Operations Complex Operations

R. Dixon

U.S. DEPARTMENT OF ENERGY

Fermilab

The Big Picture

- For years the concept of operations strategy seemed a contradiction in terms. Strategy is broad, long-term, aggregated, and the concern of the most senior management in the business. Operations, on the other hand, are detailed, complex, concerned with day-to-day issues, and carried out by those towards the lower levels of the organizational hierarchy. Yet this is to confuse operations with operational. Operational is indeed the opposite of strategic. But operations are the resources that create services and products, the parts of the business that satisfy customers' needs. But, arguably, what seems like a semantic difference has troubled the development of a clear operations strategy development trajectory. Academics and practitioners who believe that the study of operations is limited to operational matters are fundamentally misunderstanding the contribution of operations management to strategy and, more importantly, the huge potential that operations has to deliver sustainable competitive advantage.

- – Nigel Slack, Warwick Business School

Future Operations Activities

- Main Accelerator Complex
  - Linac/Booster –> Project X
  - Main Injector
  - Muon beams for g-2 and Mu2e
  - Neutrino beams for NOvA and LBNE
- Present and Future R&D Activities
  - SCRF Proton Beam Test Facility (at Meson Detector Building)
  - SCRF Electron Test Facility at NML
  - MTA test Facility

Future Operations Activities

- Main Accelerator Complex
  - Linac/Booster --> Project X
  - Main Injector
  - Muon beams for g-2 and Mu2e
  - Neutrino beams for NOvA and LBNE
- Present and Future R&D Activities
  - SCRF Proton Beam Test Facility (at Meson Detector Building)
  - SCRF Electron Test Facility at NML
  - MTA test Facility

Coupled

Future Operations Activities

- Main Accelerator Complex
  - Linac/Booster --> Project X
  - Main Injector
  - Muon beams for g-2 and Mu2e
  - Neutrino beams for NOvA and LBNE
- Present and Future R&D Activities
  - SCRF Proton Beam Test Facility (at Meson Detector Building)
  - SCRF Electron Test Facility at NML
  - MTA test Facility

Coupled

Uncoupled

The Past, Present and Future

- Early Fermilab had separate Operations Groups
  - This led to multiple, sometimes orthogonal, policies and procedures.
  - Duplication of skills beyond what was warranted.
  - Confusion over authority i.e. Who was responsible.
- Now
  - A centralized, cohesive group with diverse knowledge of many systems and areas.
  - First line of defense during crisis situations.
- Future
  - Leaders of key laboratory initiatives.

Operations as a Training Ground

- Operators typically have physics degrees
  - Some have technical degrees
  - One had a history degree and one was a meteorologist
- Operations has prepared them for a great variety of positions in AD including department head assignments
- Presently there are 50 former operators in the Division including 10 Operations Specialists that are still in the Operations Department (See last 3 slides)
  - They form a storehouse for the history of the Division
  - The foster a coherence between the diverse activities within the Division
  - They are the backbone of our effort
- The strategy is to maintain this important training ground

Operations Strategy

- Operations department operates all accelerator systems including R&D systems
- There are local control rooms, the Main Control Room is the center of activities.
- Operators will become specialists in particular systems just like now, but they will have rudimentary experience with all systems
- Backup can be provided from MCR or other locations when there are issues
- MCR should have the ability to view all local operating systems

Former Operators

	Name	Job Classification	Department
1	Drendel	Sr. Engineering Physicist	APS
2	Morgan	Sr. Engineering Physicist	APS
3	Sondgeroth	Engineering Physicist I	APS
4	Hendricks	Applications Development & Systems	CTRL
5	Lackey	Engineering Physicist Mgr.	CTRL
6	Baddorf	Applications Development & Systems	CTRL
7	Smedinghoff	Applications Development & Systems	CTRL
8	Geelhoed	Engineering Physicist II	EB
9	Kobilarcik	Sr. Engineering Physicist	EB
10	Koizumi	Engineering Physicist III	EB
11	Lentz	Operations Specialist	EE
12	Higgins	Radiation Physicist I	ESH
13	Vincent	Radiation Physicist I	ESH
14	Zimmermann	Radiation Physicist II	ESH
15	Gattuso	Sr. Engineering Physicist	HDQ

	Name	Job Classification	Department
16	Meyer	Applications Development & Systems	INST
17	Olson	Engineering Associate	INST
18	Johnson	Engineering Physicist I	INST
19	Lundberg	Operations Specialist	INST
20	Webber	Engineer V	MDB Test Facility
21	Sutherland	Engineering Physicist I	MI
22	Morris	Engineering Physicist II	MI
23	Capista	Engineering Physicist Mgr.	MI
24	Rohde	Computing Services Specialist II	OPER
25	Worthel	Operations Administrator II	OPER
26	Allcorn	Operations Specialist	OPER
27	Johnson	Operations Specialist	OPER
28	Johnson	Operations Specialist	OPER
29	Kissel	Operations Specialist	OPER
30	Murphy	Operations Specialist	OPER

	Name	Job Classification	Department
31	Crawford	Operations Specialist Sr.	OPER
32	Johnson	Operations Specialist Sr.	OPER
33	Newhart	Operations Specialist Sr.	OPER
34	Pfaff	Accelerator Operator II	RF
35	Schupbach	Engineer I	PSD
36	Pellico	Engineer IV	PSD
37	Tomlin	Engineering Physicist II	PSD
38	Sullivan	Engineering Physicist III	PSD
39	Triplett	Engineering Physicist III	PSD
40	Karns	Operations Specialist	PSD
41	Chaurize	Operations Specialist Sr.	PSD
42	Lackey	Sr. Engineering Physicist	PSD
43	Sondgeroth	Engineering Physicist I	RF
44	Barnes	Operations Specialist Sr.	RF
45	Domeier	Technician II	RF

	Name	Job Classification	Department
46	Santucci	Engineering Physicist I	SRF
47	Warner	Engineering Physicist II	SRF
48	Harms	Sr. Engineering Physicist	SRF
49	Annala	Sr. Engineering Physicist	TEV
50	Hanna	Sr. Engineering Physicist	TEV
51	Still	Engineering Physicist III	TEV