ELECTRICITY SUPPLY BOARD · IRELAND

41st ANNUAL REPORT

for the year ended 31st March 1968 including report on Fisheries



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ELECTRICITY SUPPLY BOARD · Lower Fitzwilliam Street · Dublin 2 · IRELAND

Pr. I. 34



General Outline of the

GENERATION and TRANSMISSION SYSTEMS

31st March, 1968

HYDRO STATIONS	■
STEAM STATIONS	■
STEAM STATIONS PROJECTED	□
PUMPED STORAGE STATION PROJECTED	▽
220 KV TRANSFORMER STATION	●
220 KV TRANSFORMER STATIONS PROJECTED	○
110 KV TRANSFORMER STATIONS	●
110 KV TRANSFORMER STATIONS PROJECTED	○
220 KV LINES	———
220 KV LINES PROJECTED	- - - - -
110 KV LINES	———
110 KV LINES PROJECTED	- - - - -
275 KV LINES PROJECTED	- - - - -
OTHER HIGH VOLTAGE LINES	———

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COVER—Young visitors at the Ringsend generating station during the 40th Anniversary 'Open House Week'

TO THE MINISTER FOR TRANSPORT AND POWER

The Board presents the Annual Report and Accounts for the year ended 31st March 1968, in accordance with Section 7(4) and Section 32(1) of the Electricity (Supply) Act, 1927.

Electricity Output

The total electricity output for the year was 4,246 million units, an increase of 395 million units over the previous year. This rise in demand of 10·3% was in excess of expectations and contrasts with last year's figure of 8·6%.

Electricity supplied to the system was provided as follows:

	million units sent out	percentage
Hydro	788	19·5
Peat (sod)	304	7·5
Peat (milled)	774	19·2
Coal (native)	72	1·8
Oil/coal	2,096	52·0

Generation from native sources was 48% of total output, and this was the first year in which more than half the output was produced from imported fuels.

Financial Results

The electricity accounts for the year show a surplus of revenue over expenditure of £248,875. The relevant figures for the year contrasted with those for the preceding year are:—

	Year ended 31st March, 1968	Preceding year
	£	£
Working Expenditure on Wages, Fuel, etc.	17,251,792	14,885,597
Interest (net)	5,523,189	5,147,494
Depreciation Provision	4,797,000	4,530,000
Capital redemption	2,166,105	1,953,702
	£29,738,086	£26,516,793
Revenue (including miscellaneous revenue)	29,986,961	26,769,673
Surplus	248,875	252,880

Merchandise sales for the year totalled £1,804,875, an increase of £86,815 or 5% over the previous year. Nevertheless, the overall growth in costs resulted in a net loss of £5,586 contrasted with a profit of £15,446 in 1966/67—Account No. 7.

The net profit from the Board's installation activities was £43,638 compared with £41,267 in the previous year—Account No. 6.

Preservation and Operation of Fisheries (Account No. 5) resulted in a net cost to the Board of £20,054. In the previous year the net cost was £38,985.

The overall result for the year, which includes merchandise and installation trading and fisheries cost is a surplus of £266,873 as shown in the Net Revenue Account (No. 8).

The reserves for Workmen's Compensation and Public Liability stood at £25,000 and £5,000, respectively, at the 1st April last and have been merged into a single Public Liability Reserve of £50,000 by appropriating from the surplus at the year end £23,803, which figure provides for withdrawals from the Public Liability Reserve during the year. Also written off from the revenue surplus is £220,424 of flotation expenses and discounts on £7m stock issue to the public in March, 1968.

After providing for these appropriations and taking credit for the balance £53,713 brought forward from 1966/67, there remains a balance on the Revenue Account (No. 8) of £76,359 which is carried forward to next year.

Revenue

The Board's revenue increased in line with the growing demand for electricity. The outcome for the year to 31st March last was satisfactory. In the forecast results for the present and future years account must, however, be taken of substantial additional costs which cannot be absorbed by increased sales or by the continuing efforts to reduce costs generally. These additional costs will arise mainly under the headings of fuel and pay increases with lesser amounts in respect of further rural electrification.

In the present year consumption of fuel oil for electricity production will amount to about 550,000 tons. The additional cost arising from the Suez crisis represents an increase in oil prices of approximately 26/-d. a ton while the devaluation of sterling has added a further 16/-d. a ton to the prices paid by the Board. These increases in oil prices will add about £1,150,000 to fuel costs in the current year.

Since the end of the financial year wages costs



Robert Byrne, Unit Operator, Ringsend Generating Station, City and Guilds Gold Medallist, 1963



Peter J. Mullen, Unit Operator, Ringsend Generating Station, City and Guilds Gold Medallist, 1965

Gold Medal Winners 1963–1967

These eight employees have won gold medals in the City and Guilds Examinations in competition with hundreds of entrants from Europe, the U.K. and the British Commonwealth. All of them were students on E.S.B. training courses.



Bernard Fennell, Auxiliary Plant Attendant, Ringsend Generating Station, City and Guilds Gold Medallist, 1965



John P. O'Shaughnessy, Shift Supervisor, Arigna Generating Station, City and Guilds Gold Medallist, 1965

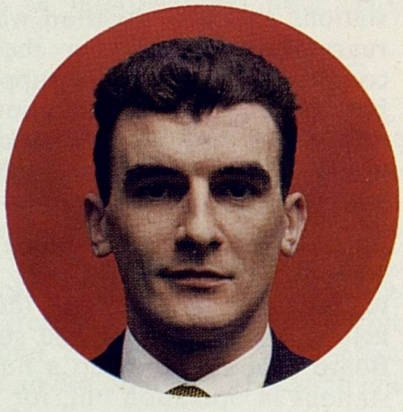




Edward P. Sweeney, Shift Supervisor, Miltown Malbay Generating Station, City and Guilds Gold Medallist, 1965



John G. Goss, Electrical Supervisor, Portarlington Generating Station, City and Guilds Gold Medallist, 1966



Stephen Hyland, Laboratory Assistant, Rhode Generating Station, City and Guilds Gold Medallist, 1967



Joseph Doyle, Trainee Turbine Operator, Allenwood Generating Station, City and Guilds Gold Medallist, 1967

have risen steeply following recent wage increases decided on by the Statutory Manual Workers' Tribunal and will show substantial further increases consequential on settlements now being negotiated and from the 11th round of wage increases. These negotiations will also have a material effect on salary costs.

In the circumstances and in fulfilment of its statutory obligation to maintain a sound financial position, the Board has no alternative to increasing prices and an application for an increase has been submitted in compliance with the provisions of the Prices Acts 1958 to 1965.

Capital

The investment in fixed assets for the supply of electricity is now £189,756,000 of which £15,850,000 was added during the year. The scale of the capital programme is determined by the continuing increase in the demand for electricity throughout the State, a demand which dictates an ever increasing annual investment in new generating stations, in transmission and distribution networks, and in increasing the capacity of existing lines and stations. To assist in financing the capital investment programme the Board successfully issued £7 million of 7¼% stock at 98 in March, 1968, bringing to £63·5 million the borrowings from the public by means of stock issues.

Because of the substantial and continuing need for new capital the prevailing high interest rates constitute a heavy charge against the Board's revenue. In a capital intensive industry such as electricity supply this important expense is unavoidable if an adequate supply of electricity for the community's needs is to be assured.

Generation

The capacity of the Board's generating plant was increased to a total of 1,230 MW with the commissioning of the first 60 MW unit at the Great Island generating station in Co. Wexford. A second, similar unit, will be in commission early in 1968/69 and will complete the first development stage of this station. The first 120 MW unit for the second stage of development has been ordered.

The main buildings at the Tarbert generating station were nearing completion and installation of the boiler units is in progress.

Site development and piling at the Pigeon House 'B' site was in progress. At the end of the year, work had commenced on the tanker jetty and reclamation work at the site was almost finished. Orders have been placed for two 14 MW gas turbines as auxiliary stand-by plant for the two 120 MW oil-fired generating units which will comprise the initial development. These gas turbines can also be used at peak load times if required.

Final stage underground exploratory work continued at the Turlough Hill pumped storage station in Co. Wicklow. Construction work on the site development was commenced. This station, which will have a capacity of 280 MW, will be the first of its kind in Ireland. It is estimated to cost £12 million and is scheduled for completion in 1973/74.

Pumped storage will utilise the relatively cheap energy available from thermal stations at night to pump water to a high level reservoir. This water will then be used to generate peak load units the following day. Pumped storage does not therefore constitute an original energy source. The Board's immediate programme for new thermal generating plant continues to be based on oil but as a matter of long-term policy the Board considers it desirable to diversify the energy sources for generation. As judged now this would be best achieved by the introduction of nuclear energy. The first phase of a nuclear programme involves the training of staff for the design and specification stages of such a project and negotiations are already in hand for this training programme.

Interruption of supply occurred on two occasions. The first was in September, 1967, when a fault developed in a combined current potential instrument transformer on the 110 kV busbar at the Ringsend generating station. This caused interruptions in supply to Dublin City and to a large section of the East Coastal Region, but it was possible, by rerouting supply, to limit the interruption to less than three hours. Many consumers affected had supply restored within a much shorter period. A full investigation was carried out and steps have been taken to reduce the chances of such a fault occurring again and to limit the outages resulting.

In November, 1967, a strike of Bord na Mona workers stopped the supply of turf to generating stations and this situation was repeated in February/March, 1968. On these occasions crisis conditions in maintaining supply were encountered but the effective co-operation of the public in response to appeals to restrict their use of electricity enabled supply to be maintained.

On March 26th, because of an unofficial strike by unskilled and semi-skilled staff in generating stations, load shedding was necessary in order to maintain the safety of the system. With the help of its engineering and supervisory staffs the Board was able to keep a number of generating stations in operation but, for a period of days, it

was necessary to request all industry to switch off in order to maintain supply to essential services.

The Board is deeply grateful to all who co-operated so fully on these critical occasions and thus showed such a high sense of civic responsibility.

Transmission

The transmission network was strengthened by the partial commissioning of the 220 kV station at Maynooth and new 110 kV stations were completed at Great Island, Co. Wexford, and Francis Street, Dublin. Construction work commenced on five new 110 kV stations and on extensions to six. One hundred and sixty-four kilometres of 110 kV overhead lines were erected including new lines from Shannonbridge to Galway and the diversion of Waterford/Kilkenny and Wexford/Waterford lines to Great Island.

Distribution

The growth rate in demand has necessitated a considerable investment in distribution networks, particularly in the urban areas. In the year under review £4,400,000 was spent to improve and extend these urban networks. In the coming year, it will be necessary to spend £4,600,000 on this work.

URD—underground residential distribution—a system which enables a 10 kV supply with underground transformers to be brought to urban housing developments at a reasonable cost has been undertaken in a number of new housing estates. This is the first time that the system has been employed in Europe. The special transformers used in the system were supplied by Irish manufacturers.

Special training for 'live-line' working was instituted and the first crews will be in operation in 1968. This system of working on lines up to 10,000 volts will reduce interruptions in supply which up to now have been necessary when extensions, repairs or improvements were being carried out.

Sales

The sales of electricity continued to show a satisfactory growth rate of 10·3% which is considerably higher than the European average. Motive power units increased by 13·6%; commercial units by 8·3% and domestic units by 8·9%. The advisory services of the Board's sales organisation are meeting greatly increased demand from local authorities and industrial and commercial users for specialist advice on lighting, heating and industrial processes.

The loss on the Merchandise Trading Account for the year can, in part, be attributed to the fact that practically all the Board's retail outlets were closed for a period of five weeks in this financial year because of the strike of office assistants in pursuit of a claim for Saturday closing.

The Board's programme to promote the use of off-peak heating continues to meet with considerable success. In the year under review 36 MW of night storage heating were connected to the system and consumption of off-peak units reached the record figure of 295 million units, an increase of 15·9% over last year.

During the year, the Board introduced a warm air system for domestic heating and it is now being installed in a number of new housing schemes. With its relatively small capital cost and its use of low-priced units it is expected that this system will be extremely popular.

Rural Electrification

The post development programme was continued and at the end of the year work had been completed in 417 areas and was in progress in a further 52. A total of 8,075 new consumers was connected and £1,930,000 was spent on rural networks. The annual loss on rural account increased by a further £300,000 bringing it to £1,680,000 for the year.

The Board sponsored industrial exhibitions in Waterford, Thurles and Dundalk in co-operation with the local Chambers of Commerce. These exhibitions which attracted large attendances were highly successful in all cases and amongst other things benefited considerably relations with local industrialists.

Staff Training

The rapid expansion of the Board is opening up new job opportunities in almost every sphere. To ensure that capable staff will be available to meet the challenge, the Board has in hand a considerable expansion of its training and development programmes in all departments. The Board has for a number of years operated training schools, and some examples of notable successes achieved in recent years are illustrated in this Report (page 3).

Facilities are provided for internal and external training and for external study for the various categories of technical, administrative and clerical staff. Formal courses are complemented by seminars and discussions at which staff are kept informed of future developments.

During the past year the establishment of new training schools was approved and the detailed

planning for these is now under way. It has been Board policy over the years that the design, construction and operation of the Board's many activities should be undertaken by its own staff and with the maximum opportunities for Irish personnel. The new programme for training and development is based on a continuance of this policy.

INDUSTRIAL RELATIONS

(1) *Comprehensive Agreement*

Reference was made in last year's Report to negotiations in progress at the Department of Labour on a comprehensive agreement to bring about a situation in which electricity supplies would be freed from the threat of interruption by strike action, through the incorporation of a 'no industrial action' clause. These negotiations were discontinued in April 1967 at the request of the Unions affiliated to the Irish Congress of of Trade Unions who said they wished to review their position. Discussions were resumed in May, 1968, at their request, and are continuing.

