

ガイアナ協同共和国

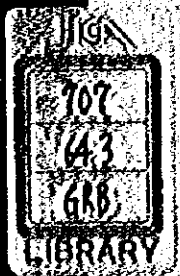
ディーゼル発電機整備計画

収 集 資 料

昭和58年9月

10889

国際協力事業団



国際協力事業団	
設立 年月日 84. 4. 10	707
登録No. 03517	64.3
	G R B

Demographic Data

a. Literacy Rate: 91.3% (1970 Figure)

b. Education System

Elementary school	6 Years
Middle school	6 Years
High school	5 Years
University	4 Years

c. Employment

Unemployment Rate 15 - 22%

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SOURCE: MINISTRY OF ECONOMIC PLANNING  
& STATISTICAL BUREAU

POPULATION AND GNP

Year	Population (000)	GNP At Constant Price 10 <sup>6</sup> Guyana Dollars	Note
1970	716	854	Actual
1971	729	884	- " -
1972	740	852	- " -
1973	750	872	- " -
1974	757	941	- " -
1975	766	1032	- " -
1976	775	1050	- " -
1977	783	1019	- " -
1978	786	990	- " -
1979	790	976	- " -
1980	793	994	- " -
1981	795	989	- " -
1982	797	886	- " -
1983	799	804	Projected
1984	815	n.a	- " -
1985	831	n.a	- " -

NOTE: IN THE CASE OF THE GNP SHOWN ABOVE,  
1977 IS THE BASE YEAR.

SOURCE: MINISTRY OF ECONOMIC PLANNING & STATISTICAL BUREAU

NUMBER OF PEOPLE ENGAGED IN EACH

SECTOR OF INDUSTRIES

The most recent figures available on industrial employment are for the year 1979.

They are as follows:

- (1) Sugar = 25,722 operatives
- (2) Manufacturing = 16,833 operatives
- (3) Other Services = 5,978 operatives

SOURCE: STATE PLANNING SECRETARIAT

METEOROLOGICAL DATA

BOTANIC GARDENS - GEORGETOWN

	Temperature (°C)			Rainfall		Ambient Pressure mbar
	Max. Mean	Min. Mean	Mean	Precipitation mm	Humidity %	
1970-1979						
Jan.	28.4	23.3	25.8	210.2	79	1014.0
Feb.	28.9	23.7	26.3	105.0	75	1014.4
Mar.	29.3	24.1	26.7	110.9	75	1014.2
Apr.	29.4	24.2	26.8	170.2	77	1014.1
May	29.3	23.9	26.6	315.3	80	1014.2
Jun.	29.2	23.4	26.3	342.1	83	1014.5
Jul.	29.4	23.2	26.3	283.0	82	1014.7
Aug.	30.0	23.6	26.8	225.3	79	1014.1
Sep.	30.6	23.9	27.2	133.1	76	1013.8
Oct.	30.8	24.2	27.5	114.8	76	1012.9
Nov.	30.3	24.0	27.2	224.1	78	1012.6
Dec.	29.0	23.3	26.2	304.5	81	1013.3
Max. Temp. Recorded			31.6 °C			
Min. Temp. Recorded			22.5 °C			

SOURCE: MINISTRY OF WORKS,  
HYDROMETEOROLOGICAL SERVICE.

國家電力事業團報告

12 - 3 WAGES OF EACH VOCATION

Schedule of hourly rate paid to skilled and unskilled workers by the Contractor.

<u>CATEGORIES</u>	<u>RATES PER HOUR</u>		
General Foreman		5.00	
Foreman (Construction)		4.10	
Carpenters A, B, C	2.64	3.02	2.72
Masons A & B	2.64	3.09	
Dragline Operators		3.09	
Bulldozer Operators		3.09	
Riggers		3.09	
Steel Benders		2.72	
Labourers		2.12	
Time Keepers		2.72	
Clerks A & B	2.64	3.09	
Store Attendants		2.20	
Vibrator Operators		2.35	
Concrete Mixer Operators		2.52	
Pump Operators		2.35	
Servicemen		2.35	
Watchmen		1.34	
Loader Operators		3.09	
Lorry Drivers		3.09	
Bricklayers		3.09	
Cleaners		2.12	
Youth (Under 18 years)			
Electrician A & B	2.64	3.09	
Plumbers		2.72	
Guttersmiths		2.72	
Painters		3.09	

SOURCE: GUYANA ELECTRICITY CORPORATION

- PERSONNEL DEPARTMENT.

Material	Unit	Rate
Crushed stone 1 $\frac{1}{4}$ " to $\frac{3}{4}$ "	ton	98.93
Crushed stone $\frac{1}{2}$ "	ton	98.93
Portland cement	sack	30.00
Anti corrosive paint	gln.	117.00
Sand - White	cu. yd.	39.00
Sawn greenheart Lumber	fbm	2.47
Dressed greenheart Lumber	fbm	2.54
Wrought shuttering	sq. yd.	44.20
Nails	lb.	5.07
Claybricks	sq. yd.	30.42
Mild steel bars - 25 mm	cwt.	109.20
- 16 mm	cwt.	106.60
- 12 mm and under	cwt.	132.60
Mild Steel plate and angles	cwt.	-
Mesh reinforcement No. 65	sq. yd.	22.88
Damp-proof membrane - 500 G	sq. yd.	14.95
Aluminium sheeting (corrugated)	sq. ft.	4.64
Zed Purlins	Lin. ft.	4.64
Vinyl tiles	sq.yd.	35.57



12 - 5 (ii) PRICES OF DOMESTIC MATERIALS

RENTAL RATES

These rates include all fuel, consumable stores, repairs and replacements, but do not include payments for Driver and Attendants. These will be charged for at the labour rate laid down for labour in 12 - 3.

The rates also cover for repairs, maintenance and for all other cost and charges in connection with the use of plant on the Project.

