

# SECRETARIAT

(Formerly)

2318

2318

LIQUID PROPANE GAS

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CONNECTED FILES.

NUMBER

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**MEMORANDUM**

From

**THE FALKLAND ISLANDS COMPANY LTD.,  
STANLEY.**

12th November, 1963.

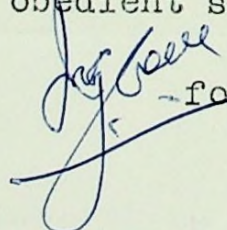
To The Honourable  
The Colonial Secretary,  
STANLEY.

Sir,

We enclose copy of correspondence received from Mr H.C.Wilson, Punta Arenas outlining a project for the distribution of liquid propane gas in Port Stanley, which kindly return in due course.

I am,

Sir,  
your obedient servant,

  
for Manager.

Ack'd H

12/11/63.

2

J.E.,

for information please. e) of first para suggests cost would be about £15 per month which would be dearer than oil.

L.E.

16.11.63

3

HAGS

The 270 kilos is calculated to last from May to September inclusive - pay & Consumption Basis, i.e. cost of gas wd. be  $\frac{1}{3}$  approx per + amortization charges.

~~HA~~

16.11.63

HAC

✓  
You may be  
interested to read  
this.

DA 18.12.63

File & back please

with compliments.

Captain F. W. White,

Port Stanley,  
Falkland Islands



Albert von Appen c/o

SOCIEDAD NAVIERA "ULTRAGAS" LTDA.

SANTIAGO, CHILE  
CASILLA 193 - D

October 9th, 1963

AvA/il.

Captain  
Mr. Frederick White  
c/o Maclean & Stapledon S.A.  
Colon 1490  
Montevideo

Dear Captain White,

our mutual friend Mr. Ernesto Schaefer at Punta Arenas informed me that you have talked with the Government of the Falkland Islands regarding the possibility of using liquid gas propane on the Islands instead of kerosene or wood which up to now has been used for heating and cooking.

As you possibly already know, in 1960 our firm built a special tanker for liquid propane for the supply of the city of Punta Arenas. This ship carries 45 tons equal to 95 cbm of liquid propane. The tank is always under a pressure of 7 atmospheres. Our ship brings the propane from Fireland across the Magellan Street to Punta Arenas, but the consumption of propane in the city of Punta Arenas is increasing so fast that we are afraid that in the next winter season our little ship will not be capable to meet with the demand. The distributing company at Punta Arenas which receives our supplies, has asked us to build a second ship if we do not want to lose the contract and the business.

Now we intend to build a second, but much larger ship than the first one, but we are aware that this second ship will be employed only in winter when the demand of propane goes up straightly, and would have no employment during the months of summer thus originating a loss of money. In order to extend the activity of this second ship, our idea is to ship and sell liquid propane from Fireland to the Falkland Islands, we might say once a month. We already ventilated this business with ENAP (Empresa Nacional de Petroleo de Chile) who are willing to export propane to the Falkland Islands. They are quoting a price of US\$ 27.-/1000 kgs of propane or US\$ 30.-/1000 kgs of butane, from their plant at Puerto Percy, Tierra de Fuego.

For the transport from Puerto Percy to Falkland Island we must quote US\$ 15.- per ton, but for at least 100 tons.

-2-



Santiago, October 9th, 1963

You certainly know that the demand and use of propane is increasing continuously not only in Chile but also in Argentine, Uruguay and Brasil due to the fact that propane gives much higher calories than any other heating material. We think it might be worth while talking over this business with Falkland Island authorities and with the directors of Falkland Islands Company, who will arrive at Montevideo on October 29th.

The supply of propane to Falkland Islands must be realized as follows:

Store tanks must be put up at Port Stanley where the tanker delivers the propane. These tanks must be connected with a distributing plant where small propane cylinders or bottles with a capacity of about 45 kilos must be filled. These bottles will be distributed to consumers. The consumers must have, of course, special installations for cooking or heating with propane, but propane stoves or heaters are not very expensive, are easy to handle, are always clean and by no means dangerous. I think the distributing company must provide and sell these stoves, heaters etc. to the customers. In Chile and also other countries, the customer has to pay for the first bottle, that is he has to make a deposit for the bottle itself, so the distributing company in a short time recovers its disbursements for the purchase of the bottles.

