ALLENWOOD
GENERATING STATION

ELECTRICITY SUPPLY BOARD
DUBLIN 2, IRELAND
Reprinted April, 1966

The data in this brochure has been changed from that shown herein as follows :—

Page 3 : In the Plan of Works, at the 110kV station, the " Inchicore " line has been changed to " Carrickmines." (Refer also to Page 4 and Page 6 below).

Page 4 : The bottom photograph does not show the new transformer "TI" with arc-suppression coil "ASC41" (refer Page 7 below) which replaced the former "T101".

Page 5 : In the top photograph the nearest panel on the desk has been equipped.

Page 6 : In the Line Diagram :—

(1) Transformer " T 101 " has been re-named " T1 " ; it has 10, 38 and 110kV windings and a 38kV arc-suppression coil, named " ASC 41," has been connected to its 38kV neutral through a disconnect switch. " T1's " 38kV winding is connected to the adjacent 38/10kV substation by an overhead 38kV line.

(2) The 110kV line named " Inchicore " has been changed to " Carrickmines."

Page 7 : (1) On the second last line of the table delete " T 101 and ".

(2) Add new lines as follows :—
" T1—10/38/110kV, 22,000kVA ; maker Electromekano ".
" ASC 41—38kV, 80A ; Maker ASEA ".

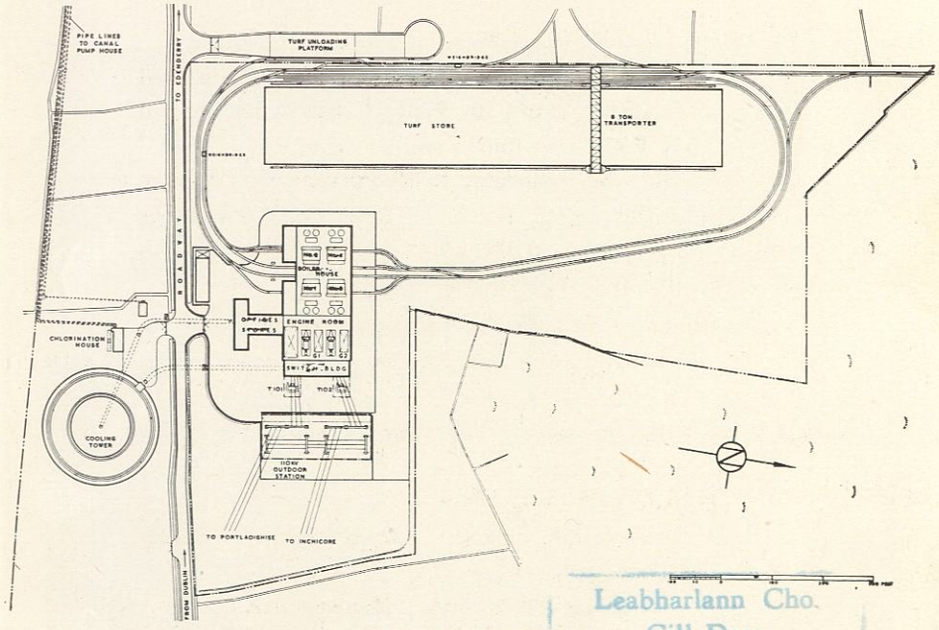
ALLENWOOD
GENERATING STATION

The Allenwood (Co. Kildare) generating station was designed to use peat fuel produced on the adjoining bogs at Timahoe, Co. Kildare. The peat is similar to that in use at the Portarlington station.

