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The State Electric Power Works

Reykjavík

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Specification

for the "Austurland" project.

1.2. 1955

The State Electric Power Works, Reykjavík

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1. Grímsá Plant
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2. Grímsá Plant
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SPECIFICATION FOR

THE "AUSTURLAND" PROJECT

General

a) The project

Drawing no. 4217E6 shows the general layout of the project and drwg. no. 3183E6 the main one line diagram. The project is located in the eastern part of Iceland called "Austurland" and consists of:

I. 3500 kVA power station on river "Grimsa"

II. 33/11 kV transformerstation at village "Egilsstadir"

III. Ditto at waterfall "Lagarfoss"

IV. Ditto at village "Seydisfjördur"

V. Ditto at village "Neskaupstadur"

VI. Ditto at village "Eskifjördur"

VII. Ditto at village "Budareyri"

VIII. Ditto at village "Budir"

IX. Ditto at village "Kirkjubol"

X. Ditto for future extension (and as extra equipment)

XI. Telephone communication and load control equipment

XII. Several 11/0,23 kV transformer stations for distribution inside villages

XIII. Several km of 11 kV and low tension underground cables for ditto insulated wires etc.

The system consists further of 33 kV and 11 kV overhead transmission lines, low tension overhead distribution lines etc.

This equipment is however not included in these specifications.

The system will after few years be connected to another bigger system in the northern part of Iceland over a 165 km long high tension line (to village "Egilsstadir") and later an 18000 kVA power station at waterfall "Lagarfoss" will be built. This should be kept in mind with regard to stability when the power station on river "Grimsa" is designed.

b) The specifications

Attached are specifications for the project as described above. The specifications are not obligatory as they may be altered to the extent it may be desirable and/or necessary for better adaptability to the offered equipment, or where, from other reasons, alterations will be proposed.

The State Electric Power Works, hereafter called "the purchaser", reserves its rights, neither to have to accept the lowest tender, nor to have to accept any tender.

The following general conditions apply to all the specification:

1. Weather conditions

The lowest and highest temperatures during winter and summer are normally $-15^{\circ}C$ and $+20^{\circ}C$. All outdoor equipment must however be able to stand $-30^{\circ}C$ and $+30^{\circ}C$ as the temperature occasionally can reach these values.

The climate is very salty and heavy and wet snowstorms occur frequently during winter time. All outdoor equipment insulation must be able to stand these conditions. Bushings for instance must either be of higher voltage class than the

operating voltage specified or be specially designed with regard to salty climate.

Lightning occurs very seldom, almost never, but it is however felt that lightning arresters should be used to some extent.

2. Transport facilities, weights etc.

Purchaser will arrange shipment from foreign harbour to Icelandic harbours and take care of all transport from Icelandic harbours to site. It is believed that transport problems will not be too difficult but tenders should state the maximum shipping and transport weights and main dimensions of the heaviest and bulkiest equipment, separately for each piece. Especially the transport weights for equipment to power station "Grimsa" should not be heavier than necessary.

3. Descriptions, drawings

Tenders should include descriptions, dimensions sketches and drawings, necessary for estimate of the offered equipment.

4. Materials, standards, guarantees, tests, inspection

All materials offered shall be of the best available quality for the purpose for which they are intended and all materials and equipment offered shall conform tp applicably standard specifications officially recognized in the country of its manufacture.

In case of purchase, the manufacturer will be requested to give all usual guarantees and to make all usual shop tests and further to give such extra guarantees and to make such extra tests as might be mutually agreed upon. The purchaser

will reserve himself the right to have his representative inspect the material and equipment during manufacture and assembly and to witness tests. The purchaser will further reserve himself the right to repeat, as mutually agreed upon, any such tests after the complete installation of the equipment on site.

5. Prices, delivery

All material and equipment is to be offered fob an export harbour having shipping facilities to Iceland.

Tenders should preferably give specific prices on the offered equipment. For main equipment such as penstock, dam gates, turbine, crane, generator, transformers, metalclad switchgear units, power circuit breakers etc. price for each piece should be given.

All prices shall include first class export packing.

Time of delivery (from date of order to the date of delivery from workshop) should be specified to the same extent as the prices.

6. Erection

In case of purchase, manufacturers will be requested to supervice the erection of the turbine and the generator and manufacturers are requested to inform in their tenders about their usual rates etc. for such supervision. Sufficient skilled and common labour will be available.

