C. S.

INDUSTRIES. (Misc.)
PUBLIC WORKS. (Misc.)
POSTAL & TELEGRAPHIC. (Misc.
MISCELLANEOUS. (Misc.)

No. 98/44.

19 44.

C. S. O.

SUBJECT.

1944.

29th June,

Previous Paper.

FUEL AND POWER SUPPLY OF STANLEY.

Future Prospects:

See 330/29

See also 54/43

MINUTES.

Subsequent Paper.

(1)

Excerpt from M.P. 54/43.

The peat question is a very serious one, both as regards quantity and availability to transport. The matter is an urgent one, and the end of supply is visible. Something has to be done about it. Coke, altho' probably more expensive than coal, is possibly a solution. It is considerably bulkier per ton than coal and has an added advantage of lacking in soot.

An opportunity is now provided to obtain coke and enable carefully-watched experiments to be made.

N.B. The experiments must be scientifically made and recorded at the time.

(Sgd.) A. W. C.
2/6/44.

Minute from Executive Engineer of 27. 6. 44. 2.

Y. E., 3.

The question of future sources of fuel for Stanley is admittedly governed in the first place by the stocks of peat still available in the neighbourhood having regard to ease of transport. If the only alternative to peat in the future is going to be other very much more expensive fuel, such as coal or coke, the first step is to assess the probable life of the peat banks which can, in local circumstances, be exploited. With the increasing use of lorries, which travel all over the common in the summer, and of bicycles, I am inclined to think that our peat supplies will last for a good number of years.

2. I suggest, however, that the most satisfactory and economical alternative to peat may be found to be electric power derived probably from oil fuel or possibly from natural sources. In any case I think this alternative should be thoroughly investigated. An important consideration is that if it were found possible to produce electric power at a reasonable rate (the present cost is about 4d per unit) then the use of electric stoves and heaters would rapidly be accepted in substitution for peat fires simply because their use would relieve the men of their peat cutting and the women of a great deal of house work. In such circumstances a big reduction in the use of peat would ensure an adequate supply for years to those poorer families who could not afford electricity.

3. With Your Excellency's permission I will take steps

✓ (1) To assess the life of the available peat supplies.

✓ (2) To obtain data about the use and costs of coal and patent fuel in existing ranges and grates.

✓ (3) Consult the Supervisor, E. & T., regarding the economic possibility of expanding our power supplies.

29/6/44.

Pl. go ahead on the above lines. 30/11/44

4.

Minute to Executive Engineer of 4. 7. 44.

5. "

Minute to Sup. E. & T. Dept., of 4. 7. 44.

B.C. 1.10.44.

(6)

S. Supt. When can I have your report?

24.10.44

(7)

Hon. C. S. Report herewith. Pl. DES-T 16.11.44

C.S.O. No. 98/44

Inside Minute Paper.

Sheet No. 2.

8. Minute from Supervisor, E & T., of 16. 11. 44.
9. Minute to " " " Of 21. 11. 44
10. Minute from Supr. E. & T., of 28. 11. 44.
11. Telegram to Crown Agents. 14. 12. 44
12. Telegram from Crown Agents of 3. 2. 45.

P.W.

(13)

S. E&T.

You have a copy of 12? We can have another go at the figures - next week sometime.

KB
20/2/45

(14).

S. E&T.

I enclose a draft from Hems. as we wrote it the other day. Could you check all figures again & let me have it back with any comments? I will then have it typed for signature.

KB
26/3/45

15. Memorandum by H.C.S. to S. E&T. 28. 3. 45.

(16).

S. E&T.

Will you sign (15)? A copy for your retention is attached opposite.

KB.
28. 3. 45

(17)

Hon C S

Duly signed Pss.

AHS.

OE&T
29. 3. 45

(18)

U.E.

(15) Submitted.

KB.
29.3.45

(19)

Thank you & Mr Macd very much for this excellent report & scheme.

Pl. :: draft necessary despatch & have a introduction the peat situation as a most important factor in the scheme showing cost to private people & to Govt with annual expr over considerable period on peat road construction. Peat supply available &

3/IV/45

Letter from Crown Agents of 13. 2. 45. 20.

(21).

U.E. Since the report at (15) was written

(a) detailed quotations & specifications have come by mail from the Crown Agents to confirm their telegram at (12), &

(b) the new H.O.I.C. has told us that we may regard it as virtually certain that the wireless station will draw on the town electricity supply.

2. (a) & (b) together increase capital costs, while (b) is such a big factor that it will enable us to reduce the cost by light to 4 d but still show the same margin of profit.

3. S/ECT. If I have therefore amended the figures in our report. If U.E. still approves of it, it is ready for final typing for despatch by the S. of S.

4. I submit also a draft covering despatch. I am afraid there was only one copy of the peat report you mentioned & that can nowhere be found. If

was perhaps pursued in the Town Hall. I think my draft gets round the point.

KB
18.4.45.

22. Despatch, No. 32 to S. of S. of 20.4.45.

(23)

S.E.T.

Here is a copy of the despatch for you. You will wish to carry the corrections in the report on your copy.

KB
25.4.45.

(24)

Hon. C.S.

Corrections copied thank you.

Is there any reason why the new site shewn not be selected now? My idea is to build at the top of the hill at the back of Hansens dairy. Apart from the agricultural depot, has there been any other suggestion?

DEC
11.5.45

(25).

S.E.T.

This area is partly reserved for Common Land (cattle) or for residential development and am afraid a power-house could not go there. The idea is to put industries etc. at the East end. We might talk this over sometime.

KB
15.5.45.

~~26. Letter from Secretary, T.T. Reform League of 26.5.45~~

Recalled 29/8/45.

26. Telegram No 309 to S. of S. of 19.12.45 See M.P. C/11/44

Recalled 17/4/46

B.M. 23/12/45
10/4/46

Minute from S.E.T. of 14/1/46. 24.

Excerpt from Memo. from Gen. Manager of F. Is. Co. of 1.1.46. 28.

~~29~~

S.E.T. Savingram No. 22 from S. of S. of 1.8.46 29.

(30)

S.E.T.

For your views as in para: 2 of 29, pl.

21.9.46

(31)

Hon C.S.

Red 29 and 29a seen thank you.

2 Referring to paras 2, 3, 4, of Red 29a. I submit that the power station extension was not built, firstly because the expense of such an extension added to the cost of the plant may have resulted in the purchase of new plant being withheld. Secondly the site was hardly suitable for extending to house heavy generators owing to the ground being made-up, requiring foundations of machines to be 18 to 22 feet deep before reaching a hard base.

3 Estimates contained in the Governors Despatch were made from figures supplied from the Crown Agents, and in particular the quotation from Messrs Ruston & Hornsby, for two 250 KW machines was then given as £7450 for the two, excluding cooling system and air compressor set. They gave no quotation for the 100 KW Sets.
While the latest quotations shew an increase of nearly 100% over the January,1945 figures, due considerably by our request for interchangeability of spare parts, the figures I received from Messrs W.H. Allen, Sons and Co Ltd of Bedford, dated 21st June 1945 for two 250 KW and two 100 KW plants, all of the S.30.C Type were £8288 and £5318 respectively, making the total cost of the four generators £13,606. Although the Crown Agents did not supply a quotation from this firm, I would like to see Allen machines installed because this particular range gives us the choice of a type from two cylinders to 8 cylinders varying in output from 50 KW to 245 KW.

4 The Naval W/T Station will not require electric power from the Col Govt Supply, the figures however for the Naval requirements at the Transmitting Station were supplied by the Officer in Charge, and it now transpires that the new generators being supplied for the W/T Station are each delivering 150 KW. There will be three generators.

5 In view of the excessive cost of plant I think that considerable modification to the original proposals will be necessary, especially as a loan to meet the costs may have to be raised locally. Also when the scheme was being prepared in 1944, it was suggested that some industry requiring electric power may be built, but apart from a reference on sheet No 3 of 98/44 (25) to the effect that industries etc should be at the east end of Stanley no such idea seems to have a foundation.
The suggestion that the Falkland Islands Company may build a slip way near the Agricultural Station would not indicate large electric power being required, the number of times the slip would be used when lights are required would be very few, the boats using the slip being mostly lighters when most of the work would be done during the normal day.

6 The intention was to install all the new plant in the new station and after this work had been completed, transfer the two Petter TK3 machines only, if three phase generators and switchboards could be obtained to replace their single phase units. It was intended also to apply to Messrs Petters to have these machines fitted with fuel pumps and atomisers of a different make because we have had considerable trouble with the present fuel system. Information in this connection has already been obtained from Messrs C.A.V. Bosch who say they can make the conversion with the co-operation of Messrs.Petters if we decide to have the work done. This work may not prove to be an economical proposition, and in this case it is suggested that the present plant be offered for sale.

7 Suitable building materials would have to be obtained from UK,unless local stone or concrete blocks can be used. Our estimated requirements for a building would be to provide for extensions to the plant and the building to be 110 feet long by 40 feet wide with 15 to 16 feet walls to permit the hoisting of machinery and subsequent servicing. The old power station would be required as a workshop and store room.

C.S.O. No. 98/44

Inside Minute Paper.

Sheet No. 4

Ref to para (8) Red 29a , the fuel and oil cost of £3000 per annum was based on costs landed at Stanley, diesel oil was costing 1/7 per gallon and assuming hourly consumption to be 5 to 6 gallons with lubricating oil costing 5/- a gallon, and estimated consumption of 6 gallons a day makes the total cost £4001. 10. 0., however I believe that the average consumption was agreed as only being 75% of one machine for 24 hours. The original estimate was £4500 per year, vide 8a. The figure of £3000 will now meet the statement however, because diesel oil purchased recently only cost 11d per gallon, whereas Gas oil was purchased for 1/5 per gallon as against prices ranging from 1/7 to 2/4.

8 In para 9 Red 29a it will be realised that no information was available as to what the Hospital would actually need, especially as a scheme to build a new hospital altogether was then spoken of. In any case I very much doubt whether our Hospital would ever have equipment comparable with Hospitals in other colonies.

9 Paragraphs 10 and 11. The rates could be revised and perhaps increased to 8d. The two part tariff would be advantageous to some dwellings but not to others and some arrangement to suit different circumstances may have to be considered. It may be advantageous to make light at 6d, with power at 1d but apply a minimum to power.

