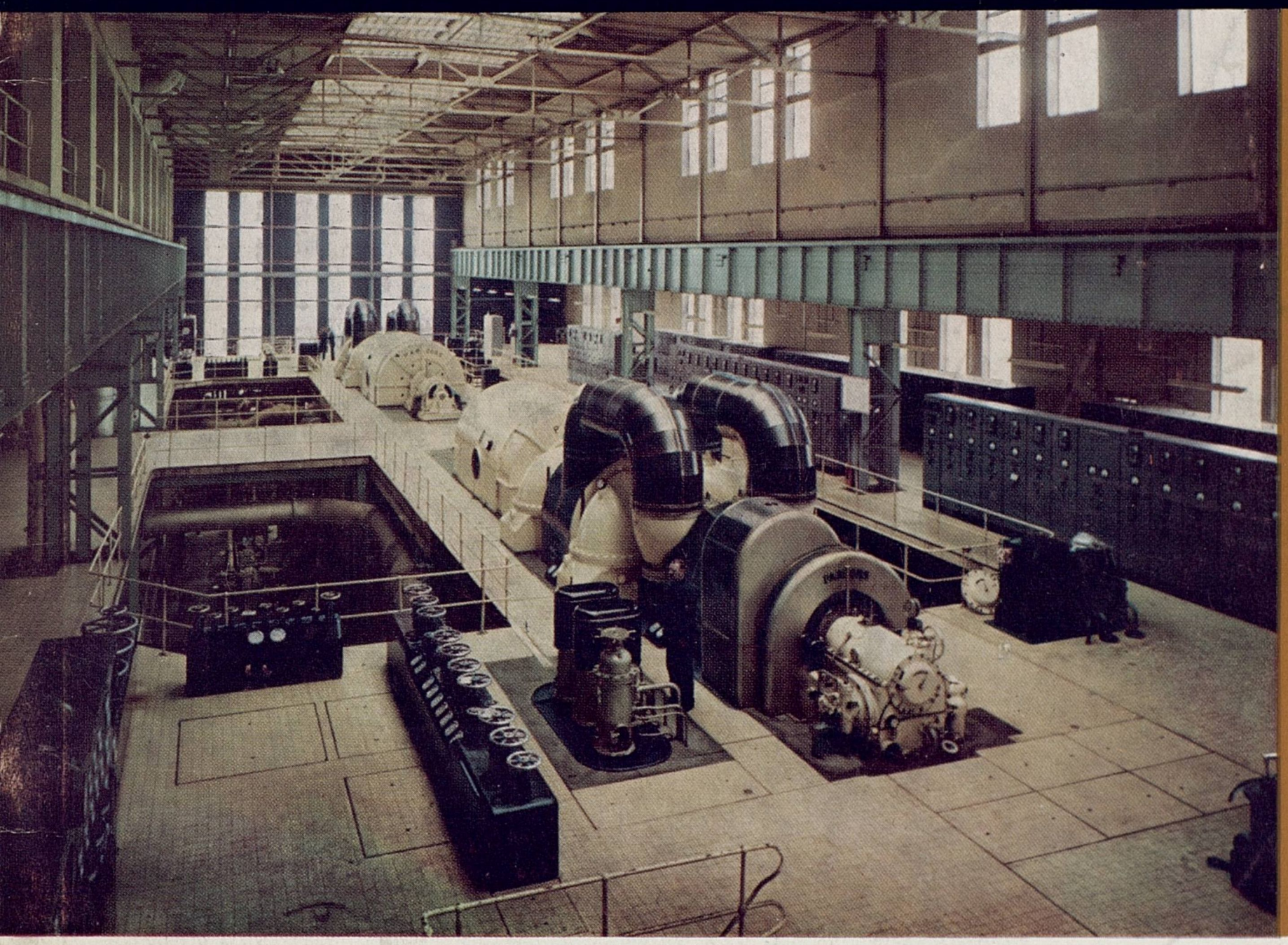
35th

ANNUAL REPORT

ELECTRICITY SUPPLY BOARD · IRELAND



For the year
ended 31st March
1962

INCLUDING REPORT ON FISHERIES

Board Members

T. MURRAY, B.A., *Chairman*

J. P. DIGBY

HENRY KENNEDY, M.A., D.Sc.

T. MacMAHON, B.E., B.Sc.

B. O'CARROLL, B.A., LL.B.

J. A. RYAN

J. C. TONGE, F.C.W.A.

Secretary

J. G. GARGAN, B.L., A.A.C.C.A.

Chief Engineer

P. G. MURPHY, M.E., B.Sc., M.I.E.E., M.I.Mech.E.

Chief Accountant

L. J. BARRY, F.A.C.C.A.

Pr.6537

ELECTRICITY SUPPLY BOARD
27 LOWER FITZWILLIAM STREET · DUBLIN 2 · IRELAND

GWEEDORE
CLADY
CATHALEEN'S FALL
CLIFF
BELLACORICK
ARIGNA
Cavan
Dundalk
Carrick-on-Shannon
Castlebar
Drogheda
LANESBOROUGH
Athlone
Finglas
NORTH WALL
LEIXLIP
RHODE
Maynooth
Inchicore
PIGEON HO.
SCREEB
SHANNON-BRIDGE
ALLENWOOD
RINGSEND
Galway
FERBANE
Carrick-mines
PORTARLINGTON
Portlaoise
GOLDEN FALLS
POLLAPHUCA
MILLTOWN MALBAY
Arklow
ARDNACRUSHA
Kilkenny
Limerick
Cahir
Wexford
Waterford
Tralee
Dungarvan
CAHIRCIVEEN
Kilbarry
CARRIGADROHID
CORK
INNISCARRA
Haulbowline
Whitegate
Carrigaline
Dunmanway

GENERAL OUTLINE OF THE GENERATION AND TRANSMISSION SYSTEM

31st March 1962

HYDRO STATIONS ... ...
STEAM STATIONS ... ...
STEAM STATIONS PROJECTED ... ...
110KV TRANSFORMER STATIONS ... ...
110KV TRANSFORMER STATIONS PROJECTED ...
220KV TRANSFORMER STATION PROJECTED ...
110KV LINES ... ...
110KV LINES PROJECTED ... ...
220KV LINES PROJECTED ... ...
OTHER LOW VOLTAGE LINES ...

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The cover picture shows the Generator Hall at Ringsend Power Station, Dublin.

TO THE MINISTER FOR TRANSPORT AND POWER

REPORT of the ELECTRICITY SUPPLY BOARD
27 LOWER FITZWILLIAM STREET
DUBLIN 2

In accordance with Section 7 (4) and Section 32 (1) of the Electricity (Supply) Act, 1927, the Board presents the Annual Report and Accounts for the year ended 31st March, 1962.

The total units generated and purchased rose to 2,453 million units. This represented an increase of 191 million units, or approximately 8·4%, over the previous year. Production from water power which was slightly above average, amounted to 737 million units compared with 932 million units in the previous year. Generation from peat rose to 928 million units compared with 755 million units.

The electricity supplied to the system was provided as follows :—

Hydro	31·2%
Peat (sod)	19·8%
Peat (milled)	17·3%
Coal (native)	4·2%
Oil/Coal	27·5%

Generation from native sources amounted to 72·5% of the total output.

The demand for electricity is still growing steadily. While all classes of supply continue to show this trend, the growth in domestic and general heating during the year was exceptionally large due to the long and severe winter. The installed generating plant was adequate for all requirements, and new plant to meet the growth in demand will be available in 1962 and following years as required.

The year was unusual in that no new generating plant was commissioned and consequently the increase in production was achieved without any increase in the capital charges appropriate to generation. This exceptionally favourable circumstance is reflected in the satisfactory net revenue position as shown by the accounts.

Sales of electricity realised £17,731,000, an increase of £1,468,000 over the preceding year. This represents an increase of 9% in the electricity revenue and includes the effect in a full year of the electricity prices established in the later part of 1960.

The summarised revenue and expenditure figures in respect of electricity are:—

	Year ended 31st March, 1962	Preceding Year
	£	£
Gross revenue	17,773,987	16,311,509
Less Working expenditure on wages, fuel and other materials and overheads	9,336,774	8,038,961
Working surplus	£8,437,213	£8,272,548
This working surplus is subject to the following capital charges :—		
Interest	3,906,899	3,894,021
Provision for plant renewal	3,041,000	2,924,000
Capital redemption	923,314	884,330
	£7,871,213	£7,702,351
Leaving balance	£566,000 Surplus	£570,197 Surplus

Taking credit for merchandise and installations profits, and allowing for the deficit on fisheries, the result for the year, as shown in the net revenue account, is a surplus of £572,322.

This surplus of £572,322, together with £28,241 carried forward from the previous year, permits the allocation of £300,000 to the "Plant Self Insurance—Special Risks Fund" which was established last year to provide against losses likely to arise should a major plant failure occur. After allowing £210,916 for the flotation costs of the 6% Development Stock issued in March, 1962, the balance carried forward to next year is £89,647.

In common with other industries, the Board is experiencing increased costs arising from the "eighth round" of wage increases and the reduction in working hours. Not alone has its wages bill increased but also the costs of the materials and services which it buys show a steady upward price trend. As the Board is a non-profit earning concern, the effects of increased costs must inevitably be borne by the electricity consumer. With a view to keeping costs as low as possible, all modern methods are used in reviewing progressively the various aspects of organisation and of working methods.

The year was a difficult one in labour relations. On 21st August, 1961, the Board's electricians withdrew their labour as a result of a wages dispute between their Unions and the

National Joint Industrial Committee for the Electrical Contracting Industry, of which the Board is a member. Following the placing of strike pickets at generating stations and operational centres, the majority of the Board's manual staff, exceeding 5,000 men, absented themselves from duty. As a result, the national supply of electricity was in jeopardy for several weeks and a serious breakdown was avoided only by the most strenuous efforts on the part of the Board's engineering and supervisory staffs as well as by a measure of luck in operating conditions. The Board wishes again to acknowledge with thanks the assistance it received from the electricity consumers who curtailed their use of current during the strike.

Following the settlement of the strike the Government established a Commission of Inquiry under the Electricity (Temporary Provisions) Act, 1961, " to inquire into the procedure of the Electricity Supply Board for the determination of the remuneration of members of their staff and for the settlement of disputes relating to their conditions of employment, and to report and make recommendations thereon to the Government ". The Commission has not yet completed its inquiries.

This strike has served to emphasise the extent to which practically all essential services have become dependent, directly or indirectly, on the maintenance of an uninterrupted supply of electricity. The Board wishes the gravity of that situation to be understood by all and earnestly hopes that some means will be found of ensuring that future labour disputes will be resolved without exposing the community to the incalculable risks of an interruption in electricity supplies.

The year was remarkable for the amount of damage caused to the transmission and distribution systems by storms. The most severe was the storm of 16th September, 1961, associated with hurricane " Debbie ", during which gusts of up to 114 miles per hour were recorded. In addition to the breaking of about 500 wood poles and over 5,000 conductors, mainly by falling trees, considerable interruptions of supply in the west and south of the country resulted from storm-borne salt deposits on insulator surfaces. Through the use of radio communication fitted on the Board's transport and with the aid of helicopter patrols to detect faults, all main lines were again in commission within 48 hours. Supply was restored to the majority of consumers within 24 hours but in some areas the interruption extended to several days, and the permanent repair work extended over two months.

As a result of the steady growth in demand for electricity the Board has decided to strengthen its transmission system by the construction of a new high voltage network at 220,000 volts. Construction of the first stage of this development, which embraces a 220,000 volt line from Dublin to Cork, via Shannonbridge and Limerick, is planned to commence in 1962 and be completed in 1965.

Work on rural electrification continued over most of the year at the same rate as in 1960/61, but was interrupted by the electricians' strike and later by the storms. For these reasons, and also because a bigger percentage of householders sought supply in the areas under construction, the number of areas completed during the year was only 26, compared with 40 in the previous year.

There are 21 areas remaining which qualify for supply under the scheme and these will be completed before the end of 1962. In addition, there are 17 areas which cannot be supplied under the terms of the standard subsidy arrangements. At the end of the year the Government had under consideration the possibility of extending the scheme to these " uneconomic " areas and also the subsidy terms which should apply for the connection of the remaining houses in the developed areas on completion of the main scheme.

During the year the Board issued £5 million stock entitled " E.S.B. 6% Development Stock 1982-1987 " to finance its construction programme. The stock, which issued at 97, was fully subscribed on the date of issue.

STAFF

At the 31st March, 1962, the numerical strength of the Board's regular staff was 5,730. In addition there was a temporary staff of 2,410.

The Board again desires to express its appreciation of the efficient manner in which the staff performed their duties.

Mr. Joseph Fogarty, B.Comm., A.C.A., having reached the age limit, retired from the position of Chief Accountant. Mr. Laurence J. Barry, F.A.C.C.A. was appointed to succeed him with effect as from 7th April, 1962.

(Signed) *T. Murray*, CHAIRMAN
J. P. Digby
Henry Kennedy
T. MacMahon
Breandán Ó Cearbhaill
J. A. Ryan
J. C. Tonge

(Signed) *J. G. Gargan*, SECRETARY
5th June, 1962.

CAPITAL

The value of the capital assets brought into commission was £5,178,366 of which £1,596,883 related to rural electrification. The total investment in assets in productive use at 31st March, 1962, was:—

	£
Generation	50,173,927
Transmission	14,902,080
Distribution (includes rural £29,995, 680)	45,123,877
Premises, equipment, transport etc. ..	3,543,022
	£113,742,906

In addition, expenditure of £4,984,601 had been incurred on new capital works still under construction at the end of the year. The fixed capital investment was over £118,700,000.

