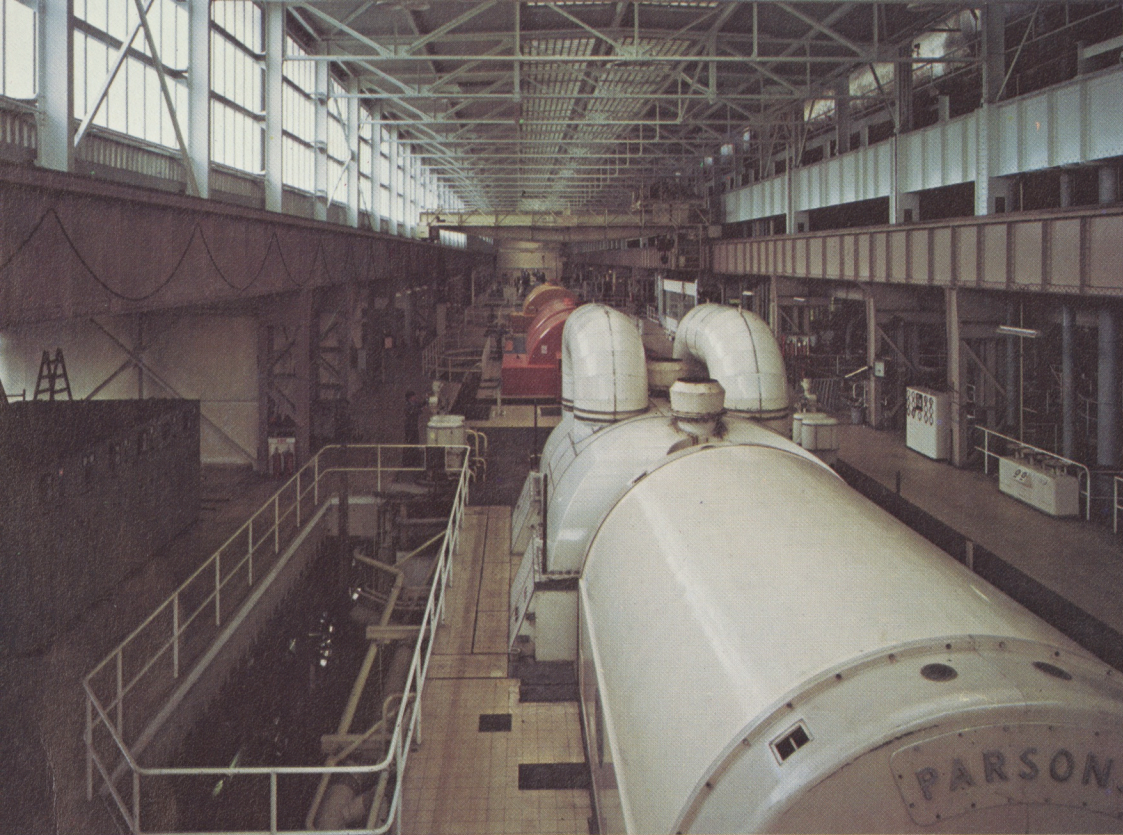




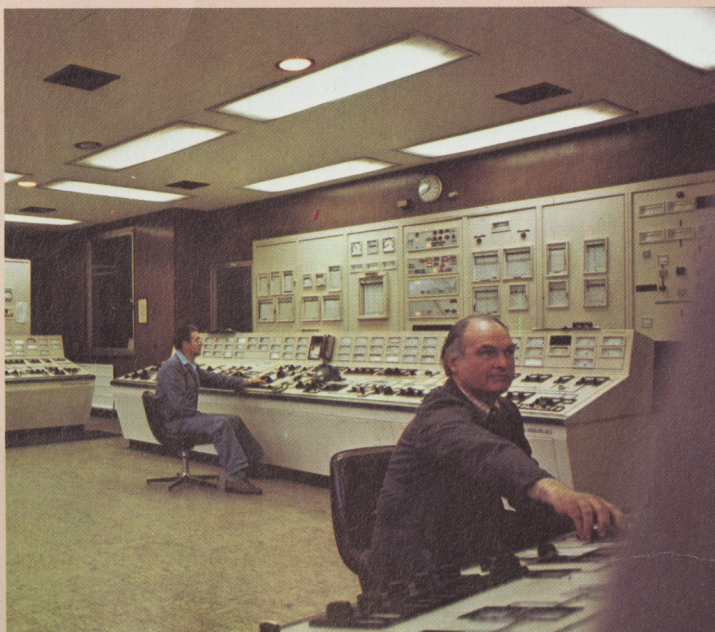
Bord Soláthair an Leictreachais

RINGSEND GENERATING STATION DUBLIN





A: Generating Hall



B: Thermal Control Room

Ringsend Generating Station

Ringsend Station was developed in two stages. "A" station of 90,000 kW capacity, commissioned in 1955-56 and "B" station of 180,000 kW capacity, commissioned in 1965-66. "A" station comprises four Babcock and Wilcox 2000,000 lb./hr. boilers delivering steam at 625 p.s.i.g. 865°F to a receiver for distribution to three Parsons 30 mW turbo-generators.

