

## APPENDIX—NEW ORDERS RECEIVED

While the present number of the Review was being printed, orders for such articles as the followings have been received which we have started designing and manufacturing. The boom in the world economy is continuing and with this state of affairs, our Company is keeping abreast of the daily advancement in technics.

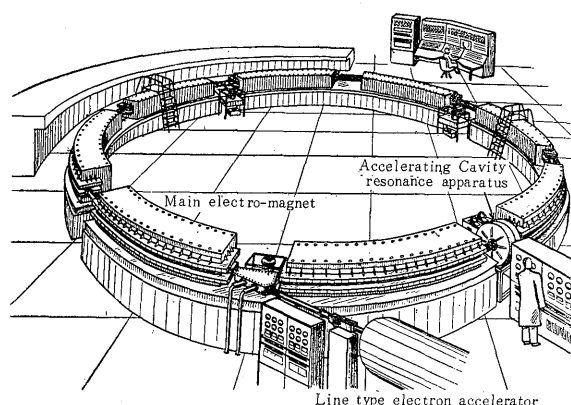
### 1. 25,000 kVA High Head Kaplan Water Turbine

Order for water turbine and generating equipment as described below for Shin-Ochiai Power Station of Messrs Tohoku Electric Power Company has been received. As a Kaplan turbine for high head of over 50 meters, it is the largest of its kind in our country. The runner has 8 blades and for the speed governor our standard electric governor is adopted.

- 1 × Vertical shaft Kaplan turbine  
Head: normal 52 m (max. 62 m)  
Output: 22,000 kW at 300 r.p.m.
- 1 × Synchronous generator  
25,000 kVA, 11,000 V, 50 c, 300 r.p.m.
- 1 × Step-up transformer  
25,000 kVA, 60/11 kV
- 1 × Set of switchboard and control apparatus

### 2. 1,000 MeV Electron Synchrotron (See below sketch)

The equipment is destined for the Tokyo University Atomic Nuclear Laboratory located at Tanashi Tokyo and it is not only the largest equipment of its kind in our country but together with a similar equipment in Cornell University of America of the same capacity, it is the largest in the world. Specification of the ordered equipment is:



1,000 MeV electron synchrotron (Estimated drawing)

- 1 × Electron synchrotron  
Output: 1,000 MeV  
Diameter: About 10 meter  
No. of magnets: 8
- 1 × Exciting motor-generator  
150 kVA, 3,300 V, 20 c with  $3 \times 2,000 \mu\text{F}$  static condensers

### 3. 42,000 kVA Furnace Transformer

Destined for Minamata Factory of Messrs. Shin Nippon Chisso Hiryo K. K. (New Japan Nitrogen Fertilizer Company) for supplying power to a carbide furnace. Output of 42,000 kVA with secondary current of 101,000 A makes it one of the largest electric furnace transformers in the world.

- 1 × Oil-circulated water-cooled 3-phase furnace transformer  
Output: 42,000 kVA  
Voltage: 1ry. 66,000 V  
2ndary. 308-242-176 V with on-load tap changer

### 4. 60/66/30 MVA "Fahrbar" Transformer & 30 MVA Vertical Shaft Phase Advancer

Destined for Muroran Substation of Messrs. Hokkaido Electric Power Company with the following specifications which are roughly same as for the similar equipment delivered to Shin-Sapporo Substation of the same customer in last year making the present equipment a repeat order.

- 1 × Oil-circulated fan-cooled 3-phase "Fahrbar" (transportable in assembled condition) transformer  
60/66/30 MVA, 187-178.5-170/66/10.5 kV.  
50 c
- 1 × Vertical shaft hydrogen-cooled synchronous phase modifier with magnetic thrust bearing  
30 MVA Leading: 20 MVA Lagging  
11 kV, 50 c, 1,000 r.p.m.