BORROWING POWERS

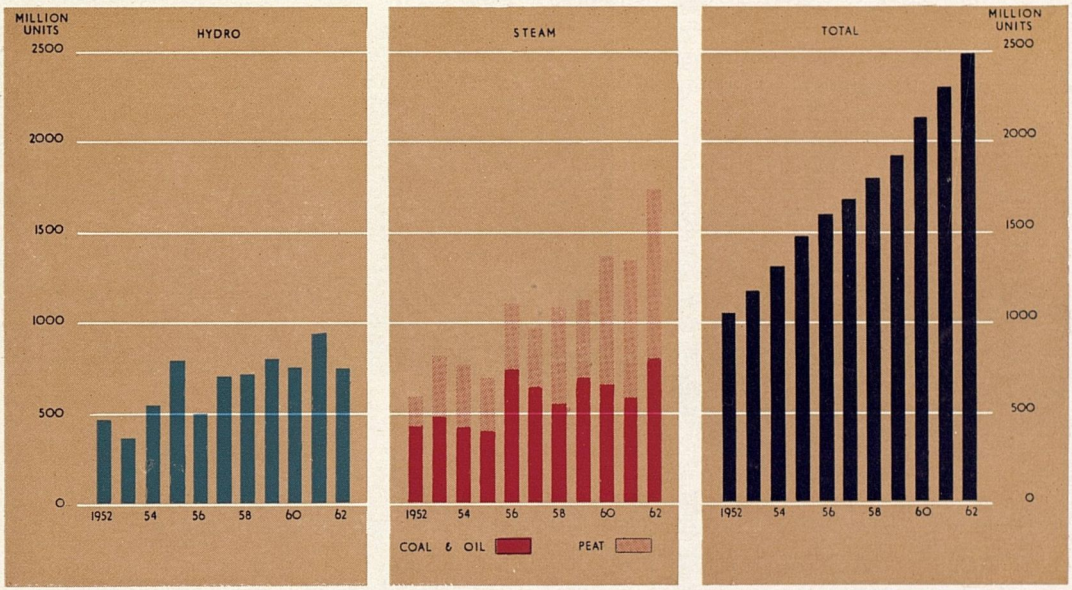
The capital requirements for the year were provided from internal resources, as well as by a long-term loan from the New Ireland Assurance Company Limited and by temporary advances from the trustees of the superannuation funds. On 12th March, 1962, an issue of £5 million 6% Development Stock was made, the proceeds of which will be available for the 1962/63 capital programme.

The Electricity (Supply) (Amendment) Act, 1961, authorises a capital expenditure not exceeding £120 million for general purposes, excluding rural electrification. At the 31st March, 1962, the Board had approved expenditure totalling £118,968,019 of which £83,747,226 represented electricity assets in commission, the balance, £35,220,793, representing either work in progress or work approved. In view of the considerable expansion programme which the Board envisages, legislation is being sought to raise the authorised limit of capital expenditure.

The amount similarly authorised for rural electrification is £32 million inclusive of the subsidy for rural development provided by the State. At the 31st March, 1962, the amount approved was £31,032,384 of which £29,995,680 represents assets in commission and £1,036,704 work in progress or approved.

ELECTRICITY PRODUCTION

The diagram below illustrates the output of the generating stations each year since 1952.



INCREASE IN UNITS GENERATED AND PURCHASED

The units generated and purchased showed an increase of 190·694 million units or 8·4% higher than the preceding year. The annual load factor, on the basis of units generated, was 46·2% compared with 47·8% in the previous year.

An analysis of the cost of generation appears in the Electricity Production Account.



Work is proceeding on the extension to the Marina Power Station, Cork. The addition of a 60 MW set will bring the total capacity up to 120 MW.

GENERATION

The installed capacity of the Board's generating stations on the 31st March, 1962, amounted to :

	MW
Hydro plant	219
Steam plant (coal/oil)	299·5
Steam plant (sod peat)	105
Steam plant (milled peat)	100
Total	723·5

This figure includes 90 MW of old plant in the Pigeon House station, Dublin, which is available for stand-by purposes and the four 5 MW stations fired by hand-cut peat.

No new generating plant was placed in commission during the year.

The following additional generating plant, amounting to 386 MW, was under construction or being planned.

RHODE STATION, Co. Offaly

Milled Peat

The extension of the station by an additional 40 MW unit was in progress. The buildings were almost completed and plant installation was proceeding.

Scheduled completion date 1963/64.

BELLACORICK STATION, Co. Mayo

Milled Peat

This is a new station with an installed capacity of two 20 MW units. Erection was well advanced and the station was nearing completion.

Scheduled completion date 1962.

SHANNONBRIDGE STATION, Co. Offaly
Milled Peat

This is also a new station with an initial installation of a single 40 MW unit. Work was started on the foundations and plant was being manufactured.

Scheduled completion date 1964/65.

FERBANE STATION, Co. Offaly
Milled Peat

The existing station is being extended by the addition of a single 30 MW unit. Foundation work was in progress and the manufacture of the plant commenced.

Scheduled completion date 1964.

MARINA STATION, Cork City
Oil

The existing station is being extended to house an additional 60 MW unit. Foundation work was completed and work on buildings and plant was proceeding.

Scheduled completion date 1963/4.

RINGSEND STATION, Dublin City
Oil

Work was started on the foundations to extend the existing station to house two additional 60 MW units. The design of the plant was in progress.

Scheduled completion date 1965/66.

LANESBOROUGH STATION, Co. Longford
Milled Peat

The station will be extended and a 40 MW unit installed to burn milled peat. Design was proceeding.

Scheduled completion date 1965/66.

PORTARLINGTON STATION, Co. Laoise
Sod Peat

To absorb extra peat which Bord na Mona has available, a 12·5 MW set is being transferred from North Wall to the existing Portarlington station. Considerable progress had been made.

Scheduled completion date 1962.

NORTH WALL STATION, Dublin City
Oil

To replace the set being transferred to Portarlington, a new quick-starting 16 MW unit is being installed. Foundation work was in progress and the plant was being manufactured.

Scheduled completion date 1963/64.

WATER STORAGE AND RIVER CONTROL

The inflows to the catchments at the Shannon and the Erne hydro stations were approximately equal to the long-term average flows. While the inflows from April to October inclusive were generally well above average, those for the last five months of the year were below average. The inflows to the Lee and Liffey catchments were below average, whilst the inflow to the Clady catchment was well above average. The distribution of the flows was generally favourable for power production. The utilisation of the available flows was practically 100% at all stations except Clady.

The important hydrometric figures at the hydro stations are given in Appendix 9.

The total average inflows for the calendar year 1961 were :—

	m^3/sec
River Shannon at Killaloe	195·4
,, Liffey at Pollaphuca	6·9
,, Liffey at Leixlip	12·1
,, Erne at Ballyshannon	96·7
,, Lee at Inniscarra	26·1
,, Clady at Gweedore	4·3

WATER POWER INVESTIGATIONS AND HYDROMETRIC SURVEY

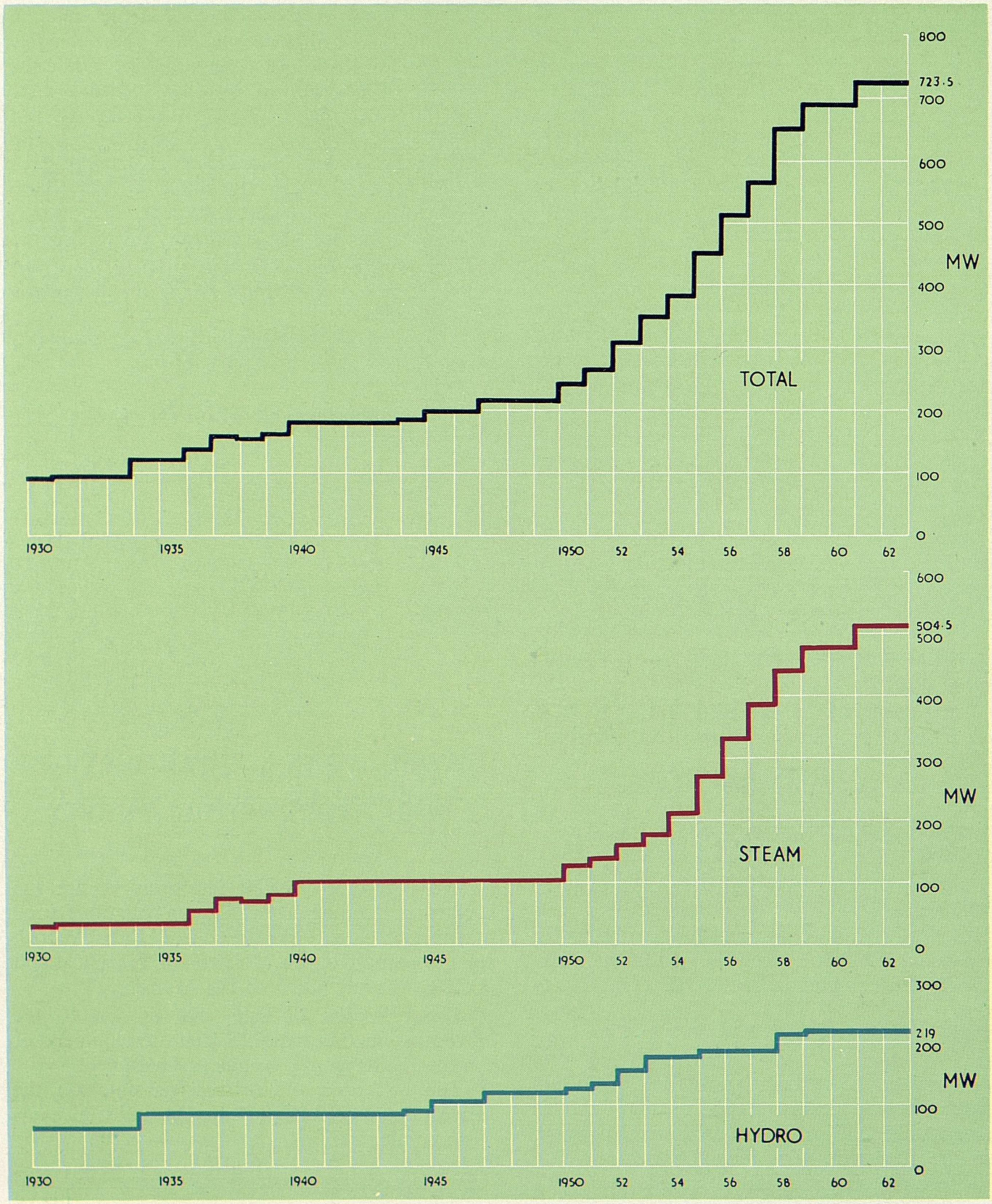
The report on possible improvements for the control of flooding in the Shannon valley, prepared jointly by the Board and the Office of Public Works, at the request of the Minister for Transport and Power, was submitted to the Minister.

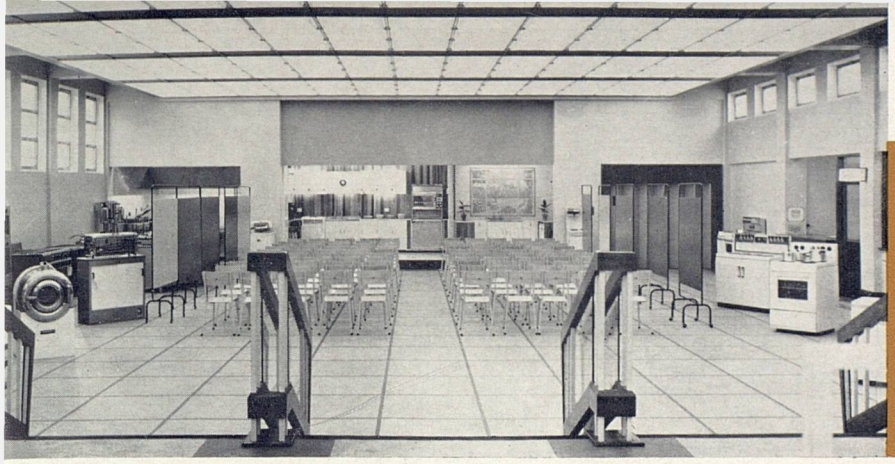
The collection of data with a view to the investigation and possible later development of further water power resources continued.

The collection of hydrometric data on the Rivers Shannon, Liffey, Erne, Lee and Clady was also continued.

INSTALLED GENERATION CAPACITY

1930—1962





SALES OF APPLIANCES AND CONSUMERS' INSTALLATIONS.