ITEM NO	PLANT DESCRIPTION	RATE PER HOUR
1.	Compressor	\$166.40
2.	Concrete Mixer - 21/14	\$ 65.00
3.	Concrete Mixer - 14/10	\$ 39.00
4.	Concrete Vibrators	\$ 52.00 /day
5.	Dragline	\$195.00
6.	Front End Loader	\$260.00
7.	Lorry - Tipping - Cubic Yard	\$ 52.00
8.	Pumps - 2" and 3"	\$ 52.00/day
9.	Power Saws	\$ 52.00/day
10.	Welding Plant	\$ 65.00/day
11.	Bulldozer - D6	\$325.00
12.	Bulldozer - D4	\$208.00

SOURCE: GUYANA ELECTRICITY CORPORATION  
- PERSONNEL DEPARTMENT

GUYANA CONSUMER PRICE INDEX (1970=100)

Period	All Items	SUB - GROUP INDICES			
		Food, Beverages & Tobacco	Clothing	Housing	Miscellaneous
1972	106.7	109.5	110.3	100.8	104.4
1973	117.2	123.7	128.8	101.8	111.7
1974	140.3	157.4	154.1	110.1	122.0
1975	148.7	166.7	172.4	113.5	128.8
1976	161.7	187.2	186.7	114.9	135.1
1977	179.1	206.1	219.4	117.2	158.3
1978	214.0	253.2	269.6	119.6	189.1
1979	247.5	291.5	322.7	136.9	222.0
1980	279.1	325.2	351.5	157.3	265.1
1981	340.8	408.7	459.8	170.7	303.4
1982	388.1	482.5	514.2	177.8	328.2

SOURCE: STATISTICAL BUREAU, MINISTRY OF ECONOMIC PLANNING.

PUBLIC SECTOR CAPITAL EXPENDITURE BY SECTOR

1980 - 1982

<u>SECTOR</u>	<u>1980</u>	<u>1981</u>	<u>G\$Mn.</u> <u>1982</u>
Agriculture	114.7	147.7	379.8
Forestry	5.0	25.1	29.7
Fishing	1.0	5.7	15.9
Mining and Quarrying	51.0	28.2	192.7
Power Generation	29.3	23.8	36.9
Manufacturing	65.5	64.6	25.3
Roads and Other Infrastructure	37.0	44.8	58.0
Transport and Communications	17.7	48.3	16.2
Housing	3.1	7.1	5.9
Environment and Pure Water	2.9	6.9	5.3
Education and Culture	27.1	27.5	20.9
Health	8.1	10.9	12.5
Defence and Security	31.2	33.0	29.6
Administration	12.2	16.3	21.6
Tourist Development	1.0	1.5	0.8
Financial Transfers	54.1	44.1	37.0
Trade and Distribution	<u>1.8</u>	<u>1.6</u>	<u>0.8</u>
	<u>462.70</u>	<u>537.10</u>	<u>888.90</u>

TOTAL CULTIVABLE FARMLAND IN GUYANA

<u>CROP</u>	<u>ACREAGE</u>
Rice	255,905
Sugar (Guyana Sugar Corp.)	113,000 (see table below)
Sugar (individual farmers)	20,000 (mainly in Demerara)
Other Crops	<u>67,000</u>
Total	<u>455,905</u>

<u>SUGAR ACREAGE</u>	
<u>BERBICE AREA</u>	<u>ACREAGE NORMALLY CULTIVATED</u>
Skeldon	11,000
Albion	18,000
Rose Hall	15,000
Blairmont	<u>11,000</u>
Sub-total	<u>55,000</u>
<u>DEMERRARA AREA</u>	
Enmore	13,000
La Bonne Intention/Ogle	10,000
Diamond	10,000
Wales	9,000
Leonora	6,000
Uitvlugt	<u>10,000</u>
Sub-total	<u>58,000</u>
TOTAL	<u>113,000</u>

<u>RICE ACREAGE</u>	
<u>REGION</u>	<u>ACREAGE AVAILABLE</u>
Esséquiibo Coast/Pomeroon	33,063
West Demerara/Essequibo Islands	24,615
East Coast Demerara	7,612
Mahaica/West Berbice	97,686
East Berbice	<u>92,929</u>
	<u>255,905</u>

SOURCE: MINISTRY OF AGRICULTURE

(G\$ million)

	1977	1978	1979	1980	1981	1982
<u>Agriculture, Forestry &amp; Fishing</u>	<u>210.8</u>	<u>256.6</u>	<u>263.5</u>	<u>312.0</u>	<u>300.0</u>	<u>292.0</u>
Sugar	77.3	122.0	123.0	149.0	120.0	84.0
Rice	49.0	41.0	34.0	41.0	43.0	46.0
Other Crops	35.3	38.6	42.0	48.0	54.0	65.0
Livestock	26.4	30.5	37.0	41.5	44.0	50.0
Forestry	10.0	11.0	12.0	15.5	19.0	25.0
Fishing	12.8	13.5	15.5	17.0	20.0	22.0
<u>Mining and Quarrying</u>	<u>164.2</u>	<u>178.5</u>	<u>169.5</u>	<u>221.0</u>	<u>101.0</u>	<u>88.0</u>
Bauxite and Alumina	154.2	165.0	159.0	210.0	85.0	70.0
Other	10.0	13.5	10.5	11.0	16.0	18.0
<u>Manufacturing and Processing</u>	<u>122.9</u>	<u>137.5</u>	<u>146.0</u>	<u>162.0</u>	<u>210.0</u>	<u>179.0</u>
Sugar Milling	27.1	43.0	43.0	49.0	40.0	28.0
Rice Milling	9.2	8.5	6.0	10.0	11.0	16.0
Other	86.6	86.0	97.0	103.0	150.0	135.0
<u>Services</u>	<u>521.4</u>	<u>563.0</u>	<u>600.0</u>	<u>641.0</u>	<u>748.0</u>	<u>691.0</u>
Distribution	100.0	104.0	117.0	115.0	145.0	123.0
Transport and Communications	58.0	65.0	72.0	75.0	90.0	85.0
Construction	76.9	75.0	85.0	95.0	110.0	95.0
Rent of Dwellings	16.4	17.0	17.0	18.0	23.0	25.0
Financial Services	42.8	44.0	45.0	54.0	64.0	80.0
Government	200.5	230.0	234.0	250.0	276.0	238.0
Other	26.8	28.0	30.0	34.0	40.0	45.0
TOTAL	<u>1011.5</u>	<u>1135.6</u>	<u>1179.0</u>	<u>1336.0</u>	<u>1350.0</u>	<u>1250.0</u>

SOURCE: MINISTRY OF ECONOMIC PLANNING, STATISTICAL BUREAU.

