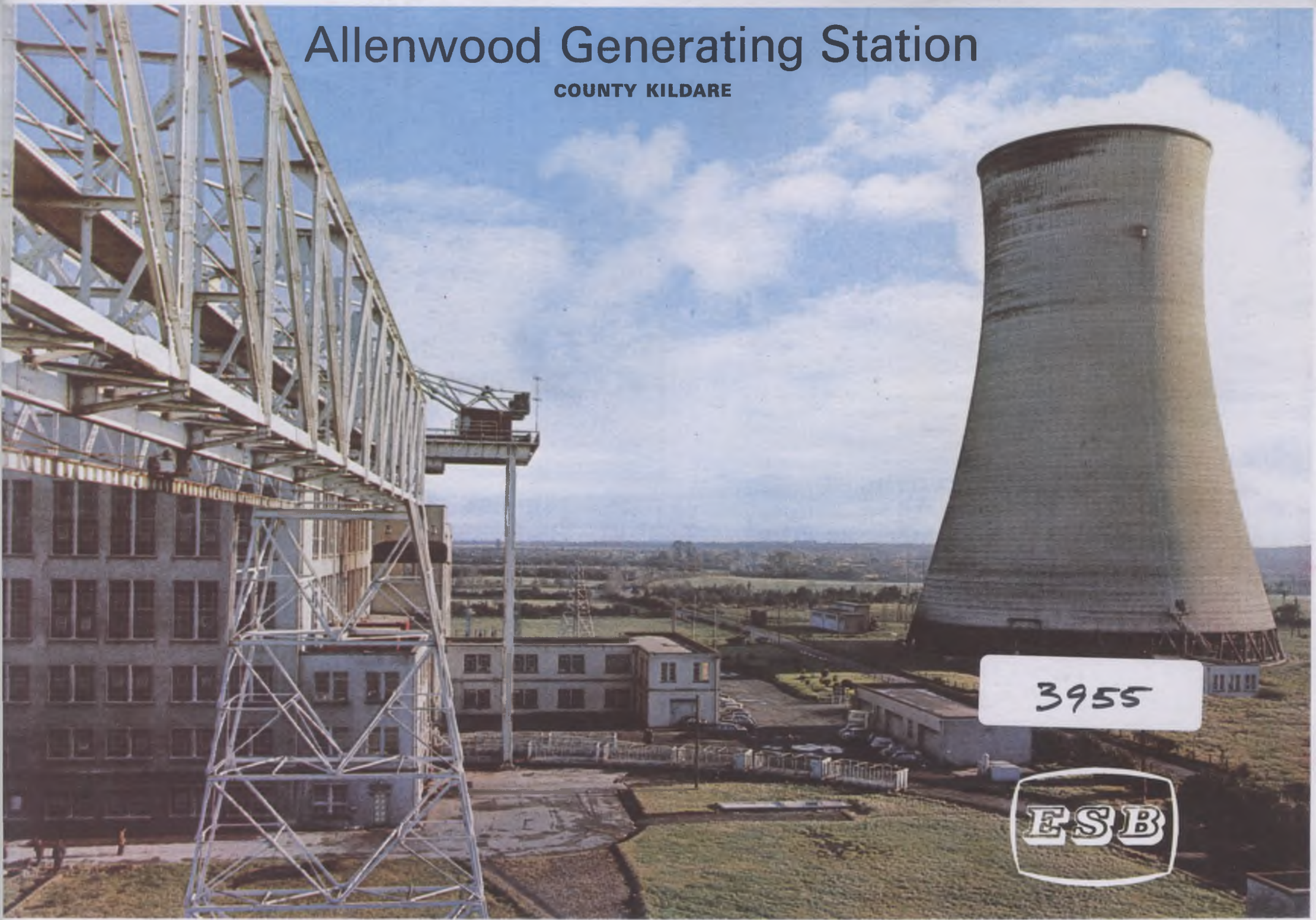
Allenwood Generating Station

COUNTY KILDARE



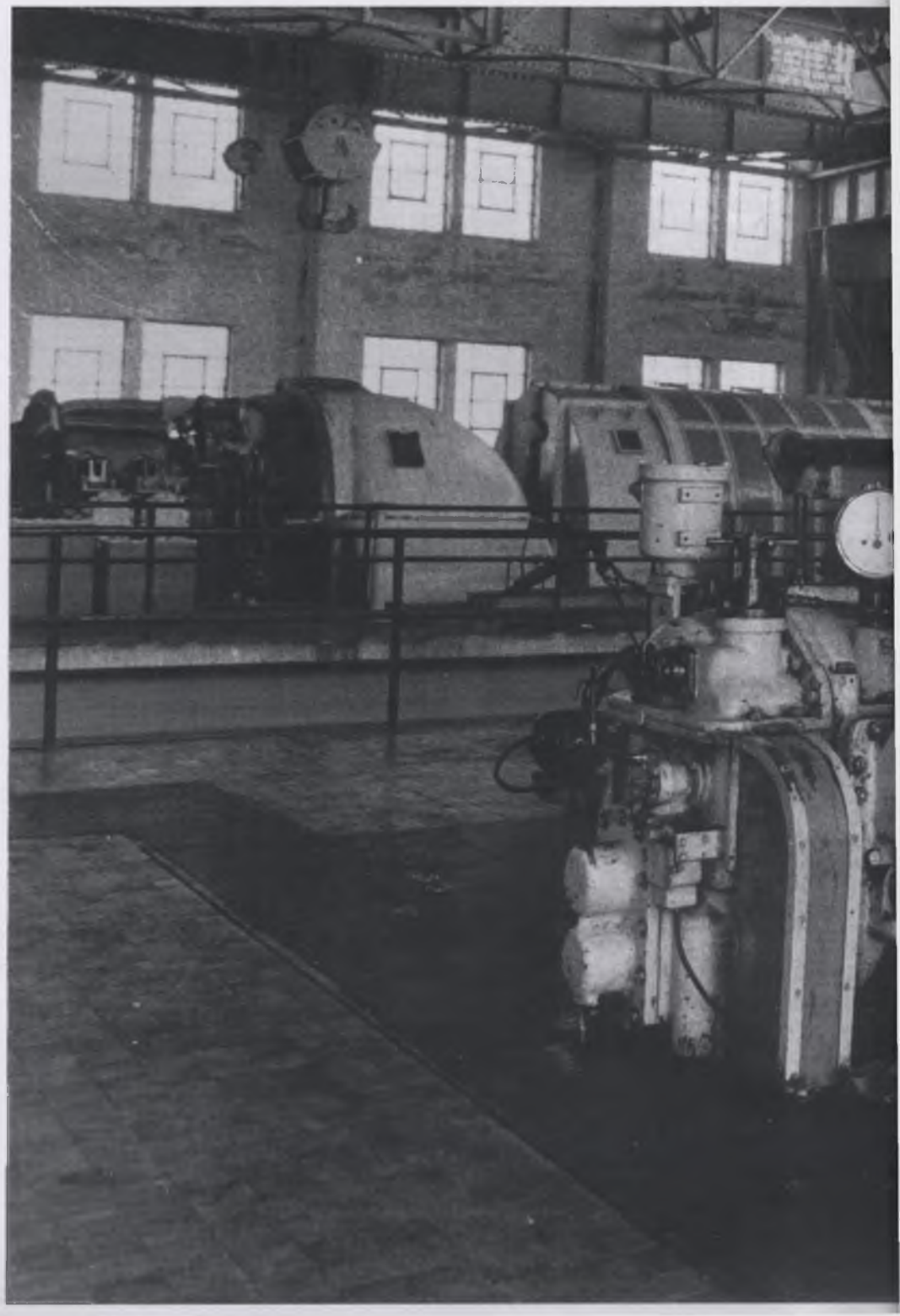
Allenwood Generating Station

The Allenwood (Co. Kildare) generating station was designed to use sod peat fuel produced on the adjoining bogs at Timahoe, Co. Kildare.