The distributing of propane bottles to the customers, their replenishing or replacement must be effected by the small vessels which ordinarily call at the different islands.

At the first moment it looks like the Falkland Island Company must invest a lot of money in order to introduce propane but we are sure that the invested money will be recovered very soon, except the disbursements for the storage tanks.

To give you an idea we can tell you that ENAP sells the liquid propane to the distributors in the center of Chile at a price of US\$ 72.- per ton. The distributor sells it to the consumer at US\$ 150.- per ton. The customer has to pay for the first bottle he orders and generally Chilean households buy at least 2 bottles, each of which lasts for about 40 days if used only for cooking in a family with 6 persons. If used also for heating, a bottle of 45 kgs will last more or less a fortnight. In Santiago for instance it is much cheaper to use propane than the ordinary gas produced from coke, and this apart from the advantages above mentioned.

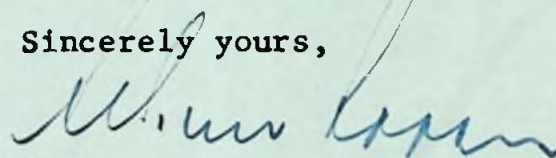
Santiago, October 9th, 1963

Mr. Schaefer also advised me that Falkland Islands Government recently achieved 2 storage tanks for diesel, gasoil and kerosene, for the supply the islands receive from Montevideo. Now my question is: Would it be possible to supply these materials from Chile instead from Montevideo? If this could be arranged we would build a vessel with a combination for the transport of propane in special tanks and tanks for diesel, kerosene and gasoil. Of course the freight rate for the transport from Fireland must be the same as the rate from Montevideo, or even a little lower. In this case we could manage to supply the Islands with gasoil, diesel, kerosene and propane once a month or every fortnight. We are prepared to close a long contract.

I am prepared to fly to Montevideo on October 28th by German airlines LUFTHANSA, which will arrive at yours at about 11 hours in the morning, so that I can see you at Maclean & Stapledon's at midday. There I can give you more details and explanations of my ideas and I am, of course, very interested to speak to the directors of Falkland Islands Company.

Any help you could give me would be very much appreciated.

Sincerely yours,



Albert v. Appen  
General Manager of

cc. Mr. E. Schaefer  
Punta Arenas.

ULTRAMAR  
Agencia Marítima Ltda.



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PROJECT FOR THE DISTRIBUTION OF LIQUID PROPANE GAS IN PORT STANLEY

FALKLAND ISLANDS

Basis for the calculations:

- a) Port Stanley 1,400 - Rural 640 - West Island 450
- b) Residences in Port Stanley 350 - Rural 150 - West Island 100.
- c) Eventual installations:
  - Port Stanley 300
  - Rural . . . 50
  - W. Island . 30
- d) Average consumption per installation in winter 270 kilos.
- e) Approximate cost of liquid gas in Plant - Port Stanley U\$S 42.---

- - - - -

For the purposes of estimating storage at Port Stanley, calculations have been based on a tanker with 60 tons capacity. If this should be larger or smaller, the necessary adjustments should be made. With a view to economy in storage tanks, it is suggested that the total capacity be sufficient for 1½ voyages, therefore on the basis of 60 tons tanker capacity, storage should be for 75,000 kilos. Additional storage is always available provided the spare cylinders are maintained filled.

It is most unlikely that during the first two years there would be more than 200 consumers, which thereafter would increase by some 30 or 40 per annum, to reach a possible figure of 380. In the meantime all estimates will be made on the basis of 300 consumers, as it would not be difficult to eventually increase storage capacity.

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STORAGE.

It is our understanding that Falkland Islands Company possesses jetty and ample land on the outskirts of Port Stanley. A small storage & cylinder filling plant could be located anywhere within 300 yards from the extreme end of the jetty, the nearer the better, but it is recommendable that it be located not less than 50 yards from the nearest residence.

