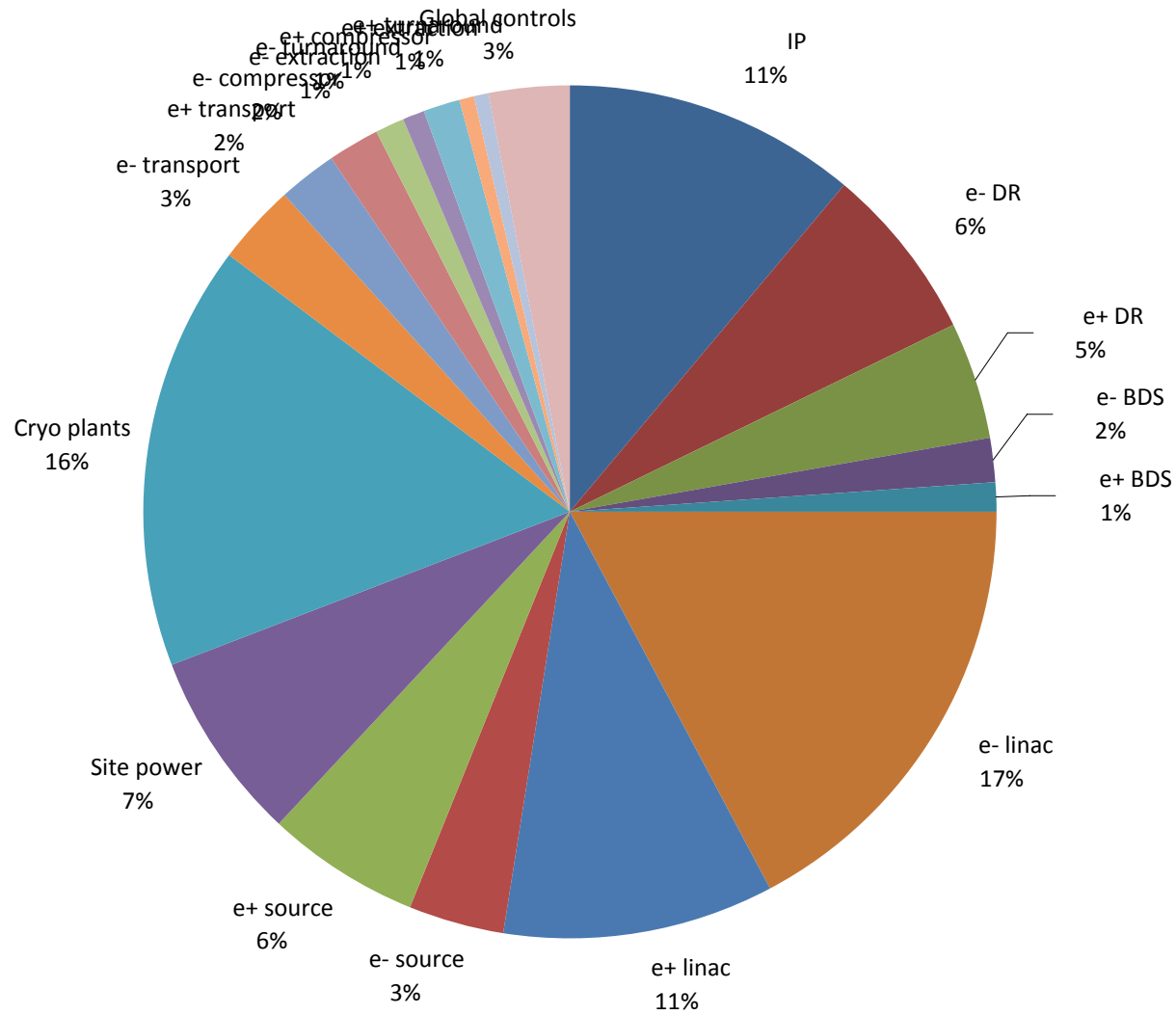
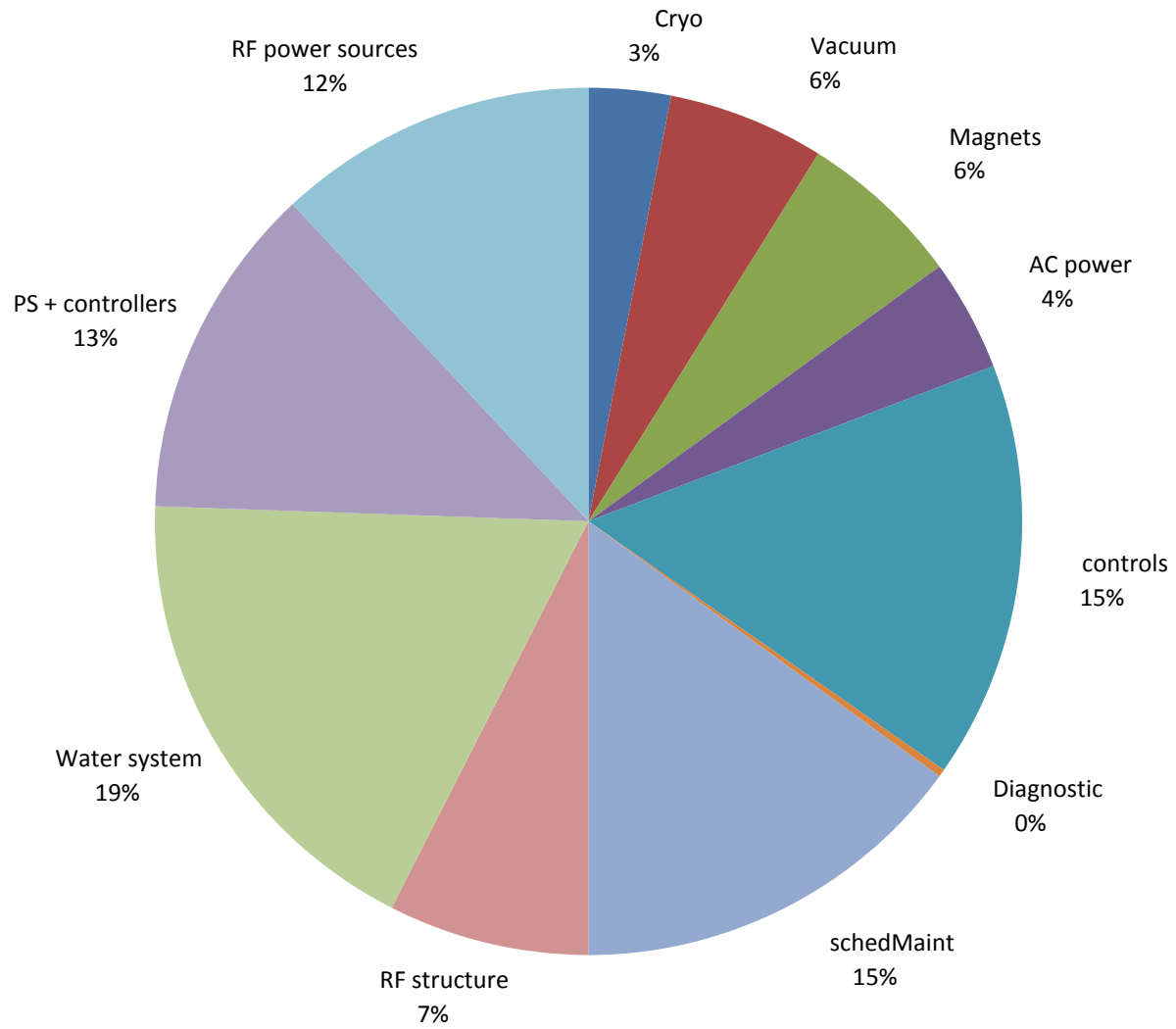


# Total



# Total



Sum of % down * 100	
comp name	Total
cryo plant beamline	273,0
schedMaintn	191,4
site power beamline	121,4
Water pumps klystron	69,2
Water pumps beamline	60,1
local backbone sector	54,9
other controls klystron	51,6
PS Corrs can tune around beamline	51,1
Controls sitewide beamline	50,8
Electrical - .05<<0.5 Utility power	44,6
Water instr klystron	42,0
Quads beamline	41,4
klys pre-amp klystron	37,9
VacV controller beamline	36,8
coupler interlock electronics coupler	36,1
Power supplies individual beamline	35,6
Klystron DRFS klystron	35,5
Water instr beamline	34,9
Modulators klystron	31,4
Klystron 10MW klystron	30,7
Vac Mech device beamline	28,4
MPS & FastFdbk region	25,6
PS controller - corr can tune around beamline	22,2
controls backbone sector	21,9
Flow Switch - quads beamline	20,7
cryo JT valve cryo string	19,4
PS controller string beamline	18,0
insulating vacuumP cryo string	17,7
timing sector	16,8
LLRF cavity	15,5
VacP power supply coupler	15,1
timing klystron	13,0
coupler interlock sensors coupler	11,2
Kicker pulser - ext beamline	10,0
VacV beamline	9,7
power coupler coupler	7,9
Kickers - extraction beamline	7,5
Bends beamline	6,8
VacP power supply klystron	6,8
MPS & FFWD region	6,6
Kicker pulser - inj beamline	6,3
Klys Power supply klystron	6,2
PS - quad can tune around beamline	6,0
Corrs - can tune around beamline	5,9
Cavity tuner cavity	5,6
Electrical - >0.5 klystron	4,6

Sextupoles beamline	4,5
Kickers - injection beamline	4,2
Electrical - .05<<0.5 klystron	4,1
Controls PPS region	3,4
laser beamline	3,0
PS Corrs can't tune around beamline	2,9
Q/S Movers beamline	2,7
FC pulser beamline	2,1
VacP power supply beamline	1,6
Flow Switch klystron	1,4
Electrical>0.5 Utility power	1,4
Wigglers beamline	1,4
PS controller - quad can tune around beamline	1,4
Pulse transformers klystron	0,9
Power supplies strings beamline	0,9
Flow Switch beamline	0,7
PS controller - corr can't tune around beamline	0,7
Cavity piezo tuner cavity	0,5
HVPS beamline	0,4
VacG/Ctrl klystron	0,4
other controls beamline	0,3
Quads SC beamline	0,2
Octupoles beamline	0,0
Corrs - can't tune around beamline	0,0
timing beamline	0,0
Laser PS beamline	0,0
VacP klystron	0,0
cryo vac enclosure cryo module	0,0
Electrical - .05<<0.5 beamline	0,0
wire scanners diagnostic	0,0
insulating vacuumP cryo module	0,0
Kickers beamline	0,0
VacP beamline	0,0
power coupler disc coupler	0,0
Kicker diagnostic	0,0
Power supplies - bend beamline	0,0
Kicker pulser beamline	0,0
quad or corr beamline	0,0
(blank)	
Quad/Sext trims beamline	0,0
HVPS controller beamline	0,0
Cavities cavity	0,0
Undulators beamline	0,0
mover controller beamline	0,0
Power supplies Trims beamline	0,0
Flux Concentrator beamline	0,0
VacP coupler	0,0
laser wires diagnostic	0,0
BPMs diagnostic	0,0
Sextupoles SC beamline	0,0

cryo vac enclosure cryo segment	0,0
klys filament supply klystron	0,0
LLRF klystron	0,0
Solenoids beamline	0,0
Kicker pulser diagnostic	0,0
spare klystron klystron	0,0
klys solenoid supply klystron	0,0
spare target beamline	0,0
Electrical - >0.5 beamline	0,0
Target beamline	0,0
pulse cables klystron	0,0
movr or trim beamline	0,0
Grand Total	1704,9

