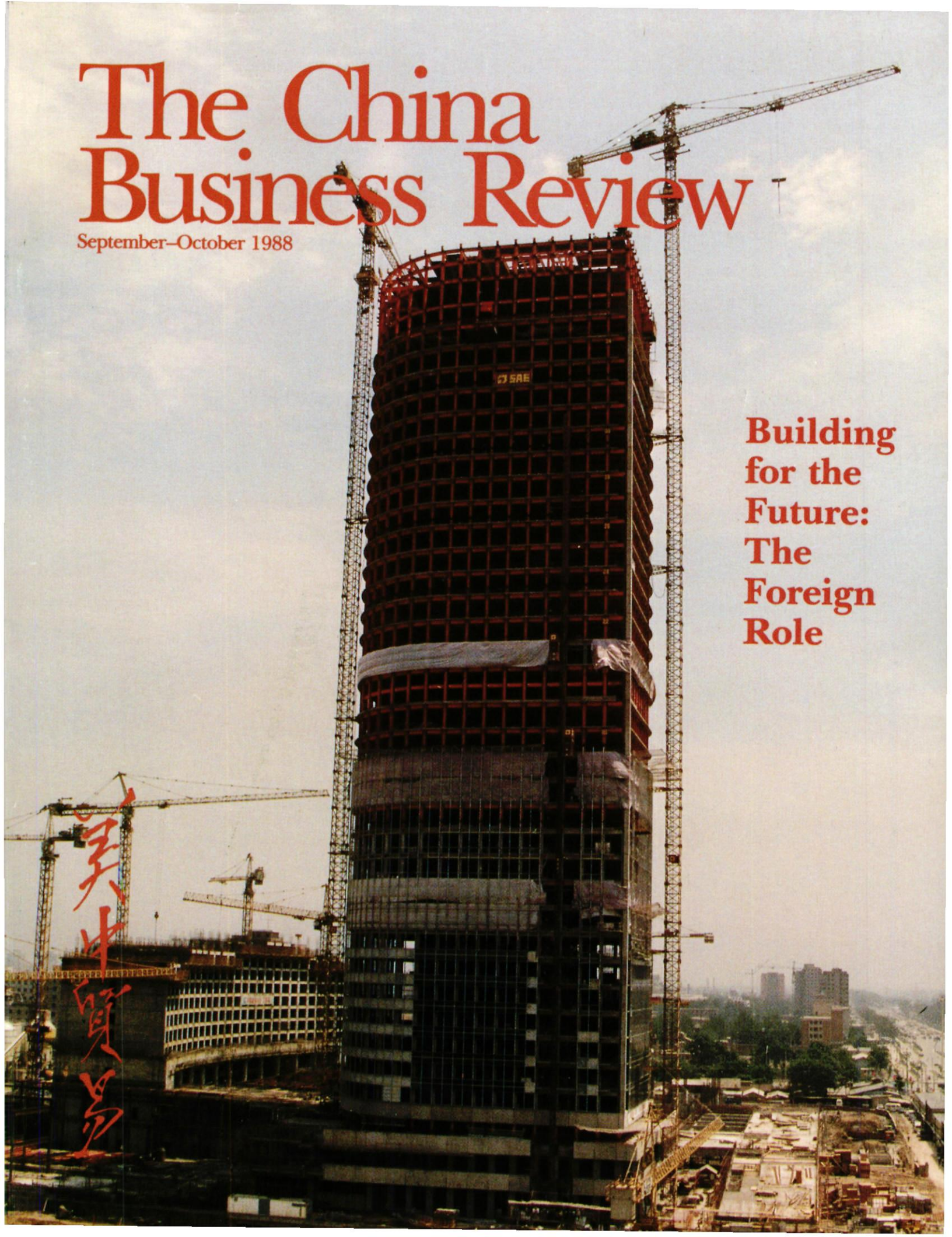


The China Business Review

September–October 1988

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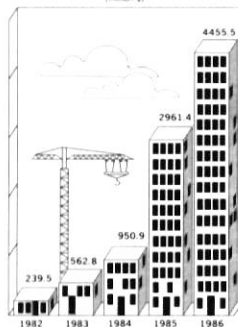
Cover: The China World Trade Center rises in Beijing's business district. *Photo by Jerome LeConte.*



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FOREIGN ENGINEERING AND RELATED SALES TO CHINA, 1982-86

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摘要

THE TRADE BILL AND CHINA

The Omnibus Trade and Competitiveness Act, which was kicked around in Congress for nearly two years, was finally approved and passed to the president on August 3 in a form that is likely to be signed into law. Its impact on US trade with China should be generally benign—with a few notably favorable points:

Export control provisions authorize the establishment of a much-anticipated distribution license for exports to China that fall within the green zone. COCOM may take up the issue as early as September, and if approved, US companies will be allowed to use one license to make multiple shipments of controlled commodities to approved distributors and endusers in China.

