

Safety System Group Project Management Initiative

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Outline

- Introduction
- Project Description Worksheet
- Project Scoring
- Projects
- Status
- Conclusions



Introduction

- In December 2003 the SSG undertook an initiative to systematically capture, evaluate, and prioritize present and future projects.
- Objectives:
 - Capture all projects
 - Big and Small
 - Internal and External Customers
 - Short and Long Term
 - Develop a tool to rank projects while fostering a consensus based priority system.
 - Develop a means to communicate project priority, scope, and deliverables to all levels.
 - All group members should be able to communicate the project basics to interested parties.
 - Be able to align projects with Lab and SSG missions.
 - Incorporate professional development in the planning.



Introduction

- Over 75 potential projects were identified.
- The ensuing process reduced the number down to less than 60 projects. 15+ were deleted by consensus.
- The most important/urgent were addressed.
- Two planning tools were developed:
 - Project and Deliverables Worksheet
 - Project Score Sheet



Project and Deliverables Sheet

- One page description of project
- Includes
 - Lead
 - Resources
 - Resources approved ahead of time (e.g. labor, out of group labor, procured services,...)
 - Problem to be solved
 - Description
 - Deliverables
 - Labor/Cost/Expenses Wrap up



Example Project Description

Kicker System Upgrade

Lead: K. Mahoney

Resources: SSG, Cryo, EES, CASA, Controls Software, Procured Services.

Problem to be Solved:

The beam kicker system is not fast enough on it's own to completely shut off the beam in less than 10 us as required by the machine protection system.

The present kicker lacks significant self test and status feedback to the user.

Description: Upgrade the PSS Kicker system to be compatible with requirements of both the PSS BCM and the FSD systems. Upgrade functionality and testability to allow better diagnostics and reliability.

Deliverables:

- Reliable and highly available upgraded kicker system capable of removing the beam from the injector in less than 10 us after a shut down signal is detected.
- System Specification Document
- New Kicker Magnets or other deflection device
- Control Electronics
- Machine Spares
- Training Material
- Documentation
- EPICS SW applications
- Completed and Documented Commissioning Material
- PSS Level QA
- Design Review
- Development, Test, and Repair Support Infrastructure
- Conference Paper

Labor: 1.5 FTE

Purchased Items: \$12k

Expenses: \$2k



Project Score Sheet

Based on Covey Importance/Urgency matrix

- Considers Customer, Supplier, Ownership
- Grades project against Group and Lab mission
- Key factors:
 - Function (Safety, Availability, Capability, ...)
 - Customer/Owner
 - Importance to Advancement of Lab Mission
 - Importance to Advancement of Group Mission
 - Potential for Professional Growth
 - Urgency
- Group leadership meets to form consensus
- A 'Living' process

	URGENT	NOT URGENT
IMPORTANT	I	II
NOT IMPORTANT	III	IV

Covey Matrix
Goal is to work in
Quadrant II



Project Introduction

Item	Description	Function	Driver	Ownership
		training, documentation, infrastructure, capability, availability, safety	Internal/External	Internal/External
1	Kicker Redesign	s	e	i
2	RF Quick Recovery	a	e	i
3	PSS Handbook Update	d	e	i



Mission Consensus

Importance							
Lab Mission KM	Lab Mission HR	Lab Mission DC	Lab Mission Consensus	Group Mission – KM	Group Mission – HR	Group Mission -DC	Group Mission Consensus
5	5	5	15	5	5	5	15
4	4	3	11	4	4	3	11
4	4	4	12	4	4	4	12



Professional Growth/Urgency

Professional Growth			Total Growth	Urgency
Management	Engineer	Technician		
3	4	4	11	5
3	4	3	10	1
2	2	2	6	2



Final Score and Assignment

Importance Score	Total	Description	Lead Priority	Lead
41	46	Kicker Redesign	1	Mahoney
32	33	RF Quick Recovery	1	Curry
30	32	PSS Handbook Update	Support	Robertson



Final Wrap Up

- Group priorities are in descending order.
- Each project is assigned a leader.
 - Leader can be anyone from Group Leader to student intern.
- Individual priorities are assigned to each lead, i.e. each person in the group has a priority 1,2,3..project.
- When the SSG acts in a supporting role, “Support” is written in the individual priority column. In that case, the lead is the designated liaison between the SSG and the project owner.
- Lead determines resources, labor, and cost.
- Wrap up gives %FTE spent on each project as well as wrap up for entire group.
- Priorities are assigned up to the point where available resources are spent – no more than 75% of any FTE.
- No more projects are assigned until higher priority projects are complete as per the “Deliverables” section of the project description.
- As projects are completed, list is updated and resorted.
- Urgency is updated monthly and list resorted.



SSG Priority Projects as of 4/23/04

1. Kicker System Upgrade
2. RF Quick Recovery System
3. PSS User Handbook update
4. Emergency Power Loop
5. 12 GeV Upgrade Safety Systems
6. Separate NL/Injector Operations
7. VME FSD Master
8. ODH System Upgrade
9. Hall A Speaker R&D
10. MCC Upgrade (PSS Section)
11. VME FSD
12. FSD Documentation
14. ODH Documentation
15. SSO Training
16. External Box Supply Cut Off
17. VME BLM
18. VME Test Stand
19. FSD IOC Separation
20. BLM IOC Separation
21. BCM Spares
22. CAMAC Test Stand
23. VTA Prod Interface
24. Rack Fan AC Wiring
25. UPS Network

Note 1: Projects are listed in order of SSG group priority.

Note 2: Only projects assigned a Lead and have a Lead Priority are shown.



Status

- The descriptions and score sheet have gone through the second iteration.
- It is desired to use the score sheet as a planning tool for FY05.
- The FY05 planning cycle will include stakeholders outside the SSG to rank priorities.



Conclusions

- The SSG uses a combination of quantitative and qualitative methods to rank project priorities.
- The ranking system takes into account mission, customer, available resources, and professional growth.
- The Description and Deliverables worksheet gives a synopsis of each project that is used to facilitate project understanding from the worker to the senior manager level.

