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GUIDE
TO INDUSTRIAL &
MINING EXHIBITION
OF
NATIONAL RESOURCES COMMISSION
MINISTRY OF ECONOMIC AFFAIRS
NATIONAL GOVERNMENT OF CHINA

*British Council Cultural Scientific Office,
CHUNGKING.*

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time to lay a foundation for the future industrialization of the country. Up to the end of 1943, the Commission has established under its control 105 units. The Commission's enterprises are classified into three categories, manufacturing, mining and electric power, brief accounts of which are appended.

A. Manufacturing Enterprises:

1. Metallurgical Works—For iron and steel, there are nine units. The Iron and Steel Works Reconstruction Commission in Pahasien, under the joint administration of the N.R.C. and the Bureau of Ordnance, is the biggest of all metallurgical works in the hinterland. The Weiyuan Iron Works, the Lingkiang Iron Works and the Tzeho Iron and Steel Company, all of which are located in Szechuan, produce mainly pig iron to feed the rolling mills of the Tzeyu Steel Works in Pahasien. For the first time in China, the Electro-Chemical Metallurgical Works in Chikiang is producing sponge iron and ferro-alloys. Besides these six units, all in Szechuan, there are the Yunnan Iron and Steel Works in Anning, the Kiangsi Iron Works in Chian, and the Iron Works of the Pingkwei Mining Administration in Papu, Kwangsi.

Non-ferrous metal plants are generally operated along with mining, which will be dealt with under category B, the Mining Enterprises. Nevertheless, two works should be mentioned here: the Electro-Chemical Metallurgical Works in Chungking and the Kunming Copper Refinery in Kunming, both of which produce, among other things, electrolytic copper of 99.95% purity and electrolytic zinc at 99.97%.

2. Machine Works—The best developed and the largest of the six N.R.C. machine works is the Central Machine Works in Kunming. Its specialties are prime movers and machine tools, while much attention is given to the training of key technical personnel. At the same time, this Works produces manufacturing machineries to meet their growing demand.

For meeting various regional demands, the N.R.C. has established the following five units, the Szechuan Branch of the Central Machine Works in Ipin, the Kansu Machine Works in Lanchow, the Kiangsi Machine Works and the Kiangsi Ship & Vehicle Works in Taiho, and the Kwangtung Iron and Machine Works in Pingshih.

3. Electrical Manufacturing Works—The N.R.C. has five such units. The first is the Central

Electrical Manufacturing Works, with eight factories distributed among Kunming, Kweilin, Chungking and Lanchow, producing respectively wires and cables, vacuum tubes and bulbs, telephone equipments, power machineries and batteries. The second is the Central Radio Manufacturing Works in Kweilin, with branches in Chungking and Kunming; while the third is the Central Electrical Insulators Works in Ipin, with a branch in Hengyang, Hunan. In these plants, technical co-operation has been secured with leading producers in Great Britain, Switzerland and the United States. To satisfy regional demands, there are the fourth unit, the Electrical Insulators Works in Hwating, Kansu, and the fifth unit, the Kiangsi Electrical Manufacturing Works in Taiho. Of the electrical supplies and communication materials made in Free China, the N.R.C. plants produce the lion's share.

4. Chemical Works—The majority of these works are the production of liquid fuels. For the production of alcohol, there are eight distilleries, distributed among Szechuan, Yunnan, Kweichow, Kansu and Shensi provinces. As to synthetic oil, there are the Tung li Oil Works and the Chienwei Coal Distillation Works in Szechuan, in which motor spirit, Diesel oil and other

by-products are produced from vegetable oils and coal respectively. These two works are modern projects which have been undertaken in China for the first time. For the production of acids, alkali and fertilizer, the N.R.C. has five plants: the Kunming Chemical Works, the Kansu Chemical Works, the Kiangsi Sulphuric Acid Works, the Yutien Phosphate Fertilizer Works, and the Tienyuan Electro-Chemical Works. In the field of ceramics, there are the Chungking Refractory Material Works and the Kansu Portland Cement Co.

B. Mining Enterprises:

These enterprises are of two kinds, control and production. The former consists of all the export-mineral administrations, and the latter is sub-divided into metal deposits and non-metal deposits.