Many American companies have expressed interest in the bill's "Training for Trade" provision. This

will give funds to the State Department's Trade and Development Program to bring Chinese personnel to the United States for training on equipment and in US business practices, in cases where the training is expected to result in US export opportunities. Just where the stipulated \$10 million will come from—or when—is not clear, but it appears unlikely that Congress will appropriate the funds before FY1990.

The bill also establishes a new method of determining whether nonmarket economies are dumping products in the US market. This provision should facilitate the Commerce Department's ability to make dumping determinations, and should not result in additional dumping actions being brought against China.

Many officials are not at all sure when and how all the provisions in

the 1,000-plus page bill will be implemented, or what the effects will be. The business community can only hope that they figure it out in less time than it took to formulate the bill.

—Karen Green

RINGING UP CORRUPTION

The recently passed US Trade Bill also eases up on certain provisions of the Foreign Corrupt Practices Act (FCPA), whose ambiguous guidelines have long made US businesspeople in China and other countries uneasy about making payments to facilitate routine business procedures—an accepted practice in many parts of Asia. In a bow to reality, the revised version of the FCPA will now permit American businesses to make payments to smooth the process of mundane matters such as obtaining business documents, visas, work orders, utilities, and mail service. Nevertheless, the FCPA maintains strict prohibitions on payments to government officials to influence discretionary business decisions such as contract awards.

Even as Americans can relax somewhat, their Chinese business counterparts may be becoming more concerned about breaking the rules. China's new Ministry of Supervision has just set up a watchdog division to control corruption around the country through a network of corruption report centers. In Beijing's center, phone attendants will be on duty 24 hours a day to take anonymous telephone calls from Chinese and foreigners reporting cases of graft, bribery, and blackmail involving Chinese officials. A few particularly egregious cases will be prosecuted publicly.

The response so far has been less than overwhelming. Operators at the corruption reporting center in Fuzhou received only 112 visits, letters, and phone calls over a one month period last summer. But as the FCPA has taught Americans, the mere threat of prosecution can be a highly

SEALING STATUS WITH COUNCIL LOGO

Now it is easier than ever for members of the US-China Business Council to identify themselves as one of China's "old friends." Responding to member company requests, the Council has designed a special seal for use on letterhead, brochures, ads, doors, office windows, or any other easy-to-spot place. The camera-ready seal is available free-of-charge to members, and incorporates the name and logo of the Council in Chinese or English. Several sizes are available in color or black and white. To improve company recognition in the PRC, interested Council members should contact Priscilla Totten at the Council's Washington, DC, office.



effective deterrent. —AED

TOO MANY DRAGONS

The date 8/8/88 was noted all over the world—particularly by Chinese, who count it the single most auspicious day in this century. In the Cantonese dialect, the rhyme between the word for eight—*baat*—and the word for prosperity, *faat*—inextricably link the number and the idea. Making the day even more magical was the fact that it fell in the year of the dragon, considered the most favorable sign of the 12-year Chinese astrological cycle.

Chinese have traditionally believed that children born in this year are extremely intelligent and fortunate, weddings especially blessed, and business ventures notably prosperous. Lavish festivities were held by Chinese throughout Southeast Asia, including a topping off ceremony for the Bank of China's new building in Hong Kong and a mass "Wedding of the Century" celebrated in Singapore. Hospitals in several countries reportedly scheduled extra staff to handle an influx of expectant mothers who wanted to give birth on that day, some going so far as to have labor prematurely induced.

Yet in China itself, little mention was made of the extraordinary day, as official policy frowns on displays of superstitious beliefs. Despite the downplaying of the date's significance, however, many suspect that the toll of weddings and births in China hit a new peak in August, just as in other countries with large Chinese populations. An official from China's State Family Planning Commission acknowledged in July that the year of the dragon has already had a negative impact on the State's family planning program, and might result in a third year in which China's population has failed to stay within planned target levels. For example, the 1987 birthrate was 0.2 percent over the State target—a total of 2.16 million extra babies. It's a good thing for China's planners that another day of such good fortune won't roll around for another century. —SER

CARVING UP THE SKY

Aviation in China is gradually becoming more of a regional affair. After almost five years of discussion and erratic adjustments, CAAC is speeding up its plans to back away

from daily aviation operations and focus more on supervising and planning the sector's long-term development. In addition to formulating policy, CAAC will develop and implement civil aviation regulations, and sign international aviation agreements.

