



Quarterly Status Report

Fire Program Analysis – Preparedness Module (PM)

For Reporting Period: April 1, 2004 through June 30, 2004

Scope and Status

The project is designing and developing an automated system for wildland fire preparedness resource planning and budgeting to replace the systems currently in use by the five federal wildland fire management agencies.

- The FPA-PM system will display how well the cost effective initial attack organizations in meet fire management objectives.
- The FPA-PM system will use an optimization approach to maximize effectiveness for a range of cost levels.

The FPA project remains on track for implementation in October 2004. Throughout the past quarter, the FPA Core Team continued to identify and resolve ongoing and emerging issues. To manage scope, the FPA project is being administered under strict configuration and change control.

As of June 30, the FPA Configuration Control Board (CCB) has analyzed 59 Program Change Requests (PCR). Many of these were normal refinements of business and system requirements and represent nominal effort, e.g., “change terminology from ‘unconstrained run’ to ‘budget submission analysis’ ”. A few PCRs represent an extension of the scope of the project and will require additional effort. A few notable PCRs that the CCB has approved for inclusion in FPA-PM include:

- Include wildland fire use in the optimization model
- Formulate and allocate national preparedness budgets based on an optimization approach

Key Tasks, Milestones and Accomplishments

FPA Release Strategy and Time Line

- October 1, 2004 - FPA-PM available to support development and submission of the FY-2007 preparedness budget submission.
- October 1, 2004 - FPA-PM v1.0 released. Version 1.0 will include the baseline functionality.
- December 15, 2004 - Release 1.1. This release adds wildland fire use, fire management unit objectives and post-optimization rules and thresholds.
- February 1, 2005 – Release 1.2 will complete the national database and the budget formulation and allocation tools.

FPA Implementation Coordination Group (ICG) – Group members attended individual Geographic Area FPA Task Group meetings to gather and share information. An additional six geographic area briefings were developed for the field to help them prepare to implement FPA PM. Sue Weber has joined the ICG as the full-time Forest Service representative.

Training – Training is the next critical effort for a successful implementation. The FPA Implementation Team has completed the FPA [training strategy](#). The team continues to work with IBM to develop training materials, identify users and schedule training sessions. Brian Eldredge has joined the FPA Team as the Training Specialist. He is coordinating training development and delivery for FPA users. **Note:** Historic analysis training is being scheduled for September through October. FPA PM System training is being planned for October through January.

Historic Analysis – The pre-processing of historic fire occurrence and weather data is a key component to developing the fire scenarios that will be analyzed by the FPA system. The development of fire scenarios is being conducted through modifications to the existing PCHA application. The beta test of PCHA will be delivered mid-July and final delivery of the updated software is scheduled for mid-September.

A Quality Control and Assurance process will be applied to the federal agencies fire weather observations to scrub the records of erroneous data and to fill gaps with missing data. This effort will be completed in cooperation with the Desert Research Institute. AGRID weather database process has been developed by Dr. Scott Goodrick of the U.S. Forest Service's Southern Research Station.

User Interface - FPA successfully conducted the first (alpha) test of the user interface on June 17. IBM demonstrated 140 of the 170 user interface screens for FPA. The user interface includes basic GIS processing to provide geospatial context to the analysis. This was the first view of the nearly complete FPA system and included user inputs, optimization processing and a few reports. The beta test will be conducted the week of July 12 and incorporates issues raised in June.

Optimization Model Performance Issues – May 2004 – A substantial challenge regarding the Central Oregon Prototype was discovered. The “All Resources” run generated 3.6 MILLION 0/1 integer variables. This large size of the variables crashed the optimization model because it ran out of memory. The IBM Watson Research Center working with the FPA team developed a reformulated model which reduced 0/1 integer variables to 600,000. Since many of the 0/1 integer variables were replaced with real numbers, the reformulation increased the model's precision and resolved the memory problem. The reformulated optimization was then tested on a very large model successfully. Testing and fine tuning continues.

Developing Weights – A systematic method for creating FPA weights has been developed by Dr. Doug Rideout, Forest Economist at Colorado State University. The process elicits the relative importance of a set of Fire Management Unit (FMU) attributes from fire

planners. Based on the relative amounts of these attributes associated with each FMU, Dr. Rideout can develop the relative weights for each FMU. This process results in a non-monetized means of discerning differences between FMUs. The weighting process has been successfully tested on three of the FPA Prototype Areas.

