

2010 CERN Electrical Power Consumption

CERN is mainly powered from the French electrical grid through an overheadline coming from one of the interconnection substations in Génissiat: this overhead line is owned by RTE, the French utility company operating the French transport grid. CERN has an energy production & transport contract with EDF.

An additional connection from the Swiss electrical grid is used in case of emergency or during maintenance operations: this line at 130 kV is limited to 60 MVA.

2 0 1 0	CERN	Canton Geneva
Yearly Consumption	1,2 TWh	3 TWh
Power demand	220 MVA	

LHC – 3.5 TeV		Max Power * [MVA]	2010 Consumption [GWh]
Cryogenics		30	231
Cooling		11	39
Ventilation		9	31
Experiments		25	110
RF		15	30
Cryo magnets		15	40
General Services	lighting, overhead cranes, local control rooms, buildings (SY, SX, etc.), some redundant circuits for cryogenics, Atlas	15	140
Total		135	621

* power values sampled every 10 minutes

SPS – Prévessin	Max Power [MVA]	2010 consumption [GWh]
SPS Stable <small>cooling and ventilation included</small>		48
SPS Pulsed		8
Experiments North Area Stable		58
Experiments North Area Pulsed		25
RF		20
Magnets		200
Pumping station <small>in BA6 for the water circuits of the SPS and LHC</small>		6
General Services Prévessin <small>the 4 blocs, 867, CCC</small>		11
Total	60	376

PS Complex - Meyrin	Max Power [MVA]	2010 Consumption [GWh]
PS <small>power converters, cooling and ventilation included</small>		50
PS Booster		20
Experiments East Hall		15
Experiments South Hall		5
AD		21
CTF3		8
ISOLDE		4
SPS West Area <small>180, 272, 35, nTOF, SMI2, etc.</small>		9
Computer Centre		24
Meyrin buildings <small>including firemen</small>		40
Total	40	196