Six regional administrations, which remain under CAAC's general supervision, have begun taking over CAAC's airport and air traffic control operations. The North Regional Administration, headquartered in Beijing, the East Regional Administration, based in Shanghai, and the Southwest Regional Administration, based in Chengdu, have already begun operations, and at least one more regional administration is expected to be set up by the end of this year. A financially independent regional air carrier will operate under each administration. CAAC has already spun off the first three regional airlines, corresponding to the three established regions. These airlines compete with several recently formed independent airlines, such as China United, run by the People's Liberation Army.

CAAC will continue to be responsible for coordination and development of national air traffic control policies, although the regional administrations are taking over operations. The National Air Traffic Control Administration (NATCA), set up in 1986 as a joint effort by CAAC and the military to plan, develop, and operate a civilian nationwide ATC system, was disbanded at the spring session of the National People's Congress. NATCA's demise means that CAAC is again the sole entity with civilian air traffic control responsibility, while the PLA retains its control over military airspace. NATCA's short life and fall from power also indicate that the battle between the civilian and military sectors over control of China's airspace may not yet be finished.

These aerial turf battles have not stalled all progress on air traffic control, however. CAAC is, for instance, moving forward with plans for a new air traffic control center based at the Sanya airport in Hainan Province. This center will serve international air flights over the South China Sea with the opening of a second air route between Tokyo and Europe, and could be operational as early as the end of next year. —KHS

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Shopping in China: Beyond the Friendship Store

Roberta Helmer Stalberg

For many years, travelers to China did their serious souvenir shopping in Hong Kong, where prices, quality, and selection far outshone the shops across the border. Nowadays, however, China offers many unique and distinctive items at a reasonable cost in a wide variety of retail stores. Of course, the further off the beaten track the traveler shops, the greater the chance of finding something truly distinctive—and of having some fun and adventure along the way.

China's best buys are crafts that require a great deal of skilled workmanship. Quality items of jade and ivory, woodblock prints, cinnabar lacquer, silks, cashmere, and folk art can all be found at reasonable prices—for those who look in the right places.

First-time visitors to China will quickly become familiar with friendship stores, which are generally located near tourist hotels. The major airports feature duty-free shops, and most hotels have retail outlets ranging from small counters to large shops. These types of stores are the most convenient places for foreign visitors to shop in China, although they tend to carry fairly standard product lines. Travelers with a bit more free time might want to explore local stores and factory outlets that feature certain special crafts. Even further afield, small, out-of-the-way specialty stores and free markets reward the intrepid with truly unusual gifts and souvenirs.

One-stop shopping

The time-pressed traveler with a general shopping list will find that friendship stores, airport duty-free shops, and hotel gift counters offer a combination of variety and convenience. English-speaking employees are often on hand to guide shoppers to popular items such as cashmere

sweaters, cinnabar lacquer plates and jars, cloisonné ware, woven baskets, and silk fabric and clothing. Many such stores accept international credit cards and will exchange foreign currency.

Friendship stores and hotel shops will often ship and insure both store purchases and merchandise bought elsewhere. Shoppers should be aware, however, that the merchandise found in these stores may sometimes be purchased in greater variety at less cost in Hong Kong, where large emporiums can command volume discounts.

Taking time for the unusual

Travelers with a little more time to spend searching for unusual gifts can venture out to factory shops and local stores featuring crafts and products for which the city or region is famous, such as the Shiwan Artistic Ceramics Factory near Guangzhou, or the Suzhou Sandalwood Fan Factory. Beijing is probably the best source for jade and cloisonné enamel ware, for example. Ivory carving is a traditional specialty in Shanghai and Guangzhou, while Chengdu is known for silver filigree jewelry.

Visitors in search of fine antique reproductions should go first to Jiguge on Beijing's East Liulichang Street (see p. 8 for addresses of stores

mentioned throughout). Many of the staff speak English and are quite knowledgeable about the pieces. Here one can find museum-quality reproductions of bronzes and ceramics from every historical period, including a complete reproduction of the bronze chariot with terra cotta horses and driver recently discovered at the tomb of Emperor Qin Shihuangdi in Xi'an.

The ancient tradition of silk-weaving still thrives in China. As in centuries past, nubby silk shantung and fine crepe de chine are the best buys, and cost considerably less in China than in the United States. To name only two of many sources, the Yuanlong Silk Embroidery Store in Beijing and the Laojiefu Silk Shop in Shanghai are good places to find silk fabric and hand-painted or block-printed silk scarves.

Fabric featuring double-sided embroidery makes an unusual souvenir. The intricate technique produces identical designs on both sides of the fabric, and conceals all knots and thread ends. The Suzhou Embroidery Research Institute's retail shop carries superb examples of double-sided embroidery—but be prepared for prices there to reflect the exceptional quality of the workmanship.