EXPORTS OF SELECTED COMMODITIES

1970 - 1979

(Q=000), (V=G.S.Mn.)

TC COM EX	SUGAR		RICE		BAUXITE		BAUXITE		CALCINED BAUXITE		ALUMINA & ALUMINA HYDRATE		MOLASSES		RUM		TIMBER		SHRIMP	
	Q. (ton)	V.	Q. (ton)	V.	Q. (ton)	V.	Q. (ton)	V.	Q. (ton)	V.	Q. (ton)	V.	Q. (ton)	V.	Q. (pf gal)	V.	Q. (cu. ft.)	V.	Q. (lb.)	V.
297	77.6	59	18.1	2 303	43.6	702	48.3	324	46.4	92	3.7	1 621	3.1	852	2.4	1 205	4.2			
337	92.2	68	21.3	2 053	40.0	689	55.9	302	40.5	86	4.0	3 287	6.6	973	4.7	1 367	4.6			
300	101.8	70	25.3	1 639	32.3	651	71.0	258	28.8	77	3.3	2 775	5.6	1 242	3.5	1 158	3.9			
225	75.9	48	25.0	1 662	32.0	664	76.1	258	29.3	65	3.3	3 374	7.4	1 821	4.6	2 538	9.0			
302	284.8	51	49.0	1 336	26.8	767	125.8	310	47.6	70	9.9	5 228	14.5	1 386	5.4	2 379	8.2			
285	413.1	82	84.8	1 363	41.2	772	163.1	320	67.8	55	5.6	4 211	16.7	1 314	8.5	2 050	10.4			
297	258.7	71	73.6	825	33.7	731	190.6	265	64.4	62	6.0	2 585	12.9	1 112	9.7	1 456	12.9			
208	185.7	66	66.8	882	41.2	693	211.5	263	78.6	88	6.0	1 510	7.6	1 204	9.1	1 507	12.3			
281	234.6	105	96.0	998	48.5	578	201.8	247	78.0	122	8.9	1 847	9.6	1 209	10.9	1 683	12.4			
264	226.3	84	80.8	1 011	54.8	542	218.3	144	53.7	93	13.1	2 103	12.5	1 646	14.2	2 000	17.6			
248	307.6	80	87.6	998	62.4	594	305.7	229	111.4	77	13.0	3 294	20.5	1 410	16.2	1 365	11.3			
269	305.9	77	120.0	996	77.3	488	257.5	150	91.9	83	12.9	2 943	20.6	1 278	15.7	1 049	7.8			
250	263.1	34	60.7	691	59.0	367	188.1	64	35.9	114	6.3	2 278	14.0	1 295	14.8	260	2.6			

SOURCE: STATISTICAL BUREAU, MINISTRY OF ECONOMIC PLANNING.

<u>SECTORS</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>
Sugar	76.6	67.2	249.6	332.2	191.0	104.4	165.0	166.0	198.0	160.0	112.0
Rice	11.2	15.7	31.3	41.8	29.5	58.2	49.5	40.0	51.0	54.0	62.0
Other Agriculture	15.2	17.7	19.7	21.8	25.0	35.3	38.6	42.0	48.0	54.0	65.0
Livestock	11.7	13.3	18.1	19.8	24.4	26.4	30.5	37.0	41.5	44.0	50.0
Fishing	5.9	6.8	8.6	9.9	10.0	12.8	13.5	15.5	17.0	20.0	22.0
Forestry	5.6	6.0	7.6	8.5	10.0	10.0	11.0	12.0	15.5	19.0	25.0
Mining & Quarrying	89.7	80.5	114.8	141.0	145.0	164.2	178.5	169.5	221.0	101.0	88.0
Miscellaneous Manufacturing	22.4	23.9	27.3	41.5	47.5	52.5	52.0	60.0	61.0	95.0	90.0
Food, Beverages & Tobacco	19.5	20.0	22.2	27.5	33.5	34.1	34.0	37.0	42.0	55.0	45.0
Distribution	58.7	64.4	80.8	94.2	108.1	100.0	104.0	117.0	115.0	145.0	123.0
Transport & Communication	32.8	36.8	46.3	49.9	55.0	58.0	65.0	72.0	75.0	90.0	85.0
Engineering & Construction	42.7	47.0	52.7	74.3	85.0	76.9	75.0	85.0	95.0	110.0	95.0
Rent of Dwellings	11.9	12.5	13.7	15.0	16.0	16.4	17.0	17.0	18.0	23.0	25.0
Financial Services	19.1	22.0	27.0	34.7	38.0	42.8	44.0	45.0	54.0	64.0	80.0
Other Services	19.7	21.6	23.5	25.6	27.0	26.8	28.0	30.0	34.0	40.0	45.0
Government	87.8	121.2	126.6	159.8	193.4	200.5	230.0	234.0	250.0	276.0	238.0
<u>TOTAL</u>	<u>530.7</u>	<u>576.4</u>	<u>869.8</u>	<u>1097.8</u>	<u>1038.4</u>	<u>1019.3</u>	<u>1135.6</u>	<u>1179.0</u>	<u>1336.0</u>	<u>1350.0</u>	<u>1250.0</u>

GDP at constant factor  
cost (1970 prices):

475.5 490.8 527.0 588.1 610.5 594.9 619.1 595.8

SOURCE: STATISTICAL BUREAU, MINISTRY OF ECONOMIC PLANNING.