(2) *Strikes*

The following strikes, of which one was official, took place during the year:—

(*a*) The E.S.B. Officers' Association claimed, on behalf of Sales staff in the Board's showrooms and area offices, a five-day week with Saturday closing. They rejected Tribunal decisions, and talks at conciliation failed to achieve a settlement. Female staff concerned in the claim took official strike action outside Dublin and the stoppage covered a nine-week period from 24th February to 25th April, 1968. The dispute was referred on 1st March, 1968, by the General Employees' Tribunal to the Labour Court. The Court recommended on 18th April the granting of the five-day week with Saturday closing, and this has been put into effect.

(*b*) An unofficial strike by unskilled and semi-skilled day workers in generating stations took place from 26th to 31st March, 1968, arising from a wage claim. The Board was negotiating the claim with the official E.S.B. Group of Unions, and the issue had been referred to conciliation and from there to the Manual Workers' Tribunal, which in turn referred it to the Labour Court on 22nd March, 1968. The Court on 19th April recommended increases of up to £1 per week, pending a review of the existing wage structure for manual workers; this recommendation was rejected by the men. The Manual Workers' Tribunal then heard the Group's case on 1st May and granted increases of up to £2.10.0 per week according to service 'having regard to the general circumstances and conditions of employment existing in the Electricity Supply Board and the unique position of the electricity supply industry in the life of the community'.

(*c*) Nine other unofficial strikes took place during the year. The longest of these, which spread over four days, arose from the refusal of E.S.B. employees to pass unofficial pickets on power stations in the Bord na Mona dispute.

(3) *Committee on Industrial Relations*

When the unofficial strike referred to in (*b*) above was settled, the Minister for Labour appointed in April, 1968, a Committee of Inquiry with the following terms of reference, 'To examine the present arrangements for determining pay and conditions of employment in the Electricity Supply Board, for processing claims and settling disputes, and to make recommendations to the Minister for Labour on the changes which would safeguard electricity supply against interruption through industrial disputes'. The Committee has had several public hearings on submissions made to it by the Board and other organisations. The Inquiry is continuing.

(4) *General*

The Board remains convinced that a major difficulty in salary and wage negotiations arises from the multiplicity of unions, involving separate sets of negotiations for the one category, inter-union rivalry, and the difficulties experienced by Unions in maintaining control of their members. The shuttling of disputes between the existing statutory domestic Tribunals and the Labour Court also militates against meaningful negotiations within the industry; legislation to deal with this aspect of the matter is long overdue.

North-South Interconnection

A 'Joint Statement of Agreed Principles and Intentions' was signed by the Minister for Transport and Power and the Northern Ireland Minister

of Commerce. Work is in hand on the extension of these Principles and Intentions into a final Working Agreement between the two Electricity Authorities.

The detailed routes for the two interconnecting lines were selected and delivery of material for the first line had commenced. This line is due for commissioning in Autumn, 1969, and this will enable inter-connection facilities to commence on a temporary basis. The final design involves two interconnecting lines and a new 220 kV station in Louth. The scheduled commissioning date for this final arrangement is 1971.

Dr. H. Kennedy

The Board records with deep regret the death of Dr. Henry Kennedy who had served continuously, and with distinction, as a member of the Board from its inception in August, 1927, until his death in February of this year. Dr. Kennedy brought to the Board a keen and analytical mind and the valuable qualities associated with those who are privileged to mature in an academic and cultural environment. His kindliness and humanity will be remembered with affection and his wise counsel will be missed by his colleagues.

Staff

At 31st March, 1968, the numerical strength of the Board's regular staff was 7,640. In addition, there was a temporary staff of 2,314.

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

(Signed) *T. Murray,* CHAIRMAN.
C. Gordon Lambert
T. MacMahon
Breandán ÓCearbhaill
J. A. Ryan
J. C. Tonge

(Signed) *J. G. Gargan,* SECRETARY
9th July, 1968.

CAPITAL

The value of the capital assets brought into commission was £15,850,296 of which £1,901,554 related to rural electrification. The total investment in assets in productive use at 31st March, 1968, was:

	£
Generation	73,716,218
Transmission	20,699,044
Distribution (includes rural £39,915,830)	78,212,815
Premises, equipment, transport, etc.	5,022,468
	£177,650,545

In addition, expenditure of £12,105,689 had been incurred on new capital works still under construction at the end of the year. Accordingly the fixed capital investment is almost £190,000,000.

BORROWING POWERS

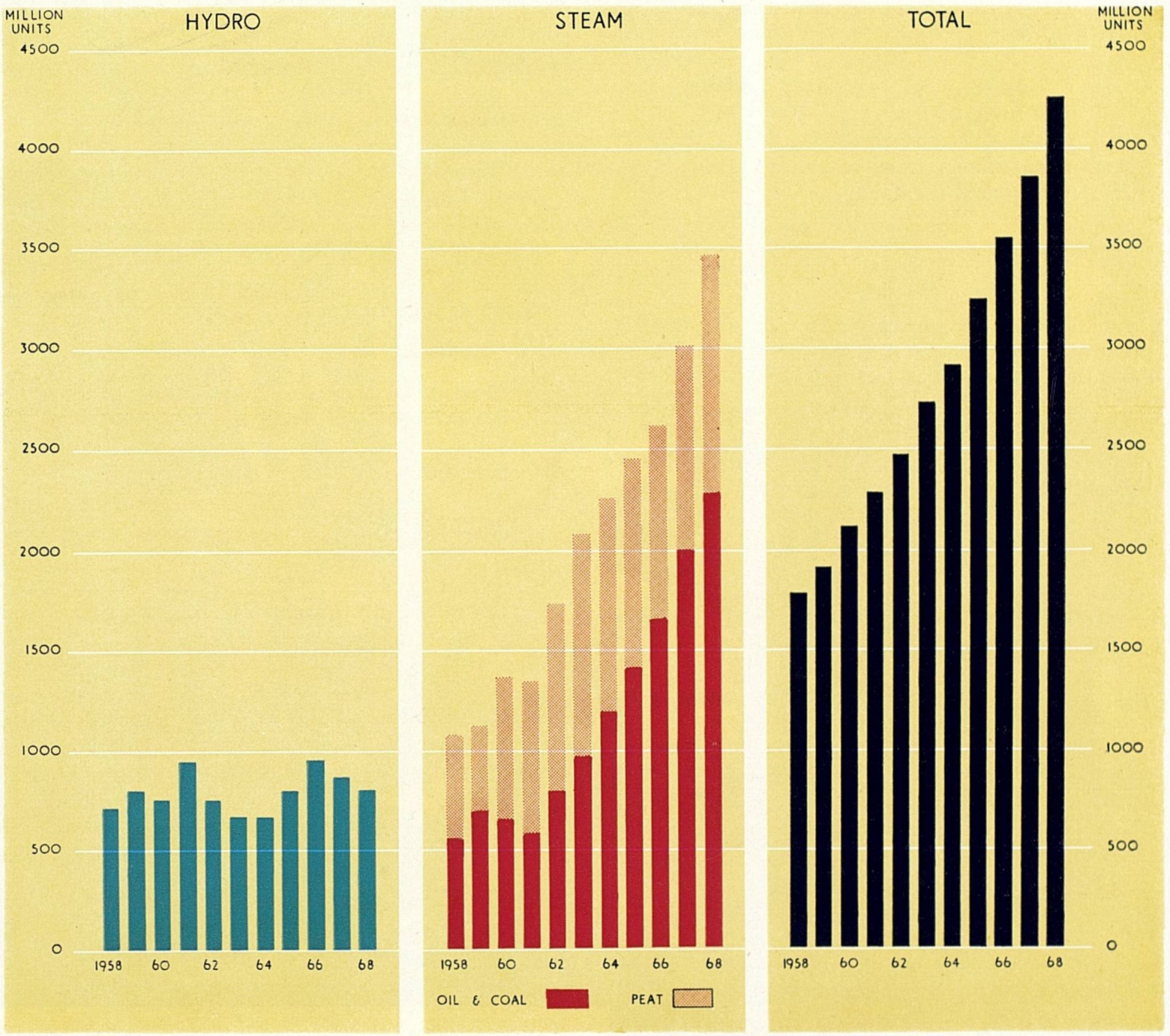
The capital requirements for the year were provided from internal resources, by temporary advances from the Trustees of the Superannuation Funds and from the proceeds of an issue in March, 1967, of £7 million E.S.B. 7% Stock 1986/91. To assist in financing the future capital programme an issue of £7 million E.S.B. 7¼% Stock was made in March, 1968, and was fully subscribed on the opening day.

The Electricity (Supply) (Amendment) Act, 1965, authorises a capital expenditure not exceeding £225 million for general purposes, excluding rural electrification. At the 31st March, 1968, the Board had approved expenditure totalling £205,221,114 of which £137,734,715 represented electricity assets in commission, the balance of £67,486,399 representing either work in progress or work approved.

The legislative limit to expenditure on rural electrification is £42 million inclusive of the subsidy for rural electrification provided by the State. At the 31st March, 1968, the amount approved was £41,243,496 of which £39,915,830 represented assets in commission and £1,327,666 work in progress or approved.

ELECTRICITY PRODUCTION

The diagram below illustrates the output of the generating stations each year since 1958



INCREASE IN UNITS GENERATED

The units generated (and purchased) showed an increase of 395 millions (10·3%) over the preceding year. The annual load factor on the basis of units generated was 52·9% compared with 49·7% last year.

An analysis of the cost of generation appears in the Electricity Production Account (No. 1).

GENERATION

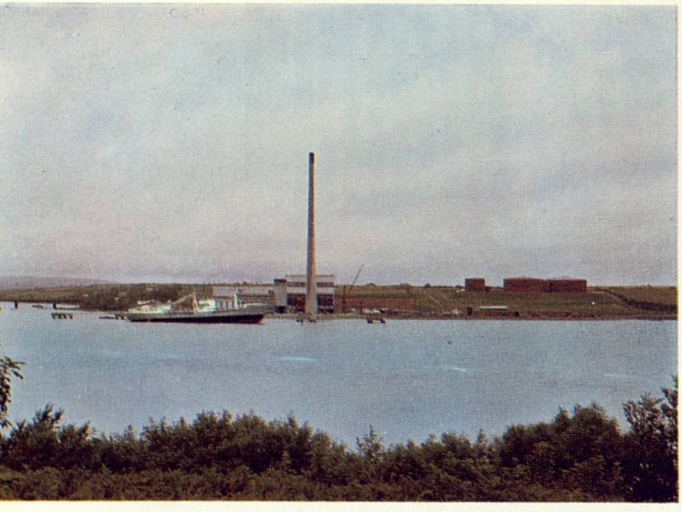
The total installed capacity of the Board's generating stations, following the commissioning of the first 60 MW oil-fired unit at Great Island, amounted to:

	MW
hydro plant	**219**
steam plant (sod peat)	**117·5**
steam plant (milled peat)	**290**
steam plant (coal/oil)	**603**
	1,229·5

This total includes 90 MW of old stand-by plant at Pigeon House and the four 5 MW stations designed to burn hand-won peat.

The following additional thermal generating plant, amounting to 568 MW, was under construction.

The generating station at Great Island, Co. Wexford.



GREAT ISLAND STATION, Co. Wexford
Oil

Work on the second 60 MW unit was completed and pre-commission testing was in progress.

Scheduled completion date: 1968.

It was decided to extend the station immediately by the installation of a 120 MW unit, and orders for the turbine and boiler plant had been placed. The detailed design work had commenced.

TARBERT STATION, Co. Kerry
Oil

Erection of the two 60 MW units commenced during the year and work was well advanced.

Scheduled completion date: 1969/70.

PIGEON HOUSE 'B' STATION, Dublin City
Oil

Piling for the foundations was completed and work on the foundations for the two 120 MW units was in progress.

Construction of the jetty had commenced and delivery of the structural steel for the buildings was in progress.

Two gas turbine generating units, each of 14 MW capacity, were ordered during the year.

Scheduled completion dates:

Unit 1 and gas turbines	1970/71
Unit 2	1971/72

TURLOUGH HILL PUMPED STORAGE STATION, Co. Wicklow

Work on site development, including the construction of approach roads and the excavation for the spillway out of Lough Nahanagan, commenced.

Scheduled completion date: 1973/74.



A class in the Training School at Pigeon House, Dublin.

WATER STORAGE, RIVER CONTROL AND HYDROMETRIC SURVEY

The inflows at the hydro stations varied between 78% and 123% of the long term average flows.

The important hydrometric figures for the hydro stations are given in Appendix 8.