Wildland Fire Use – Dr. Doug Rideout, Forest Economist at Colorado State University has developed a process for including wildland fire use (WFU) in the optimization model. Initial sessions to develop workload estimates for WFU have resulted in strong correlation of a complexity rating that had been assigned to historic WFU fires and fire resource usage.

CPIC Status – The FPA-PM is in the control phase of the CPIC (Capital Planning and Investment Control) process. The latest FPA Exhibit 300 received the highest score of all the major Forest Service IRM investments. The FPA Exhibit 300 received a score of 42 (out of 50) from OMB to garner an overall score of 5 (of 5). The FPA Team has developed this year's Exhibit 300 which will be submitted to OMB in September. While refinements to the Exhibit 300 continue, preliminary scoring of this year's Exhibit 300 was favorable.

Certification & Accreditation (C&A) Status - The FPA Team is continuing Phase I (Pre-Certification and System Security Planning) of the C&A process and now has the services of the USFS contractor, Titan.

Decision Made on Host Site for FPA – The FPA team and the Interagency System Management Organizations made the decision to host the primary FPA servers at the National Information Technology Center (NITC) in Kansas City. The primary system hardware and software is being acquired. The secondary system will be used for training, testing, backup and maintenance and will be hosted by BLM at the National Interagency Fire Center (NIFC) in Boise. The secondary system is in place at IBM Boulder.

Reports Task - Was initiated on January 8, 2004. Use cases' describing the required reports has been completed and some reports have been developed.

Documentation – Milestones for producing draft documentation and review of draft documentation are being met. The FPA team continues to work with IBM to review and refine the system documentation. Additionally, the FPA Implementation Team continues work on the Reference Guide including contracting for a technical writer to finalize the guide.

Data Migration – The task order with IBM included developing data migration routines to move relevant data from legacy systems (IIAA, FirePro and FireBase), to FPA. After further analysis, data from these systems directly relevant to FPA is minimal. Subsequently, this task was suspended and the remaining effort was redirected to other tasks.

Communications - Venetia Gempler has joined the FPA core team as the project's Communication Director. She can be reached at 208-947-3786 or her e-mail address is: venetia_gempler@blm.gov.

Key Events

Interagency Budget Meeting, April 13, Washington, DC
DOI Leadership, April 13, Washington, DC
OMB, April 14, Washington, DC
Congressional Appropriations Committee, April 15
BLM Fire Leadership Team, 4/21/04 in Glenwood Springs.
Fire Economics Conference, April 21, Cordoba, Spain.
Fire Directors, June 15

Schedule & Budget Performance

FY 2004 FPA Project Funding	\$4,914,000
Carryover funding from previous FY's	\$1,305,423
FY 2004 FPA Obligations through 6/30/2004	\$6,006,808

Explanation of Variance against the OMB Baseline

07. Program Management – Program management costs have been higher than planned. Reasons for this variance include:

- The project has hired a communications director (\$68,000)
- Project manager costs used to be accounted for as agency contributed cost. Now they are correctly accounted for as direct project costs. (\$169,000)
- Office support costs were higher than planned for. (\$174,000)

08. Optimization Model – The optimization model required reformulation. This required an additional \$395,000 to develop and test the reformulated optimization model. This issue also caused the completion date for the optimization model to be pushed back.

06. Security Planning, 10. Updated Security Planning and 11. Certification & Accreditation - Security planning and C&A is being funded by the Forest Service IRM staff through an agency wide task order with Titan, Inc. Additionally, the FPA security planning and C&A is being managed at the Forest Service, Fire & Aviation Information System Project Office (ISPO) in Denver. This has resulted in significant synergy between all the projects managed by the ISPO and a reduced cost to address security and C&A.

12. User Interface – The beta test for the user interface was held on schedule on July 12-15. This task remains open to address software problem reports and subsequent “point” releases.

14. National Database – The task order for the national database was initiated 5/12/04 due to funds availability issues. The scope of the national database task has been extended to include an optimization approach to formulating outyear budgets. This task will still be completed in time to formulate the FY'07 outyear budget request for preparedness.

15. Field Data Development – The project has not had to contribute directly to field data development to the extent planned.

16. Develop Policy and Procedures – The project has had to retain a technical writer to complete the Business Reference Guide. (\$50,000)

17. Beta Testing – Planning for the beta testing included costs for hardware and software. The hardware and software ended up costing much less than expected.