RINGSEND "B" – comprises three units, each having a VKW boiler delivering 550,000 lbs./hr. of steam at 1,175 p.s.i.g. 970°F to a 60,000 kW turbine. Two of the turbines are Siemens impulse reaction type and the third machine is a Parsons impulse reaction turbine. The VKW boilers are of modern design. Fuel oil is fed to 9 variable pressure steam atomised burners at 130°C.

The generators are cooled by hydrogen automatically maintained at 30 p.s.i. and 98% purity within the generator casing.

Fuel Supplies:

The maximum oil storage is 82,000 tonnes giving 12-16 weeks capacity at normal demands.

Fuel oil supplies come from various world sources, and the tankers berth at the station wharf and pump direct to the storage tanks.

Electrical Output:

Total maximum output capacity is 2,268 million units per annum or 6.48 million units per day, corresponding to a fuel consumption of 567,000 tons of fuel oil. The generator output is at 10,500 volts and this is stepped up to 38,000 volts and 110,000 volts in transformers at the station. From the station 11 cables transmit the power to the National Grid through underground system, (see electrical diagram).

Water Supplies:

Two separate water systems are required. Seven pumps can circulate water from the Liffey through the turbine condensers at a rate of up to 1½ million tons per day for cooling purposes.

Town water which is then chemically treated is fed to the Boiler to meet the exacting demands of the plant operating at such high pressure and temperature. The steam produced passes through the turbines, is then condensed to water in the condensers and recycled to the Boilers.

Technical Particulars

Fuel:

Oil, nett calorific value 17,400 Btu/lb.
Fuel storage capacity: 82,000 tonnes.

Boilers:

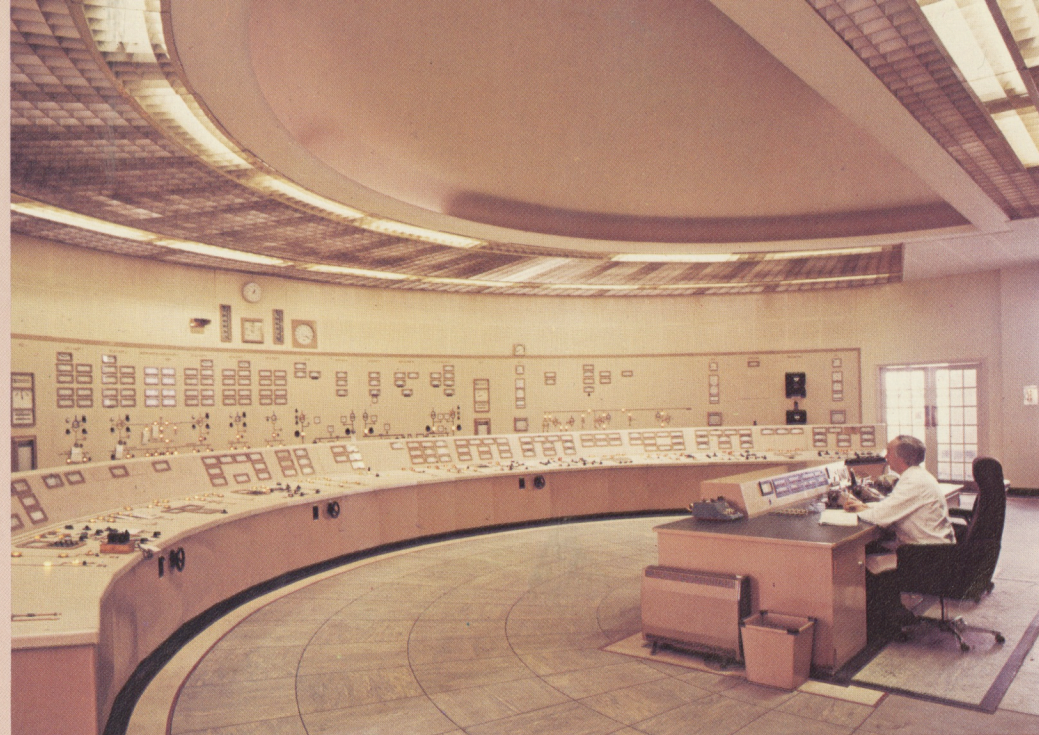
	1,2,3 and 4	5,6 and 7
Maker	B & W	V.K.W.
Firing	Oil	Oil
Economic rating k lb/hr	160	410
M.C.R. k lb/hr	200	550
Pressure p.s.i.	625	1,175
Temperature °F	865	960