The total average inflows for the calendar year 1967 were:—

	M^3/Sec
River Shannon at Killaloe	192·7
River Liffey at Pollaphuca	9·8
River Liffey at Leixlip	16·5
River Erne at Ballyshannon	97·7
River Lee at Inniscarra	24·1
River Clady at Gweedore	4·7

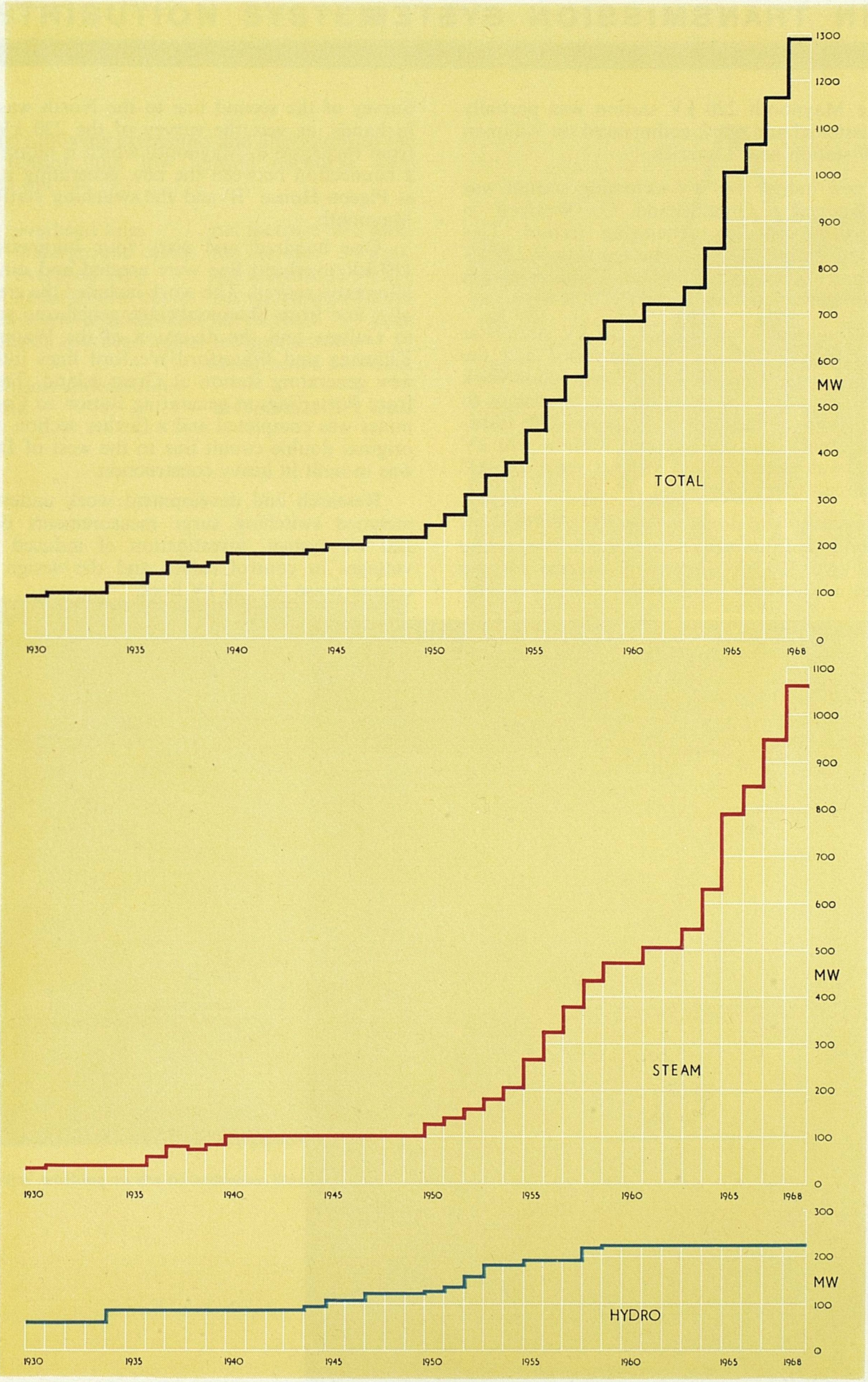
The collection of hydrometric data on the Rivers Shannon, Liffey, Erne, Lee and Clady was continued. Data were also collected with a view to the investigation and possible later development of further water power resources particularly in relation to pumped storage.

PUMPED STORAGE

The Minister for Transport and Power approved the construction of the Turlough Hill Pumped Storage Scheme. In principle, a pumped storage project is based on the utilisation of relatively cheap night energy to pump water to a high level reservoir. This water is utilised during the following day to produce peak load energy and for spinning reserve. The high level reservoir will be formed on the plateau at the summit of Turlough Hill by excavating the top of the hill and forming a bank around the reservoir with the excavated material. Lough Nahanagan, about 930 feet below, will form the low level reservoir. The power station will be in an underground cavern and will be equipped with four reversible pump turbine units with a total capacity of 280 MW. The power station will be connected to the high level reservoir by a pressure shaft excavated in the rock and to the low level reservoir by tail race tunnels, also excavated in the rock. The proposals have received the approval of the Planning Authority and the Board has retained the services of an eminent landscape architect to advise on the scenic development.

Preliminary investigation work into projects for possible future development of pumped storage schemes was continued.

GENERATION CAPACITY
1930–1968



This diagram includes the second 60 MW unit at Great Island which had reached the final commissioning stages by the end of the year.

MAIN TRANSMISSION SYSTEM

The Maynooth 220 kV station was partially commissioned and work commenced on Killonan 220 kV station near Limerick.

A new indoor 110 kV switching station was commissioned at Great Island, Co. Wexford, in conjunction with the generating station. This switching station will be connected with a 220 kV development planned for the site. A similar station is under construction at Tarbert, Co. Kerry.

The building of an indoor 110 kV station at Francis Street, Dublin, was completed and the station partially commissioned. Construction work on five new 110 kV stations and on extensions to six existing stations was in progress. The transformer capacity in Galway and Mallow 110 kV stations was increased and various short 110 kV cable circuits were completed.

The survey and design of the 220 kV line from Maynooth to Louth were completed. This is the first of two 220 kV lines to be erected for the interconnection with the Northern Ireland system. Survey of the second line to the North was well in hands, as was the survey of the 220 kV line from Inchicore to Maynooth which is required as a connection between the new generating station at Pigeon House 'B' and the switching station at Maynooth.

One hundred and sixty four kilometres of 110 kV overhead line were erected and nineteen kilometres retired. The work included the erection of a line from Shannonbridge generating station to Galway and the diversion of the Waterford/Kilkenny and Waterford/Wexford lines into the new generating station at Great Island. The line from Portarlington generating station to Carrickmines was completed and a further section of the original double circuit line to the west of Dublin was re-built in heavy construction.

Research and development work undertaken included switching surge measurements on the 220 kV system, investigation of induced overvoltages in control cables and the design of a counterpoise for 220 kV lines.



Construction on the 220,000 volt network.

DISTRIBUTION SYSTEM

The following extensions and alterations to the high tension and low tension networks were carried out:—

38 kV overhead lines	net increase 69·3 kms.
38 kV underground cables	net increase 3·3 kms.
10 kV overhead lines	net increase 53·9 kms.
10 kV underground cables	net increase 86·3 kms.
low tension overhead mains	net increase 73·1 kms.
low tension overhead mains	reconstructed or strengthened 34·4 kms.
low tension underground mains	net increase 50·1 kms.



An underground transformer is installed.



'Live-line' working on the Distribution Network.

Ten 38 kV transformer stations were completed and put into commission. Two 38 kV stations were retired from service.

Two hundred and fifty-one 10 kV and four 5 kV transformer stations were completed; eleven 10 kV transformer stations were retired from service.

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

SALES

APPLIANCES

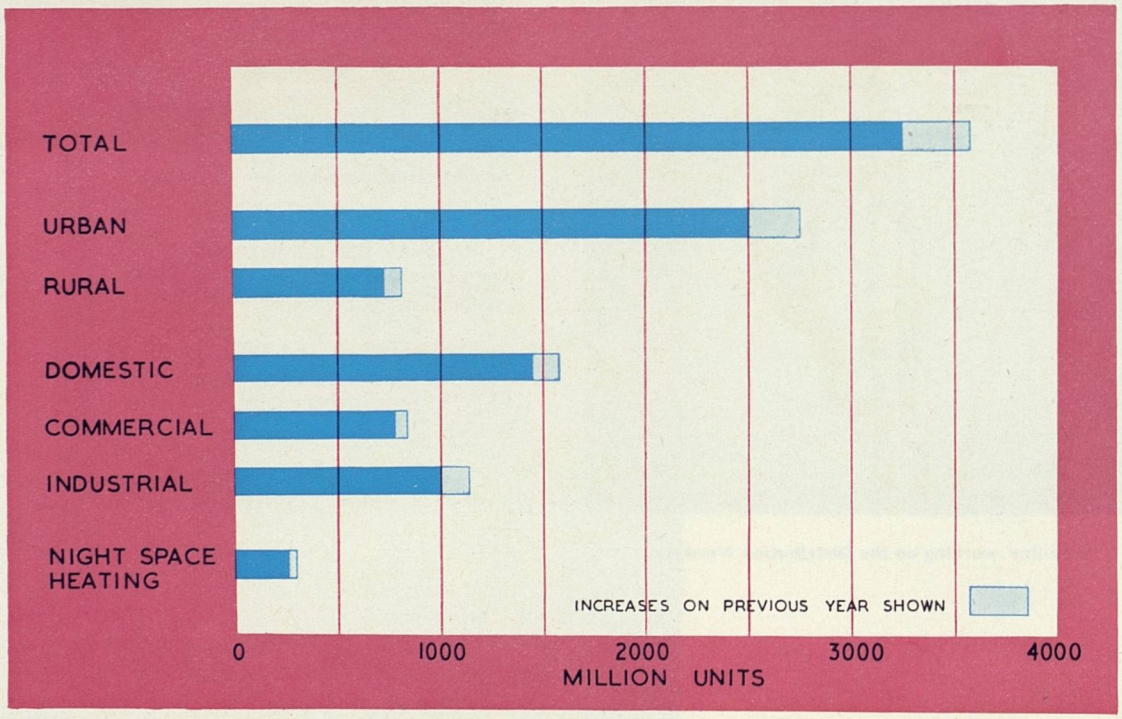
Sales of appliances on the Merchandise Trading Account amounted to £1,763,702, excluding turnover tax, compared with £1,679,155 last year. The gross profit was £314,979 representing a rate of 17·86%. The Merchandise Trading Account, having been charged with overhead expenses and interest on working capital, showed a net loss of £5,586.

INSTALLATIONS

The value of installation contracts completed amounted to £716,924 compared with £635,673 for last year. The gross profit amounted to £142,133 representing a rate of 19·83%. The Installations Trading Account, having been charged with overhead expenses and interest on working capital, showed a net profit of £43,638.

ANALYSIS OF UNITS SOLD

The following diagram illustrates the analysis of units sold



The all-electric kitchen in the new block at Dublin Airport ▶





◀ The Heating Exhibition at the Board's Fleet Street Showrooms.

An all-electric bakery in Dublin ▶



RURAL ELECTRIFICATION

During the year, to safeguard the standard of supply to existing consumers, and to connect 8,075 new rural consumers, it was necessary to spend the sum of £1,929,519. There are in all 792 rural areas in the country. Of these 498 have been re-canvassed, and work has been completed in 417 areas. The result is that 86·8% of all rural premises now have supply. The extension of supply to the remaining premises will necessitate continued expenditure with increasing loss to the Board. For the year ended 31st March, 1968, the loss amounted to £1,682,347.

The total value of materials used was £966,000, of which £840,400 or 87% was obtained from native suppliers. There were no significant changes in prices of materials. The total capital invested in the Scheme at the 31st March, 1968, amounted to £40,838,679, of which £12,509,826 was obtained from the State by way of subsidy.

The number of units sold to rural consumers amounted to 817 millions, an increase of 11·1% on the previous year. The average per farm and domestic consumer was 1,524 units, an increase of 8·4% on the previous year. Thus the steady increase shown in recent years has been maintained. Rural revenue amounted to £8,512,944 which is equivalent to an average price per unit of 2·50d.

The Board continued its sponsorship of educational courses run by the Irish Countrywomen's Association in the Association's headquarters at An Grianan, Co. Louth. A course to assist the development of leaders for Macra na Tuaithe was part of the programme. The Board renewed its membership of the Irish Youth Federation for a further five years as an indication of its desire to be associated with the educational work of Macra na Tuaithe.

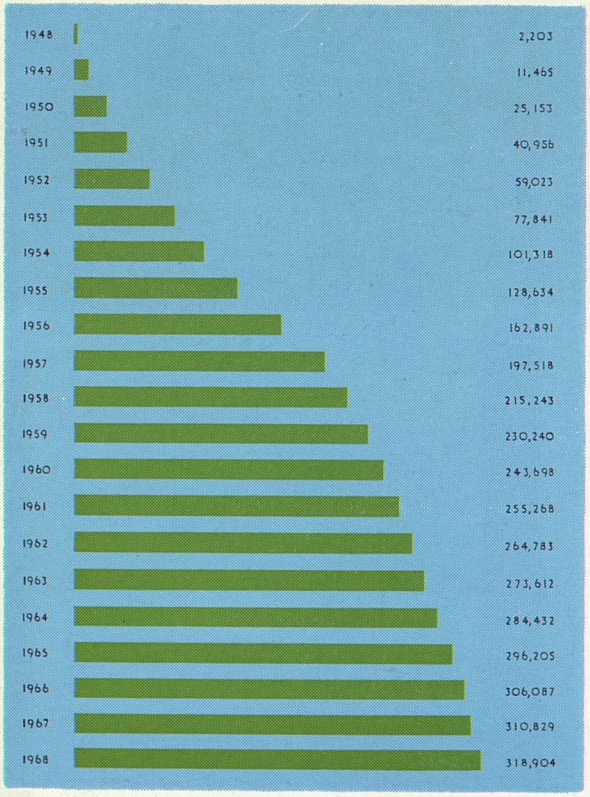
The meetings with Chief Agricultural Officers and the Advisory Staffs of County Committees of Agriculture on the use of electricity for agricultural purposes were continued.

The Board exhibited at the Royal Dublin Society and at Shows at Cork and Limerick as well as participating in the principal agricultural show in each county.

The films "Liquid Assets", dealing with water supply to a farm home, and "Make More Money from Clean Milk" were in constant demand for showing to meetings arranged by voluntary organisations.

The Board wishes to record its gratitude for the help and co-operation it received from various voluntary and statutory organisations in its task of promoting the use of electricity by the rural community, thereby helping in the attainment of higher standards of living and greater productivity in rural areas.