The purchaser himself will take care of the erection of all other equipment.

7. Spare Parts

Where manufacturer is asked for his opinion as regards spare parts the great distance from manufacturer to the site of erection should be born in mind.

8. Contracts

In case of purchase, an agreement, regarding the manufacture and delivery of the equipment mentioned above and specified below, between the manufacturer and the purchaser shall be established in a contract in which prices, delivery time, terms of payment, all requirements etc. shall be fixed with such amendments as might be mutually agreed upon by the manufacturer and the purchaser.

Reykjavík, Jan. 1955

THE STATE ELECTRIC POWER WORKS

Eiríkur Briem
(sign)

I. POWER STATION "GRIMSA"

Drwg. no. A 1167 shows the proposed main arrangement of the station and drwg. no. 3182E2 the one line diagram. The head and tail water elevations are as follows:

Head water:	Normal -	88,0 m
	Highest -	88,5 m
	Lowest -	83,0 m
	Exceptional -	89,9 m
Tail water:	Normal -	58,0 m
	Highest -	58,5 m
	Lowest -	57,5 m
	Exceptional -	64,0 m

In exceptional cases the tail water can raise to 64,0 m for a short time and the powerhouse and the turbine must be designed to stand this.

a) Turbine with accessories

Item 1. One vertical shaft Francis spiral turbine for direct coupling to a three phase electric generator, 50 cycles. Speed of turbine to be as recommended by turbine manufacturer. Full load output to be 4000 HP (1 HP = 75 kgm/sec.) at 28,4 m net head. Turbine to be complete with steel spiral casing, pit liner and draft tube liner, all control and safety devices, cooling and lubricating system, drainage, gauges etc.

Item 2. One hydraulic governor, complete with all accessories and with remote controlled speed adjustment and stroke limiter.
Governor to be controlled from a permanent magnet generator on the shaft of the unit. This P.M.G.

to be included in tender.

The governor to be suitable for both single and parallel operation.

Item 3. One set of spare parts as recommended by manufacturer.

Manufacturer is requested to state in tender:

Efficiency of turbine at 1/4, 1/2, 3/4 and 1/1 load.

Runaway speed of turbine.

Weight of runner, shaft and hydraulic thrust.

Governor capacity in kgm.

Prescribed flywheel effect in the generators rotor.

Speed rise (drop) and pressure rise (drop) when 1/4, 1/2, 3/4 and 1/1 load thrown off (on).

Recommended elevation of centerline of turbine.

Net and gross weight of the machinery including shipping and mounting weights and main dimensions of heaviest and bulkiest pieces.

Manufacturer is further requested to submit main arrangement drawings and to inform as to the time required for preparing complete drawings necessary for designing the substructure of the power house.

Note: An alternative offert on a Kaplan turbine would be welcome although the Francis alternative seems to be the most economical in this case.

b) Penstock and dam gates

Item 1. An approx. tender on a suitable pressure penstock as indicated on drawing no. A 1167.

Item 2. Ditto on a suitable intake gate, drwg. A 1167

Item 3. Ditto on a suitable crest gate as indicated on drwg. A 1170

c) Generator with accessories (see drwg. no. 3182E2)

Item 1. One vertically mounted 3-phase, 50 cycles, class B insulated, water cooled A.C. generator rated 3500 kVA at power factor 0,8, star connected, 6/6,6 kV, for direct coupling to a vertical Francis turbine. Speed and flywheel effect to be as recommended by turbine manufacturer. Generator to be complete with surface aircoolers, fire extinguishing system, automatic brake system, complete piping system and housing.

Item 2. Main exciter and pilot exciter directly coupled on the generator shaft with provision made for a permanent magnet generator, furnished by turbine manufacturer.

Item 3. One complete high speed automatic voltage regulator system, suitable for single and parallel operation and line drop compensation.

Item 4. Discharge resistance with discharge switch for main exciter field.

Item 5. Breaker and discharge resistance for suppression of the main field of the generator.

Item 6. One set of spare parts comprising:

1/6th set of stator windings.

1 set of thrust pads for the thrust bearing.

3 sets of brushes for generator, main exciter and pilot exciter.

3 brush holders of each type.

1 cooling element for surface cooler.

Other spare parts if and as recommended by manufacturer.

