Organizational
Human
Asset
Plan - a 10 yr needs projection

Scientist Survey – 5 yr self-selected
Census – Distrib OHAP roles 9/30, 3/31, 5/15
FTEs from FTL for FY 2012
Age Distribution 1/1/2008, 5/15/2012
Budget Upload for FY 12, 13, 14 – Jan 2012

Peter H. Garbincius, Dean Hoffer, Bridgette Fricks

first presented 5/14/2012, latest rev 6/15/2012

- This information is circa January 1, 2012

  before planned RIF of ~ 80 in mid-2012
- Should we modify and re-run OHAP taking

  into account RIF specifics?
- Question that came up:

  Is Division X letting someone go

  who could fill a dire need in Section Y?

Notes to Peter:

- presentation on 5/14 used versions 5a/b
- 5a/b => 6a/b rev NOvA on-Project for FY 12-13
  - Corrected mis-registration of OHAP roles
  - Suzanne gave April 2012 revision from OHAP
  - This increased FY 12 & FY 13 by ~ 13 FTEs
- 6a/b => 7a/b removed double counting of Education – included both by Kay WDRS and Marge WDRS/Ed Office => incl on-call Docents

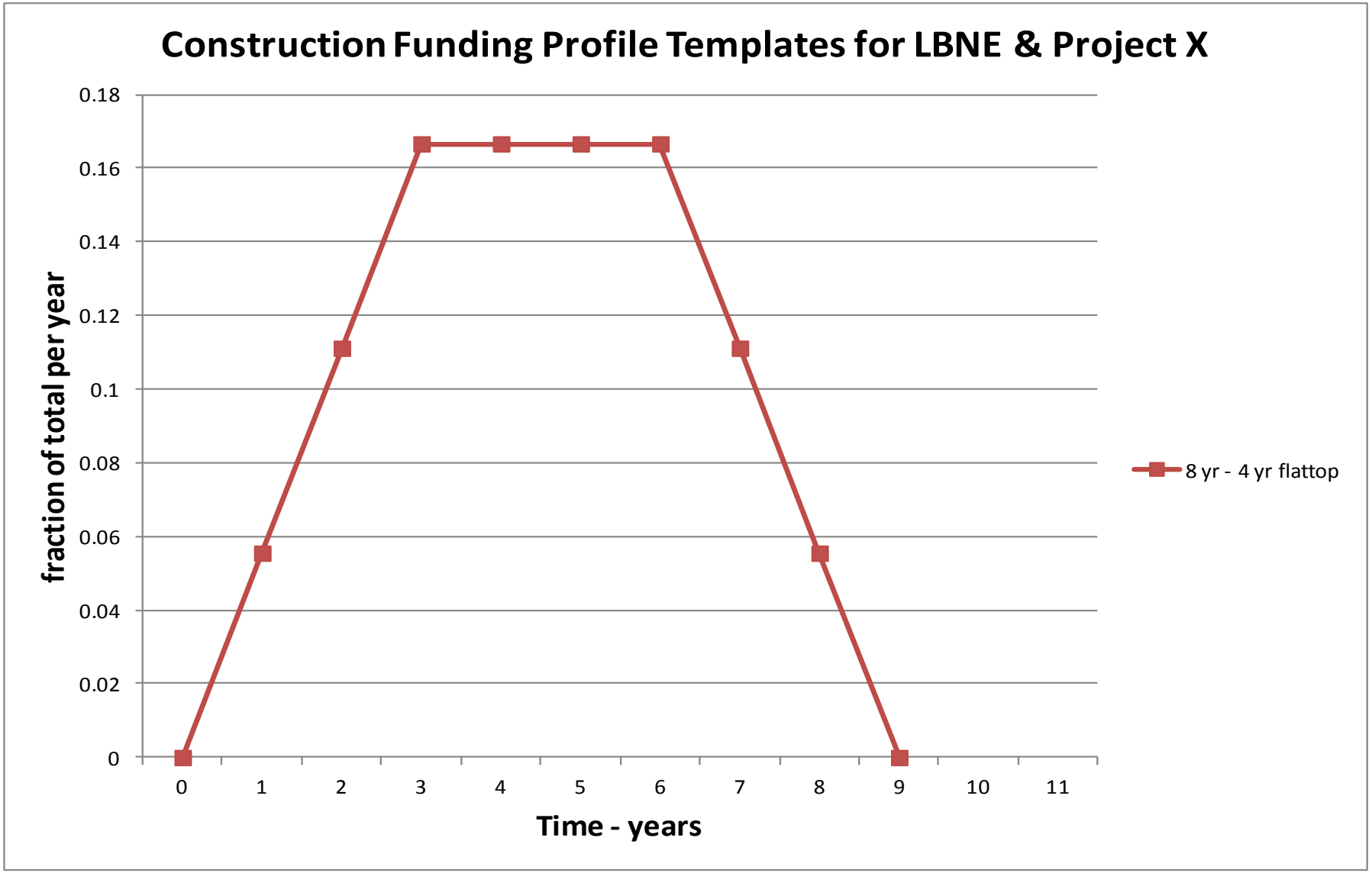
notes, missing, etc.

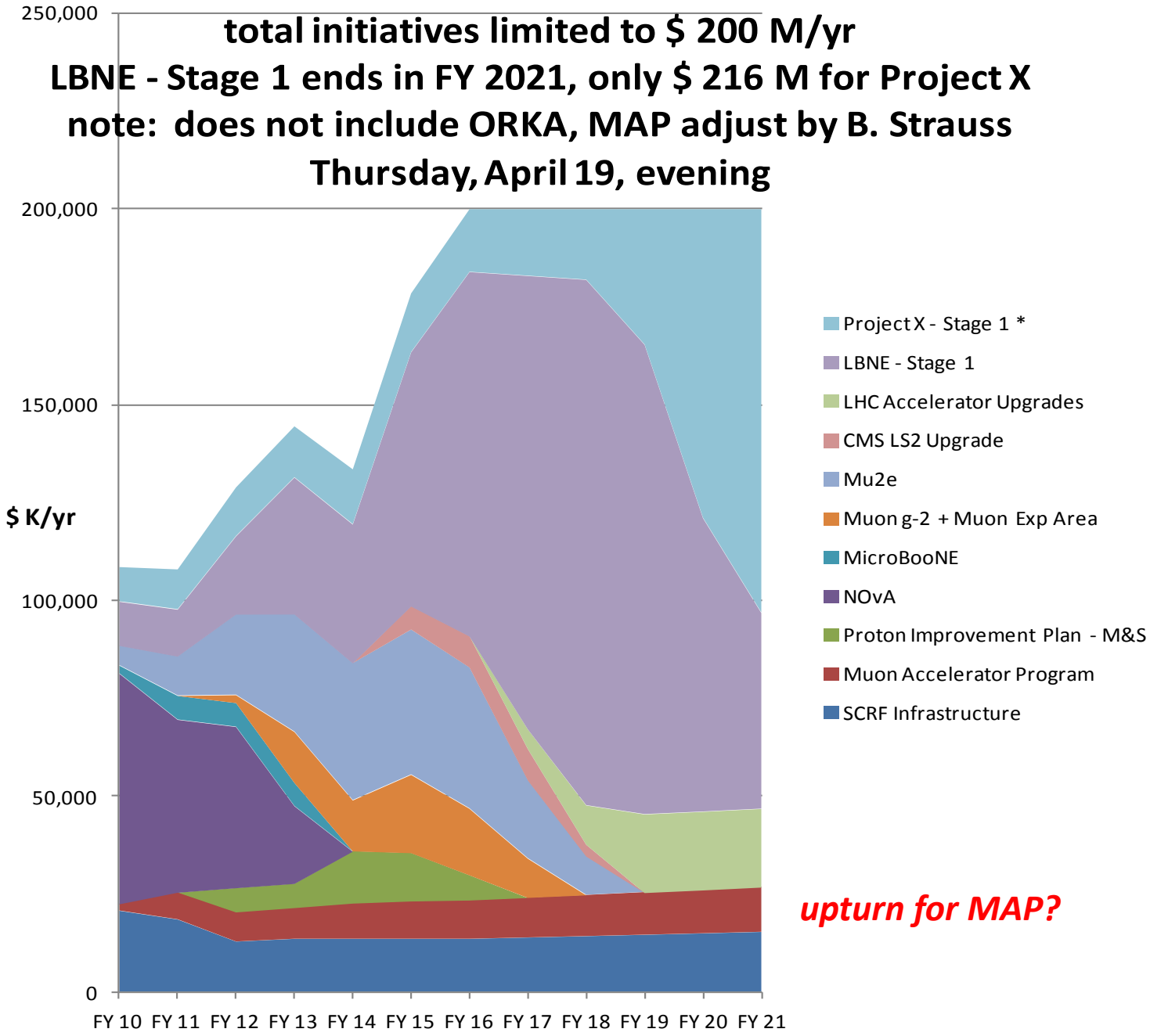
- LBNE – provided pre-construction (holding pattern) & 8 year profile for ***FULL*** construction
- Project X – provided pre-construction and then start construction of Stage 1 in FY 2019
- Tevatron & Antiproton Source => Muon Dept.
- Used same 2010 OHAP for CMS & Theoret. Phys.
- Accelerator Division did NOT submit Accelerator Ops or Lab Management/Support
  I used FY 2011 FTEs from FTL to project
- Projects & Experiments gave IT needs, so did CS, currently using Proj & Exp requests (need checks)

7 Functional Disciplines, 20 Functional Categories – Tier 1, 150 Functional Roles – Tier 2

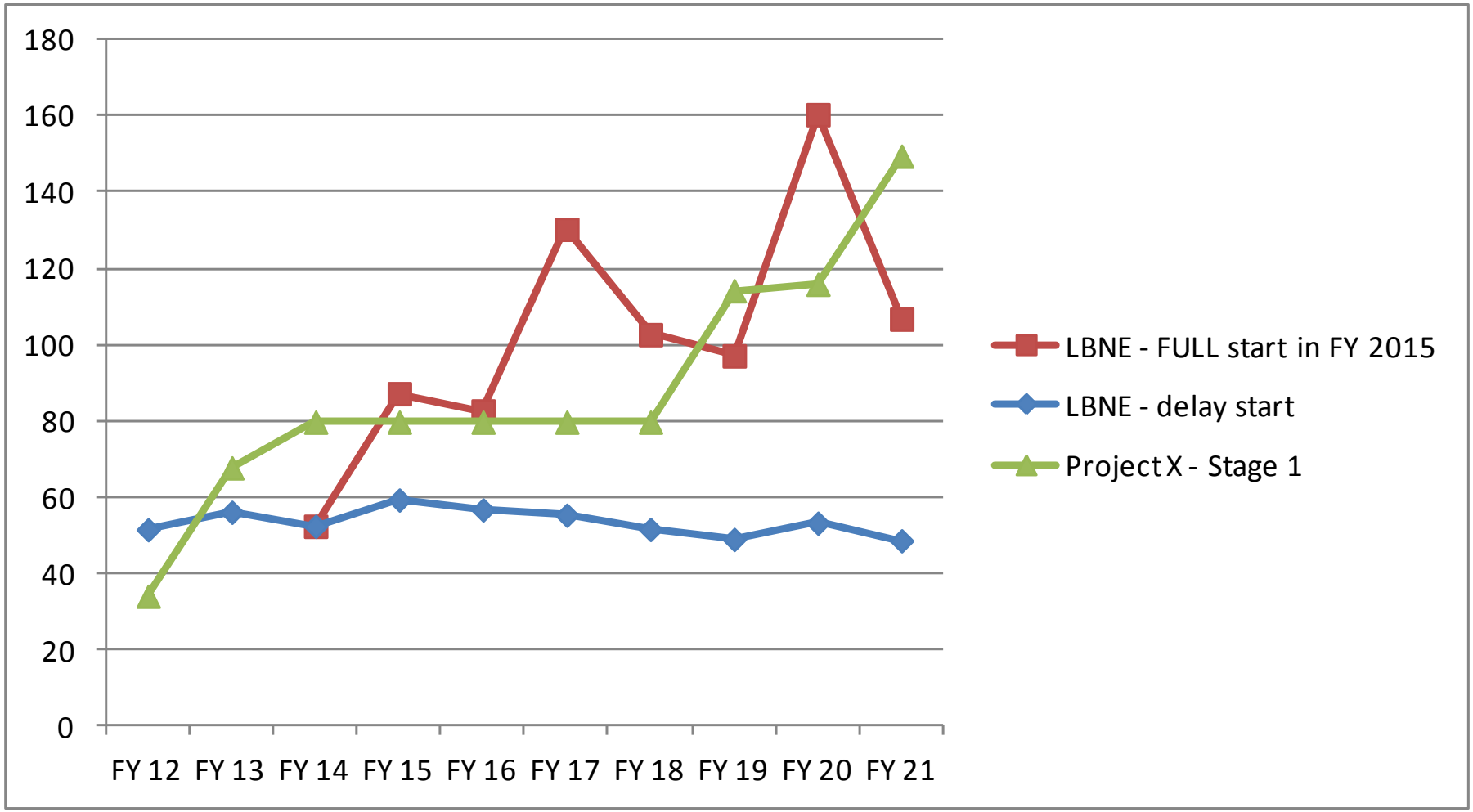
OHAP Structure Functional Discipline Functional Category -Tier 1	Summary # Roles
Administration	28
Communications	2
Finance	3
Human Resources	10
Other Administration	8
Procurement	1
Project Management	4
Engineer	18
Civil Engineer	3
Electrical Engineer	7
Mechanical Engineer	8
ES&H	12
Facilities Mgmt	17

OHAP Structure Functional Discipline Functional Category -Tier 1	Summary # Roles
Information Technology	14
Scientific	26
Postdoctoral Research Associate	9
Scientist	17
Technical	34
Alignment	2
Design	6
Electrical Technician	6
Mechanical Technician	8
Operations	5
Other Technical	7
total # Roles	150


Construction Funding Profile Templates for LBNE & Project X
fraction of total per year
0.18
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
0
1
2
3
4
5
6
7
8
9
10
11
Time - years
8 yr - 4 yr flattop


total initiatives limited to $ 200 M/yr
LBNE - Stage 1 ends in FY 2021, only $ 216 M for Project X
note: does not include ORKA, MAP adjust by B. Strauss
Thursday, April 19, evening
250,000
200,000
150,000
100,000
50,000
0
$ K/yr
FY 10
FY 11
FY 12
FY 13
FY 14
FY 15
FY 16
FY 17
FY 18
FY 19
FY 20
FY 21
Project X - Stage 1 *
LBNE - Stage 1
LHC Accelerator Upgrades
CMS LS2 Upgrade
Mu2e
Muon g-2 + Muon Exp Area
MicroBooNE
NOvA
Proton Improvement Plan - M&S
Muon Accelerator Program
SCRF Infrastructure
upturn for MAP?

The 800 pound gorillas: LBNE & Project X



Census Headcount.xls

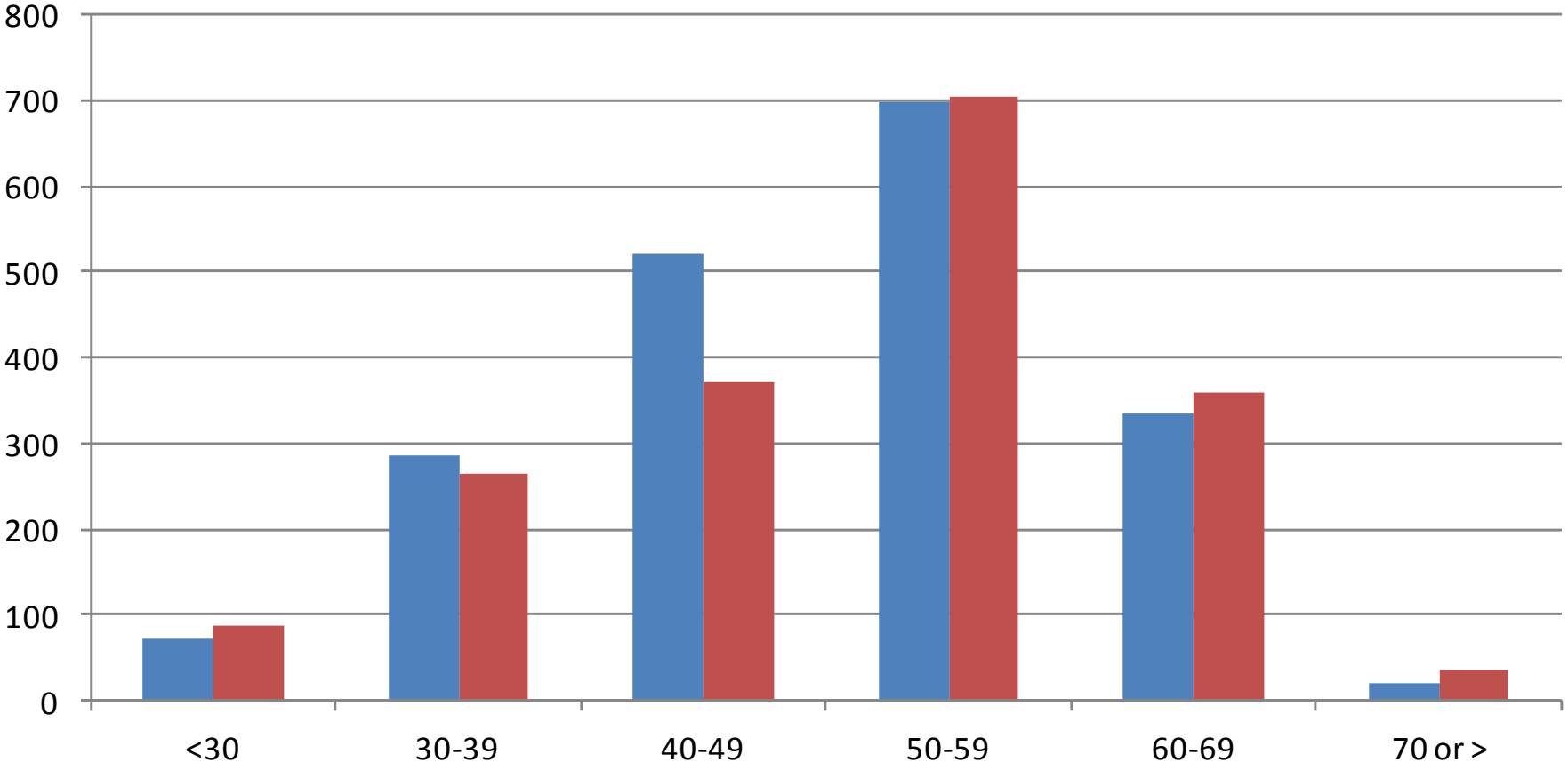
Census OHAP_5_11_12.xls

Discipline	29-Sep-11	31-Mar-12	11-May-12	Budgeted FTEs Jan 2012 Upload
Administration	276	290	288	268.3
Engineering	264	257	258	249.8
ES&H	56	56	57	58.9
Facilities Management	183	178	178	180
Information Technology	309	287	287	300.7
Scientific	355	347	343	358.8
Technical	465	425	426	416.6
Grand Total	1908	1840	1837	1833.1
WDRS headcount	1907	1843	1838	(30april2012)
WDRS FTEs	1893.5	1831.5	1825.3	(30april2012)
WFRS FTES/Headcount	99.3%	99.4%	99.3%	