Small pieces of stoneware and glazed porcelain can be found in a wide variety of colors and styles, ranging from subdued Yixing stoneware teapots to blue-and-white underglazed porcelains and the colorful enamel wares of Jingdezhen. Shanghai's Old Town Pottery Store has a good selection of Yixing ware, while the Beijing and Shanghai branches of the Jingdezhen Art Porcelain Service Company carry porcelain ranging from delicate "eggshell" cups to complete dinner services.

Chinese opera costumes and folk clothing can be exotic and colorful as well as easy to carry home. Brightly

Roberta Helmer Stalberg holds a Ph.D in Chinese literature from Ohio State University. She is the author of China's Crafts, China's Puppets, and is working on two novels with Chinese themes. She has been a consultant to travel agencies and US companies importing art from China. Her guide, Shopping in China, from which this material was taken, is currently being updated for its third printing, and the author welcomes information on other exceptional stores in China. She can be contacted at 560 West 43rd Street, New York, NY 10036.

embroidered skirts, intricately worked imperial dragon robes, and black silk boots are all sold in Beijing and Shanghai costume stores. Beijing's Huaxia Arts and Crafts Shop offers handsome late-Qing dynasty textile pieces and modern opera costumes.

Fans make another elegant and lightweight souvenir. Fragrant carved sandalwood, lacquer, mahogany, ivory, and hand-painted silk fans can be found at Shanghai's Wangxingji Fan Shop or Suzhou's Sandalwood Fan Factory.

Many of these specialty stores will pack, ship, and insure purchases. More and more of them also accept international credit cards. Travelers are advised to call ahead, as hours, payment policies, and available services may change without notice.

Getting off the beaten path

Visitors willing to venture down narrow, winding alleyways and tour boisterous free markets will be rewarded with distinctive items found nowhere else, including peasant paintings, dough sculptures, and embroidered folk textiles. Getting off the beaten path also affords fascinating glimpses of Chinese life—from an old man painstakingly choosing a walking stick to old farm women hawking brightly colored, hand-embroidered baby hats at a Xi'an free market.

Located in the twisting lanes of the Yu Garden Bazaar, Shanghai's Wanli Walking Stick Store is not easy to find, but well worth the effort. Wanli's elegant creations are hand-carved in mahogany or red local woods and feature intricate designs of coiling dragons or flowering plum boughs.

Peasant paintings from Shanghai's rural Jinshan County will dispel every preconception about Chinese art. Bold and colorful, the works of Jinshan's peasant artists are becoming increasingly popular in international art markets, and can be found in China at the Arts and Crafts Trade Fair at the Shanghai Exhibition Center as well as at the painters' commune itself.

At free markets travelers can often find distinctive folk toys and costumes. On Beiyuanmen Street in Xi'an, and outside the city near the imperial tombs, for example, travelers will find old embroidered opera costume panels, collars and skirts,

along with tiger hats, vests, slippers, and embroidered Moslem caps.

Know before you go

Before leaving for China, travelers should try to visit shops at home that carry Chinese crafts in order to familiarize themselves with the kinds of items and prices available. Touch and examine as many pieces as possible to develop at least a minimal feel for quality and craftsmanship.

Most visitors have a limited time in China, and it's better to spend that time searching out a perfect piece

instead of comparing prices, which vary only slightly from store to store. And that perfect piece should be purchased on the spot, since an identical item may not be available elsewhere.

China's wide variety of shops holds something for everyone, from everyday porcelain to exotic snuff bottles and "eggshell" bowls. The traveler with a bit of time and a taste for adventure will come home with distinctive souvenirs made all the more enjoyable by vivid memories of the shopping trip itself.

Photos courtesy of Roberta Stalberg



Paintings of Qi Baishi and other famous Chinese artists are turned into woodblock prints at Beijing's Rongbaozhai Studio.



Workers at the pottery-making center of Jingdezhen in Jiangxi Province grade blue-and-white porcelains.

RECOMMENDED STORES IN MAJOR CITIES

BEIJING

Arts and Crafts Service Department*

200 Wangfujing Street
Tel: 557579

Weifang woodblock print kites, leather shadow figures, blue-and-white stencil print fabric

Huaxia Arts and Crafts Shop*

249 South Dongsì Road
Tel: 551529

Old Yixing teapots, Cizhou ceramic pillows and figurines, embroidered opera costumes, glazed ceramic roof tiles

Jiguge (Pavilion for Drawing Inspiration from Antiquity)*

136 East Liulichang Street
Tel: 335898 and 334531

Reproductions of unglazed Han Dynasty tomb figures, bronze vessels, and rubbings of ancient stonecarvings

Opera Costume Factory Retail Shop

130 Qianmen Street

Tel: 753269 (factory); 752853 (retail shop)

