

UTI/POW/1#11

C.S.

P. W. D.

MISCELLANEOUS

1929.

No. 335/29

Colonial Engineer

SUBJECT.

1929

5th July

PROPOSED REPLACEMENT OF KITSON STREET LAMPS
BY ELECTRIC LIGHT.

Previous Paper.

See M. P. 453/29

MINUTES.

1-2

Minute from the Colonial Engineer of 4/7/29

9.9. 7
*our Excellency has understood
asked for this report.*
W.P.B.
A.C.S.
5. VII. 29

8-5

Letter to R. B. Croston, Esq. 15th July, 1929.

Hon. G. Roberts.

To see
W.P.B.
A.C.S.
22. VII. 29

Hon. Col. Sec.

Noted thank you

G. Roberts
C.E. 23.7.29.

Subsequent Paper.

P.A.
25/7/29

Minute from H.C. The Governor. 7/9/29 6-8

Hon. G. Roberts,
Mr. Byron,

For report please on Res 6-8.

C. J.
3/19/29

Hon Col Sec.

Report attached

G. Roberts
C.E. 17.9.29

Mr Byron

Passed to you accordingly

C.B.
17.9.29.

Colonial Engineer's report 16/9/29 9-18.

Hon Col Sec

my report under the heading of "Proposed extension of electric lighting" I think, meets the case.

The report submitted by the Hon G. Roberts takes in practically the whole of Stanley and in order to supply the buildings mentioned in this report it would be advisable to obtain either one 40KW set or two 20KW sets.

with regard to para 5.(C) of this report I have already discussed this with the Hon Col Sec. It is perhaps only natural that on ones first attempt at electric ^{lighting} on such a magnitude, one would desire a little more experience.

In this connection, now that the proposed scheme is postponed until 1931 perhaps the proposal contained in Para 5(C) might be considered.

F. A. Burton. 19/9/29.

Y. J. Submitted.

W. B.

Ay. C. S.

19. IX. 29.

Hon. C.S.

Please thank Hon George Roberts for the care he has taken over this report. I have read it with great interest. I shall consider it again, in conjunction with Mr. Boyson's, when the present scheme has been thoroughly tested. Personally I don't think it would be possible to improve on the work that has been done in connection with the Tom Hall and G.H. I view with suspicion imported experts, we have had many out here and I would have been glad in most cases to pay them their salary to keep away. The idea of Mr. Boyson going home for the latest course is excellent. If the present scheme proves a success we can extend it to those houses that actually want electric light but it would be a mistake to embark on a grandiose scale & then find people did not want it. Hon George Roberts, Mr. Boyson to see. File both jackets on this subject together, or make one of them.

Note:

At present I am charging Govt £1 per point. Non-Govt £1-5: —

See officials not under 10 points (except some of the junior grades such as Police Constables). They are at liberty to have it or not. This is an extremely moderate charge and may have to be raised later.

A.H.

1929 A.H.

(over)

The difficulty about a concrete Power house is the expense. It is nearly a $\frac{1}{3}$ of the whole out-
 lay and represents say 2 years profit. I have no
 objection to a small shack, as long as it har-
 monizes with its surroundings, and is not 'on evidence'
 too much. They only want a small out-
 lay or paint occasionally & last for ever. When the
 roughly Cathedral has crumbled away the little
 engine shed will still be quite pretty! Also the
 occupants of imposing buildings become correspondingly
 important and want higher wages etc! We must
 remember ~~that it is essential to contain all~~
 unnecessary expenses till the scheme has proved
 itself say in 3 or 4 years time, and we
 know by actual experience the revenue we are
 earning.

1929
 9 P.H.

Mr George Roberts.

To see.
 G.R.
 C.E.
 16.X.29.

Hon Col Sec

Noted

C.E. Roberts
 C.E. 17-10-29.

P.A.
 18/10/29

MEMO.

Departmental Number.

From...COLONIAL ENGINEER.....

Date...4th July, 1929.....

To...COLONIAL SECRETARY.....



KITSON STREET LAMPS.

Reference
Numbers.

I beg to report that the present Kitson lamps used for the street lighting of Stanley are in a very bad state, they have had their life and the majority are shewing signs of collapsing altogether, owing to rust and corrosion due chiefly to the severe climatic conditions to which they are exposed.