Fermilab Employees Age Distribution

Jan 2008: total = 1934, <age> = 49.6, 18% ≥ 60

May 2012: total = 1821, <age> = 50.4, 22% ≥ 60

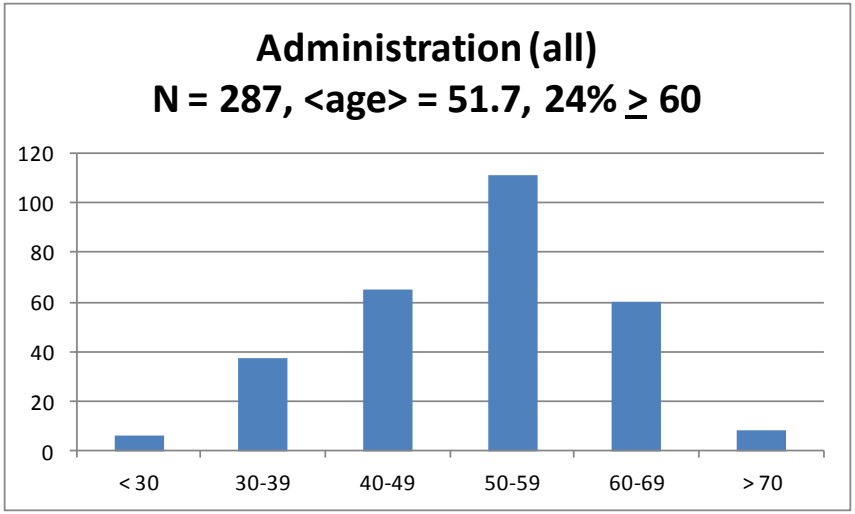


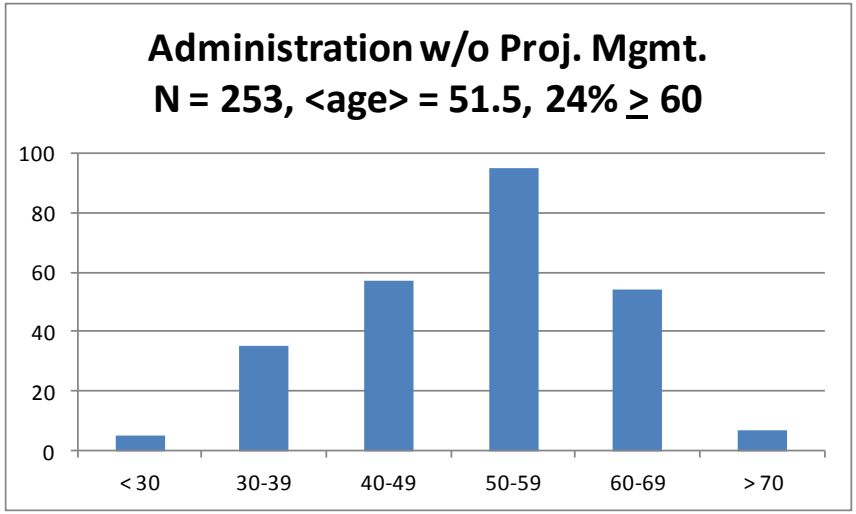
Fermilab Age Distribution 15may2012	N	<age>	< 30	30-39	40-49	50-59	60-69	≥ 70	% ≥ 60
Administration (all)	**287**	**51.7**	**6**	**37**	**65**	**111**	**60**	**8**	**24%**
Project Management	34	52.7	1	2	8	16	6	1	21%
Administration w/o Proj. Mgmt.	253	51.5	5	35	57	95	54	7	24%
Engineering	**258**	**50.1**	**24**	**33**	**45**	**86**	**65**	**5**	**27%**
ES&H	**57**	**49.9**	**1**	**9**	**15**	**23**	**9**	**0**	**16%**
Facilities Management	**178**	**52.6**	**7**	**15**	**29**	**80**	**46**	**1**	**26%**
Information Technology	**272**	**48.6**	**6**	**44**	**85**	**103**	**34**	**0**	**13%**
Scientific (all)	**343**	**49.0**	**20**	**82**	**71**	**90**	**63**	**17**	**23%**
Post-Doctoral Research Associates	62	33.2	11	48	3	0	0	0	0%
Guest Scientists	32	48.7	8	4	6	4	5	5	31%
Scientists (not RAs, not Guests)	249	52.9	1	30	62	86	58	12	28%
Technical Staff	**426**	**51.4**	**24**	**44**	**61**	**212**	**81**	**4**	**20%**
Total	**1821**	**50.4**	**88**	**264**	**371**	**705**	**358**	**35**	**22%**

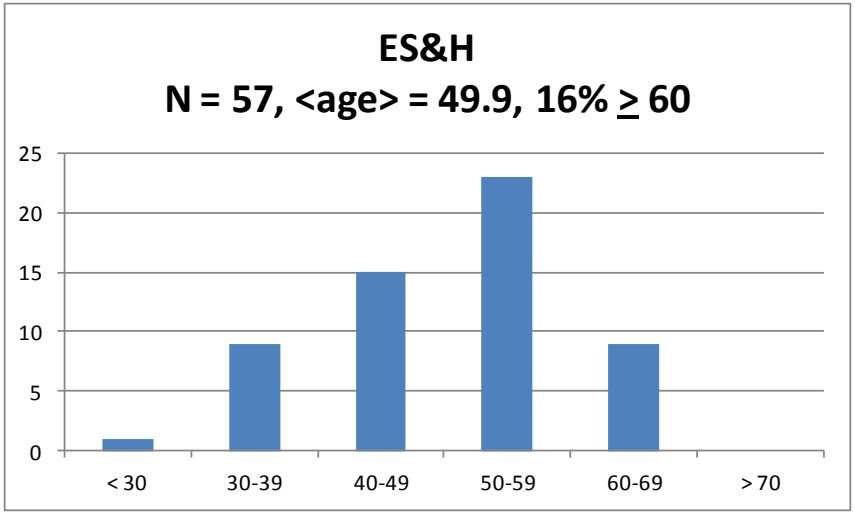
from Age rev

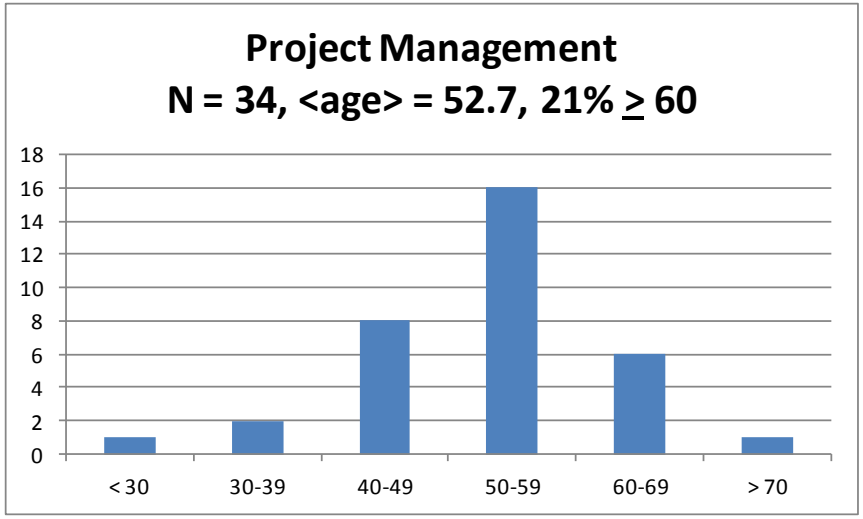
Guest Engineers' age range: 11 @ 25-29 + one @ 34