FIXED INVESTMENT 1968 - 1982 (G \$ millions)

	<u>1968</u>	<u>1969</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>
Total Investment	96.0	98.0	112.6	102.8	108.3	154.8	198.1	250.3	381.0	290.0	241.0	325.0	404.0	500.0	380.0
Private	55.2	56.5	57.8	36.8	34.9	48.1	63.5	70.3	70.0	60.0	47.0	65.0	70.0	80.0	60.0
Public	40.8	41.5	54.8	66.0	73.4	106.7	134.6	280.0	311.0	230.0	194.0	260.0	334.0	420.0	320.0
of which corporations	3.2	3.4	17.4	26.9	32.3	42.0	65.6	130.0	125.0	125.0	107.0	112.0	105.0	105.0	80.0

NOTE: Guyana Bauxite Company classified with Public Corporations from July, 1971 and Bermine from January 1st, 1975.

SOURCE: STATE PLANNING SECRETARIAT.

### 3.1 HISTORICAL BACKGROUND

(a) Situation of Electric Power Supply  
Before Birth of Guyana Electricity Corporation (GEC)  
And Description of Socio Economic Situation In  
Guyana Immediately Prior to  
Birth of GEC

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Electricity in Guyana has traditionally been supplied by a number of isolated systems operating at frequencies of either 60 or 50 cps. with distribution and voltages characteristic of different frequencies. The tendency has been for private foreign companies to establish generating plants to meet their own requirements at a frequency and voltage which reflect the type of equipment the parent company supplies. Because of the large number of small and isolated units, costs of production tended to be high and there was excessive importation of different types of both Suppliers' and Consumers' equipment specific to individual systems.

Therefore, before the birth of GEC, the Power Sector in Guyana comprised the following:

(a) Demerara Electric Company:

Generating capacity consisted of Kingston 'A' Steam Power Station with an overall installed capacity of 12.25 megawatts and the Ruimveldt railway type diesel Generating Plant totalling an installed capacity of 2.0 megawatts.

The distribution system consisted of 4,000 volts primary and 110/220 volts, single phase and 220 volts three-phase secondary network covering Municipal and sub-urban Georgetown and the East Coast Demerara, as far as Better Hope and East Bank Demerara, as far as Plantation Diamond.

(b) The Demerara Bauxite Company:

Operating a system, which supplied the Bauxite Plant and the township of Linden with electricity, with installed capacity of 31 megawatts, operating at a frequency of 60 cps. with transmission voltage of 13.8 KV.

(c) The Reynolds Bauxite Company:

Operating a system, which supplied the Bauxite Plant and settlement there with installed capacity of 4.5 megawatts, and operating at a frequency of 60 cps. with transmission voltage of 13.8 KV.

(d) The New Amsterdam Municipality System:

With an installed capacity of 4.5 megawatts, operating at a frequency of 60 cps. with a transmission voltage of 3.3 KV.

(e) Privately Owned (Very Small) Systems:

Which served residents in specific rural areas.

(f) Sugar Estates:

Which operated their own generating systems to satisfy their own needs.

Thus the Power Sector in Guyana comprised, with minor exceptions, a number of isolated systems along the coastal strip and the generating facilities of the Bauxite Companies. The more remote parts of the Coast and most of the sparsely populated areas inland had no electricity supply.

TYPE OF UNDERTAKING OF GEO

3.2 The Guyana Electricity Corporation is a public utility which comes under the umbrella of the Guyana State Corporation - GPYSTAC.

It is governed by the Electricity Act 56:01, and the Public Corporations Act,

1972. The Corporation is a public utility which provides electricity to the people of Guyana. It is a public corporation and is owned by the State. It is a public utility and is subject to public control. It is a public corporation and is subject to public control.

(a) to provide electricity to the people of Guyana. It is a public utility and is subject to public control. It is a public corporation and is subject to public control.

(b) to provide electricity to the people of Guyana. It is a public utility and is subject to public control. It is a public corporation and is subject to public control.

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(d) to provide electricity to the people of Guyana. It is a public utility and is subject to public control. It is a public corporation and is subject to public control.

HISTORICAL BACKGROUND

3.3 CHARTERED FUNCTIONS  
 AS STIPULATED UNDER  
 LAWS AND/OR ORDINANCES

Under the Electricity Act (34 of 1957) and by instrument dated 24th December, 1962, the whole of the undertaking of the Demerara Electric Company Ltd., including all its rights and property were transferred to the Guyana Electricity Corporation.