Great difficulty is now being experienced to maintain the lighting system owing to the frequent strong winds and the bad condition of the lamps, the mantles constantly get broken and other parts damaged, therefore they are a source of continual expense and worry.

There are at present some twenty street lamps being maintained, also during the last five years the has been extended and I estimate that six extra street lamps are required.

To renew the old lamps and instal six new ones I estimate the cost at £550.

One years' maintenance for these lamps cost £360 for oil and labour, therefore the cost of lighting the streets in 1930 will be some £910.

I submit that this figure is too high for the

/benefit

benefit obtained from these antiquated oil lamps.

I submit that the time has come when we should endeavour to light the streets with electric light and thus effect an economy whilst at the same time obtain an efficient system.

I would submit that serious consideration may be given to this proposal and that the oil lamps be not replaced.

C. Roberts.

Colonial Engineer.

GOVERNMENT HOUSE,
STANLEY.

15th July, 1929.

FALKLAND ISLANDS.

My dear Freeston,

I am busy with the electric lighting scheme in connection with certain of the Government buildings already approved by the Secretary of State. I hope to finish this in a couple of months.

I believe it will be the best investment we have ever made. At present the approximate amount spent on paraffin for the Hospital, Town Hall, Government House and Colonial Secretary's Office is £350 per annum. This will be saved. In addition there will be the additional revenue received from the Colonial Secretary's House and the three new Government Houses recently built i.e. £40 a year. I am charging them each to begin with a flat rate of £10 a year which is the nearest figure/

L. B. Freeston, Esq.

figure I can arrive at after working out the cost of paraffin etc, houses of this size should burn.

As the total cost is £2000 we shall get a high yield of interest on our money.

I will write to you officially later re the replacement next year of the Town Street lamps by electric light. At present we have 21 and they cost us with labour included £360 per annum.

In addition they are worn out and should be renovated next year at a cost of £550, so it seems a pity not to take this opportunity. I attach a report from Mr. Roberts which explains itself.

The electrification of the Town will have to come in time but it is a matter which will want very careful study and the probability is, the
people/

people being extremely conservative, that there will not be any real demand, except in one or two isolated cases, for another two or three years, but, I think, it will be as well to bear this in mind, and if we do proceed with the street lighting to lay down cables with this eventuality in view. It will increase the initial cost but pay us in the long run.

The Falkland Islands Company have applied to me for electric light for all their premises but I will go into this matter later and report fully when I have studied the whole question and had the expert advice of Nethercoate's successor.

Yours sincerely,

ARNOLD HODSON.

Mr C. S

8

In view of the approaching estimates I shall be grateful if the Hon George Roberts and Mr. Bygon will study this minute and give me their detailed report, worked out as near as possible exactly, for submission to the S of S. They must bear in mind I have not sufficient technical experience to go into the matter deeply and that I court criticism. Many of my summaries may be wrong.

Preamble.

The street lamps in Stanley want renovating,
The Cathedral wants lighting, The new Gymnasium
ditto.

A.

To renovate the present street lamps will	£ 475
cost approximately (?). They are not	450
sufficient and the town requires double the	475
present number. Say an additional	450
The upkeep of the present street lamps ...	160
" " " additional " "	160
Wages of lamp-lighter and labourer.	160
	<u>£ 1430</u>

So, in other words, the cost of the street lighting for Stanley, under the present system, will be £ ¹⁴³⁰ 1380 for next year.

2.

I now suggest we purchase an additional Petter engine, like the present one, of 10,000 watts. (It might be economical to purchase a more powerful one?) The price of this engine at home is £600. To this will have to be added freight, accessories etc. etc. We shall know the cost

exactly from the invoices. This engine will give the 140 Gauge Roberts fifty street lamps of 100 watts each and leave over for the Cathedral, New Gymnasium and F.J.C. 5,000 watts, a roughly 111 lamps of 45 watts each which should be sufficient?

Towards lighting the Cathedral I believe the Church Council have agreed to pay £250. This must be borne in mind.

