Life Cycle Plan, Life Cycle Charter, Request for Technical Approval and Benefit Cost Analysis documents are produced. Definition of business and technical requirements are documented.

   An updated copy of the "Resource Ordering and Status System Project Work Plan" showing alternatives developed and the recommended alternative shall be produced.

3. Design: In the *Design Phase*, relational data, interface, and transaction models are developed and documented; and technical, site, network, training alternatives, and system support and administration requirements are defined. Change management procedures are implemented in this phase.

4. Prototype and Validation: In the *Prototype and Validation Phase*, screen prototypes are developed based on the data items documented in the Interface Model and the functional opportunities discovered in the similar applications (such as MIRPS). Prototyping will be an interactive process with the user community to achieve the maximum validation possible. Deliverable acceptance criteria and contract specifications are determined.

5. Document and Build: During the *Document and Build Phase*, the ROSS application and database are built using the design specifications detailed in the Design Phase. Application screens are built using information gathered during the Prototype and Validation Phase. Application components are tested under average and maximum stress conditions using pre-defined scenarios that depict known conditions. System documentation is developed.

6. Field Training, Testing and Validation: The *Field Training, Testing and Validation Phase* provides training materials and opportunities to all potential users, system and support personnel (with the highest priority being test sites), system installation, and validation. This phase utilizes real-time operations and provides the first real exposure of the ROSS application to field units participating in the live (beta) test. System documentation is validated. This phase marks the early stages of the Rollout Phase of the ROSS application.

7. Rollout: During the *Rollout Phase*, sites are prepared and the system is installed. This phase occurs in two parts. First, the pilot rollout includes the installation at the National Interagency Fire Center and all dispatch offices in two adjacent geographic areas. The second part completes the full implementation of the ROSS application at all levels.

8. Production: The *Production Phase* includes the day-to-day maintenance and operation of the ROSS application, networks, and supporting hardware. Ongoing user and support training will continue through this phase. Planning begins for the iteration of ROSS development.

IV.   Resources

A.   Estimated Cost (in thousands) by Fiscal Year

FY97	Project Planning/Management/Administration	$ 75
	Business and Technical Requirements Analysis	146
		$ 221
FY98	Project Planning/Management/Administration	$ 150
	Business and Technical Requirements Analysis	250
	Contract Preparation	75
	Design Preparation	135
		$ 610

FY99	Project Planning/Management/Administration	$ 610
	Application / Database Design	500
	Application Prototype / Validation	1000
	Application Build	2500
	Host System Use and Maintenance	250
	Equipment/Telecommunication	150
	Software	20
	Training	420
	Training Materials Development	600
		$ 6050

FY00	Project Planning/Management/Administration	$ 400
	Application Build	600
	Application Testing / Validation	600
	Field and Administrative Training	800
	Help Desk Training and Start-up	400
	Rollout	600
		$ 3400

FY01	Project Planning/Management/Administration	$ 150
	Field and Administrative Training	700
	Rollout	200
	System Maintenance	695
		$ 1745

FY02	Project Planning/Management/Administration	$ 100
	Field and Administrative Training	250
	Rollout	75
	System Maintenance	670
		$ 1095

FY03 through FY06 (per year costs)

	Project Planning/Management/Administration	$ 60
	Field and Administrative Training	50
	System Maintenance and Operations	835
		$ 945

B.   Estimated Project FTE Requirements (internal - does not include contract FTE or other Agency contributions)

FY97	Project Planning/Management/Administration	1.0
	Business and Technical Requirements Analysis	2.0
		3.0
FY98	Project Planning/Management/Administration	1.0
	Business and Technical Requirements Analysis	1.0
	Contract Preparation	.5
	Design Preparation	.5
		3.0
FY99	Project Planning/Management/Administration	2.0
	Application / Database Design	6.0
	Application Prototype / Validation	6.0
	Application Build	12.0
	Training Materials Development	4.0
		30.0
FY00	Project Planning/Management/Administration	2.0
	Application Build	3.0
	Application Testing / Validation	4.0
	Field and Administrative Training	6.0
	Help Desk Training and Start-up	4.0
	Rollout	2.0
		21.0
FY01	Project Planning/Management/Administration	1.0
	Field and Administrative Training	6.0
	Rollout	2.0
	System Maintenance	2.0
		11.0
FY02	Project Planning/Management/Administration	.5
	Field and Administrative Training	2.0
	Rollout	1.0
	System Maintenance	2.5
		6.0

FY03 through FY06 (per year costs)

Project Planning/Management/Administration	.25
Field and Administrative Training	.25
System Maintenance	5.50
	6.00

V.　References

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