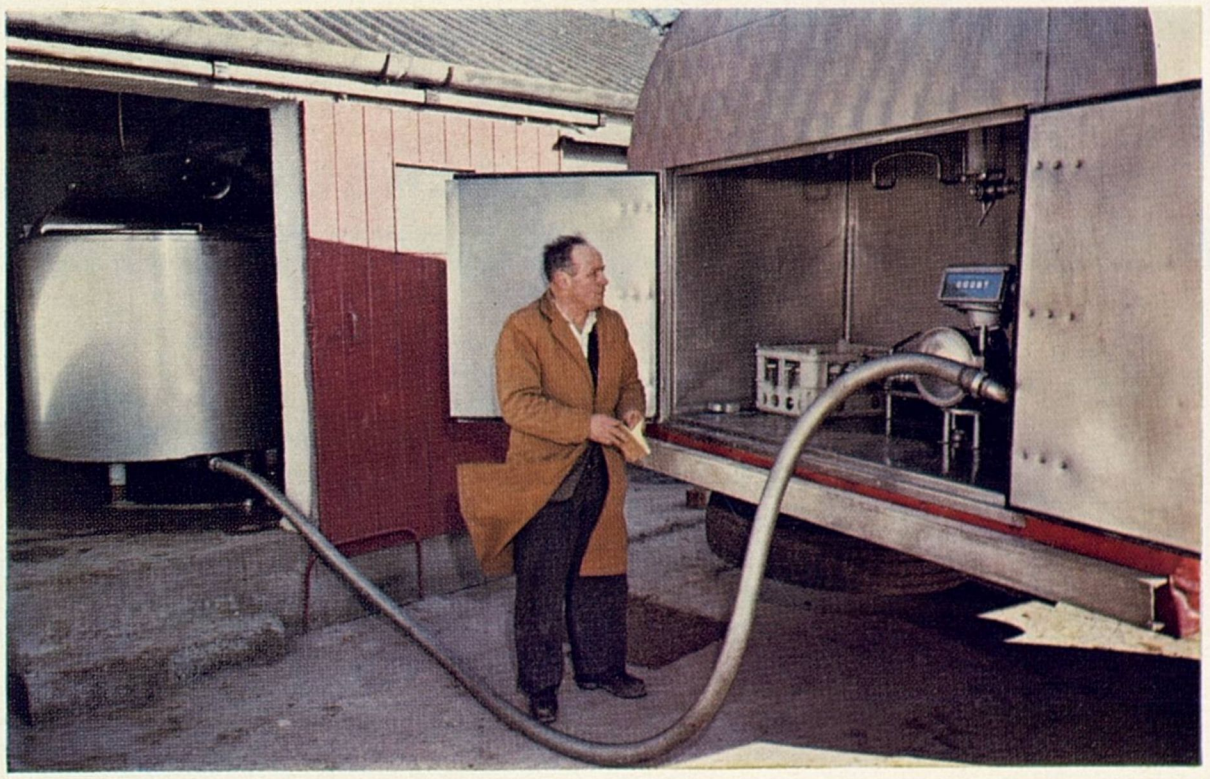
The following diagram illustrates the cumulative total of consumers connected, under the Rural Electrification Scheme, as at 31st March each year from 1948 to 1968.





◀ **Electric handtools have contributed to the development of rural crafts.**

Bulk milk storage has been made possible by electrically operated refrigerated tanks. ▶



PREMISES

The continued expansion of the Board's business demands a premises development programme to provide the facilities necessary for efficient operation in all activities. This programme continued during the year under review.

With the completion and official opening in November, 1967, of the final phase of development, the Board's Central Stores in Lower Erne Street now covers an area of 158,000 sq. ft. and is equipped for mechanical handling of bulk stocks for distribution to the Board's depots throughout the country.

The Lower Fitzwilliam Street section of the Head Office block is scheduled for completion about mid-1969 and work on all aspects of the design and construction is now well advanced. A new premises in Edward Street is planned for the Tralee District Headquarters and at the end of the year the project had developed to the final stages of architectural design and specification. A site was acquired in the Mall, Waterford, for a new District Headquarters and architects were briefed for the initial design work. A new Service Centre was opened in Phibsborough, Dublin, and an existing premises at Moneenageisha, Galway, was redeveloped as an Operations Centre. Extensions to existing premises in Portlaoise were at the preliminary planning stage and work was in progress or projected in seventeen other locations. Preliminary investigations commenced on the re-development of the Board's property in South Lotts Road, Dublin, to provide central workshops and training facilities.

The provision of dwelling houses in adjoining towns for the key personnel of the new generating stations continued. At the year end a total of thirty-four houses had been built to cater for the first phase of development of Great Island and work was in progress on the thirty-four houses required in Listowel and Tarbert. Four additional houses were built at Crossmolina for the Bellacorick Station.

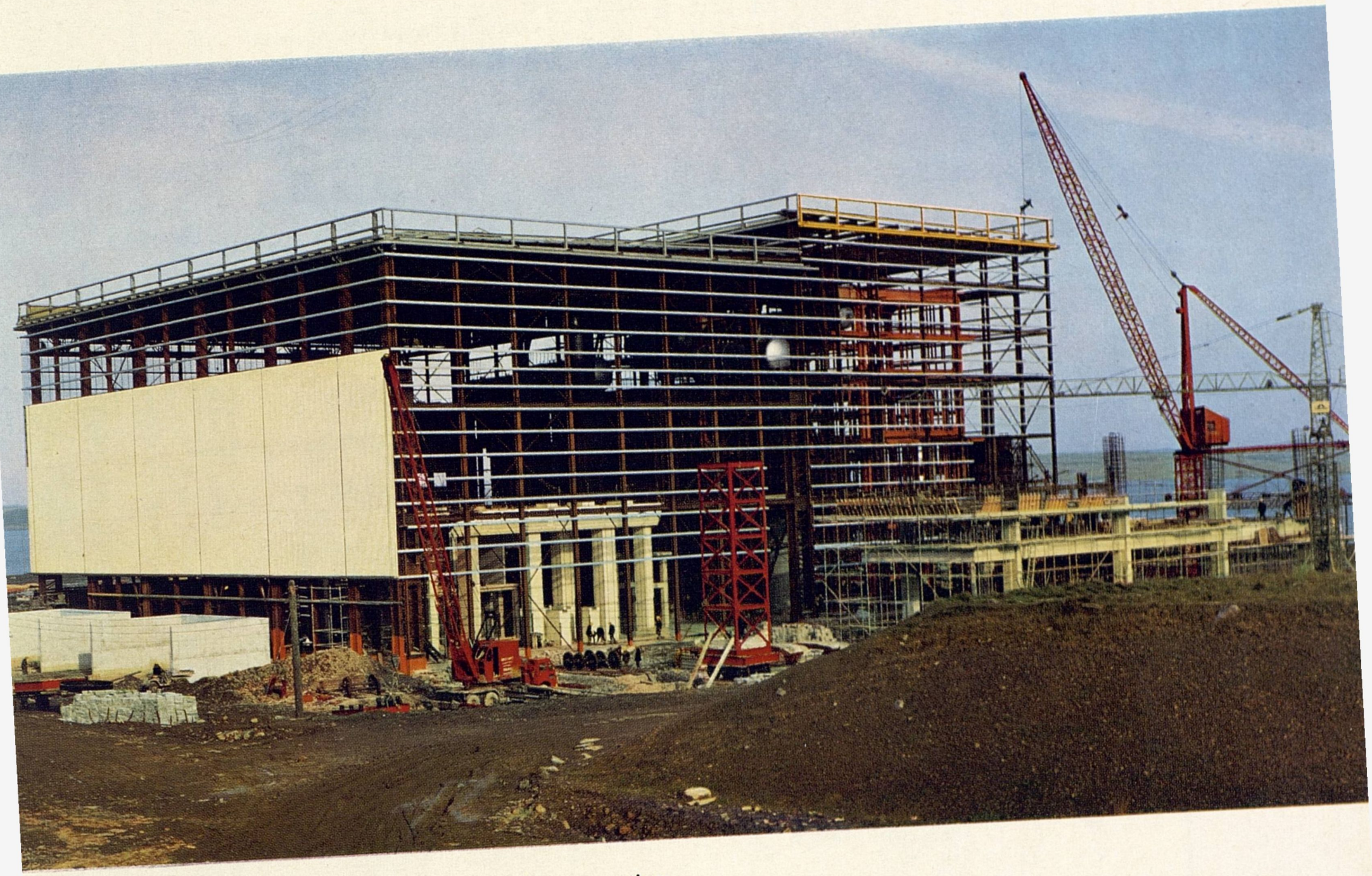


A general view of the loading bay at Central Stores.

SUPERANNUATION SCHEMES AND TRIBUNALS

The number of contributing members in the General Employees' Superannuation Scheme at the end of the year was 2,429 and in the Manual Workers' Superannuation Scheme 3,440.

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



The Tarbert generating station under construction.

ACCOUNTS 1967–1968

No.	
1	Electricity Production Account
2	Electricity (Non-Rural) Revenue Account
3	Electricity (Rural) Revenue Account
4	Profit and Loss Account
5	Preservation and Operation of Fisheries
6	Installations Trading Account
7	Merchandise Trading Account
8	Net Revenue Account
9	Statement of Repayable Capital and Redemption
10	Statement of Capital Reserves
11	Statement of Capital Investment in Fixed Assets
12	Balance Sheet

Electricity Production Account for the Year ended 31st March, 1968

	Fuel	Operating Expenses	Maintenance and Repair	Supervision and Local Administration	Works Cost	Per Unit Sent Out 1966/67		Depreciation and Renewals	Interest and Capital Repayments Allocation	Total	Per Unit Sent Out	1966/67 Total	1966/67 Per Unit Sent Out
GENERATION	£	£	£	£	£	Pence	Pence	£	£	£	Pence	£	Pence
Coal/Oil													
North Wall	185,623	76,106	41,484	13,710	**316,923**	·846	·750	93,000	121,507	**531,430**	**1·419**	**504,731**	**1·293**
Marina	771,677	134,499	128,869	27,134	**1,062,179**	·481	·403	181,000	258,845	**1,502,024**	**·680**	**1,386,224**	**·591**
Ringsend	1,862,669	253,771	223,408	40,476	**2,380,324**	·419	·390	381,000	636,371	**3,397,695**	**·598**	**2,798,978**	**·585**
Arigna	221,730	42,922	20,283	7,129	**292,064**	·967	1.002	30,000	47,105	**369,169**	**1·222**	**378,129**	**1·252**
Great Island	103,066	20,892	11,342	5,539	**140,839**	*	—	32,000	51,760	**224,599**	*	—	—
					4,192,329	·469	·435			**6,024,917**	**·674**	**5,068,062**	**·648**
Sod Peat (Machine)													
Portarlington	496,176	86,447	64,265	13,901	**660,789**	1·318	1·298	53,000	68,138	**781,927**	**1·560**	**708,194**	**1·565**
Allenwood	559,616	96,214	81,198	15,350	**752,378**	1·287	1·244	77,000	100,262	**929,640**	**1·590**	**857,521**	**1·572**
Lanesborough	71,618	31,259	26,510	5,794	**135,181**	1·545	1·106	32,000	52,009	**219,190**	**2·505**	**366,205**	**1·429**
					1,548,348	1·320	1·235			**1,930,757**	**1·646**	**1,931,920**	**1·540**
Milled Peat													
Ferbane	681,586	125,782	104,094	22,780	**934,242**	1·040	1·045	180,000	290,318	**1,404,560**	**1·564**	**1,339,869**	**1·597**
Rhode	679,701	97,340	73,393	19,550	**869,984**	·966	·947	147,000	231,496	**1,248,480**	**1·386**	**1,015,533**	**1·501**
Bellacorick	258,706	80,152	50,742	13,394	**402,994**	1·127	1·139	82,000	130,720	**615,714**	**1·722**	**561,977**	**1·801**
Shannonbridge	396,830	65,607	33,187	12,002	**507,626**	·808	·844	89,000	139,577	**736,203**	**1·172**	**606,513**	**1·333**
Lanesborough	275,888	51,403	23,521	10,110	**360,922**	·821	*	89,000	140,097	**590,019**	**1·342**	**374,810**	*
					3,075,768	·954	·970			**4,594,976**	**1·425**	**3,898,702**	**1·550**
Sod Peat (Hand-won)													
Four 5 MW Stations	125,413	59,518	37,218	6,944	**229,093**	2·455	1·909	44,000	72,529	**345,622**	**3·703**	**331,089**	**2·921**
Stand-by													
Pigeon House	98,367	76,844	47,681	14,318	**237,210**	—	—	57,000	75,271	**369,481**	—	**288,377**	—
TOTAL—FUEL STATIONS	6,788,666	1,298,756	967,195	228,131	**9,282,748**	·686	·661	1,567,000	2,416,005	**13,265,753**	**·981**	**11,518,150**	**·981**
Hydro													
Shannon	—	76,072	96,203	24,123	**196,398**	·128	·117	49,000	229,925	**475,323**	**·311**	**461,984**	**·293**
Erne	—	36,530	60,806	18,375	**115,711**	·097	·085	83,000	335,404	**534,115**	**·446**	**522,472**	**·416**
Liffey	—	24,261	25,349	8,214	**57,824**	·287	·201	24,000	76,145	**157,969**	**·785**	**155,149**	**·566**
Lee	—	20,750	19,706	6,733	**47,189**	·165	·120	52,000	238,034	**337,223**	**1·178**	**326,122**	**·927**
Clady	—	6,911	5,565	1,177	**13,653**	·189	·229	10,000	58,055	**81,708**	**1·134**	**79,524**	**1·373**
TOTAL—HYDRO STATIONS	—	164,524	207,629	58,622	**430,775**	·131	·114	218,000	937,563	**1,586,338**	**·483**	**1,545,251**	**·440**
TOTAL—ALL STATIONS	6,788,666	1,463,280	1,174,824	286,753	**9,713,523**	·578	·535	1,785,000	3,353,568	**14,852,091**	**·884**	**13,063,401**	**·856**
TRANSMISSION	—	71,411	277,275	118,711	**467,397**	—	—	592,000	977,127	**2,036,524**	—	**1,752,212**	—
	6,788,666	1,534,691	1,452,099	405,464	**10,180,920**	—	—	2,377,000	4,330,695				
Electricity purchased in bulk										**9,525**	—	**11,635**	—
General Administration:									£				
Generation									819,486				
Transmission									284,117	**1,103,603**	—	**940,243**	—
Total Cost										**18,001,743**	**1·071**	**15,767,491**	**1·034**
Transferred to Revenue Accounts:									£				
Non-Rural									**13,204,886**			**11,779,679**	
Rural									**4,796,857**			**3,987,812**	
										18,001,743		**15,767,491**	