Size of storage tanks cannot at this time be indicated, because there is no information available regarding unloading and transport facilities. Given below are the sizes of tanks which would be satisfactory for the storage plant:

| <u>Capacity</u>               | <u>Nett Weight</u> | <u>Price</u><br><u>App. CIF. Párenas</u> |
|-------------------------------|--------------------|--|
| 2 x 6,000 gallons (10,000 ks) | 15,800 lbs.        | U\$S 4,500 each                          |
| 6 x 7,500 " (13,500 ks)       | 20,300 lbs.        | 5,500 "                                  |
| 4 x 10,000 " (18,000 ks)      | 25,200 lbs.        | 6,300 "                                  |
| 4 x 12,000 " (21,600 ks)      | 30,600 lbs.        | 7,600 "                                  |

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No doubt these prices would be very similar for CIF Montevideo but considering the considerable amount of freight involved, for these tanks & for further materials detailed below, it would probably be convenient for the s.s. Darwin to make a special voyage to Philadelphia, where all of the materials could be made available. About 40% of the values given above for the tanks involves freight. Any of the quantities of tanks of the sizes indicated above would give ample storage, as will be shown later on in this project.

#### INSTALLATION.

These storage tanks should be installed on metal tressles, placed on concrete bases. The tressles could be prepared at Punta Arenas. It is somewhat difficult to estimate installations costs, or the materials which would be required, such as heavy duty piping, valves, pressure gauges, measuring gauges, heavy duty fittings but we consider that 25% of the value of the tanks would be a fair estimate. The tanks would be interconnected and two main heavy duty gas lines would extend from the tanks to the jetty, 2" diameter for the vapour line and 3" diameter for the liquid fuel line.

#### MACHINERY.

L.P. Gas pumps, compressors, electric motors, cylinder filling manifold, scales, etc., would be required and the cost of these would be about US\$ 6,000.-- CIF Punta Arenas or Montevideo. It would be strongly recommend that the pump & compressor be duplicated for the event of a breakdown.

#### CONSTRUCTIONS.

Apart from the concrete foundations for the tanks, it would be necessary to build a cylinder filling and truck loading platform about 20' x 18'. This should for preference be constructed of concrete walls to the height of a truck, filled with stones or gravel and with floor of 4" boards. Part of the platform where the filling manifold is installed should be walled in with galvanized iron on two sides and with galvanized iron roof to protect the workmen against rain and wind. The cost of this would in all probability not exceed US\$ 3,000.---

There should also be a small corrugated galvanized iron shed with concrete floor, for housing the pumps and compressors. The two construction would be located about 15' from the tanks. If the tanks could be on higher ground than the filling platform, it would be slightly more favourable.

#### TECHNICAL ADVICE.

SERVIGAS could probably make available a first class technical man, with good knowledge of English, to take care of the complete plant installation and hand it over working. This same person could remain on for several months with a view to preparing gasfitters for doing the domestic installations.

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DISTRIBUTION. Consideration must be given to the following matters:



a. Cylinders - b. Regulators - c. Materials - d. Appliances

Cylinders.

For each installation a minimum of 2 or 4 cylinders are necessary, according to the monthly consumption of gas. Each installation should have connected to it, two weeks consumption of gas. In this way, each consumer has a two weeks reserve of gas in his backyard, thereby reducing your need for excessive storage. On the basis of 250 customers, we would recommend that you purchase an initial stock of 600 cylinders each with a capacity of 45 kilos. This gives nearly 27 tons of additional storage, to a great extent at the expense of the customer. The cost of these cylinders is US\$ 18.50 FAS. Philadelphia, freight being about US\$ 6.-- each. On the basis of 200 installations, you would probably have 500 cylinders installed and the remaining 100 as reserve, and these should always be maintained filled so as to have additional storage in the plant.

Regulators.

The initial requirement would be 200 of the model Fisher N°965 automatic, price about US\$ 10.-- each CIF Punta Arenas.

Materials.

The following are recommended and in the event of this project being realised, we would gladly indicate exactly what should be carried in stock:

- a. Galvanized Tubes 3/8", 1/2", 3/4", 1"
- b. Fittings of same sizes
- c. Valves (about 800)
- d. Sealing materials.
- e. Flat Iron for chimneys.

Appliances.

Kitchen Ranges  
Space Heaters  
Water Heaters

We can recommend the most suitable appliances to be imported from Great Britain or elsewhere.

DISTRIBUTION. (Cont).