This is a pivot table. You can double click on an item to get more detail

Sum of % down * 100	
system	Total
lumped	445,2
Water system	229,0
controls	194,1
schedMaint	191,4
PS + controllers	157,6
RF power sources	149,8
RF structure	91,9
Vacuum	76,5
Magnets	74,6
AC power	54,7
Cryo	37,1
Diagnostic	3,0
(blank)	
Grand Total	1704,9

This is a pivot table. You can double click on an item to get more detail

Sum of % down * 100	
region	Total
e- linac	292,3
Cryo plants	273,0
IP	191,4
e+ linac	179,8
Site power	121,4
e- DR	109,4
e+ source	103,6
e+ DR	80,0
e- source	57,0
e- transport	54,8
Global controls	50,8
e+ transport	34,4
e- compressor	33,5
e- BDS	25,8
e+ compressor	23,3
e+ BDS	18,7
e- extraction	18,7
e- turnaround	15,2
e+ turnaround	12,0
e+ extraction	9,8
(blank)	
Grand Total	1704,9

18:37 ILC109 but linac  
in 1 tunnel and DRFS  
frac down\*1e4

n failures causing down	n failures ignored	n failures not ignored	comp name
3,0	7	1	7 laser beamline
0,0	0	0	0 Laser PS beamline
0,0	0	1	0 Vac Mech device beamline
0,0	0	0	0 VacP beamline
1,6	5	3	5 VacP power supply beamline
0,0	0	0	0 VacV beamline
0,0	0	0	0 VacV controller beamline
0,0	0	1	0 timing beamline
0,3	1	0	1 other controls beamline
1,6	2	1	2 Water pumps beamline
0,0	0	0	0 Water instr beamline
0,0	0	0	0 Flow Switch beamline
0,0	0	0	0 Electrical - >0.5 beamline
0,0	0	0	0 Electrical - .05<<0.5 beamline
0,0	0	0	0 Corrs - can't tune around bea
0,4	1	0	1 HVPS beamline
0,0	0	0	0 HVPS controller beamline
0,3	1	0	1 PS Corrs can't tune around be
0,0	0	1	0 PS controller - corr can't tune
0,0	0	0	0 Vac Mech device beamline
0,0	0	0	0 VacP beamline
0,0	0	0	4 VacP power supply beamline
0,0	0	0	0 VacV beamline
0,0	0	0	0 VacV controller beamline
0,0	0	0	0 BPMs diagnostic
0,0	0	0	0 controls backbone sector
0,3	1	0	1 local backbone sector
0,0	0	0	0 Controls PPS region
0,9	2	0	2 MPS & FastFdbk region
0,0	0	1	0 Electrical>0.5 Utility power
1,0	2	0	2 Electrical - .05<<0.5 Utility po
0,0	0	0	0 Bends beamline
0,0	0	0	0 Quads beamline
0,0	0	0	0 Corrs - can't tune around bea
0,0	0	0	0 Solenoids beamline
0,0	0	0	0 Wigglers beamline
0,0	0	0	0 Kickers beamline
0,0	0	0	0 Kicker pulser beamline
0,0	0	0	0 Power supplies strings beamli
1,0	2	0	2 PS Corrs can't tune around be
0,0	0	0	0 Power supplies Trims beamli
0,2	1	0	1 PS controller string beamline
0,0	0	0	0 PS controller - corr can't tune
0,0	0	0	0 mover controller beamline
0,0	0	0	0 Flow Switch - quads beamline



0,0	0	0	0 cryo vac enclosure cryo segm
2,7	1	0	1 Vac Mech device beamline
0,0	0	0	0 VacP beamline
0,0	0	3	3 VacP power supply beamline
0,0	0	0	0 VacV beamline
0,4	1	0	1 VacV controller beamline
0,6	1	3	1 Water pumps beamline
0,0	0	0	0 Water instr beamline
0,0	0	0	0 Flow Switch beamline
0,0	0	1	3 BPMs diagnostic
0,0	0	0	0 laser wires diagnostic
0,0	0	0	0 wire scanners diagnostic
0,0	0	0	0 Kicker diagnostic
0,0	0	0	0 Kicker pulser diagnostic
0,0	0	0	0 controls backbone sector
0,0	0	0	0 timing sector
0,0	0	0	0 local backbone sector
0,3	1	0	1 Controls PPS region
1,2	4	2	4 MPS & FastFdbk region
1,7	4	1	4 Electrical - .05<<0.5 Utility po
1,1	1	7	20 Modulators klystron
0,0	0	1	5 LLRF klystron
0,0	0	7	30 Klystron 10MW klystron
0,0	0	8	12 klys pre-amp klystron
0,0	0	1	3 VacG/Ctrl klystron
0,0	0	0	0 VacP klystron
0,0	0	5	15 VacP power supply klystron
0,0	0	0	99 spare klystron klystron
0,0	0	0	0 VacP beamline
0,0	0	2	6 VacP power supply beamline
0,0	0	1	5 timing klystron
0,0	0	3	9 other controls klystron
0,0	0	0	1 Water pumps klystron
0,0	0	3	3 Water instr klystron
0,0	0	0	1 Flow Switch klystron
0,0	0	1	0 Electrical - >0.5 klystron
0,0	0	0	0 Electrical - .05<<0.5 klystron
0,0	0	0	0 Bends beamline
2,1	1	0	1 Quads beamline
0,0	0	0	0 Solenoids beamline
0,0	0	0	0 Quad/Sext trims beamline
0,0	0	0	19 quad or corr beamline
0,0	0	0	0 Corrs - can tune around bear
0,0	0	0	0 Wigglers beamline
0,0	0	0	0 Kickers beamline
0,0	0	0	0 Kicker pulser beamline
0,0	0	0	0 Power supplies strings beamli
3,2	15	4	15 PS Corrs can tune around bea

0,0	0	3	9 Power supplies Trims beamline
0,0	0	0	0 PS controller string beamline
0,7	4	1	4 PS controller - corr can tune a
0,0	0	0	0 Flow Switch - quads beamline
0,0	0	0	0 cryo vac enclosure cryo segm
0,0	0	0	0 Vac Mech device beamline
0,0	0	0	0 VacP beamline
0,0	0	4	26 VacP power supply beamline
0,0	0	0	0 VacV beamline
0,7	2	1	2 VacV controller beamline
2,9	4	2	4 Water pumps beamline
2,1	6	3	6 Water instr beamline
0,2	1	0	1 Flow Switch beamline
0,0	0	18	51 BPMs diagnostic
0,0	0	0	0 laser wires diagnostic
0,0	0	8	12 wire scanners diagnostic
0,0	0	0	2 Kicker diagnostic
0,0	0	1	2 Kicker pulser diagnostic
0,0	0	0	0 controls backbone sector
0,0	0	1	0 timing sector
2,1	5	2	5 local backbone sector
0,0	0	0	0 Controls PPS region
2,2	7	2	7 MPS & FastFdbk region
1,0	3	0	3 Electrical - .05<<0.5 Utility po
0,0	0	0	0 Cavities cavity
0,0	0	0	0 Cavities cavity
0,0	0	9	17 Cavity tuner cavity
0,0	0	19	50 Cavity piezo tuner cavity
0,0	0	22	65 LLRF cavity
1,1	3	1	3 power coupler coupler
1,3	2	2	2 power coupler coupler
0,0	0	0	5 power coupler disc coupler
1,8	3	2	3 coupler interlock sensors cou
7,4	25	6	25 coupler interlock electronics c
0,0	0	0	0 VacP coupler
1,3	5	0	5 VacP power supply coupler
0,0	0	0	0 VacP beamline
0,0	0	6	24 VacP power supply beamline
0,0	0	0	0 insulating vacuumP cryo strin
0,4	1	0	1 cryo JT valve cryo string
1,2	5	8	5 Modulators klystron
0,0	0	0	0 pulse cables klystron
0,4	3	0	3 Pulse transformers klystron
2,3	13	6	13 Klystron 10MW klystron
0,9	4	1	4 klys pre-amp klystron
0,0	0	0	0 klys filament supply klystron
0,0	0	0	0 klys solenoid supply klystron
0,3	2	0	2 VacG/Ctrl klystron

0,0	0	0	0 VacP klystron
0,0	0	0	46 spare klystron klystron
0,8	4	2	4 VacP power supply klystron
0,1	1	0	1 timing klystron
1,1	7	2	7 other controls klystron
0,4	3	1	3 Water pumps klystron
0,3	3	2	3 Water instr klystron
0,0	0	0	0 Flow Switch klystron
0,0	0	0	0 Electrical - >0.5 klystron
0,1	1	0	1 Electrical - .05<<0.5 klystron
3,1	1	0	1 Bends beamline
7,2	4	2	4 Quads beamline
3,0	2	1	2 Sextupoles beamline
0,0	0	3	14 Quad/Sext trims beamline
0,0	0	0	0 movr or trim beamline
2,1	11	1	11 Corrs - can tune around beam
0,0	0	0	126 quad or corr beamline
1,4	1	0	1 Wigglers beamline
0,8	1	10	24 Kickers - injection beamline
2,4	4	23	62 Kicker pulser - inj beamline
6,2	5	9	28 Kickers - extraction beamline
7,0	10	19	79 Kicker pulser - ext beamline
0,0	0	0	0 Power supplies strings beamli
0,0	0	0	0 Power supplies individual bea
11,1	59	21	59 PS Corrs can tune around bea
0,0	0	28	95 Power supplies Trims beamli
0,0	0	0	0 PS controller string beamline
8,5	56	14	56 PS controller - corr can tune a
2,4	5	3	5 Flow Switch - quads beamline
0,0	0	1	0 Vac Mech device beamline
0,0	0	9	25 VacP beamline
0,0	0	723	2258 VacP power supply beamline
0,0	0	1	0 VacV beamline
3,1	8	3	8 VacV controller beamline
2,4	5	2	5 Water pumps beamline
2,0	4	2	4 Water instr beamline
0,0	0	0	0 Flow Switch beamline
0,0	0	140	473 BPMs diagnostic
0,0	0	3	10 laser wires diagnostic
0,0	0	0	0 wire scanners diagnostic
0,0	0	0	0 Kicker diagnostic
0,0	0	0	0 Kicker pulser diagnostic
0,0	0	0	0 Cavities cavity
0,0	0	0	6 LLRF cavity
0,0	0	0	0 power coupler coupler
0,0	0	0	0 coupler interlock sensors cou
0,0	0	0	0 coupler interlock electronics c
0,0	0	0	0 VacP coupler