*Recently Commissioned

See note on Account No. 11

Electricity (Non-Rural) Revenue Account for the Year ended 31st March, 1968

No. 2

	£	£	1966/67 £
Electricity Production Account		13,204,886	*11,779,679*
Distribution Charges:			
Operation and maintenance	1,709,653		
Reserve for depreciation and renewals	1,034,760		
Interest and capital repayments	1,718,733		
Supervision and local administration	1,052,472		
		5,515,618	*5,051,135*
General Administration:			
Salaries and wages	1,294,007		
Travelling expenses	87,543		
Stationery	30,531		
Telephones and postage	31,113		
Lighting and heating	21,685		
Rents and rates	34,570		
Insurance	111,721		
Professional fees	20,491		
Publicity	185,226		
Maintenance of office buildings and equipment	46,837		
Staff training	238,751		
Pensions	157,941		
General assets—interest and capital repayments	249,088		
General assets—depreciation	72,000		
Bad debts	24,438		
Sundry expenses	28,597		
	2,634,539		
Less apportionments charged to:			
Production Account	1,103,603		
Rural Revenue Account	551,661		
Capital Works and other accounts	236,006		
		743,269	*660,597*
Turnover Tax		284,833	*260,681*
Balance carried to Profit and Loss Account		1,636,277	*1,321,070*
		£21,384,883	*£19,073,162*

	£	1966/67 £
Electricity Charges	21,189,762	*18,896,324*
Meter and Other Charges	195,121	*176,838*
	£21,384,883	*£19,073,162*

Electricity (Rural) Revenue Account for the Year ended 31st March, 1968

No. 3

	£	£	1966/67 £
Electricity Production Account		4,796,857	*3,987,812*
Distribution Charges:			
Operation and maintenance	1,130,347		
Reserve for depreciation and renewals	1,313,240		
Interest and capital repayments	1,596,589		
Supervision and local administration	735,834		
		4,776,010	*4,461,586*
General Administration		551,661	*479,980*
Turnover Tax		70,763	*65,170*
		£10,195,291	*£8,994,548*

	£	1966/67 £
Electricity Charges	8,466,231	*7,575,470*
Meter and Other Charges	46,713	*41,623*
Balance carried to Profit and Loss Account	1,682,347	*1,377,455*
	£10,195,291	*£8,994,548*

Profit and Loss Account for the Year ended 31st March, 1968

No. 4

	£	£	1966/67 £
Interest payable to the Minister for Finance	2,628,962		
Interest on E.S.B. Stocks (*less* temporary investment earnings) and on funded loan	2,538,490		
Stock management and transfer charges	33,960		
Other interest	1,359,520		
		6,560,932	*6,178,774*
Reserves:			
Repayment of capital advances from the Minister for Finance	835,043		
Repayment of funded loan	12,093		
Sinking fund provision for redemption of E.S.B. Stocks	1,320,586		
		2,167,722	*1,955,257*
		£8,728,654	*£8,134,031*
Balance transferred from Rural Revenue Account		1,682,347	*1,377,455*
Balance carried to Net Revenue Account		248,875	*252,880*
		£1,931,222	*£1,630,335*

	£	1966/67 £
Interest and Capital Repayments allocated to:		
Production Account	4,330,695	*4,045,081*
Non-Rural Revenue Account	1,718,733	*1,531,413*
Rural Revenue Account	1,596,589	*1,526,402*
Administration	249,088	*228,147*
Fisheries Account	6,126	*6,127*
Installations Account	20,400	*18,600*
Merchandise Sales Account	18,400	*16,700*
Capital Works	788,623	*761,561*
	£8,728,654	*£8,134,031*
Balance transferred from Non-Rural Revenue Account	1,636,277	*1,321,070*
Miscellaneous revenue	89,134	*79,418*
Interest receivable	205,811	*229,847*
	£1,931,222	*£1,630,335*

Preservation and Operation of Fisheries for the Year ended 31st March, 1968

No. 5

	£	1966/67 £
Preservation, operation and other direct costs	54,476	*54,367*
Balance carried down	377	—
	£54,853	*£54,367*
Balance brought down	—	*16,165*
Salaries and sundry expenses	7,226	*9,770*
Fishery rates	3,979	*3,823*
Reserve for depreciation and renewals	3,000	*3,000*
General administrative expenses and interest	4,609	*4,672*
	£18,814	*£37,430*
Balance brought down	18,437	*37,430*
Capital repayments	1,617	*1,555*
	£20,054	*£38,985*

	£	1966/67 £
Sales of fish, letting of fishing rights and miscellaneous income	54,853	*38,202*
Balance carried down	—	*16,165*
	£54,853	*£54,367*
Balance brought down	377	—
Balance carried down	18,437	*37,430*
	£18,814	*£37,430*
Balance carried to Net Revenue Account	20,054	*38,985*
	£20,054	*£38,985*

Installations Trading Account for the Year ended 31st March, 1968

No. 6

	£	1966/67 £		£	1966/67 £
Cost value of work for which credit had not been taken at 31st March, 1967		238,868	197,375	Credit taken for contracts completed and charged	716,924	635,673
Cost of installation work carried out during the year		620,392	543,522	Cost value of work for which credit has not yet been taken	284,469	238,868
Gross profit carried down		142,133	133,644			
		£1,001,393	£874,541		£1,001,393	£874,541
	£					
Salaries, wages and commission	49,580			Gross profit brought down	142,133	133,644
Travelling expenses	5,270					
Sundry expenses	7,018					
General administrative expenses and interest, as apportioned	36,627					
		98,495	92,377			
Balance carried to Net Revenue Account		43,638	41,267			
		£142,133	£133,644		£142,133	£133,644

Merchandise Trading Account for the Year ended 31st March, 1968

No. 7

	£	1966/67 £		£	£	1966/67 £
Cost of goods sold		1,380,812	1,292,150	Sales	1,804,875		
Direct costs in connection with sales		67,911	57,626	*Less* Turnover Tax	41,173		
Gross profit carried down		314,979	329,379			1,763,702	1,679,155
		£1,763,702	£1,679,155			£1,763,702	£1,679,155
	£						
Salaries, wages and commission	162,792			Gross profit brought down		314,979	329,379
Travelling expenses	18,800			Balance carried to Net Revenue Account		5,586	—
Publicity	27,232						
Rents, rates and maintenance of property	19,894						
Sundry expenses	18,257						
General administrative expenses and interest, as apportioned	73,590						
		320,565	313,933				
Balance carried to Net Revenue Account		—	15,446				
		£320,565	£329,379			£320,565	£329,379

Net Revenue Account for the Year ended 31st March, 1968

	£	£		£
Fisheries deficit	20,054		Balance transferred from Profit and Loss Account	248,875
Merchandise trading deficit	5,586			
		25,640	Installations trading profit	43,638
Balance carried down		266,873		
		£292,513		£292,513
			Balance brought down	266,873
Transfer to reserve for renewals, of credits (per contra) as additional provision for the renewal of plant		397,443	Balance brought forward from last year's account	53,713
E.S.B. Stock Issue expenses:	£		Credits arising consequent on the retirement of assets and the sale of scrapped material	397,443
Flotation expenses	80,424			
Discount on issue	140,000			
		220,424		
Public Liability Reserve: Recoupment of reserve for amount utilised in year (£3,803) and increase of reserve to £50,000		23,803		
Balance carried forward		76,359		
		£718,029		£718,029

Statement of Repayable Capital and Redemption thereof to the 31st March, 1968

	Total Receipts to 31st March 1968	Redeemed			Balance Outstanding 31st March 1968
		Total to 31st March 1967	Redeemed during Year	Total to 31st March 1968	
	£	£	£	£	£
Minister for Finance:					
Advances under the Electricity (Supply) Acts and the Shannon Fisheries Act, 1935	**68,450,236**	10,000,979	835,043	10,836,022	**57,614,214**
Electricity Supply Board Stocks:					
5% redeemable 1966–1975	**10,000,000**	2,821,260	130,785	2,952,045	**7,047,955**
6% redeemable 1968–1978	**5,000,000**	703,533	100,135	803,668	**4,196,332**
6% redeemable 1982–1987	**12,000,000**	856,340	252,361	1,108,701	**10,891,299**
6% redeemable 1984–1989	**16,500,000**	1,020,870	434,201	1,455,071	**15,044,929**
7% redeemable 1986–1991	**13,000,000**	96,580	215,900	312,480	**12,687,520**
7¼% redeemable 1988–1993	**6,367,319***	—	—	—	**6,367,319**
Funded Loans and Loan Stocks:					
Local Authority Undertakings	**756,021**	756,021	—	756,021	—
New Ireland Assurance Co. Ltd.	**500,000**	50,817	12,093	62,910	**437,090**
	£132,573,576	£16,306,400	£1,980,518	£18,286,918	**£114,286,658**

*£7,000,000 Stock issued. Further calls due on 17th April and 15th May, 1968.

Statement of Capital Reserves at 31st March, 1968

No. 10

	£	£	1966/67 £
Non-repayable contributions from Minister for Finance under Electricity (Supply) Acts towards capital cost of supplying rural areas	12,509,826		
Other non-repayable contributions for capital works	2,637,541		
		15,147,367	*13,662,447*
Repaid Capital, less intangible assets written off		**16,291,790**	*14,366,846*
Provision for depreciation, renewal and retirement of physical assets, together with proceeds of sale of assets, less physical assets retired		**60,196,284**	*54,748,998*
Total Capital Reserves		**£91,635,441**	*£82,778,291*

Statement of Capital Investment in Fixed Assets at 31st March, 1968

No. 11

	Total at 31st March, 1967, less retirements	Expenditure less retirements during year (a) and revision of classifications (b)	Total at 31st March, 1968, less retirements
	£	£	£
Generation	66,979,038	6,810,646 (a) (–) 73,466 (b)	**73,716,218**
Transmission	18,224,484	2,401,094 (a) 73,466 (b)	**20,699,044**
Distribution	73,084,216	5,128,599	**78,212,815**
General	4,575,887	334,929	**4,910,816**
Fisheries	112,709	1,057Cr.	**111,652**
	162,976,334	£14,674,211	**177,650,545**
Capital Works in Progress, including payments on account to contractors and others	12,867,915		**12,105,689**
Total Capital Investment in Fixed Assets	£175,844,249		**£189,756,234**

Note:
The revision of classifications refers to the transfer of certain plant and equipment from Generation to Transmission. The effect on capital charges is reflected in Account No. 1.

Balance Sheet as at 31st March, 1968

Liabilities and Reserves		31/3/67
	£	£
Repayable Capital as per Statement No. 9	114,286,658	*108,815,240*
Capital Reserves as per Statement No. 10	91,635,441	*82,778,291*
	205,922,099	*191,593,531*
Loans under the Electricity Supply Board (Superannuation) Act, 1942	89,163	*14,217*
Short-Term Loan	1,429,490	*2,144,235*
Sundry Creditors and Provisions	7,395,749	*5,729,835*
Electricity Supply Board Stock Sinking Funds (including interest due but unpaid)	1,262,872	*920,392*
Reserves:	£	
Contingencies reserve	1,750,000	
Plant, Self-Insurance — special risks	500,000	
Others	75,000	
	2,325,000	*2,349,604*
Surplus: per Net Revenue Account	76,359	*53,713*
	£218,500,732	*£202,805,527*

Note:
At 31st March, 1968, contractual capital commitments amounted to approximately £18,000,000.

Signed: T. Murray, *Chairman*

J. G. Gargan, *Secretary*

Assets		31/3/67
	£	£
Fixed Assets as per Statement No. 11	189,756,234	*175,844,249*
Electricity Supply Board Stocks (nominal £2,326,498) at cost, held by the Munster and Leinster Bank Nominees Ltd., as depositaries of the Board	2,246,069	*2,313,118*
Sinking Fund Investments (nominal £1,265,319, market value £1,090,811) at cost	1,257,369	*907,369*
Stock (at average cost), **Tools and Working Equipment** (at depreciated cost) on hand and in transit	6,583,406	*7,057,194*
Cost Value of Installation and Other Repayable Work in Progress	411,674	*351,121*
Sundry Debtors, advances for goods not yet delivered, accrued but unbilled revenue and hire purchase debt, less provision for bad and doubtful debts.	11,762,099	*10,436,213*
Temporary Cash Investment	6,000,000	*5,500,000*
Cash in Hand and with Banks	483,881	*396,263*
	£218,500,732	*£202,805,527*

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 which are in agreement with the books of account.

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 the previous year. 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.

In our opinion proper books of account have been kept and proper returns received from offices not visited by us. We have obtained all the information and explanations which we considered necessary for our audit.

In our opinion the foregoing Accounts and the Balance Sheet, give respectively a true and fair view of the outcome of the revenue operations of the Board for the year ended 31st March, 1968, and of the state of the Board's affairs as at that date.

KENNEDY, CROWLEY & CO.
CHARTERED ACCOUNTANTS.