Cloth dance slippers and embroidered, imperial-style robes

Rongbaozhai (Studio of Glorious Treasures)*

19 West Liulichang Street
Tel: 330097 and 333352

Woodblock prints of paintings by Wu Zuoren, Guan Liang, and Qi Baishi, small woodblock print albums, ceramic implements for the artist's desk

Yuanlong Embroidery Silk Store*

55 Tiantan Road, Second Floor
Tel: 754059

Raw silk fabric, brocade jackets, silk scarves, quilts, carpets

GUANGZHOU

Shiwan Artistic Ceramics Factory Retail Shop*

17 Dongfeng Road, Shiwan City
Tel: 754059

Miniature stoneware figures, art pottery with flambé and crystalline glazes, miniature clay sampans

Qingping Road Free Market

Qingping Road, near intersection with Liuersan Road

Items vary, but may include reproductions of blue-and-white underglazed porcelain plates, pillows, and teapots; southern-style gilded and carved wooden panels and figures

SHANGHAI

Arts and Crafts Trade Fair at the Shanghai Exhibition Center*

1000 Yanan Road Central
Tel: 533918

Unglazed Han Dynasty tomb figures, black glazed teapots with "oil spot" design, Guangxi stoneware folk toys, Jinshan County peasant paintings

Jingdezhen Art Porcelain Service Department*

1175 West Nanjing Road
Tel: 530885

Complete dinner services in blue-and-white underglazed porcelain or colorful enamels such as *famille rose* ware

Jinshan (Gold Mountain) County Peasant Painter's Commune

Jinshan County Cultural Center, in rural Shanghai

Tel: inquire through the Shanghai long distance operator

Bold *gouache* paintings of farm life, folk tales, or kitchen scenes

Laojiefu Wool and Silk Shop*

257 East Nanjing Road
Tel: 219292

Wide variety of silk fabric and completed garments including pongee, tussah, and crepe de chine

Old Town Pottery Store

(Yu Garden Bazaar)
60 Yu Yuan Road
Tel: 289850, ext. 99

Wide selection of unglazed Yixing teapots, tea sets, animals, and figurines

Opera Costume and Prop Factory Retail Shop

259 East Nanjing Road, second floor
Tel: 222640

Embroidered Moslem caps, opera slippers, embroidered wedding dresses

Wangxingji Fan Shop

782 East Nanjing Road
Tel: 224684

Painted black paper fans, carved sandalwood fans, painted silk fans on carved sandalwood ribs

Wanli (Ten Thousand Mile) Walking Stick Store

(Yu Garden Bazaar)

Diverse selection of hand-carved walking sticks in bamboo, mahogany, red local woods, lacquer, and metal

SUZHOU

Embroidery Research Institute Retail Shop*

262 Jingde Road
Tel: 6297

Double-sided embroidery of kittens or goldfish, framed embroidered table screens or embroidered silk fans, *ke si* silk embroidered tapestries

Sandalwood Fan Factory Retail Shop*

58 Xibei Street
Tel: 4982

Fans of sandalwood, ivory, bone, lacquer, or carved mother-of-pearl, painted folding fans, carved miniature sandalwood figures

TIANJIN

Yangliuqing New Year Picture Society*

111 Sanheli, Tonglou, Hexi District
Tel: 702828

Colorful, silk-matted prints of children, sets of 12 prints of New Year images from Chinese legends

XI'AN

Beiyuanmen Free Market

Beiyuanmen Street near the Drum Tower in the city's Moslem section
Appliquéd vests, inexpensive (and possibly irregular) reproductions of Tang dripped-glaze ceramics, painted toys and whistles

Jade Carving Factory

173 Xiyi Street (West First Street)
Tel: 22085

Rubbings of calligraphy, bird and flower paintings, and daily life scenes on Han Dynasty tiles and bricks

Qian Ling Free Market

50 miles west of Xian at the mausoleum of Emperor Gaozong and Empress Wu Zetian

Embroidered collars of opera costumes, old cloth tiger pillows, appliquéd vests and shoes

Xi'an Friendship Store*

Nanxin Street
Tel: 23749

Huge variety of local products, including reproductions of figures from the Qin Emperor's terra cotta army, dripped-glaze Tang Dynasty tomb figures, silk painting of Tang tomb murals, rubbings, and undyed cotton peasant jackets

* accepts most major international credit cards



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Swap Center System to Expand

Changes in the foreign exchange adjustment system may be moving China along the road to full currency convertibility

Diane Yowell

China's experiment with foreign exchange adjustment centers (FEACs), which began with the opening of the first center in Shenzhen in 1985, is undergoing a major expansion this year. Earlier this year, the People's Bank of China (PBOC) announced that all provinces and major cities will gradually open FEACs for both domestic and foreign-invested enterprises, and that a national center is being set up to facilitate inter-regional transactions. Some of the new centers have already opened their doors, and by early 1989, 57 centers are scheduled to be operating throughout China: 29 in the provinces, autonomous regions, and municipalities (including Hainan but excluding Tibet); and one in each of the 14 coastal cities, the four special economic zones, and the 10 major cities with economic plans separate from the State plan.