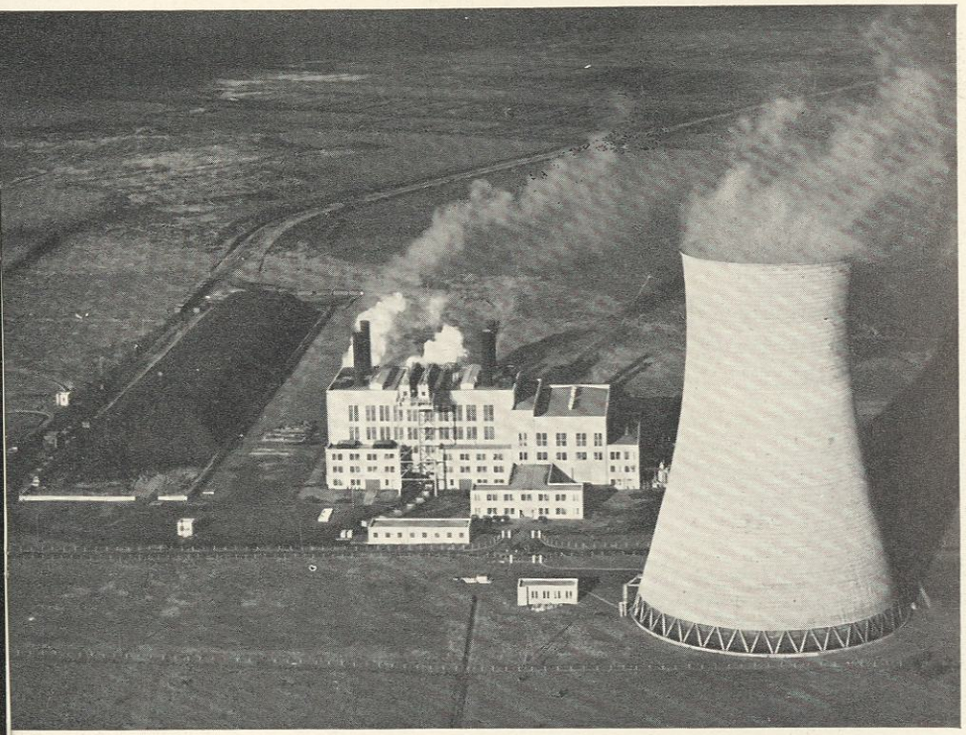
The boiler plant comprises four units, each having a normal output of 125,000 pounds of steam per hour. The generating plant comprises two 20,000 kW steam turbo-alternator sets of normal axial-flow type, and provision has been made for the installation of a third generating set at a later date.

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.

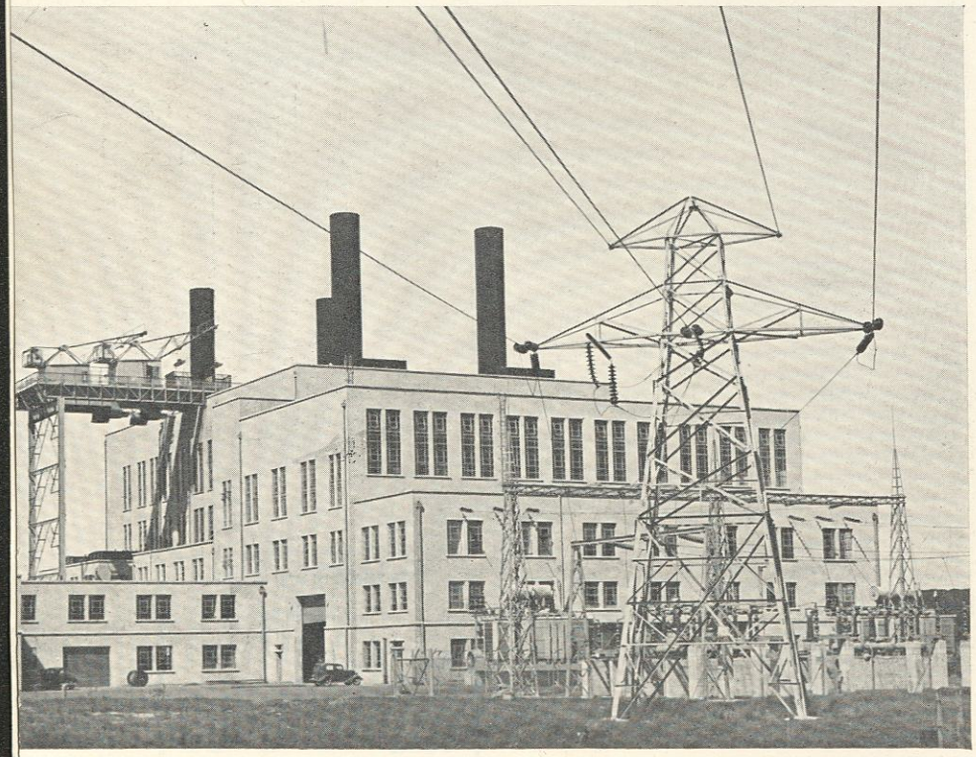
The average annual output is 190 million units. The capacity of the peat store is about 30,000 tons.