The maximum cooling water temperature manufacturer has to reckon with is +20°C. All 6 terminals of the generator shall be brought out. Six temperature detectors shall be provided for in the stator windings, which shall be of the vacuumpressure impregnated type, class B. Temperature detectors are also required for the thrust and guide bearings of the machine and thrust and guide bearings are also to have mercury type temperature device, oil level gauge and remote type oil level indicator with high and low level alarm contacts.

The generator shall be effectively insulated against stray currents.

Manufacturer is requested to state in tender:

Efficiency at 1/4, 1/2, 3/4 and 1/1 load at unity power factor and 0,8 power factor.

Maximum full load regulation at rated voltage and speed, in per cent of rated voltage.

Temperature guarantees.

Speed, thrust bearing load and flywheel effect as mutually agreed upon between turbine and generator manufacturers. Also the runaway speed.

Short circuit ratio (as mentioned in the general chapter the station will later be connected to a rather large and a rather weak system. The short circuit ratio should therefore preferably not be lower than 120%).

Requirements of cooling water for the surface aircooler and for the bearings.

Net and gross weights of the machinery including shipping and mounting weights and main dimensions of heaviest and bulkiest pieces.

Necessary capacity of powerhouse crane and necessary lifting height.

Manufacturer is further requested to submit main arrangement drawings and to inform as to the time required for preparing complete drawings necessary for the design of the powerhouse.

Note: An open or partially open cooling system for the generator can also be considered in order to heat the powerhouse. Manufacturer is requested to give his opinion as to this problem. Manufacturer is also requested to consider a "Kaplan alternative", see turbine specification.

d) Powerhouse crane and elevator

Item 1. One suitable powerhouse crane, see drwg. A 1167.

Item 2. One suitable elevator, see drwg. A 1167.

e) Transformer and switchgear (see drwg. no. 3182E2)

It is proposed to have the station attended by only two operators. Operator is supposed to visit the station only few times a day. All control and supervising devices should be selected accordingly.

Item 1. One 3500 kVA outdoor transformer, oil immersed, self cooled, three phase, 50 cycles. Voltage ratio at no load 6300 volts delta to 30.000 volts wye (Yd 11) with the neutral point brought out through a fully insulated bushing for solid grounding. Transformer to have full capacity taps for 31500, 33000, 34500 and 36000 volts brought out from the H.V. winding to off load tap changing switches arranged for external operation. H.V. and L.V. connections brought out through bushings and provision made for mounting of three cable boxes for receiving of three single core cables from the generator on the 6,3 kV side. Transformer to be complete with oil and all conventional accessories including Buchholz relay.

Item 2. One complete set of primary and secondary coils for one leg of the above specified transformer and one H.V. and one L.V. bushing (spare parts).

Item 3. One 200 kVA transformer, oil immersed, self cooled, three phase, 50 cycles. Voltage ratio at no load 6000 volts delta to 400 volts wye (Dyll) with the neutral point brought out for solid grounding. Transformer to have full capacity taps for 6300 and 6600 volts brought out from the H.V. winding to off load tap changing switches arranged for external operation. H.V. and L.V. connections brought out through suitable cable boxes. Transformer to be complete with oil and all conventional accessories.

Item 4. One 50 kVA, 400/30 volts, D/Y-o connected (Dyll) self cooled, outdoor transformer for rack heating.

Manufacturer is requested to state in tender all the usual information about the transformers such as losses, temperature guarantees, per cent impedance, net and gross weight etc. The shipping weight of the 3500 kVA transformer should not be more than absolutely necessary.

Item 5. One 33 kV, 3-pole, outdoor power circuit breaker, remote controlled from a 110 volts D.C. battery complete with necessary C.T:s for differential protection, measuring and relaying.
Also bushings for one phase (spare).

Item 6. One 3-pole, 33 kV, outdoor mounted and manually operated disconnecting switch complete with operating mechanism and grounding devices.
Also insulators for one phase (spare).

Item 7. Four (one as spare) 33 kV outdoor lightning arresters (solidly grounded neutral), one suitable outdoor C.T. for the main transformer neutral and two suitable outdoor P.T:s 33000/110 volts for measuring and syncronizing.

Item 8. Suitable galvanized steel structure for the outdoor 33 kV switchgear including necessary support insulators, busbars etc.