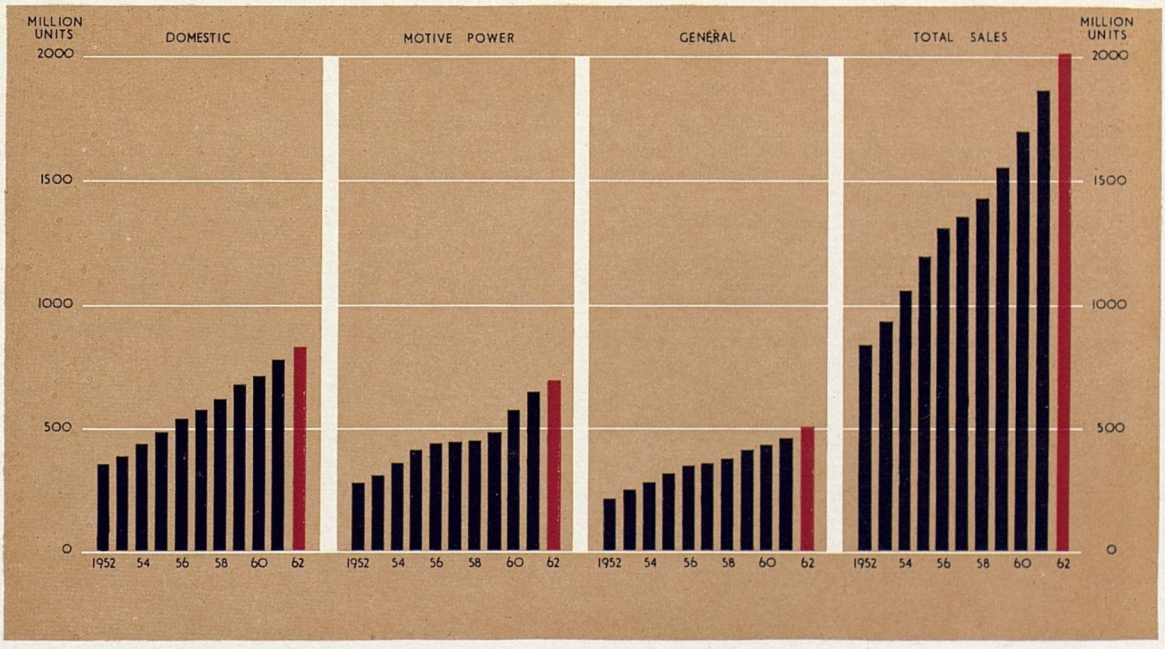
Fleet Street Showrooms, Dublin, which was reconstructed during the year, includes this fully-equipped Demonstration Theatre.

Sales of appliances amounted to £1,115,414 as compared with £1,106,173 last year. The gross profit was £219,959 representing a rate of 19·7%. The Merchandise Trading Account, having been charged with overhead expenses and interest on working capital, showed a net profit of £13,245.

The value of contracts completed amounted to £510,109 as compared with £462,902 for last year. The gross profit amounted to £90,065 representing a rate of 17·7%. The Installations Trading Account, having been charged with overhead expenses and interest on working capital, showed a net profit of £15,527.

ANALYSIS OF UNITS SOLD

The following diagram illustrates the analysis of units sold, from 1952 to 1962



MAIN TRANSMISSION SYSTEM

Preliminary survey and design work was carried out in connection with the proposed 220 kV line from Shannonbridge to Cork.

The 110 kV network was extended by 57 miles when the line from Carrick-on-Shannon to Claremorris via Bellacorick generating station was completed. This extension provides an alternative means of supplying Galway city. Progress was made in providing increased supply to Haulbowline and Carrigaline from Marina generating station, and in the survey and design of some further additions to the system.

The 110 kV transformer station at Cavan was completed and work continued on the stations at Carrigaline and Haulbowline, and on the extensions at Carrick-on-Shannon and Galway. Construction of a new station at Castlebar began.

A helicopter is now used to expedite the inspection of high tension lines.



DISTRIBUTION SYSTEM

The following extensions of the distribution system were carried out:

38 kV overhead lines
net increase 62 miles

10 kV overhead lines and underground cables
net increase 78 miles

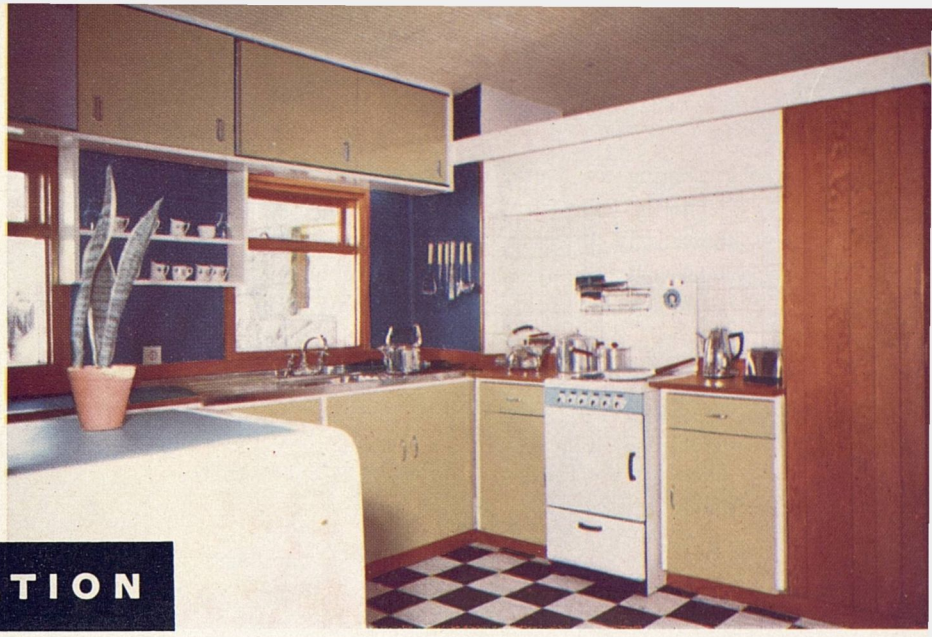
low tension overhead and underground mains
net increase 35 miles

Four 38 kV transformer stations were completed and put into commission at Ballinrobe (Co. Mayo), Castleisland (Co. Kerry), Milford (Co. Cork) and Newmarket (Dublin city). The station at Kilcreevan (Co. Sligo) was retired from service.

One hundred and fifty-six 10 kV and five 5 kV transformer stations were completed ; five 10 kV transformer stations were retired from service.

The operating voltage in thirteen stations was increased from 5 kV to 10 kV.

RURAL ELECTRIFICATION



The exhibition kitchen in the model farmhouse on the E.S.B.'s Rural Exhibit at the R.D.S. Spring Show, attracted many thousands of visitors.

Twenty-six areas were completed during the year.

The 792 rural areas in the country have now been canvassed, 772 or 97·5% have been selected and 754 or 95·2% completed.

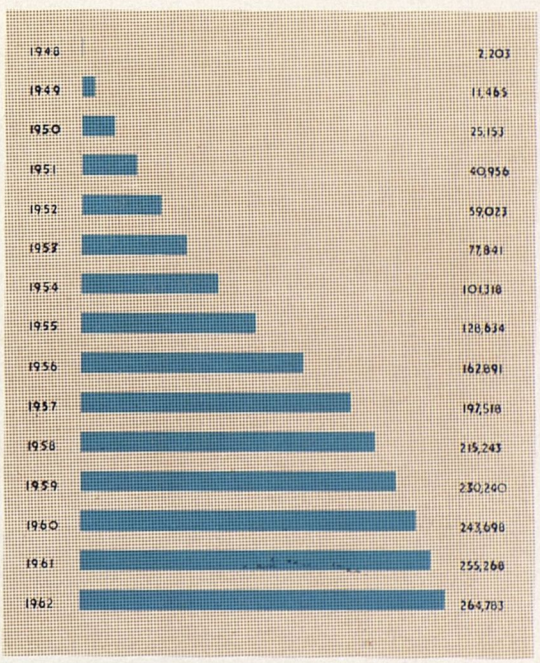
The areas completed cover 21,967 square miles or an average of 29 square miles per area and approximately 75% of dwellings in the completed areas are connected.

The total value of materials used during the year was approximately £885,000 of which about £725,700 or 82% was obtained from home manufacturers. Price changes resulted in a net increase of about 1%.

Capital expenditure was £1,564,635. The total invested in the scheme at the end of the year amounted to £30,816,736, of which £5,917,826 was by way of State subsidy.

The consumption of electricity by rural consumers amounted to 420 million units as against 388 million units last year. The average consumption for all consumers supplied under the rural electrification scheme was 1,535 units as against 1,479 units in the preceding year—an increase of 3·8%. The average consumption per domestic consumer advanced from 943 to 972 units. The revenue earned was £5,036,963, re-

The following diagram illustrates the cumulative total of consumers connected, under the Rural Electrification Scheme, at the 31st March each year from 1948 to 1962.



presenting an average price per unit of 2·9d.

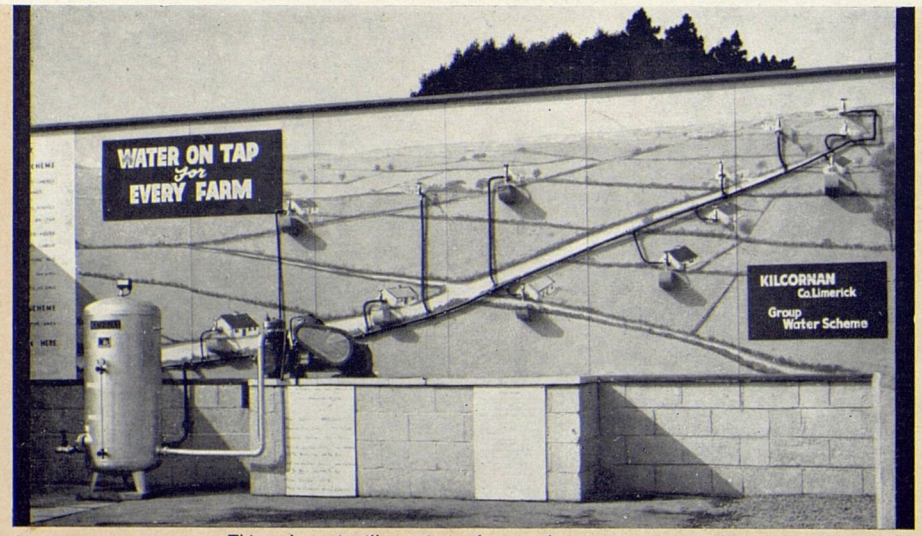
The use of electricity for farm purposes again showed an increase. The number of running water installations showed a substantial increase on the previous year, and the growing popularity of group water schemes was very marked. At the end of the year, 39 such schemes had been completed and 41 were in various stages of design or construction. Preliminary steps have been taken for the formation of group schemes on a much larger scale.

Work on the barn-drying of hay continued. The programme was mainly one of investigation and trial installation, and covered other aspects of crop conservation, such as grain drying. The aim is a form of crop drying installation with multiple uses. These farm tests are complementary to the investigations currently being carried out through the joint efforts of An Foras Taluntais and the Board, and an engineer from the Board has been seconded to An Foras for liaison work.

The use of artificial illumination for the control of sprouting of seed potatoes was introduced on a number of Irish farms, particularly in the south-east and south-west regions of the country, and from investigations so far, it is expected to be successful.

The scholarship scheme at An Grianan was very satisfactory. It provides courses for young girls and adults on subjects such as household management and good housekeeping with instruction on the economic application of electricity to domestic and farm purposes.

The Board is very grateful for the co-operation it received from the Government Departments, University Authorities, An Foras Taluntais, County Committees of Agriculture, and the various Rural Organisations in its efforts to show how electricity can contribute to improved agricultural economy.



This schematic illustration of a rural group water supply scheme, shown at the R.D.S. Spring Show, is a typical example of the many such schemes in which the Board has co-operated with rural dwellers.

PREMISES

FITZWILLIAM STREET HOUSES

The Board has decided to rebuild the Fitzwilliam Street frontage of its head office buildings. An architectural competition, under the control of independent assessors, has been initiated with a view to providing the best replacement building in keeping with the surrounding area.

GENERAL

During the year the buildings at Fleet Street, Dublin and at the Board's Galway headquarters were completed. Improvements to the Waterford premises were in progress. Plans for alterations to Athlone premises were well advanced and consideration was being given to extensions at Sligo and Tralee. An operation/stores depot was completed at Cork and another is planned for Limerick.

Ten new service depots were opened and fourteen other depots were under construction or were being planned.

Work was completed on the construction of houses for staffs at Rhode and Crossmolina. Staff houses for Ferbane, Shannonbridge, Lanesborough and Gweedore generating stations were under construction or being planned.

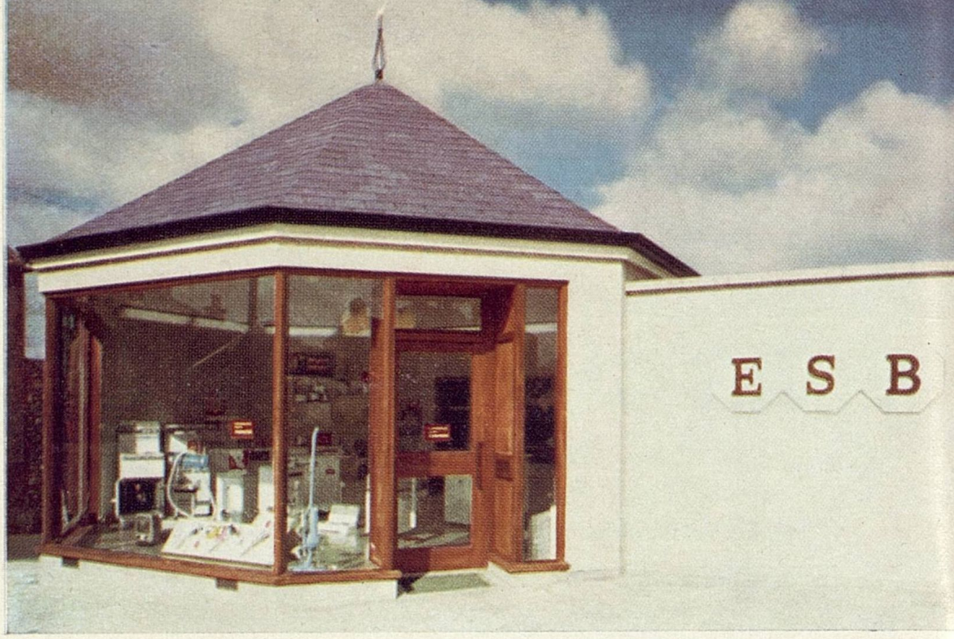
SUPERANNUATION SCHEMES AND TRIBUNALS

The number of contributing members in the General Employees' Superannuation Scheme at the end of the year was 2,004 and in the Manual Workers' Superannuation Scheme 2,557.