*Church Council
£150*

We should save the following ^{recurrent-expenses} which should be clearly shown in the estimates drawn up:-

	£
Old upkeep of the present gas street lamps	160
" " " " new " " "	160
Wages of lamp-lighter & laborer.	160
	£ 480

We should save the following capital expenditure.

	£
Replacement of present gas lamps.	475
Location of additional gas lamps required	475
	£ 950

a total of £1380.

We should obtain the annual revenue from

the Cathedral say	£ 50.
From the F.J.C.	£ 50.
Save the cost of oil etc for the new gymnasium. say	£ 50
	£ 150

The engine would cost nothing extra to run except the oil as the present engine-man would look after it.

The work could be performed, if necessary, at the end of the working season when the two operators from S. Georgia would be due to help.

I must repeat & make it quite clear that the above suggestions are purely tentative. The figures are rough and probably inaccurate but it gives the outline of my ideas. Let us try and work out a really good scheme for submission to S of S. It must not be too grandiose as otherwise London gets frightened & states we are biting off more than we can chew - excuse the aphorism! Now we have the experience of the present engine we can work out the costs more or less exactly

$$\frac{2.29}{9}$$

A.H.

See about lead cable, in tubes.

Power House.

MEMO.

Departmental Number.

From..... Colonial Engineer .

Date..... 16th . September , 1929 .

To..... Hon. Colonial Secretary .

Reference Numbers.

After discussing this question at some length with Mr. Byron I beg to submit the attached particulars and wish to make the following observations .

- (1) . I am of opinion that it would be false economy to put down a smaller plant than a 20 K.W. set
- (2) . That the correct thing to do would be to build a concrete block power house , for housing both the present 10 Kilowatt set and the proposed 20 Kilowatt set , instead of the cheaper method of temporary corrugated iron buildings , with the possibility of adding ugly "lean tos" and odd additions , so common in the Colony .
- (3) . That cables be laid in the first instance capable of eventually supplying all the light that is likely to be required for street and house lighting .
- (4) . I wish it to be clearly understood that I have no practical knowledge or experience of electric

Light/

light undertakings, or prices of materials. All the figures are given in good faith and have been taken from various catalogues and pricelists, and are as nearly accurate as it is possible to estimate them, and I should say are near enough to give one a good idea of the majority of requirements.

(5). Should the scheme be proceeded with I would recommend one of the following proposals for serious consideration.

(a). That the services of an experienced electrical engineer be obtained for a period of from 18 months to 2 years, who should also have the assistance of a practical wireman.

(b). That plans of the town be sent home with as many particulars as possible, with a view to getting a contractor out, who would undertake the complete installation, under a guarantee. This would perhaps prove more expensive at the time, but would, I feel sure, prove most economical in the long run.

(c). Let Mr. Byron go home for say a six months course of practical instruction with a firm like the General Electric Company.

He would take home all the information necessary and at the same time could work in conjunction with the Crown Agents for the Colonies, in obtaining the exact and most economical materials for the whole work.

This officer has the theoretical knowledge, but frankly admits that he lacks the practical experience necessary for carrying out such an undertaking.

Bearing in mind the class of unskilled labour one has to work with I think you will agree that practical experience is absolutely necessary to such a scheme; more so when it is proposed to employ telegraphists for wiring and jointing. I have no idea of disparaging these men's efforts, but think that every credit is due to them for the way in which they have recently carried out their work.

It cannot be overlooked that once we embark on a larger scheme, and give the public electric light, the good name of the Government is at stake and there must be no question of its success.

G. Robert
C.E. 18.9.29.

(16)

LIGHTS TO BE PAID FOR.

