

POSITRON & ELECTRON SOURCES ELECTRICAL DEMAND SUMMARY ROLL UP								
e+e- Sources	Tech Housing Function	Floor Area m ²	Peak Demand kVa	Installed Capacity kVa	Peak to Installed % kVa	Equip Ft-Print Area m ²	Ft-Print to Floor % Area	Notes:
Tech Area System								
e- Injector	All Housings	4293	5895	5025	117%	1706	40%	
Undulator	All Housings	17628	8937	5513	162%	6680	38%	
KAS & Booster	All Housings	7144	10143	7275	139%	3322	47%	
e+ Transferline	All Housings*	169020	7885	5587	141%	4152	2%	*Semi-Shared Housings
Total		198085	32860	23400	140%	15860	8%	Portion of Floor Area Coverd By Equipment
Peak kVa Demand per m ²			0.17					
Installed kVa Capacity per m ²				0.12				e+e- Sources
Operating Power kw @ 0.8 Load Factor				15912			15912	Power kw Consumed
Peak kVa Demand per m ² of Ft-Print						2.07		
Installed kVa Capacity per m ² of Ft-Print							1.48	Installed kVa per m ² of Equipment

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e- Injector	Tech	Floor	Peak	Installed	Peak to	Equip	Ft-Print	
Tech Area System	Housing	Area	Demand	Capacity	Installed	Ft-Print	to Floor	Notes:
	Function	m^2	kVa	kVa	% kVa	Area m^2	% Area	
e- Pre-Gun 1	Beam-Service	310	304.8	412.5	74%	309	100%	
e- Pre-Gun 2	Beam-Service	310	385.4	412.5	93%	309	100%	
e- Gun 1 & Drive Lasar	Beam	49.6	33.8	0	0%	29	58%	
e- Gun 2 & Drive Lasar	Beam	49.6	33.8	0	0%	29	58%	
e- Gun 1&2 Drive Lasar	Service	24	13	0	0%	14	58%	
e- 12 Mev Buncher 1	Beam	40.5	6.6	0	0%	5	12%	
e- 12 Mev Buncher 2	Beam	40.5	6.6	0	0%	5	12%	
e- 12 Mev Buncher 1&2	Service	108	498.3	525	95%	85	79%	
e- 70 Mev Pre-Accel 1	Beam	45	7.3	0	0%	5	11%	
e- 70 Mev Pre-Accel 2	Beam	45	7.3	0	0%	5	11%	
e- 70 Mev Pre-Accel 1&2	Service	220	921.1	750	123%	166	75%	
e- Dogleg Dump & Wye	Beam	112.5	18.5	0	0%	13	12%	
e- Dogleg Dump & Wye	Service	112.5	78	112.5	69%	16	14%	
e- 5.5 GeV Pre-Accel	Beam	1188	195.6	0	0%	134	11%	
e- 5.5 GeV Pre-Accel	Service	1188	3128.4	2512.5	125%	488	41%	
e- to DR Transport	Beam	225	37	0	0%	25	11%	
e- to DR Transport	Service	225	219.1	300	73%	69	31%	
Total		4293	5895	5025	117%	1706	40%	Portion of Floor Area Coverd By Equipment
Peak kVa Demand per m^2			1.37					
Installed kVa Capacity per m^2				1.17				e- Injector
Operating Power kw @ 0.8 Load Factor				3417				3417 Power kw Consumed
Peak kVa Demand per m^2 of Ft-Print						3.46		
Installed kVa Capacity per m^2 of Ft-Print							2.95	Installed kVa per m^2 of Equipment