The Manual Workers' Tribunal, established under the Electricity Supply Board (Superannuation) Act, 1942, dealt with eleven cases during the year and the General Employees' established Tribunal, under the Electricity (Supply) (Amendment) Act, 1949, dealt with seven cases.



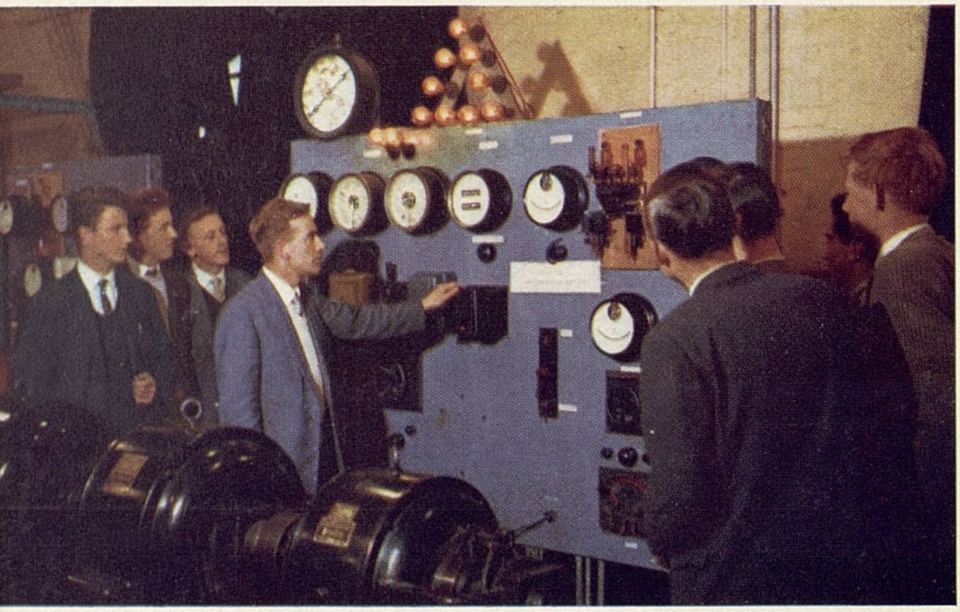
A typical scene in the aftermath of Hurricane "Debbie".



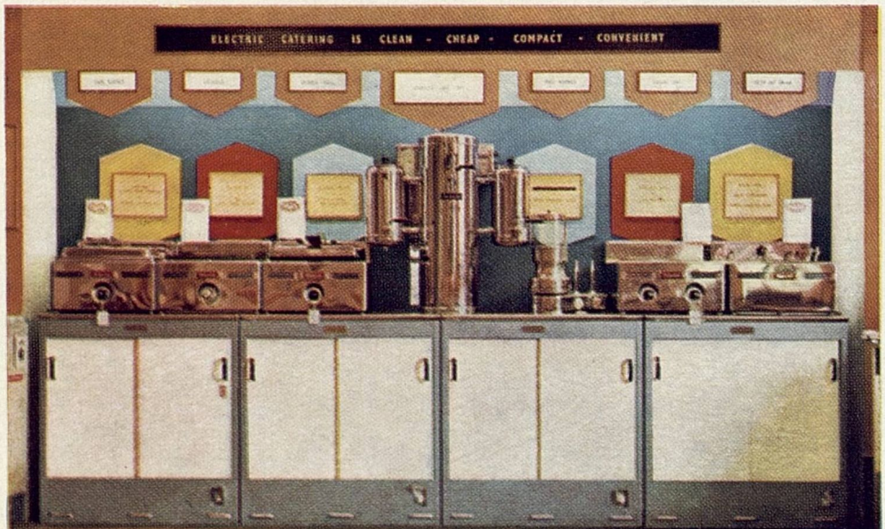
The new E.S.B. Service Centre at Swords, Co. Dublin, is of unusual design.

In the Service of the Community

The activities of the E.S.B. touch upon almost all aspects of everyday life.



E.S.B. apprenticeship trainees in class at the College of Technology, Kevin Street, Dublin.



Electric catering equipment has gained wide acceptance and this display at the National Food, Wine and Catering Exhibition at Killarney, attracted many hoteliers and restaurateurs.



Each year, in co-operation with the Irish Countrywomen's Association, the E.S.B. awards a number of scholarships to young girls, tenable at An Grianan, Headquarters and Training Centre of the I.C.A.



The Electric Warm Home Plan has placed a fully automatic central heating system within the reach of thousands of householders.

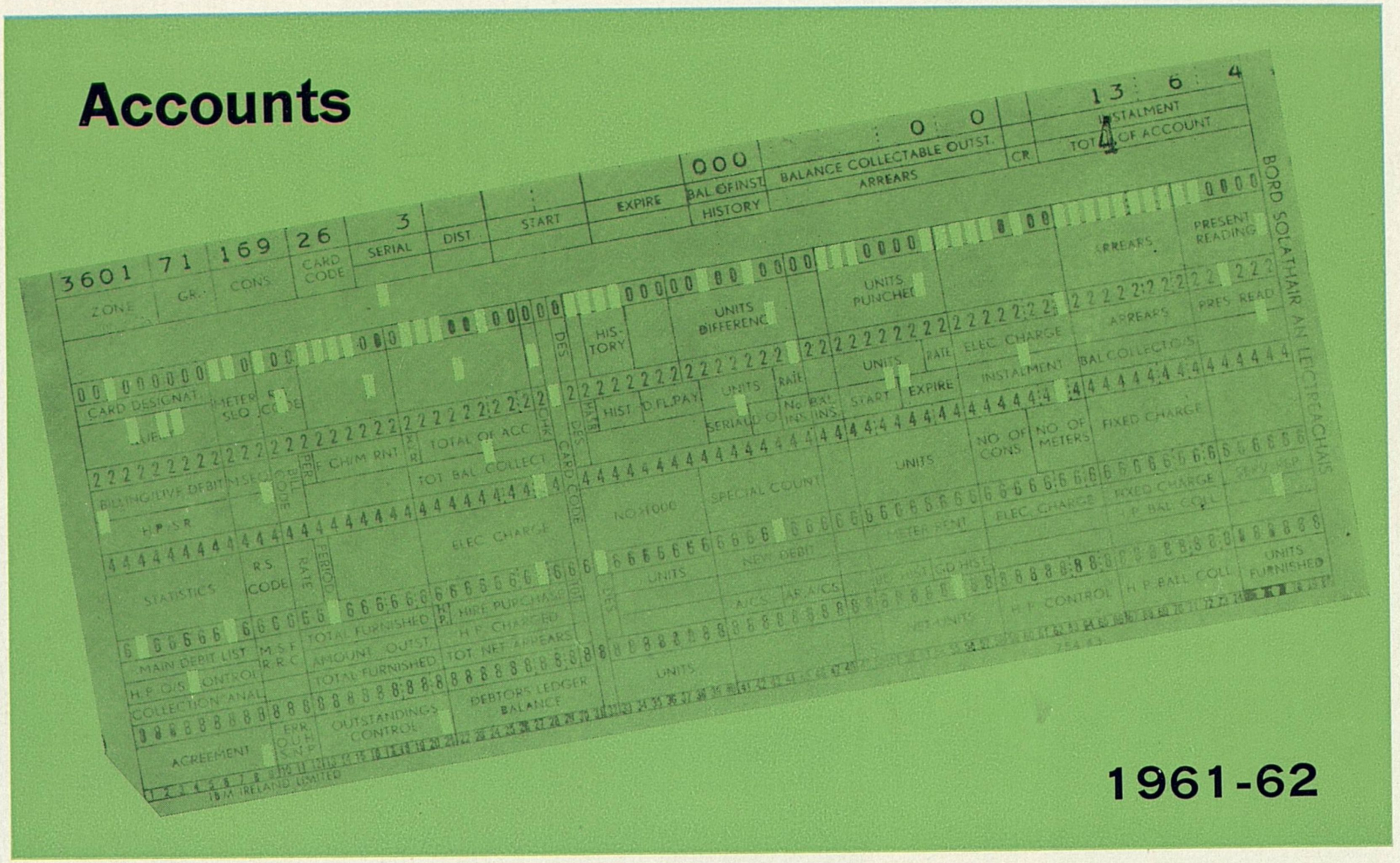


Houses for E.S.B. staff in Ferbane, Co. Offaly.



At Rathmines, Dublin, a new Showrooms was opened to facilitate the large numbers of consumers in this area.

Accounts



1961-62

Electricity Production Account for the Year Ended 31st March, 1962

ACCOUNT No. 1

	Fuel	Operating Expenses	Maintenance and Repair	Supervision and Local Administration	*Works Cost*	Per Unit Sent Out 1961/62	Per Unit Sent Out 1960/61	Depreciation and Renewals	Interest and Capital Repayments	*Total* 1961/62	Per Unit Sent Out 1961/62	*Total* 1960/61	Per Unit Sent Out 1960/61
	£	£	£	£	£	Pence		£	£	£	Pence	£	Pence
GENERATION													
Coal/Oil													
North Wall	121,523	41,411	22,075	9,680	**194,689**	·859	1·077	71,000	93,633	**359,322**	**1·586**	**338,850**	**2·094**
Marina	360,923	60,997	57,766	16,847	**496,533**	·612	·720	115,000	163,683	**775,216**	**·956**	**685,033**	**1·213**
Ringsend	680,630	102,435	89,900	26,453	**899,418**	·564	·615	180,000	280,740	**1,360,158**	**·854**	**1,155,703**	**1·022**
Arigna	191,243	30,138	21,879	6,628	**249,888**	·743	·700	29,000	41,686	**320,574**	**·953**	**322,745**	**·895**
					1,840,528	·620	·689			**2,815,270**	**·949**	**2,502,331**	**1·128**
Sod Peat (Machine)													
Portarlington	464,500	50,714	31,233	9,680	**556,127**	·969	1·074	50,000	67,137	**673,264**	**1·173**	**627,733**	**1·320**
Allenwood	615,460	56,279	50,395	12,562	**734,696**	·963	·969	82,000	111,482	**928,178**	**1·216**	**909,459**	**1·230**
Lanesborough	271,724	26,238	11,513	5,865	**315,340**	·814	·779	33,000	50,996	**399,336**	**1·031**	**401,959**	**·985**
					1,606,163	·931	·952			**2,000,778**	**1·160**	**1,939,151**	**1·195**
Milled Peat													
Ferbane	628,420	66,318	49,663	14,544	**758,945**	·788	·818	126,000	180,576	**1,065,521**	**1·107**	**951,779**	**1·204**
Rhode	444,193	44,735	16,847	11,099	**516,874**	·720	·738	75,000	88,155	**680,029**	**·947**	**415,009**	**1·161**
					1,275,819	·759	·793			**1,745,550**	**1·038**	**1,366,788**	**1·190**
Sod Peat (Hand-won)													
Four 5MW stations	180,641	49,816	19,621	5,792	**255,870**	1·311	1·308	47,000	69,802	**372,672**	**1·909**	**309,040**	**2·101**
Stand-by													
Pigeon House	88,568	57,426	36,537	16,895	**199,426**	—	—	77,000	104,205	**380,631**	—	**275,413**	—
TOTAL—FUEL STATIONS	4,047,825	586,507	407,429	136,045	**5,177,806**	·776	·832	885,000	1,252,095	**7,314,901**	**1·096**	**6,392,723**	**1·246**
Hydro													
Shannon	—	51,322	93,303	23,461	**168,086**	·121	·087	55,000	243,894	**466,980**	**·336**	**451,374**	**·254**
Erne	—	33,099	37,013	14,877	**84,989**	·074	·065	92,000	294,395	**471,384**	**·410**	**468,846**	**·371**
Liffey	—	17,639	26,601	8,528	**52,768**	·391	·168	26,000	83,321	**162,089**	**1·202**	**156,917**	**·553**
Lee	—	11,553	13,830	5,839	**31,222**	·108	·072	56,000	220,638	**307,860**	**1·063**	**308,276**	**·679**
Clady	—	5,045	3,198	932	**9,175**	·142	·161	10,000	44,799	**63,974**	**·991**	**63,130**	**1·138**
TOTAL—HYDRO STATIONS	—	118,658	173,945	53,637	**346,240**	·114	·085	239,000	887,047	**1,472,287**	**·486**	**1,448,543**	**·378**
TOTAL—ALL STATIONS	4,047,825	705,165	581,374	189,682	**5,524,046**	·570	·513	1,124,000	2,139,142	**8,787,188**	**·906**	**7,841,266**	**·874**
TRANSMISSION	—	57,456	183,801	124,846	**366,103**	—	—	447,000	672,434	**1,485,537**	—	**1,438,646**	—
	4,047,825	762,621	765,175	314,528	**5,890,149**	—	—	1,571,000	2,811,576				

Electricity Purchased in Bulk and Other Expenditure attributable to Generation		**6,961**	—	**6,930**	—
General Administration :	£				
Generation	411,289				
Transmission	205,138				
		616,427	—	**549,538**	—
Total Production Cost		**10,896,113**		**9,836,380**	
Transferred to Revenue Accounts :	£				
Non-rural	8,486,007			**7,621,138**	
Rural	2,410,106			**2,215,242**	
		10,896,113		**9,836,380**	