Age download 5 15 12A rev xls.xlsx

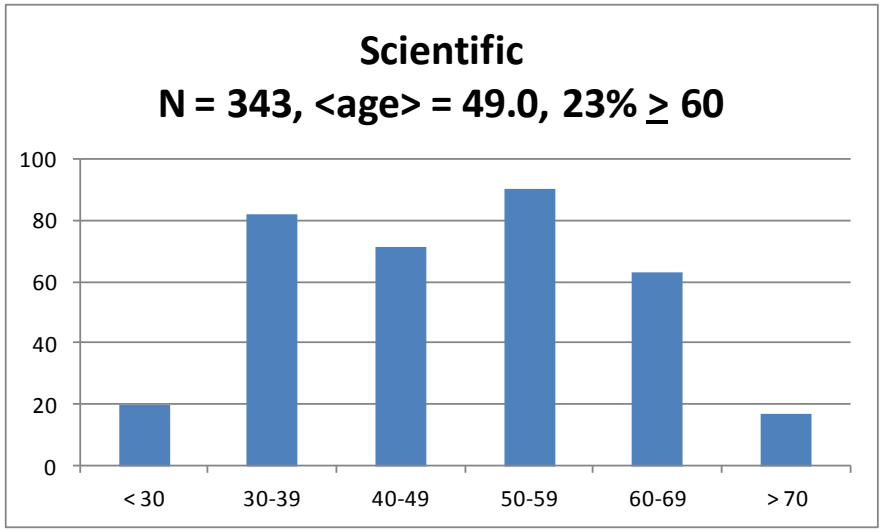


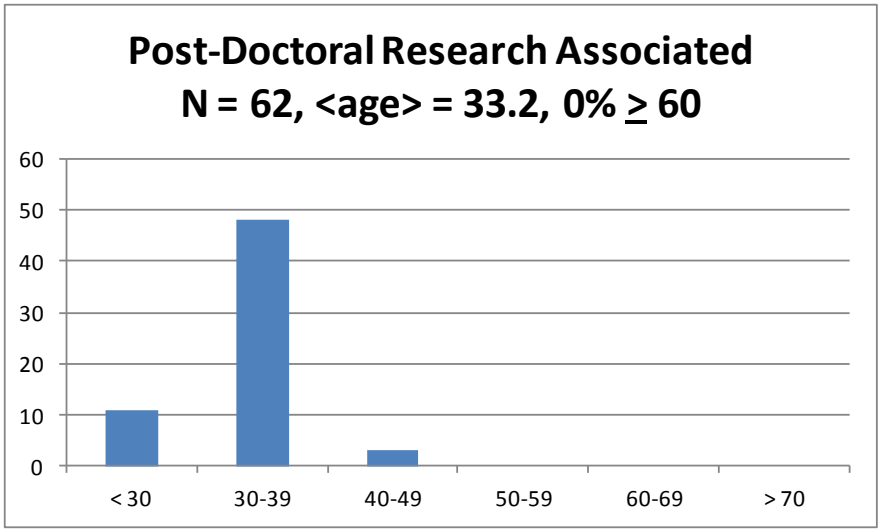


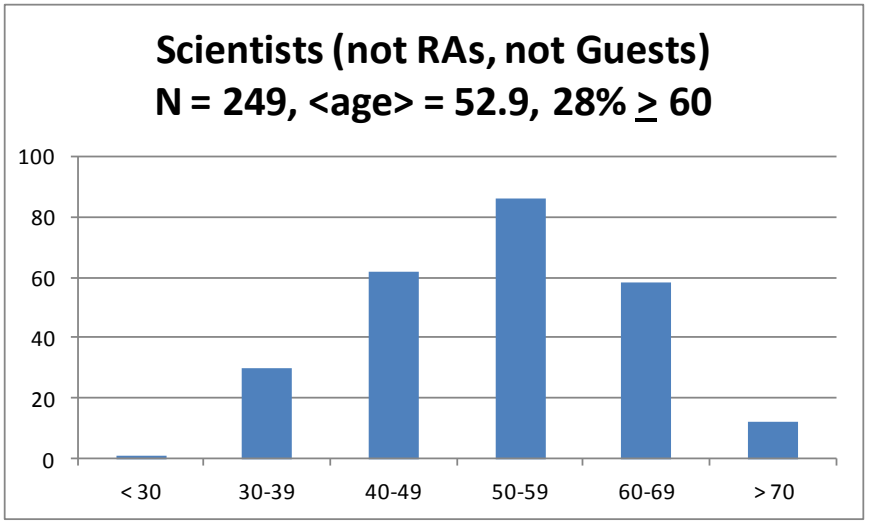


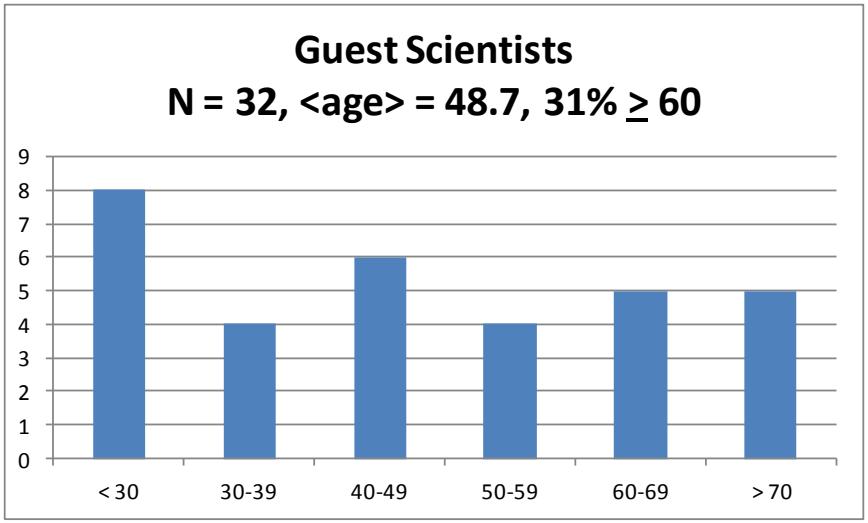


Age download 5 15 12A rev xls.xlsx

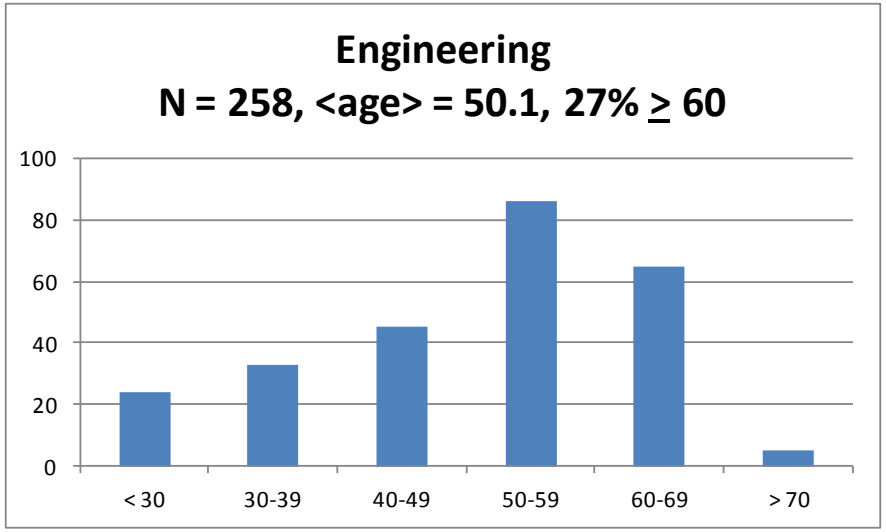


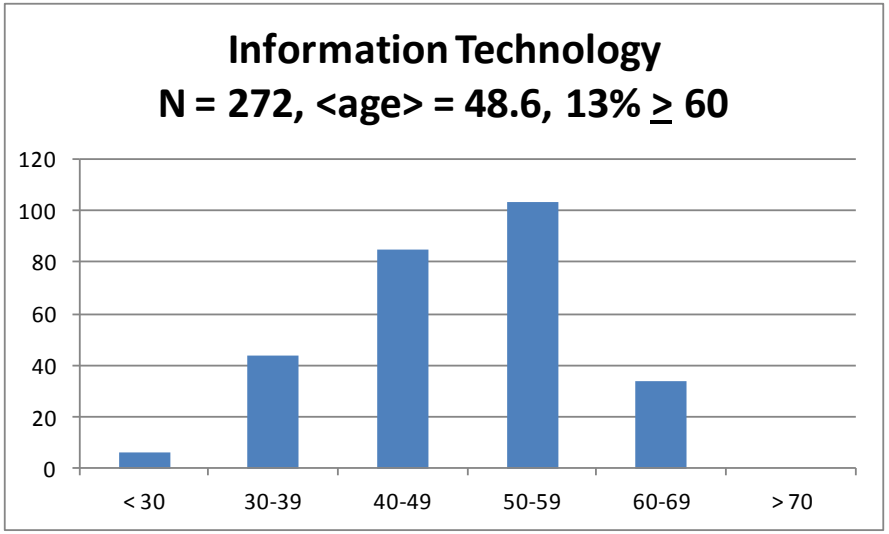


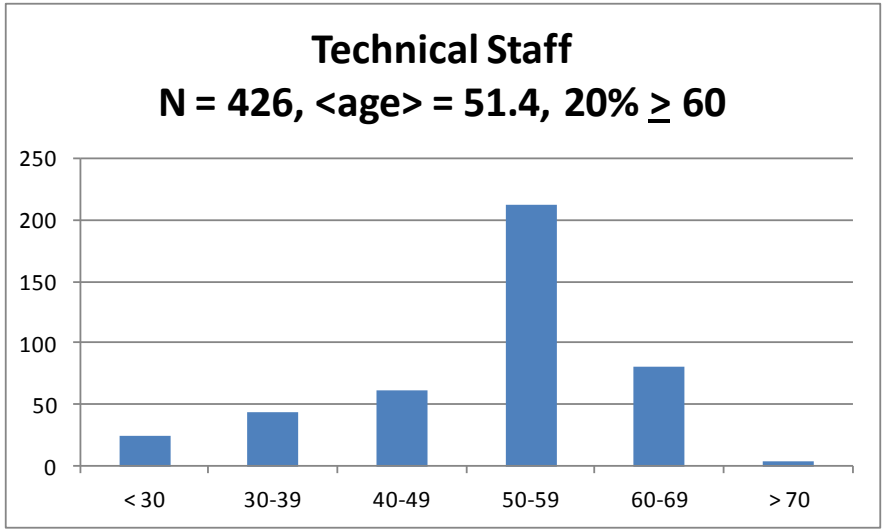


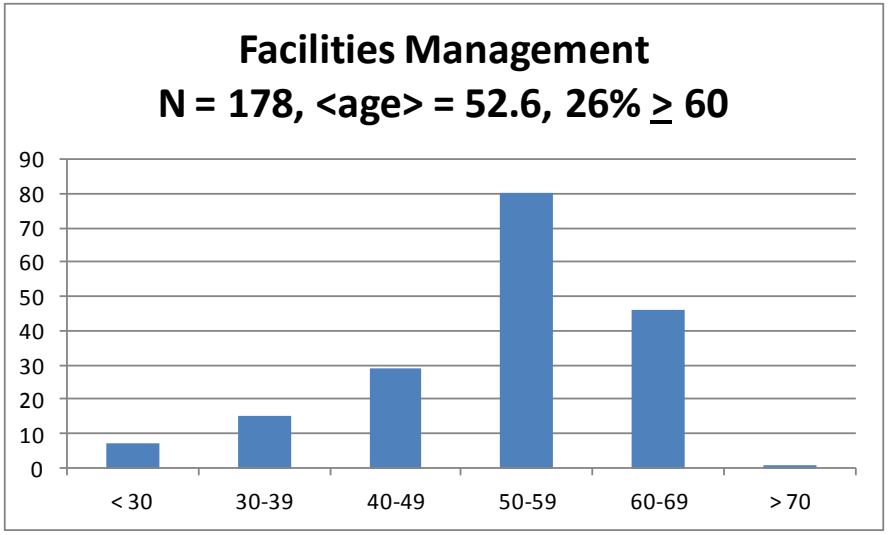


Age download 5 15 12A rev xls.xlsx









Age download 5 15 12A rev xls.xlsx

45 out of 150 OHAP Functional Roles

Project/Program Name	(All)
PHG-ADDS-3a-delay-LBNE-Project X = holding pattern (pre-Construction for LBNE)	

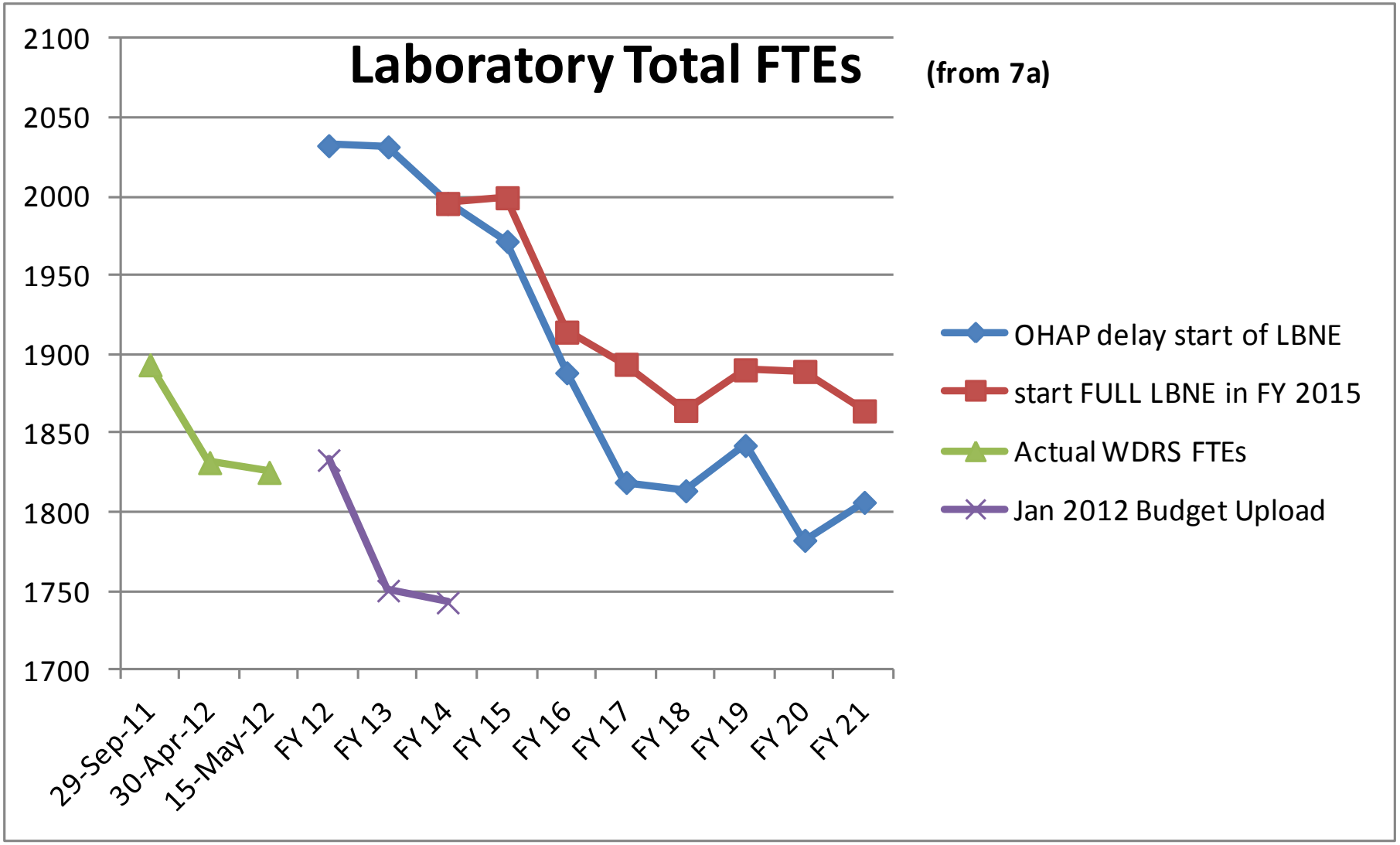
Row Labels	Values Sum of Staff 29sept2011	Sum of FY12	Sum of FY13	Sum of FY14	Sum of FY15	Sum of FY16	Sum of FY17	Sum of FY18	Sum of FY19	Sum of FY20	Sum of FY21
Administration	**276**	**300.2**	**322.5**	**325.2**	**325.3**	**328.0**	**322.7**	**329.1**	**328.6**	**323.0**	**342.6**
Accounting-Accountant	13	15.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1
Accounting-Clerical	12	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0
Administrative Support	98	81.1	82.9	84.4	84.2	83.8	81.8	83.3	83.3	82.2	82.5
Audit	3	3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	4.0	4.0
Benefits	6	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Compensation	2	2.0	2.0	2.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Early Childhood Education	14	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5
Education	8	32.6	32.6	32.6	32.6	32.6	32.6	32.6	32.6	32.6	32.6
Employee/Labor Relations	1	1.0	1.0	1.0	1.0	2.0	2.0	2.0	2.0	2.0	2.0
Equal Opportunity	2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Executive Direction	5	12.3	13.7	14.7	15.7	15.6	16.6	16.6	16.6	16.6	16.6
General Administrative	5	8.5	9.0	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4
HRIS	2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Human Resources Generalist	5	5.6	5.6	5.6	6.6	6.6	6.6	7.6	7.6	7.6	7.6
International Human Resources	1	2.0	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0	3.0
Legal	1	2.2	3.0	3.6	3.6	4.6	4.6	4.6	4.6	4.6	4.6
Library	5	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
Media Services	5	6.0	6.0	6.1	7.1	8.1	8.1	8.1	8.1	8.1	8.1
Operations Finance	16	11.3	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4
Procurement	20	20.5	23.7	25.1	25.1	25.1	24.9	24.9	24.8	24.8	28.6
Project Controls	7	8.7	10.4	9.9	9.6	9.3	8.4	7.4	6.9	6.4	11.0
Project Finance	5	5.7	9.6	8.5	7.6	7.2	4.4	6.4	6.1	3.6	8.0
Project Manager	15	18.1	23.3	23.9	19.7	19.7	17.2	19.2	18.7	15.2	20.7
Project Support	7	4.8	5.5	4.0	4.8	4.7	4.7	4.7	5.7	5.7	6.6
Public Relations	11	10.7	12.7	12.9	13.9	13.9	15.0	15.0	14.9	15.9	15.8
Recruitment	2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	4.2	4.2
Training	4	2.8	2.8	2.8	2.8	3.8	3.8	3.8	3.8	3.8	3.8
Travel	1	1.9	1.9	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.7
Engineer	**264**	**292.7**	**288.4**	**278.3**	**266.8**	**239.3**	**229.3**	**224.9**	**232.0**	**218.0**	**231.3**
ASIC Design Engineer	6	9.4	7.5	7.5	8.2	8.2	9.4	8.9	8.9	7.4	7.4
CFS Design Engineer	14	15.9	18.0	20.9	21.2	20.9	20.7	15.7	16.2	18.2	21.9
CFS Operations Engineer	5	13.3	13.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3
CFS Technical Manager	3	3.3	2.9	2.9	2.4	2.3	2.3	2.3	2.3	2.3	2.3
Control System Engineer	21	17.1	13.9	13.3	12.9	11.4	14.4	12.4	13.3	11.8	15.5
Cryogenics Engineer	20	18.8	26.1	25.2	21.9	18.4	17.3	17.2	18.8	18.8	22.0
Electrical Design Engineer	13	24.6	22.9	22.0	18.4	16.3	17.2	14.9	15.5	13.9	14.8
Electrical Technical Manager	2	3.4	2.7	2.7	2.7	2.7	2.7	2.7	2.4	2.2	3.5
Electronics Design Engineer	62	58.3	53.2	47.9	50.1	48.6	47.9	46.8	50.5	46.9	42.3
Interlock Engineer	2	1.5	1.5	1.3	1.5	1.4	1.4	1.1	1.0	1.0	1.3
Magnet Design Engineer	7	6.8	6.9	7.0	6.7	6.2	5.8	5.7	4.8	4.8	6.7
Materials Engineer	3	3.4	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
Mechanical Analysis Engineer	7	2.4	3.6	3.3	2.1	0.5	0.5	0.5	0.5	0.5	3.9
Mechanical Design Engineer	59	76.8	76.1	68.1	64.3	53.5	42.8	50.8	51.8	44.3	46.6
Mechanical Technical Manager	6	6.1	6.1	6.0	6.2	6.2	6.2	6.2	5.9	5.7	8.3
Process/Controls Engineer	10	7.3	6.6	7.6	7.3	6.2	6.1	6.0	5.9	5.9	4.7
RF Design Engineer	24	24.3	23.9	25.1	23.4	19.0	17.1	16.3	16.7	16.7	12.4

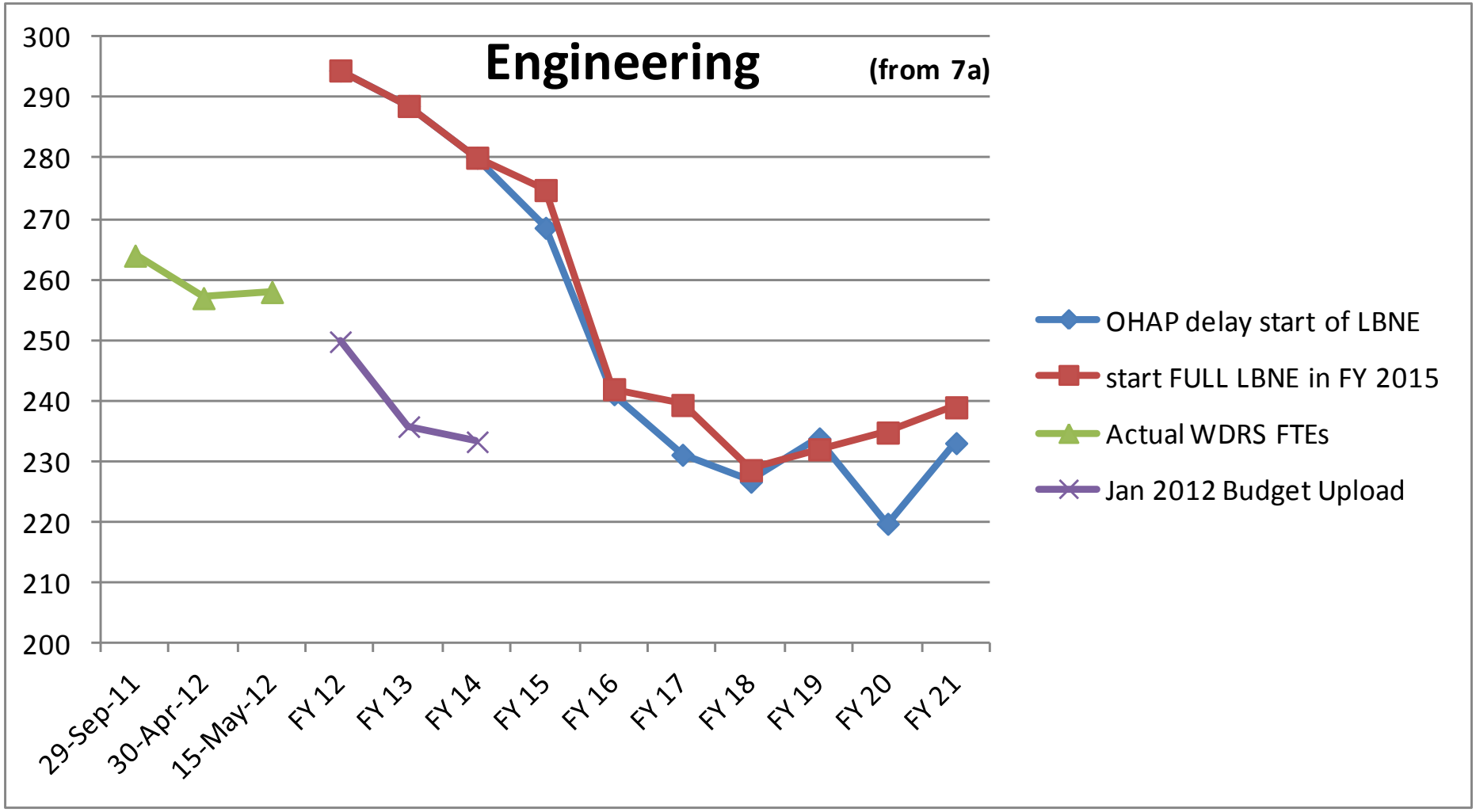
PHG-ADDS-5b => requested FTEs for FY2012