10 In para 12. I consider the necessity to have spare parts in the original scheme is not justified at the additional cost. The period of light load has to be considered and at present it lasts from midnight until 8 am and amounts to some ten to fifteen KW. From this it will be seen that to have the smallest machine delivering or being large enough to deliver 140 KW, will not prove to be economical, and it is for this reason that converting the present Petter machines has been suggested. Alternative to this, plant to provide for the uneconomic period will be required. If of course the Government intend to provide hot water systems for the hospital and perhaps for some other buildings the small plant would get little or perhaps no use.

11 I am not sure if or how a loan could be raised locally, but perhaps the Financial Secretary could advise on this matter.

A. Mercer
S E & T
28th Oct 1946

32 Tel No 209 from S. of S. of 16. 10. 46

33 Tel No. 341 to S. of S. of 29. 10. 46.

34 Tel. No. 227 from S. of S. of 31. 10. 46

35

Please ask S.E.T. to enable me to reply by Tel'm to (a) - (b) of (32). The report may stand over for the Governor. S.E.T. sh. consult E.E. about (b). 2. I sh. also like x ref (31) made.

a little clearer.

3. A draft telm is recd. [shd. be submitted by] the S.E.T. [struck through]

ABL
2.11.46

(36)

S.E.T.

As in (35) pl.

[signature]
2/11/46

(37)

Hon. C.S.

Seen thank you. Text of draft telegram submitted pl.

"(a) new power station building will be required from United Kingdom.

(b). Existing machinery not required in new building because all plant is single phase and could not work in conjunction with proposed three phase supply. Presume" replacing existing alternators and switchboards with three phase alternators and switchboards would be uneconomical and perhaps impracticable, especially as Petter T X 3 machines are obsolete."

X

[signature]
S.E.T.
5.11.46

38

Pl. issue telm as above to-day.

ABL
5.11.46

Tel No. 346 to S. of S. of 5. 11. 46. 39.

MCS.

(40)

What is the reply to para 2 of 29

MC 30/XI

Tel from Comm. Sec. M.V to Governor Designate of 12.11.46. (41)

C.S.O. No. 98/44

Inside Minute Paper.

Sheet No. 5.

42.

A.S.

I have spoken to H.E. Re. issue
telegram below.

A.B.L.
2.12.46

43. Tel to H.M. Minister, M.V. of 2.12.46.

44 Tel from Comm. Sec. M.V. of 10.12.46.

45

H.E.

(44) I think we may telegraph Satchwell & saying that circumstances have now arisen which make a visit unnecessary at present. (We might need him, or one, later as a Conciliator)

A.B.L.
12.12

Accy. (46) MC. 12/XII

(X of 37 is the real issue & CDC shd. be able to advise).

47. Tel ~~to~~ to H.M. Minister, M.V. of 13.12.46.

B.V. 13/1/47

A.B.L.
13.12

48. Letter from Central Uruguayan Railway Co. of 10.12.46

49

Re. Link this with the 'Power' file
above B.A.K.C. - close this
file.

A.B.L.
13.1.46

Saving Telegram No. 11. D S. of S. 22.1.47.
(Copy to S. E. T. (i))

No.

(It is requested that, in any reference to this minute, the above Number and the date may be quoted).

MINUTE.

(2.)

27th June, 19 44.

From The Executive Engineer,
Public Works Dept.,
Stanley, Falkland Islands.

To The Honourable,
The Colonial Secretary,
STANLEY.

I submit the following data on coke as requested.

3. A hundredweight sack of coke was sent to Eliza Cove and put through the stone crusher. From this experiment the following data was obtained :-

Wastage through crushing 26-lb per cwt. or about 25%.
Cost of crushing and carting per ton. 15s. 5d. (This figure assumes just the number of men necessary and ignores any standing idle while the stone crusher is used).

Cost of ton of coke	£10.	12s.	-.
Crushing		15s.	5.
	£11.	7s.	5d.

i.e. £11. 7s. 5d. per 15 cwt. of usable fuel or 15/2 per cwt. or 1¾d per lb.
An ordinary peat tin (empty paraffin tin) holds 18 lbs crushed coke at cost therefore of 2s. 5¼d. Three tins at least would be needed to keep a No. 9. Stanley Range going during a 14 hour day - i.e. 7/3¾ per diem or £2. 11. 2¼ per week. The same range could be kept going for a week on a load of peat say 7/-.
The open fire (Peacock type) would I estimate need about the same amount of coke but would possibly need slightly more peat. Stone fireplace types need both more peat and more coke.

3. I have carried out some experiments with burning the crushed coke in different types of grate on which the data at the end of the above paragraph was based. The following points also became apparent. In a range the coke burnt very well as was to be expected with only bottom draught, but only a medium or slow oven was obtained but the hot water system worked very well. This again could be anticipated as coke heats mainly by contact or conduction. Its use in the present type of range is not advocated and the firebars are not manufactured to resist the intense heat and chemical action. This point was proved during the occupation of Sulivan House by the W.D. when in a very short while the range was burnt out through the use if patent fuels.

On open grates a good fire was obtained by putting the coke on either a good bed of glowing peat or starting with sticks and paper in the usual way. All the time coke burnt from the bottom a good fire was maintained - i.e. all the time radiation and air flow were working together, but in no case was the coke burnt out and the addition of new coke damped the fire out. The heating effect in the room was not so good as peat. Coke may be said, in a general way, to burn only on the gases created by its own or some other combustion and therefore air must be fed from underneath. Air introduced from any other angle merely cools the coke and reduces bottom draught. On the ordinary slow combustion stove the crushed coke proved ideal.

3. To summarise :-

(a) The uncrushed coke is not efficient except for large boilers, nor is it intended by the manufacturersfor other purposes.

(b) Crushed coke is not suitable or economical for either Stanley ranges or open fires.

(Sgd.) J. A. Woodgate.

Executive Engineer.

No. 98/44.

(It is requested that, in any reference to this minute, the above Number and the date may be quoted).

MINUTE.

4th July, 1944.

From The Colonial Secretary.

Stanley, Falkland Islands.

To The Executive Engineer,

STANLEY.

Rec'd.

With reference to your minute of the 27th June, I am to thank you for the experiments you carried out with coke as the possible alternative fuel to peat. It is clear that coke must be ruled out if only because it is an unsuitable fuel for kitchen ranges and open grates. The question of cost is really as between that of coke and other fuels, such as coal, patent fuels etc., and not as against that of peat. The idea being to investigate alternative fuel supplies against the exhaustion of accessible peat supplies.

2. An investigation will now be started into the possibilities of providing cheap electricity after the war, but I should be very grateful if, during the coming spring, you would make a rough survey of the peat banks with a view to assessing their probable life. The survey should be based on the assumption that peat will remain the only fuel and that the use of lorries and bicycles over the common will steadily increase.

K. G BRADLEY

Colonial Secretary.

No. 98/44.

(It is requested that, in any reference to this minute, the above Number and the date may be quoted).

MINUTE.

(5)

4th July, 1944.

From The Colonial Secretary.

Stanley, Falkland Islands.

To The Supervisor,

Elect. & Tels. Dept.,

STANLEY.

With reference to our recent conversation, I should be grateful if you would submit a report on the possibilities of providing electricity after the war in sufficient volume to fill all the needs of Stanley both for light and power.

2. If it were possible to do this at rates which were sufficiently cheap to attract all householders and were at the same time economic, it is possible that a fairly rapid change over from peat might be expected, a change which would be of the greatest benefit to the community.

3. Your report should cover all likely sources of power and should include approximate estimates showing capital and recurrent costs and corresponding revenue. If possible the aim should be to make the department self-supporting.

4. The ~~object~~ question of moving the Power House to a more suitable site should not be lost sight of and your report should include recommendations on this subject.

K. G. BRADLEY

Colonial Secretary.

No. 98/44 Continued **MINUTE.**

(It is requested that, in any reference to this minute, the above Number and the date may be quoted).

Page 3.

(8b)

From Supervisor E & T

Stanley, Falkland Islands.

19

To Hon Colonial Secretary,

Stanley.

The value of peat supplied to 381 electric light consumers for a year is £4100 estimating that each house would have 48 cart loads of 3 cubic yards of peat at 4/6 per load, transport by lorry being the same price ie 13/6 for 9 cubic yards. From this it will be seen that to meet the cost of peat in electric power the rate per unit will have to be considerably lowered. A penny per unit for power would be attractive and will be used but it will not be as cheap as peat at the present time - this for full diesel plant- If Hydro-electric is possible the power rate could compete with peat.

S E & T
16.11.44.

(8)

No. 98/44.
(It is requested that, in any reference to this minute, the above Number and the date may be quoted).

MINUTE.

16th November, 1944

From Supervisor E & T Dept

Stanley, Falkland Islands.

To Hon Colonial Secretary,

Stanley.

Reds

With reference to your Minute 98/44 of 4th July,1944., in connection with electricity supply for Stanley I beg to submit the following information.

The electric light plant during 1943 collected as Revenue £3245. 14. 3., under 5. E. Light. In addition £600 was paid into a New Item 6 Public Lighting said to cover the cost of light and power used in Government Offices, buildings and street lights.

The plant delivered 292,000 units in 1943 and the cost of production was 2.9 pence per unit based on the figures enumerated below.

Lubricating Oil 60 gal per month or 720 per year @5/- per Gal	£180. -. -.
Fuel Oil (ex Navy) 1132 Gal per month or 13584 Gal per year @ £9 per ton of 240 gallons.	£510. -. -.
Gas Oil (ex M.V.) 566 Gal per month or 6792 per year @ £19 per ton of 240 gallons.	£538. -. -.
Paraffin & Petrol 90 gallons per year.	10. -. -.
Spares used in 1943. Estimated cost.	70. -. -.
Salaries Power House Staff plus half Supervisor plus half Electricians.	£2217. -. -.
Total expenditure.	£3525. -. -.

Out of 292,000 units delivered in 1943 the Public used 104,000 and paid an average of 7½d per unit which amounted to £3245. 14. 3. The Government consumed the balance of 188,000 units and paid 0.765 of a penny per unit to a new item Sub-head 6.Public Lighting amounting to £600.