HAINAULT HOUSE,
69–71 ST. STEPHEN'S GREEN,
DUBLIN 2.
1ST JULY, 1968

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

7 Particulars of generating plant

8 Performance of generating plant

9 Typical daily generation load curves

10 Transmission and distribution systems in commission at 31st March, 1968

11 Progress of the rural electrification scheme

12 Weekly generation (inside back cover)

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

Appendix 1

Areas and Towns supplied	Approximate population	No. of consumers at 31st March		Motive power Units sold year ended 31st March	
	thousands	1968	1967	1968 millions	1967 millions
ATHLONE	**189·4**	**43,817**	**43,026**	**36·9**	**32·6**
Town	51·0	12,079	12,118	26·7	24·7
Rural	138·4	31,738	30,908	10·2	7·9
CORK	**317·1**	**83,577**	**81,885**	**175·5**	**155·0**
Town	178·4	49,968	48,927	154·6	136·7
Rural	138·7	33,609	32,958	20·9	18·3
DUBLIN No. 1	**488·2**	**135,480**	**135,381**	**204·5**	**189·1**
Town	488·2	135,480	135,381	204·5	189·1
DUBLIN No. 2	**384·2**	**102,299**	**95,747**	**197·7**	**155·0**
Town	300·3	83,243	77,369	167·4	128·9
Rural	83·9	19,056	18,378	30·3	26·1
DUNDALK	**222·8**	**57,858**	**56,570**	**132·7**	**122·2**
Town	78·3	21,375	20,873	100·2	93·2
Rural	144·5	36,483	35,697	32·5	29·1
GALWAY	**168·4**	**40,933**	**39,905**	**48·2**	**42·7**
Town	49·5	12,663	12,248	41·1	35·8
Rural	118·9	28,270	27,657	7·1	6·9
LIMERICK	**282·8**	**69,552**	**67,955**	**153·8**	**127·7**
Town	103·3	28,315	27,452	126·8	105·9
Rural	179·5	41,237	40,503	27·0	21·8
PORTLAOISE	**210·7**	**50,423**	**49,167**	**82·2**	**75·8**
Town	78·7	20,067	19,548	66·5	61·8
Rural	132·0	30,356	29,619	15·7	14·0
SLIGO	**251·1**	**67,970**	**65,839**	**24·9**	**22·6**
Town	46·7	13,027	12,814	11·3	10·7
Rural	204·4	54,943	53,025	13·6	11·9
TRALEE	**151·5**	**36,408**	**35,763**	**22·9**	**18·9**
Town	29·9	7,976	7,775	8·5	7·3
Rural	121·6	28,432	27,988	14·4	11·6
WATERFORD	**217·8**	**57,113**	**55,323**	**149·4**	**139·7**
Town	100·1	27,494	26,608	127·5	119·1
Rural	117·7	29,619	28,715	21·9	20·6
GROSS TOTALS	**2,884·0**	**745,430**	**726,561**	**1,228·7**	**1,081·3**
TOWN	1,504·4	411,687	401,113	1,035·1	913·2
RURAL	1,379·6	333,743	325,448	193·6	168·1

Note: Town populations from 1966 census and rural populations from E.S.B. domestic consumers survey 1966.

Appendix 2

GROWTH OF ELECTRICITY SALES AND NUMBER OF CONSUMERS

The following table shows, quinquennially from 1930 to 1955 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	60·9	43·2	478	2·66	48,606
1935	206·1	157·0	1,258	1·92	103,037
1940	407·0	318·6	1,946	1·47	172,545
1945	406·3	319·0	2,458	1·85	228,008
1950	784·8	626·2	4,774	1·83	310,639
1955	1,461·7	1,192·2	9,522	1·92	461,901
1956	1,573·1	1,306·6	10,465	1·92	509,546
1957	1,647·7	1,352·6	11,555	2·05	547,910
1958	1,774·8	1,424·6	12,903	2·17	570,345
1959	1,898·2	1,549·4	13,784	2·14	590,921
1960	2,096·0	1,692·2	14,724	2·09	610,946
1961	2,262·3	1,863·6	16,263	2·09	628,241
1962	2,453·0	2,005·1	17,731	2·12	642,753
1963	2,714·9	2,238·5	19,445	2·08	659,932
1964	2,900·8	2,375·9	20,383	2·06	678,054
1965	3,240·2	2,682·6	22,488	2·01	697,491
1966	3,546·2	2,953·3	24,077	1·96	716,113
1967	3,851·0	3,238·1	26,690	1·98	726,561
1968	4,246·4	3,570·1	29,898	2·01	745,430

ANALYSIS OF UNITS SOLD

Appendix 3

Class of Supply	Year ended 31st March, 1968 (millions)	Year ended 31st March, 1967 (millions)	Increase (millions)	Percentage increase
DOMESTIC				
General supply	1,459·0	1,351·5	107·5	8·0
Night space heating	122·2	100·3	21·9	21·8
	1,581·2	1,451·8	129·4	8·9
COMMERCIAL				
Lighting	142·5	134·1	8·4	6·3
Heating, cooking and water heating	255·5	240·3	15·2	6·3
Motive power	144·3	134·2	10·1	7·5
Night space heating	163·3	144·8	18·5	12·8
Public lighting	41·1	39·3	1·8	4·5
Miscellaneous	94·9	84·2	10·7	12·7
	841·6	776·9	64·7	8·3
INDUSTRIAL				
Maximum demand	976·7	840·5	136·2	16·2
Lighting	14·1	14·4	−0·3	−2·0
Heating, cooking and water heating	39·8	39·0	0·8	2·1
Motive power	107·3	106·2	1·1	1·0
Night space heating	9·4	9·3	0·1	1·5
	1,147·3	1,009·4	137·9	13·7
TOTAL	3,570·1	3,238·1	332·0	10·3

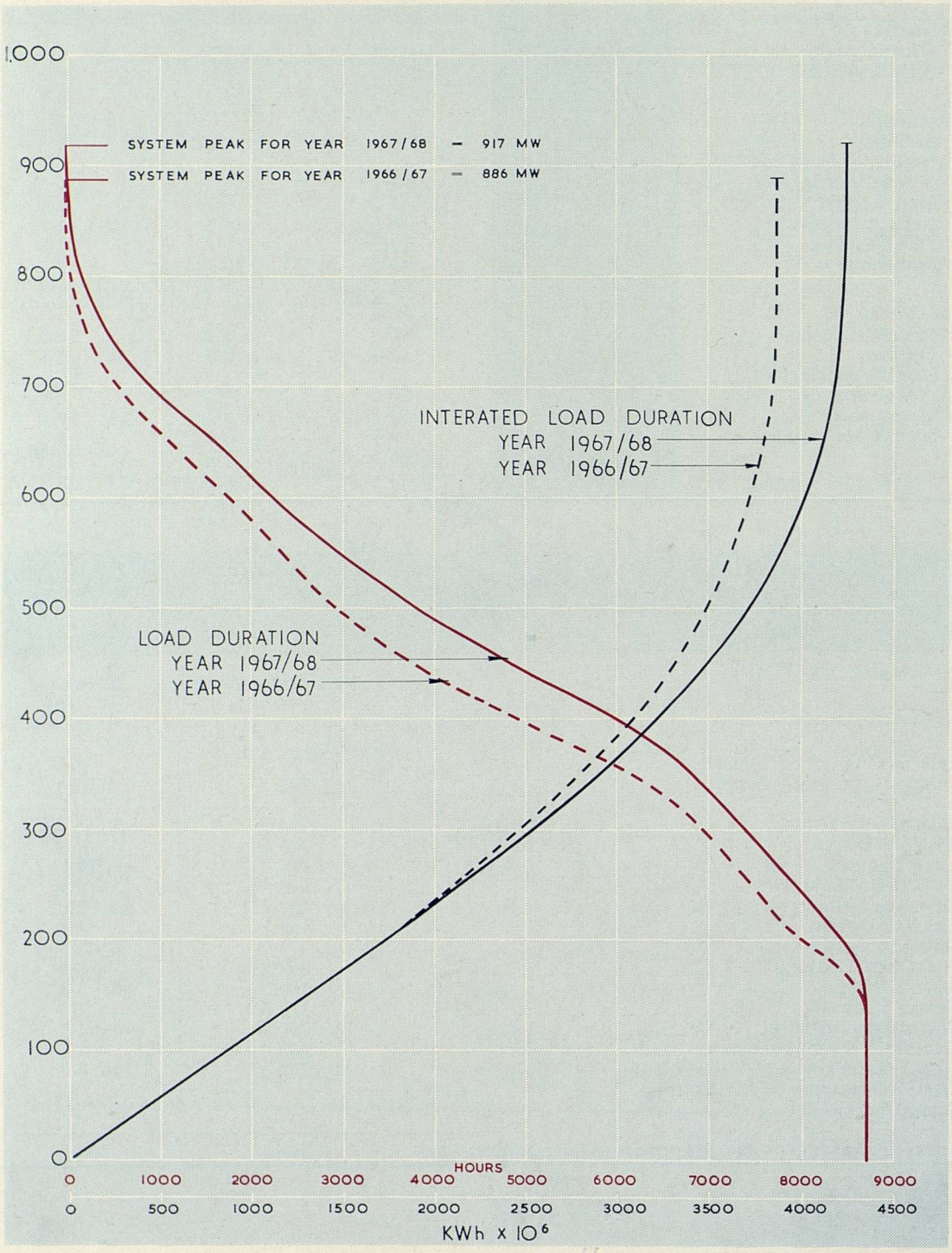
DISTRIBUTION AT HIGH TENSION OF UNITS GENERATED FOR YEAR 1967/68

Appendix 4

District		High tension units millions	Percentage of total
DUBLIN CITY 5 kV Supply		91·0	2·1
DUBLIN CITY 10 kV Supply		703·8	16·6
DUBLIN CITY TOTAL		794·8	18·7
ATHLONE DISTRICT		141·4	3·3
CORK DISTRICT		458·7	10·8
DUBLIN NO. 2 DISTRICT		673·5	15·9
DUNDALK DISTRICT		297·1	7·0
GALWAY DISTRICT		160·8	3·8
LIMERICK DISTRICT		375·2	8·8
PORTLAOISE DISTRICT		207·8	4·9
SLIGO DISTRICT		160·0	3·8
TRALEE DISTRICT		113·6	2·7
WATERFORD DISTRICT		327·9	7·7
Generating Station Auxiliaries		207·4	4·9
High Tension Losses (220/110/38 kV)		328·2	7·7
TOTAL GENERATION OF ALL STATIONS	4,241·6		
Supply Purchased	4·8		
TOTAL GENERATION OF ALL STATIONS PLUS SUPPLY PURCHASED		4,246·4	100·0

Appendix 5

GENERATION LOAD DURATION
AND INTEGRATED LOAD DURATION CURVES
Year ended 31st March, 1968



GENERATION STATISTICS FOR THE YEAR 1967/68

Appendix 6

Station	Year 1967/68			Year 1966/67
	Generated million units	Station use million units	Sent out million units	Sent out million units
Ardnacrusha	369·7	3·0	366·7	378·3
Cliff	84·7	0·7	84·0	88·2
Cathaleen's Fall	205·3	2·1	203·2	212·9
Carrigadrohid	18·5	0·3	18·2	22·3
Inniscarra	51·2	0·7	50·5	62·1
Pollaphuca	23·7	0·9	22·8	32·7
Golden Falls	9·2	0·2	9·0	12·4
Leixlip	16·7	0·2	16·5	20·7
Clady	17·4	0·1	17·3	13·9
Ferbane	234·2	18·7	215·5	201·3
Rhode	232·7	16·5	216·2	162·4
Bellacorick	93·1	7·3	85·8	74·9
Shannonbridge	160·9	10·1	150·8	109·2
Lanesborough	135·2	8·7	126·5	117·5
Portarlington	129·0	8·7	120·3	108·6
Allenwood	149·0	8·7	140·3	130·9
Cahirciveen	5·8	0·7	5·1	4·3
Miltown-Malbay	3·0	0·5	2·5	1·9
Screeb	2·0	0·3	1·7	2·6
Gweedore	14·2	1·1	13·1	18·4
Pigeon House	27·8	4·4	23·4	7·2
North Wall	97·8	7·9	89·9	93·7
Ringsend	1,435·0	71·0	1,364·0	1,148·8
Marina	554·9	25·1	529·8	563·0
Arigna	77·3	4·8	72·5	72·5
Great Island	93·3	4·7	88·6	—
Purchased	4·8	—	4·8	5·6
Totals	4,246·4	207·4	4,039·0	3,666·3
Maximum daily generation, million units			16·8	15·4
Maximum load generated in kW			917,000	886,000

PARTICULARS OF GENERATING PLANT

Hydro Stations

Appendix 7

Station	River	Catchment area sq. kms.	Average available head metres	Average annual generation million units	Generating sets No.	Generating sets Capacity each kW	Type of turbine
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

Pumped Storage Station

Station	Location	Mean gross head metres	Annual Operating Time	Average annual generation million units	Generating Sets No.	Generating Sets Capacity each kW	Type of Units
TURLOUGH HILL (under construction)	Upper reservoir Turlough Hill, lower reservoir Lough Nahanagan Co. Wicklow.	287	1,300 hours approx.	325	4	70,000 **280,000**	Reversible Pump-Turbines

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	3	16,000 **48,000**	400	800	Estuarine	4 3	40 165	Oil-fired	Oil
Portarlington	Co. Laoise	3	12,500 **37,500**	400	800	Tower	3	150	Mech. Stoker	Sod Peat
Allenwood	Co. Kildare	2	20,000 **40,000**	400	800	Tower	4	150	Mech. Stoker	Sod Peat
Marina	Cork City	2 1	30,000 60,000 **120,000**	600 1,150	850 950	Tidal River	3 1	200 550	P.F. and Oil-fired Oil-fired	Coal or Oil Oil
Ringsend	Dublin City	3 3	30,000 60,000 **270,000**	600 1,150	850 950	Estuarine	4 3	200 550	P.F. and Oil-fired Oil-fired	Coal or Oil Oil
Ferbane	Co. Offaly	3 1	20,000 30,000 **90,000**	400 900	800 950	Tower	3 1	220 285	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

Steam Stations

Appendix 7 cont.