## Outline of Our Products

### (I) Heavy Current Equipments

- a) Generators :  
Synchronous generators up to 100,000 kVA.  
Direct current generators up to 5,000 kW.  
Other all kinds of generator.
- b) Motors :  
3-phase synchronous motors up to 10,000 HP.  
3-phase induction motors up to 10,000 HP.  
3-phase commutator motors up to 200 HP.  
Direct current motors up to 10,000 HP.  
Other all kinds of motor.
- c) Standard motors (for general use):  
3-phase induction motors from  $\frac{1}{2}$  HP to 100 HP.  
1-phase induction motors from  $\frac{1}{8}$  HP to 1 HP.  
Squirrel cage motor from  $\frac{1}{2}$  HP to 100 HP.  
Wound motor from 30 HP to 100 HP.  
Split phase start for  $\frac{1}{8}$  HP.  
Repulsion start for  $\frac{1}{2}$  HP to 1 HP.
- d) Special motor :  
Loom, card, mule, and ringmotor for textile industries.  
Pot spinning motors for rayon industries and all other kinds of special use motor applied for various industries.
- e) Rotary converters with transformer up to 3,000 kW, 1,500 V.
- f) Transformers :  
Power transformers up to 100,000 kVA, 287 kV.  
Furnace transformers with under load tap changing equipment or under load adjuster up to 50,000kVA, 140kV.  
Measuring transformers up to 287 kV.  
Other all kinds of transformer.
- g) Standard transformer (for general use):  
1-phase & 3-phase distribution transformers from 5 kVA to 200 kVA.
- h) Induction voltage regulators up to 1,000 kVA.
- i) Iron vessel mercury arc rectifiers :  
Singleanode or multianode type, water cool or air cool type and with pump or without pump type up to 6,000 A, 100 kV.
- j) Contact converters up to 12,000 A, 500 V.
- k) Selenium rectifiers up to 10,000 A, 100 kV.
- l) Regulating apparatus :  
Motor starters, controllers, speed regulators, voltage regulators and other regulating apparatus for all kinds of service.
- m) Circuit breaker :  
Expansion circuit breakers from 60 kV up to 287 kV.  
Oil circuit breakers from up to 70 kV.  
Air circuit breakers up to 3,000 V.  
High speed air circuit breakers up to 3,000 V.
- n) Switch equipments :  
Disconnecting switches up to 287 kV.  
Knife switches, magnetic switches and other all kinds of switch equipment.
- o) Switchboards :  
Sheet iron made switchboard for all kinds of service.
- p) Relays :  
All kinds of relays for power and industry use.

### (II) Machines

- a) Water turbines :  
Francis type, pelton type and propeller type turbines up to 100,000 HP completed with necessary regulating accessories.
- b) Water pumps :  
Turbine pumps up to 1,000 HP.
- c) Fans :  
Propeller fans.  
Centrifugal (Sirocco) fans.
- d) Gas turbines :  
Closed circuit type up to 30,000 HP.
- e) Mine hoists :  
Cage or ship type shaft winder.

### (III) Railway and Ship Equipments

- a) Traction motors of all kinds.
- b) Mine locomotives of all kinds with electric equipments.
- c) Cargo winches for 3 tons and 5 tons with electric equipments.
- d) Steering engines of all kinds with electric equipments.

### (IV) Weak Current Equipments

- a) Integrating watt-meters (watt-hour meters) :  
1-phase W.H.M. for low tension circuit use.  
3-phase W.H.M. for low tension and high tension circuit use.
- b) Electric measuring instruments :  
Switchboard meters, portable type meters, line testers, insulation testers, tele-metering equipments.
- c) Industrial measuring instruments :  
Electric thermometers, pyrometers, flow meters for water, steam, gas and air.  
Gas analyser, pressure gauges, vacuum meters, pH meters, level meters, electronic recorders.
- d) Automatic controlling equipments :  
Automatic combustion controlling equipments for steam boilers and various furnaces.  
Pneumatic controllers for temperature, pressure, flow and liquid level.  
Ratio controllers for gas and liquid mixing.  
Magnetic controllers. Electro-pneumatic controllers, electrical indicating controllers with on-off contacts.

### (V) Domestic Equipments

- a) Electric table fans of, 8" 12" and 16".  
Electric pedestal fans of 16".
- b) Electric room heaters.
- c) Electric washers for  $\frac{1}{4}$  HP.
- d) Electric refrigerators for  $\frac{1}{4}$  HP, 100 W.
- e) Razor blade sharpener (for double edge).
- f) Dry battery & flash light.
- g) Juicer, electric clock.
- h) Electric iron.
- i) Toaster.
- j) Centrifugal dehydrating machine.
- k) Electric bulbs & Fluorescent lamp & illuminating app.

### (VI) Agricultural Equipments

- a) Centrifugal pumps from 2".