From the above figures it is clear that the Government are using the electric supply at the expence of the public consumer, and , it will be equally clear that if the Government even paid a reasonable rate for current used the general public would benefit by a reduced rate per unit and some encouragement given for the consumer to make more use of the service.

Under the present arrangement where Government buildings use all they want and pay practically nothing for it I am afraid that a reduction in the price per unit to the public can not be entertained.

Assuming that the present rates are not to be kept and that payment at least for the power used will be admitted as the correct charge for Govt buildings I am sure that the extended use of electricity would become practicable and the cost per unit made reasonable.

The estimated requirement for plant to deliver power is made up as follows.

381 paying consumers representing the general public use light and I estimate that some 60% might use power 1 KW for heating 5% to 10% may use 2 to 3 KW and 30% to 35% will not use power at all through being financially unable to pay more than they are at present. Over and above this of course will be Govt works and Medical Dept.

The power will have to meet the total possible load which is built up as follows. General Public 248 KW. Govt works, Medical and other depts 50 KW making a total of 298 KW. No estimate has been included from the F I Co Ltd because I understand they are not interested in power from the mains nor does the estimate make provision for large power demands such as might be required to work a factory.

Sources of Power. (a) Diesel driven Generators
(b) Steam driven Generators
(c) Hydro-electric & Diesel driven Generators.

(a) I estimate that Diesel driven plant amounting to four 250 KW 380/440 volt 3 phase 50 cycle complete with control boards and transformers would cost approximately £30,000, This would mean extensive enlargement of existing power house with provision made for future additions to plant, or preferably a new building on a new site.

Fuel supply required would be diesel oil which would amount to approximately 0.47 lbs per BHP per hour reducing to 0.38 lbs per BHP per hour on full load making an average consumption per hour of 5 to 6 gallons for one machine actual figures depending upon the percentage of power delivered.

Lubricating oil would be approximately 2 lb per hour or one gallon in five hours with a further reduction of perhaps 50% by the use of a centrifugal separator.

The.

MINUTE.

(8a)

19

From Supervisor E & T

Stanley, Falkland Islands.

To Hon Colonial Secretary,

Stanley.

The cost to maintain the plant is estimated at £4500 per year for fuel and oil for one machine delivering full output. Spares to machinery £400. Price of diesel oil based on assumption that we will have to pay 1/7 per gal or £19 per ton of 240 gallons.

The new site for the power house for the above equipment would require to have sufficient space for the erection of fuel storage tank or tanks having a reasonable capacity say 300 to 500 tons and costing £600 to £800. To purchase fuel oil in small consignments as at present might mean that insufficient reserve can be held and if this is true purchase by bulk may prove to be reasonable as regards original cost and freight. For this reason it may be advantageous to have the power plant erected at a place near the discharging pier to facilitate storage on the site, although I would like to see the plant erected at the back of Stanley this would entail much greater expenditure. A site along the water front would present no difficulty in distribution providing that transmission lines could be erected in fairly free areas.

Revenue derived from such a plant will naturally depend upon what is decided regarding the payment of light and power used by Government depts and I submit my suggestions.

Govt Depts to pay lighting by meter at 3½d per unit and power at 1d per unit. Public to pay lighting by meter at 6d per unit and power at 1d per unit. On last years figures Govt would have paid £1410 and Public would have paid £4866 for power and £2600 for light.

To meet the cost of electricity I consider it essential that every Dept using power for work should assess the work done to include the cost of the power used on every job of work when the purchaser of this work will meet the charges in the normal way. The present arrangement is that electric power is being used- in many cases for outside work- and no charge allowed for electricity because it costs nothing. In this way private work done in Govt departments or rather work done by the Govt for the Public will be paid for to the department concerned.

The plant should supply power to all departments including the Colonial W/T Station and so avoid having to purchase small power plants for half a dozen concerns each of which would require engine maintenance fuel and stores.

(b) Steam driven generators. Coal or oil fuel would be required together with an elaborate boiler system. Water cleaners may also be essential together with condensing plant. I have no particulars of cost but I doubt whether in the Falklands this plant would compete with Diesel generators.

(c) Hydro-electric and Diesel together may be possible. Water sufficient in quantity and head may be obtainable from the Murrel River. This may be found to supply sufficient water for all Hydro-electric power but if not it would be possible to employ diesel power for those periods when water was not sufficient. Transmission lines however would have to run for some 15 miles and suitable standards or small pylons erected to carry them. However should the supply of water be sufficient both power and light will be cheap and if used on my estimate above would result in no fuel costs and although the first cost would be appreciable recurrent costs would be only a fraction of that required for all Diesel plant.
I consider the hydro-electric proposal be given full consideration and arrangements be made for the water in question to be examined in order to ascertain approximately the power if any which could be supplied. This information can be obtained locally.

The.

No. 98/44.

(It is requested that, in any reference to this minute the above Number and the date may be quoted.)

MINUTE.

(9)

21st November, 1944.

From The Colonial Secretary.

Stanley, Falkland Islands.

To The Supervisor,

Elect. & Tels., Dept.,

STANLEY.

We have had two discussions on your minute of the 16th November, and it might be convenient to summarize our conclusions as far as they have gone.

2. We have so far only considered the use of extra power from Diesel driven generators.

3. We consider that any Electricity Undertaking should be established as an economic unit, owned and controlled by Government but financed independently as in the case of the Savings Bank.

4. A new power house to be built east of the town and the present engine to be supplemented as necessary.

5. We consider that the present engine should be modified into 3 phase generators and that to begin with 2 additional generators will be required each of 250 Kw. This will give a total output of 620 Kw. The maximum estimated consumption is 310 Kw, the other half of the plant being essential as a stand by. It is not expected that anything like the maximum output will be required in the early stages but it must be on hand, and the building must also be sufficiently large to accommodate possible additional plant for future needs.

6. Preliminary estimates of capital cost which are little but guess work indicate the cost of plant to be £15,000, erection and transmission lines £2,000 and the building £5,000. We therefore assume for the moment the capital cost to be £25,000.

7. This could be financed by an interest free loan under the Colonial Development and Welfare Act of £25,000 , repaid in one sum at the end of 25 years, necessitating an annual Sinking Fund contribution of £666.

8. In considering recurrent costs and revenue we have discussed the matter from three points of view :-

(a) The economic running of the Electricity Undertaking.

(b) The financial effect on Government.

(c) The financial effect for individual consumers.

(a) The maximum consumption of Stanley on the assumption that all cooking and heating in Government quarters were done by electricity and that 60% of the private consumers would be on this basis, would be some 3,000,000 units per annum. It is, however, obvious that the change over would be gradual as far as the public is concerned and that in any case peat would continue to be used for heating in most cases. We have therefore taken as a working basis for the start of the scheme the following consumption.

Power.	Private Consumers	693,500 units.
	Government	1,000,000 "
Light.	Private Consumers	104,000 "
	Government	337,600 "
	Total	2,135,100 "

Revised to 1,907,100 vide (10).

We have adopted the principle that Government should pay the same r as other consumers but that there should be a reduced rate for power for

1

bulk consumers.

On the above basis if the rate for light were reduced from 9d to 3d (flat rate throughout) and power were sold at 1d per unit, reduced to ¾d per unit after to first 1500 units consumed in the calendar year, the revenue would be £8,825.

On the above figures therefore the annual balance sheet of the electr ity undertaking might be :-

Revenue.	Expenditure.	
		3,000.
£8,825	Fuel and Oil	~~£3,700~~
	Spares	300
	Salaries	3,000
	Sinking Fund	666
		£6966

(b) At the monent Government is paying £1,400 per annum for peat, plus £2,217 for salaries, plus £600 for public lighting, total £4,217. The cost on the above basis might be, peat £700 and power and light £5,336 We consider the extra expenditure fully justified since on the present arrangements Government is saving money at the expense of the private consumer.

(c) The average private consumer who cuts his own peat has an annual outlay of £10 for fuel and light. If rates were fixed as above his outlay would be £8. 10s. The general average is, of course, far higher than this and the heavier consumer would get a corresponding benefit. These figures are not unattractive.

9. There remains the question of stoves and applicances. In princip we consider that stoves at any rate should be supplied by the Electricity Undertaking. The stoves would be provided on the hire purchase system with services free until paid for. This could be financed to be self supporting with a sufficiently small outlay for the consumer, e.g. if the stoves can be installed for £15 there will be a deposit of £5 and 3 annual payments of £4 each. The extra to cover expenses and servicing charges.

10. The next step seems to be to enquire from the Crown Agents regarding possible costs of plant in order to enable more accurate estimates to be compiled. These enquiries can be made by telegram. We can meanwhile consider the economics of the hydro-electric scheme.

K. G. BRADLEY
Colonial Secretary.

Notes: 1. Govt. officials buy for their own power - what charge reduced. What is the effect of this on cost to Govt?

2. Cost to Govt. of stoves etc?

3. We agree basis at £10,000 revenue. on above consumption. Light 3d? Power 1½ reduced to 1d. after 1500 units?

(10)

No. 98/44

(It is requested that, in any reference to this minute, the above Number and the date may be quoted).

MINUTE.

28th November, 1944

From Supervisor E & T Dept,

Stanley, Falkland Islands.

To Hon Colonial Secretary,

Stanley.

Further to the above reference the following figures are submitted.

		@3d	@4d	@6d to Public 3d to Govt.
Public & Govt Light 141600 units.		£1770.	£2340	£2600 462.5.
Public. Power 190 houses @1500 units				
285,000 @ 1½d.		1781.2	1781.2	1781.2
480500 @ 1d.		1702.	1702.	1702.
Govt. Power 16 Depts @ 1500 units				
24000 @ 1½d.		150.	150.	150.
976,000 @ 1d.		4066.	4066.	4066.
Estimated totals.		£9469.2	£9939.	£10761.7

Total. 1,907,100 units.

Cost to Govt for purchase cookers for 16 houses		@ £15.	£240.	
Heaters	..	@ 5.	160.	32 @ 2 per H.
..	..	@ 2.5	80.	.. .. ..
Special cookers for Hospital	2. ..	@ 25.	50.	
Cost to purchase for hire to Public 25 cookers in first instance		@ 15.	375	
Power wire for above Govt Houses			25.	
			£930.	

Prices required for the following plant and materials for proposed new plant.