8,1	30	7	30 VacP power supply coupler
0,0	0	0	0 insulating vacuumP cryo mod
0,0	0	0	0 cryo vac enclosure cryo modu
10,1	7	0	7 Klystron 10MW klystron
3,1	5	0	5 Klys Power supply klystron
1,5	5	1	5 klys pre-amp klystron
0,0	0	0	0 VacG/Ctrl klystron
0,0	0	0	0 VacP klystron
2,4	8	2	8 VacP power supply klystron
0,3	1	0	1 timing klystron
0,6	2	0	2 other controls klystron
3,5	6	2	6 Water pumps klystron
2,1	5	0	5 Water instr klystron
0,0	0	0	0 Flow Switch klystron
0,0	0	0	0 Electrical - >0.5 klystron
0,0	0	0	0 Electrical - .05<<0.5 klystron
5,4	13	2	13 Electrical - .05<<0.5 Utility po
0,0	0	0	0 controls backbone sector
0,5	2	1	2 timing sector
7,1	23	5	23 local backbone sector
0,3	1	2	1 Controls PPS region
1,7	7	3	7 MPS & FastFdbk region
0,0	0	0	0 Bends beamline
0,0	0	0	0 Quads SC beamline
2,2	2	0	2 Quads beamline
0,0	0	0	0 Sextupoles beamline
0,0	0	0	0 Corrs - can tune around bearr
0,0	0	0	31 quad or corr beamline
0,0	0	0	0 Power supplies strings beamli
3,6	9	1	9 Power supplies individual bea
3,5	26	12	26 PS Corrs can tune around bea
0,0	0	0	0 Power supplies Trims beamli
1,6	7	5	7 PS controller string beamline
0,9	5	6	5 PS controller - corr can tune a
1,8	4	0	4 Flow Switch - quads beamline
0,0	0	0	0 cryo vac enclosure cryo segm
0,0	0	0	0 Vac Mech device beamline
0,0	0	0	0 VacV beamline
0,4	1	0	1 VacV controller beamline
0,0	0	0	0 Water pumps beamline
1,3	3	1	3 Water instr beamline
0,0	0	0	0 Flow Switch beamline
0,0	0	21	64 BPMs diagnostic
0,0	0	4	24 laser wires diagnostic
0,0	0	0	7 wire scanners diagnostic
0,0	0	2	4 Kicker diagnostic
0,0	0	1	16 Kicker pulser diagnostic
0,6	2	0	2 controls backbone sector

0,1	3	2	3 timing sector
0,5	2	0	2 local backbone sector
0,0	0	0	0 Controls PPS region
1,0	3	0	3 MPS & FastFdbk region
0,0	0	0	0 Electrical>0.5 Utility power
1,2	3	0	3 Electrical - .05<<0.5 Utility po
0,0	0	0	0 Bends beamline
0,0	0	0	0 Quads SC beamline
7,5	4	0	4 Quads beamline
0,0	0	0	0 Sextupoles beamline
0,9	8	4	8 Corrs - can tune around bear
0,0	0	0	84 quad or corr beamline
0,0	0	0	0 Power supplies strings beamli
11,2	14	3	14 Power supplies individual bea
8,3	59	20	59 PS Corrs can tune around bea
0,0	0	0	0 Power supplies Trims beamlir
3,1	6	3	6 PS controller string beamline
2,1	17	8	17 PS controller - corr can tune a
3,7	8	1	8 Flow Switch - quads beamline
0,0	0	0	0 cryo vac enclosure cryo segm
0,0	0	0	0 Vac Mech device beamline
0,0	0	1	0 VacV beamline
4,1	6	2	6 VacV controller beamline
6,0	4	1	4 Water pumps beamline
2,6	4	0	4 Water instr beamline
0,0	0	0	0 Flow Switch beamline
0,0	0	42	148 BPMs diagnostic
0,0	0	8	17 laser wires diagnostic
0,0	0	2	1 wire scanners diagnostic
0,0	0	0	0 Kicker diagnostic
0,0	0	0	0 Kicker pulser diagnostic
1,2	2	0	2 controls backbone sector
0,0	0	0	0 timing sector
0,9	2	0	2 local backbone sector
1,1	2	0	2 Controls PPS region
1,4	3	0	3 MPS & FastFdbk region
0,0	0	0	0 Electrical>0.5 Utility power
0,7	1	0	1 Electrical - .05<<0.5 Utility po
0,0	0	0	0 Bends beamline
0,0	0	0	0 Quads SC beamline
0,0	0	0	0 Quads beamline
0,0	0	0	0 Sextupoles beamline
0,2	2	1	2 Corrs - can tune around bear
0,0	0	0	21 quad or corr beamline
0,0	0	0	0 Power supplies strings beamli
2,0	6	1	6 Power supplies individual bea
2,2	15	5	15 PS Corrs can tune around bea
0,0	0	0	0 Power supplies Trims beamlir

2,7	10	4	10 PS controller string beamline
0,6	4	0	4 PS controller - corr can tune a
1,0	2	0	2 Flow Switch - quads beamline
0,0	0	0	0 cryo vac enclosure cryo segm
0,0	0	0	0 Vac Mech device beamline
0,0	0	0	0 VacV beamline
0,0	0	0	0 VacV controller beamline
0,5	1	0	1 Water pumps beamline
0,7	2	3	2 Water instr beamline
0,0	0	0	0 Flow Switch beamline
0,0	0	8	42 BPMs diagnostic
0,0	0	3	29 laser wires diagnostic
0,0	0	4	5 wire scanners diagnostic
0,0	0	0	0 Kicker diagnostic
0,0	0	0	0 Kicker pulser diagnostic
0,2	1	1	1 controls backbone sector
0,5	2	0	2 timing sector
1,6	5	1	5 local backbone sector
0,5	1	0	1 Controls PPS region
1,4	6	4	6 MPS & FastFdbk region
0,5	1	0	1 Electrical>0.5 Utility power
0,6	2	3	2 Electrical - .05<<0.5 Utility po
0,0	0	0	0 Bends beamline
0,0	0	0	0 Quads SC beamline
0,0	0	1	0 Quads beamline
0,0	0	0	0 Sextupoles beamline
0,1	1	0	1 Corrs - can tune around bearr
0,0	0	0	12 quad or corr beamline
0,0	0	0	0 Power supplies strings beamli
6,1	8	2	8 Power supplies individual bea
1,1	10	4	10 PS Corrs can tune around bea
0,0	0	0	0 Power supplies Trims beamli
3,7	7	3	7 PS controller string beamline
0,1	1	0	1 PS controller - corr can tune a
0,0	0	1	0 Flow Switch - quads beamline
0,0	0	0	0 cryo vac enclosure cryo segm
0,0	0	0	0 Vac Mech device beamline
0,0	0	0	0 VacV beamline
0,7	1	0	1 VacV controller beamline
4,9	5	2	5 Water pumps beamline
3,3	5	1	5 Water instr beamline
0,4	1	0	1 Flow Switch beamline
0,0	0	7	27 BPMs diagnostic
0,0	0	10	22 laser wires diagnostic
0,0	0	2	3 wire scanners diagnostic
0,0	0	3	7 Kicker diagnostic
0,0	0	3	14 Kicker pulser diagnostic
0,5	1	0	1 controls backbone sector

0,0	0	0	0 timing sector
0,0	0	2	0 local backbone sector
0,0	0	0	0 Controls PPS region
2,7	5	1	5 MPS & FastFdbk region
0,0	0	0	0 Electrical>0.5 Utility power
0,9	1	1	1 Electrical - .05<<0.5 Utility po
0,0	0	0	0 Cavities cavity
0,0	0	0	0 Cavities cavity
0,0	0	1	5 Cavity tuner cavity
0,0	0	5	18 Cavity piezo tuner cavity
0,0	0	8	25 LLRF cavity
0,0	0	0	0 power coupler coupler
0,0	0	0	0 power coupler coupler
0,0	0	0	0 power coupler disc coupler
0,8	1	0	1 coupler interlock sensors cou
3,2	6	2	6 coupler interlock electronics c
0,0	0	0	0 VacP coupler
0,0	0	0	0 VacP power supply coupler
0,0	0	0	0 VacP beamline
0,0	0	4	6 VacP power supply beamline
0,0	0	0	0 insulating vacuumP cryo strin
0,6	1	0	1 cryo JT valve cryo string
0,6	4	1	4 Modulators klystron
0,0	0	0	0 pulse cables klystron
0,2	2	0	2 Pulse transformers klystron
2,1	9	3	9 Klystron 10MW klystron
0,0	0	1	0 klys pre-amp klystron
0,0	0	0	0 klys filament supply klystron
0,0	0	0	0 klys solenoid supply klystron
0,0	0	0	0 VacG/Ctrl klystron
0,0	0	0	0 VacP klystron
0,0	0	0	27 spare klystron klystron
0,4	2	0	2 VacP power supply klystron
0,1	1	0	1 timing klystron
0,1	1	3	1 other controls klystron
0,7	6	0	6 Water pumps klystron
0,2	2	0	2 Water instr klystron
0,0	0	0	0 Flow Switch klystron
0,0	0	0	0 Electrical - >0.5 klystron
0,0	0	0	0 Electrical - .05<<0.5 klystron
0,0	0	0	0 Quads SC beamline
0,3	3	1	3 Corrs - can tune around bearr
0,0	0	0	67 quad or corr beamline
5,4	16	0	16 PS - quad can tune around be
3,8	36	21	36 PS Corrs can tune around bea
0,4	2	2	2 PS controller - quad can tune
1,2	10	4	10 PS controller - corr can tune a
2,0	1	0	1 Vac Mech device beamline

0,0	0	0	0 VacV beamline
4,7	7	4	7 VacV controller beamline
0,9	1	1	1 Water pumps beamline
2,0	3	4	3 Water instr beamline
0,0	0	0	0 Flow Switch beamline
0,0	0	0	0 cryo vac enclosure cryo segm
0,0	0	35	121 BPMs diagnostic
0,0	0	18	77 laser wires diagnostic
0,0	0	3	16 wire scanners diagnostic
0,0	0	0	0 Kicker diagnostic
0,0	0	0	4 Kicker pulser diagnostic
10,4	14	6	14 Electrical - .05<<0.5 Utility po
9,3	19	5	19 controls backbone sector
8,2	16	11	16 timing sector
19,1	38	8	38 local backbone sector
0,4	1	1	1 Controls PPS region
3,1	6	2	6 MPS & FFWD region
0,0	0	3	11 Cavities cavity
0,0	0	1	10 Cavities cavity
2,1	3	276	1005 Cavity tuner cavity
0,0	0	579	1956 Cavity piezo tuner cavity
11,1	15	1049	3185 LLRF cavity
0,4	1	27	84 power coupler coupler
1,6	3	24	97 power coupler coupler
0,0	0	0	168 power coupler disc coupler
2,8	3	65	200 coupler interlock sensors cou
11,0	17	316	962 coupler interlock electronics c
0,0	0	0	1 VacP coupler
0,9	1	36	95 VacP power supply coupler
0,0	0	2	12 VacP beamline
0,0	0	325	1076 VacP power supply beamline
11,8	8	1	14 insulating vacuumP cryo strin
10,9	18	7	36 cryo JT valve cryo string
15,2	16	31	70 Modulators klystron
0,0	0	0	0 pulse cables klystron
0,0	0	0	0 Pulse transformers klystron
19,5	28	593	2021 Klystron DRFS klystron
21,8	34	721	2355 klys pre-amp klystron
0,0	0	0	6 klys filament supply klystron
0,0	0	0	0 klys solenoid supply klystron
0,0	0	0	0 VacG/Ctrl klystron
0,0	0	0	0 VacP klystron
0,0	0	0	0 spare klystron klystron
0,0	0	0	0 VacP power supply klystron
8,1	18	20	65 timing klystron
29,1	57	54	186 other controls klystron
44,1	53	50	156 Water pumps klystron
24,0	39	38	143 Water instr klystron