This is good news for China's foreign investors and domestic enterprises alike. For foreign-invested enterprises with surplus renminbi income, the FEACs are proving to be a relatively efficient way of obtaining much-needed foreign exchange. Similarly, for certain domestic enterprises they represent a significant break with the past, indicating that the leadership is committed to gradually passing on the benefits of export earnings to those who generate them. Both foreign and domestic enterprises obviously find the FEAC system useful; the State Administration of Exchange Control (SAEC) estimates that in 1987 alone \$4.2 billion was traded at FEACs throughout China.

The foreign exchange adjustment system is, of course, not perfect, and in solving some problems it has created others. Not all Chinese corporations are allowed to use the

The foreign exchange adjustment system is, of course, not perfect, and in solving some problems it has created others. Not all Chinese corporations are allowed to use the centers, for instance, and clear guidelines have not been issued. Moreover, foreign traders do not have access to the foreign exchange centers, although foreign investors do.

centers, for instance, and clear guidelines have not been issued. Moreover, foreign traders do not have access to the foreign exchange centers, although foreign investors do. But despite these inequities, the FEACs offer a stopgap measure to relieve the foreign exchange shortages of certain enterprises and represent a step toward the ideal, which is full convertibility.

Even before the advent of FEACs,

Diane Yowell is director of HongkongBank China Services Limited, a subsidiary of the Hongkong and Shanghai Banking Corporation. This article is adapted from the May 1988 issue of China Briefing, a publication of the HongkongBank.

several other forms of foreign exchange adjustment had been tried over the past eight years as part of China's ongoing efforts to reform its foreign trade system and irrational price structure. Because of the complexities posed by foreign exchange adjustment, these various experiments have been implemented only erratically, and policies vary according to locale and industry. But as the recent history of China's foreign exchange policies shows, the trend has consistently been toward greater flexibility and broadening access to foreign exchange privileges.

1979: foreign exchange credit system introduced

Although China began experimenting with foreign exchange retention systems for exporting enterprises as early as the late 1950s, it was not until 1979 that a comprehensive system was introduced. In that year, a foreign exchange credit system for domestic Chinese enterprises was introduced to promote Chinese exports. Exporting enterprises were given a foreign exchange credit account based on a percentage of their export earnings, usually around 7-8 percent, with the rest going to central government and local industrial administrative bureaus. This did not mean an enterprise held a foreign exchange cash account. Rather, all foreign exchange earnings had to be sold to the Bank of China (BOC), and a foreign exchange credit account was then opened for the enterprise with the SAEC. In theory, enterprises could use this credit for approved imports; in practice, approval procedures and restrictions on account utilization within a given year made the whole process cumbersome and time-consuming and thus an ineffective export incentive.

State use of exchange rate differentials proved a more satisfactory lever for promoting exports. From 1981 to 1985, enterprises were allowed to sell their foreign exchange to the BOC at an internal settlement rate of ¥2.8/\$1, giving them more RMB per dollar earned than the official rate, which ranged from ¥1.7/\$1 in 1981 to ¥2.3/\$1 in 1984. The internal settlement rate was based on the actual cost of earning foreign exchange from exports. This enabled the government to subsidize foreign trade and provide export incentives without devaluing the currency.

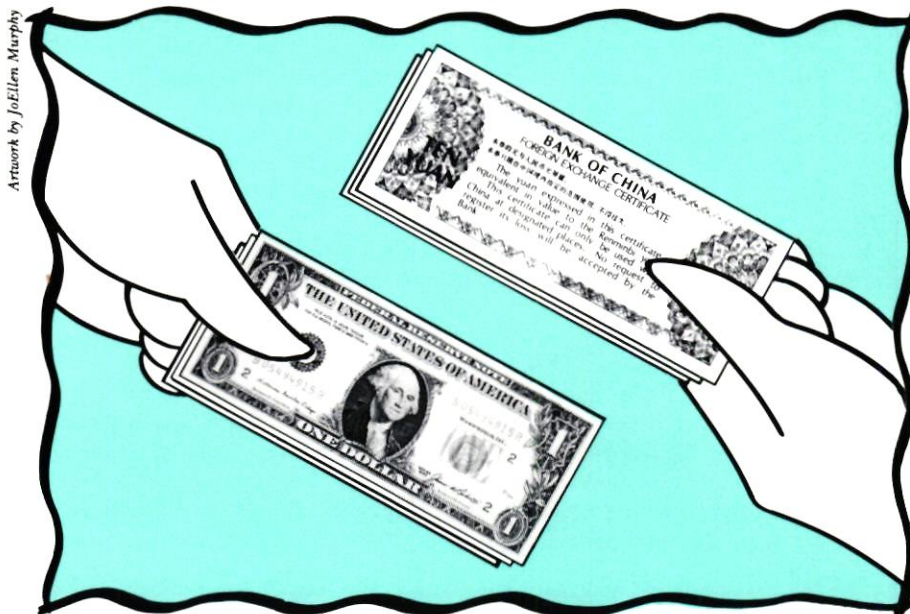
Beginning in 1980, a small step toward allowing foreign exchange trading among enterprises was also initiated, with some enterprises permitted to sell their foreign exchange credits to other enterprises through the BOC's Trust and Investment Consultancy Co. at the official exchange rate plus a 10 percent commission for BOC. This was not a particularly active market, however, because the rate was not attractive to sellers.