1. Replace present Alternators to 3 phase. 60 KW for two machines.
2. Diesel driven generators AC three phase 380/400 volts. 250 KW.
1. Transformer 300 KVA input 380/400 volts output 6,600 volts. three phase.
2. Transformers 100 KVA input 6,600 Volts output 380/400 volts. three phase.
1. Transformer 25 KVA input 6,600 Volts output 380/400 volts. three phase.
   Control gear for each Transformer.
   Control Board for Generators including eight distribution controls.
16,000 yards 19/.083 bare hard drawn copper wire for overhead lines. LT.
18,000 yards 7/.064 bare hard drawn copper wire for overdead lines. HT.
1000 yards 19/.083 four core single wire armoured cable for 400 volt three phase four wire distribution service.
1000 yards 7/.064 twin core single wire armoured cable 660 volt grade.
12,000 yards 7/.064 Vicma.
~~18,000 yards 7/.064~~
100 Creosoted wood poles 35feet with 8 inch tops.
Galv.Iron Cross arms, HT and LT insulators with pins.

S E & T.
28.11.44

(11)

DECODE.

TELEGRAM.

From The Colonial Secretary.

To The Crown Agents, London.

Despatched: 14th December, *19* 44. *Time*: .....

Received: ..... *19* *Time*: .....

In order to assist in compiling preliminary estimates for post war extension of Electric Power Plant should be most grateful for any information you can give regarding probable cost of following equipment:-

1. Two 60 K.W. 3-phase alternators for Petter T X 3 engine.
2. Two Diesel driven generators A.C. 3-phase 380/400 volts 250 K.W.
3. One transformer 300 K.V.A. input 380/400 volts output 6,600 volts 3-phase.
4. Two transformers 100 K.V.A. input 6,600 volts output 380/400 volts 3-phase.
5. One transformer 25 K.V.A. input 6,600 volts output 380/400 volts 3-phase.
6. Control gear for each transformer.

7. Control Board for generators including eight distribution controls.

8. 16,000 yards 19/.083 bare hard drawn copper wire for overhead lines L.T.

9. 18,000 yards 7/.064 bare hard drawn copper wire for overhead lines H.T.

10. 1,000 yards 19/.083 four core single wire armoured cable for 400 volt 3-phase four wire distribution service.

11. 1,000 yards 7/.064 twin core single wire armoured cable 660 volt grade.

12. 12,000 yards 7/.064 Vicma.

13. 100 creosoted wood poles 35 feet with 8 inch tops.

14. Galvanised iron cross arms H.T. and L.T. insulators with pins.

COLONIAL SECRETARY.

G.T.C.

(12)

DECODE.

TELEGRAM.

From The Crown Agents for the Colonies.

To The Colonial Secretary.

Despatched: 3rd February, *19* 45. *Time:* 1310.

Received: 5th February, *19* 45. *Time:* 1030.

Rec'd 11

Your telegram 14th December. First part mutilated but assumed to read as follows :- Item No. 1. 2 Peter TX 3 engines. Item No. 2 etc. Following are approximate prices f.o.b. Item No. 1 TX 3 engines now obsolete smallest Peter engine available s.s. 2 series V 2 cylinder 150 h.p. 500 R.P.M. price £1500 per engine. Item No. 2.2 5 cylinder Peter engine brush alternator £7500 cooler not included with engines. If 4 cycle engines required £2800. Item No. 3 £300. Item No. 4 £300 Item No. 5 £80 Item No. 6. £1000 Item No. 7 £1500 Item No. 8 £850 Item No. 9 £220 Item No. 10 £500 Item No. 11 £150 Item No. 12. £400 Item No. 13 with cross arms £900. 300 H.T. insulator and pin £55 300 L.T. insulator and pin £35 specification and detailed prices of materials offered follow by mail.

CROWNA AGENTS.

GTC

(15)

PROPOSED EXTENSION OF ELECTRICAL FACILITIES IN STANLEY.

28th March, 1945.

Your Excellency,

The Supervisor, Electrical & Telegraphs Department, and I have been investigating the possibilities of providing, after the war, electric light and power in Stanley at sufficiently attractive prices to bring about over a period of years the complete elimination of peat as the domestic fuel.

2. The immediate advantages of such a change to the Government and householder in convenience and saving of labour are obvious and it would solve the inescapable problem of the eventual exhaustion of local peat supplies.

3. While we realise that, however attractive the price of electricity may be, the change-over from peat will be a gradual process, we consider that the prospects of such a scheme are sufficiently favourable to dispense with the necessity for attempting to estimate the life of available peat supplies. All danger of their exhaustion will be removed.

4. Our investigation started from the point of view of the smallest consumer. If he can be attracted the success of any such scheme is assumed.

5. There are three methods of producing the electricity :-

(1) Hydro-electric power from the Murrell River.

(2) Steam-driven generators.

(3) Diesel-driven generators.

6. We are not qualified to estimate the technical possibilities or the capital cost of developing the Murrell River. Even, however, if such development were possible, the cost would be extremely heavy and might not be justified for such a small population, including the whole of East Falkland. In any case, labour shortage will be chronic for some years and we see no possibility of a major scheme of this kind being carried out for a long time. Meanwhile the plant in Stanley will have to be extended to meet current needs even with the present high cost of electricity. In order, therefore, to ensure improved facilities immediately after the war, it would seem advisable, if possible, to base the development scheme on the power-house.

7. Steam-driven generators would be more expensive to build and operate than diesel-driven generators.

8. In our opinion the most promising plan will be to extend the present diesel-driven plant.

9. It is part of our rebuilding programme to remove the power-house from its present site. From a technical point of view the area east of the town has certain drawbacks in comparison with Murray Heights, but wherever the power-house is eventually sited, its removal provides a good opportunity for enlargement to accommodate extra plant.

10. The eventual maximum consumption of Stanley, including the Wireless Station with a complete change-over to electricity, is estimated to be some 4,500,000 units per annum. For several years, however, plant to provide 3,000,000 units will be adequate, though the new power-house should be large enough/

enough to accommodate extra plant in case of necessity.

Capital Cost.

11. Estimated costs (f.o.b.) of the extra plant required have been obtained from the Crown Agents :-

2	250 k/w generators	~~£7,500~~	£8000
2	100 k/w generators	~~3,000~~	5000.
4	Transformers	~~680~~	710
	Control gear for Transformers	1,000	915
	Switchboards	~~1,500~~	850.
	Cable and Poles	~~3,110~~	4285
		~~£15,790~~	£19,760.

12. On these figures a very approximate estimate of Capital Cost would be

Plant	~~£15,790~~	£19,760.
Power house, moving of present plant, and erection of transmission lines	~~7,000~~	7,000
Freight and contingencies	~~1,210~~	2,240
	~~£25,000~~	£29,000

13. This expenditure might be financed by an interest free loan under the Colonial Development and Welfare Act of £29,000 repayable in one sum at the end of 25 years, which would involve an annual sinking fund investment of ~~£666~~ £849.4.4.

Recurrent Costs.

14. We consider that the Electrical Department should become an Electricity Undertaking as in certain other colonies. It should be a self-contained unit paying its way, with its finances kept separate from those of Government, the latter paying for its electricity on the same basis as the public. (Vide paragraph 32 below).

15. Recurrent costs are estimated as follows :-

Power House Staff, and proportion of salaries of Supervisor and electricians	~~£2,500~~	£2,500.
Fuel and Oil	~~3,000~~	3,000
Spares	~~334~~	500.
Sinking Fund Charges	~~666~~	850
Reserve Fund for plant renewals	~~500~~ ~~7,000~~	836 £7,686

* Cost at present rates would be £1,854 (see below), but allowance is made for certain increases and increments.

Revenue.

16. After careful consideration we suggest that the lowest prices which would

(a)/

(15a).

(a) attract the smallest consumer to use some power, and

(b) ensure the scheme being economic from the start

would be

Light ~~6~~ 4d. per unit

Power 1d. per unit.

17. The calculations of consumption set out below are thought to be very conservative. If this amount of consumption is not exceeded at the start, it certainly will be later and then the price for light can be reduced. It is essential to avoid the danger of having to increase prices.

18. The lowest paid workingman with a house at present pays an average of £5 a year for his light and £5 for the carting of the peat cut by himself. In order to encourage him to use more electricity it will be advisable to ensure little or no increase on this cash outlay, although the saving of labour to himself and his wife on the peat-banks and in the house will be a big inducement. At the above rates he will pay ~~£3. 6s. 8d.~~ £2-4-5. per year for his light. He will continue to cart his full amount of peat at £5. In order not to exceed his present outlay of £10, he will be able to buy ~~£7. 13s. 4d.~~ £2-15-7. worth of electricity. This would only be ~~400~~ 563 units, but it is certain that a large proportion of working people would buy at least one heater, iron or kettle, using more than this.

19. There are 381 houses in Stanley of which 30 are government quarters in receipt of free peat. Of the remaining 351 consumers, 316 are classed as "smallest consumers". We assume that of those 250 will use power varying from 400 to 1500 units per year, an average of, say, 1000 units for heaters and appliances only.

20. We calculate that 20 private consumers will instal electric ranges, water-heaters, and one heater (or equivalent appliances) but use power with strict economy at a rate of 6000 units per year.

21. We estimate that 15 consumers will use power freely in larger houses, eliminating peat, except perhaps for laundry and drawing-room fires, at the rate of 10,000 units per year.

22. In the 30 government quarters referred to above (excluding Government House) power will be used as in paragraph 21. The policy recommended in order to limit the liability of Government for power supplied is set out in paragraph 38 below.

23. The consumption of power by Government Departments, including Government House, is estimated to increase from the present level of 150,000 units to 200,000 units owing to the expected demands of the larger hospital, Government House and the Public Works Department engineering shop. ~~No provision is made for supplying power to the Wireless Station, though this may be required and would be a welcome addition.~~

24. Only a slight increase in the consumption of light is provided for.

25. The initial revenue figures may, on the above basis, be estimated as follows :-

			£.	
Private Consumers.				
Light:	104,000 units @ ~~6~~ 4d.	=	~~2,600~~	1613
Power:	520,000 units @ 1d.	=	~~2,167~~	2167
Government Consumption.				
Light:	~~37~~,600 units @ ~~6~~ 4d.	=	~~940~~	627
Power:	500,000 units @ 1d.	=	~~2,083~~	2083
Admiralty (W/T) consumption: 480,000 units @ 1d.		=		2000
Total	~~1,161,600~~ 1,641 600 units		~~£7,790~~ £8490	

24
23A. In view of the recent decision of the Imperial Government that the Wireless Station is to be permanently operated by the Royal Navy, we held a discussion with the Naval Officer-in-Charge and Warrant Officer Telegraphist in charge of the Station regarding the supply of power. We were informed that undoubtedly the Station would rely on the town electricity supply if rates were reasonable and that consumption would represent a peak load of 75 kilowatts. On the assumption that the average demand would be much lower than this we have estimated 480,000 units per annum, light and power both in this case being sold at 1d. per unit.