1,1	2	5	5 Flow Switch klystron
3,4	4	4	14 Electrical - >0.5 klystron
2,2	3	4	9 Electrical - .05<<0.5 klystron
0,0	0	0	0 Bends beamline
3,0	1	1	1 Quads beamline
0,0	0	0	0 Quads SC beamline
0,0	0	0	0 Sextupoles beamline
0,0	0	0	0 Sextupoles SC beamline
0,0	0	0	0 Octupoles beamline
0,0	0	0	0 Quad/Sext trims beamline
1,2	24	10	24 Q/S Movers beamline
0,0	0	0	24 movr or trim beamline
0,0	0	0	0 Kickers beamline
0,0	0	0	0 Corrs - can't tune around bea
0,0	0	0	0 Kicker pulser beamline
0,4	1	0	1 Power supplies strings beamli
0,4	2	3	2 Power supplies individual bea
0,5	3	0	3 PS Corrs can't tune around be
0,0	0	3	9 Power supplies Trims beamlir
0,4	5	1	5 PS controller string beamline
0,1	1	0	1 PS controller - corr can't tune
0,0	0	3	13 mover controller beamline
0,0	0	0	0 Flow Switch - quads beamline
7,1	4	5	4 Vac Mech device beamline
0,0	0	0	0 VacP beamline
0,0	0	1	5 VacP power supply beamline
0,0	0	0	0 VacV beamline
0,3	2	1	2 VacV controller beamline
4,2	11	2	11 Water pumps beamline
1,4	8	1	8 Water instr beamline
0,1	1	1	1 Flow Switch beamline
0,0	0	17	47 BPMs diagnostic
0,0	0	12	33 laser wires diagnostic
0,0	0	1	3 wire scanners diagnostic
0,0	0	1	5 Kicker diagnostic
0,0	0	1	7 Kicker pulser diagnostic
0,0	0	1	0 controls backbone sector
0,1	1	0	1 timing sector
0,2	2	0	2 local backbone sector
0,1	1	0	1 Controls PPS region
4,1	45	10	45 MPS & FastFdbk region
0,0	0	1	0 Electrical>0.5 Utility power
0,3	2	0	2 Electrical - .05<<0.5 Utility po
0,0	0	0	0 Cavities cavity
0,0	0	0	0 Cavities cavity
0,0	0	0	2 Cavity tuner cavity
0,0	0	0	1 Cavity piezo tuner cavity
0,0	0	3	2 LLRF cavity

0,0	0	0	0 power coupler coupler
0,0	0	0	0 power coupler coupler
0,0	0	0	0 power coupler disc coupler
0,7	2	0	2 coupler interlock sensors cou
0,1	1	1	1 coupler interlock electronics c
0,0	0	0	0 VacP coupler
0,0	0	0	0 VacP power supply coupler
0,0	0	0	0 VacP beamline
0,0	0	0	2 VacP power supply beamline
0,0	0	0	0 insulating vacuumP cryo strin
0,0	0	1	0 cryo JT valve cryo string
0,3	6	2	6 Modulators klystron
0,0	0	0	0 pulse cables klystron
0,0	0	0	0 Pulse transformers klystron
0,1	2	3	2 Klystron 10MW klystron
0,1	3	2	3 klys pre-amp klystron
0,0	0	0	0 klys filament supply klystron
0,0	0	0	0 klys solenoid supply klystron
0,0	0	1	0 VacG/Ctrl klystron
0,0	0	0	0 VacP klystron
0,0	0	0	26 spare klystron klystron
0,0	1	0	1 VacP power supply klystron
0,1	2	0	2 timing klystron
0,2	4	0	4 other controls klystron
0,0	1	0	1 Water pumps klystron
0,3	7	0	7 Water instr klystron
0,0	0	0	0 Flow Switch klystron
0,0	0	0	0 Electrical - >0.5 klystron
0,0	0	0	0 Electrical - .05<<0.5 klystron
1,5	1	0	1 Bends beamline
5,1	3	0	3 Quads beamline
0,0	0	0	0 Solenoids beamline
0,0	0	0	4 Quad/Sext trims beamline
0,0	0	0	0 Q/S Movers beamline
0,0	0	0	0 movr or trim beamline
0,0	0	0	0 Undulators beamline
0,0	0	0	0 Kickers beamline
0,4	4	1	4 Corrs - can tune around beam
0,0	0	0	58 quad or corr beamline
0,0	0	0	0 Kicker pulser beamline
0,0	0	0	0 Power supplies strings beamli
3,3	35	8	35 PS Corrs can tune around bea
0,0	0	3	27 Power supplies Trims beamlir
0,0	0	0	0 PS controller string beamline
2,1	19	9	19 PS controller - corr can tune a
0,0	0	0	0 mover controller beamline
1,1	2	1	2 Flow Switch - quads beamline
0,0	0	0	0 cryo vac enclosure cryo segm

1,0	1	0	1 Vac Mech device beamline
0,0	0	2	1 VacP beamline
0,0	0	11	22 VacP power supply beamline
2,8	2	0	2 VacV beamline
1,7	4	3	4 VacV controller beamline
5,3	7	1	7 Water pumps beamline
1,7	5	2	5 Water instr beamline
0,0	0	0	0 Flow Switch beamline
0,0	0	25	84 BPMs diagnostic
0,0	0	0	0 laser wires diagnostic
0,0	0	0	0 wire scanners diagnostic
0,0	0	0	0 Kicker diagnostic
0,0	0	0	0 Kicker pulser diagnostic
0,0	0	0	0 controls backbone sector
0,3	2	0	2 timing sector
0,5	3	1	3 local backbone sector
0,0	0	0	0 Controls PPS region
0,9	5	5	5 MPS & FastFdbk region
0,0	0	0	0 Electrical>0.5 Utility power
2,1	5	0	5 Electrical - .05<<0.5 Utility po
0,0	0	0	0 Bends beamline
1,2	1	0	1 Quads beamline
0,0	0	0	0 Solenoids beamline
0,0	0	0	0 Corrs - can't tune around bea
0,0	0	0	0 Kickers beamline
0,0	0	0	0 Kicker pulser beamline
0,0	0	0	0 Power supplies strings beamli
0,5	2	1	2 PS Corrs can't tune around be
0,0	0	0	3 Power supplies Trims beamli
0,2	1	0	1 PS controller string beamline
0,3	2	1	2 PS controller - corr can't tune
0,0	0	0	0 Flow Switch - quads beamline
0,0	0	0	0 cryo vac enclosure cryo segm
0,0	0	0	0 Vac Mech device beamline
0,0	0	0	0 VacP beamline
0,0	0	6	25 VacP power supply beamline
0,0	0	0	0 VacV beamline
0,7	1	0	1 VacV controller beamline
3,6	5	1	5 Water pumps beamline
2,9	7	0	7 Water instr beamline
0,0	0	0	0 Flow Switch beamline
0,0	0	3	8 BPMs diagnostic
0,0	0	0	0 laser wires diagnostic
0,0	0	0	0 wire scanners diagnostic
0,0	0	0	0 Kicker diagnostic
0,0	0	0	0 Kicker pulser diagnostic
0,1	1	0	1 controls backbone sector
0,0	0	4	0 timing sector

0,8	6	0	6 local backbone sector
0,0	0	0	0 Controls PPS region
0,5	2	1	2 MPS & FastFdbk region
0,7	2	0	2 Electrical - .05<<0.5 Utility po
0,0	0	1	0 Target beamline
0,0	0	0	4 spare target beamline
5,0	4	0	4 Vac Mech device beamline
0,0	0	0	0 Flux Concentrator beamline
0,0	0	0	0 Solenoids beamline
2,1	5	0	5 FC pulser beamline
0,0	0	0	0 Bends beamline
0,0	0	0	0 Quads beamline
0,0	0	0	0 Solenoids beamline
0,0	0	0	0 Undulators beamline
0,0	0	0	0 Kickers beamline
0,0	0	0	0 Corrs - can tune around bear
0,0	0	0	2 quad or corr beamline
0,0	0	0	0 Kicker pulser beamline
0,0	0	0	0 Power supplies strings beamli
0,1	2	0	2 PS Corrs can tune around bea
0,0	0	0	0 Power supplies Trims beamli
0,4	2	1	2 PS controller string beamline
0,0	0	2	0 PS controller - corr can tune a
0,7	1	0	1 Flow Switch - quads beamline
0,0	0	0	0 cryo vac enclosure cryo segm
1,5	1	1	1 Vac Mech device beamline
0,0	0	0	0 VacP beamline
0,0	0	52	177 VacP power supply beamline
3,0	3	0	3 VacV beamline
10,2	26	4	26 VacV controller beamline
0,0	0	0	0 Water pumps beamline
0,0	0	0	0 Water instr beamline
0,0	0	0	0 Flow Switch beamline
0,0	0	4	10 BPMs diagnostic
0,0	0	0	0 laser wires diagnostic
0,0	0	0	0 wire scanners diagnostic
0,0	0	0	0 Kicker diagnostic
0,0	0	0	0 Kicker pulser diagnostic
0,0	0	0	0 controls backbone sector
0,2	1	0	1 timing sector
0,0	0	0	0 local backbone sector
0,0	0	0	0 Controls PPS region
0,2	1	1	1 MPS & FastFdbk region
0,0	0	0	0 Electrical>0.5 Utility power
0,0	0	0	0 Electrical - .05<<0.5 Utility po
2,2	1	14	40 Modulators klystron
0,0	0	2	9 LLRF klystron
0,0	0	19	53 Klystron 10MW klystron