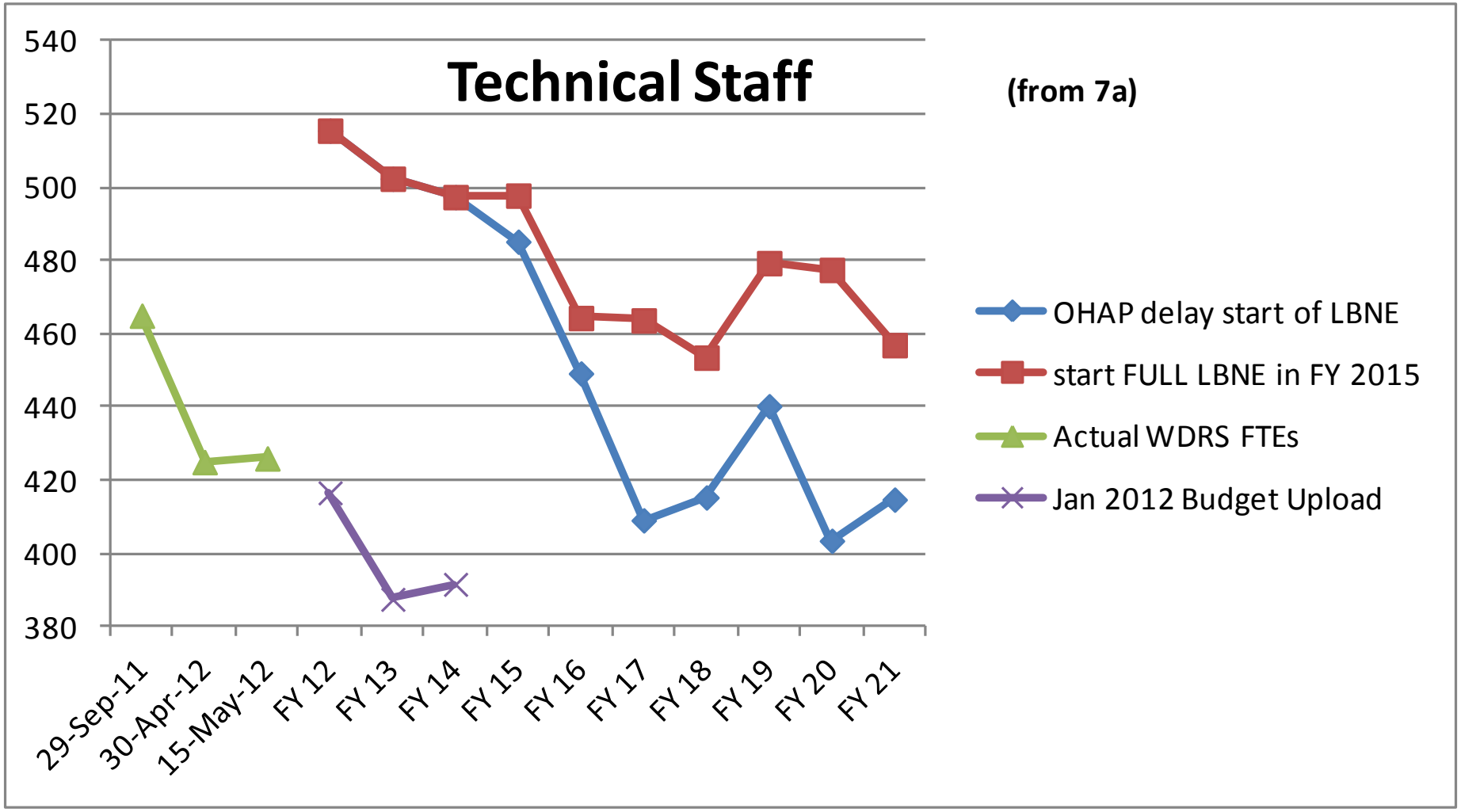
OHAP Roles by Activity for FY 2012

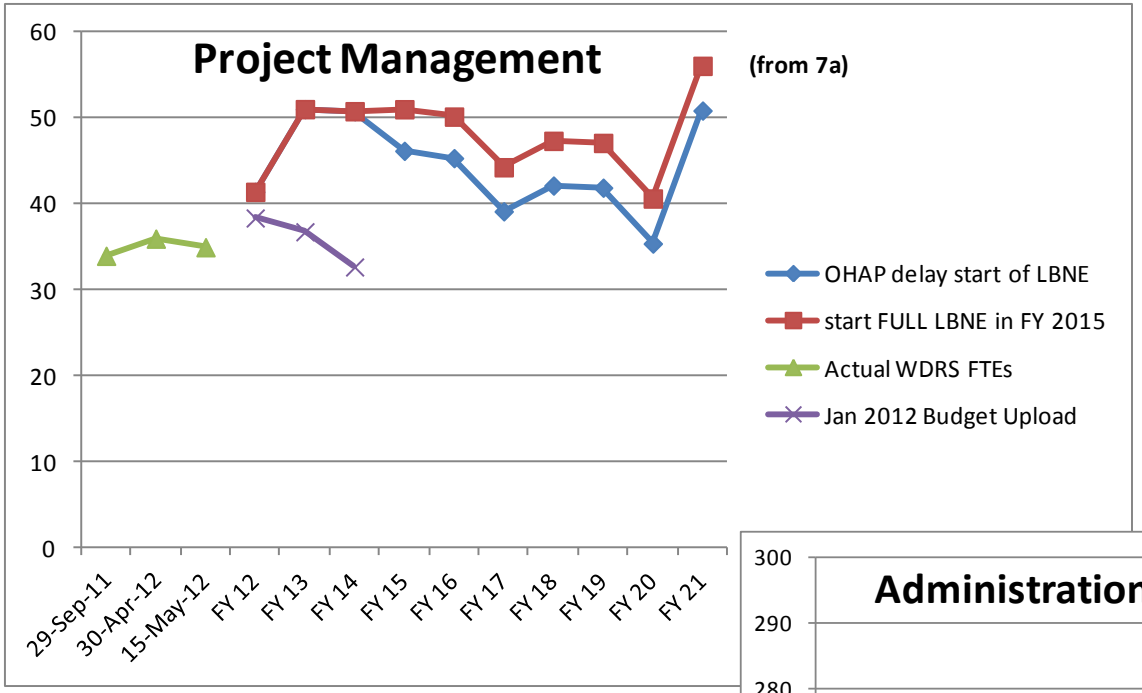
Sum of FY12	Colum							
Row Labels	Administration	Engineer	ES&H	Facilities Mgmt	Information Technology	Scientific	Technical	Grand Total
Accelerator Modeling	0.1				5.1	3.7		8.9
Accelerator Operations	3.9	39.3			43.3	2.6	141.4	230.5
Accelerator Science - Computing Sector						0.0		0.0
Accounts Receivable - Computing Sector	1.2	0.3			4.9			6.3
AD - Lab Support-Management	15.5	2.0	16.0	2.3	1.0	5.5	10.7	52.9
APC - KA150102 Acc Science	1.2	1.9	0.1	0.1		8.7	2.9	14.9
ATLAS		2.0				3.0		5.0
CDF	1.0	0.0	0.3	0.0	11.7	27.7	0.0	40.7
CDF Decommissioning	0.5	0.2					11.0	11.7
CMS	6.0	6.0			28.5	73.3	3.6	117.4
CMS Center (zeroed to avoid duplication)								
CMS Upgrades I+II		12.8				0.8	13.6	27.2
Communication / Education / Public Outreach - Computing Sector	0.0				2.6	0.0		2.6
Communication/Education	18.0							18.0
DZero	1.2			1.0	6.2	23.3	0.1	31.8
DZero Decommissioning	0.5	1.3	0.5	0.5	0.5	1.0	8.0	12.2
External Beams		3.5			0.5	1.0	17.0	21.9
Grid & Cloud computing, High Performance Computing - Computin	0.0				10.5	0.0		10.5
IARC								
ILC	0.1	10.4			0.8	4.1	7.0	22.3
ILC - International Linear Collider - 1.3 GHZ SRF - Computing Sector		0.0						0.0
KA 15 Detector R&D	0.0	16.3	0.0	0.0	0.4	1.0	16.5	34.2
KA13 Cosmic Frontier	2.3	4.9	0.0	0.0	3.6	32.5	8.3	51.6
Lab Support/Management - BSS	34.8		1.0	89.4	2.0			127.1
Lab Support/Management - Computing Sector	14.1	0.8	1.0	0.0	134.2	5.2	2.0	157.3
Lab Support/Management - Directorate	44.8							44.8
Lab Support/Management - ES&H	7.6	1.8	29.8		0.3		5.0	44.4
Lab Support/Management - FCPA	1.4					0.5		1.9
Lab Support/Management - FESS	9.0	21.0	3.0	78.0	2.0			113.0
Lab Support/Management - Financial Management	29.8				1.0			30.8
Lab Support/Management - PPD	15.6	5.3	4.0	6.0	1.4	4.9	10.3	47.4
Lab Support/Management - Technical Division	8.4	15.2	2.0	3.0	3.1	4.2	26.5	62.4
Lab Support/Management - WDRS	59.5							59.5
Lab Support/Managment - APC	4.7				0.3			5.0
LARP		2.3			0.0	8.5	2.8	13.6
Lattice QCD - Computing Sector	0.3	0.5			4.8	1.0		6.5

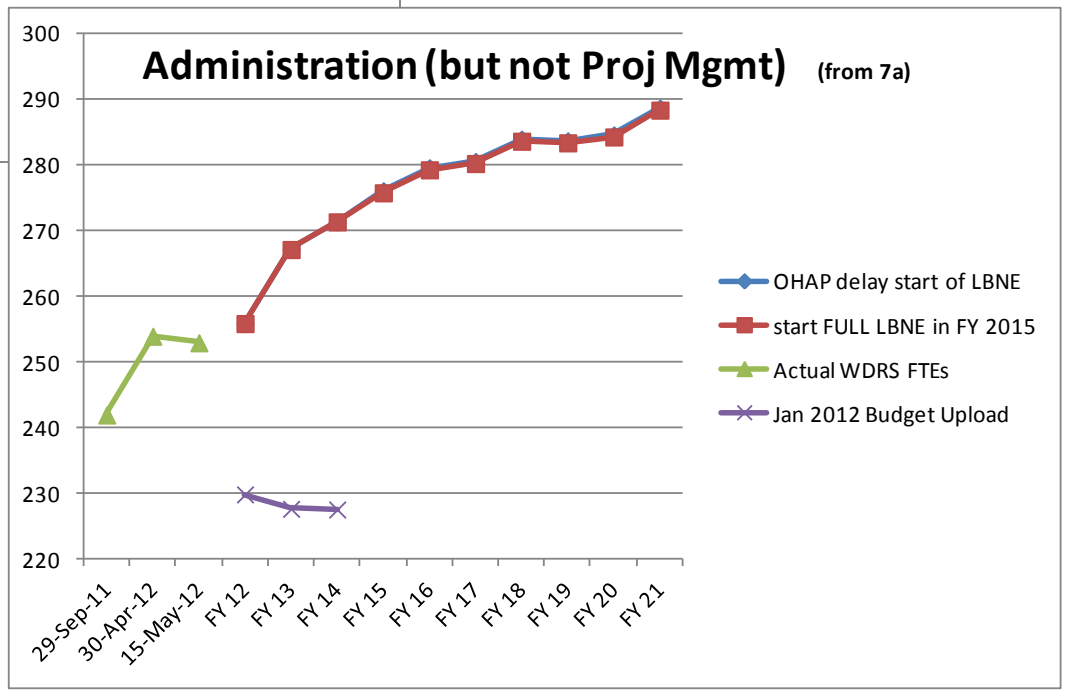
LBNE - Off-Project						7.2		7.2
LBNE - On-Project - Construction								
LBNE - pre-Construction	11.1	17.1	2.2	0.0	0.8	4.9	8.3	44.3
Magnets	0.1	5.4				2.1	8.7	16.2
Main Injector		4.0			1.6	7.4	19.1	32.0
MicroBooNE - Off-Project	0.2					2.0		2.2
MicroBooNE - On-Project	1.1	2.2	0.1		1.0	1.2	6.1	11.7
MINERvA	0.3	3.2	0.6	0.1	7.1	6.0	5.5	22.7
MiniBooNE	0.1			0.1	0.1	0.1		0.3
Minos	0.6			0.1	1.7	4.0		6.4
Mu2e Off-Project	0.1		0.2			5.0		5.3
Mu2e On-Project	5.6	12.9	0.1		1.3	11.2	5.3	36.3
Muon Accelerator Program	0.1	7.4	0.0	0.0	0.2	11.3	7.0	25.9
Muon Campus Cryo Plant AIP								
Muon Campus Debuncher AIP								
Muon Department		1.1			1.1	0.7	6.7	9.5
Muon g-2 Off-Project						1.5		1.5
Muon g-2 On-Project	0.2	1.7				3.4	2.1	7.3
Neutron Therapy						1.5	0.5	2.0
NOvA - Off-Project						10.6		10.6
NOvA - On-Project	10.3	19.4	1.1		2.3		44.8	77.9
NuMI	0.3	4.2			0.8	2.0	14.5	21.8
Other Fixed Target Experiments - Computing Sector					0.2	0.0		0.2
Other Scientific Computing - Computing Sector		0.1			6.9	2.8		9.8
PIP	0.1	13.8	0.1		0.5	9.9	23.1	47.5
Project X - Stage 1	2.1	11.5			1.6	12.6	6.4	34.1
Proton Research (potential projects) - Computing Sector					8.5	1.8		10.3
Proton Source	0.7	7.2			5.1	3.5	20.5	36.9
Proton Source - Computing Sector							0.0	0.0
SRF	0.7	36.0			2.3	11.0	37.6	87.5
SRF - Superconducting Radiofrequency - Computing Sector		0.3						0.3
Staff 29sept2011								
Tevatron - Computing Sector		0.0						0.0
Theoretical Physics						24.0		24.0
Theory - Cosmology and Particle Astrophysics	1.0					9.0		10.0
Theory - Cosmology and Particle Astrophysics - Computing Sector					0.6	0.0		0.6
XOC	0.1				0.0	0.7	0.2	1.0
Grand Total	**315.7**	**294.6**	**62.0**	**180.5**	**312.0**	**369.6**	**502.7**	**2037.0**
Staff 29sept2011 (head count)	**276**	**264**	**56**	**183**	**309**	**355**	**465**	**1908**

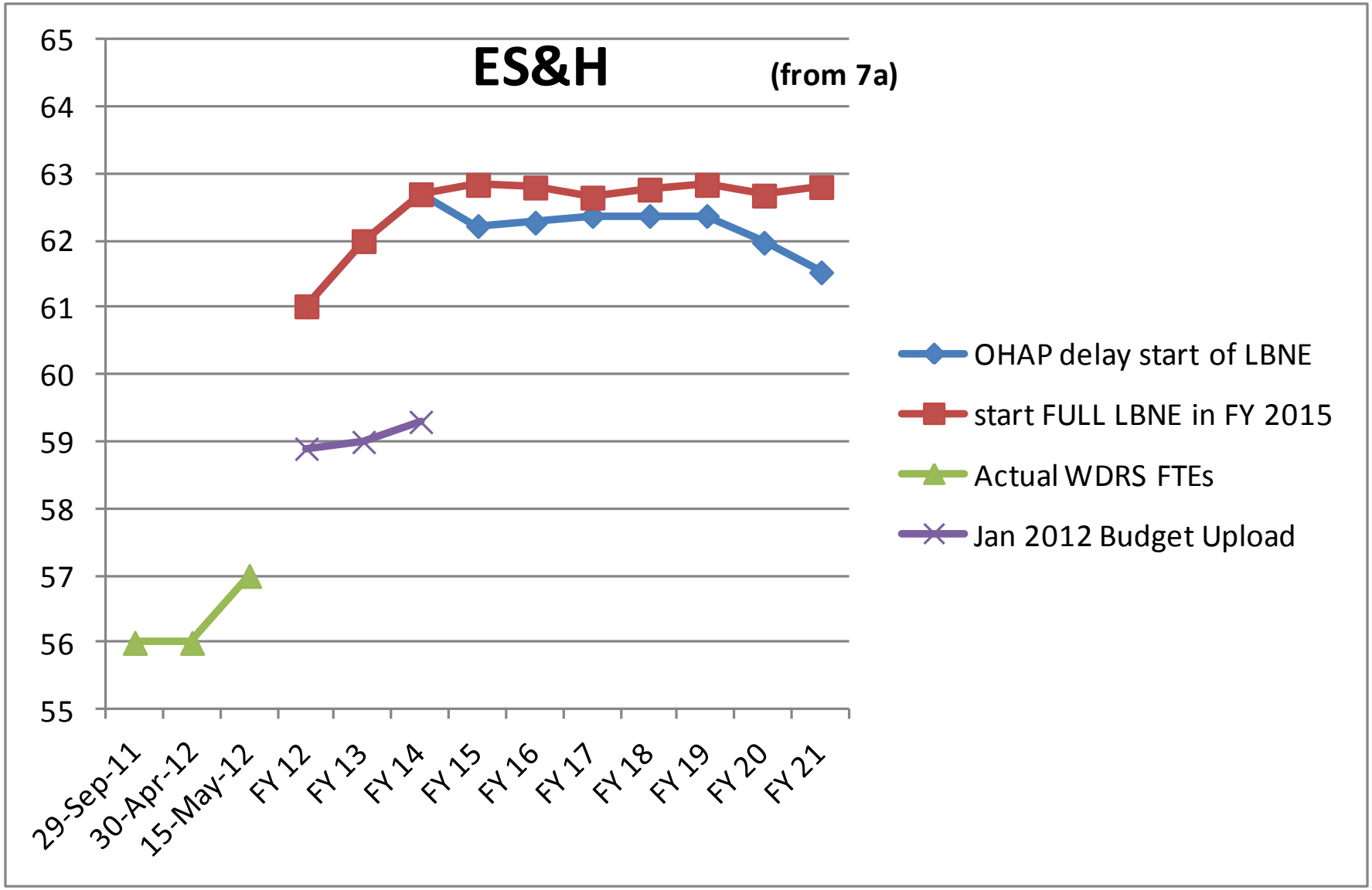

Laboratory Total FTEs
(from 7a)
2100
2050
2000
1950
1900
1850
1800
1750
1700
29-Sep-11
30-Apr-12
15-May-12
FY 12
FY 13
FY 14
FY 15
FY 16
FY 17
FY 18
FY 19
FY 20
FY 21
OHAP delay start of LBNE
start FULL LBNE in FY 2015
Actual WDRS FTEs
Jan 2012 Budget Upload