Electricity (Non-Rural) Revenue Account for the Year Ended 31st March, 1962

ACCOUNT No. 2

Dr. *Cr.*

	£	1961/62 £	1960/61 £		1961/62 £	1960/61 £
To Electricity Production Account		8,486,007	7,621,138	**By Electricity Charges**	12,545,838	11,588,490
„ Distribution Charges :				**„ Meter and Other Charges**	148,406	144,908
Operation and maintenance	812,402					
Reserve for depreciation and renewals	502,000					
Interest and capital repayments	698,430					
Supervision and local administration	650,982					
		2,663,814	2,534,111			
To General Administration :						
Salaries and wages	734,689					
Travelling expenses	34,759					
Stationery	22,666					
Telephones and postage	14,554					
Lighting and heating	15,174					
Rents and rates	10,892					
Insurance	50,167					
Professional fees	22,267					
Publicity	123,811					
Maintenance of office buildings and equipment	34,108					
Staff training	61,712					
Pensions	66,170					
Capital charges—general assets	232,176					
Provision for bad debts	17,403					
Sundry expenses	11,856					
	1,452,404					
Less apportionments charged to :						
Production account	616,427					
Rural Revenue Account	297,793					
Capital Works and other accounts	104,326					
		433,858	412,428			
To Balance, carried to Profit and Loss Account		1,110,565	1,165,721			
		£12,694,244	£11,733,398		£12,694,244	£11,733,398

Electricity (Rural) Revenue Account for the Year Ended 31st March, 1962

ACCOUNT No. 3

Dr. *Cr.*

	£	1961/62 £	1960/61 £		1961/62 £	1960/61 £
To Electricity Production Account		2,410,106	2,215,242	**By Electricity Charges**	5,004,969	4,501,977
„ Distribution Charges :				**„ Meter and Other Charges**	31,994	27,520
Operation and maintenance	460,408			**„ Balance,** carried to Profit and Loss Account	689,681	736,166
Reserve for depreciation and renewals	911,000					
Interest and capital repayments	1,247,367					
Supervision and local administration	399,970					
		3,018,745	2,787,315			
„ General Administration		297,793	263,106			
		£5,726,644	£5,265,663		£5,726,644	£5,265,663

ACCOUNT No. 4

Profit and Loss Account for the Year Ended 31st March, 1962

Dr.	£	1961/62 £	1960/61 £	Cr.	1961/62 £	1960/61 £
To Interest payable to the Minister for Finance	2,820,125			By Interest and Capital Repayments :		
,, Interest on funded loan and E.S.B. loan stocks (*less* temporary investment earnings)	675,520			Production Account	2,811,576	2,793,226
,, Stock management and transfer charges	18,778			Non-rural Revenue Account	698,430	682,701
,, Other interest	698,346			Rural Revenue Account	1,247,367	1,225,547
		4,212,769	4,128,472	Administration	175,176	168,905
,, Reserves :				Fisheries Account	4,747	4,747
Repayment of capital advances from the Minister for Finance	646,020			Installations Account	7,800	6,100
Sinking Fund provision for redemption of E.S.B. Stocks	278,388			Merchandise Sales Account	14,100	9,700
		924,408	885,378	Capital Works	177,981	122,924
		£5,137,177	£5,013,850		£5,137,177	£5,013,850
To Balance, transferred from Rural Revenue Account		689,681	736,166	By Balance, transferred from Non-Rural Revenue Account	1,110,565	1,165,721
,, Balance, carried to Net Revenue Account		566,000	570,197	,, Miscellaneous revenue	42,780	48,614
				,, Interest receivable	102,336	92,028
		£1,255,681	£1,306,363		£1,255,681	£1,306,363

ACCOUNT No. 5

Fisheries Account for the Year Ended 31st March, 1962

Dr.	1961/62 £	1960/61 £	Cr.	1961/62 £	1960/61 £
To Operation, preservation and other direct costs	28,145	25,231	By Sales of fish, letting of fishing rights and miscellaneous income	19,819	21,062
			,, Balance, carried down	8,326	4,169
	£28,145	£25,231		£28,145	£25,231
To Balance, brought down	8,326	4,169	By Balance, carried down	21,356	21,286
,, Salaries and sundry expenses	4,725	6,178			
,, Fishery rates	2,652	2,640			
,, Reserve for depreciation and renewals	1,900	4,500			
,, General overhead expenses and interest	3,753	3,799			
	£21,356	£21,286		£21,356	£21,286
To Balance, brought down	21,356	21,286	By Balance, carried to Net Revenue Account	22,450	22,334
,, Capital repayments ..	1,094	1,048			
	£22,450	£22,334		£22,450	£22,334

Installations Trading Account for the Year Ended 31st March, 1962

ACCOUNT No. 6

Dr.		1961/62	1960/61		1961/62	1960/61
		£	£		£	£
To Cost value of work for which credit had not been taken at 31st March, 1961		132,044	151,319	By Credit taken for contracts completed and charged	510,109	462,902
,, Cost of installation work carried out during the year		434,035	359,153			
,, Gross profit, carried down		90,065	84,474	,, Cost value of work for which credit has not yet been taken	146,035	132,044
		£656,144	£594,946		£656,144	£594,946
	£					
To Salaries, wages and State Insurance	43,598			By Gross profit, brought down	£90,065	£84,474
,, Travelling expenses	4,685					
,, Rents and rates	336					
,, Sundry expenses	3,922					
,, General overhead expenses and interest as apportioned	21,997					
		74,538	62,515			
,, Balance, carried to Net Revenue Account		15,527	21,959			
		£90,065	£84,474		£90,065	£84,474

Merchandise Trading Account for the Year Ended 31st March, 1962

ACCOUNT No. 7

Dr.		1961/62	1960/61		1961/62	1960/61
		£	£		£	£
To Cost of goods sold		843,737	829,703	By Sales	1,115,414	1,106,173
,, Direct cost in connection with sales		51,718	63,506			
,, Gross profit, carried down		219,959	212,964			
		£1,115,414	£1,106,173		£1,115,414	£1,106,173
	£					
To Direct salaries, wages, commission and travelling expenses	118,016			By Gross profit, brought down	£219,959	£212,964
,, Publicity	17,183					
,, Rents, rates and maintenance of premises	15,999					
,, Other expenses	11,081					
,, General administrative expenses and interest as apportioned	44,435					
		206,714	204,958			
,, Balance, carried to Net Revenue Account		13,245	8,006			
		£219,959	£212,964		£219,959	£212,964

ACCOUNT No. 8

Net Revenue Account for the Year ended 31st March, 1962

Dr.			Cr.		
		£			£
To Balance, transferred from Fisheries Account		22,450	By Balance, transferred from Profit and Loss Account		566,000
,, Balance, carried down		572,322		£	
			,, Installations trading profit	15,527	
			,, Merchandise trading profit	13,245	
					28,772
		£594,772			£594,772
To Transfer to reserve for renewals of credits (per contra) as additional provision for the renewal of plant		292,821	By Balance, brought down		572,322
,, E.S.B. 6% Development Stock:	£		,, Balance, brought forward from last year's account		28,241
Flotation expenses	60,916		,, Credits arising consequent on the retirement of assets and the sale of scrapped material		292,821
Discount on issue	150,000				
		210,916			
,, Plant self-insurance (special risks) reserve		300,000			
,, Balance, carried forward		89,647			
		£893,384			£893,384

Capital Account to the 31st March, 1962

Dr. *Cr.*

	Total at 31st March 1961 less retirements	Expenditure less retirements during year	Total at 31st March 1962 less retirements
	£	£	£
To Generation	48,443,846	1,730,081	**50,173,927**
,, Transmission	14,413,381	488,699	**14,902,080**
,, Distribution	42,869,538	2,254,339	**45,123,877**
,, General	3,263,976	190,623	**3,454,599**
,, Fisheries	88,423	—	**88,423**
	£109,079,164	£4,663,742	**£113,742,906**
,, Capital Works in progress, including payments on account to contractors and others			**£4,984,601**
Total of Fixed Assets carried to Balance Sheet			**£118,727,507**

		Total at 31st March 1962
		£
By Repayable Capital as per Statement No. 10		**£79,889,144**
,, Non-Repayable Capital :		
Contributions from Minister for Finance under Electricity (Supply) Acts towards capital cost of supplying rural areas	**5,917,826**	
Contributions from consumers and others for capital works	**1,453,099**	
,, Capital Reserves :		
Repaid capital, less intangible assets written off	**6,875,193**	
Provision for depreciation, renewal and retirement of physical assets, together with proceeds of sale of assets, less physical assets retired	**32,699,708**	
Total Capital Reserves (including non-repayable Capital)		**£46,945,826**
Total of Capital Receipts and Reserves carried to **Balance Sheet**		**£126,834,970**

ACCOUNT No. 10

Statement of Repayable Capital and Redemption thereof to the 31st March, 1962

	Total Receipts to 31st March 1962	Redeemed			Balance Outstanding 31st March 1962
		Total to 31st March 1961	Redeemed during year	Total to 31st March 1962	
	£	£	£	£	£
Minister for Finance :					
Advances under the Electricity (Supply) Acts and the Shannon Fisheries Act, 1935	**68,450,236**	5,677,116	646,020	6,323,136	**62,127,100**
Electricity Supply Board Stocks :					
5% redeemable 1966–1975	**10,000,000**	886,850	217,000	1,103,850	**8,896,150**
6% ,, 1968–1978	**5,000,000**	336,133	96,607	432,740	**4,567,260**
6% ,, 1982–1987	**3,798,634***	—	—	—	**3,798,634**
Funded loans and loan stocks :					
Local authority undertakings	**756,021**	756,021	—	756,021	—
New Ireland Assurance Co. Ltd.	**500,000**	—	—	—	**500,000**
	£88,504,891	£7,656,120	£959,627	£8,615,747	**£79,889,144**

* £5,000,000 stock issued. Further calls due on 25th April and 1st June, 1962.

Balance Sheet as at 31st March, 1962

Liabilities and Reserves		31/3/62	31/3/61
		£	£
Repayable Capital as per Capital Account		79,889,144	76,550,137
Capital Reserves as per Capital Account		46,945,826	41,605,379
		126,834,970	118,155,516
Loans under the Electricity Supply Board (Superannuation) Act, 1942	..	218,604	—
The Munster and Leinster Bank Limited Overdraft	.. .. ..	187,343	514,696
Sundry Creditors	.. .. ..	3,284,690	2,479,967
Reserves :	£		
Contingencies reserve	.. 1,500,000		
Plant self-insurance—special risks	 500,000		
Other reserves and provisions	38,500		
		2,038,500	1,738,500
Surplus : per Net Revenue Account	.. ..	89,647	28,241
		£132,653,754	£122,916,920

Note :
At 31st March, 1962 there were outstanding contractual commitments in respect of capital and other expenditure, estimated to amount to £9,750,000 .. ..

Assets	31/3/62	31/3/61
	£	£
Fixed Assets, as per Capital Account ..	118,727,507	112,515,721
Electricity Supply Board Stocks (nominal £234,852) at cost, held by the Munster and Leinster Bank Nominees Ltd., as depositaries of the Board	225,422	88,822
Stocks on Hand and in Transit	4,343,579	3,459,112
Cost Value of Installation and Other Repayable Work in Progress ..	182,394	172,653
Sundry Debtors, after providing for bad and doubtful debts and including advances for goods not yet delivered	5,912,640	5,669,392
Temporary Cash Investment	3,250,000	1,000,000
Cash in Hand and with Banks	12,212	11,220
	£132,653,754	£122,916,920

Signed: T. Murray, *Chairman*

J. G. Gargan, *Secretary*

Signed: L. J. Barry, *Chief Accountant*

AUDITORS' REPORT

As Auditors appointed by the Minister for Transport and Power, with the consent of the Minister for Finance, we have examined the foregoing Accounts and Balance Sheet.

Allocations to the various Accounts, made by the Board's officials and approved by the Board, covering Overhead Expenses, Interest and Capital Repayments and Costs of Generation, Transmission and Distribution have been made on the same basis as in previous years. Additions have continued to be made to the Depreciation Reserve towards increased costs of renewals of physical assets, the original cost of which has already been fully provided.

We certify that the Balance Sheet as at 31st March, 1962, with the note thereon, exhibits a true and correct view of the state of the Board's affairs according to the best of our information and the explanations given to us, and as shown by the Books of the Board.

KENNEDY, CROWLEY & CO.
Auditors

4 and 5 Westmoreland Street,
Dublin 2.
12*th June*, 1962.

APPENDICES

No.