Turbo-Alternators (There is no turbo-alternator No. 4)

	1,2 and 3	5 and 6	7
Maker	Parsons	S.S.W.	Parsons
Type	Reaction,	Impulse	Impulse
	twin cylinder	twin cylinder	twin cylinder
Economic rating MW	24	50	50
M.C.R. MW	30	60	60
Speed r.p.m.	3,000	3,000	3,000
Pressure p.s.i.	600	1,150	1,150
Temperature °F	850	950	950
Voltage kV	10.5	10.5	10.5
Power Factor	0.8	0.8	0.8

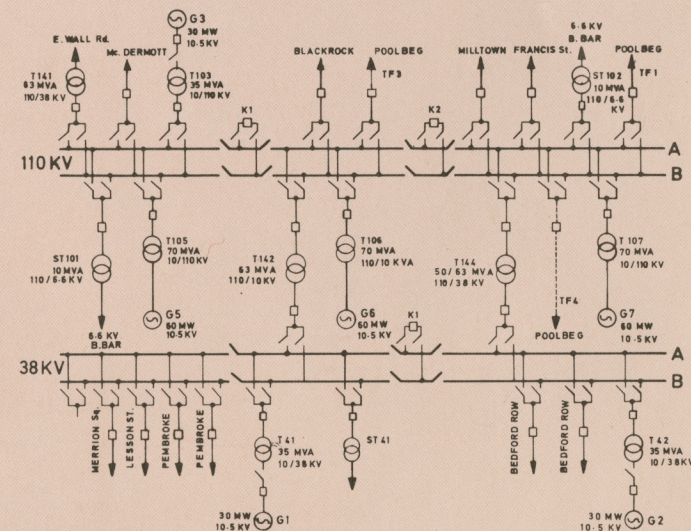
Electrical Equipment (Ratings, etc. given in Line Diagram)

10/110 kV and 38/110 KV transformers	A.C.E.C.
10/38kV and 38/5/3.3kV	Parsons
110/6.6kV	A.E.G.
10, 6.6 and 3.3kV transformers	A.C.E.C. and Parsons
110 and 38kV arc suppression plant	A.E.G., A.S.E.A. and Brown-Boveri
11,38,10 and 5kV switchgear	Brown-Boveri
6.6kV switchgear	Laur Knudsen
3.3kV switchgear	Cook and Ferguson
380V switchgear	G.E.C. and Voigt & Haefner
Electrical control room equipment	Charles Maier
Thermal control room equipment	Hartmann & Braun



C: Electrical Control Room

D: Electrical System





E: 110kV Compound

HYDRO STATIONS

	Capacity MW.
River Shannon: Ardnacrusha	86
River Liffey: Pollaphuca	30
Golden Falls	4
Leixlip	4
River Erne: Cathaleen's Fall	45
Cliff	20
River Lee: Inniscarra	19
Carrigadrohid	8
River Clady: Clady	4

Pumped Storage	
Turlough Hill, Co. Wicklow	292

STEAM STATIONS

	Capacity MW
North Wall (Dublin City)	
gas/oil under construction	200
Ringsend (Dublin City)	
Oil	270
Marina (Cork City)	
Gas/oil	205
Poolbeg (Dublin)	
Oil	538
Great Island (Co. Wexford)	
Oil	240
Aghada (Cork)	
gas	525
Portarlinton (Co. Laois)	
sod peat	38
Tarbert Island (Co. Kerry)	
Oil	620
Allenwood (Co. Kildare)	
sod peat	40
Ferbane (Co. Offaly)	
milled peat	90
Lanesborough (Co. Longford)	
sod and milled peat	60
Rhode (Co. Offaly)	
milled peat	80
Bellacorick (Co. Mayo)	
milled peat	40
Shannonbridge (Co. Offaly)	
milled peat	40
Arigna (Co. Roscommon)	
native coal	15
Miltown-Malbay (Co. Clare)	
sod peat	5
Screeb (Co. Galway)	
sod peat	5
Cahiriveen (Co. Kerry)	
sod peat	5
Gweedore (Co. Donegal)	
sod peat	5
Moneypoint (Co. Clare)	
Coal (Under Construction)	900