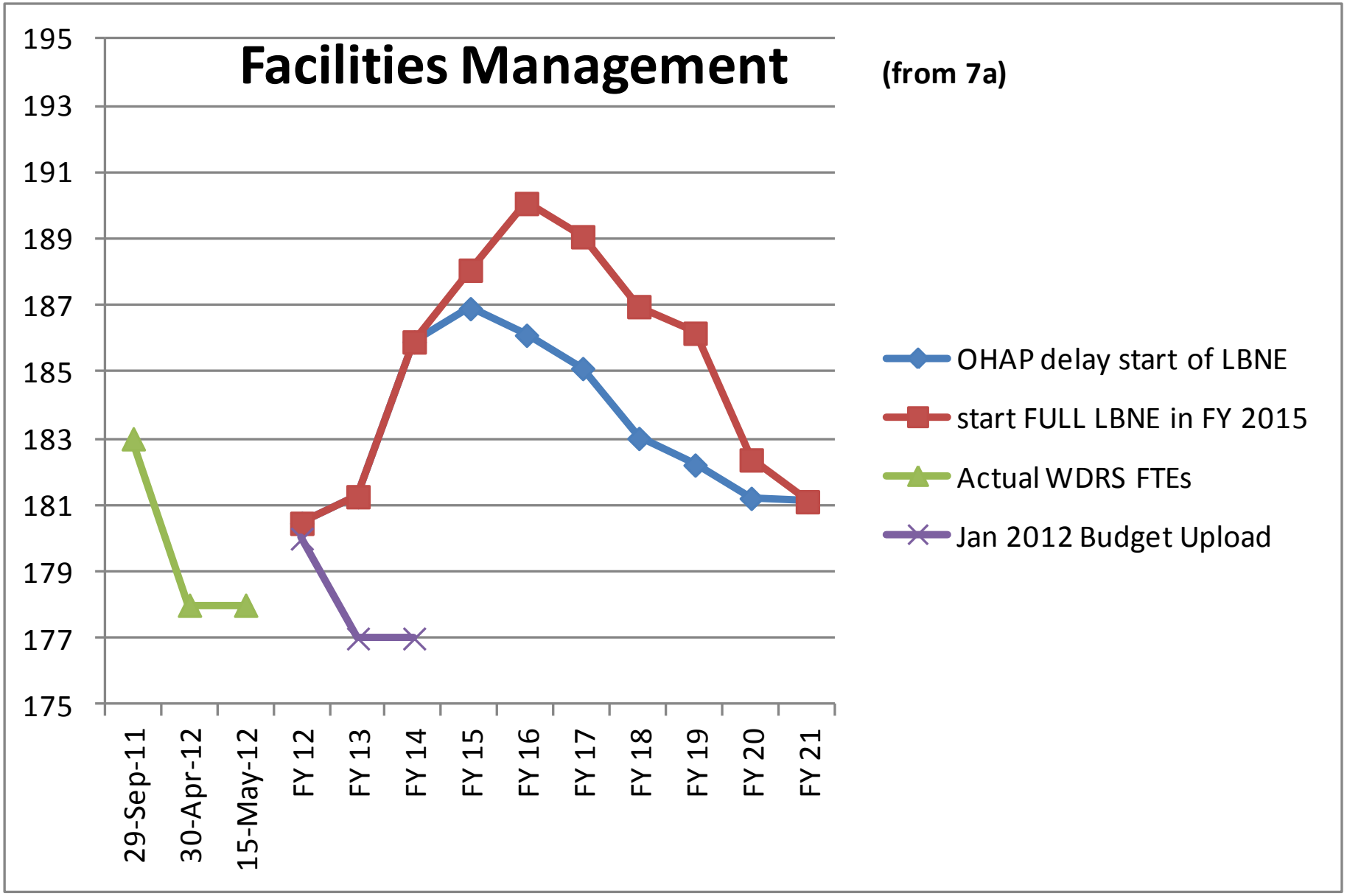

Engineering
(from 7a)
300
290
280
270
260
250
240
230
220
210
200
29-Sep-11
30-Apr-12
15-May-12
FY 12
FY 13
FY 14
FY 15
FY 16
FY 17
FY 18
FY 19
FY 20
FY 21
OHAP delay start of LBNE
start FULL LBNE in FY 2015
Actual WDRS FTEs
Jan 2012 Budget Upload

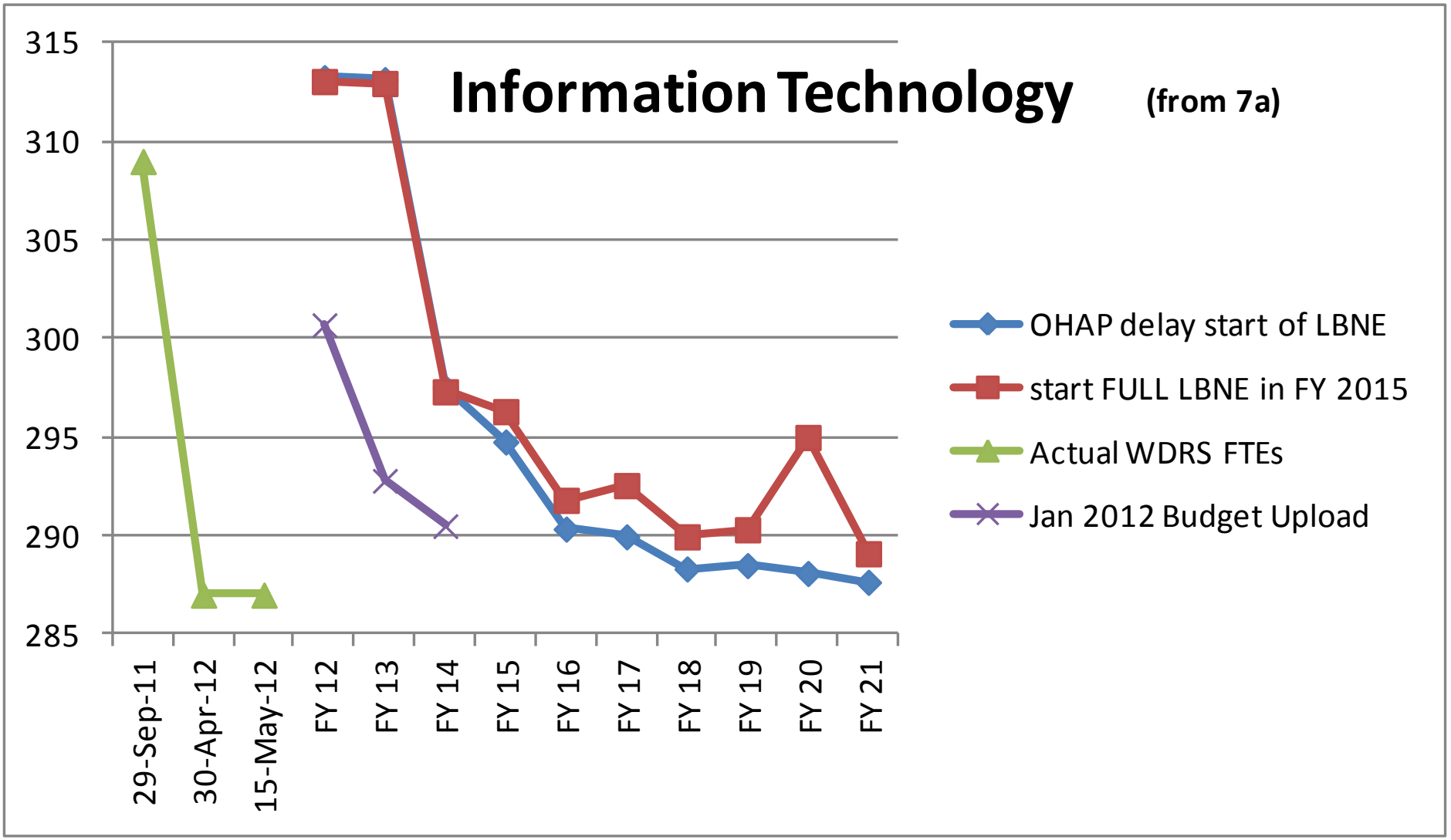

Technical Staff
(from 7a)
540
520
500
480
460
440
420
400
380
29-Sep-11
30-Apr-12
15-May-12
FY 12
FY 13
FY 14
FY 15
FY 16
FY 17
FY 18
FY 19
FY 20
FY 21
OHAP delay start of LBNE
start FULL LBNE in FY 2015
Actual WDRS FTEs
Jan 2012 Budget Upload

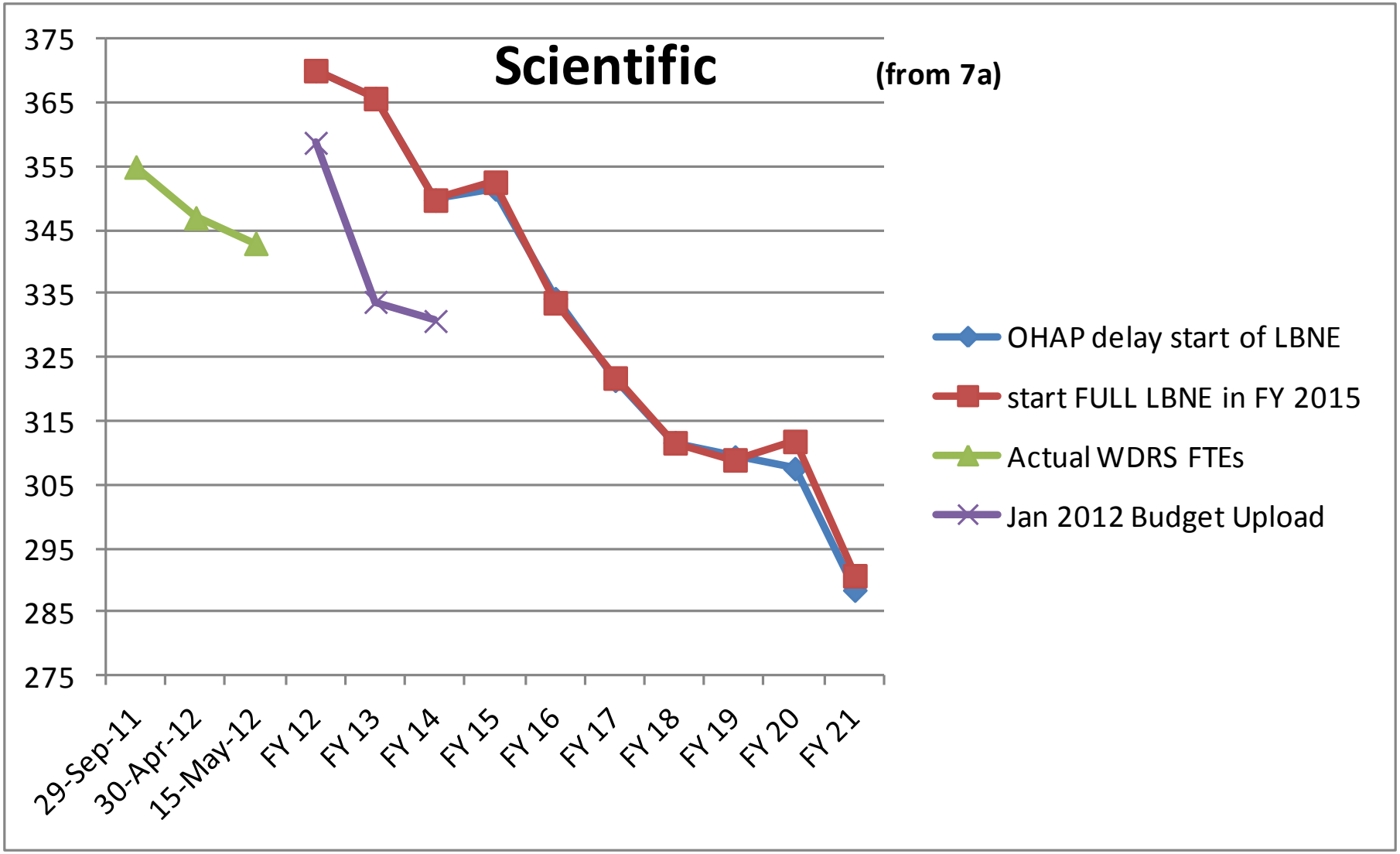

Project Management
(from 7a)
60
50
40
30
20
10
0
29-Sep-11
30-Apr-12
15-May-12
FY 12
FY 13
FY 14
FY 15
FY 16
FY 17
FY 18
FY 19
FY 20
FY 21
OHAP delay start of LBNE
start FULL LBNE in FY 2015
Actual WDRS FTEs
Jan 2012 Budget Upload

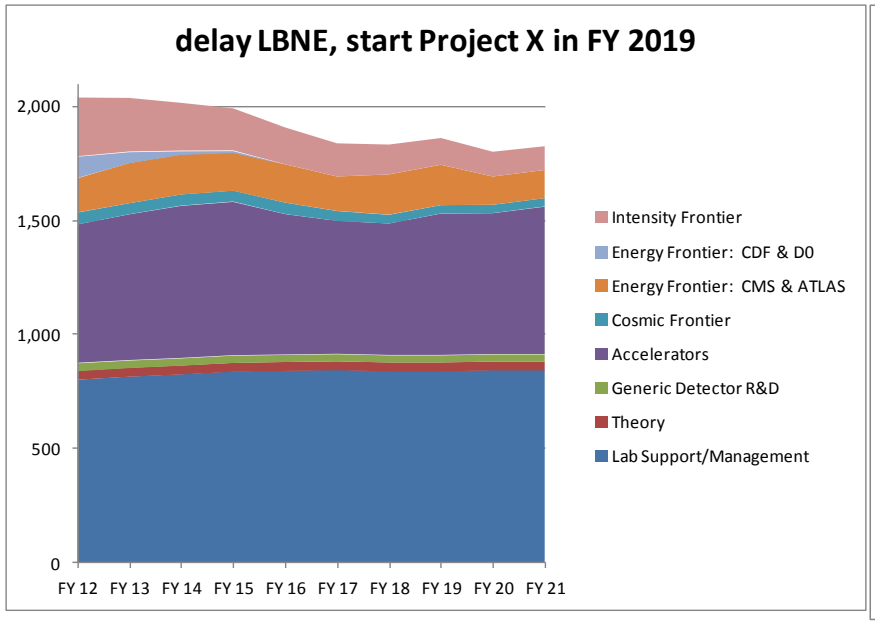

Administration (but not Proj Mgmt)
(from 7a)
300
290
280
270
260
250
240
230
220
29-Sep-11
30-Apr-12
15-May-12
FY 12
FY 13
FY 14
FY 15
FY 16
FY 17
FY 18
FY 19
FY 20
FY 21
OHAP delay start of LBNE
start FULL LBNE in FY 2015
Actual WDRS FTEs
Jan 2012 Budget Upload

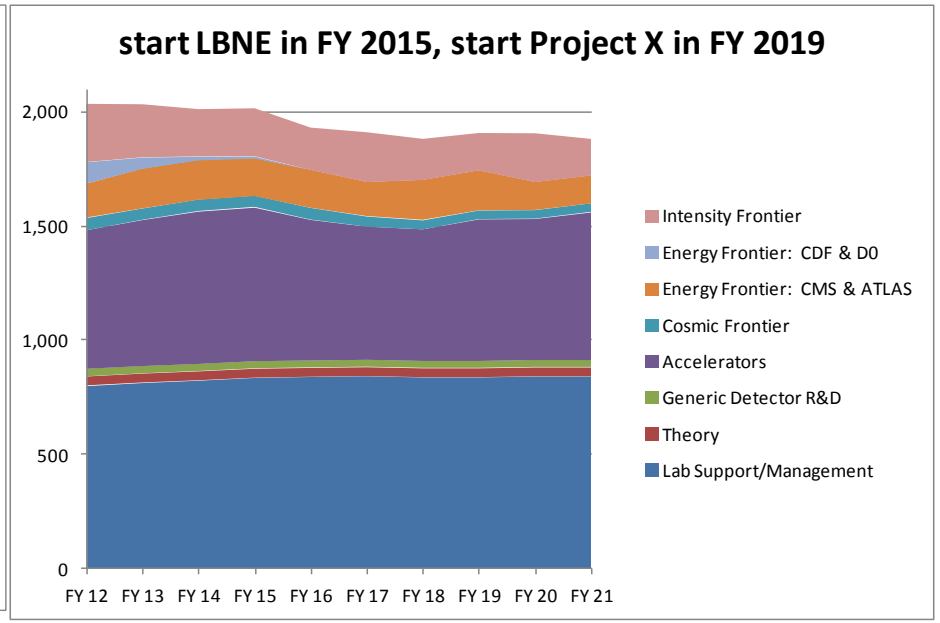

ES&H
(from 7a)
65
64
63
62
61
60
59
58
57
56
55
29-Sep-11
30-Apr-12
15-May-12
FY 12
FY 13
FY 14
FY 15
FY 16
FY 17
FY 18
FY 19
FY 20
FY 21
OHAP delay start of LBNE
start FULL LBNE in FY 2015
Actual WDRS FTEs
Jan 2012 Budget Upload

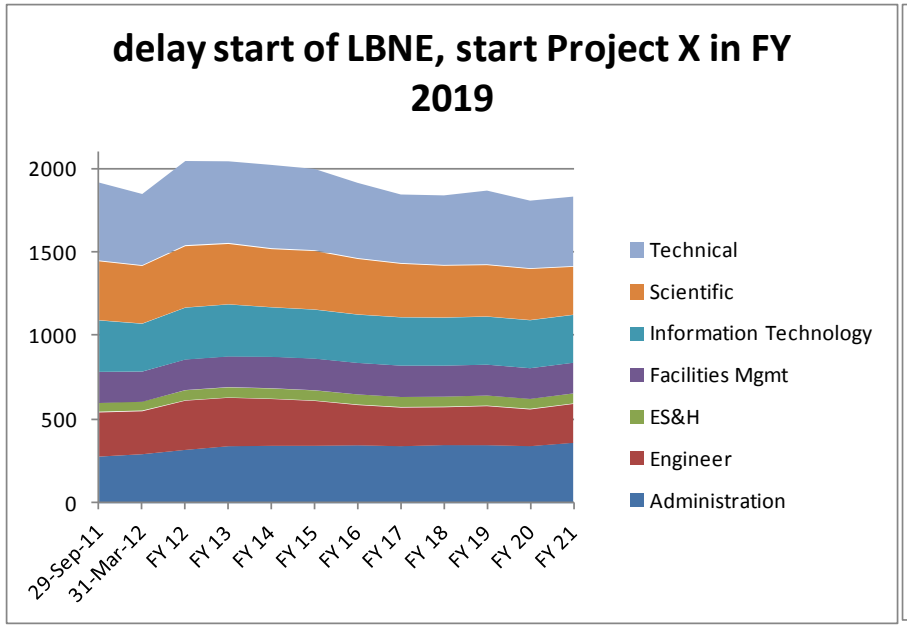

Facilities Management
(from 7a)
195
193
191
189
187
185
183
181
179
177
175
29-Sep-11
30-Apr-12
15-May-12
FY 12
FY 13
FY 14
FY 15
FY 16
FY 17
FY 18
FY 19
FY 20
FY 21
OHAP delay start of LBNE
start FULL LBNE in FY 2015
Actual WDRS FTEs
Jan 2012 Budget Upload