1 Number of consumers and other particulars relating to areas supplied by the Board.

2 Growth of electricity sales and number of consumers.

3 Analysis of units sold.

4 Distribution at high tension of units generated.

5 Generation load duration and integrated load duration curves.

6 Generation statistics for the year and the number of units sent out in the preceding year.

7 Monthly outputs generated (kWh x 10^6) and supply purchased.

8 Particulars of generating plant.

9 Performance of generating plant.

10 Typical daily generation load curves.

11 Transmission system in commission at 31st March, 1962.

12 Progress of the rural electrification scheme.

13 Weekly generation (inside back cover).

NUMBER OF CONSUMERS AND OTHER PARTICULARS RELATING TO AREAS SUPPLIED BY THE BOARD

Appendix I

District	Approximate population	No. of consumers at 31st March		Motive power units sold year ended 31st March	
				thousands	
	thousands	1962	1961	1962	1961
ATHLONE	**177·1**	**37,683**	**36,839**	**22,645**	**21,245**
Town	50·7	11,353	11,519	19,885	19,377
Rural	126·4	26,330	25,320	2,760	1,868
CORK	**302·1**	**72,254**	**69,692**	**102,549**	**94,375**
Town	167·8	44,278	43,482	91,376	86,266
Rural	134·3	27,976	26,210	11,173	8,109
DUBLIN No. 1	**485·0**	**130,902**	**129,422**	**127,999**	**120,579**
Town	485·0	130,902	129,422	127,999	120,579
DUBLIN No. 2	**306·7**	**77,329**	**75,051**	**134,455**	**120,333**
Town	228·7	61,078	59,097	121,669	110,211
Rural	78·0	16,251	15,954	12,786	10,122
DUNDALK	**227·0**	**50,522**	**48,501**	**84,955**	**76,141**
Town	75·8	19,023	19,047	67,318	62,209
Rural	151·2	31,499	29,454	17,637	13,932
GALWAY	**166·9**	**35,614**	**35,670**	**11,452**	**10,781**
Town	47·3	10,692	10,719	9,542	9,192
Rural	119·6	24,922	24,951	1,910	1,589
LIMERICK	**270·7**	**60,989**	**60,216**	**65,062**	**53,484**
Town	94·8	24,337	24,369	53,059	43,823
Rural	175·9	36,652	35,847	12,003	9,661
PORTLAOISE	**196·8**	**43,311**	**42,173**	**55,056**	**51,130**
Town	75·1	17,952	17,855	46,070	43,867
Rural	121·7	25,359	24,318	8,986	7,263
SLIGO	**252·0**	**54,704**	**53,280**	**14,550**	**15,456**
Town	46·7	11,923	11,929	7,381	7,147
Rural	205·3	42,781	41,351	7,169	8,309
TRALEE	**143·3**	**30,973**	**29,796**	**10,192**	**8,911**
Town	31·1	7,592	7,530	4,357	4,055
Rural	112·2	23,381	22,266	5,835	4,856
WATERFORD	**210·6**	**48,472**	**47,601**	**51,984**	**53,227**
Town	95·4	24,471	24,414	37,880	39,632
Rural	115·2	24,001	23,187	14,104	13,595
TOTALS	**2,738·2**	**642,753**	**628,241**	**680,899**	**625,662**
TOWN	1,398·4	363,601	359,383	586,536	546,358
RURAL	1,339·8	279,152	268,858	94,363	79,304

Appendix 2

GROWTH OF ELECTRICITY SALES AND NUMBER OF CONSUMERS

The following table shows, quinquennially from 1930 to 1950 and for each year since, the number of units generated and sold, the revenue, the average price per unit and the number of consumers.

Year ended 31st March	Units generated (and purchased) millions	Units sold millions	Revenue from sales of energy thousands	Average price in pence per unit sold	Total consumers
			£		
1930 ..	60·948	43·177	478	2·66	48,606
1935 ..	206·106	156·964	1,258	1·92	103,037
1940 ..	406·999	318·552	1,946	1·47	172,545
1945 ..	406·273	319·010	2,458	1·85	228,008
1950 ..	784·776	626·174	4,774	1·83	310,639
1951 ..	972·951	770·377	5,584	1·74	343,376
1952 ..	1,032·697	835·326	6,531	1·88	372,743
1953 ..	1,163·616	929·641	7,628	1·97	402,395
1954 ..	1,295·520	1,051·746	8,517	1·94	435,985
1955 ..	1,461·736	1,192·172	9,522	1·92	461,901
1956 ..	1,573·150	1,306·642	10,465	1·92	509,546
1957 ..	1,647·713	1,352·642	11,555	2·05	547,910
1958 ..	1,774·821	1,424·645	12,903	2·17	570,345
1959 ..	1,898·215	1,549·402	13,784	2·14	590,921
1960 ..	2,096·027	1,692·154	14,724	2·09	610,946
1961 ..	2,262·307	1,863·578	16,263	2·09	628,241
1962 ..	2,453·001	2,005·098	17,731	2·12	642,753

Appendix 3

ANALYSIS OF UNITS SOLD

Class of supply	Units sold		Increase	Percentage increase
	Year ended 31st March, 1962 millions	Year ended 31st March, 1961 millions	millions	
Domestic	821·575	769·203	52·372	6·8
General lighting	111·850	103·843	8·007	7·7
General heating, cooking and water heating	212·178	187·305	24·873	13·3
Night storage heating	126·445	115·982	10·463	9·0
Motive power	684·373	639·521	44·852	6·6
Public lighting	34·863	34·617	0·246	0·7
Miscellaneous	13·814	13·107	0·707	5·4
TOTAL	2,005·098	1,863·578	141·520	7·6

Appendix 4

DISTRIBUTION AT HIGH TENSION OF UNITS GENERATED
Year Ended 31st March, 1962

District		High tension units kWh × 10^6	Percentage of total
DUBLIN CITY 5 kV Supply		181·4	7·4
DUBLIN CITY 10 kV Supply		332·5	13·6
DUBLIN CITY TOTAL		513·9	21·0
ATHLONE DISTRICT		82·7	3·4
CORK DISTRICT		264·1	10·8
DUBLIN NO. 2 DISTRICT		383·2	15·6
DUNDALK DISTRICT		184·2	7·5
GALWAY DISTRICT		77·8	3·2
LIMERICK DISTRICT		184·8	7·5
PORTLAOISE DISTRICT		130·5	5·3
SLIGO DISTRICT		94·8	3·9
TRALEE DISTRICT		55·5	2·3
WATERFORD DISTRICT		155·7	6·3
Generating station auxiliaries		116·5	4·7
High tension losses (110 kV and 38 kV)		209·3	8·5
TOTAL GENERATION OF ALL STATIONS	2,450·0		
Supply purchased	3·0		
TOTAL GENERATION OF ALL STATIONS PLUS SUPPLY PURCHASED		2,453·0	100·0

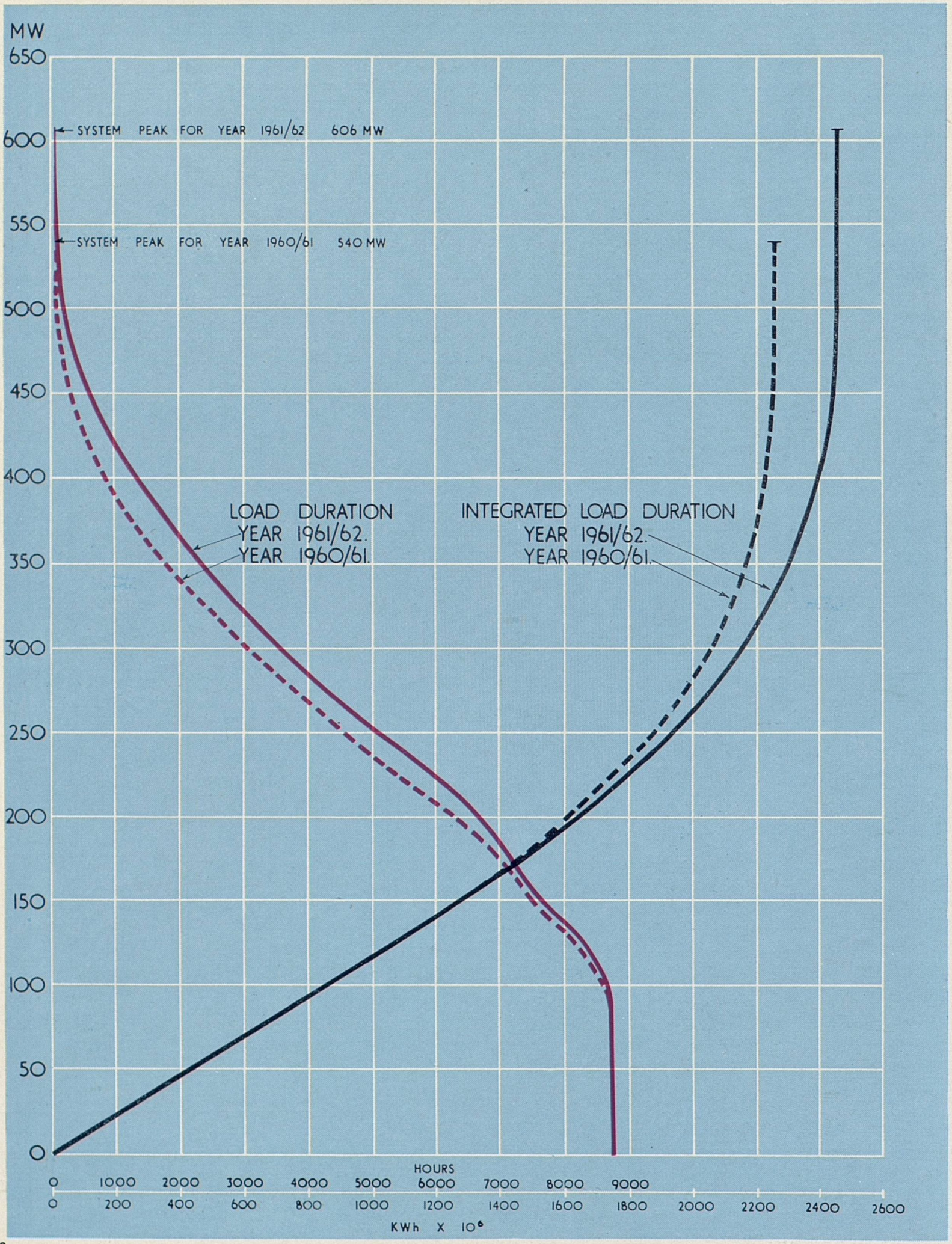
Appendix

5

GENERATION LOAD DURATION

AND INTEGRATED LOAD DURATION CURVES

Year Ended 31st March, 1962



GENERATION STATISTICS FOR THE YEAR AND THE NUMBER OF UNITS SENT OUT IN THE PRECEDING YEAR

Appendix 6

Station	Year ended 31st March, 1962			Year ended 31st March, 1961
	Generated million units	Station use million units	Sent out million units	Sent out million units
Ardnacrusha	337·179	3·222	333·957	428·361
Cliff	80·761	0·775	79·986	88·378
Cathaleen's Fall	198·809	2·323	196·486	215·666
Carrigadrohid	20·586	0·477	20·109	30·641
Inniscarra	50·212	0·757	49·455	79·269
Pollaphuca	15·713	0·782	14·931	35·564
Golden Falls	6·571	0·156	6·415	13·096
Leixlip	11·233	0·186	11·047	19·641
Clady	15·715	0·135	15·580	13·265
Ferbane	251·273	20·267	231·006	191·503
Rhode	185·077	12·029	173·048	85·125
Portarlington	147·284	8·947	138·337	114·636
Allenwood	195·912	12·301	183·611	177·856
Lanesborough	97·696	4·353	93·343	98·317
Cahirciveen	15·593	1·509	14·084	7·435
Miltown-Malbay	8·774	0·933	7·841	2·498
Screeb	4·534	0·460	4·074	2·654
Gweedore	22·323	1·467	20·856	22·812
Pigeon House	29·218	4·381	24·837	—0·864
North Wall	59·023	4·520	54·503	38·692
Ringsend	405·964	22·163	383·801	272·743
Marina	204·656	9·541	195·115	135·999
Arigna	85·851	4·775	81·076	86·378
Purchased	3·044	—	3·044	2·096
Totals	2,453·001	116·459	2,336·542	2,161·761
Maximum daily generation, million units			10·363	9·298
Maximum load generated in kW			606,000	540,000

MONTHLY OUTPUTS GENERATED (kWh × 10^6) AND SUPPLY PURCHASED

Year ended 31st March, 1962

Appendix 7

Month (Calendar)	PEAT STATIONS									COAL/OIL STATIONS					Total of steam stations
										DUBLIN			CORK		
	Ferbane	Rhode	Port-arlington	Allen-wood	Lanes-borough	Cahir-civeen	Miltown-Malbay	Screeb	Gwee-dore	Pigeon House	North Wall	Rings-end	Marina	Arigna	
April	12·620	13·192	13·380	9·161	9·349	—	—	—	1·812	0·402	2·566	33·282	18·936	8·992	123·692
May	17·986	12·069	12·876	17·558	8·538	0·627	0·067	—	2·064	0·636	1·524	24·869	14·157	9·531	122·502
June	23·121	12·049	15·751	21·907	12·457	1·972	0·981	0·652	2·090	1·034	7·637	18·858	20·549	6·023	145·081
July	23·376	11·464	12·644	19·633	5·847	1·684	1·513	0·476	—	0·638	7·677	29·124	9·677	9·056	132·809
August	25·654	20·540	8·585	16·508	—	1·658	0·175	0·133	1·520	5·206	6·277	38·226	—	6·459	130·941
September	14·479	19·684	10·365	11·215	4·820	1·464	0·249	0·751	2·057	5·541	6·644	43·651	7·697	2·258	130·875
October	7·259	17·636	7·676	10·328	9·018	1·698	1·707	0·896	2·763	2·582	2·091	33·915	18·922	—	116·491
November	29·932	21·098	8·720	21·106	10·060	1·757	1·259	0·693	2·845	1·314	4·362	34·048	17·642	7·650	162·486
December	26·870	10·004	11·756	15·477	8·342	1·282	0·563	0·513	2·238	2·172	3·505	29·886	17·116	7·694	137·418
January	24·233	14·402	14·912	19·261	9·946	1·450	0·753	0·420	2·204	5·369	4·629	39·382	18·692	10·517	166·170
February	19·769	12·379	14·433	19·610	7·158	0·808	0·722	—	0·930	0·816	3·271	31·757	23·935	6·442	142·030
March	25·974	20·560	16·186	14·148	12·161	1·193	0·785	—	1·800	3·508	8·840	48·966	37·333	11·229	202·683
TOTALS	251·273	185·077	147·284	195·912	97·696	15·593	8·774	4·534	22·323	29·218	59·023	405·964	204·656	85·851	1,713·178