PROPERTY.	NO. OF LIGHTS.	TOTAL WATTS.	REVENUE. £
Sullivan House.	13.	650.	13.
3. No. Senior Officers' Quarters. (Large Bungalows. 10 lights each.)	30.	1500.	30.
3. No. Junior Officers' Quarters. (Small Bungalows. 8 lights each.)	24. 30	1200.	24. 30
Government House Gardener.	8. 10	400.	8. 10
Drill Instructor's Quarters.	8. 10	300.	8. 10
Colonial Engineer. (Small Bungalow.)	8. 10	400.	8. 10
Harbour Master's Quarters.	8. 10	400.	8. 10
Dockyard Cottage.	5.	250.	5.
6. No. Police Cottages. (4 lights each.)	24. 36	1200.	24. 36
Medical Officer's Quarters.	8. 10	400.	8. 10
Chief Constable's Quarters.	8. 10	400.	8. 10
Nos. 1 and 2 Marine House. (10 lights each.)	20.	1000.	20.
Deanery.	8. 10	400.	8. 12-10
Defence Force Headquarters.	15.	750.	15.
Fire Station.	2.	100.	2.
Cathedral and Church Hall.	15.	750.	15. 50
Falkland Islands Co's. East Store.	10.	500.	<i>Take for 10 agree no. 3 net — } 75-10</i>
" " " Engineer's House.	8.	300.	
" " " Workmen's Houses. (4 No. @ 5 lights each.)	20.	1000.	
Chief Customs Officer's Quarters.	6. 10	300.	6. 10
Recurrent.	244.	12200.	£ 244.

NOTE. Contribution of Cathedral Trustees towards installation in Cathedral and Church Hall... .. £ 150.

*I can do this
for £150.*

(A)

15

LIGHTING BUILDINGS THAT WILL SAVE ON
PRESENT RECURRENT EXPENDITURE.

PROPERTY.	NO. OF LIGHTS.	TOTAL WATTS.
Government House.	80.	4000.
Hospital.	30.	1500.
Secretariat.	20.	1000.
Town Hall.	70.	4560.
Police Station and Prison.	10.	500.
Power Station.	3.	150.
Naturalist's Office.	2.	100.
P.W.D. Motor Garage.	3.	150.
" " " Store.	5.	250.
Harbour Master's Office.	1.	50.
Fitting Shop.	2.	100.
Foremen's Office.	2.	100.
Gymnasium.	40.	2000.
	268.	14460.

(5)

(14)

STREET AND JETTY LIGHTING THAT WILL SAVE ON
PRESENT RECURRENT EXPENDITURE.

STREETS , ETC .	NO . OF LIGHTS .	TOTAL WATTS .
Ross Road .	19 .	1140 .
John Street and St . Mary's Walk .	10 .	600 .
Allardyce Street .	4 .	240 .
Drury Street .	3 .	180 .
Moody Street and Pioneer Row .	6 .	360 .
Fitzroy . Road .	10 .	600 .
Davis Street .	14 .	840 .
James Street .	3 .	180 .
Williers Street .	2 .	120 .
Dean Street .	2 .	120 .
Philomel Street .	2 .	120 .
Hebe Street .	2 .	120 .
Government Jetty .	2 .	120 .
Public Jetty and Waiting Room .	4 .	240 .
	83 .	4980 .

SAVING IN ESTIMATES .

DESCRIPTION.	RECURRENT EXPENDITURE. £	CAPITAL EXPENDITURE. £
Wages of Lamplighter.	160 .	
Cost of oil at present used in Government Buildings.	160 .	
Oil supplied to Government House .	25 .	
Supply of oil for new Gymnasium.	50 .	
Purchase of lamps for new Gymnasium. 3 . No . @ £20 . . . £60 . 10 . No . @ £1 . . . 10 . 2 . No . @ £2 . . . 4 .		74 .
Renewal of Street Lamps and installation of additional ones .		550 .
Cost of oil and repairs to present Street Lamps .	160 .	
Cost of oil for the 6 additional street lamps .	48 .	
Cost of maintenance and labour in lighting .	48 .	
Maintenance and replacement of oil lamps , wicks , etc , in all Government Buildings .	10 .	
	£ 661 .	£ 624 .

91

PV

PRICES OF MATERIALS FOR INSTALLING THOSE
HOUSES NOT ALREADY PROVIDED FOR UNDER THE
SCHEME NOW IN HAND.