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
Arigna	Co. Roscommon	1	**15,000**	400	800	Lake	1	165	P.F.	Coal
Lanesborough	Co. Longford	1 1	20,000 40,000 **60,000**	400 900	800 950	River	1 1	220 380	Mech. Stoker P.F.	Sod Peat Milled Peat
Rhode	Co. Offaly	2 1	20,000 40,000 **80,000**	650 900	850 950	Tower	2 1	210 380	P.F.	Milled Peat
Bellacorick	Co. Mayo	2	20,000 **40,000**	650	850	Tower	2	210	P.F.	Milled Peat
Shannonbridge	Co. Offaly	1	**40,000**	900	950	River	1	380	P.F.	Milled Peat
Great Island	Co. Wexford	1	60,000	1,150	950	Estuarine	1	520	Oil-fired	Oil
Great Island (under construction)		1 1	60,000 120,000 **180,000**	1,150 1,800	950 995/995		1 1	520 835		
Tarbert (under construction)	Co. Kerry	2	60,000 **120,000**	1,150	950	Estuarine	2	520	Oil-fired	Oil
Pigeon House "B" (under construction)	Dublin City	2	120,000	1,800	995/995	Estuarine	2	835	Oil-fired	Oil
		2	14,000 **268,000**	Gas turbine sets						

PERFORMANCE OF GENERATING PLANT

Year ended 31st March, 1968

Appendix 8

Hydro-electric 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
		millimetres	m^3/sec	m^3/sec	%	metres	m^3	kW	millions	%	pence
ARDNACRUSHA	Shannon	1,058	196·2	182·7	97·8	28·2	15·5	85,000	366·7	49·8	0·311
POLLAPHUCA	Liffey	921	9·1	7·8	100·0	48·5	10·3	30,000	22·8	9·0	0·785
GOLDEN FALLS		921	9·1	8·2	100·0	16·6	28·1	4,000	9·0	26·3	
LEIXLIP		807	15·8	13·9	98·9	17·5	26·1	4,000	16·5	47·8	
CLIFF	Erne	1,126	99·3	95·2	100·0	12·3	33·4	20,000	84·0	48·5	0·446
CATHALEEN'S FALL				97·6	98·2	29·7	15·0	45,000	203·2	52·3	
CARRIGADROHID	Lee	981	17·6	17·0	100·0	14·0	29·6	8,000	18·2	26·5	1·178
INNISCARRA		949	21·6	21·2	100·0	33·3	13·1	19,000	50·5	30·9	
CLADY	Clady	1,897	4·8	4·2	98·9	—	7·5	4,000	17·3	49·8	1·134

The percentage utilisation of the total discharge is exclusive of river compensation water, and of the draw-off from the Rivers Liffey and Lee for water supply to local authorities as listed herewith:—

Dublin Corporation draw-off from Pollaphuca Reservoir which averaged 19·6 million gals. per day (1·03 m^3/sec)
Dublin Co. Council draw-off from Leixlip Reservoir which averaged 3·5 million gallons per day (0·18 m^3/sec)
Cork Co. Council draw-off from Inniscarra Reservoir which commenced on 19th October 1967 and averaged 0·065 million gallons per day (0·003 m^3/sec)

Shannon and Erne rainfall represent average of catchment area.

* *Based on discharge through sets*

PERFORMANCE OF GENERATING PLANT

Year ended 31st March, 1968

Steam Stations

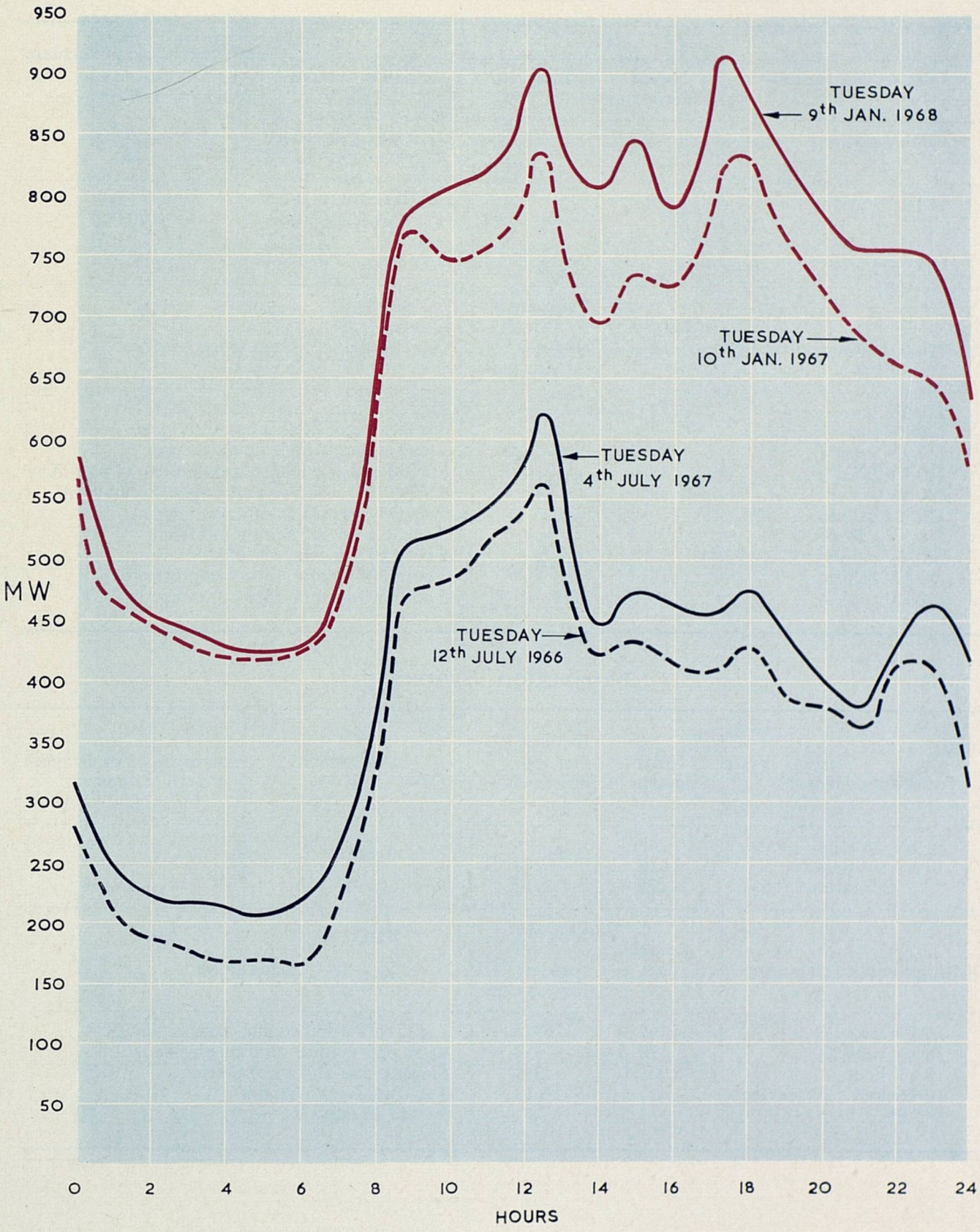
Station	Location	Installed capacity kW	Units sent out millions	Plant load factor %	Fuel type	Total fuel used tons thousands	Total fuel cost £	Fuel cost per unit sent out pence	Total cost per unit sent out pence
Pigeon House (Stand-by Station)	Dublin City	90,000	23·4	—	Coal Oil	12·0 9·6	—	—	—
North Wall	Dublin City	48,000	89·9	23·3	Oil	34·2	185,623	0·496	1·419
Portarlington	Co. Laoise	37,500	120·3	39·4	Sod Peat	148·0	496,176	0·990	1·560
Allenwood	Co. Kildare	40,000	140·3	42·7	Sod Peat	164·5	559,616	0·957	1·590
Marina	Cork City	120,000	529·8	52·9	Oil	145·4	771,677	0·349	0·680
Ringsend	Dublin City	270,000	1,364·0	60·8	Oil	367·7	1,862,669	0·328	0·598
Ferbane	Co. Offaly	90,000	215·5	29·8	Milled Peat Oil	387·4 4·3	681,586	0·759	1·564
Four 5 MW Stations	West Coast	20,000	22·4	14·3	Sod Peat	42·0	125,413	1·344	3·703
Lanesborough	Co. Longford	20,000 40,000	21·0 105·5	12·7 32·4	Sod Peat Milled Peat Oil	21·0 152·6 3·7	71,618 275,888	0·818 0·628	2·505 1·342
Arigna	Co. Roscommon	15,000	72·5	59·0	Coal Oil	44·5 0·3	221,730	0·734	1·222
Rhode	Co. Offaly	80,000	216·2	33·3	Milled Peat Oil	386·1 4·2	679,701	0·755	1·386
Bellacorick	Co. Mayo	40,000	85·8	26·7	Milled Peat Oil	154·6 2·3	258,706	0·724	1·722
Shannonbridge	Co. Offaly	40,000	150·8	46·1	Milled Peat Oil	234·6 2·1	396,830	0·632	1·172
Great Island	Co. Wexford	120,000	88·6	—*	Oil	23·0	—	—	—*

Milled and sod peat tons are for equivalent standard fuel of 55% and 30% moisture content respectively.

* *Recently commissioned*

TYPICAL DAILY GENERATION LOAD CURVES

Appendix 9



Appendix 10

TRANSMISSION AND DISTRIBUTION SYSTEMS IN COMMISSION
At 31st March, 1968

Transmission System

Transformer stations	No. in commission	Increase for year	Total capacity in kVA	Increase (+) or decrease (—) in capacity for year in kVA
220 kV stations	3	1	378,000 at 220/110 kV 47,000 at 220/ 10 kV	+189,000 Nil
110 kV stations	34	2	1,266,000 at 110/38 kV 155,000 at 110/10 kV 60,000 at 110/ 6 kV 73,400 at 38/10 kV	+145,000 +140,000 + 20,000 Nil

Transmission lines and cables	Length kms.	Increase (+) or decrease (—) for year kms.	Description
220 kV lines	277·5	—	3×425 sq.mm. single circuit SCA
110 kV lines	7·4	—	6×95 sq.mm. double circuit copper
110 kV lines	761·5	−16·0	3×95 sq.mm. single circuit copper
110 kV lines	83·4	+16·9	6×200 and 6× 300 sq.mm. double circuit SCA
110 kV lines	2,139·6	+143·7	3×200 to 3×425 sq.mm. single circuit SCA
110 kV cables	9·8	—	3 single core 325 sq.mm. oil filled
110 kV cables	1·0	+1·0	3 single core 400 sq.mm. oil filled
110 kV cables	3·0	—	3 core 185 sq.mm. oil filled
110 kV cables	13·4	—	3 core 300 sq.mm. pipe compression
110 kV cables	12·0	—	3 core 500 sq.mm. pipe compression

Distribution System

Transformer stations	No. in commission	Increase (+) or decrease (—) for year	Total capacity in kVA	Increase (+) or decrease (—) in capacity for year in kVA
38 kV stations	243	+8	1,384,500	+115,800
10 kV substations	5,626	+240	1,144,839	+90,069
5 kV substations	75	−12	56,703	−14,410

Distribution lines and cables	Length kms.	Increase (+) or decrease (—) for year km.	Description
38 kV lines	4,165·9	+69·3	3×35 to 3×300 sq.mm. copper and SCA
38 kV cables	170·6	+ 3·3	95 to 625 sq.mm. solid or oil filled
10 kV lines	5,905·0	+53·9	Single phase and three phase.
10 kV and 5 kV cables	1,416·1	+86·3	3×10 to 3×185 sq.mm.
3·3 kV cables	3·7	—	3×185 sq.mm.

PROGRESS OF THE RURAL ELECTRIFICATION SCHEME

Appendix 11

Period	Poles erected	Line strung kms.	Consumers connected	Areas completed
Year ended 31st March				
1947	1,300	63	Nil	Nil
1948	15,986	1,160	2,203	7
1949	32,002	2,783	9,262	30
1950	40,972	3,352	13,688	45
1951	42,423	3,591	15,803	49
1952	46,008	3,967	18,067	49
1953	48,059	4,345	18,818	49
1954	68,382	6,065	23,477	60
1955	91,391	7,998	27,316	75
1956	112,616	9,994	34,257	99
1957	91,794	8,277	34,627	80
1958	61,696	5,371	17,725	60
1959	50,113	4,345	14,997	45
1960	47,982	4,171	13,458	40
1961	43,757	3,738	11,570	40
1962	30,155	2,651	9,515	26
1963	22,062	1,962	8,829	19
1964	29,616	2,497	10,820	12
1965	27,737	2,414	11,773	7
1966	21,219	1,820	9,882	—
1967	11,034	915	4,742	—
1968	16,665	1,284	8,075	—
TOTALS	952,969	82,763	318,904	792

TO THE MINISTER FOR AGRICULTURE AND FISHERIES

Report on Fisheries

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 the Preservation and Operation of Fisheries Account (No. 5) for the year ended 31st March, 1968.

Development

Steady progress was maintained with the programme for the rehabilitation of the salmon fisheries of the River Shannon and the beneficial effects were evident from the very good run of salmon numbering 56,000. Of these 32,000 were taken by the estuary net fishermen, 9,500 in the E.S.B. traps and 15,000 were counted at Thomond Weir moving upstream for angling and for propagation. Nevertheless, the continued presence of the salmon disease, ulcerative dermal necrosis, represents a real threat to the progress of the development scheme.

The catch of silver eels in the Shannon also rose and plans for the extensive development of these fisheries were well advanced. Negotiations were progressing for the payment of compensation to certain eel fishermen in the Midlands.

A scheme for the development of the trout fishing in Pollaphuca Reservoir on the River Liffey has been started with the co-operation of the local angling clubs.