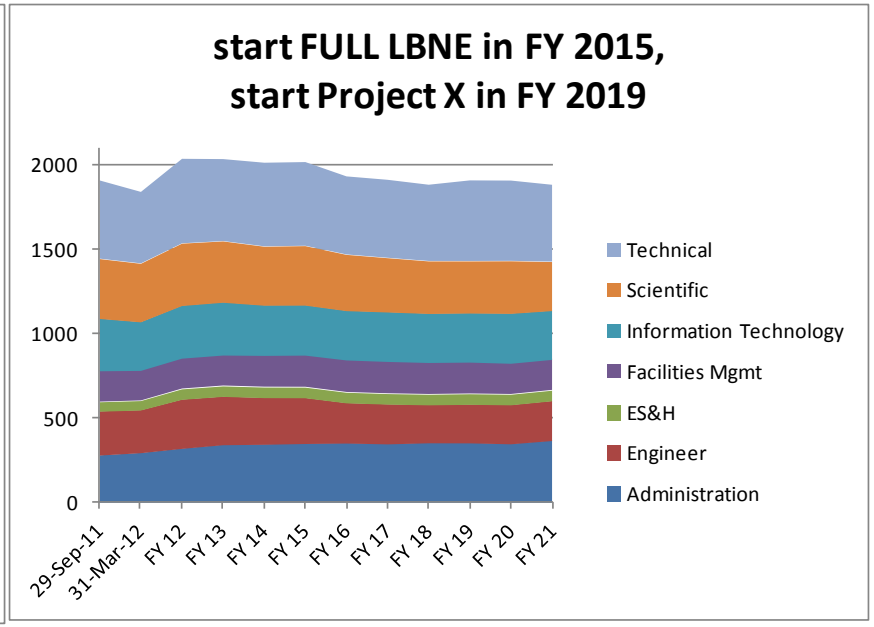

Information Technology
(from 7a)
315
310
305
300
295
290
285
29-Sep-11
30-Apr-12
15-May-12
FY 12
FY 13
FY 14
FY 15
FY 16
FY 17
FY 18
FY 19
FY 20
FY 21
OHAP delay start of LBNE
start FULL LBNE in FY 2015
Actual WDRS FTEs
Jan 2012 Budget Upload


Scientific
(from 7a)
375
365
355
345
335
325
315
305
295
285
275
29-Sep-11
30-Apr-12
15-May-12
FY 12
FY 13
FY 14
FY 15
FY 16
FY 17
FY 18
FY 19
FY 20
FY 21
OHAP delay start of LBNE
start FULL LBNE in FY 2015
Actual WDRS FTEs
Jan 2012 Budget Upload



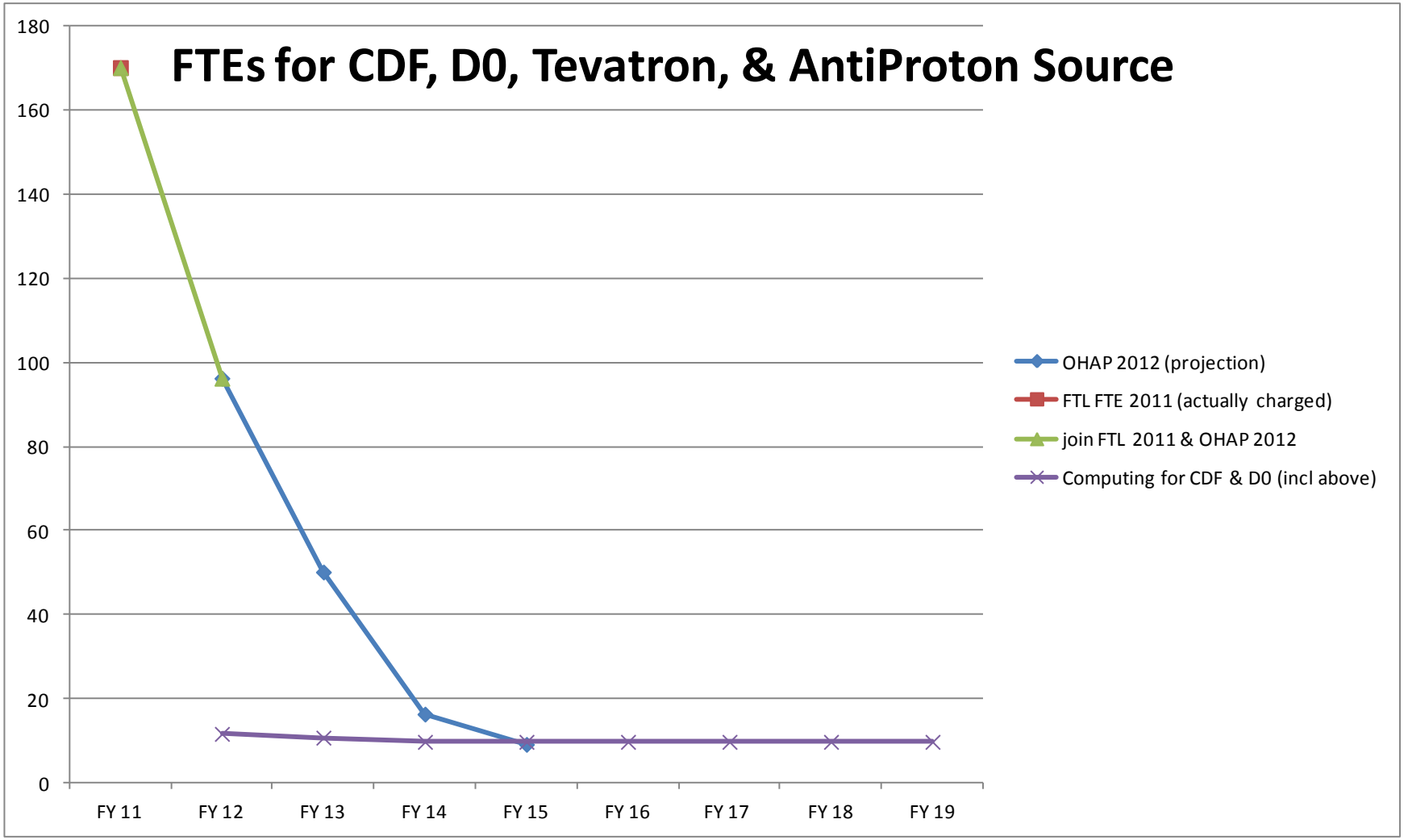




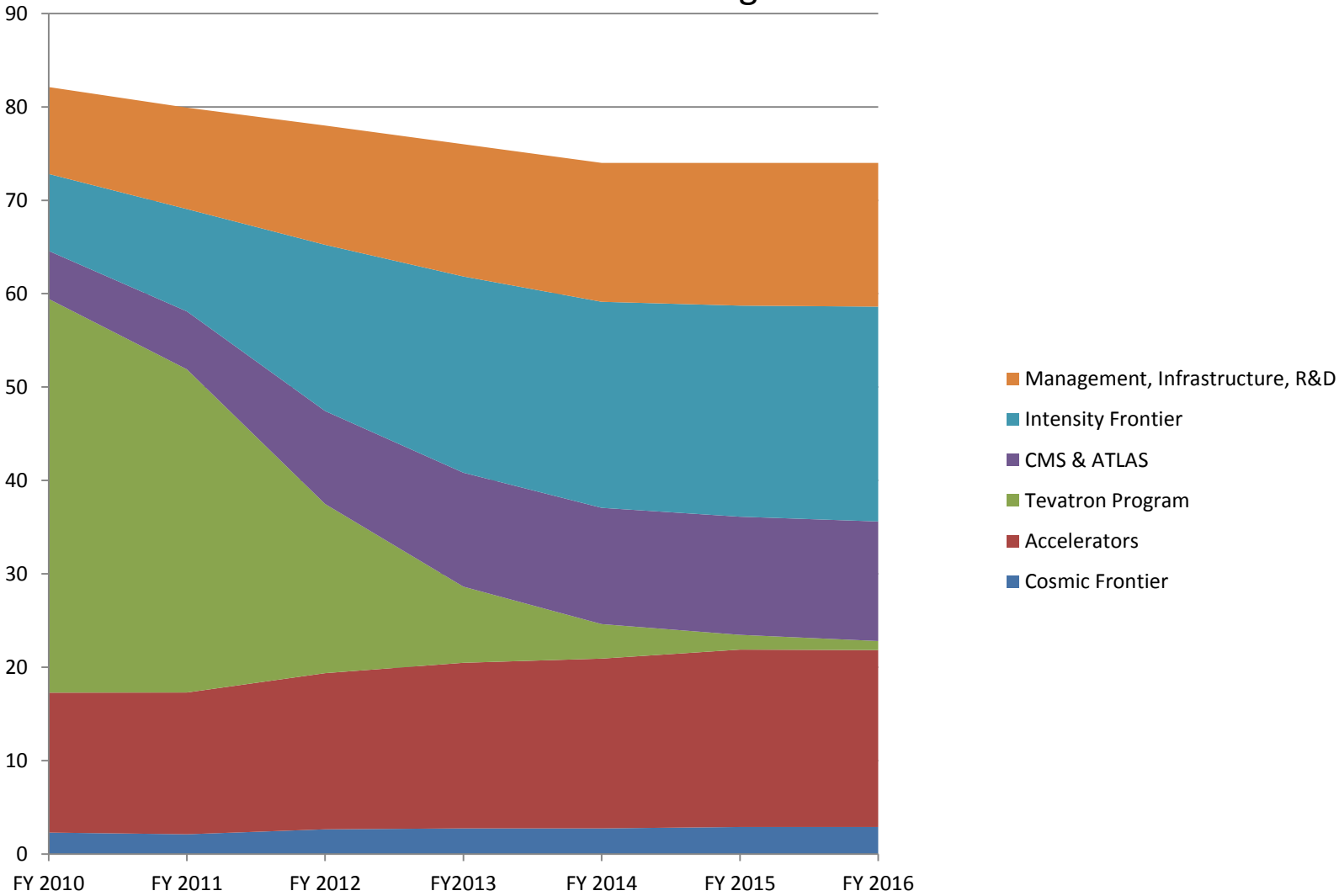


NOT updated since version 5a/b presented on May 14, 2012

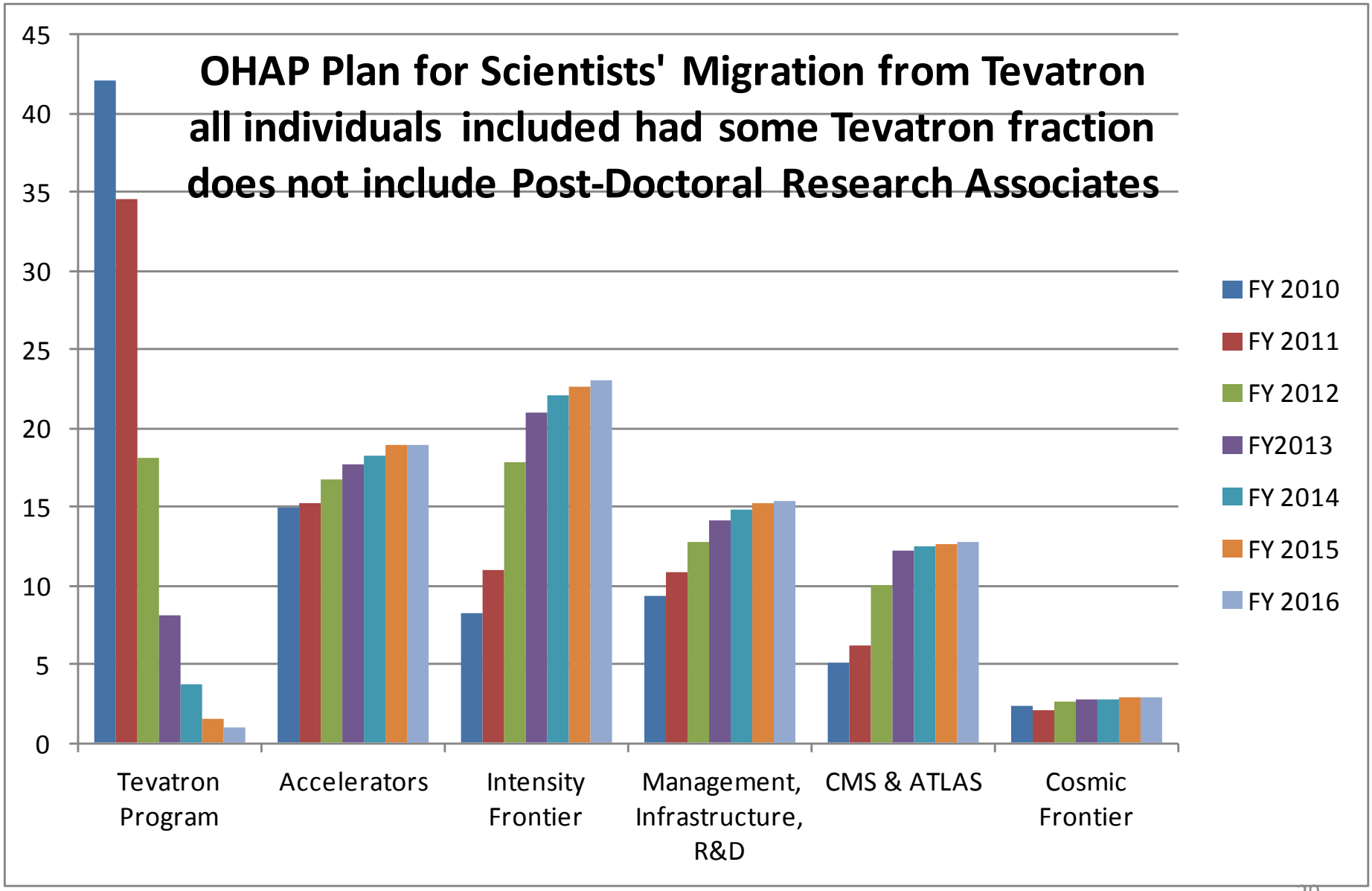
from OHAP FY 2012 & FY 2011 FTL FTEs



Scientists' Migration from Tevatron + Antiproton Source + CDF + D0
does not include Post-Doctoral Research Associated
All individuals had listed some Tevatron Program effort over FY 2010-16



from Scientist Survey FY 2012



"under-requested" geodesists, metrologists, machinists, welders

- Show statistics & FY 2011 FTE usage
- Not directly head-counted by Accelerator Div.
- Use OHAP needs based on experience of E. Gottschalk (alignment) & J. Blowers (shop)
- Bumps in all categories for LBNE – start FY 2015
- Bump in Machinists & Welders for Project X in FY 2021 (and following years)

identifying the gaps

3 year gaps - 7a	OHAP needs	OHAP needs	OHAP needs								
Row Labels	Sum of FY12	Sum of FY13	Sum of FY14	Avgerage OHAP need FY12-14	Jan 2012 Budget Upload for FY12	Jan 2012 Budget Upload for FY13	Jan 2012 Budget Upload for FY14	Census 11may12	shortfall = <need> - Census	Avg age	# .ge. 60 yrs
Administration	**297.4**	**318.3**	**322.2**	312.6	268.3	264.5	260.3	288	25	51.7	68
Engineer	**294.5**	**288.7**	**280.2**	287.8	249.8	235.7	233.3	258	30	50.1	70
ES&H	**61.0**	**62.0**	**62.7**	61.9	58.9	59.0	59.3	57	5	49.9	9
Facilities Mgmt	**180.5**	**181.3**	**185.9**	182.5	180.0	177.0	177.0	178	5	52.6	47
Information Technology	**313.3**	**313.2**	**297.5**	308.0	300.7	292.8	290.5	287	21	48.6	34
Scientific	**370.2**	**365.8**	**349.8**	361.9	358.9	333.8	330.8	343	19	49.0	80
Technical	**515.6**	**502.4**	**497.4**	505.1	416.7	387.6	391.6	426	79	51.4	85
Grand Total	**2032.4**	**2031.6**	**1995.7**	2019.9	1833.1	1750.4	1742.3	1837	183	50.4	393

3 year gaps - 7a

Row Labels	Avgerage OHAP need FY12-14	Jan 2012 Budget Upload for FY13	Census 11may12	shortfall = <need> - Census	Avg age	# .ge. 60 yrs
Administration	312.6	264.5	288	25	51.7	68
Engineer	287.8	235.7	258	30	50.1	70
ES&H	61.9	59.0	57	5	49.9	9
Facilities Mgmt	182.5	177.0	178	5	52.6	47
Information Technology	308.0	292.8	287	21	48.6	34
Scientific	361.9	333.8	343	19	49.0	80
Technical	505.1	387.6	426	79	51.4	85
Grand Total	2019.9	1750.4	1837	183	50.4	393