Item 9. A metal clad cubicle for the generator neutral comprising suitable C.T:s for differential protection, measuring, relaying etc. (C.T:s for measuring, relaying etc. can also be places on the H.T. side of the generator if considered better), suitable grounding device for the generator, cable boxes, wiring etc.

Item 10. A metal clad cubicle for the generator H.T. side comprising suitable C.T:s, cable boxes for receiving incoming cables from the generator, the main transformer and the station supply transformer, H.T. fuses for the station supply transformer, suitable P.T:s busbars, wiring etc.

Item 11. A suitable 110 volts Alkaline D.C. battery metal clad cubicle complete with an automatic rectifier, a suitable battery control panel, wiring etc.

Item 12. A suitable low tension metal clad cubicle for station supply, complete as indicated on drwg. 3182E2.

Item 13. A suitable low tension panel for the dam machinery, complete as indicated on drwg. 3182E2.

Item 14. One set of necessary relays, meters, signal, alarm, syncronizing and control equipment for the station in accordance with best modern practice. Relays meters etc. to be mounted on suitable panels and flush mounted on front side. It is felt that this equipment should not be specified in detail but drwg. 3182E2 indicates what purchaser has in mind.
It should be mentioned here that the 33 kV breakers in the transformer station at "Egilsstadir" are to be remote controlled from this power station. Necessary equipment should be included. (See also chapter XI.)

Item 15. One set of spare parts for the switchgear in general as recommended by manufacturer.

Item 16. It is felt that power and control cables etc. should not be specified untill later but manufacturer is requested to estimate roughly the cost of these cables with accessories.

f) Reserve Power

Item 1. One complete diesel electric set 25 kVA, 3-phase, 50 cycles, 400 volts, wye connected.

II. TRANSFORMERSTATION "EGILSSTADIR"

Drwg. no. 3184E3 shows the one line diagram.

Item 1. Four 33 kV, 3-phase, outdoor, remote controlled power circuit breakers each complete with tripping device for 32 volts D.C., closing device for 220 volts A.C. and necessary C.T:s for relaying.

Item 2. Five, 3-pole, 33 kV, outdoor, manually operated disconnecting switches each complete with operating mechanism.

Item 3. Four ditto with grounding devices.

Item 4. Three, 33 kV, outdoor, lightning arresters (the system is solidly grounded only at "Grimsa" and "Neskaupstadur" and one has therefore probably to reckon with full phase voltage to ground in certain cases).

Item 5. Three suitable H.R.C. outdoor fuse units for 500 kVA transformer.

Item 6. Suitable, 33 kV, outdoor, P.T:s. These transformers are in future to be used for measuring incoming power from northern Iceland and for directional tripping of the 33 kV breakers, should this become necessary.

Item 7. Suitable relays and meters for the 33 kV switchgear as indicated on drwg. This equipment to be

mounted on the 11 kV metal clad switchgear specified under item 11 or on a separate panel.

Item 8. Suitable galvanized steel structure for the outdoor 33 kV switchgear (land space for the outdoor switchyard is more than sufficient) including necessary 33 kV supporting insulators, busbars etc.

Item 9. One 500 kVA outdoor transformer, oil immersed, self cooled, three phase, 50 cycles. Voltage ratio at no load 30000 volts delta to 11000 volts wye (Dy11) with the neutral point brought out through a fully insulated bushing for impedance grounding. The transformer to have full capacity taps for 31500, 33000 and 34500 volts brought out from the H.V. winding to off load tap changing switches arranged for external operation. High voltage connections brought out through bushings and L.V. through a suitable cable box. Transformer to be complete with oil and all conventional accessories including Buchholz relay. Manufacturer is requested to state all usual information about the transformer such as losses, per cent impedance, gross weight etc.

Item 10. One suitable grounding impedance for the 11 kV neutral. For different reasons probable neither Peterson coil grounding nor solid grounding is suitable and this question has actually not been settled in general for the 11 kV systems in Icc-

land. The 11 kV networks (3 phase - 3 wire) are as a rule rather unbalanced, as often considerable parts of the networks consist of single phase lines and further they are often sectionalized with powerbreakers. This matter will have to be discussed in detail with the manufacturer but manufacturer is requested to suggest a solution.