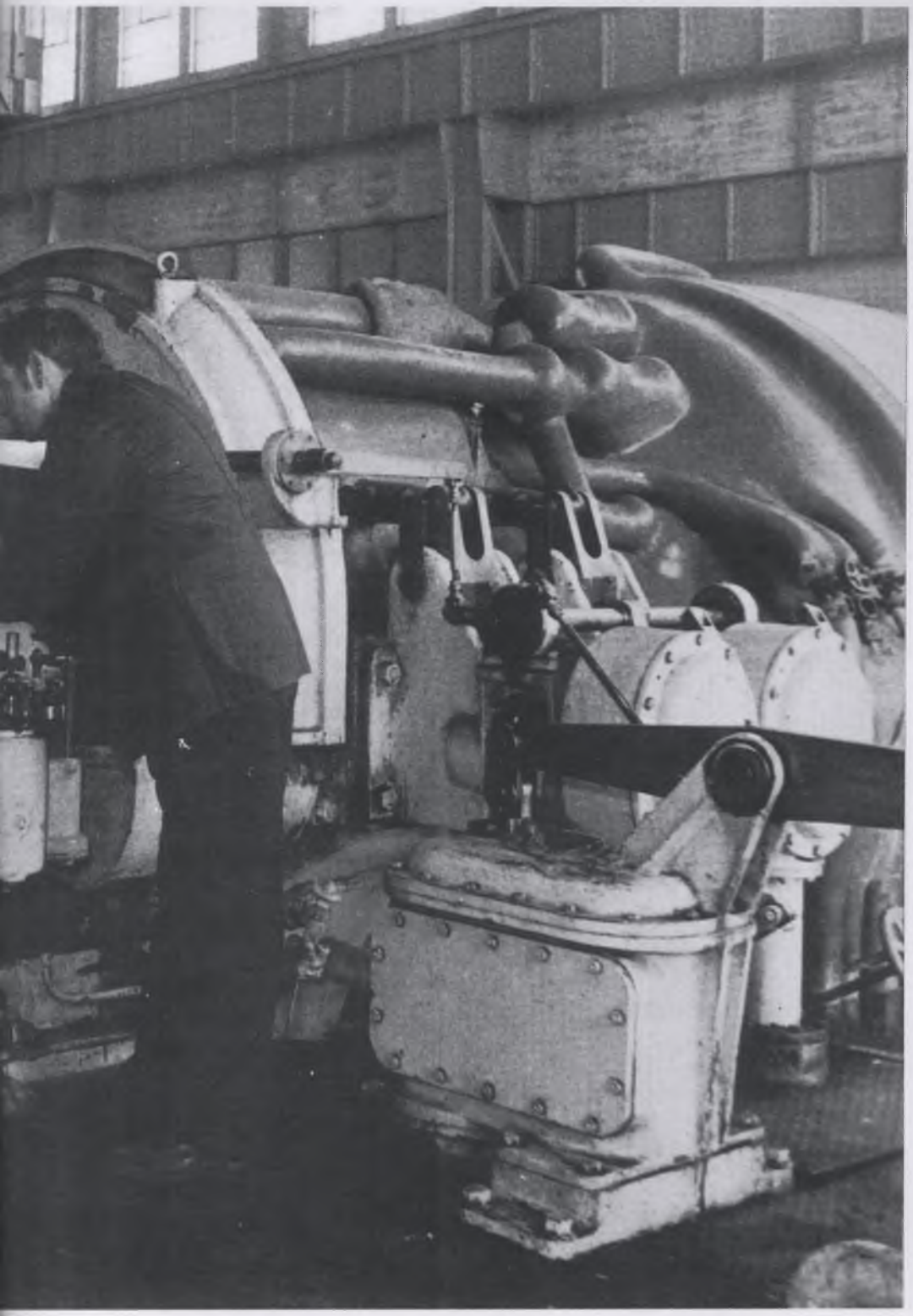
The boiler plant comprises four units, each having a normal output of 125,000 pounds of steam per hour. The generating plant comprises two 20,000 kW steam turbo-alternator sets of normal axial-flow type, and provision has been made for the possible installation of a third generating set at a later date.

Construction of the station began in February, 1949, and the first generating set was put into commission in January, 1952. The second set was commissioned in September, 1952.

The average annual output is 190 million units. The capacity of the peat store is about 30,000 tons. Consumption of peat is 260,000 tons a year.



Generating Hall



PRINCIPAL TECHNICAL PARTICULARS

Fuel

Sod peat	35 per cent moisture
Size, approximately	10 in. x 3 in. x 3 in.
Nett calorific value at 34 per cent moisture	5,500 B.t.u./lb
Ash fusion point	1,100°C-1,150°C

Boilers

Number	4
Maker	B & W
Stokers	Chain-grate
Normal rating	125,000 lb./hr.
M.C.R.	150,000 lb./hr.
Peak (1-hour) rating	163,000 lb./hr.
Steam pressure	425 p.s.i.
Steam temperature	825°F

Turbo-Alternators

Number	2
Maker	G.E.C.
Type	Axial-flow, impulse
Steam pressure	400 p.s.i.
Steam temperature	800°F
Capacity	20,000 kW
Speed	3,000 r.p.m.
Voltage	10,500
Power factor	0.8

Cooling Tower

Type	R.-C. hyperbolic
Height	286 ft.
Internal diameter at base	205 ft.
Water quantity	2,400,000 gallons per hour
Temperature range	82°F to 70°F (at 75% relative humidity)

Transformers

T 102—10/110 kV, 20,000 kVA: maker B.T.H.
T 1—10/38/110kV, 22,000 kVA: maker Electromekano
ASCHI—38kV, 80A: maker ASEA
T11, T12 and T14—10kV/380V, 3,000 kVA: maker B.T.H.

One of our many Stations

Of the 28 generating stations 9 are hydro, 4 operate on milled peat, 6 on sod peat, 1 on native coal, 6 on oil, 1 on sod/milled peat and 1 on coal or oil.