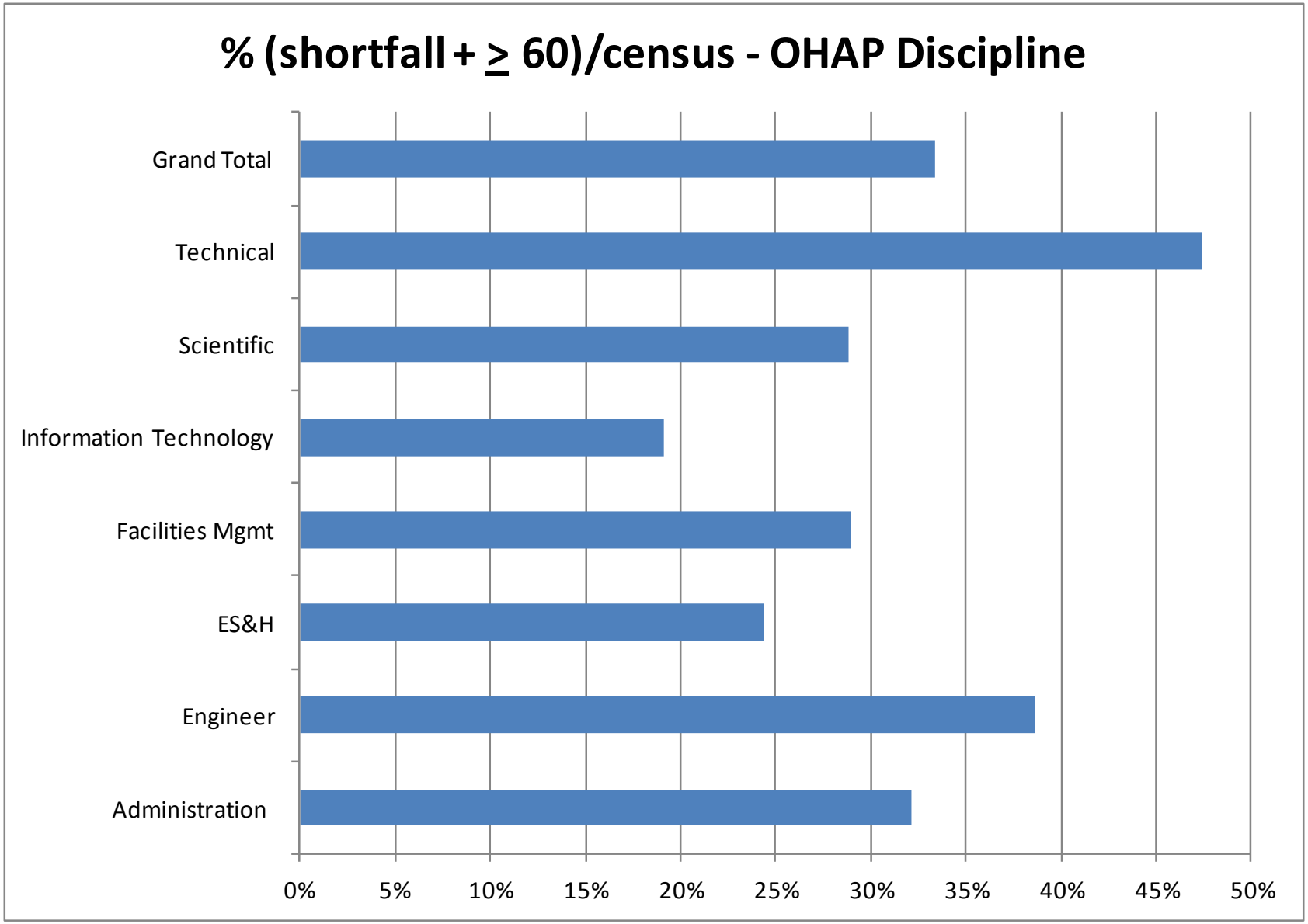
3 year gaps - 7a - adjust alignment & shop needs - guests combined below

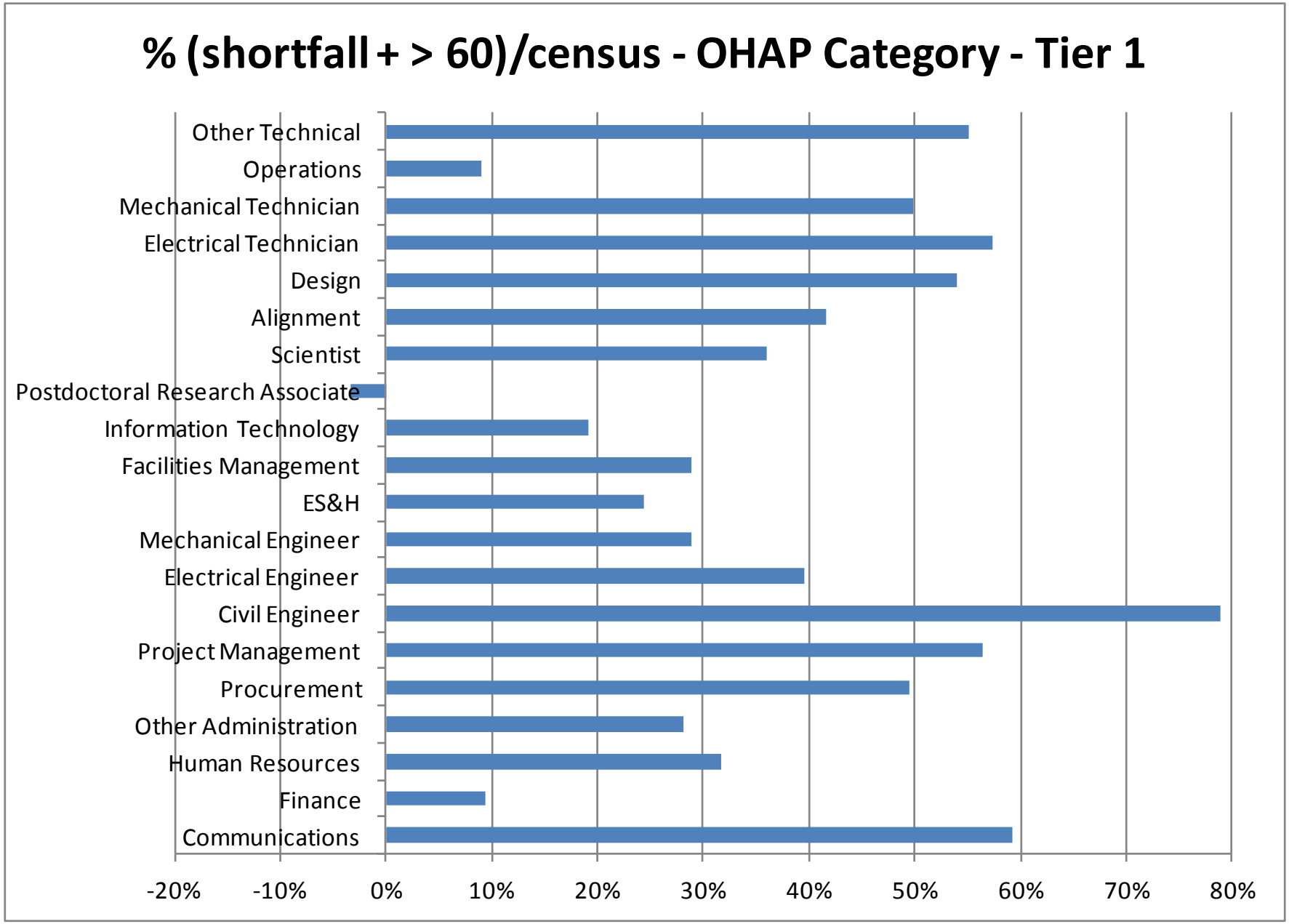
Row Labels	Avgerage OHAP need FY12-14	Jan 2012 Budget Upload for FY13	Census 11may12	shortfall = <need> - Census	Avg age	# .ge. 60 yrs
Administration	312.6	264.5	288	25	51.7	68
Communications	18.1	14.9	12	6	43.7	1
Finance	43.2	41.5	44	-1	49.5	5
Human Resources	51.9	32.6	47	5	49.4	10
Other Administration	128.3	114.7	129	-1	53.0	37
Procurement	23.4	24.0	21	2	56.0	8
Project Management	47.8	36.8	35	13	52.7	7
Engineer	287.8	235.7	258	30	50.1	70
Civil Engineer	34.9	24.0	24	11	52.9	8
Electrical Engineer	130.7	113.2	123	8	52.9	41
Mechanical Engineer	122.1	98.5	111	11	46.3	21
ES&H	61.9	59.0	57	5	49.9	9
Facilities Mgmt	182.5	177.0	178	5	52.6	47
Information Technology	308.0	292.8	287	21	48.6	34
Scientific	361.9	333.8	343	19	49.0	80
Postdoctoral Research Associate	60.0	69.3	62	-2	33.2	0
Scientist	301.9	264.5	281	21	52.4	80
Technical	543.0	387.6	426	117	51.4	85
Alignment	15.0	12.0	12	3	55.0	2
Design	53.1	41.1	39	14	51.7	7
Electrical Technician	136.0	98.6	101	35	52.5	23
Mechanical Technician	227.4	165.0	177	50	52.3	38
Operations	53.7	53.7	52	2	42.5	3
Other Technical	57.8	17.2	45	13	54.4	12
Grand Total	2057.7	1750.4	1837	221	50.4	393

3 year gaps - 7a

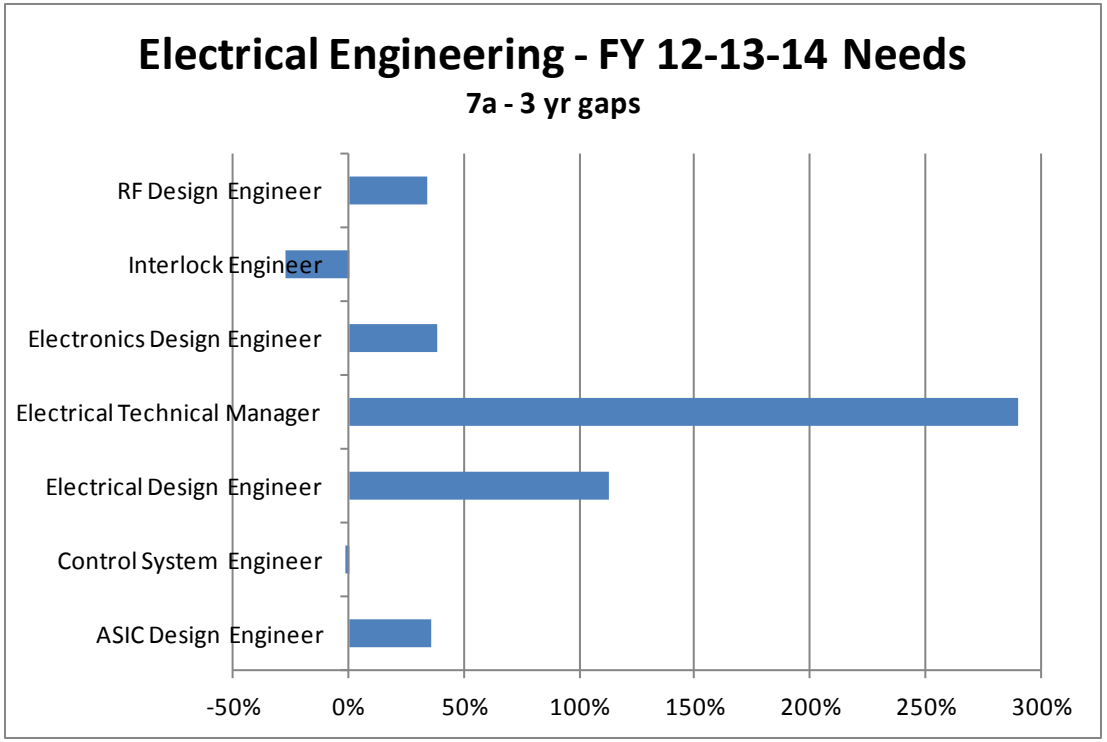
Row Labels	Avgerage OHAP need FY12-14	Jan 2012 Budget Upload for FY13	Census 11may12	shortfall = <need> - Census	Avg age	# .ge. 60 yrs
Administration	312.6	264.5	288	25	51.7	68
Communications	18.1	14.9	12	6	43.7	1
Media Services	6.0		5	1	50.4	1
Public Relations	12.1		7	5	38.9	0
Finance	43.2	41.5	44	-1	49.5	5
Accounting-Accountar	15.8		15	1	46.5	0
Accounting-Clerical	13.0		11	2	53.4	1
Operations Finance	14.4		18	-4	49.6	4
Human Resources	51.9	32.6	47	5	49.4	10
Benefits	6.0		5	1	50.4	0
Compensation	2.0		2	0	47.0	0
Early Childhood Educa	13.5		15	-2	44.5	0
Education	14.6		9	6	60.1	7
Employee/Labor Relat	1.0		2	-1	49.0	0
Equal Opportunity	2.0		2	0	59.0	1
HRIS	2.0		2	0	52.5	0
Human Resources Ger	5.6		5	1	50.2	2
International Human F	2.0		2	0	34.5	0
Recruitment	3.2		3	0	41.3	0
Other Administration	128.3	114.7	129	-1	53.0	37
Administrative Suppo	90.5		95	-5	52.1	21
Audit	3.0		3	0	42.7	0
Executive Direction	13.6		14	0	59.3	8
General Administrativ	9.0		5	4	53.2	1
Legal	2.9		2	1	47.5	1
Library	4.8		5	0	55.6	3
Training	2.8		4	-1	57.8	3
Travel	1.8		1	1	59.0	0
Procurement	23.4	24.0	21	2	56.0	8
Procurement	23.4		21	2	56.0	8
Project Management	47.8	36.8	35	13	52.7	7
Project Controls	9.4		8	1	56.8	3
Project Finance	7.8		4	4	42.8	0
Project Manager	26.3		15	11	54.9	4
Project Support	4.3		8	-4	49.9	0
Engineer	287.8	235.7	258	30	50.1	70

algorithm for “concern”




% (shortfall + > 60)/census - OHAP Category - Tier 1
Other Technical
Operations
Mechanical Technician
Electrical Technician
Design
Alignment
Scientist
Postdoctoral Research Associate
Information Technology
Facilities Management
ES&H
Mechanical Engineer
Electrical Engineer
Civil Engineer
Project Management
Procurement
Other Administration
Human Resources
Finance
Communications
-20%
-10%
0%
10%
20%
30%
40%
50%
60%
70%
80%

The "Romesh" Effect when you go to Tier 2 Functional Role



Electrical Technical Manager

DZero Decommissioning	0.10
ILC	0.20
KA 15 Detector R&D	0.65
Lab Support/Management - Technical Division	1.27
Mu2e On-Project	0.40
Project X - Stage 1	0.20
Proton Source	0.25
SRF	0.30
total OHAP need for FY 2012	3.37
Have (TD = R. Sood)	1

requested incorrect OHAP Functional Role

Concentrate on “key” capabilities

Prior Concerns

- Cryogenic Engineers
- RF Engineers
- Target Engineers
  - ***no such category!***
- Project Managers
- Project Controls
  - ***use contractors***
- Procurement

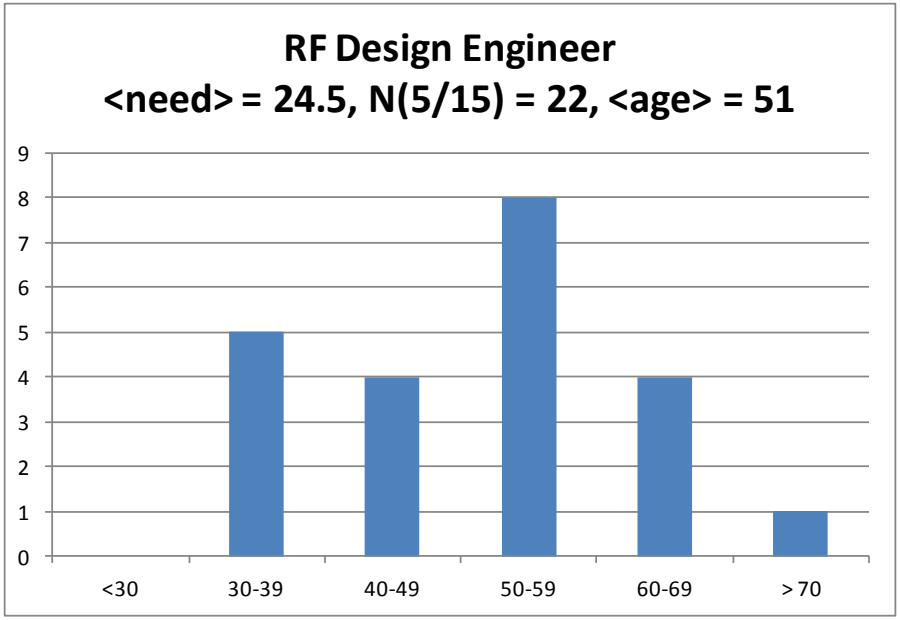
New Concerns

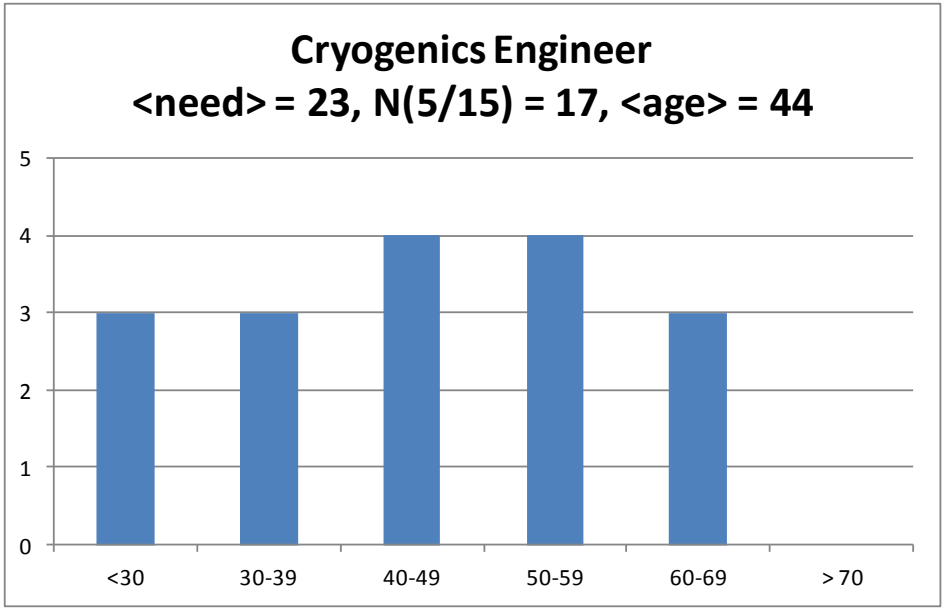
- Electrical Engineers
- Mechanical Engineers
  - ***guest engineers?***
  - ***effectiveness?***
  - ***just graduate students?***
- Electrical Technicians
- Mechanical Technicians
- ***can contractors help here?***