20. Data Migration – Planning for data migration included costs hardware and software. The hardware and software were not needed specifically for this task and these costs were absorbed by the beta test and implementation tasks.

Overall Status – The cost overruns and underruns have balanced to result in a total cost variance of around 1% for all milestones included in the development (not including Operations & Maintenance).

I.H.4 Actual Performance and Variance from OMB approved baseline (as of June 30, 2004):

Description	OMB Approved Baseline				Actual				Delta Over/ (Under)	Cost Variance %
	Schedule		Duration	Planned Cost (BCWS)	Schedule		% Complete	Obligated		
	Start Date	End Date	Days		Start Date	End Date				
01. Project Initiation	5/15/2002	6/30/2002	229	\$ 115,000	5/15/02	6/30/2002	100%	\$ 115,000	\$ -	0%
02. Develop Initial Architecture	5/15/2002	12/30/2002	303	\$ 160,776	5/15/02	12/30/2002	100%	\$ 160,776	\$ -	0%
03. Technical Approval & Contract Prep	6/15/2002	4/14/2003	321	\$ 150,000	6/15/02	4/14/2003	100%	\$ 150,000	\$ -	0%
04. Contract Award	6/15/2002	5/2/2003	288	\$ 43,386	10/15/02	5/2/2003	100%	\$ 43,386	\$ -	0%
05. Requirements Specifications	9/15/2002	6/30/2003	84	\$ 1,004,024	9/20/02	6/30/2003	100%	\$ 1,078,709	\$ 74,685	7%
06. Security Planning	5/7/2003	12/31/2003	0	\$ 156,024	8/1/02	8/20/2003	100%	\$ 106,024	\$ (50,000)	-32%
07. Program Management	1/1/2003	5/6/2005	253	\$ 489,310	5/2/03	-	LOE	\$ 924,612	\$ 435,302	89%
08. Task 6 - Iteration 1 - Optimization Model	7/7/2003	3/16/2004	295	\$ 1,872,667	7/7/03		95%	\$ 2,267,667	\$ 395,000	21%
09. Implementation of Work Lenz	8/1/2003	6/1/2004	129	\$ 10,000	1/1/04	6/1/2004	100%	\$ 10,000	\$ -	0%
10. Updated Security Planning	6/1/2004	10/7/2004	0	\$ 150,000	3/1/04		80%	\$ 20,000	\$ (130,000)	-87%
11. Certification and Accreditation of FPA-P	7/1/2003	9/30/2004	301	\$ 200,000	1/15/04		50%	\$ 15,000	\$ (185,000)	-93%
12. Task 7 - Iteration 2 - User Interface	9/15/2003	7/12/2004	309	\$ 1,707,019	9/15/04		80%	\$ 1,707,019	\$ -	0%
13. Task 8 - Iteration 3 - Reports & Outputs	12/16/2003	10/20/2004	265	\$ 1,416,724	1/8/04		35%	\$ 1,416,724	\$ -	0%
14. Task 9 - Iteration 4 - National Database	3/4/2004	11/24/2004	458	\$ 345,873			5%	\$ 345,873	\$ -	0%
15. Field Data Development	6/30/2003	9/30/2004	924	\$ 150,000	6/10/03	-	20%	\$ 36,200	\$ (113,800)	-76%
16. Develop Policy & Procedures	8/1/2002	2/1/2005	223	\$ 80,839	8/1/02	-	35%	\$ 130,839	\$ 50,000	62%
17. Beta Testing	6/3/2004	1/12/2005	280	\$ 1,640,446	5/12/04	-	60%	\$ 1,092,979	\$ (547,467)	-33%
18. Release	6/30/2004	4/6/2005	259	\$ 192,791	4/8/04	-	-	\$ 192,791	\$ -	0%
19. Training	5/25/2004	2/8/2005	490	\$ 201,653	4/8/04	-	30%	\$ 201,653	\$ -	0%
20. Data Migration	6/30/2003	11/1/2004	273	\$ 210,767	2/15/04	-	30%	\$ 160,767	\$ (50,000)	-24%
21. Implementation	8/1/2004	5/1/2005	1095	\$ 382,699	1/15/04	-	30%	\$ 387,250	\$ 4,551	1%
22. Operations and Maintenance	9/30/2004	9/30/2007	0	\$ 1,200,000	-	-	-			
PROJECT TOTAL:	5/15/2002	9/30/2004	869	\$ 11,879,998	Total Task 1-21			\$ 10,563,269	\$ (116,729)	-1.0%