1985–86: new options emerge

The year 1985 brought an increase in the foreign exchange retention rates for both enterprises and local governments involved in exporting. This policy also eliminated the share received by the industrial administrative bureaus, a level of the bureaucracy that was being phased out.

In most provinces the system now allows 25 percent of total foreign exchange export earnings to be retained at the local level and split equally between the local government and the exporting enterprise. The remaining 75 percent of the foreign exchange earned is turned over to the central government. There are some exceptions: provinces populated by national minorities, such as Xinjiang, retain 50 percent of their foreign exchange earnings, the Special Economic Zones (SEZs) and Tibet retained 100 percent, and Guangdong and Fujian provinces keep 30 percent. Exceptions are also made for certain priority industries; for example, tourism-related enterprises keep 30 percent of the foreign exchange they earned, while electrical and machinery enterprises can retain 50 percent or in some cases an even higher share of their export earnings.

With a growing capital base at the



local level, two new types of foreign exchange adjustment options also emerged in 1985. FEACs, such as the one in Shenzhen, began to be formed. Rates of currency exchange could be negotiated between buyer and seller under the SAEC's supervision, within certain limits. At first, only domestic enterprises could trade at these centers, and most trading involved foreign exchange credit accounts rather than cash.

By 1986 foreign-invested enterprises (FIEs) began to be allowed to participate in the FEAC network. The initial foreign exchange transactions between FIEs and domestic enterprises followed different patterns in different cities. In the SEZs, for example, foreign-invested enterprises could trade directly with domestic enterprises at the FEACs from the start. Outside the SEZs, however, things were more complicated. Shanghai, for example, operated separate FEACs for foreign-invested enterprises and domestic ones. Other cities, including Beijing, also handled foreign exchange adjustment separately and some locales still do not have a physical center where buyer and seller meet.

Local governments also provide swap service

Foreign exchange adjustment conducted by local governments on behalf of enterprises within their jurisdiction is often confused with the FEAC system. Basically, in 1985 local governments began providing a service similar to that formerly offered by the Bank of China, in which

enterprises can sell their foreign exchange credits to a government agency at the official rate. The government agency then sells the foreign exchange at a much higher rate (close to that prevailing at the Shenzhen-type FEACs) to enterprises and projects in need of the hard currency—and keeps the difference. In view of the low rate of exchange, the seller may receive various forms of additional compensation from the government, such as bonus allocations of raw materials.

Local governments provide similar services to foreign-invested enterprises, but the foreign exchange transactions are made at the rates prevailing in the FEACs. In Beijing, for example, FIEs may identify a foreign exchange trading opportunity and simply register the transaction with the SAEC; alternatively, the SAEC may locate a trading partner on behalf of an enterprise. Virtually every major city in China offers this type of foreign exchange adjustment. These government services will, however, gradually be converted to the Shenzhen model, which offers a physical center where buyer and seller can meet.

1987–88: merging and expanding the system

China's most recent round of reforms to its foreign trade system aims to encourage higher exports through larger foreign exchange incentives for local governments and exporting enterprises in key industries such as textiles, arts and crafts, and electronics. According to the

People's Bank of China, restrictions on the use of foreign exchange credits will be abolished in 1988, enabling an enterprise to use its credit as it pleases. The PBOC's long-term goal is to phase out the system of credit accounts—which are time-consuming to set up and create an unnecessary layer of bureaucracy—and allow enterprises to open foreign exchange accounts directly with banks.

On the foreign exchange adjustment front, more FEACs have recently been set up, and their operations are being simplified according to the original Shenzhen model. Both domestic and foreign enterprises will be allowed to participate as of April 1988, and ceilings on allowable exchange rates have been abolished. The SAEC is currently drafting regulations for the administration of these centers.

Looking ahead: a nationwide foreign exchange market?