0,0	0	5	20 klys pre-amp klystron
0,0	0	1	6 VacG/Ctrl klystron
0,0	0	0	1 VacP klystron
1,2	1	2	21 VacP power supply klystron
0,0	0	0	173 spare klystron klystron
0,0	0	0	0 VacP beamline
0,0	0	6	25 VacP power supply beamline
0,0	0	4	3 timing klystron
0,0	0	5	12 other controls klystron
0,0	0	2	6 Water pumps klystron
0,0	0	1	10 Water instr klystron
0,0	0	0	0 Flow Switch klystron
0,0	0	0	0 Electrical - >0.5 klystron
0,0	0	0	1 Electrical - .05<<0.5 klystron
0,0	0	0	0 Bends beamline
1,2	1	1	1 Quads beamline
0,0	0	0	0 Solenoids beamline
0,0	0	0	0 Quad/Sext trims beamline
0,0	0	0	18 quad or corr beamline
0,1	1	0	1 Corrs - can tune around bearr
0,0	0	0	0 Wigglers beamline
0,0	0	0	0 Kickers beamline
0,0	0	0	0 Kicker pulser beamline
0,0	0	0	0 Power supplies strings beamli
1,1	11	4	11 PS Corrs can tune around bea
0,0	0	0	5 Power supplies Trims beamlir
0,0	0	0	0 PS controller string beamline
0,5	6	1	6 PS controller - corr can tune a
1,4	2	0	2 Flow Switch - quads beamline
0,0	0	0	0 cryo vac enclosure cryo segm
1,3	1	0	1 Vac Mech device beamline
0,0	0	1	4 VacP beamline
0,0	0	6	14 VacP power supply beamline
1,3	1	0	1 VacV beamline
0,0	0	2	0 VacV controller beamline
4,8	5	0	5 Water pumps beamline
4,5	11	4	11 Water instr beamline
0,0	0	0	0 Flow Switch beamline
0,0	0	21	56 BPMs diagnostic
0,0	0	0	0 laser wires diagnostic
0,0	0	3	7 wire scanners diagnostic
0,0	0	0	0 Kicker diagnostic
0,0	0	1	1 Kicker pulser diagnostic
0,0	0	0	0 controls backbone sector
0,5	3	0	3 timing sector
1,8	7	2	7 local backbone sector
0,2	1	0	1 Controls PPS region
1,0	4	1	4 MPS & FastFdbk region

0,8	2	0	2 Electrical - .05<<0.5 Utility po
0,0	0	0	0 Cavities cavity
0,0	0	0	2 Cavities cavity
0,0	0	14	19 Cavity tuner cavity
0,0	0	15	37 Cavity piezo tuner cavity
0,0	0	19	69 LLRF cavity
0,7	1	1	1 power coupler coupler
1,9	2	0	2 power coupler coupler
0,0	0	0	3 power coupler disc coupler
2,1	4	1	4 coupler interlock sensors cou
3,3	17	11	17 coupler interlock electronics c
0,0	0	0	0 VacP coupler
0,5	2	0	2 VacP power supply coupler
0,0	0	0	0 VacP beamline
0,0	0	7	24 VacP power supply beamline
0,0	0	0	0 insulating vacuumP cryo strin
0,0	0	0	0 cryo JT valve cryo string
1,5	15	2	15 Modulators klystron
0,0	0	0	0 pulse cables klystron
0,2	2	0	2 Pulse transformers klystron
1,5	16	5	16 Klystron 10MW klystron
0,5	3	0	3 klys pre-amp klystron
0,0	0	0	0 klys filament supply klystron
0,0	0	0	0 klys solenoid supply klystron
0,0	0	0	0 VacG/Ctrl klystron
0,0	0	0	0 VacP klystron
0,0	0	0	67 spare klystron klystron
0,8	8	1	8 VacP power supply klystron
0,3	3	1	3 timing klystron
0,7	7	1	7 other controls klystron
0,6	6	1	6 Water pumps klystron
0,3	5	0	5 Water instr klystron
0,0	0	0	0 Flow Switch klystron
0,0	0	0	0 Electrical - >0.5 klystron
0,1	2	0	2 Electrical - .05<<0.5 klystron
0,0	0	0	0 Bends beamline
6,5	4	2	4 Quads beamline
1,5	1	0	1 Sextupoles beamline
0,0	0	6	11 Quad/Sext trims beamline
0,0	0	0	0 movr or trim beamline
0,5	7	2	7 Corrs - can tune around bearr
0,0	0	0	128 quad or corr beamline
0,0	0	0	0 Wigglers beamline
3,4	4	8	23 Kickers - injection beamline
3,9	6	24	70 Kicker pulser - inj beamline
1,3	2	7	19 Kickers - extraction beamline
3,0	4	21	59 Kicker pulser - ext beamline
0,5	1	0	1 Power supplies strings beamli

0,0	0	0	0 Power supplies individual bea
5,7	74	20	74 PS Corrs can tune around bea
0,0	0	23	67 Power supplies Trims beamlir
0,3	2	0	2 PS controller string beamline
3,6	47	17	47 PS controller - corr can tune a
2,6	5	1	5 Flow Switch - quads beamline
2,4	1	0	1 Vac Mech device beamline
0,0	0	4	26 VacP beamline
0,0	0	676	2221 VacP power supply beamline
0,8	1	1	1 VacV beamline
4,1	15	4	15 VacV controller beamline
1,8	3	0	3 Water pumps beamline
0,6	2	2	2 Water instr beamline
0,0	0	0	0 Flow Switch beamline
0,0	0	155	474 BPMs diagnostic
0,0	0	2	16 laser wires diagnostic
0,0	0	0	0 wire scanners diagnostic
0,0	0	0	0 Kicker diagnostic
0,0	0	0	0 Kicker pulser diagnostic
0,0	0	0	0 Cavities cavity
0,0	0	3	4 LLRF cavity
0,0	0	0	0 power coupler coupler
1,2	2	0	2 coupler interlock sensors cou
0,0	0	1	0 coupler interlock electronics c
0,0	0	0	0 VacP coupler
3,5	23	4	23 VacP power supply coupler
0,0	0	0	0 insulating vacuumP cryo mod
0,0	0	0	0 cryo vac enclosure cryo modu
14,0	15	1	15 Klystron 10MW klystron
3,1	6	2	6 Klys Power supply klystron
0,6	4	0	4 klys pre-amp klystron
0,1	1	0	1 VacG/Ctrl klystron
0,0	0	0	0 VacP klystron
1,0	6	2	6 VacP power supply klystron
0,4	3	1	3 timing klystron
1,0	7	0	7 other controls klystron
0,6	1	1	1 Water pumps klystron
1,0	4	0	4 Water instr klystron
0,0	0	0	0 Flow Switch klystron
0,0	0	0	0 Electrical - >0.5 klystron
0,0	0	0	0 Electrical - .05<<0.5 klystron
5,8	20	4	20 Electrical - .05<<0.5 Utility po
0,4	1	1	1 controls backbone sector
0,5	4	0	4 timing sector
3,1	21	7	21 local backbone sector
0,2	1	0	1 Controls PPS region
1,0	7	4	7 MPS & FastFdbk region
0,0	0	0	0 Bends beamline

0,0	0	0	0 Quads SC beamline
1,3	1	0	1 Quads beamline
0,0	0	0	0 Sextupoles beamline
0,3	4	1	4 Corrs - can tune around beam
0,0	0	0	33 quad or corr beamline
0,0	0	0	0 Power supplies strings beamli
1,2	5	1	5 Power supplies individual bea
1,4	22	4	22 PS Corrs can tune around bea
0,0	0	0	0 Power supplies Trims beamlir
0,7	6	1	6 PS controller string beamline
0,4	7	5	7 PS controller - corr can tune a
0,8	2	0	2 Flow Switch - quads beamline
0,0	0	0	0 cryo vac enclosure cryo segm
0,0	0	0	0 Vac Mech device beamline
0,0	0	0	0 VacV beamline
0,2	1	0	1 VacV controller beamline
1,9	4	1	4 Water pumps beamline
0,2	1	1	1 Water instr beamline
0,0	0	0	0 Flow Switch beamline
0,0	0	15	66 BPMs diagnostic
0,0	0	1	21 laser wires diagnostic
0,0	0	2	5 wire scanners diagnostic
0,0	0	1	0 Kicker diagnostic
0,0	0	6	11 Kicker pulser diagnostic
0,0	0	0	0 controls backbone sector
0,0	0	0	0 timing sector
0,4	3	2	3 local backbone sector
0,2	1	0	1 Controls PPS region
0,2	2	2	2 MPS & FastFdbk region
0,0	0	0	0 Electrical>0.5 Utility power
0,6	2	0	2 Electrical - .05<<0.5 Utility po
0,0	0	0	0 Bends beamline
0,0	0	0	0 Quads SC beamline
1,2	1	0	1 Quads beamline
0,0	0	0	0 Sextupoles beamline
0,5	8	3	8 Corrs - can tune around beam
0,0	0	0	90 quad or corr beamline
0,0	0	0	0 Power supplies strings beamli
7,5	16	8	16 Power supplies individual bea
4,0	66	12	66 PS Corrs can tune around bea
0,0	0	0	0 Power supplies Trims beamlir
2,9	8	7	8 PS controller string beamline
0,9	16	6	16 PS controller - corr can tune a
3,4	11	3	11 Flow Switch - quads beamline
0,0	0	0	0 cryo vac enclosure cryo segm
0,0	0	0	0 Vac Mech device beamline
0,0	0	0	0 VacV beamline
0,5	1	0	1 VacV controller beamline



3,5	6	1	6 Water pumps beamline
4,7	9	0	9 Water instr beamline
0,0	0	0	0 Flow Switch beamline
0,0	0	41	152 BPMs diagnostic
0,0	0	4	20 laser wires diagnostic
0,0	0	0	4 wire scanners diagnostic
0,0	0	0	0 Kicker diagnostic
0,0	0	0	0 Kicker pulser diagnostic
0,5	1	0	1 controls backbone sector
0,3	1	0	1 timing sector
1,1	3	0	3 local backbone sector
0,0	0	0	0 Controls PPS region
1,3	4	1	4 MPS & FastFdbk region
0,6	1	0	1 Electrical>0.5 Utility power
1,5	3	0	3 Electrical - .05<<0.5 Utility po
0,0	0	0	0 Bends beamline
0,0	0	0	0 Quads SC beamline
1,7	1	0	1 Quads beamline
0,0	0	0	0 Sextupoles beamline
0,1	1	2	1 Corrs - can tune around bearr
0,0	0	0	17 quad or corr beamline
0,0	0	0	0 Power supplies strings beamli
2,1	8	1	8 Power supplies individual bea
0,8	13	8	13 PS Corrs can tune around bea
0,0	0	0	0 Power supplies Trims beamlir
0,8	7	5	7 PS controller string beamline
0,1	3	3	3 PS controller - corr can tune a
1,8	5	1	5 Flow Switch - quads beamline
0,0	0	0	0 cryo vac enclosure cryo segm
0,0	0	0	0 Vac Mech device beamline
0,0	0	0	0 VacV beamline
0,3	1	0	1 VacV controller beamline
3,2	6	1	6 Water pumps beamline
0,0	0	0	0 Water instr beamline
0,0	0	0	0 Flow Switch beamline
0,0	0	8	33 BPMs diagnostic
0,0	0	7	25 laser wires diagnostic
0,0	0	3	6 wire scanners diagnostic
0,0	0	0	0 Kicker diagnostic
0,0	0	0	0 Kicker pulser diagnostic
0,0	0	0	0 controls backbone sector
0,0	0	1	0 timing sector
0,0	0	0	0 local backbone sector
0,0	0	0	0 Controls PPS region
0,1	1	3	1 MPS & FastFdbk region
0,0	0	0	0 Electrical>0.5 Utility power
1,0	4	0	4 Electrical - .05<<0.5 Utility po
2,2	2	0	2 Bends beamline