26. This shows an annual profit of ~~£790~~ £804 or ~~11%~~ 10.4%. Whether or not such a satisfactory result could be immediately achieved is arguable, but we are satisfied that before many years have passed very much larger profits can be relied upon, enabling any losses on the early stages to be worked off and an eventual reduction to be made in prices. The only corresponding increase in costs will be that of fuel consumption, while, as we have said, the maximum possible demand for electricity in Stanley is estimated to be in the neighbourhood of four million units.

27. The following may be taken as a fair estimate of the local retail prices from the shops of electrical appliances :

Stoves, for 4 - 6 people	£19	
" larger	25	
Water heaters, 15 galls	18	
" " 5 "	11	(usual bath size)
Heaters, smallest	1	
" largest	3. 10. 0.	
Kettles	2	
Irons	1. 10. 0.	

28. The electricity undertaking will supply all Government requirements at about 25% discount on these prices, but we consider that the shops should be invited to supply to private consumers on condition that stoves and water heaters are offered on the hire purchase system. The undertaking should service all equipment, charging at cost only.

29. Capital outlay for private consumers will be :-

(1)	250	consumers	referred	to	in	para: 19	£5
(2)	20	"	"	"	"	" 20	£32
(3)	15	"	"	"	"	" 21	£35

It is not suggested that any person in classes (2) and (3) will wish to take advantage of hire purchase, but the expensive equipment should be available on hire purchase in order to encourage smaller consumers to buy, and if the shops are unwilling to offer these facilities the Undertaking should be free to do so to private consumers.

30. Hire purchase might be on the following basis :-

Stove + Water-heater = £30: Deposit of £5 + 5 payments of £5. 5s.

Smaller items would be bought outright.

In calculating initial consumption in paragraphs 19 - 25 above we have not taken any account of the obvious inducement of hire purchase on this basis. It would almost certainly raise our consumption figures quickly and very considerably.

31. We now come to the financial effect of our proposals on Government. The present cost to Government of supplying light and heat is as follows (1945 Estimates) :-

Head/

(156).

			£.
Head VII.	1.	Personal Emoluments: ½ salaries Supervisor, Electricians, Clerk and Office Boy; full salaries power house staff :	1,854
	S/h 5.	(if all fuel had to be imported)	1,600
	S/h 6.		20
	S/h 8.	(½ only)	225
Head XIX.	S/h 15.		600
			£4,299
Head XIX.	S/h 14.	Peat Supply	1,400
	S/h 15.	Coal	200
			5,899
Less.	Revenue.		
	Head VII. S/h 5.	£2,100	
	S/h 6.	600	2,700
		Net cost	£3,199

32. On the above basis Government appears to be paying 5.3d. per unit for the electricity it consumes itself as compared with 7½d. (average) paid by the private consumer. The difference may be regarded as interest on Capital. If, however, the new plant is to be financed by the Imperial Government, there is no justification for Government obtaining a cheaper rate.

33. An important factor is the issue of free peat to 30 officials for their houses. This is a privilege which evidently survives from the days when all householders had to dig their own peat. Electric power and any peat required in addition should in future appointments be excluded. In such cases peat should be supplied by Government at cost. For existing appointments the privilege must be maintained and peat plus the normal requirements of power must be supplied by Government. Clearly, unlimited free power would be abused and it will be necessary for an assessment to be made of the normal power requirements in each type of quarter. This will be a thorny undertaking but there seems to be no other solution.

34. For purposes of calculation we have assumed an electric stove, water-heater and one or more heaters per house giving a consumption of 10,000 units per year. Some houses would use less and others more. In any case peat for furnaces, wash-houses and in some cases drawing-room fires will be needed at first, though oil-fired furnaces, electric washing machines and more efficient heaters may be practicable later on. Taking existing peat furnaces, wash-houses and a few drawing-room fires into account, the annual peat requirements of Government could be reduced immediately by £780.

35. Capital and Recurrent costs to Government are estimated as follows :-

Capital.	Purchase of 30 stoves @ £15	450	
	" " 2 " " £19	38	(Hospital & Govt. House)
	" " 60 water heaters (5 galls) @ £9	540	
	" " 1 water-heater (15 galls) @ £14	14	(Hospital)
	" " 50 heaters @ £2	100	
		£1142.	

Note/

(Note. Water heater and heaters. Quantity needed would vary according to the size of the building. No account is taken of stoves, etc., bought for resale as in para: 29 as there would be a temporary outlay only).

		£.	
Recurrent.	Payment for electricity as in para: 25	~~3,023~~	2710
	Maintenance and replacements, Government Stoves, etc.	~~200~~	200
	Peat Supply	620	620
		~~£3,843~~	£3530

37

36. It will be observed that recurrent costs will be some £3318 ~~£644~~ more than at present. Against this, however, and the £1,142 capital cost must be placed saving on plant extension and replacement which will now be a charge on the Electricity Undertaking. We have little doubt that over a period of years Government will have saved money.

37. We would emphasize that, while we have had to base our calculations on the initial stage of the scheme, when only a relatively small change-over from peat can be expected, we do consider that this change-over will steadily increase and that the demand for peat will have ceased before the supply is exhausted.

38. Your Excellency will appreciate that it has been difficult for us to produce hard figures. All calculations made regarding a project of this kind by anybody except ~~an expert~~ perhaps a commercial expert could be disputed. We hope, however, that we have succeeded in producing sufficient evidence to justify the undertaking.

Kenneth Bradley
Colonial Secretary.

A. Mercer.
,Supervisor,
Electrical & Telegraphs Dept.

ALL COMMUNICATIONS
TO BE ADDRESSED TO THE
CROWN AGENTS FOR THE COLONIES.
THE FOLLOWING REFERENCE AND THE
DATE OF THIS LETTER BEING QUOTED.

W/Falk.Is.5105

20.

4, MILLBANK,

LONDON, S.W.1.

TELEGRAMS { INLAND: "CROWN SOWEST LONDON."
OVERSEAS: "CROWN LONDON."
TELEPHONE: ABBEY 7730.

13th February, 1945.

Sir,

Rec'd 11

I have the honour to refer to your telegram dated the 14th December requesting information regarding the probable cost of an electric power plant. The first portion of this telegram when received read as follows:-

"Item No.1, two 60 KW3 engine. Item No.2, etc., etc."

The telegram was, however, subject to a correction, reading:-

"Page 1, 27 down, please read - item No.2 for Petter TX3 engine. Item No.2, 2 etc."

Neither the original telegram or the correction are quite clear to us but we have assumed that under item 1 you require the approximate cost of engines of the Petter TX3 type without electrical equipment.

Rec'd 12

As promised in our telegram dated the 3rd February, we attach herewith in original the following documents:-

1) Petter's letter reference 128/RHC/FJU.P5/8/ALX dated the 17th January, Publications No.D.196 and D.188.

2) Ruston and Hornsby's letter reference MCY/6637 dated the 11th January and Publication No.8236.

3) National Gas and Oil Engine's letter reference JCG/GM dated 17th January and Catalogue No.261A.

4) Johnson and Phillips' letters reference SE.61650 dated the 11th January and FPE.61649 dated the 12th January together with Publications Nos.SG.36 and SG.14.

/5.

The Colonial Secretary,

FALKLAND ISLANDS.

WH

AWHK

5) General Electric Co's estimate reference T.16433 dated the 24th January together with Technical Description No.333.

6) Henley's Telegraph Works Co's letter reference S.44/4192/EX.26 dated the 12th January together with Drawing No.CD.311047.

7) Siemens Bros' letter 295/176.XE.4809 dated the 22nd January together with Drawings No.H.53698, 48960K and S52957.

We trust these various quotations will furnish the information you require,

I have the honour to be,
Sir,
Your obedient servant,

for Crown Agents.

No II Falk. Ds.

Enclosure to ~~Governor's~~ Despatch No. 32 .... of 20/H/HS.

List of Plant and Equipment required.

Two.	250 K.W. Diesel driven AC threephase Generators 50 cycles 380/400 volts complete with switchboards. Switchboards by Johnson & Phillips Limited.	£8000.
Two.	100 K.W. Diesel driven AC threephase Generators 50 cycles 380/400 volts complete with switchboards. Switchboards by Johnson & Phillips Limited.	5000.
	All plant to be arranged for running in parallel. It is required that the Diesel engines be of the same construction having the same BHP per cylinder, same stroke and bore so that spare parts stocked for one engine will suit all four engines. With this in view it is requested that quotations from W.H. Allen Sons & Co Ltd, Bedford., and from Blackstone & Co Ltd, Stamford., be obtained. The plant to be fitted for automatic voltage control and engines to be fitted with De Laval Centrifugal oil purifier systems.	
One.	300 kVA 3-phase 50 cycles step-up indoor transformer 390/6600 volts. Ref Johnson & Phillips, Ref Transformer Dept F.P.E. 61649. A.U. 12th Jan, 1945.	281.
Three.	100 kVA 3-phase 50 cycles step-down indoor transformers 6600/390 volts as above reference.	428.1
Four.	Single Panel B.A.2 Truck cubicles suitable for controlling 6600 volt side of above Transformers. J & P Ref. S.E.61650 FB/EKR . @ £175.	700.
Four.	Single Panel ironclad non-drawout pedestal mounted pattern switch units for controlling Low Tension side of Power Transformers. J & P Ref. S.E. 61650 FB/EKR (1) 300 KVA Control unit @ £71 (3) 100 KVA " " @ £48	71 144.
One.	8 Panel ironclad pedestal mounted pattern switchboard for 8 outgoing feeders on a 380/400 volt three phase 50 cycle system. J & P Ref. S.E. 61650 FB/EKR	850.
	From Messrs W.T.Henley's Telegraph Works Company Ltd. Their Ref.S 44/4192/EX 26 12 January 1945.	
	16000 yards 19/.083 Hard drawn bare copper strand . . .	777.
	18000 yards 7/.064 ditto H.T. overhead line . . .	193.1
	Cost of packing these two items	67.
	1000 yards .1 sq in (19/.083) 660 volt L.T. 4core cable	487.
	1000 yards .0225 sq in (7/.064) 660 volt L.T. twin core cable.	149.
	12000 yards 7/.064 single core cable CMA. WE 4101	403.
	190. 35ft X 8" at top Creosoted wood poles each complete with galvd mild steel Henley crossarm as dwg. No. CD 311047/1.	1630.
	600. 11 kv. Porcelain Pin type insulators PN 11 complete with spindles for ½" crossarms	168.
	400. L.T. Porcelain pin type insulators complete with spindles for ½" crossarm.	44.
	Interconnecting cable and boxes necessary but dependent upon layout of equipment. allow say.	365.
		19760.
	Quotations for 2000 yards of 10,000 volt 3core underground cable 19/.052. Sectional area of each conductor, decimal nought four, is also required from Messrs W.T.Henley.	