Item 11. An 11 kV, 3-phase indoor metal clad switchgear complete with two power circuit breakers each with tripping device for 32 volts D.C. and closing device for 220 volts A.C. and two ditto with reclosing features, station supply cubicle, current and potential transformers, relays and meters, cable boxes, busbars, wiring, etc. all as indicated on drwg. (see item 10).

Item 12. One suitable 32 volts alkaline D.C. battery metal clad cubicle complete with rectifier, suitable battery control panel, wiring etc.

Item 13. Six 11 kV outdoor lightning arresters (see item 11).

Item 14. Spare parts as recommended by manufacturer.

Note: The 33 kV breakers in this transformerstation (and <u>only</u> this transformerstation) are to be remote controlled from power station "Grimsa". Necessary equipment shall be included in tender. See also Chapter XI.

III. TRANSFORMERSTATION "LAGARFOSS"

Drwg. no. 4221E3 shows the one line diagram. The drwg. shows the difference between this station and transformer-station "Egilsstadir" but otherwise the specifications are identical for both stations.

IV. TRANSFORMERSTATION "SEYDISFJÖRDUR"

Drwg. no. 4224E3 shows the one line diagram. The drwg. shows the difference between this station and transformer-station "Egilsstadir" but otherwise the specifications are identical for both stations.

V. TRANSFORMERSTATION "NESKAUPSTADUR"

Drwg. no. 4225E3 shows the one line diagram. The 6 kV side will be connected to the 6 kV busbars in the existing diesel electric power station. The capacity of this station is now 800 kVA and will be increased later.

Item 1. One transformer similar to the 3500 kVA transformer for power station "Grimsa" except 1500 kVA instead of 3500 kVA and with suitable cable box on the 6 kV side.

Item 2. One 33 kV breaker similar to the 33 kV breakers for transformerstation "Egilsstadir".

Item 3. One 33 kV disconnecting switch similar to the 33 kV switch for power station "Grimsa".

Item 4. Three 33 kV outdoor lightning arresters (solidly grounded neutral).

Item 5. Suitable outdoor C.T. for transformer neutral.

Item 6. Relays as indicated on drwg. for mounting on panel in existing power station.

Item 7. Suitable galvanized steel structure for the 33 kV switchgear with 33 kV supporting insulators, busbars etc.

Item 8. Spare parts as recommended by manufacturer.

VI. TRANSFORMERSTATION "ESKIFJÖRDUR"

Drwg. nr. 4220E3 shows the one line diagram. The drwg. shows the difference between this station and transformer-station "Egilsstadir" but otherwise the specifications are identical for both stations.

As can be seen, two of the 33 kV breakers are to have reclosing features. The reclosing equipment for the 33 kV line to "Neskaupstadur" will not be used when the diesel electric power station there is operated in parallel with power station "Grimsa".

VII. TRANSFORMERSTATION "BUDAREYRI"

Drwg. no. 4219E3 shows the one line diagram. The drwg. shows the difference between this station and transformer-station "Egilsstadir" but otherwise the specifications are identical for both stations.

VIII. TRANSFORMERSTATION "BUDIR"

Drwg. no. 4223E3 shows the one line diagram. The drwg. shows the difference between this station and transformerstation "Egilsstadir" but otherwise the specifications are identical for both stations.

IX. TRANSFORMERSTATION "KIRKJUBOL"

Drwg. no. 4222E3 shows the one line diagram. The drwg. shows the difference between this station and transformerstation "Egilsstadir" but otherwise the specifications are identical for both stations.

X. TRANSFORMERSTATION FOR FUTURE EXTENSION

Manufacturer is here requested to offer a transformerstation exactly similar to transformerstation "Budareyri".

XI. TELEPHONE COMMUNICATION AND LOAD CONTROL EQUIPMENT

It is intended to install a telephone communication system on the 33 kV network for communication between all the 33/11 kV transformerstations and power station "Grimsa". It is also intended to control from power station "Grimsa", certain consumer load in the villages (house heating etc.) through a "centralised consumer load control" comprising a 33 kV injection equipment at power station "Grimsa" and receiving relays on consumers premises (on 220 volts side).

Manufacturer is therefore requested to offer the following:

Item 1. Telephone communication system on the 33 kV network for communication between all the 33/11 kV transformerstations and power station "Grimsa" ("push to talk system").