0,0	0	0	0 Quads SC beamline
0,0	0	0	0 Quads beamline
0,0	0	0	0 Sextupoles beamline
0,0	0	1	0 Corrs - can tune around beam
0,0	0	0	5 quad or corr beamline
0,0	0	0	0 Power supplies strings beamli
1,3	3	4	3 Power supplies individual bea
0,2	4	0	4 PS Corrs can tune around bea
0,0	0	0	0 Power supplies Trims beamli
0,6	2	4	2 PS controller string beamline
0,1	1	0	1 PS controller - corr can tune a
0,0	0	0	0 Flow Switch - quads beamline
0,0	0	0	0 cryo vac enclosure cryo segm
0,0	0	0	0 Vac Mech device beamline
0,0	0	0	0 VacV beamline
0,9	2	1	2 VacV controller beamline
5,6	8	3	8 Water pumps beamline
2,6	5	3	5 Water instr beamline
0,0	0	0	0 Flow Switch beamline
0,0	0	13	17 BPMs diagnostic
0,0	0	6	32 laser wires diagnostic
0,0	0	0	3 wire scanners diagnostic
0,0	0	0	2 Kicker diagnostic
0,0	0	4	18 Kicker pulser diagnostic
0,0	0	0	0 controls backbone sector
0,0	0	0	0 timing sector
1,1	3	1	3 local backbone sector
0,0	0	0	0 Controls PPS region
1,0	3	1	3 MPS & FastFdbk region
0,0	0	0	0 Electrical>0.5 Utility power
1,6	4	0	4 Electrical - .05<<0.5 Utility po
0,0	0	0	1 Cavities cavity
0,0	0	0	0 Cavities cavity
0,0	0	3	5 Cavity tuner cavity
0,0	0	3	14 Cavity piezo tuner cavity
0,0	0	9	22 LLRF cavity
0,0	0	0	0 power coupler coupler
0,0	0	0	0 power coupler coupler
0,0	0	0	0 power coupler disc coupler
0,5	1	1	1 coupler interlock sensors cou
3,4	9	0	9 coupler interlock electronics c
0,0	0	0	0 VacP coupler
0,4	1	0	1 VacP power supply coupler
0,0	0	0	0 VacP beamline
0,0	0	4	8 VacP power supply beamline
0,0	0	0	0 insulating vacuumP cryo strin
0,4	1	0	1 cryo JT valve cryo string
0,0	2	3	2 Modulators klystron

0,0	0	0	0 pulse cables klystron
0,1	1	0	1 Pulse transformers klystron
0,4	6	1	6 Klystron 10MW klystron
0,2	4	1	4 klys pre-amp klystron
0,0	0	0	0 klys filament supply klystron
0,0	0	0	0 klys solenoid supply klystron
0,0	0	0	0 VacG/Ctrl klystron
0,0	0	0	0 VacP klystron
0,0	0	0	24 spare klystron klystron
0,1	2	0	2 VacP power supply klystron
0,1	1	0	1 timing klystron
0,1	1	1	1 other controls klystron
0,1	2	0	2 Water pumps klystron
0,2	4	0	4 Water instr klystron
0,0	0	0	0 Flow Switch klystron
0,1	1	0	1 Electrical - >0.5 klystron
0,0	0	0	0 Electrical - .05<<0.5 klystron
0,2	1	0	1 Quads SC beamline
0,4	8	0	8 Corrs - can tune around bearr
0,0	0	0	59 quad or corr beamline
0,6	3	2	3 PS - quad can tune around be
1,3	29	7	29 PS Corrs can tune around bea
1,0	10	1	10 PS controller - quad can tune
0,4	8	3	8 PS controller - corr can tune a
3,1	2	1	2 Vac Mech device beamline
1,8	2	0	2 VacV beamline
3,3	7	2	7 VacV controller beamline
0,7	1	0	1 Water pumps beamline
1,5	2	3	2 Water instr beamline
0,0	0	0	0 Flow Switch beamline
0,0	0	0	0 cryo vac enclosure cryo segm
0,0	0	41	104 BPMs diagnostic
0,0	0	17	67 laser wires diagnostic
0,0	0	1	16 wire scanners diagnostic
0,0	0	1	1 Kicker diagnostic
0,0	0	1	3 Kicker pulser diagnostic
7,0	15	2	15 Electrical - .05<<0.5 Utility po
9,1	25	3	25 controls backbone sector
5,5	17	7	17 timing sector
14,3	40	8	40 local backbone sector
0,0	0	1	0 Controls PPS region
3,5	9	0	9 MPS & FFWD region
0,0	0	9	5 Cavities cavity
0,0	0	0	12 Cavities cavity
3,5	6	261	970 Cavity tuner cavity
0,5	1	595	1824 Cavity piezo tuner cavity
4,4	9	1008	3045 LLRF cavity
0,0	0	31	98 power coupler coupler

0,9	2	38	96 power coupler coupler
0,0	0	0	179 power coupler disc coupler
1,3	3	67	204 coupler interlock sensors cou
7,7	16	294	908 coupler interlock electronics c
0,0	0	1	1 VacP coupler
0,4	1	38	103 VacP power supply coupler
0,0	0	5	13 VacP beamline
0,0	0	311	1060 VacP power supply beamline
5,9	6	10	9 insulating vacuumP cryo strin
6,3	13	17	28 cryo JT valve cryo string
9,0	18	26	80 Modulators klystron
0,0	0	0	0 pulse cables klystron
0,0	0	0	0 Pulse transformers klystron
16,0	33	552	1893 Klystron DRFS klystron
12,3	29	752	2387 klys pre-amp klystron
0,0	0	1	4 klys filament supply klystron
0,0	0	0	0 klys solenoid supply klystron
0,0	0	0	0 VacG/Ctrl klystron
0,0	0	0	0 VacP klystron
0,0	0	0	0 spare klystron klystron
0,0	0	0	0 VacP power supply klystron
3,5	11	23	39 timing klystron
18,6	48	66	171 other controls klystron
19,1	36	52	165 Water pumps klystron
13,6	36	28	147 Water instr klystron
0,3	1	2	7 Flow Switch klystron
1,1	2	5	13 Electrical - >0.5 klystron
1,7	5	4	14 Electrical - .05<<0.5 klystron
0,0	0	0	0 Bends beamline
1,2	1	0	1 Quads beamline
0,0	0	0	0 Quads SC beamline
0,0	0	0	0 Sextupoles beamline
0,0	0	0	0 Sextupoles SC beamline
0,0	0	0	0 Octupoles beamline
0,0	0	0	0 Quad/Sext trims beamline
1,5	31	12	31 Q/S Movers beamline
0,0	0	0	31 movr or trim beamline
0,0	0	0	0 Kickers beamline
0,0	0	0	0 Corrs - can't tune around bea
0,0	0	0	0 Kicker pulser beamline
0,0	0	0	0 Power supplies strings beamli
0,2	1	0	1 Power supplies individual bea
0,6	4	1	4 PS Corrs can't tune around be
0,0	0	0	2 Power supplies Trims beamlir
0,4	4	2	4 PS controller string beamline
0,3	3	0	3 PS controller - corr can't tune
0,0	0	4	9 mover controller beamline
0,0	0	0	0 Flow Switch - quads beamline

2,3	2	0	2 Vac Mech device beamline
0,0	0	0	0 VacP beamline
0,0	0	3	6 VacP power supply beamline
0,0	0	0	0 VacV beamline
0,5	3	0	3 VacV controller beamline
5,7	14	3	14 Water pumps beamline
0,8	5	2	5 Water instr beamline
0,0	0	0	0 Flow Switch beamline
0,0	0	8	35 BPMs diagnostic
0,0	0	11	41 laser wires diagnostic
0,0	0	1	7 wire scanners diagnostic
0,0	0	1	9 Kicker diagnostic
0,0	0	3	6 Kicker pulser diagnostic
0,0	0	0	0 controls backbone sector
0,1	1	2	1 timing sector
0,0	2	1	2 local backbone sector
0,1	1	0	1 Controls PPS region
2,8	31	10	31 MPS & FastFdbk region
0,3	1	0	1 Electrical>0.5 Utility power
0,3	2	2	2 Electrical - .05<<0.5 Utility po
0,0	0	0	0 Cavities cavity
0,0	0	0	0 Cavities cavity
0,0	0	2	1 Cavity tuner cavity
0,0	0	1	1 Cavity piezo tuner cavity
0,0	0	0	3 LLRF cavity
0,0	0	1	0 power coupler coupler
0,0	0	0	0 power coupler coupler
0,0	0	0	0 power coupler disc coupler
0,0	0	0	0 coupler interlock sensors cou
0,0	0	0	0 coupler interlock electronics c
0,0	0	0	0 VacP coupler
0,0	0	0	0 VacP power supply coupler
0,0	0	0	0 VacP beamline
0,0	0	0	2 VacP power supply beamline
0,0	0	0	0 insulating vacuumP cryo strin
0,8	2	0	2 cryo JT valve cryo string
0,3	7	4	7 Modulators klystron
0,0	0	0	0 pulse cables klystron
0,0	0	2	0 Pulse transformers klystron
0,2	4	1	4 Klystron 10MW klystron
0,0	1	2	1 klys pre-amp klystron
0,0	0	0	0 klys filament supply klystron
0,0	0	0	0 klys solenoid supply klystron
0,0	0	0	0 VacG/Ctrl klystron
0,0	0	0	0 VacP klystron
0,0	0	0	20 spare klystron klystron
0,1	1	0	1 VacP power supply klystron
0,0	0	0	0 timing klystron

0,1	3	1	3 other controls klystron
0,1	3	0	3 Water pumps klystron
0,0	1	0	1 Water instr klystron
0,0	0	0	0 Flow Switch klystron
0,0	0	0	0 Electrical - >0.5 klystron
0,0	0	0	0 Electrical - .05<<0.5 klystron
0,0	0	0	0 Power supplies - bend beamli
273,0	121	36	121 cryo plant beamline
121,4	54	15	54 site power beamline
50,8	45	11	45 Controls sitewide beamline
191,4	0	0	0 schedMaintn



e- source	buncher	Cryo
e- source	buncher	Vacuum
e- source	buncher	Vacuum
e- source	buncher	Vacuum
e- source	buncher	Vacuum
e- source	buncher	Vacuum
e- source	buncher	Water system
e- source	buncher	Water system
e- source	buncher	Water system
e- source	buncher	Diagnostic
e- source	buncher	Diagnostic
e- source	buncher	Diagnostic
e- source	buncher	Diagnostic
e- source	buncher	Diagnostic
e- source	buncher	controls
e- source	buncher	controls
e- source	buncher	controls
e- source	buncher	controls
e- source	buncher	controls
e- source	buncher	AC power
e- source	buncher	RF power sources
e- source	buncher	RF structure
e- source	buncher	RF power sources
e- source	buncher	RF power sources
e- source	buncher	RF power sources
e- source	buncher	RF power sources
e- source	buncher	RF power sources
e- source	buncher	RF power sources
e- source	buncher	Vacuum
e- source	buncher	Vacuum
e- source	buncher	controls
e- source	buncher	controls
e- source	buncher	Water system
e- source	buncher	Water system
e- source	buncher	Water system
e- source	buncher	AC power
e- source	buncher	AC power
e- source	linac	Magnets
e- source	linac	Magnets
e- source	linac	Magnets
e- source	linac	Magnets
e- source	linac	Magnets
e- source	linac	Magnets
e- source	linac	Magnets
e- source	linac	Magnets
e- source	linac	PS + controllers
e- source	linac	PS + controllers
e- source	linac	PS + controllers