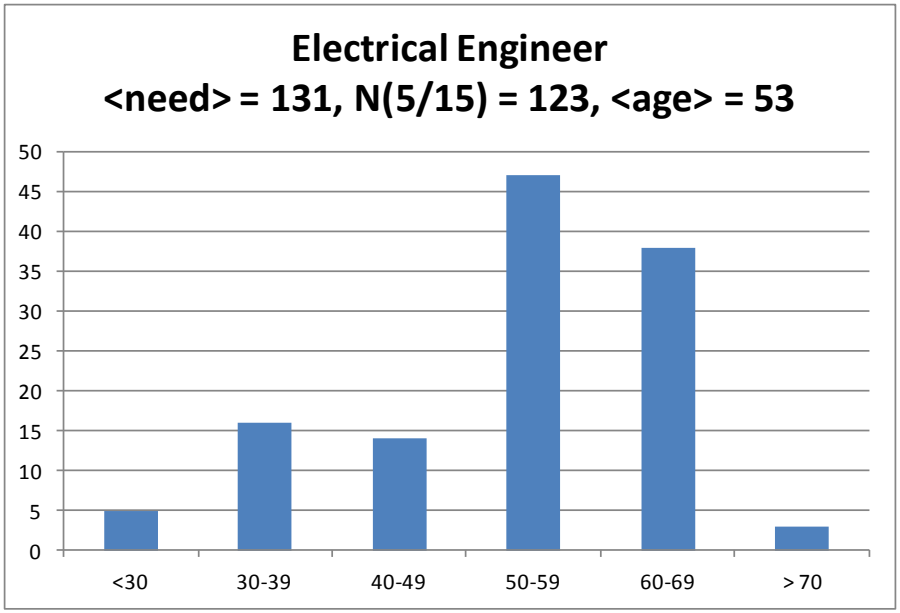
No idea even how many Visitors from US institutions under Purchase Orders – not in PeopleSoft

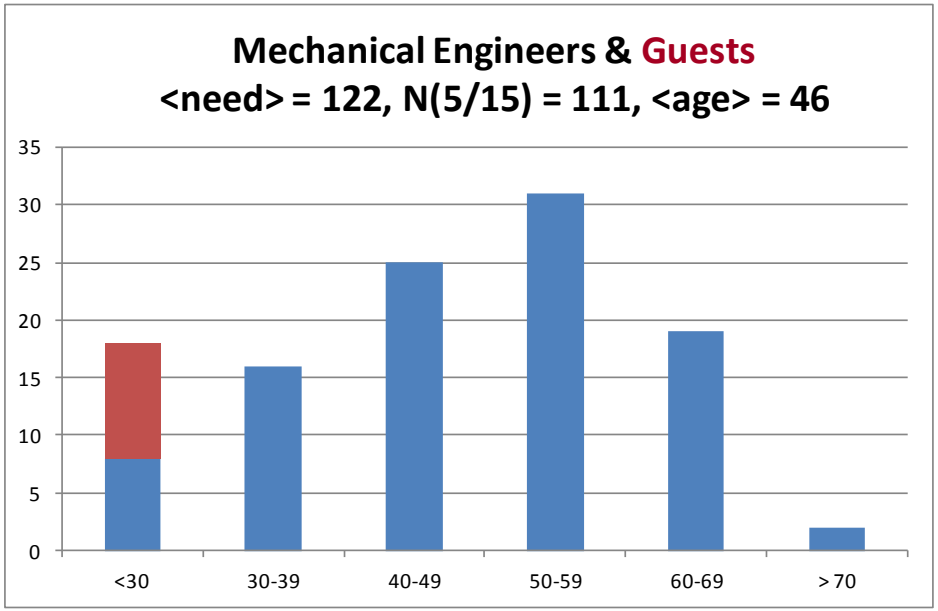
“key” capabilities

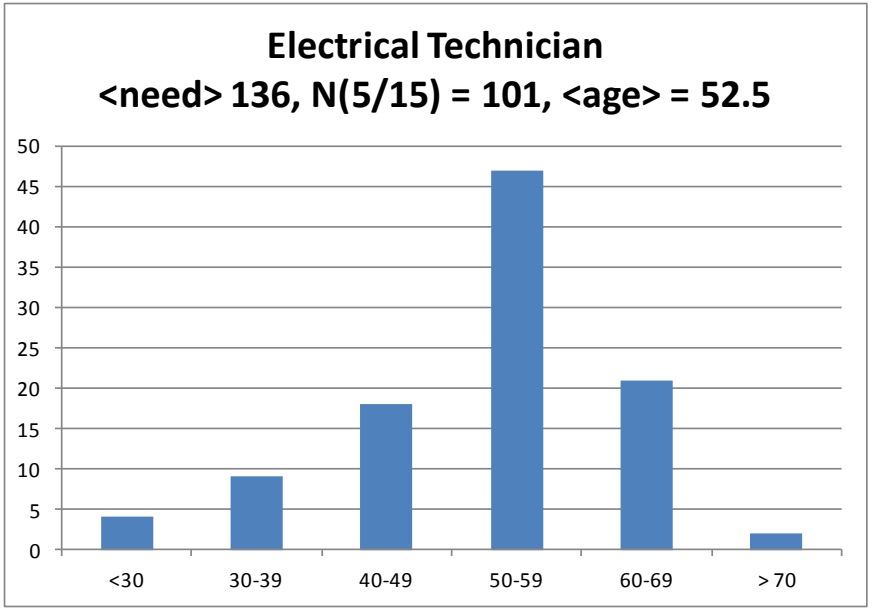
Key Capabilities Concern by OHAP Role ohap 7a	OHAP <need> FY12-14	Census 11may2012	Avg Age	# .ge. 60 yrs	Comments & Strategy
Cryogenic Engineers	23.4	17	44.2	3	
RF Engineers	24.5	22	51.0	5	
Target Engineers					no such OHAP Category
Project Managers	26.3	14	54.9	4	re-use Scientists
Project Controls	9.4	8	5.8	3	use contractors
Procurement	23.4	21	56.0	8	
Electrical Engineers	130.7	123	52.9	8	
Mechanical Engineers	122.1	111	46.3	21	includes 10 Guest Engineers
Electrical Technicians	136.0	101	52.5	23	
Mechanical Technicians	227.4	177	52.3	38	

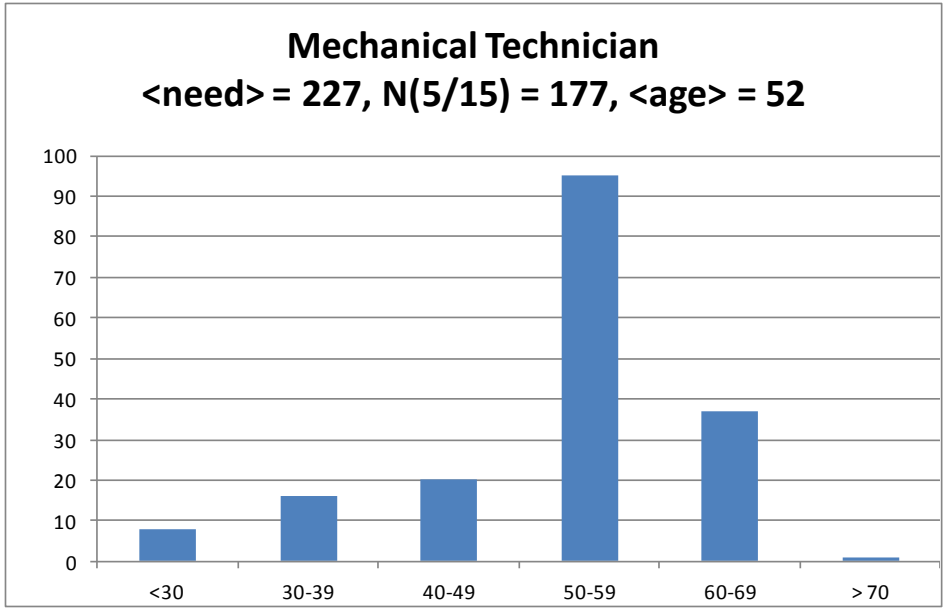

RF Design Engineer
<need> = 24.5, N(5/15) = 22, <age> = 51
9
8
7
6
5
4
3
2
1
0
<30
30-39
40-49
50-59
60-69
> 70

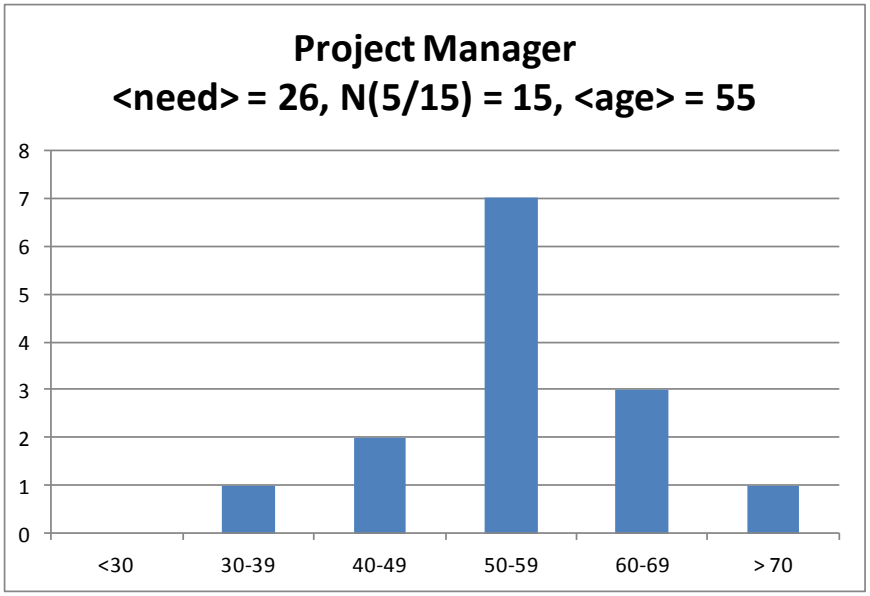

Cryogenics Engineer
<need> = 23, N(5/15) = 17, <age> = 44
5
4
3
2
1
0
<30
30-39
40-49
50-59
60-69
> 70


Electrical Engineer
<need> = 131, N(5/15) = 123, <age> = 53
50
45
40
35
30
25
20
15
10
5
0
<30
30-39
40-49
50-59
60-69
> 70


Mechanical Engineers & Guests
<need> = 122, N(5/15) = 111, <age> = 46
35
30
25
20
15
10
5
0
<30
30-39
40-49
50-59
60-69
> 70


Electrical Technician
<need> 136, N(5/15) = 101, <age> = 52.5
50
45
40
35
30
25
20
15
10
5
0
<30
30-39
40-49
50-59
60-69
> 70


Mechanical Technician
<need> = 227, N(5/15) = 177, <age> = 52
100
90
80
70
60
50
40
30
20
10
0
<30
30-39
40-49
50-59
60-69
> 70


Project Manager
<need> = 26, N(5/15) = 15, <age> = 55
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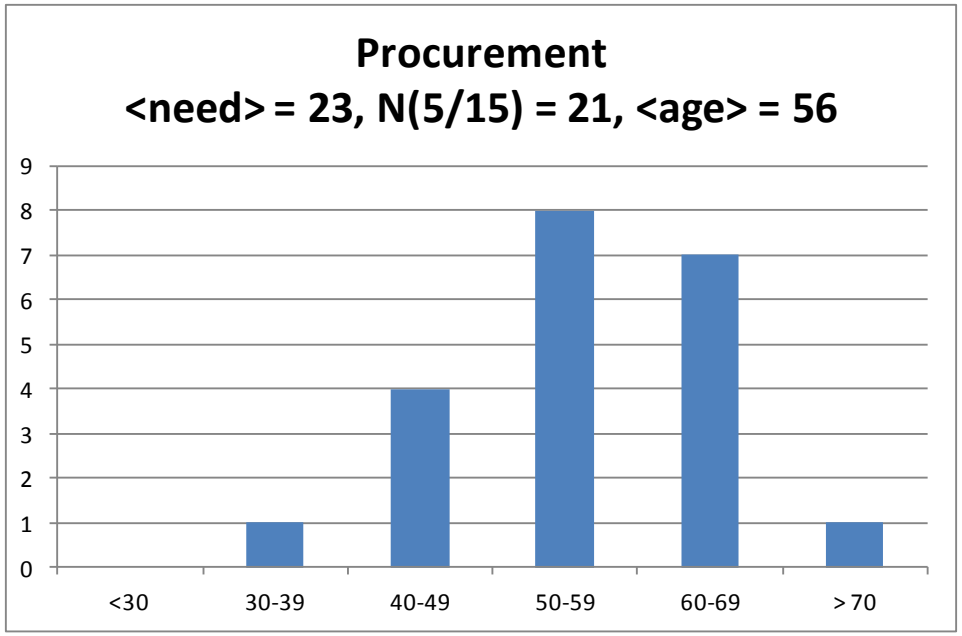
7
6
5
4
3
2
1
0
<30
30-39
40-49
50-59
60-69
> 70


Procurement
<need> = 23, N(5/15) = 21, <age> = 56
9
8
7
6
5
4
3
2
1
0
<30
30-39
40-49
50-59
60-69
> 70

lessons learned?

- Should we ensure agreement with SWF budgets?
  These, too, are inadequate to do the job!
- Is a 10 year projection too ambitious?
  Industry typically does 3 (or 5) year projections
- Carl S: in era of reduced workforce, gotta move ***specialization*** => ***generalization*** (cross-training) of skills and capabilities for individuals
- Would compiling Tier 3: experience & abilities of individuals be useful? PCz for Engineers.

lessons & questions - continued

- Do we need to continue to refine OHAP data or to develop a ***plan*** to meet the gaps?
- Is addressing the needs the responsibility of D/S/C or Directorate?

"Show me the money!"

- Are we willing to reassign personnel over D/S/C and Sector lines?
- How do we ensure good OHAP data through WDRS: at hiring, promotion, transfer, reviews?

- What are ***your*** comments and suggestions?

Compare OHAP Activity vs. Computing Sector		FY 2012	FY 2012	FY 2012	FY 2012	FY 2012	FY 2012	FY 2015	FY 2015	FY 2015	FY 2015	FY 2015	FY 2015	FY 2018	FY 2018	FY 2018	FY 2018	FY 2018	FY 2018
Activity	**Submitted**	**Act IT**	**CD IT**	**Act Sci**	**CD Sci**	**Act Eng**	**CD Eng**	**Act IT**	**CD IT**	**Act Sci**	**CD Sci**	**Act Eng**	**CD Eng**	**Act IT**	**CD IT**	**Act Sci**	**CD Sci**	**Act Eng**	**CD Eng**
Accelerator Modeling	Spentz	5.1	6.3	3.7	2.1			5.1	6.6	5.0	2.6			5.8	6.6	5.2	2.5		
CDF (Computing IT forever)	Lindgren	11.7	5.5	27.7	2.3			0.0	5.5					0.0	5.5				
CMS	McBride	28.5	28.2	73.3	5.3	6.0	0.9	28.5	28.2	78.3	6.6	1.0	0.9	28.5	28.2	79.3	6.6	1.0	0.9
CMS Upgrades	McBride			0.8		12.8				2.0		11.5				1.0		17.0	
DZero (Computing IT forever)	Ginther	6.2	6.2	23.3	3.2			3.0	4.3	4.8	0.6				4.3		0.5		
External Beams	C Moore	0.5		1.0		3.5		0.5		0.6	0.1	1.4		0.5		0.6	0.1	1.4	
KA 13 Cosmic Frontier	Bauer	3.6	3.6	32.5	8.8	4.9	1.3	3.3	3.6	31.9	8.0	3.3	1.3	3.3	3.6	31.6	7.8	1.5	1.6
KA 15 DetectorR&D	Ramberg	0.4		1.0	2.4	16.3	2.6	0.4		1.0	2.6	16.3	2.6	0.4		1.0	2.5	15.3	2.6
LBNE Computing			0.6						0.7		0.8				0.7		0.9		
LBNE Off-Project	Strait/McCluskey			7.2						12.8						4.8			
LBNE On-Project	Strait/McCluskey							2.5				23.3		2.6				19.0	
LBNE Pre-Construction	Strait/McCluskey	0.8		4.9		17.1													
MicroBooNE Computing			1.0				0.3				0.6						0.4		
MicroBooNE Off-Project	C James			2.0				0.1		5.0		0.1		0.1		3.0		0.1	
MicroBooNE On-Project	C James	1.0		1.2		2.2													
MINERvA	D Harris	7.1	0.2	6.0	0.3	3.2		5.7	0.2	6.0	0.8	1.0		4.9	0.2	6.0	0.8	0.8	
MiniBooNE	Brice	0.1	0.4		0.1				0.4						0.4				
MINOS	Brice	1.7	0.4	4.0				1.7	0.4	4.5					0.4				
Mu2e Computing			4.8		1.1		2.3		1.5		2.6		1.3		1.5		2.7		1.3
Mu2e Off-Project	Ray			5.0						5.0						5.0			
Mu2e On-Project	Ray	1.3		11.2		12.9				10.0		8.8				3.0		1.1	
Muon g-2 Computing											0.3						0.4		
Muon g-2 Off-Project	Polly			1.5						5.0						5.0			
Muon g-2 On-Project	Polly			3.4		1.7		0.2		1.1		3.7							
NOvA Computing			1.1		1.2		1.6				0.5						0.5		
NOvA Off-Project	J. Cooper			10.6						10.6						9.7			
NOvA On-Project	J. Cooper	2.3				19.4													
Project X	Holmes	1.6	0.8	6.4	0.8	11.5	0.7	4.4	1.0	12.6	1.0	28.2	0.9	4.4	1.0	12.6	1.0	28.2	0.9
SRF	Stanek	2.3		11.0		36.0	0.3	2.0		11.9		33.3	0.2	1.6		3.7		17.3	0.2
	total =	74.2	59.1	237.7	27.6	147.5	10.0	57.4	52.4	208.1	27.1	131.9	7.2	52.1	52.4	171.5	26.7	102.7	7.5

still needed for OHAP 2012

PHG – 14may2012

- checks, duplicates, and fixes:
  - Computing Sector vs. Activities: Projects/Programs for IT
  - Activity/CS for IT = 74/59 (FY12), 57/52 (FY15), 52/52 (FY18)
  - MINERvA Information Technology => “excessive”
  - Using Computing Sector OHAP for MINERvA:
  - Activity/CS for IT = 67/59 (FY12), 52/52 (FY 15), 47/52 (FY18)
- under-requested (see discussion on next page): geodesist, metrologist, machinist, welder
- “maturing” workforce studies – project attrition
  - Dean: got birth-yr distributions for OHAP functionalities
- complete Gap Analysis
  - are Guest Engineers & Guest Scientists really gap-fillers?