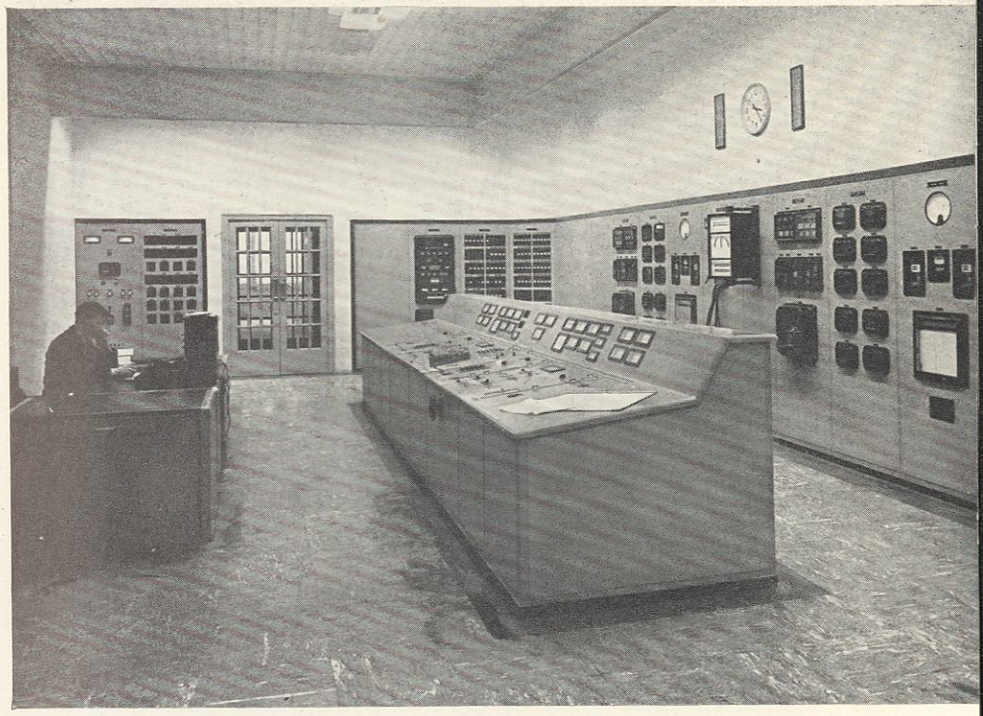
PLAN OF WORKS



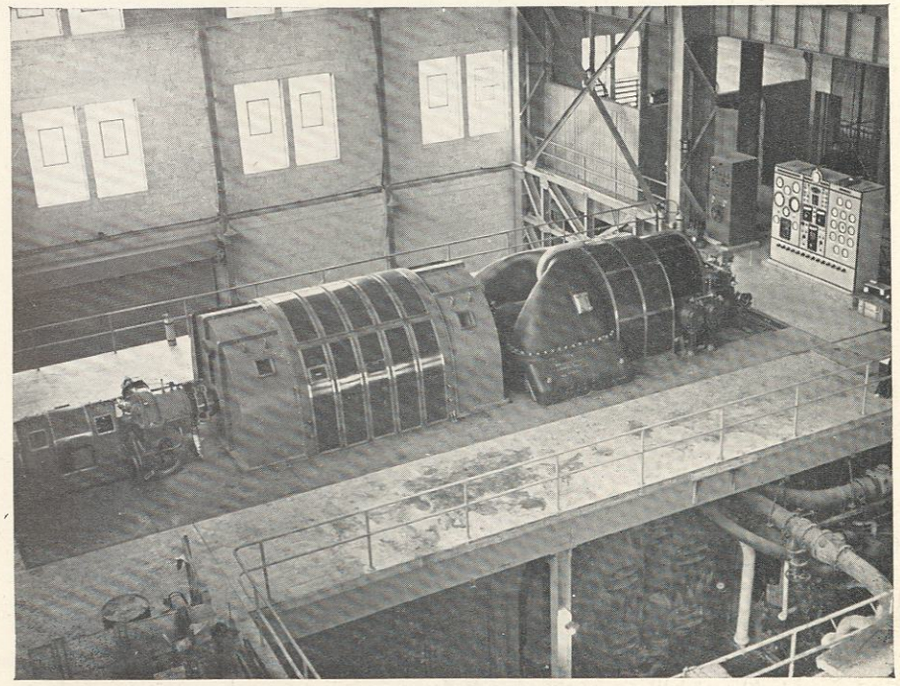
AERIAL VIEW



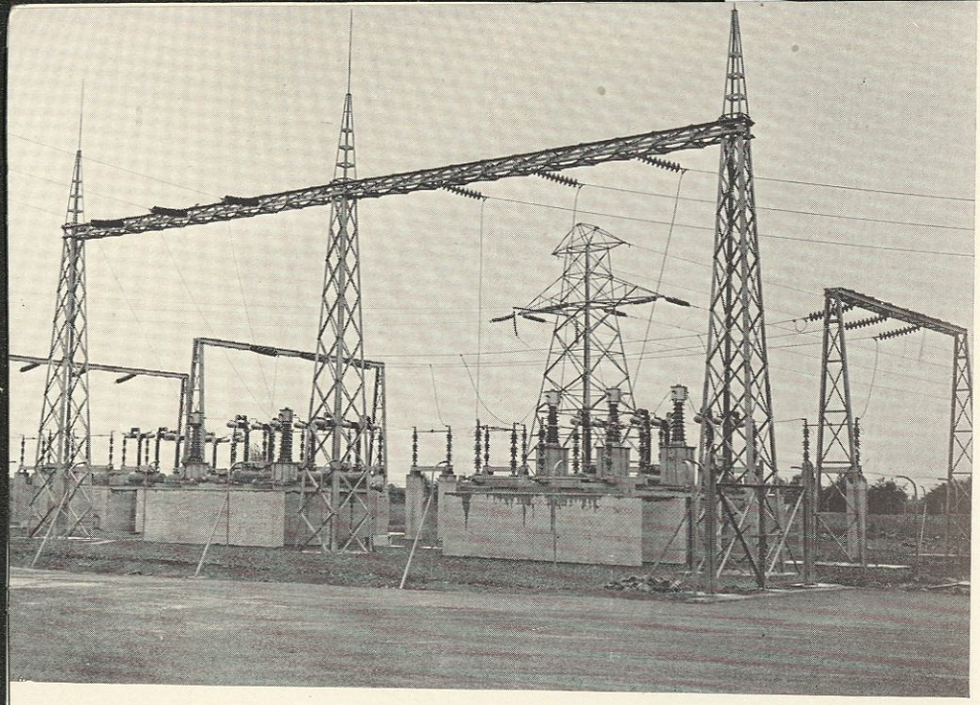
ENGINE ROOM SIDE



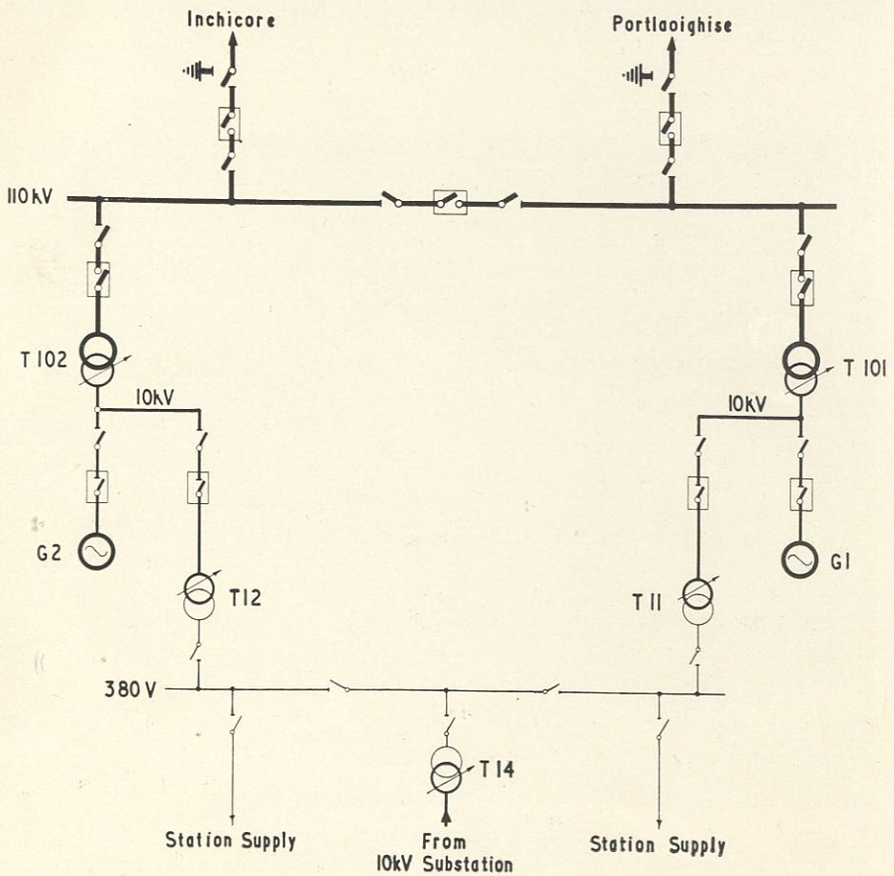
CONTROL ROOM



TURBINE ROOM



110kV SWITCHGEAR



LINE DIAGRAM (*Plant ratings given in schedule*)

PRINCIPAL TECHNICAL PARTICULARS

FUEL	
Sod peat	18-45 per cent moisture
Size, approximately	10in × 3in × 3in
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 101 and T 102—10/110 kV, 20,000 kVA : maker B.T.H.	
T 11, T 12 and T 14—10kV/380V, 3,000 kVA ,, ,,	