1. Export-Mineral Administrations—Tungsten, antimony, tin and mercury are exported for the redemption of foreign loans or bartered trade. Endeavours of these administrations are along two lines: state mining operations and assistance to native mines through purchasing, dressing and refining of their output. Thanks to these administrations, foreign loans have for

years been promptly repaid, and the qualities of the minerals raised. To-day, the tungsten concentrates contain very little tin and less than 0.2% arsenic, and antimony regulus is over 99.8% fine with less than 0.14% arsenic; all up to the world standard. Particularly noteworthy is the tin at 99.95%, which surpasses the famous Straits Tin in quality. There are four Administrations controlling the four respective export-minerals, with branches and agencies in Kiangsi, Hunan, Kwangtung, Kwangsi, and Kweichow provinces, while the business in Yunnan province is under the control of the Yunnan Export Minerals Administration. The transportation of all export-minerals is undertaken by the N.R.C. Transportation Office, and their export business, by the N.R.C. Foreign Trade Office, with branches in New York, Kunming and Lanchow.

2. Metal Deposits—Most of the above-mentioned iron and steel works operate iron mines along with metallurgy. Some works, however, specialize in mining alone, such as the Chikiang Iron Mines, which supply raw materials for the Iron and Steel Works Reconstruction Commission, and the Yemea Iron Mining Administration, which produces iron ores for the Yunnan Iron

and Steel Works.

The North Yunnan Mining Administration undertakes mining as well as smelting of copper, lead and zinc, which supply the needs of arsenals and electrical manufactories, sometimes without electrolysis by the Administration. The same position holds in the case of the Szechuan and Sikang Copper, Lead and Zinc Mining Administration.

Recently, bauxite has been discovered in Yunnan and Kweichow, and the Kunming Copper Refinery has experimented with success the reduction of aluminium.

3. Non-Metal Deposits — Non-metal mines include, as far as the N.R.C. is concerned, coal, petroleum and phosphate. There are twenty coal mining units, distributed among Szechuan, Yunnan, Kweichow, Kiangsi, Kwangtung, Hunan, Kwangsi and Kansu provinces, supplying the wartime demands of metallurgical industries, railways, water transportation, and various industrial and domestic uses. For petroleum, there is the Kansu Oil Production and Refining Administration, an important N.R.C. enterprise, which now produces a sizable quantity, despite transport difficulties and scanty imported equipments. The Szechuan Oil and Gas Exploration Corps has

been successful in discovering natural gas to supply short distance transportation around Chungking. Phosphate mines are being operated near Kunming, supplying raw materials for the Yutien Phosphate Fertilizer Works, the match industry and the arsenals.

C. Electric power Enterprises:

With a few important exceptions, all electric power plants in the hinterland are operated by the N.R.C. There are 22 units, distributed among Szechuan, Sikang, Yunnan, Kweichow, Kwangsi, Hunan, Chekiang, Shensi, Kansu and Chinghai provinces. Wartime establishments which may be mentioned here are the construction of hydroelectric power plants and the experiment in setting up transmission network. Regarding the former, seven hydraulic plants are now under construction, with the Lungchiho project in Changshou, Szechuan, being on a comparatively big scale; as to the latter, a transmission line in the West Szechuan has proved a preliminary success. Besides these, the National Hydro-Electric Power Survey is doing good work in the southwest and northwest provinces.

THE EXHIBITION

To facilitate the public's close-up inspection of the Commission's multiple activities, the present Exhibition is divided into ten separate sections:

- 1) Natural Resources;
- 2) Coal;
- 3) Petroleum;
- 4) Iron and Steel;
- 5) Non-Ferrous Metals;
- 6) Export-Minerals;
- 7) Chemical Products;
- 8) Electrical Supplies;
- 9) Electric Power; and
- 10) Machinery.

The exhibits consist of samples and actual products, models, tables and charts, and photographs and drawings.

Samples and actual products include raw materials, semi-manufactured goods, finished articles, spare parts and assembled sets on the one hand, and inventions and imitations or substitutes on the other.

Models consist of imitative models (such as geological strata, ore deposits, machinery, pro-

duction processes, etc.), analytic models and ideal models.

Tables and charts are concerned chiefly with subjects in the sphere of production and management.

Photographs and drawings show geological particulars of mines, equipments in various works, and conditions of operation.

The Exhibition is based on an assortment plan, and all exhibits are arranged according to their nature and production processes without regard to the particular units from which they are produced.

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