The Act provided that it shall be the duty of the Corporation -  
 2

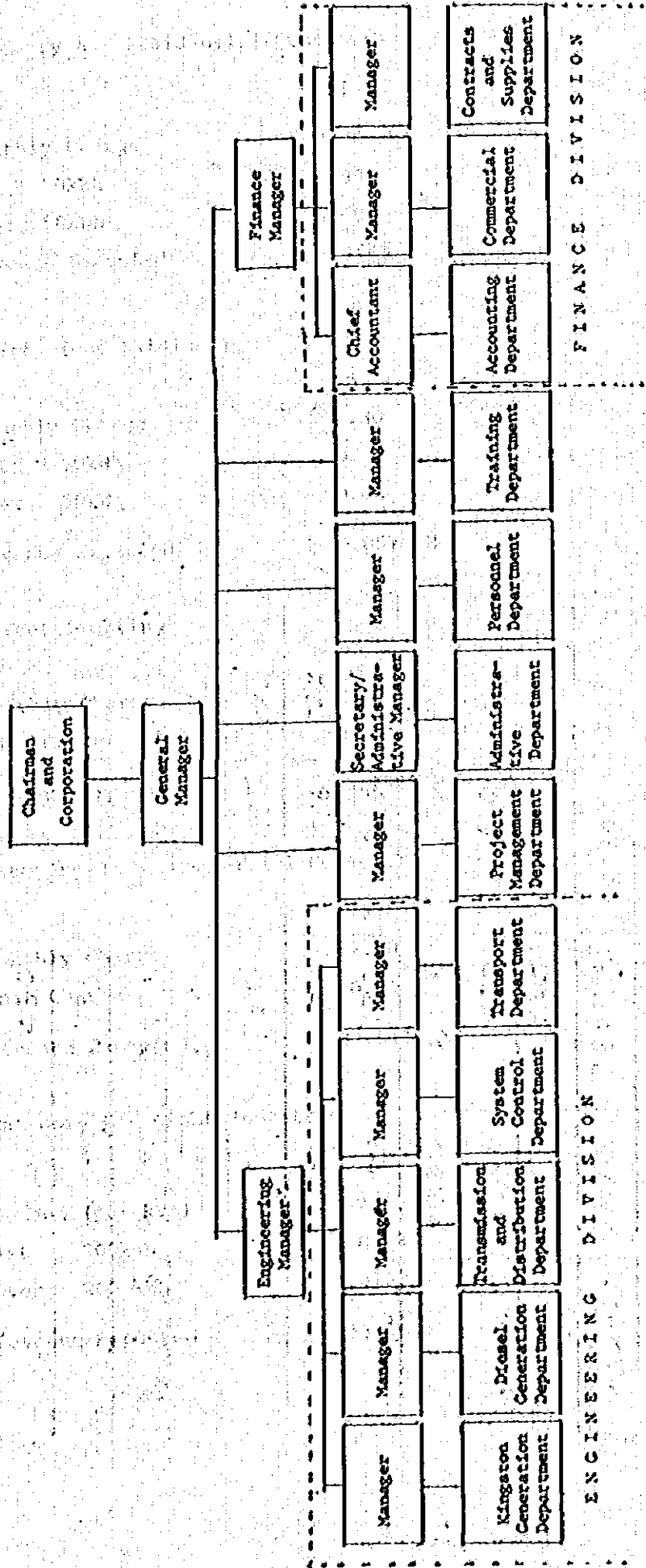
- (a) to manage and work the electrical installations transferred to the Corporation under this Act, and such other installations and apparatus as may be acquired by the Corporation under this act;
- (b) to establish and to manage and work such electrical installations as the Corporation may deem it expedient to establish for the purpose of this act;
- (c) to promote and encourage the use of electricity with a view to the economic development of Guyana;
- (d) to secure the supply of electricity at reasonable prices;
- (e) to carry on any business usually associated with an electricity undertaking;

- (f) to advise the Minister on all matters relating to the generation, transmission, distribution and use of electricity;
- (g) to exercise its function so as to ensure that its total revenues are no less than sufficient to meet its total outgoings properly chargeable to revenue account in accordance with the provisions of the ordinance, taking one year with another.

GUYANA ELECTRICITY CORPORATION

ORGANISATION CHART

effective 1983-09-14



3 - 9 Electricity Tariffs - 1983

a) Category A - Residential Consumers

	\$
Monthly Charge	2.30
1st 50kWh	0.39
Over 50kWh	0.68
Revenue Expected	43.244\$ M

b) Staff (unsubsidised)

	\$
Monthly Charge	2.30
1st 50kWh	0.39
Over 50kWh	0.68
Revenue Expected	0.857\$ M

c) Street Lighting

	\$
Monthly Charge	2.30
Unit Charge	0.39
Revenue Expected	3.752\$ M

d) Category B - Commercial Consumers

	\$
Monthly Charge	2.30
Unit Charge	0.84
Revenue Expected	39.511\$ M

e) Category C - Light Industries

	\$
Demand (per kVA)	12.00
1st 200kWh	0.73
Over 200 kWh	0.63
Revenue Expected	13.161\$ M

continued ...



f) Category D - Heavy Industries

	\$
Demand (per kVA)	11.00
1st 200kWh	0.63
Over 200kWh	0.53
Revenue Expected	35.242\$ M

SOURCE: GUYANA ELECTRICITY CORPORATION,  
COMMERCIAL DEPARTMENT

3 - 11(a) PRICES OF FUEL (per gallon)

<u>Year Ending:</u>	<u>Cetane 46</u> <u>(Gas Turbines)</u>	<u>Bunker 'C'</u> <u>(Kingston Steam)</u>	<u>Bunker 'C'</u> <u>(Garden-of-Eden)</u>	<u>Gas Oil</u> <u>(other Diesel Stations)</u>
	\$	\$	\$	\$
80-12-31	2.54	2.52	2.56	3.64
81-12-31	4.01	2.59	2.63	4.46
82-12-31	3.89	2.57	2.65	4.57
83-08-31	3.37	2.73	2.78	4.57

3 - 11(b) PRICES OF LUBRICANTS (per drum) \*

<u>Year Ending:</u>	<u>For Garden-of-Eden</u>	<u>For Other Diesel Stations</u>
81-12-31	\$769.00	\$779.75
82-12-31	\$1029.75	\$984.50
83-08-31	\$1059.75	\$1014.50

\* 1 drum = 45 Imperial Gallons

SOURCE: GUYANA ELECTRICITY CORPORATION,  
FINANCE DIVISION

7 SERVICE AREAS

7 - 1 Name of System

- (i) Georgetown (Demerara) Interconnected System  
sub-divided into:
  - (a) Georgetown City
  - (b) East Coast Demerara
  - (c) East Bank Demerara
  - (d) West Bank Demerara
  - (e) West Coast Demerara
- (ii) West Berbice System (Onverwagt)
- (iii) East Berbice and Corentyne System (Canefield)
- (iv) Essequibo Coast System (Anna Regina)
- (v) Bartica System
- (vi) Wakenaam System

7 - 2 + 7.3 Consumers

<u>System</u>	<u>Consumers</u>
(i) Georgetown Interconnected	64311
(ii) West Berbice	12916
(iii) East Berbice and Corentyne	15589
(iv) Essequibo Coast	4884
(v) Bartica	1200
(vi) Wakenaam	376
<b>TOTAL</b>	<b>99,276</b>

SOURCE: GUYANA ELECTRICITY CORPORATION  
COMMERCIAL DEPARTMENT.

Major Industries In Each Area

- (i) Georgetown Interconnected System  
Sugar industry; textiles; saw milling;  
fishing; furniture making; brewery;  
clay brick making; foundry works; rice  
milling and farming; edible oil manufac-  
ture.
- (ii) West Berbice System  
Rice Farming and milling; sugar industry;
- (iii) East Berbice and Corentyne  
Bauxite; rice farming and milling;  
Saw milling; sugar industry; tannery;
- (iv) Essequibo Coast  
Rice farming and milling; saw milling;
- (v) Bartica  
Saw milling; quarrying;
- (vi) Wakenaam  
Rice industry;

SOURCE: GUYANA ELECTRICITY CORPORATION  
COMMERCIAL DEPARTMENT.