Each installation should consist of 2, 4 or 6 cylinders, according to the estimated consumption. It is universal in gas distribution to charge a deposit on each cylinder comprising an installation and to sell the regulator. The deposit is usually 125% of the value of the cylinders installed and therefore the outlay of capital in both cylinders and regulators is eventually recuperated, the only capital investment being the value of the Storage Plant, delivery truck, stocks of materials and appliances. A small average installation represents the following outlay for the consumer:

- a. Cost of the installation, which varies according to the materials employed, but about . . . . . £ 15. -- -
- b. Regulator . . . . . 6. -- -



|  |                      |
|--|----------------------|
| c. Guarantee 2 cylinders . . . . .               | £ 22. -- -           |
| d. Kitchen range, including 40% profit . . . . . | 55. -- -             |
| e. Instantaneous Water Heater do . . . . .       | 35. -- -             |
| f. 3 Space Heaters do . . . . .                  | 80. -- -             |
|  | <u>£ 213. -- -d.</u> |

The prices of the appliances are very variable and the above estimates might easily be reduced by thirty or forty pounds sterling.

CONSUMPTION BASIS 200 CONSUMERS - Months May to September.

Approximately 1,200 cylinders each 45 kilos . . . . . 54,000 kilos  
Months October to April. Average 800 cylinders . . . . . 36,000 kilos

SALE PRICE GAS.

- a. Cost placed cylinder filling plant. . . . .
- b. Cost of plant administration, one man in charge & one youth 18 years for cylinder filling . . . . .
- c. Delivery to Consumer . . . . .
- d. General expenses for invoicing & control - 1 employee or the man in charge of the plant . . . . .
- e. Amortization: a. Cylinders 10%
  - b. Plant Storage Tanks 5%
  - c. Plant Constructions 5%
  - d. Machinery . . . . .20%
  - e. Land . . . . . 2%
  - f. Pipes & Installation 10%

For such a reduced montly consumption and so few clients, it should be perfectly easy to run the entire gas business with a Plant Manager, a youth & a truck deliverer. The sum total of all such costs should be divided by the quantity of kilos which it is estimated would be consumed.

In the event that a definite determination is taken, the SERVIGAS CO. would gladly prepare a detailed project of the Plant, Cylinders, Regulators, Materials and Appliances that are required.

Punta Arenas, October 20th, 1963

  
Héctor C. Wilson

HCW/blm

H.C.S.

Dear, thank you. From the information  
on p. 7 the following can be worked.

$$\begin{aligned}
 & 45 \text{ kilos per fortnight} \\
 & = 1170 \text{ " " year} \\
 & 1170 \cdot = 2574 \text{ lbs approx} \\
 & 2574 \text{ lbs} = 1\frac{1}{2} \text{ tons} \\
 & 1\frac{1}{2} \text{ ton @ } \text{US } \$150 \text{ per ton} = \text{£ } \$171 \\
 & \$171 @ \$2.80 = \text{£ } 1 = \text{£ } 61.
 \end{aligned}$$

I do not think that Government should show interest,  
at least not at this stage. Early demand would be  
small - the capital expenditure being rather high  
for the small wage earners.

Copy at b.c. could now be returned to  
F.J.C.

L.L.  
6.1.64

Les',

Read with interest, my calculations are that annual cost allowing for amortisation would be £37-10s. This is their figures which it would be safe to assume are optimistic, I should imagine £40 to £50 would be more like the normal cost. It is however cheaper than oil. Not wishing to be pessimistic, there may be factors unknown which would put it in a less favourable light. However it is well worth a careful thought and if serious consideration is given to it then the obvious thing to do is to arrange for one of the Propane boys to pay us a visit. Bear in mind that the oil storage here can be absorbed by Government and DAG. A second thought is that the Company might wish to indulge as a spec. might be ideal for the Camp too, in such a case I would say that it would be a good thing for the Government to give support. I don't somehow think the stoves need an electrical supply this of course would be a big advantage.

Ted.

C.T. fi.  
S.



13th January,

64.

Dear Sir,

Thank you for your letter of the 12th November, 1963,  
and it's enclosure (herewith returned) which has been read  
with interest.

Yours faithfully,

(Sgd.) W.H. Thompson

COLONIAL SECRETARY

The Manager,  
Falkland Islands Co., Ltd.,  
STANLEY.

fa

WT/IM.