(22)

GOVERNMENT HOUSE,

FALKLAND ISLANDS. STANLEY,

No. 32. 20th April, 1945.

Sir,

M.P. 182/43 (Hospital)

I have the honour to refer to my despatch, No. 75 of the 20th November, 1944, paragraph 3 (5), in which I informed you that, as part of the post-war development programme, an investigation was being made into the economic possibilities of increasing the output of electric power with a view to the substitution of electricity for peat as the fuel supply of Stanley.

ENCLOSURE, No. I. Rec'd 15

2. I now enclose copies of a report on this subject which I have received from the Colonial Secretary and Mr. Mercer, Supervisor, Electrical & Telegraphs Department.

3. I should be grateful if consideration could be given to the grant under the Colonial Development and Welfare Act of an interest free loan of £29,000 repayable at the end of twenty-five years as suggested in paragraph

RIGHT HONOURABLE
O. F. G. STANLEY, P.C., M.P.,
SECRETARY OF STATE FOR THE COLONIES.

Rec'd 29

(22a)

paragraph 13 of the report, in order to enable this scheme to be undertaken as part of the general development plan.

4. At present the Electrical & Telegraphs Department supplies light and a certain quantity of power to Stanley at the very high rate of 9d. per unit, reduced to 6d. after the first 200 units in any one year. It is not possible to reduce the price because the diesel engines are already carrying the maximum load compatible with safety.

5. With the exception of one or two anthracite stoves and some electric heaters, all cooking and heating in Stanley is done by means of peat, which is even used, with the addition of a certain amount of coke, in the furnaces of the central heating systems of the larger buildings.

6. Peat has, for a hundred years, been obtained from banks on the Common lying to the south and south-east of the town. Banks are allotted to all residents and every householder, (except senior Government officials and those few private persons who can afford to pay someone to do it for them,) spends most of his available spare time from October to April on his bank, cutting, rickling and stacking sufficient peat for the winter. The peat is brought home by lorry or horse and cart.

7. It needs little imagination to see what a burden this places on the working man and how

precarious/

(226)

precarious is his fuel supply. If a man falls ill or, for other reasons, is unable to dig his peat he has to rely on his family or his relations to help him. An unusually wet summer is also likely to have serious consequences. Some men always keep a year's supply of peat stacked on the banks, and if the cart-tracks remain passable, this ensures the winter's fuel. Many, however, rely on the peat cut in the spring being dry enough for use by the autumn. In a wet year they are faced with a winter of damp and smoking fires.

8. Equally heavy is the labour and inconvenience caused to the housewife throughout the year. It will be sufficient to point out that a cooking range has to be refilled with peat at least every half-hour to maintain its temperature. For open fires peat is attractive but it deposits a film of dust over every room. Chimneys catch fire so easily that it has been necessary to arrange for all those in government buildings to be swept once a quarter, and even this has not eliminated the danger.

9. I do not think I need say more to show that the delivery of the people from the slavery of peat would be one of the greatest social benefits which could be conferred on them.

10. It is estimated that the annual cost to the people of Stanley of getting home their own peat, calculating a man's labour at current rates, is about £5,292/

£5,892. This figure, however, is of academic rather than practical interest, because most of the people dig their own peat and having low incomes, they would set the cost of electricity merely against their cash outlay for transport and would not make full allowance for their time spent on the peat banks.

11. Government has to meet every year the problem of cutting no less than 18,000 cubic yards of peat and of transporting 3,000 tons to all the public buildings in Stanley and to thirty official residences. This task absorbs all the available labour and transport through most of the summer and at a time when it is most urgently required for road maintenance and other outdoor work. In addition Government has to drain many acres of peat banks and to maintain and to make new tracks annually some 6 miles of road and track and drain culverts, work essential for the cartage of the peat. The annual expenditure on peat and peat roads is some £2,554.

12. The peat supplies accessible to Stanley are, of course, steadily decreasing and each year the people have to walk further to and from their banks. A detailed survey of the uncut bogs within four miles of the town would take some time and might not give reliable results owing to the uneven contours of the clay subsoil, but local experienced opinion puts the life of these supplies at between ten and fifteen years at the present rate of cutting.

13. Apart, therefore, from the general considerations advanced in paragraphs 6 to 11 above, the time would

would appear to be ripe for taking steps to bring about a steady reduction in the demand for peat. I agree with the opinion expressed in paragraph 37 of the enclosed report that a steady increase in the use of electricity will solve (and probably is the only solution of) the problem of future peat supplies.

14. The Electricity Undertaking referred to in paragraph 14 is in effect little more than a method of accountancy. The existing staff would continue to be employed as members of the Civil Service and the Undertaking would be an integral part of Government. I have no further comments to make on the report.

15. I am not delaying my despatch to enable this application to be drawn up in the usual form since the general considerations covering labour conditions, priority of building and the like are fully set out in the enclosure to my despatch under reference, and it would be some time, owing to the absence of the Executive Engineer on leave, before plans and detailed estimates could be drawn up.

16. I also have in mind the request, contained in paragraph 4 of your Circular telegram No. 107 of the 4th October, 1944, for lists of all plant likely to be required by Colonial Governments costing more than £10,000. You will observe that the plant required for the present scheme is estimated at £19,760 f.o.b. I enclose details in order to enable you to place the order without further reference to me in the event of a loan being granted.

ENCLOSURE, No. II.
Red 22 F.

17.

17. I trust that sufficient information has been provided to enable your advisers to consider this matter and that you will take a favourable view of the application.

I have the honour to be,
Sir,
Your most obedient,
humble servant,

(Sgd.) A. W. CARDINALL

(24)

No. _____

(It is requested that, in any reference to this minute the above Number and the date may be quoted.)

MINUTE.

From Supervisor E & T Dept,

Stanley, Falkland Islands.

14th January, 19 46

To Hon Colonial Secretary,

Stanley.

Referring to the proposed extension of the Electric supply and the moving of the power station I beg to submit that the site of the ststion be fixed to enable the arrangements for distribution of light and power to be made now.

The most convenient site would be in the old quarry at Magazine Valley. The advantages are thet stone for the foundations can be had on the site, a natural drain to the sea already exists, it is off the public thoroughfare and water supplies for the cooling arrangements are close at hand. Transport of the plant will be simple and oil supplies are easily delivered. Oil fuel stocks can also be stored out of sight and convenient to get at.

Although Mr Bradley opposed the above suggestion for reasons unknown to me, I still maintain that recurrent costs in transfort and services of the station, although always essential, will be considerably less with the site at the old quarry than in any other place outside the public thoroughfare.

Is there any objection to the above suggestion, please.

S E & T
14.1.46

(28)

EXCERPT FROM MEMORANDUM FROM GENERAL MANAGER, FALKLAND ISLANDS COMPANY, LIMITED OF 1. 1. 45 (Original filed in M.P. 3/45, "Proposals by Gen. Man., F.I.Co.")

... ...

The work for which the Floating Dock was intended, i.e. docking of whale catchers, never materialised and we therefore intend to dispose of her when we can. We then propose to erect a slipway to take a vessel up to 150' if Government will sell or lease us land for the purpose. We should require 2 acres and a suitable site is by a telegraph pole outside the first barbed wire beyond the Agricultural Station east of the town.

(Intld.) L.W.H.Y.
1. 1. 45.

(29a)

COPY

TELEPHONE. WHITEHALL 6505 (4 LINES).
TELEGRAMS. GREEPHOLE, PARL, LONDON.
TELEGRAPHIC CODES USED { A.B.C., BENTLEY'S, BROOMHALL'S, HAMILTON'S WIRE, WESTERN UNION.

CHP/AW

PREECE, CARDEW & RIDER,
CONSULTING ENGINEERS.

SIR ARTHUR PREECE. J. H. RIDER.
JOHN BELL. C. H. PICKWORTH.

8 & 10, QUEEN ANNE'S GATE,
WESTMINSTER, S.W.1.

19th July, 1946.

The Chief Engineer (Contracts),
Crown Agents for the Colonies,
4, Millbank,
Westminster, S. W. 1.

Sir,

W/Falkland Islands 5197.

With reference to your letter dated 27th May with enclosures from the Colonial Office, in regard to a proposal to install oil engine generating plant in a new power station building and to extend the distribution system with a view to improving amenities in Stanley, we have examined the proposals in the report prepared by the Colonial Secretary and the Supervisor, Electrical & Telegraphs Department, and beg to submit our comments.

(2) We observe from the report that the existing power station plant is taxed to capacity, and also that for various reasons it is not considered expedient to extend the present power station building. The proposals now under consideration provides for the construction of a new building at another site to contain new oil engine generating plant comprising two sets of 250 kW. and two sets of 100 kW. capacity with provision for additional plant as necessary.

(3) Our records indicate that the original power station building is a steel frame structure with galvanised iron sheeting on the outside and a timber lining. The building was about 43 feet long x 24 feet wide and 11 feet high and contains three oil engine sets of 10 kW., 20 kW. and 30 kW. output. The original building was extended in 1937 by the addition of three more bays bringing the total length of the building to approximately 75 feet. Two further oil engine generating sets of 70 kW. each were installed in the extension, thus the total capacity of the existing plant is 200 kW.