(1) Installed Capacity

Year	(A) GEC-Owned Facilities	(B) Facilities Owned by Organizations other than GEC	Total Facilities throughout Guyana (A) + (B)
	Sub- total	Sub- total	Total
1970	43.5	63.1	106.6
1971	43.5	63.1	106.6
1972	56.0	62.7	118.7
1973	57.0	62.7	119.7
1974	56.3	66.5	122.8
1975	58.3	66.5	124.8
1976	58.7	65.0	123.7
1977	71.9	64.6	136.5
1978	102.2	63.9	166.1
1979	102.2	63.9	166.9
1980	105.2	64.6	169.8
1981	105.7	68.4	174.1
1982	105.7	68.4	174.1

SOURCE: GUYANA ELECTRICITY CORPORATION,  
PLANNING AND DEVELOPMENT SECTION,  
GUYANA MINING ENTERPRISE.

(2) Annual Gross Energy Production  
 (Before Consumption at Power Station)

Year	(A) GEC-Owned Facilities	(B) Facilities Owned by Organizations other than GEC	Total facilities throughout Guyana (A) + (B)
	Sub- total	Sub- total	Total
1970	156,883	159,137	316,020
1971	163,829	156,161	319,990
1972	168,484	146,659	315,143
1973	182,208	153,160	335,368
1974	184,023	157,795	341,818
1975	192,437	157,983	350,420
1976	226,973	156,980	383,953
1977	249,186	170,423	419,609
1978	223,390	170,118	393,508
1979	236,023	167,583	403,606
1980	239,753	176,512	416,265
1981	255,411	153,245	408,656
1982	228,880	132,067	360,947

SOURCE: GUYANA ELECTRICITY CORPORATION  
 (Generation Department)  
 GUYANA MINING ENTERPRISE.

ENERGY SALES

A. ENERGY SOLD ( 10<sup>3</sup> kWh )

<u>YEAR</u>	<u>TOTAL</u>	<u>RESIDENTIAL</u>	<u>COMMERCIAL</u>	<u>INDUSTRIAL</u>	<u>STREET-LIGHTING</u>
1970	129	45.15	30.96	51.60	1.29
1971	136	47.60	32.64	54.40	1.36
1972	144	51.84	36.00	54.72	1.44
1973	159	54.06	31.80	69.96	3.18
1974	158	53.72	37.92	63.20	3.16
1975	165	57.75	39.60	64.35	3.30
1976	176	61.60	31.68	79.20	3.52
1977	163	58.68	27.71	71.72	4.89
1978	170	73.10	28.90	62.90	5.10
1979	179	84.13	30.43	59.07	5.37
1980	183	80.52	34.77	62.22	5.49
1981	190	72.20	49.40	62.70	5.70
1982	172	63.64	41.28	60.20	6.88

SOURCE: GUYANA ELECTRICITY CORPORATION  
FINANCE DIVISION.

ENERGY SALES

B. ENERGY SOLD (VALUE) G\$'000

<u>YEAR</u>	<u>TOTAL</u>	<u>RESIDENTIAL</u>	<u>COMMERCIAL</u>	<u>INDUSTRIAL</u>	<u>STREET-LIGHTING</u>
1970	\$10,646	\$4,790	\$2,449	\$3,194	\$213
1971	11,410	5,135	2,510	3,423	342
1972	12,089	5,561	2,780	3,506	242
1973	6,074	2,794	1,215	1,944	121
1974	19,804	8,912	4,753	5,941	198
1975	31,790	13,670	7,312	10,490	318
1976	25,658	10,777	5,901	8,467	513
1977	43,462	17,384	9,127	16,516	435
1978	41,529	13,705	9,967	16,611	1,246
1979	39,051	15,229	9,763	12,887	1,172
1980	86,604	33,776	19,053	31,177	2,598
1981	102,482	33,819	30,744	34,844	3,075
1982	97,618	61,967	8,841	25,212	1,598

SOURCE: GUYANA ELECTRICITY CORPORATION  
FINANCE DIVISION.



ENERGY SALES

C. ANALYSIS OF CONSUMERS

<u>YEAR</u>	<u>TOTAL</u>	<u>% INCREASE ON PREVIOUS YEAR</u>	<u>RESIDENTIAL</u>	<u>COMMERCIAL</u>	<u>INDUSTRIAL</u>	<u>STREET LIGHTING</u>
1970	59720	-	56770	2182	725	43
1971	62197	4.1	58865	2510	776	46
1972	66000	6.1	62723	2461	772	44
1973	68200	3.3	64170	2630	1340	60
1974	74500	9.2	70500	2700	1234	66
1975	75800	1.7	72000	2500	1225	75
1976	80299	5.9	76440	2573	1195	91
1977	82440	2.6	78180	2765	1382	113
1978	85689	3.9	81906	2472	1212	99
1979	85843	0.2	81786	2598	1340	119
1980	92275	7.4	87120	3646	1405	104
1981	94915	2.8	86124	7211	1465	115
1982	91850	-3.2	83600	7200	900	150