U\$S 2.80 = £1.

1 Ton Gas = 1,000 kilos = 2,000 litres

U\$S 65 per Ton delivered tanks Stanley

£23. 4. 3d per 1,000 kilos

5.571 pence per kilo

Cylinders contain 90 litres = 45 kilos



on oil fired  
heat - *efficiency*  
H.L. - See also 2318.

p.a. S.

At the very minimum storage would be required for 60 Tons in the first instance i.e. the capacity of the smallest tanker with additional storage in small cylinders.-

27/8

#### Capital Costs (using Servigas figures) :-

1. 3 tanks each holding 21,600 kilos @ U\$S 7,600 each;
2. Installation Costs 25% of cost of tanks;
3. Machinery including pumps, cylinder filling, etc.;
4. Loading platform and shelter for filling and storing.-

|    |                |               |
|----|----------------|---------------|
| 1. | U\$S 7,600 x 3 | £ 8,143       |
| 2. | 25% of £8,143  | 2,036         |
| 3. | U\$S 6,000     | 2,143         |
| 4. | U\$S 3,000     | 1,071         |
|    |                | <u>13,393</u> |
|    | Delivery lorry | 1,000         |
|    |                | <u>14,393</u> |

Initial stocks of cylinders etc. (Deposits recovered from consumers?) on basis of 100 consumers:-

|                                 |                |
|---------------------------------|----------------|
| 250 cylinders @ U\$S 24.50 each | £ 2,188        |
| 100 regulators @ U\$S 10 each   | 357            |
|                                 | <u>£ 2,545</u> |

Initial stocks of appliances for 25 consumers:-

|                                   |               |
|-----------------------------------|---------------|
| Kitchen Ranges at cost £33 each   | £825          |
| Water Heaters at cost £21 "       | 525           |
| 50 Space Heaters at cost £16 each | 800           |
|                                   | <u>£2,150</u> |

|                         |                 |
|-------------------------|-----------------|
| Manager                 | £700 p.a.       |
| Labourer and Van Driver | 500 "           |
| Boy                     | 300 "           |
|                         | <u>£1,500</u> " |

Consumption per annum = 270,000 kilos  
Consumption per consumer = 2,700 kilos

Fixed Capital, say £20,000

Operating expenses:-

|                    |                |
|--------------------|----------------|
| Wages              | £1,500         |
| Operation of Lorry | 100            |
| Depreciation 10%   | 2,000          |
| 270,000 kilos Gas  | 6,267          |
|                    | <u>£ 9,867</u> |



|                      |                  |               |
|----------------------|------------------|---------------|
|                      | - 2 -            |               |
|                      | (brought forward | £9,367)       |
| 10% Turnover         |                  | £627          |
| 10% on Fixed Capital |                  | <u>£2,000</u> |
|                      |                  | £12,494       |

£12,500 ÷ 270,000 kilos

Say selling price 11d per kilo

Cost to Consumer per annum = £123. 15. 0d

+ cost of installation excluding deposit on cylinders  
and regulators = £160.-

If 200 Consumers:-

|                      |               |
|----------------------|---------------|
| Wages                | £ 1,500       |
| Lorry                | 100           |
| Depreciation 10%     | 2,000         |
| 540,000 kilos Gas    | <u>12,534</u> |
|                      | 16,134        |
| 10% Turnover         | 1,253         |
| 10% on Fixed Capital | <u>2,000</u>  |
|                      | £ 19,387      |

£20,000 ÷ 540,000 kilos

Say selling price 9d per kilo

Cost to Consumer per annum = £101. 5. 0d

At present all likely consumers have Rayburn stoves which have cost about £120 installed, the resale value of these stoves would be low if Gas was in widespread use.-

130 yards of Peat supply all fuel requirements for our chief Works Clerk (3 in family) : if all work was carried out by contractors a fair average would be :-

|                    |                |
|--------------------|----------------|
| Cutting            | £13. 0. 0d     |
| Stacking           | 3. 5. 0d       |
| Carting            | 13. 0. 0       |
| Throwing into shed | <u>3. 5. 0</u> |
|                    | £32. 10. 0d    |

Mn and Mrs. Schaefer consume 5,000 kilos of Gas in their home per annum.-