(4) There is no space available in the present building for additional plant nor is the building suitable for housing generating sets of the capacities now proposed. As a new building is required, the Colony's rebuilding programme, which provides for another site for the power station, seems to be fully justified.

(5) We concur with the opinion expressed in the report that new oil engine driven three phase, 50 period generating sets would provide for the economical development of the supply services.

(6) In regard to the cost of the proposed plant and equipment, referred to in paragraph 11 of the report in greater detail in Enclosure 2 of the Governor's

de

despatch, we have obtained prices from various manufacturers and estimate that this will amount to approximately £34,000 f.o.b. The increase over the Colonial estimate (£19,760) is considerable and is accounted for to a very large extent by the present-day cost of generating plant. Prices quoted by British oil Engines and Ruston & Hornsby, Ltd., for the complete plant, including cooling plant and compressor set, were £15,040 and £20,865 respectively, with however, no provision for the interchangeability of parts, as required by the Colonial Authorities. An alternative quotation from Ruston & Hornsby, Ltd., which provided for plant to the Colony's requirements with 250 k.w. and 140 k.w. sets was £23,715, which sum is included in our estimate of £34,000 referred to previously.

The enclosure to this letter gives particulars of our estimate of costs and also the estimated cost of the S.W.T. cable referred to in Enclosure 2 of the despatch from the Falkland Islands. It will be noted that our estimate provides for steel instead of wood poles, prices for the latter being unobtainable.

(7) We find it difficult to estimate, with any accuracy, the total capital costs which will be involved by the Colony's proposals in so far that it is not clear whether the new power station building is to be provided from this country, and if it is proposed to remove some or all of the present generating sets and instal them at the new site. The sum of £7,000 included in paragraph 12 of the report for the building and the work at site appears to us to be rather low. We estimate that a suitable steel frame building with overhead crane would cost not less than £3,500 f.o.b. There is also the erection of the sets to be provided for which we think would require the services of an erector from the manufacturers' works. The cost of an erector from home would be not less than £1,150. However, if the Colonial estimate for the building and the works at site is accepted and an allowance for freight, etc., and contingencies of, say, 20% on £34,000 plus £7,000 for the plant, equipment, building and the work at site, the total capital costs would be as follows:-

Plant and equipment		£34,000
Power house, movement of present plant and erection of transmission lines ...		7,000
Freight and contingencies ...		8,200
		£49,200
	say	£50,000

(8) We are unable to check the estimate of the recurrent costs, as given in paragraph 15 of the report, in so far that we have no knowledge of the cost of fuel and lubricating oils in Stanley. The estimate of £3,000 for fuel and oil for the generation of 1,640,000 units per annum, plus the losses in the power station and the system, indicates very favourable prices compared with those obtaining in this country and in many of the Colonies.

As

The Chief Engineer (Contracts). 12.7.46.

As regards the last two items in the list, assuming an average life of 20 years for the power station and distribution equipment installed (15 years is usual for oil engine plant), the amount of the annual sinking fund charges on a 3% basis with an expenditure of £50,000 would be £1,850. With full provision made for amortisation of capital, a further provision for plant for renewals is unnecessary. On the basis of the Colonial estimate for supervision of operating staff, fuel, oil and spares, the total recurrent costs will amount to £7,850.

(9) While we consider the estimated consumption by private consumers for power is on the high side for some years after a full service is given, the estimate of Government consumption of power is low, having regard to the additional demands referred to in paragraph 23 of the report. With full facilities for cooking, heating, laundry and medical appliances, as provided for in hospitals in other Colonies, the estimates under Government consumption of power might reasonably be increased to 500,000 units per annum. This increase will offset any reduction in the consumption of power units by private consumers in the early years of operation of the new undertaking. The estimates for current consumed for lighting purposes for private and also Government consumers are, we consider, on the high side for the initial period. As regards the estimate of consumption by or privately for their Wireless Transmitting Station, we think it is unlikely that an annual consumption exceeding 300,000 units should be expected with a peak load of 75 kW. in respect of the transmitting and receiving plant.

We have no information about this?

(10) The proposed charge of 1d per unit for lighting is, we consider, unnecessarily low. In many Colonies between 7d and 1s. 0d per unit is charged for lighting supplies. The charge of 6d per unit would appear appropriate for consumers in Stanley, who would pay less than at present and would, in addition, have the benefit of an efficient service. The charge of 1d per unit for power, as proposed in the report, would be economical and would encourage consumers to make full use of the supply provided.

What is present rate?

We would suggest that domestic consumers be given the option of taking a supply under a two-part tariff, the first part of which would be a fixed monthly amount based upon the size of the house or number of rooms with a low running charge for current consumed, as the second part. A tariff of this kind is an advantage to the Undertaking, who then installs only one meter, and to the consumer who can make full use of the supply for any purpose. Two-part tariffs for domestic supplies are available to consumers at Undertakings at home and have also been approved in the Colonies

Yes.

(11) We consider that tariffs of 6d per unit for lighting supplies and 1d per unit for power with a suitably adjusted two-part tariff as an alternative for domestic consumers, together with the facilities proposed by the Colonial Authorities for the hire purchase of domestic appliances, would ensure that the Undertaking is self-supporting in the early years of operation. Later on, as the supply develops, it should be possible to reduce charges.

(12)

(12) The scheme as put forward by the Colonial Authorities for the construction of the power station at a new site to contain four 3-phase, 50 period generating sets for the initial installation with provision for further plant would, we consider, provide for an efficient supply for Stanley. We agree it is desirable that the oil engine plant should be of the same construction so far as possible, although this will involve additional expense. This additional expense is, however, offset to some extent by the larger output - 140 kW. as against 100 kW. - for small sets.

The Colonial Authorities' proposals for the hire purchase of domestic appliances are in line with modern practice, and if consumers have the option of repayment over periods of up to ten years for the more expensive apparatus, there is little doubt that the majority of them will take full advantage of the service. The list of appliances in the hire purchase scheme put forward by the Colonial Authorities might, with advantage, be extended to include refrigerators, washing machines, and also wash boilers.

As regards the hospital, we would suggest the installation of electrically heated equipment to include boiling pans and ovens, a hot water installation and also sterilising and laundry equipment.

We agree with the observations in the Colonial Report that it is essential to avoid the danger of having to increase the charges for current after a new scale is decided. We consider, therefore, that it is advisable, in the initial stages, to adopt a higher charge than 4d per unit for lighting as proposed. A flat rate charge of 8d per unit we have suggested for lighting supplies is reasonable and will ensure that the Undertaking will pay its way in the early stages of the new supply service.

We are, Sir,

Your obedient Servants,

PREECE, CARDEW & RIDER.

Enclosure.

SCHEDULE OF FALKLAND ISLANDS EQUIPMENT.

Two Ruston & Hornsby 250 kW. Diesel sets less switchgear. Two Ruston & Hornsby 140 kW. ditto. (Interchangeable as regards spares).	£23,715.	0.	0.
One Johnson & Phillips 300 kVA. transformer.	391.	0.	0.
Three " " 100 " "	450.	0.	0.
Four " " 66 kV. truck cubicles.	840.	0.	0.
Four " " 500 V. H.D.O. switch units.	258.	0.	0.
One 12 panel Johnson & Phillips switchboard including four generator and eight feeder panels with 15 kVA. feeder breakers.	2,586.	0.	0.
	£28,250.	0.	0

Henley's.

16,000 yds 19/.083 H. D. bare copper	960.	0.	0.
18,000 " 7/.064 ditto overhead line	230.	0.	0.
Packing	68.	0.	0.
1,000 yds. .1" 19/.083, 600 V. 2 core cable	633.	0.	0.
1,000 " .0225" 7/.064 " 2 " "	194.	0.	0.
12,000 " 7/.064 single core cable	473.	0.	0.
190 35 ft. steel poles and crossarms, say	2,193.	0.	0
600 11 kV. pin insulators P.I.11.	182.	0.	0
400 L.T. " "	33.	0.	0
Interconnecting cable and boxes, say	700.	0.	0
	£33,942.	0.	0

New Ice.

2,000 yds. 10,000 Volt, 3 core, 19/.052, .06" cable, P.I.L.C. G.E.A. cable.	£887.	0.	0.

Saving. (29)

From the Secretary of State for the Colonies.

To the Officer Administering the Government of THE FALKLAND ISLANDS.

Date 1st August, 1946.

No. 32 Saving.

98/44

Red 22.

Reference your despatch No.32 of the 25th April, 1945. Electric power scheme for Stanley. I enclose a copy of a report by the Consulting Engineers. It will be seen that without further particulars the Consulting Engineers are unable, with accuracy, to estimate the total capital costs which would be involved in your proposals. It is however evident that the figures given in the despatch under reference for the cost of plant and equipment would be considerably exceeded. A further point which the Consulting Engineers make is that it would be advisable in the initial stages to increase the proposed flat rate charge in the Falklands to 8d a unit for lighting purposes.

I should be glad of your views upon the report enclosed and also for your opinion whether the necessary expenditure could be met by a locally raised loan if assistance under the Colonial Development and Welfare Act was given to meet the interest charges for the first few years, say the first five years.

SECER.

SET

See Red 33

DECODE.

(32)

TELEGRAM.

From The Secretary of State for the Colonies.

To His Excellency the Acting Governor.

Despatched: 16th. October, *19* 46. *Time:* 18.00

Received: 17th. October, *19* 46. *Time:* 09.30

Red 29.

No. 209. Reference my telegram No. 22 Saving of August 1st Electric power scheme.

Please telegraph:

(a) whether new power station building is to be provided from United Kingdom

(b) whether it is proposed to remove some or all, and if so what, of present generating sets and to install them at new site

(c) replies to question in my telegram saving under reference.

SECRETARY OF STATE.

G.T.C.

LJH.

See Reds 33, 34.

Reply at Red 39

DECODE.

(33)

TELEGRAM.

From His Excellency the Acting Governor.

To The Secretary of State for the Colonies.

Despatched: October 29th *19* 46 *Time:* 11.00

Received: .....*19* *Time:*

Red 29 No. 341. Your telegram of 1st August No. 22 Saving and your Red 32 telegram No. 209. Electric power scheme. Unless you see any objection I should prefer to let this matter await arrival of Governor Clifford.