SOURCE: GUYANA ELECTRICITY CORPORATION  
FINANCE DIVISION

Name of System: Georgetown Interconnected System

Year	Units Generated (Mwh)	Consumption in Auxiliaries of the Power Station		Units sent out (Mwh) (2-3)	Units sold (Mwh)	System Losses		System Losses and Consumption in Auxiliaries	
	(1)	Total (Mwh) (3)	Percentage (3/2x100) (4)			Total (5-6)	Percentage (7/5x100) (8)	Total (Mwh) (2-6)	Percentage (9/2x100) (10)
1970	151,753	9,988	6.6	141,765	113,412	28,353	20%	38,341	25.2
1971	157,646	10,186	6.5	147,460	117,968	29,492	20%	39,678	25.2
1972	168,843	11,077	6.6	157,766	126,274	31,491	20%	42,569	25.2
1973	182,500	11,166	6.1	171,334	137,067	34,267	20%	45,433	24.9
1974	184,023	11,660	6.3	172,363	137,890	34,473	20%	46,133	25.1
1975	192,437	11,449	6.0	180,988	144,790	36,198	20%	47,647	24.8
1976	192,942	12,126	6.3	180,816	144,653	36,163	20%	48,289	25.0
1977	221,890	14,778	6.7	207,112	165,690	41,422	20%	56,200	25.3
1978	200,045	12,059	6.0	187,986	150,389	37,597	20%	49,656	24.8
1979	203,506	9,673	4.8	193,833	155,066	38,767	20%	48,440	23.8
1980	204,355	9,585	4.7	194,770	155,816	38,954	20%	48,539	23.8
1981	213,448	10,144	4.8	203,304	162,643	40,661	20%	50,805	23.8
1982	186,821	7,861	4.2	178,960	143,168	35,792	20%	43,653	23.4

GUYANA ELECTRICITY CORPORATION

SOURCE: DIESEL GENERATION DEPARTMENT: COMMERCIAL DEPARTMENT

NAME OF SYSTEM: GEORGETOWN INTERCONNECTED SYSTEM

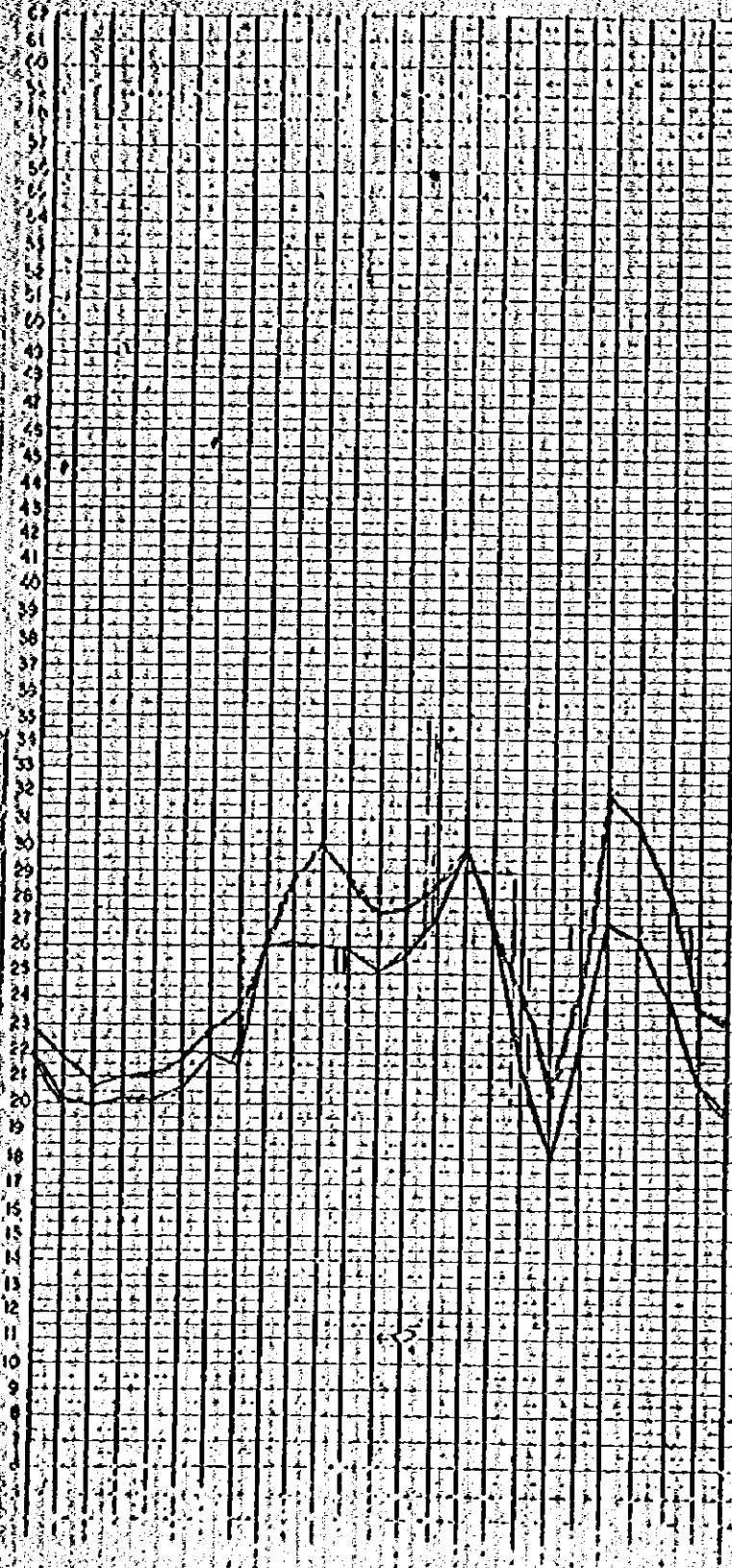
COMMERCIAL DEPT.