HYDRO STATIONS		*Capacity Mw.*
River Shannon:	Ardnacrusha	85
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
		219

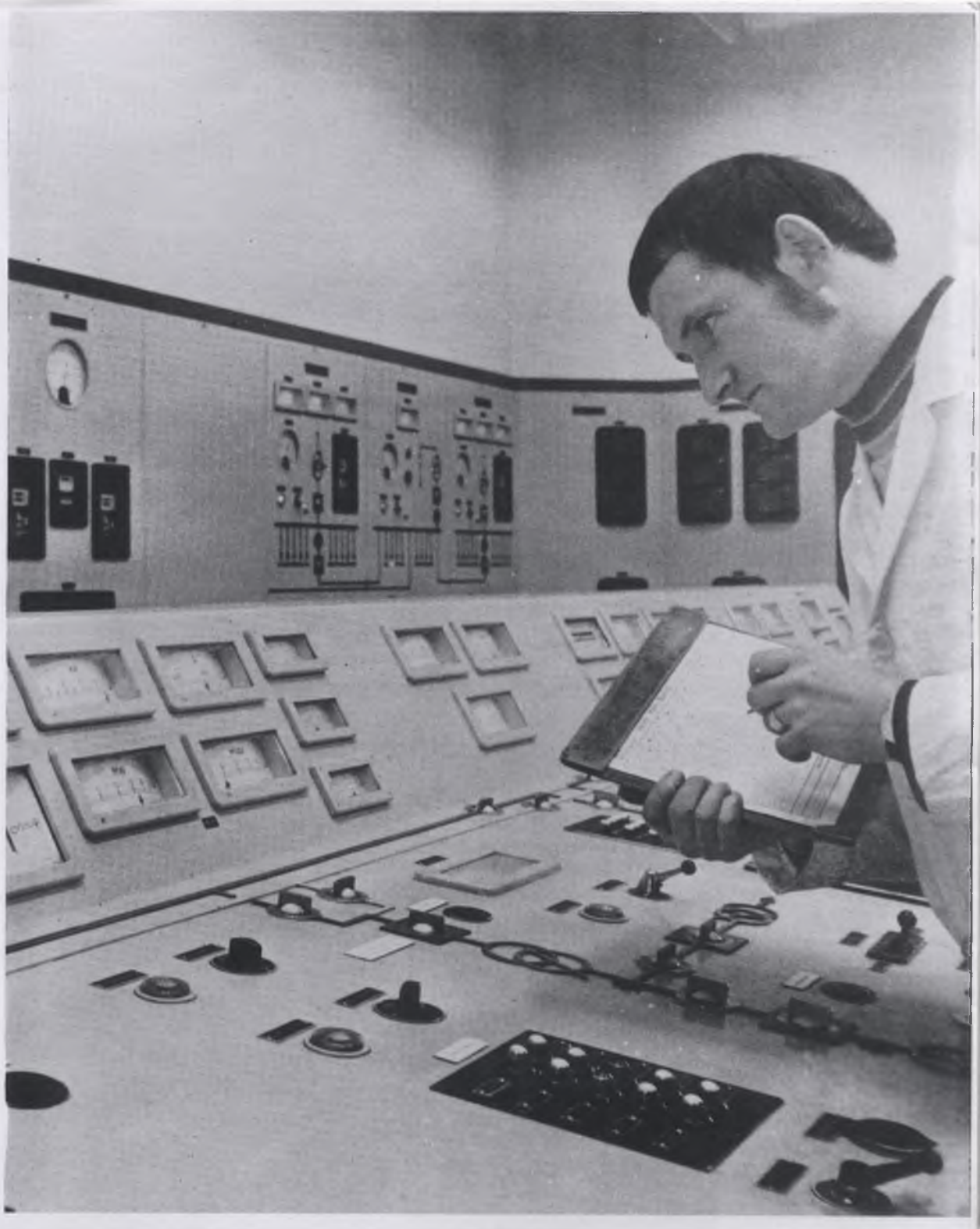
UNDER CONSTRUCTION

Pumped Storage Turlough Hill, Co. Wicklow	292

STEAM STATIONS	*Capacity Mw.*
Pigeon House "A" (Dublin City) *oil*	90
North Wall (Dublin City) *oil*	48
Ringsend (Dublin City) *coal/oil*	270
Marina (Cork City) *oil*	120
Pigeon House "B" *oil*	268
Great Island (Co. Wexford) *oil*	120

STEAM STATIONS	*Capacity Mw.*
Portarlington (Co. Laois) *sod peat*	38
Tarbert Island (Co. Kerry) *oil*	120
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
Cahirciveen (Co. Kerry) *sod peat*	5
Gweedore (Co. Donegal) *sod peat*	5
	1,459

Total Capacity, Hydro and Steam 1,678 Mw.



Electrical Control Room

Produced by the Public Relations Office, E.S.B., 1 Fitzwilliam Place
Dublin 2 and printed in Ireland by Printcraft.