GOVERNOR.

G.T.C.

See Red 39

LJH.

DECODE.

(34)

No. S 46 DC 131. **TELEGRAM.** M.P. 98/44.

From The Secretary of State for the Colonies.

To His Excellency the Acting Governor.

Despatched: October 31st *19* 46 *Time:* 17.16.

Received: November 1st *19* 46 *Time:* 09.30.

Red 33.

No. 227. Your telegram No. 340. Electric Power Scheme.

Matter has been discussed with Governor Designate and I should be Red 32 grateful for replies to questions (a) and (b) in my telegram No. 209.

G.T.C. SECRETARY OF STATE.

Reply at Red 39.

DRM.

DECODE.

(39)

TELEGRAM.

From His Excellency the Acting Governor.

To The Secretary of State for the Colonies.

Despatched : November 5th *19*46 *Time :* 16.30.

Received : ..... *19* *Time :*

Red 34 No. 346. Your telegram No. 227. Electric Power Scheme.

(a) New power station building will be required from United Kingdom

(b) Existing machinery not required in new building because all plant is single phase and could not work in conjunction with proposed three phase supply. Presume replacing existing alternators and switch boards with three phase alternators and switchboards would be uneconom ical and perhaps impracticable especially as Petter T X 3 machines are obsolete.

GOVERNOR.

G. T. C.

See Reds 32, 33

JH.

DECODE.

TELEGRAM.

From The Commercial Secretary, Montevideo.

To Clifford, Governor Designate, s.s. Lafonia.

Despatched: November 12th *1946* *Time:* 11.30.

Received: November 13th *1946* *Time:* 14.30.

Your telegram 9th November. Am arranging to have candidate available for interview by you on 17th November.

COMMERCIAL SECRETARY.

H.C.S.

File Electric Light Installation and (PA) pl.
No candidate was produced. I would like to discuss at leisure.

M.C. 29/XI.

DECODE.

TELEGRAM.

(43)

From His Excellency the Governor.

To H. M. Minister, Montevideo.

Despatched : December 2nd *19* 46 *Time :* 16.30.

Received : . . . . . *19* *Time :*

Following for Commercial Secretary begins. Grateful you inform me whether you can arrange for early visit of Electrical Engineer on lines discussed. If no early likelihood must abandon idea.

G.T.C.

GOVERNOR FALKLAND ISLANDS.

Reply at 44

DRM.

DECODE.

(44)

No. 21.

TELEGRAM.

From Commercial Secretary, The Consul Montevideo

To His Excellency the Governor

Despatched: December 10th *19* 46 *Time:* 16.30

Received: December 11th *19* 46 *Time:* 09.00

Red 43

Your telegram 2nd December. Have heard of suitable man. Hope to be able to report by the end of this week whether he will be available.

Commercial Secretary, Montevideo

H.C.S.

Wait?

Is I write pursuing?

Reply at 47

M.C. 12.12.46.

M.M.

GOVERNMENT TELEGRAPH SERVICE.

FALKLAND ISLANDS AND DEPENDENCIES

(47)

SENT.

Number	Office of Origin	Words	Handed in at	Date
				13.12.46.

To

PRODROME MONTEVIDEO.

Red 44.

Following for Commercial Secretary begins Your ~~telegram~~ 10th December most grateful your co-operation but circumstances have now arisen which make visit unnecessary at present. Stop ends.

GOVERNOR.

Time

N.º.1076a

Central Uruguay Railway Company

Ref. N.º

General Manager's Office,
Casilla de Correo 203
Montevideo.

10th December, 1946.-

Dear Southby,

Regarding the electrical engineer for Port Stanley, I cannot do better than enclose a copy of a letter which I have today received from Mr Pickwoad, Chairman of the British Argentine Railways General Managers' Conference, enclosing one from Mr Eckhard, the Chief Electrical Engineer of the Central Argentine Railway; both of which are self-explanatory.

Yours sincerely,

E. P. Southby, Esq.,
British Embassy,
Rio Branco 1281,
City.

File spa. I will ask Admiral Tennant if the Chief Engineer of Sheffield may inspect our plant. MC 1/1/47

Copy

Ferro Carril Central Argentino,
Bartolomé Mitre 299,
Buenos Aires.

Gerencia

6th December, 1946.

My dear Grindley,

So soon as I received your letter of the 27th I got in touch with Eckhard, and can't do better than enclose a copy of his report. As you can imagine, we can't spare anybody at the moment from the C.A.R., and Wright of the Western advises me that unfortunately he is in the same position. The only man that might appear to be available is Persons, but as you see, his fees are some $300 per day as against £1 per day offered by H.M.G. I shouldn't imagine that a competent electrical engineer would undertake to carry out an isolated job at a fee representing some £365 per annum.

I am very sorry not to be able to help you in this particular case.

Kindest regards,

Yours sincerely,

W.A.PICKWOAD

H.H.Grindley, Esq., O.B.E.
General Manager,
Central Uruguay Railway
Montevideo.

C o p y CHIEF ELECTRICAL ENGINEER A.U.1(A4)

VICTORIA, December 4th, 1946.

W.A.Pickwoad, Esq.,
GENERAL MANAGER.

Dear Sir,

INSPECTION OF THE PORT STANLEY TOWN POWER HOUSE AND ELECTRIC LIGHTING INSTALLATION : FALKLAND ISLANDS

With reference to our conversation of Saturday last regarding Mr. H. W. Grindley's letter of the 27th. ultimo.

The possibility of obtaining the services of an Electrical Engineer to visit the Falkland Islands to inspect and report on the Port Stanley Electricity Supply was submitted to the representative of the Council of the Institution of Electrical Engineers, Mr. R.G. Parrott, some few weeks ago, and at that time I was approached regarding the possibility of recommending a member of my staff or any other acquaintance for the mission.

Due to the amount of special work at present on hand, the renewal of home leave in the near future and the general shortage of staff to comply satisfactorily with the Company's needs, I did not hesitate in stating that I could not release anybody for the mission.

I did, however, suggest the possibility of H.M.G. commissioning Mr. Blundel Parsons - who practices as a Consulting Engineer - Mechanical and Electrical - in Buenos Aires.

I have made enquiries from Mr. Parsons and hear that he was approached by Mr. Parrott, but that the terms of the mission were far from meeting his requirements as regards emoluments. While H.M.G. was offering £ 1, per day, his present fees are $ 300.00 per day. I regret that I do not know any other suitable person, and repeat that I cannot spare a suitable man from the Railway Company's staff.

I would add that Mr. Ratcliff Wright, the Chief Electrical Engineer of the Buenos Aires Southern & Western Rlys. was also approached, and possibly was not able to release a suitable man.

I would suggest that H.M.G. might obtain the services of a Naval Engineer to carry out the work on the occasion of the visit of a Naval Ship to the Islands, or alternatively if the Resident Engineer of the Islands could forward a report on the situation, I might be able to assist him regarding recommendations.

Yours truly,

K. N. ECKHARD

(50)

Original filed in 0004/A) "B.A.K.C. Power Supply" (Copy to S.E.M.T. file)

SAVING TELEGRAM.

From: The Officer Administering the Government of the Falkland Islands.

To: The Secretary of State for the Colonies.

Date: 22nd January, 1947.

No: 11 SAVING.

9 in 0004 "BAKC General"

Paragraph 3 of my telegram No. 11 British American Kelp Company.

I enclose a provisional indent (No.6/1947) covering requirements for the initial stage of electric power supply. It provides for transformers and overhead lines sufficient for supplying 1200 Kilowatts at the Camber when full working stage of British American Kelp Compnay is started. Execution depends on the acquisition of the three Blackstone 150 Kilowatt diesel engines and the two 400 Kilowatt generators on which the Crown Agents hope to secure an option.

2. Since the new generating station should be built in Stanley question arises of carrying power to Camber. Cost of submarine cable is not known: but in view of possibility of a further eventual supply to Naval W/T Station and for other reasons (see paragraph 3) indent now submitted is in respect of over-head power lines only. Wire poles and insulators have been included for Stanley, B.A.K.C. and Naval W/T Station, but only transformers and other equipment for B.A.K.C.(see paragrpah 1). On account of the frequent high winds, sufficient poles have been asked for to be placed every 120 feet .

3. I am advised that over-head transmission lines at 11,000 volts are considered most suitable for supplying electric power to the B.A.K.C. when established at the Camber, because any damage to the over-head system, either to poles or to wires, can be easily repaired with materials obtainable locally.

4. As the over-head line is intended to supply the Naval W/T Station, provision to tap the line for this purpose has been arranged for.

5. A submarine cable supplying high voltage could be taken across Stanley Harbour, but I am advised that the point at which this could be done with advantage is some 1,500 yards wide. This would save the cost of about 100 poles and 12,000 yards of over-head line, but the cable would be laid in somewhere between 10 to 20 feet of mud and on account of this it would be difficult to survey the sea bottom in order to avoid laying the cable on or near metals which would cause violent chemical action. I am further advised that it would be unwise to lay the cable anywhere near ship anchorages, and, to avoid this it would have to be laid a considerable distance west of the shipping area. If the cable were to be laid to the west, the distance to be covered would be much less and it appears doubtful whether the cost would be reasonable compared with the over-head line. In any case a fault on the cable could not be repaired locally without considerable delay, and the chemical action problem would always be present.

6. The estimated distance for the over-head line is 11,000 yards. The Company require 1200 Kilowatts 3 phase at 400 volts, and it is proposed to supply this through single phase transformers in banks for 3 phase circuit. Single phase transformers would be easier to transport and a spare single phase unit can be used to replace any one phase which may become damaged.

7. If the scheme materialises the Crown Agents should be advised that the new 400 Kilowatt generators would be required to work in parallel with the three 150 Kilowatt Admiralty Blackstone engines already in Stanley.

8. Subject to paragraph 1 above and to advice of Consulting Engineer I should be obliged if the indent could be transmitted to the Crown Agents for necessary action if approved.

9.

(50a)

9. Suggest you should sound Admiralty in regard to the advantage of a single generating station for all purposes since this might influence their willingness to part with Blackstones.

10. In view of the magnitude of this project it would be desirable to obtain the services of a resident Consulting Engineer during the period of assembly.

GOVERNOR

MM.