e- extraction		controls
e- extraction		controls
e- extraction		controls
e- extraction		controls
e- extraction		AC power
e- extraction		AC power
e- transport		Magnets
e- transport		Magnets
e- transport		Magnets
e- transport		Magnets
e- transport		Magnets
e- transport		Magnets
e- transport		PS + controllers
e- transport		PS + controllers
e- transport		PS + controllers
e- transport		PS + controllers
e- transport		PS + controllers
e- transport		PS + controllers
e- transport		PS + controllers
e- transport		Water system
e- transport		Cryo
e- transport		Vacuum
e- transport		Vacuum
e- transport		Vacuum
e- transport		Water system
e- transport		Water system
e- transport		Water system
e- transport		Diagnostic
e- transport		Diagnostic
e- transport		Diagnostic
e- transport		Diagnostic
e- transport		Diagnostic
e- transport		controls
e- transport		controls
e- transport		controls
e- transport		controls
e- transport		controls
e- transport		AC power
e- transport		AC power
e- turnaround	0	Magnets
e- turnaround	0	Magnets
e- turnaround	0	Magnets
e- turnaround	0	Magnets
e- turnaround	0	Magnets
e- turnaround	0	Magnets
e- turnaround	0	PS + controllers
e- turnaround	0	PS + controllers
e- turnaround	0	PS + controllers
e- turnaround	0	PS + controllers



e- compressor	controls
e- compressor	controls
e- compressor	controls
e- compressor	controls
e- compressor	AC power
e- compressor	AC power
e- compressor	RF structure
e- compressor	RF structure
e- compressor	RF structure
e- compressor	RF structure
e- compressor	RF structure
e- compressor	RF structure
e- compressor	RF structure
e- compressor	RF structure
e- compressor	RF structure
e- compressor	RF structure
e- compressor	RF structure
e- compressor	Vacuum
e- compressor	Vacuum
e- compressor	Cryo
e- compressor	Cryo
e- compressor	RF power sources
e- compressor	RF power sources
e- compressor	RF power sources
e- compressor	RF power sources
e- compressor	RF power sources
e- compressor	RF power sources
e- compressor	RF power sources
e- compressor	RF power sources
e- compressor	RF power sources
e- compressor	RF power sources
e- compressor	RF power sources
e- compressor	RF power sources
e- compressor	controls
e- compressor	controls
e- compressor	Water system
e- compressor	Water system
e- compressor	Water system
e- compressor	AC power
e- compressor	AC power
e- linac	Magnets
e- linac	Magnets
e- linac	Magnets
e- linac	PS + controllers
e- linac	PS + controllers
e- linac	PS + controllers
e- linac	PS + controllers
e- linac	Vacuum

e- linac	Vacuum
e- linac	Vacuum
e- linac	Water system
e- linac	Water system
e- linac	Water system
e- linac	Cryo
e- linac	Diagnostic
e- linac	Diagnostic
e- linac	Diagnostic
e- linac	Diagnostic
e- linac	Diagnostic
e- linac	AC power
e- linac	controls
e- linac	controls
e- linac	controls
e- linac	controls
e- linac	controls
e- linac	RF structure
e- linac	RF structure
e- linac	RF structure
e- linac	RF structure
e- linac	RF structure
e- linac	RF structure
e- linac	RF structure
e- linac	RF structure
e- linac	RF structure
e- linac	RF structure
e- linac	RF structure
e- linac	RF structure
e- linac	Vacuum
e- linac	Vacuum
e- linac	Cryo
e- linac	Cryo
e- linac	RF power sources
e- linac	RF power sources
e- linac	RF power sources
e- linac	RF power sources
e- linac	RF power sources
e- linac	RF power sources
e- linac	RF power sources
e- linac	RF power sources
e- linac	RF power sources
e- linac	RF power sources
e- linac	RF power sources
e- linac	RF power sources
e- linac	controls
e- linac	controls
e- linac	Water system
e- linac	Water system

e- linac		Water system
e- linac		AC power
e- linac		AC power
e- BDS	0	Magnets
e- BDS	0	Magnets
e- BDS	0	Magnets
e- BDS	0	Magnets
e- BDS	0	Magnets
e- BDS	0	Magnets
e- BDS	0	Magnets
e- BDS	0	Magnets
e- BDS	0	Magnets
e- BDS	0	Magnets
e- BDS	0	PS + controllers
e- BDS	0	PS + controllers
e- BDS	0	PS + controllers
e- BDS	0	PS + controllers
e- BDS	0	PS + controllers
e- BDS	0	PS + controllers
e- BDS	0	PS + controllers
e- BDS	0	Water system
e- BDS	0	Vacuum
e- BDS	0	Vacuum
e- BDS	0	Vacuum
e- BDS	0	Vacuum
e- BDS	0	Vacuum
e- BDS	0	Water system
e- BDS	0	Water system
e- BDS	0	Water system
e- BDS	0	Diagnostic
e- BDS	0	Diagnostic
e- BDS	0	Diagnostic
e- BDS	0	Diagnostic
e- BDS	0	Diagnostic
e- BDS	0	controls
e- BDS	0	controls
e- BDS	0	controls
e- BDS	0	controls
e- BDS	0	controls
e- BDS	0	AC power
e- BDS	0	AC power
e- BDS	crab cavities	RF structure
e- BDS	crab cavities	RF structure
e- BDS	crab cavities	RF structure
e- BDS	crab cavities	RF structure
e- BDS	crab cavities	RF structure



e- BDS	crab cavities	RF structure
e- BDS	crab cavities	RF structure
e- BDS	crab cavities	RF structure
e- BDS	crab cavities	RF structure
e- BDS	crab cavities	RF structure
e- BDS	crab cavities	RF structure
e- BDS	crab cavities	Vacuum
e- BDS	crab cavities	Vacuum
e- BDS	crab cavities	Cryo
e- BDS	crab cavities	Cryo
e- BDS	crab cavities	RF power sources
e- BDS	crab cavities	RF power sources
e- BDS	crab cavities	RF power sources
e- BDS	crab cavities	RF power sources
e- BDS	crab cavities	RF power sources
e- BDS	crab cavities	RF power sources
e- BDS	crab cavities	RF power sources
e- BDS	crab cavities	RF power sources
e- BDS	crab cavities	RF power sources
e- BDS	crab cavities	RF power sources
e- BDS	crab cavities	RF power sources
e- BDS	crab cavities	controls
e- BDS	crab cavities	controls
e- BDS	crab cavities	Water system
e- BDS	crab cavities	Water system
e- BDS	crab cavities	Water system
e- BDS	crab cavities	AC power
e- BDS	crab cavities	AC power
e+ source	undulator	Magnets
e+ source	undulator	Magnets
e+ source	undulator	Magnets
e+ source	undulator	Magnets
e+ source	undulator	Magnets
e+ source	undulator	Magnets
e+ source	undulator	Magnets
e+ source	undulator	Magnets
e+ source	undulator	Magnets
e+ source	undulator	Magnets
e+ source	undulator	PS + controllers
e+ source	undulator	PS + controllers
e+ source	undulator	PS + controllers
e+ source	undulator	PS + controllers
e+ source	undulator	PS + controllers
e+ source	undulator	PS + controllers
e+ source	undulator	Water system
e+ source	undulator	Cryo

e+ source	undulator	Vacuum
e+ source	undulator	Vacuum
e+ source	undulator	Vacuum
e+ source	undulator	Vacuum
e+ source	undulator	Vacuum
e+ source	undulator	Water system
e+ source	undulator	Water system
e+ source	undulator	Water system
e+ source	undulator	Diagnostic
e+ source	undulator	Diagnostic
e+ source	undulator	Diagnostic
e+ source	undulator	Diagnostic
e+ source	undulator	Diagnostic
e+ source	undulator	controls
e+ source	undulator	controls
e+ source	undulator	controls
e+ source	undulator	controls
e+ source	undulator	controls
e+ source	undulator	AC power
e+ source	undulator	AC power
e+ source	target1	Magnets
e+ source	target1	Magnets
e+ source	target1	Magnets
e+ source	target1	Magnets
e+ source	target1	Magnets
e+ source	target1	PS + controllers
e+ source	target1	PS + controllers
e+ source	target1	PS + controllers
e+ source	target1	PS + controllers
e+ source	target1	PS + controllers
e+ source	target1	PS + controllers
e+ source	target1	Water system
e+ source	target1	Cryo
e+ source	target1	Vacuum
e+ source	target1	Vacuum
e+ source	target1	Vacuum
e+ source	target1	Vacuum
e+ source	target1	Vacuum
e+ source	target1	Water system
e+ source	target1	Water system
e+ source	target1	Water system
e+ source	target1	Diagnostic
e+ source	target1	Diagnostic
e+ source	target1	Diagnostic
e+ source	target1	Diagnostic
e+ source	target1	Diagnostic
e+ source	target1	controls
e+ source	target1	controls

e+ source	target1	controls
e+ source	target1	controls
e+ source	target1	controls
e+ source	target1	AC power
e+ source	target2	Magnets
e+ source	target2	Magnets
e+ source	target2	Vacuum
e+ source	target2	Magnets
e+ source	target2	Magnets
e+ source	target2	PS + controllers
e+ source	transport	Magnets
e+ source	transport	Magnets
e+ source	transport	Magnets
e+ source	transport	Magnets
e+ source	transport	Magnets
e+ source	transport	Magnets
e+ source	transport	Magnets
e+ source	transport	PS + controllers
e+ source	transport	PS + controllers
e+ source	transport	PS + controllers
e+ source	transport	PS + controllers
e+ source	transport	PS + controllers
e+ source	transport	PS + controllers
e+ source	transport	Water system
e+ source	transport	Cryo
e+ source	transport	Vacuum
e+ source	transport	Vacuum
e+ source	transport	Vacuum
e+ source	transport	Vacuum
e+ source	transport	Vacuum
e+ source	transport	Vacuum
e+ source	transport	Water system
e+ source	transport	Water system
e+ source	transport	Water system
e+ source	transport	Diagnostic
e+ source	transport	Diagnostic
e+ source	transport	Diagnostic
e+ source	transport	Diagnostic
e+ source	transport	Diagnostic
e+ source	transport	controls
e+ source	transport	controls
e+ source	transport	controls
e+ source	transport	controls
e+ source	transport	controls
e+ source	transport	AC power
e+ source	transport	AC power
e+ source	after target	RF power sources
e+ source	after target	RF structure
e+ source	after target	RF power sources