SYSTEMS OPI  
GUYANA  
ELECTRIC  
CORPORATION

Year	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
Capacity (MW)	32.0	32.0	40.0	40.0	40.0	40.0	51.4	62.8	82.8	82.8	82.2	82.2	82.8
Gross Energy (MWh)	151753	157,646	168,843	182,500	184,023	192,942	192,942	221,890	200,045	203,506	204,355	213,448	166,821
Energy Consumption (MWh)	141765	147,460	157,766	171,334	172,363	180,988	180,816	207,112	187,986	193,833	194,770	203,304	178,960
Residential													
Commercial													
Industrial													
Miscellaneous													
Personnel within Service (10 <sup>3</sup> persons)													200
Gross Energy (MWh)													
Consumers						55,766	57,281	59,066	60,828	62,709	64,649	66,649	68,710
Residential						50,297	51,607	53,206	54,786	56,482	58,231	60,041	63,319
Commercial						4,441	4,578	4,720	4,866	5,016	5,172	5,331	5,391
Industrial						85	128	137	149	154	159	163	174
GEC Staff						943	968	1,003	1,027	1,057	1,087	1,115	1,250
Factor (%)	61.4	61.8	61.8	62.6	63.7	64.8	66.7	67.5	61.9	63.8	64.4	67.5	61.5
Peak Demand (MW)	28.2	29.1	31.2	33.3	33.0	33.9	33.0	37.6	36.9	36.4	36.2	36.1	34.7

M. E. A  
09/10

334.92	26.13	1117	633.83	75.4	320	260	20.5	10.00	48.1	28.2
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REMARKS

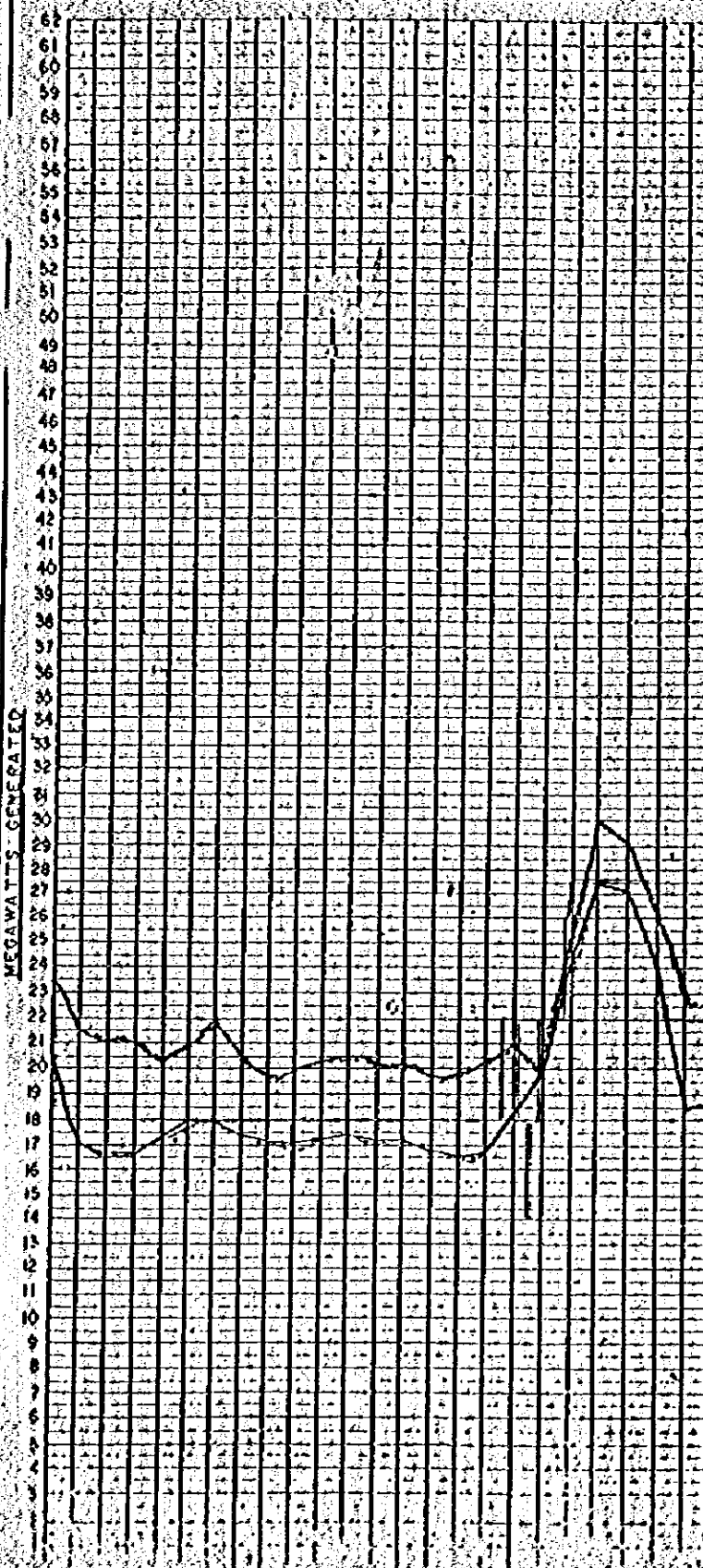
Kingston B. changed boiler/turbine combination off a boiler. New fields at L. T. H.

RUNNING PLANT

STATION	UNIT	FROM	TO
Edgemoor	LT	00:10	21:00
Kingston	LT/A	00:00	13:03
Kingston	LT/A	00:00	24:00
G. O. B.	LT/A	00:00	21:00
VALANCEY	LT/A	00:00	10:30
G. O. B.	LT/A	07:07	24:00
VALANCEY	LT/A	10:10	21:00
Kingston	LT/A	14:03	24:00
VALANCEY	LT/A	15:00	21:00
PLANT	LT/A	17:17	21:17
VALANCEY	LT/A	17:24	21:00

12/29/78

TOTAL KW HRS GENERATED 3575.78	TOTAL SCHED LOAD MW-HR 7389	TOTAL ENERGY (WH) (KWH) 357.200	PERCENT LOAD 97.67	PERCENT LOSS 19.12	PERCENT DEMAND MW 111	PERCENT TIME 65.11	PERCENT LOAD FACTOR 71.0
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REMARKS

12/29/78 Availability of Kingston Station reduced to 10% See blanding operations

RUNNING PLANT

STATION	UNIT	TIME	
		FROM	TO
English	K3	08:00	11:00
Hammer	H31A	08:00	24:00
Kingston	K31A	08:00	24:00
U.S. 100	H31B	08:00	24:00
G.O.F.	H32A	08:00	08:00
G.O.F.	H32B	08:00	17:00
G.O.F.	H32C	18:00	19:00
G.O.F.	H32D	19:00	24:00
Parish	H33A	18:00	23:00
V. S. 100	H33B	18:00	23:00
English	K3	17:00	24:00

MEGAWATTS GENERATED