Month (Calendar)	HYDRO STATIONS										Total generation of all stations	Total supply purchased	Total generation and supply purchased
	River Shannon	River Erne		River Lee		River Liffey			River Clady	Total of hydro stations			
	Ardnacrusha	Cliff	Cathaleen's Fall	Carrigadrohid	Inniscarra	Pollaphuca	Golden Falls	Leixlip					
April	23·520	7·286	17·200	1·806	5·390	0·234	0·159	0·576	1·648	57·819	181·511	0·284	181·795
May	19·790	5·435	12·632	0·827	2·071	0·580	0·313	0·564	0·350	42·562	165·064	0·195	165·259
June	10·266	1·308	3·044	0·004	—	0·331	0·168	0·214	0·505	15·840	160·921	0·107	161·028
July	17·910	2·487	5·788	0·489	0·596	0·268	0·210	0·284	1·162	29·194	162·003	0·219	162·222
August	11·090	3·297	7·927	0·296	1·254	0·648	0·313	0·301	1·198	26·324	157·265	0·288	157·553
September	15·965	5·096	12·309	1·126	1·704	1·754	0·701	0·872	1·130	40·657	171·532	0·272	171·804
October	35·778	10·410	25·629	3·313	7·876	2·525	0·973	1·458	1·466	89·428	205·919	0·311	206·230
November	32·052	7·559	19·280	1·644	4·157	1·864	0·720	1·069	1·786	70·131	232·617	0·321	232·938
December	54·316	13·650	33·648	3·579	9·434	2·901	1·127	1·874	1·731	122·260	259·678	0·324	260·002
January	48·183	10·805	27·223	3·540	9·048	1·868	0·791	1·660	2·131	105·249	271·419	0·279	271·698
February	41·016	9·818	25·396	1·303	3·475	2·109	0·797	1·503	2·009	87·426	229·456	0·249	229·705
March	27·293	3·610	8·733	2·659	5·207	0·631	0·299	0·858	0·599	49·889	252·572	0·195	252·767
		80·761	198·809	20·586	50·212	15·713	6·571	11·233					
TOTALS	337·179	279·570		70·798		33·517			15·715	736·779	2,449·957	3·044	2,453·001

PARTICULARS OF GENERATING PLANT

Hydro Stations

Station	River	Catchment area km.²	Average available head metres	Average annual generation kWh × 10^6	Generating sets		Type of turbine
					No.	Capacity each kW	
ARDNACRUSHA	Shannon	10,400	28·3	310	3 1	20,000 25,000 **85,000**	Francis Kaplan
POLLAPHUCA	Liffey	309	48·7	45	2	15,000 **30,000**	Kaplan
GOLDEN FALLS		312	16·6		1	**4,000**	Propeller
LEIXLIP		843	17·3		1	**4,000**	Kaplan
CLIFF	Erne	4,320	12·1	275	2	10,000 **20,000**	Kaplan
CATHALEEN'S FALL		4,350	29·7		2	22,500 **45,000**	
CARRIGADROHID	Lee	610	15·4	77	1	**8,000**	Kaplan
INNISCARRA		790	31·9		1 1	15,000 4,000 **19,000**	
CLADY	Clady	80	57·8	13	1	**4,000**	Francis

Steam Stations

Station	Location	Generating Sets					Boilers			
		No.	Capacity each kW	Pressure Psi	Temp. °F	Type of cooling	No.	Capacity each k.lb./hour	Type of firing	Fuel type
Pigeon House	Dublin City	1 4	10,000 20,000 **90,000**	250	750	Estuarine	10	100	Mech. Stoker and Oil-fired	Coal and Oil
North Wall	Dublin City	1 2	12,500 16,000 **44,500**	400	800	Estuarine	4 2	40 165	Oil-fired	Oil
North Wall (under construction)		1	**16,000**				1	165		
Portarlington	Co. Laoise	2	12,500 **25,000**	400	800	Tower	3	150	Mech. Stoker	Sod Peat
Portarlington (Generating set being transferred from North Wall)		1	**12,500**							
Allenwood	Co. Kildare	2	20,000 **40,000**	400	800	Tower	4	150	Mech. Stoker	Sod Peat
Marina	Cork City	2	30,000 **60,000**	600	850	Tidal River	3	200	P.F. and Oil-fired	Coal or Oil
Marina (under construction)		1	**60,000**	1,150	950		1	550	Oil-fired	Oil

Steam Stations

RINGSEND	Dublin City	3	30,000 **90,000**	600	850	Estuarine	4	200	P.F. and Oil-fired	Coal or Oil
RINGSEND (under construction)		2	60,000 **120,000**	1,150	950		2	550	Oil-fired	Oil
FERBANE	Co. Offaly	3	20,000 **60,000**	400	800	Tower	3	220	P.F.	Milled Peat
FERBANE (under construction)		1	**30,000**	900	950		1	285	P.F.	Milled Peat
MILTOWN-MALBAY	Co. Clare	1	**5,000**	400	800	Tower	1	60	Mech. Stoker	Sod Peat
SCREEB	Co. Galway	1	**5,000**	400	800	Sea	1	60	Mech. Stoker	Sod Peat
CAHIRCIVEEN	Co. Kerry	1	**5,000**	400	800	Tower	1	60	Mech. Stoker	Sod Peat
GWEEDORE	Co. Donegal	1	**5,000**	400	800	River	1	60	Mech. Stoker	Sod Peat
ARIGNA	Co. Roscommon	1	**15,000**	400	800	Lake	1	165	P.F.	Coal
LANESBOROUGH	Co. Longford	1	**20,000**	400	800	River	1	220	Mech. Stoker	Sod Peat
LANESBOROUGH (under construction)		1	**40,000**	900	950		1	380	P.F.	Milled Peat
RHODE	Co. Offaly	2	20,000 **40,000**	650	850	Tower	2	210	P.F.	Milled Peat
RHODE (under construction)		1	**40,000**	900	950		1	380		
BELLACORICK (under construction)	Co. Mayo	2	20,000 **40,000**	650	850	Tower	2	210	P.F.	Milled Peat
SHANNONBRIDGE (under construction)	Co. Offaly	1	**40,000**	900	950	River	1	380	P.F.	Milled Peat

PERFORMANCE OF GENERATING PLANT

Year ended 31st March, 1962

Hydro Stations

Station	River	Rainfall at station	Total inflow	Discharge through sets	Water utilisation	Average available head	Water per unit generated	Installed capacity	Units sent out	Plant load factor	Total cost per unit sent out
		inches	m^3/sec	m^3/sec	%	metres	m^3	kW	kWh $\times 10^6$	%	pence
ARDNACRUSHA	Shannon	40·71	175·8	163·2	100·0	28·4	15·27	85,000	333·957	45·3	0·336
POLLAPHUCA		30·40	6·7	5·0	100·0	48·8	10·02	30,000	14·931	6·0	
GOLDEN FALLS	Liffey	30·40	6·7	5·5	100·0	16·6	26·53	4,000	6·415	18·8	1·202
LEIXLIP		25·30	10·2	9·4	100·0	17·5	26·42	4,000	11·047	32·1	
CLIFF	Erne	44·03	94·0	90·8	100·0	12·2	35·46	20,000	79·986	46·1	0·410
CATHALEEN'S FALL				92·7	100·0	29·6	14·70	45,000	196·486	50·4	
CARRIGADROHID	Lee	40·32	18·1	17·2	99·3	15·4	26·87	8,000	20·109	29·4	1·063
INNISCARRA		40·01	22·3	20·9	100·0	32·6	13·02	19,000	49·455	30·2	
CLADY	Clady	71·00	4·5	3·7	94·7	—	7·48	4,000	15·580	44·8	0·991

The percentage utilisation of the total discharge for generation is exclusive of river compensation water, and in the case of the River Liffey, of the draw-off for the Dublin City water supply from Pollaphuca Reservoir which averages 17·3 million gallons per day (0·91 m^3/sec).

Shannon and Erne rainfall represent average of catchment area.

PERFORMANCE OF GENERATING PLANT

Year ended 31st March, 1962

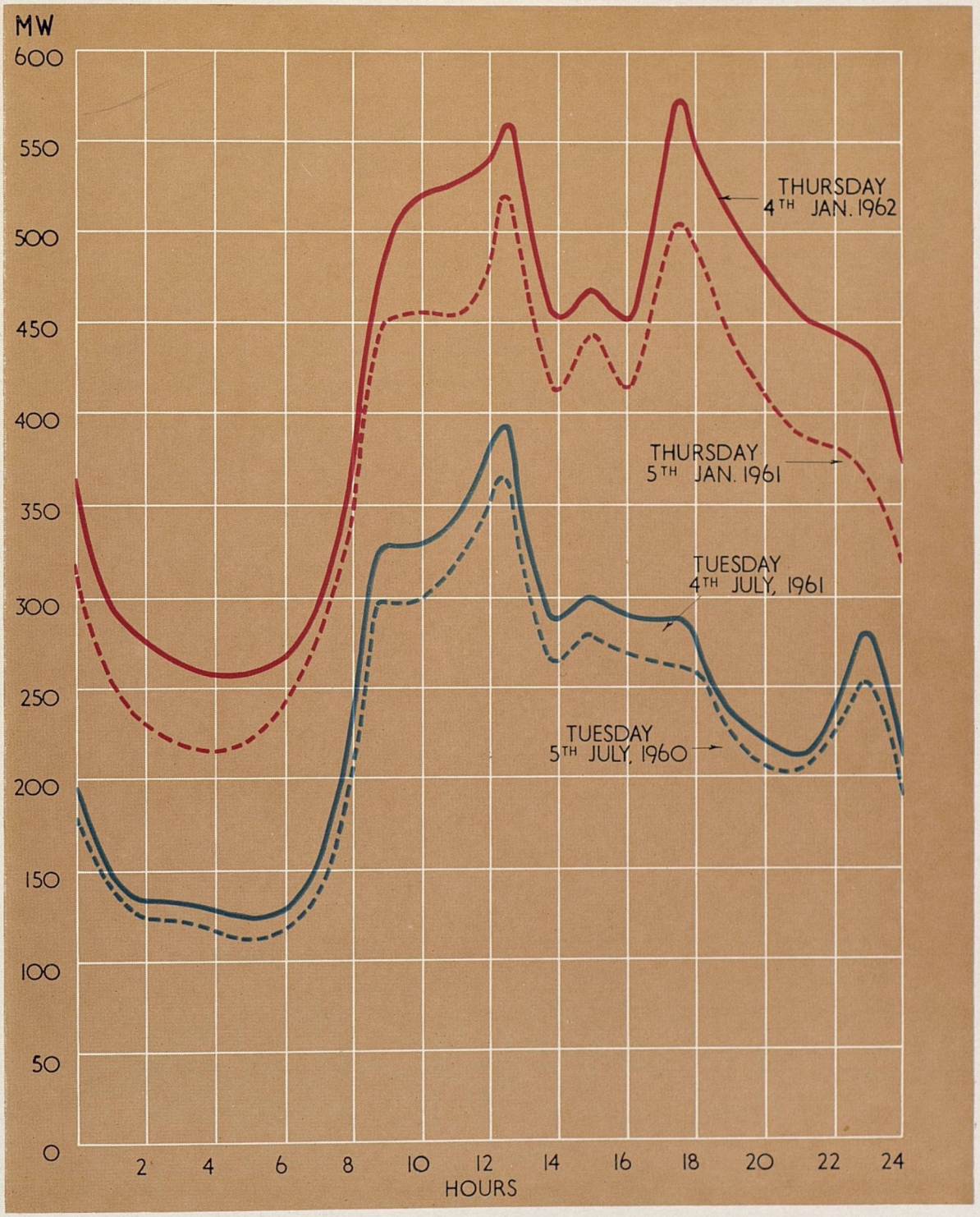
Steam Stations

Station	Location	Installed capacity kW	Units sent out kWh × 10^6	Plant load factor %	Fuel type	Total fuel used tons	Total fuel cost £	Fuel cost per unit sent out pence	Total cost per unit sent out pence
Pigeon House (Stand-by Station)	Dublin City	90,000	—	—	Coal Oil	— —	—	—	—
North Wall	Dublin City	44,500	54·503	17·8	Oil	20,500	121,523	0·536	1·586
Portarlington	Co. Laoise	25,000	138·337	67·3	Sod Peat	167,200	464,500	0·809	1·173
Allenwood	Co. Kildare	40,000	183·611	55·9	Sod Peat	220,300	615,460	0·807	1·216
Marina	Cork City	60,000	195·115	38·9	Coal Oil	22,200 50,100	360,923	0·445	0·956
Ringsend	Dublin City	90,000	383·801	51·5	Coal Oil	64,900 82,700	680,630	0·427	0·854
Ferbane	Co. Offaly	60,000	231 006	47·8	Milled Peat Oil	451,400 2,700	628,420	0·653	1·107
Four 5 MW Stations	West Coast	20,000	46·855	29·2	Sod Peat	72,600	180,641	0·925	1·909
Lanesborough	Co. Longford	20,000	93·343	55·8	Sod Peat	96,600	271,724	0·701	1·031
Arigna	Co. Roscommon	15,000	81·076	65·3	Coal Oil	49,600 100	191,243	0·569	0·953
Rhode	Co. Offaly	40,000	173·048	52·8	Milled Peat Oil	324,900 1,300	444,193	0·618	0·947

Milled peat figures in Ferbane and Rhode are for equivalent standard fuel of 55% moisture content. Sod peat figures in Portarlington, Allenwood and Lanesborough are for equivalent standard fuel of 30% moisture content. Sod peat figures in the Four 5 MW Stations are actual tonnages as received. The outputs are given for the year ended 31st March, but for convenience, costing figures are for 52 weeks.