e+ source	after target	RF power sources
e+ source	after target	RF power sources
e+ source	after target	RF power sources
e+ source	after target	RF power sources
e+ source	after target	RF power sources
e+ source	after target	Vacuum
e+ source	after target	Vacuum
e+ source	after target	controls
e+ source	after target	controls
e+ source	after target	Water system
e+ source	after target	Water system
e+ source	after target	Water system
e+ source	after target	AC power
e+ source	after target	AC power
e+ source	e+ linac	Magnets
e+ source	e+ linac	Magnets
e+ source	e+ linac	Magnets
e+ source	e+ linac	Magnets
e+ source	e+ linac	Magnets
e+ source	e+ linac	Magnets
e+ source	e+ linac	Magnets
e+ source	e+ linac	Magnets
e+ source	e+ linac	PS + controllers
e+ source	e+ linac	PS + controllers
e+ source	e+ linac	PS + controllers
e+ source	e+ linac	PS + controllers
e+ source	e+ linac	PS + controllers
e+ source	e+ linac	PS + controllers
e+ source	e+ linac	Water system
e+ source	e+ linac	Cryo
e+ source	e+ linac	Vacuum
e+ source	e+ linac	Vacuum
e+ source	e+ linac	Vacuum
e+ source	e+ linac	Vacuum
e+ source	e+ linac	Vacuum
e+ source	e+ linac	Water system
e+ source	e+ linac	Water system
e+ source	e+ linac	Water system
e+ source	e+ linac	Diagnostic
e+ source	e+ linac	Diagnostic
e+ source	e+ linac	Diagnostic
e+ source	e+ linac	Diagnostic
e+ source	e+ linac	Diagnostic
e+ source	e+ linac	controls
e+ source	e+ linac	controls
e+ source	e+ linac	controls
e+ source	e+ linac	controls

e+ source	e+ linac	AC power
e+ source	e+ linac	RF structure
e+ source	e+ linac	RF structure
e+ source	e+ linac	RF structure
e+ source	e+ linac	RF structure
e+ source	e+ linac	RF structure
e+ source	e+ linac	RF structure
e+ source	e+ linac	RF structure
e+ source	e+ linac	RF structure
e+ source	e+ linac	RF structure
e+ source	e+ linac	Vacuum
e+ source	e+ linac	Vacuum
e+ source	e+ linac	Cryo
e+ source	e+ linac	Cryo
e+ source	e+ linac	RF power sources
e+ source	e+ linac	RF power sources
e+ source	e+ linac	RF power sources
e+ source	e+ linac	RF power sources
e+ source	e+ linac	RF power sources
e+ source	e+ linac	RF power sources
e+ source	e+ linac	RF power sources
e+ source	e+ linac	RF power sources
e+ source	e+ linac	RF power sources
e+ source	e+ linac	RF power sources
e+ source	e+ linac	RF power sources
e+ source	e+ linac	RF power sources
e+ source	e+ linac	RF power sources
e+ source	e+ linac	RF power sources
e+ source	e+ linac	controls
e+ source	e+ linac	controls
e+ source	e+ linac	Water system
e+ source	e+ linac	Water system
e+ source	e+ linac	Water system
e+ source	e+ linac	AC power
e+ source	e+ linac	AC power
e+ DR		Magnets
e+ DR		Magnets
e+ DR		Magnets
e+ DR		Magnets
e+ DR		Magnets
e+ DR		Magnets
e+ DR		Magnets
e+ DR		Magnets
e+ DR		Magnets
e+ DR		Magnets
e+ DR		PS + controllers
e+ DR		Magnets
e+ DR		PS + controllers
e+ DR		PS + controllers

e+ DR	PS + controllers
e+ DR	PS + controllers
e+ DR	PS + controllers
e+ DR	PS + controllers
e+ DR	PS + controllers
e+ DR	Water system
e+ DR	Vacuum
e+ DR	Vacuum
e+ DR	Vacuum
e+ DR	Vacuum
e+ DR	Vacuum
e+ DR	Water system
e+ DR	Water system
e+ DR	Water system
e+ DR	Diagnostic
e+ DR	Diagnostic
e+ DR	Diagnostic
e+ DR	Diagnostic
e+ DR	Diagnostic
e+ DR	RF structure
e+ DR	RF structure
e+ DR	RF structure
e+ DR	RF structure
e+ DR	RF structure
e+ DR	RF structure
e+ DR	RF structure
e+ DR	Cryo
e+ DR	Cryo
e+ DR	RF power sources
e+ DR	RF power sources
e+ DR	RF power sources
e+ DR	RF power sources
e+ DR	RF power sources
e+ DR	RF power sources
e+ DR	controls
e+ DR	controls
e+ DR	Water system
e+ DR	Water system
e+ DR	Water system
e+ DR	AC power
e+ DR	AC power
e+ DR	AC power
e+ DR	controls
e+ DR	controls
e+ DR	controls
e+ DR	controls
e+ extraction	Magnets

e+ extraction	Magnets
e+ extraction	Magnets
e+ extraction	Magnets
e+ extraction	Magnets
e+ extraction	Magnets
e+ extraction	PS + controllers
e+ extraction	PS + controllers
e+ extraction	PS + controllers
e+ extraction	PS + controllers
e+ extraction	PS + controllers
e+ extraction	PS + controllers
e+ extraction	Water system
e+ extraction	Cryo
e+ extraction	Vacuum
e+ extraction	Vacuum
e+ extraction	Vacuum
e+ extraction	Vacuum
e+ extraction	Water system
e+ extraction	Water system
e+ extraction	Water system
e+ extraction	Diagnostic
e+ extraction	Diagnostic
e+ extraction	Diagnostic
e+ extraction	Diagnostic
e+ extraction	Diagnostic
e+ extraction	controls
e+ extraction	controls
e+ extraction	controls
e+ extraction	controls
e+ extraction	controls
e+ extraction	AC power
e+ extraction	AC power
e+ transport	Magnets
e+ transport	Magnets
e+ transport	Magnets
e+ transport	Magnets
e+ transport	Magnets
e+ transport	Magnets
e+ transport	PS + controllers
e+ transport	PS + controllers
e+ transport	PS + controllers
e+ transport	PS + controllers
e+ transport	PS + controllers
e+ transport	PS + controllers
e+ transport	Water system
e+ transport	Cryo
e+ transport	Vacuum
e+ transport	Vacuum
e+ transport	Vacuum

e+ transport		Water system
e+ transport		Water system
e+ transport		Water system
e+ transport		Diagnostic
e+ transport		Diagnostic
e+ transport		Diagnostic
e+ transport		Diagnostic
e+ transport		Diagnostic
e+ transport		controls
e+ transport		controls
e+ transport		controls
e+ transport		controls
e+ transport		AC power
e+ transport		AC power
e+ turnaround	0	Magnets
e+ turnaround	0	Magnets
e+ turnaround	0	Magnets
e+ turnaround	0	Magnets
e+ turnaround	0	Magnets
e+ turnaround	0	Magnets
e+ turnaround	0	PS + controllers
e+ turnaround	0	PS + controllers
e+ turnaround	0	PS + controllers
e+ turnaround	0	PS + controllers
e+ turnaround	0	PS + controllers
e+ turnaround	0	PS + controllers
e+ turnaround	0	Water system
e+ turnaround	0	Cryo
e+ turnaround	0	Vacuum
e+ turnaround	0	Vacuum
e+ turnaround	0	Vacuum
e+ turnaround	0	Water system
e+ turnaround	0	Water system
e+ turnaround	0	Water system
e+ turnaround	0	Diagnostic
e+ turnaround	0	Diagnostic
e+ turnaround	0	Diagnostic
e+ turnaround	0	Diagnostic
e+ turnaround	0	Diagnostic
e+ turnaround	0	controls
e+ turnaround	0	controls
e+ turnaround	0	controls
e+ turnaround	0	controls
e+ turnaround	0	controls
e+ turnaround	0	AC power
e+ turnaround	0	AC power
e+ compressor		Magnets



e+ compressor	Magnets
e+ compressor	Magnets
e+ compressor	Magnets
e+ compressor	Magnets
e+ compressor	Magnets
e+ compressor	PS + controllers
e+ compressor	PS + controllers
e+ compressor	PS + controllers
e+ compressor	PS + controllers
e+ compressor	PS + controllers
e+ compressor	PS + controllers
e+ compressor	Water system
e+ compressor	Cryo
e+ compressor	Vacuum
e+ compressor	Vacuum
e+ compressor	Vacuum
e+ compressor	Water system
e+ compressor	Water system
e+ compressor	Water system
e+ compressor	Diagnostic
e+ compressor	Diagnostic
e+ compressor	Diagnostic
e+ compressor	Diagnostic
e+ compressor	Diagnostic
e+ compressor	controls
e+ compressor	controls
e+ compressor	controls
e+ compressor	controls
e+ compressor	controls
e+ compressor	AC power
e+ compressor	AC power
e+ compressor	RF structure
e+ compressor	RF structure
e+ compressor	RF structure
e+ compressor	RF structure
e+ compressor	RF structure
e+ compressor	RF structure
e+ compressor	RF structure
e+ compressor	RF structure
e+ compressor	RF structure
e+ compressor	RF structure
e+ compressor	RF structure
e+ compressor	RF structure
e+ compressor	RF structure
e+ compressor	Vacuum
e+ compressor	Vacuum
e+ compressor	Cryo
e+ compressor	Cryo
e+ compressor	RF power sources







e+ BDS	crab cavities	controls
e+ BDS	crab cavities	Water system
e+ BDS	crab cavities	Water system
e+ BDS	crab cavities	Water system
e+ BDS	crab cavities	AC power
e+ BDS	crab cavities	AC power
IP		PS + controllers
Cryo plants		lumped
Site power		lumped
Global controls		lumped
IP		schedMaint

region	% downtime incl forced MD	% allowed opp MD	% actual opp MD	%desired MD
Cryo plants	2,7	0,4	0,0	0,0
Site power	1,2	0,2	0,0	0,0
Global controls	0,5	0,1	0,0	0,0
e- source	0,6	0,3	0,3	1,0
e- DR	1,1	1,5	1,5	1,9
e- extraction	0,2	0,0	0,0	0,2
e- transport	0,5	0,0	0,0	0,2
e- turnaround	0,2	0,0	0,0	0,2
e- compressor	0,3	0,0	0,0	0,5
e- linac	2,9	0,0	0,0	1,0
e- BDS	0,3	7,3	1,0	1,0
e+ source	1,0	0,3	1,0	1,0
e+ transprt hi e	0,0	0,2	0,5	0,5
e+ DR	0,8	1,4	1,4	1,9
e+ extraction	0,1	0,0	0,2	0,2
e+ transport	0,3	0,0	0,2	0,2
e+ turnaround	0,1	0,0	0,1	0,2
e+ compressor	0,2	0,0	0,1	0,5
e+ linac	1,8	0,0	0,1	1,0
e+ BDS	0,2	0,1	0,1	1,0
IP	0,0	0,0	0,0	1,0
% time down incl forced MD	17,0			
% time fully up integrating lum or sched MD	76,0			
% time scheduled maintenance	6,7			
% time integrating lum	71,8			
% time scheduled MD	4,2			
% time actual opportunistic MD	3,4			
% time useless down	13,7			



















































%sched

MD

0,0

0,0

0,0

0,7

0,4

0,2

0,2

0,2

0,5

1,0

0,0

0,0

0,0

0,5

0,0

0,0

0,1

0,4

0,9

0,9

1,0