

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 supply 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.

2011	CERN	Canton Geneva
Yearly Consumption	1,21 TWh	3 TWh
Power demand	235 MVA	

LHC – 3.5 TeV		Max power * [MVA]	Yearly consumption [GWh]
Cryogenics		30	235
Cooling		11	40
Ventilation		9	30
Experiments		25	115
RF		15	35
Cryo magnets		15	40
General Services	lighting, overhead cranes, local control rooms, buildings (SY, SX, etc.), some redundant circuits for cryogenics, Atlas	15	130
Total		135	625

* average power values sampled every 10 minutes

SPS – Prévessin	Max Power [MVA]	Yearly consumption [GWh]
SPS Stable <small>cooling and ventilation included</small>		50
SPS Pulsed		10
Experiments North Area Stable		60
Experiments North Area Pulsed		25
RF		25
Magnets		195
Pumping station <small>in BA6 for the water circuits of the SPS and LHC</small>		5
General Services Prévessin <small>the 4 blocs, 867, CCC</small>		10
Total	60	380

PS Complex - Meyrin	Max Power [MVA]	Yearly consumption [GWh]
PS <small>cooling and ventilation included</small>		55
PS Booster		25
Experiments East Hall		15
Experiments South Hall		5
AD		20
CTF3		8
ISOLDE		5
SPS West Area <small>180, 272, 35, nTOF, SMI2, etc.</small>		10
Computer Centre		35
Meyrin buildings <small>including firemen</small>		30
Total	40	208