QUANTITY.	DESCRIPTION%	RATE.	AMOUNT.
352. No.	Globes.	2/6 ea.	44. 0. 0.
352. No.	Shades.	1/6 ea.	26. 8. 0.
269. No.	Ceiling Roses.	2/- ea.	26. 18. 0.
269. No.	Switches.	2/- ea.	26. 18. 0.
269. No.	Switch Blocks.	-/3 ea.	3. 7. 3.
269. No.	Junction Boxes.	2/6 ea.	33. 12. 6.
	40 Buildings for clips @ 3/- per Bldg.	-----	6. 0. 0.
	40 " " flexible wiring @ 10/- per building.	-----	20. 0. 0.
352. No.	Lamp Holders.	2/- ea.	35. 4. 0.
8000. Yds.	Lead covered wire. (40 buildings to be wired, average 200 yds. each.)	£16 per 1000 yds.	128. 0. 0.

ESTIMATE OF POWERHOUSE,
PLANT, AND CABLES.

Concrete Block Power House.	575. 0. 0.
20 Kilowatt set.. .. .	655. 0. 0.
Switch-board.	35. 0. 0.
Packing.. .. .	32. 0. 0.
	720. 0. 0.
Less 2½%	18. 0. 0.
	702. 0. 0.
Freight, Landing etc, Charges.	70. 0. 0.
C/A's Inspection Charges and Plans... .. .	12. 0. 0.
Converting 20 No. Lamp Posts, @ £3 each.. .. .	60. 0. 0.
Providing 60 No. new Lamp Posts, @ £5 each	300. 0. 0.
Junction Boxes, 120 No. @ 5/- each.. .. .	30. 0. 0.
Spare and Replacement Parts for 20 Kilowatt Set.. .. .	100. 0. 0.
Labour in laying Main Cables, apart from General Warrant Men, 16,660 yds. run excavate trenches. Lay cable & fill @ 1/6 yd.	1249. 10. 0.
CARRIED FORWARD	£3448. 17. 9.

MAIN CABLES.

BROUGHT FORWARD... 3448. 17. 9.

Ross Road.	2350 yds. run.		
St. Mary's Walk and John Street.	960. " "		
Fitzroy Road.	923. " "		
Drury Street.	220. " "		
Davis Street.	1180. " "		
Moody Street.	533. " "		
Barrack Street and Dairy Paddock Road.	333. " "		
Villiers Street.	370. " "		
Dean Street.	370. " "		
Allardyce Street.	360. " "		
Philomel Street.	370. " "		
James Street.	200. " "		
Hebe Street.	370. " "		
	8539 yds. twice		
for return equals	17,078 yds @ £10		
	per 100 yds.	1707. 16. 0.	
Say 4000 yds. of lighter armoured cable for connections to buildings @ £5 per 100 yds.		200. 0. 0.	
Labour in laying 4000 yds. @ 1/- per yard.		200. 0. 0.	
		<hr/>	
		£ 5556. 13. 9.	
		<hr/>	

(9)

10

COST OF RUNNING PLANT, CONSISTING
OF 1 NO. 10 AND 1 NO. 20 KILOWATT SET.

Average hours run each day:- $6\frac{1}{2}$ for 365 days.

Fuel for the two plants equals 3 gallons per hour,
@ 1/1 per gallon for $6\frac{1}{2}$ hrs = I. I. $1\frac{1}{2}$.

2 gallons lubricating oil per day
@ 4/- per gallon.. .. - 8. 0.

Per day. I. 9. $1\frac{1}{2}$.

£ I. 9. $1\frac{1}{2}$ per day for 365 days.(1 year.).. .. 531. 10. $7\frac{1}{2}$.

Wages of 1 man and boy for year. Say. 192. 0. 0.

Spare and Replacement parts for the two sets per year.
say. 40. 0. 0.

Total... £ 763. 10. 8.

S U M M A R Y .

Total number of lights on sheets ..^{3,4,5}..... 595.

Estimated number of watts . 31,640 .

NOTE. 30 Kilowatt set supplies 30,000 watts .

Recurrent Revenue as shown on sheet No ..³... will be £244 .

Saving on Reccurrent Expenditure , sheets No .⁴... £661 .

Saving on capital expenditure , sheet No .⁴... £624 .

Cost of Plant , and approximate cost of materials
and labour , sheets No .^{7,8}... £5556 . 13 . 9 .

Cost of running 30 Kilowatt set , per year , sheet No .⁹... £763 . 10 . 8 .

_____ 0-0 _____ 0-0 _____