POSITRON & ELECTRON SOURCES ELECTRICAL DEMAND SUMMARY								
Undulator	Tech	Floor	Peak	Installed	Peak to	Equip	Ft-Print	
Tech Area System	Housing	Area	Demand	Capacity	Installed	Ft-Print	to Floor	Notes:
	Function	m^2	kVa	kVa	% kVa	Area m^2	% Area	
ELTU e- Linac to Undulator	Beam	1215	257.7	0	0%	196	16%	
ELTU e- Linac to Undulator	Service	1458	656.8	525	125%	294	20%	
EUND e- Undulator	Beam	1000	254.6	0	0%	195	20%	
EUND e- Undulator	Service	900	559	525	106%	203	23%	
EUTL e- Undualtor to Linac	Beam	1620	338.5	0	0%	259	16%	
EUTL e- Undualtor to Linac	Service	1458	718.3	525	137%	295	20%	
UPT Undulator Photon Transport	Beam	1615	264.3	0	0%	216	13%	
UPT Undulator Photon Transport	Service	1454	365.8	300	122%	202	14%	
UPT Undulator Photon Transport	Beam	866	304.7	0	0%	835	96%	
UPT Undulator Photon Transport	Service	347	212.5	187.5	113%	66	19%	
TAPA Target AMD Pre Accel A 125 MeV	Beam	413	229.9	0	0%	475	115%	
TAPA Target AMD Pre Accel A 125 MeV	Service	270	745.5	750	99%	189	70%	
TAPB Target AMD Pre Accel B 125 MeV	Beam	963	334.4	300	111%	850	88%	
TAPB Target AMD Pre Accel B 125 MeV	Service	280	787.9	750	105%	190	68%	
PCAPA Positron Capture A	Beam	1513	391.8	0	0%	908	60%	
PCAPA Positron Capture A	Service	248	487.6	300	163%	155	63%	
PCAPB Positron Capture B	Beam	550	165.7	0	0%	431	78%	
PCAPB Positron Capture B	Service	90	226.7	300	76%	75	83%	
PPA e+ Pre Accel 400 MeV	Beam	450	363.6	0	0%	286	64%	
PPA e+ Pre Accel 400 MeV	Service	480	850.8	750	113%	114	24%	
PPATEL e+ Pre Accel to e- Linac	Beam	120	48	0	0%	37	31%	
PPATEL e+ Pre Accel to e- Linac	Service	108	104.7	112.5	93%	39	36%	
UPD Undulator Photon Dumpline	Beam	75	84	0	0%	66	88%	
UPD Undulator Photon Dumpline	Service	135	184.5	187.5	98%	104	77%	
Total		17628	8937	5513	162%	6680	38%	Portion of Floor Area Coverd By Equipment
Peak kVa Demand per m^2			0.51					
Installed kVa Capacity per m^2				0.31				Undulator
Operating Power kw @ 0.8 Load Factor				3749				3749 Power kw Consumed
Peak kVa Demand per m^2 of Ft-Print						1.34		
Installed kVa Capacity per m^2 of Ft-Print							0.83	Installed kVa per m^2 of Equipment

POSITRON & ELECTRON SOURCES ELECTRICAL DEMAND SUMMARY								
KAS & Booster	Tech	Floor	Peak	Installed	Peak to	Equip	Ft-Print	
Tech Area System	Housing	Area	Demand	Capacity	Installed	Ft-Print	to Floor	Notes:
	Function	m^2	kVa	kVa	% kVa	Area m^2	% Area	
e+ Timing Trombone	Beam	675	90.5	0	0%	38	6%	
e+ Timing Trombone	Service	675	57.3	112.5	51%	32	5%	
e- KAS Pre-Gun	Beam-Service	310	189.9	225	84%	188	61%	
e- KAS Gun & Drive Lasar	Beam	49.6	33.8	0	0%	29	58%	
e- KAS Gun & Drive Lasar	Service	24	13	0	0%	14	58%	
e- KAS 12 MeV Buncher	Beam	40.6	6.6	0	0%	5	12%	
e- KAS 12 MeV Buncher	Service	54	460.9	525	88%	78	144%	
e- KAS 70 MeV Pre Accel	Beam	45	7.3	0	0%	45	100%	
e- KAS 70 MeV Pre Accel	Service	110	878	750	117%	154	140%	
e- KAS Dogleg & Dump	Beam	112.5	18.5	0	0%	13	12%	
e- KAS Dogleg & Dump	Service	112.5	59.5	112.5	53%	16	14%	
KAS TAP e+ Target Pre Acel 125 MeV	Service	412.5	195.6	0	0%	908	220%	
KAS TAP e+ Target Pre Acel 125 MeV	Beam	270	1960.6	1762.5	111%	150	56%	
KAS PCAP- e+ Capture	Beam	1512.5	407.5	0	0%	204	13%	
KAS PCAP- e+ Capture	Service	247.5	686.5	525	131%	409	165%	
PBSTR- e+ Booster 1135 MeV	Beam	211.5	259.8	0	0%	32	15%	
PBSTR- e+ Booster 1135 MeV	Service	211.5	823.9	412.5	200%	128	61%	
PBSTR- e+ Booster 2605 MeV	Beam	369	176.5	0	0%	36	10%	
PBSTR- e+ Booster 2065 MeV	Service	369	1319.9	975	135%	241	65%	
PBSTR- e+ Booster 5000 MeV	Beam	666	188.2	0	0%	96	14%	
PBSTR- e+ Booster 5000 MeV	Service	666	2309.2	1875	123%	506	76%	
Total		7144	10143	7275	139%	3322	47%	Portion of Floor Area Coverd By Equipment
Peak kVa Demand per m^2			1.42					
Installed kVa Capacity per m^2				1.02				
Operating Power kw @ 0.8 Load Factor				4947				4947 KAS & Booster Power kw Consumed
Peak kVa Demand per m^2 of Ft-Print						3.05		
Installed kVa Capacity per m^2 of Ft-Print							2.19	2.19 Installed kVa per m^2 of Equipment