Item 2. A 33 kV injection equipment at powerstation "Grimsa" for centralised consumer load control, complete with necessary equipment for connection to the 33 kV overhead line and intended for the transmission of 10 double commands and with facilities for extension up to 20 double commands.

It is not yet known how many receiving relays will be needed, but manufacturer is requested to inform as to the price of such relays in general.

XII. 11/0,23 KV TRANSFORMERSTATIONS

It is intended to use three standard sizes or 300, 150 and 75 kVA stations. The equipment for the 300 and 150 kVA stations will be housed indoors in small concrete buildings whereas the 75 kVA stations will be pole mounted stations (H-pole) with the low tension equipment housed in a suitable shed placed between the two poles. In spite of this all the transformers should be designed for both indoor and outdoor operation.

Item 1. Seven 300 kVA stations according to drwg. 4228E4 and each comprising:

One H.T. metal clad cubicle complete with suit-

able switches, fuses, cable boxes, busbars, wiring etc.

One 300 kVA transformer, oil immersed, self cooled, three phase, 50 cycles. Voltage ratio at no load 10000 volts delta to 230 volts wye (Dy 11) with the neutral point brought out through a fully insulated bushing for solid grounding. Transformer to have full capacity taps for 9500 and 10500 volts brought out from the H.V. winding to off load tap changing switches arranged for external operation. High voltage and L.V. connections brought out in a suitable manner for busbar connection to the H.T. and L.T. cubicles. Transformer to be complete with oil and all conventional accessories. Manufacturer is requested to state in tender all usual information about the transformers.

One L.T. metal clad cubicle complete with suitable C.T:s, fuse switches, street lighting equipment, meters, station supply outlets, cable boxes, busbars, wiring etc.

Two suitable busbar connections between H.T. and L.T. cubicles and transformer as indicated on drwg.

Item 2. One ditto except transformer to be 6000 $\pm$ 5%/230 volts instead of 10000 $\pm$ 5%/230 volts.

Item 3. Fourteen 150 kVA stations according to drwg. 4227E4 but otherwise as item 1.

Item 4. Twelve 75 kVA stations according to drwg. 4226E4 with drop-out fuses instead of H.T. cubicle but otherwise as item 1.

Item 5. Spare parts as recommended by manufacturer.

In certain cases it may become desirable to arrange the 75 kVA stations as indoor stations in similar manner to the 150 kVA stations and vice versa to arrange the 150 kVA stations as pole mounting stations in similar manner to the 75 kVA stations. The H.V. and L.V. windings of the 75 kVA transformers should therefore be brought out in the same manner as the windings of the 150 kVA transformers and be fitted with suitable cable boxes so that either cable boxes can be used for pole mounting arrangement according to drwg. 4226E4 or busbar mounting arrangement according to drwg. 4227E4. It should then also be possible to fit such cable boxes to the 150 kVA transformers.

The specifications call for fuse switches on the L.T. side. Manufacturer is however requested to inform what the price difference would be for each station if automatic air break switches were used instead.

XIII. UNDERGROUND CABLES, INSULATED WIRES ETC.

Item 1. 12 km, 3 core, stranded, 16 sq. mm copper, 11 kV, paper insulated, lead covered, double steel taped underground cable (according to VDE 1937) on suitable drums.

use) on suitable drums.

Item 17. 4 km. ditto except 16 sq. mm.

Item 18. 25 outdoor pole mounting cable boxes for item 1, complete with all accessories.

Item 19. 10 ditto except for item 3

Item 20. 40 - - - - 4

Item 21. 40 - - - - 5

Item 22. 60 - - - - 8

Item 23. 40 - - - - 10

Item 24. 15 underground "straight through" cable boxes for item 1, complete with all accessories.

Item 25. 5 ditto except "T" instead of "straight through".

Item 26. 3,6 km, 3 core, stranded, 25 sq. mm., 11 kV paper insulated, lead covered, steel armoured submarine cable in two equal lengths on suitable drums. This cable is intended for crossing of the fjord "Berufjordur" see drwg. 4230E5. The cable should be designed according to strictest specifications and be armoured with one layer of galvanized round steel wires, 6 mm. diameter.

Item 27. 0,25 km, ditto (spare).

Item 28. Five (four as spare) "straight through" cable

boxes for item 26, complete with all accessories.

Item 29. Three (one as spare) outdoor pole mounting cable boxes for item 26, complete with all accessories.