Salmon Disease

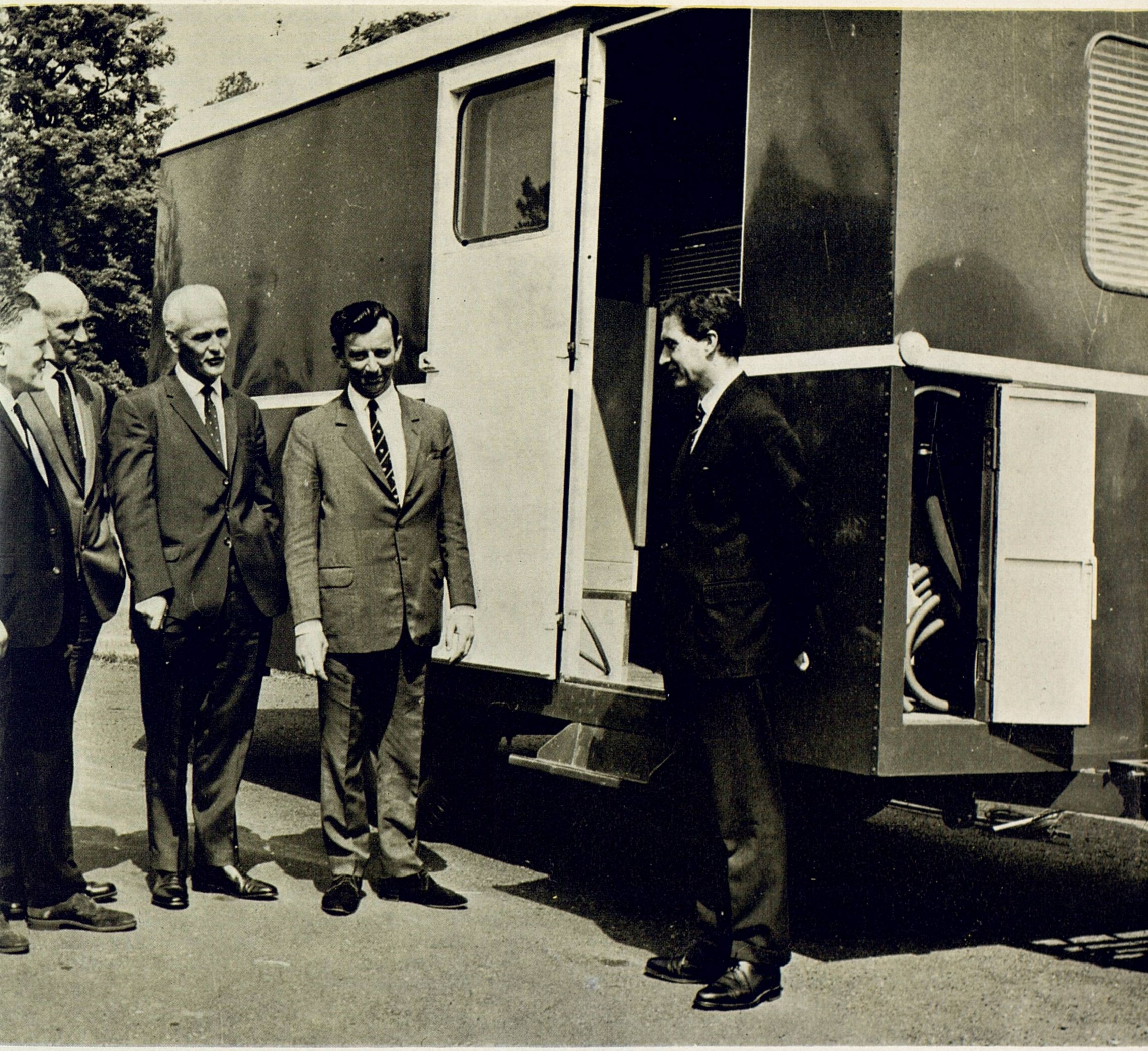
The disease, which was already present in the Shannon, Lee and the Liffey, spread to the Erne system during the year. 862 diseased salmon were removed from the Shannon, 661 from the Lee, 196 from the Liffey and 821 from the Erne. These figures do not provide an accurate assessment of the effects of the disease as high water and flood conditions make it impossible to remove large numbers of the diseased fish during the winter weather. On the River Shannon, notwithstanding an increased run of salmon in 1967, the disease became specially severe when temperatures dropped in October to December and the spawning was adversely affected.

On the River Lee, the effect of the disease on the stock is evident from the fact that 661 diseased fish were removed while only 92 passed through Inniscarra fish pass. On the Erne, the major spawning areas are situated in Northern Ireland and the Board understands that losses there were also severe because of the disease.

The Board continued to be represented on the committees appointed by the Minister to study the disease and is co-operating with the officers of the Veterinary Research Laboratory, Abbotstown, where the study is centred, and with all the other bodies working on the disease. The identification of the causative organisms and the subsequent application of effective control measures are major problems and it seems likely that the disease will continue for a number of years. It is possible that the salmon may develop an immunity in due course. Meanwhile, the replenishment of stocks by artificial means is continuing as rapidly as possible and, so far, young salmon have not been affected. Fortunately, the disease has not affected the valuable stocks of brown trout and eels in the midland areas.

Hatcheries and Rearing Stations

Because of the disease, difficulties were experienced in obtaining adult salmon for the hatcheries and in holding them in a healthy condition for spawning. It was not possible to import salmon ova from Great Britain as in previous years because of the prohibition on the importation of ova due to the presence of salmon disease in that country. Efforts to find alternative sources were not successful. Fisheries Division, Department of Agriculture and Fisheries, assisted



The E.S.B. allocated funds for a mobile laboratory which will be used in fisheries research work by the Veterinary Research Institute.

by supplying 420,000 ova from their hatchery at Glenties, Co. Donegal.

Production figures were as follows:

Hatchery	*Salmon Ova*
Shannon (Parteen)	1,267,000
Lee (Carrigadrohid)	302,000

Fry and smolts were distributed in the following rivers and their tributaries—Rivers Mulcair and Newport, Brosna, Little Brosna, Suck, Maigue, Kilmastulla, Inny and Lee.

Work began on an extension to Parteen Rearing Station to provide additional tanks for the rearing of 100,000 brown trout annually for the Pollaphuca Reservoir on the River Liffey.

Commercial Fishing

Salmon: Commercial fishing was carried out on the Rivers Shannon, Erne and Clady. On the River Erne, where the weather conditions and water flows from the generating station favoured the estuary net fishermen, the number of fish passing through for propagation and the Board's commercial catch decreased considerably compared with 1966. On the Clady, fishing was reopened on a restricted basis in the interests of local employment and because the run of salmon remained at a high level.

Sales of salmon realised over £26,000, an increase of 30%.

Eels: There was a significant increase in the catch of eels and, with improved prices, revenue increased by 59% to £26,000. The heavy restocking programme was continued. Detailed plans for the development of the Shannon eel fisheries were well advanced and were discussed with officers of Fisheries Division, Department of Agriculture and Fisheries.

Angling

Despite an improved salmon run in the Shannon, angling on the Mulcair did not give the expected results. Castleconnell, however, improved substantially on 1966. As a result of the Board's work, salmon angling is now available in many of the midland tributaries of the Shannon. Discussions have taken place with the Regional Tourism Organisations and with local groups to make this amenity available to visitors and local anglers. In addition, salmon angling is available on the Crolly system, Co. Donegal, where a growing tourist development is taking place.

Counting of Salmon

The numbers of salmon counted in the last two years were as follows:

	1967	1966
River Shannon		
Thomond weir, Limerick	19,547	9,885
Ardnacrusha fish pass	5,663	4,925
Parteen fish pass	1,507	698
River Lee		
Inniscarra fish pass	92	289
Carrigadrohid fish pass	28	114
River Erne		
Cathaleen's Fall fish pass	6,036	10,936
River Clady		
Gweedore weir	721	758
River Liffey		
Leixlip weir	1,118	655

Financial

The financial aspects of the fisheries activities on the five river systems directly affected by hydroelectric development are shown in Account No. 5.

Revenue at £54,853 was a record and showed an increase of £16,651 on the previous year. Preservation and development of fisheries involved a total expenditure of £74,907. The revenue was applied in the reduction of this cost.

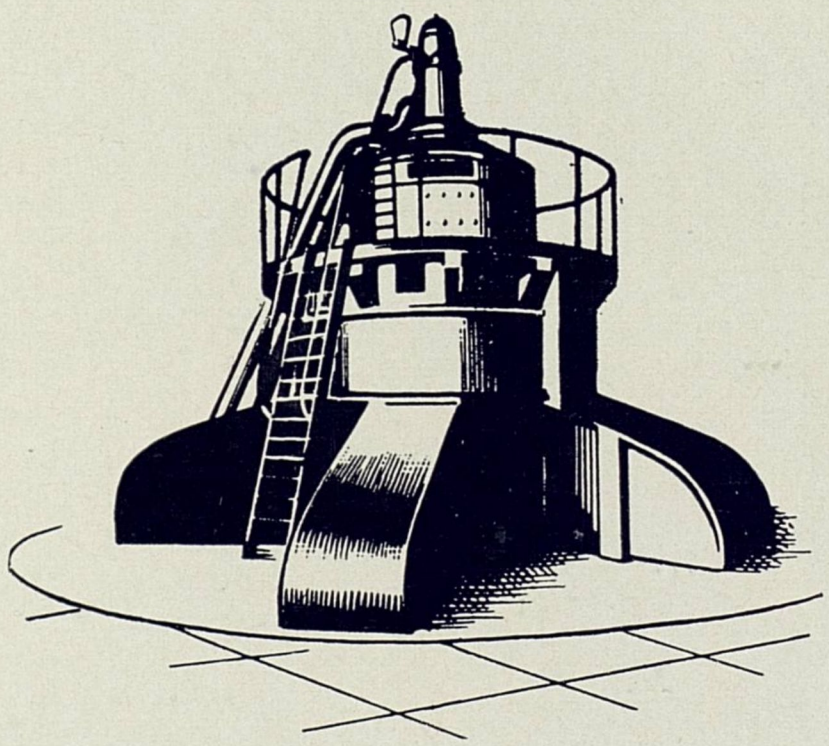
The Board gratefully acknowledges the assistance and help received from the officers of Fisheries Division, from the Ministry of Agriculture for Northern Ireland, the Inland Fisheries Trust Incorporated, the Boards of Conservators and local angling clubs.

(Signed) *T. Murray,* CHAIRMAN
C. Gordon Lambert
T. MacMahon
Breandán ÓCearbhaill
J. A. Ryan
J. C. Tonge

(Signed) *J. G. Gargan,* SECRETARY
9th July, 1968

Young salmon are unloaded from the Fisheries Transportation Unit for planting out in the River Shannon.

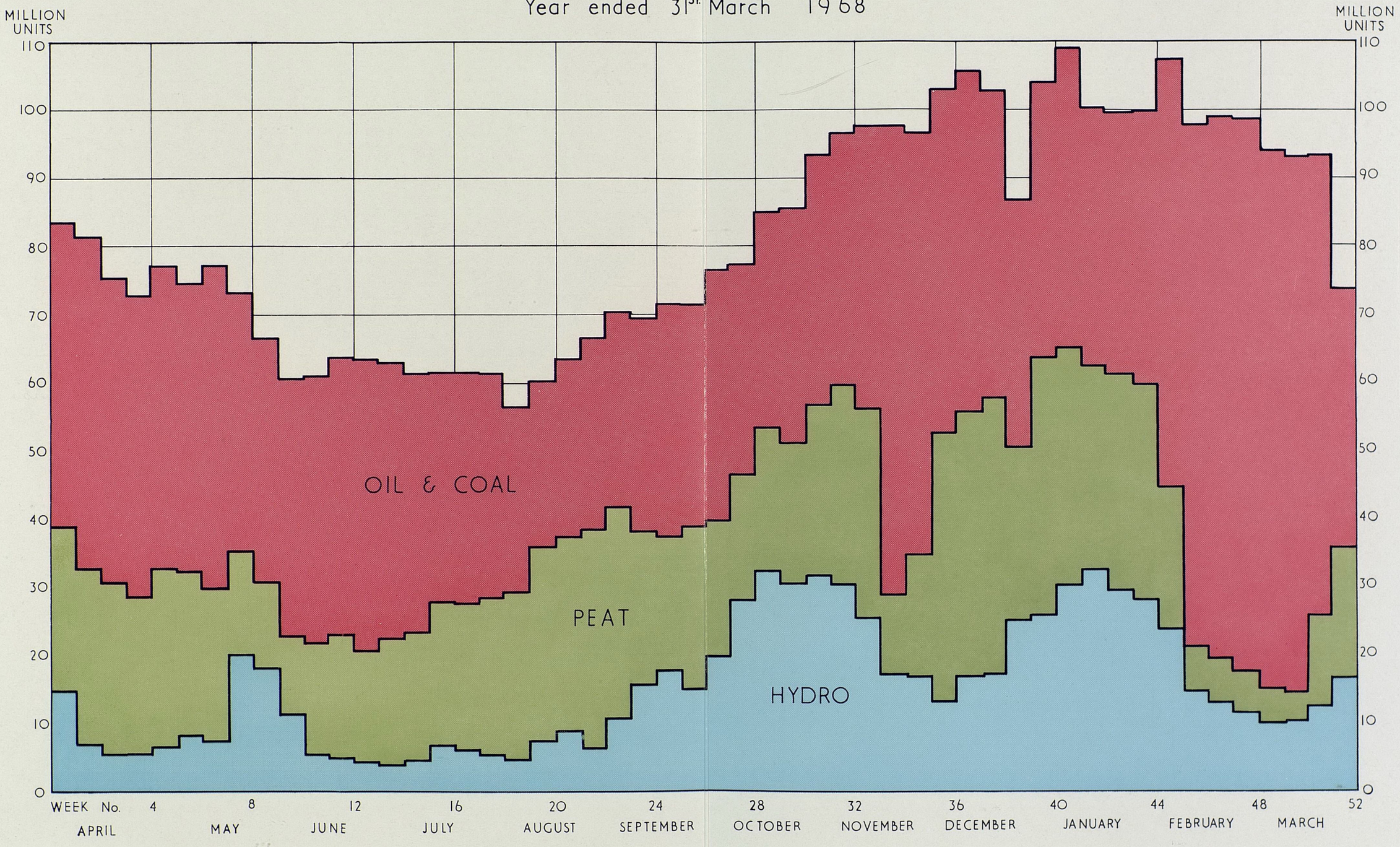




Printed in the Republic of Ireland by Hely Thom Limited, Dublin

WEEKLY GENERATION

Year ended 31st March 1968



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and

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