TYPICAL DAILY GENERATION LOAD CURVES

Appendix 10



Appendix II

TRANSMISSION SYSTEM IN COMMISSION

At 31st March, 1962

Transformer stations	No. in commission	Increase for year	Total capacity in kVA	Increase in capacity for year in kVA
110 kV stations	20	1	625,000 at 110/38 kV 15,000 at 110/10 kV 67,200 at 38/10 kV	15,000 at 110/38 kV nil at 110/10 kV nil at 38/10 kV
38 kV stations	184	3	821,600	67,300

Transmission system	Length km.	Increase (+) or Decrease (—) for year km.	Description
110 kV lines	192·6	—	6×95 sq. mm. double circuit copper
110 kV lines	748·2	—	3×95 sq. mm. single circuit copper
110 kV lines	4·1	—	6×300 sq. mm. double circuit SCA
110 kV lines	110·7	—	3×425 sq. mm. single circuit SCA
110 kV lines	430·2	—	3×300 sq. mm. single circuit SCA
110 kV lines	892·2	+92·3	3×200 sq. mm. single circuit SCA
110 kV cables	9·8	—	3 single core 325 sq.mm. oil-filled
38 kV lines	3543·7	+100·0	
38 kV cables	145·3	—	

PROGRESS OF THE RURAL ELECTRIFICATION SCHEME

Appendix 12

Period	Poles erected	Miles of line strung	Consumers connected	Areas completed
Year ended 31st March				
1947	1,300	39	Nil	Nil
1948	15,986	721	2,203	7
1949	32,002	1,730	9,262	30
1950	40,972	2,083	13,688	45
1951	42,423	2,232	15,803	49
1952	46,008	2,466	18,067	49
1953	48,059	2,703	18,818	49
1954	68,382	3,769	23,477	60
1955	91,391	4,977	27,316	75
1956	112,616	6,196	34,257	99
1957	91,794	5,149	34,627	80
1958	61,696	3,332	17,725	60
1959	50,113	2,700	14,997	45
1960	47,982	2,592	13,458	40
1961	43,757	2,322	11,570	40
1962	30,155	1,652	9,515	26
TOTALS	824,636	44,663	264,783	754

TO THE MINISTER FOR LANDS

REPORT ON FISHERIES
27 LOWER FITZWILLIAM STREET
DUBLIN 2

In accordance with the provisions of Section 10 of the Electricity (Supply) (Amendment) Act, 1961, the Board presents the Annual Report on its fisheries and Fisheries Account for the year ended 31st March, 1962.

Steady progress was maintained on the scheme for reviving the salmon fisheries of the River Shannon and there was a marked increase in fisheries work on the Rivers Erne, Lee, Liffey and Clady. In the River Shannon large numbers of smolts were observed moving downstream during the summer of 1961. The Board is satisfied that, with conservation measures designed to eliminate undue exploitation of the stock before it matures, the salmon resources of the river can be developed fairly quickly.

HATCHERIES AND REARING STATION

A small stock of 1960 fry was retained and the first smolts from this stock were released in the River Shannon in June, 1961. All the 1961 fry were planted in suitably prepared streams with the exception of a quantity of the Shannon and the Lee fry which was retained for rearing. Natural losses were virtually eliminated in the early summer following the introduction of new chemical treatments. In view of the success in feeding the young fish, it was decided to hold them in the hatchery over the winter of 1961/62. Operational experiences were exchanged with hatcheries abroad and young salmon were sent for examination to hatcheries in the United States.

The 1962 stock of ova at Parteen was augmented by the purchase of 220,000 ova from the Glenties and Lismore hatcheries, and 50,000 ova, the progeny of known spring fish, were imported from Scotland for experimental rearing.

At the 31st March, 1962, all fry in the hatcheries were in excellent condition.

Hatchery production figures for 1961/62 were as follows :—

Hatchery	Salmon ova	Planted as eyed ova	Stock of ova/fry March, 1962	Losses during incubation
Shannon	838,000	Nil	825,000	1·6%
Lee	23,000	Nil	22,000	5·0%
Erne	697,000	42,000	647,000	1·2%

INVESTIGATIONS

On the River Lee, a large-scale programme of investigation to study the success of spawning in the tributaries upstream of the dams, pike predation on descending smolts, and mortalities on smolts passing the hydro dams, was undertaken in conjunction with Fisheries Division.

During the year six aero-hydraulic guns were installed upstream of the Inniscarra dam to improve the oxygen content of the water and three pumps were installed in the Ardnacrusha headrace to attract smolts to the fish pass entrance. The effects of these installations are being studied.

CONSERVATION

A large measure of co-ordination was achieved in the activities of the staffs of the Limerick Board of Fishery Conservators, the Inland Fisheries Trust and the Board. The liaison committee representative of the Fisheries Division, the Inland Fisheries Trust, Bord Failte and the Board had under examination the problems arising where rivers are being developed not only for salmon fishing but also for trout and coarse fishing.

The Board was represented on the joint protection body for the River Erne and contributed £500 to the Enniskillen Fishery Board for the protection of the Erne tributaries within Northern Ireland.

As a first step in an investigation into the Pollaphuca trout fishery, the spawning streams were examined. The Board proposes to release into the reservoir 2,000 large one-year-old trout reared at Parteen and to commence experimental catching of perch.

To assist in the improvement of the salmon fisheries on the Liffey, the Board intends to purchase up to 250,000 ova from outside hatcheries in future years.

COMMERCIAL FISHING

An average of 65 salmon drift nets has been operating in the estuary of the River Shannon for many years. Despite the bad salmon run during 1961 there is evidence that nets operating in the lower estuary took heavy catches. Estuary netting makes it almost impossible to assess accurately the progress of the Board's development programme.

Seventy-two per cent of all salmon reaching Thomond Weir is released for propagation and angling. The revenue from the sale of salmon taken at Thomond Weir and the four stake weirs on the Shannon was £12,534.

The development programme for the salmon stocks on the Erne continued. Although limited commercial fishing was permitted, in the interests of conservation the Board decided not to take any fish. Similarly, the Board did not operate its commercial fishery on the River Lee.

At Killaloe, 25,719 lbs. of eels were taken and the receipts from sales amounted to £5,106. During the year, an estimated 4 million elvers were passed upstream at the Ardnacrusha generating station. In addition, some 900,000 elvers were collected and transferred to the Shannon from other rivers.

ANGLING

The grilse run was again late in entering the tributaries of the Shannon but during the latter part of the season some good catches were reported on the River Mulcair. The 1962 run of spring fish showed a considerable improvement on recent years and heavy fish were taken in the Shannon.

There are many excellent trout fisheries in the Shannon catchment and local groups are being encouraged to give adequate publicity to the quality of this fishing.

The development of coarse fish angling sponsored by Bord Failte and the Inland Fisheries Trust Incorporated continued successfully in many areas of the Shannon.



Predator Control : perch being removed from one of the Board's fisheries.



Thomond Fishing Weir, Limerick: all fish coming to this weir on the Shannon are counted and a small proportion killed electrically for marketing.

COUNT OF SALMON

The numbers of salmon counted during 1961 were as follows :—

Thomond Weir, Limerick	5,455
Ardnacrusha Fish Pass	1,216
Parteen Fish Pass	271
Inniscarra Fish Pass	163
Cathaleen's Fall Fish Pass	4,574
Gweedore Weir, River Clady	209
Leixlip	1,162

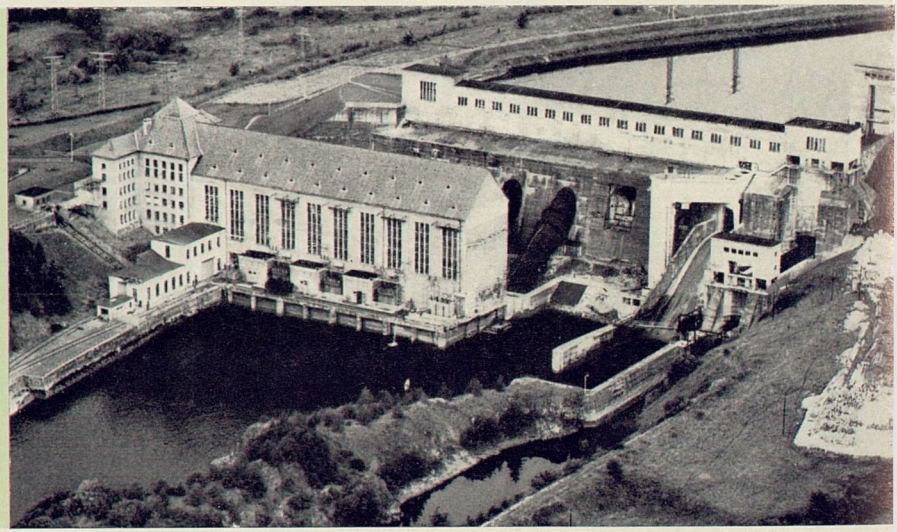
FINANCIAL

The Board is now engaged in fisheries activities on the five river systems affected by hydro development. The financial aspects are shown in the Fisheries Account. A total expenditure of £42,269 including capital charges, was incurred during the year. The hatcheries and preservation work are an increasing cost in these activities. Sales of salmon and eels from the River Shannon, together with revenue from the leasing of fishing rights, realised £19,819. The balance of £22,450 which represents promotional and development costs of the various fisheries, is transferred to the Net Revenue Account.

The work was carried out during the year with the help of Fisheries Division, Department of Lands, and the Board wishes again to record its appreciation of the co-operation and assistance it received from the officers of the Division, the Ministry of Commerce Northern Ireland, Bord Failte Eireann, the Inland Fisheries Trust Incorporated, and from the Boards of Conservators and many local Angling Clubs.

(Signed) *T. Murray*, CHAIRMAN
J. P. Digby
Henry Kennedy
T. MacMahon
Breandán Ó Cearbhaill
J. A. Ryan
J. C. Tonge

(Signed) *J. G. Gargan*, SECRETARY
5th June, 1962.

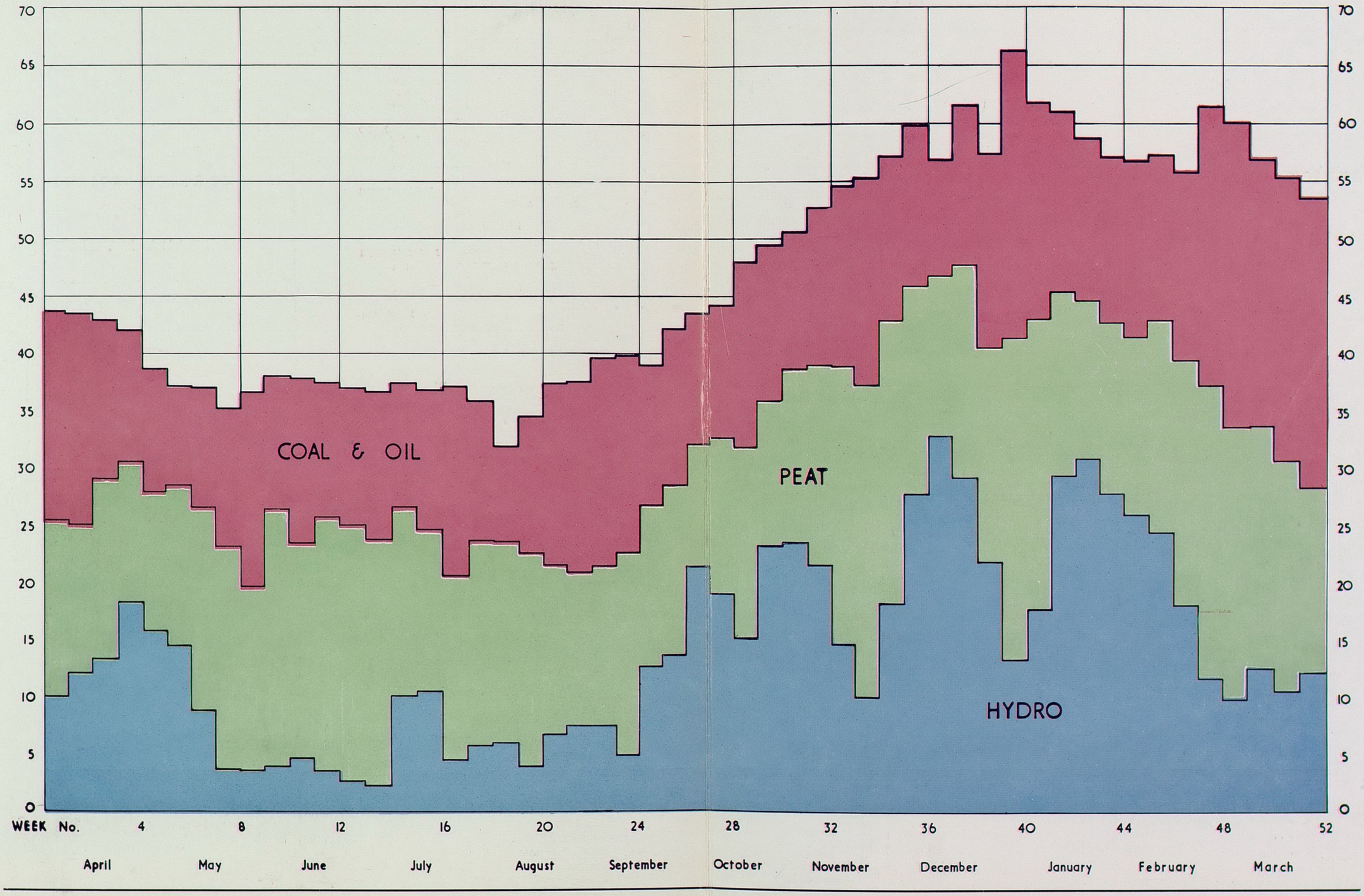


The new fish pass at Ardnacrusha generating station.

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WEEKLY GENERATION

Year ended 31st March, 1962



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