SAEC officials believe that in time China will have a real nationwide foreign exchange market, but several major problems must be overcome before this is achieved. For instance,

more domestic enterprises must begin to trade from foreign exchange accounts instead of the more cumbersome foreign exchange credit accounts. Currency prices must be determined by supply and demand. Finally, individuals should be allowed to trade on these markets, and regional barriers must be broken down.

The inequities of the system will probably continue to exist. The whole point of the FEAC system is to provide restricted access to better rates in lieu of official devaluation of the RMB, a move that the government has been resisting. Certain enterprises are thereby offered export incentives and desperate foreign investors short of foreign exchange are given relief, but the benefits are not open to all.

Devaluation of the RMB and the expansion the FEAC system are not, however, mutually exclusive. Although SAEC officials have denied that devaluation is imminent, a statement by a BOC official earlier this year that China is "considering" devaluation has created widespread expectation that it will occur. Speculation over devaluation, plus record

inflation in China—19 percent in June—have widened the gap between FEAC and official rates (see chart). While future devaluation of the RMB is not expected to eliminate the gap (now around 78 percent), it would narrow it to more reasonable levels.

In the longer term, China's leaders also envision that the RMB will eventually be convertible on the international market. For this to happen, China must accomplish a set of enormous tasks, including the completion of reforms to its pricing system, substantially increasing foreign trade as a percentage of GNP to make the RMB an internationally acceptable currency for settlements, and granting the PBOC the authority to effectively wield monetary policy.

The Soviet Union recently announced plans to make its currency convertible in seven to eight years. China has set no time limit for this to happen with the RMB, but given its greater success with economic reform, it may beat the Soviet Union to its goal. The ongoing expansion of China's system of foreign exchange adjustment centers is a promising step in that direction. 完

THREE FOREIGN EXCHANGE CENTERS: A COMPARISON

	Shenzhen SEZ	Xiamen SEZ	Shanghai
Qualified participants	Domestic, foreign, and foreign-invested enterprises registered in the zone (excluding financial institutions); individuals may sell but not buy; enterprises outside the SEZ may participate with local SAEC approval.	Same as Shenzhen.	Domestic, foreign, and foreign-invested enterprises in Shanghai and outside Shanghai with permission of local SAEC.
Source/application restrictions	Must be legal source of foreign exchange, such as exports, loans, equity. Must be for self-use, e.g., for imports, profit remittance, loan repayment. Must be used within six months or an extension applied for.	Same as Shenzhen.	Same as Shenzhen.
Charges (percent of transaction value) payable in RMB	0.1% from both buyer and seller. Min: ¥10 Max: ¥10,000	0.1% from buyer; 0.2% from seller. Min: none. Max: none.	0.1% from both buyer and seller. Min: ¥10 Max: ¥10,000
Currencies	All currencies allowed. Min: \$1,000 HK\$10,000	Same as Shenzhen.	¥, J¥, £, DM Min: none.
Indication rates (August 1988)— Official rates: HK\$100/¥47.5 \$100/¥370	HK\$100/¥89 \$100/¥658	HK\$100/¥82 \$100/¥635	HK\$100/¥80 \$100/¥628
Operating procedures	Buyer and seller submit applications jointly or individually entrust FEAC to find a partner for them. Open daily.	Same as Shenzhen.	Same as Shenzhen with the added option of applications being submitted to one of 12 licensed brokers.* Open daily.
Volume of transactions (from opening to end of 1987)	Estimated \$100 million in 1987 alone. \$800 million between Jan–Aug 1988.	\$71 million.	\$28 million.

*Including HongkongBank's Shanghai branch

Source: The Hongkong Shanghai Banking Corporation

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The China Business Review

The swings of China's policy pendulum have required foreign firms to adapt to an increasingly diverse and maturing market

Foreign Engineering Opportunities in China

Richard E. Gillespie

The market for foreign engineering and construction services in China has expanded and contracted in response to the pendulum swings of Chinese policy as the country struggled to establish domestic priorities and monetary mechanisms in the 1970s and 1980s. At the beginning of this period, China awakened to the realization that its technologies lagged far behind the state of the art, and embarked on a catch-up campaign that involved buying complete plants and accompanying construction services from abroad. As China's domestic construction and engineering capabilities gradually increased, the need for wholesale acquisition

has given way to today's desire to obtain only those specific technologies and services that cannot be found at home.

Foreign engineering firms have had to adjust their expectations and approaches to the ever-changing market, which allowed a select few to rack up big sales early on but forced them to wait out the lean years of China's foreign exchange shortfall and moves toward self-reliance. In a response to Chinese changes, foreign firms are entering today's diversified and relatively stable market with an arsenal of tried and tested techniques. While no dramatic increase in the number of opportunities is on the horizon, with the right approach, foreign engineering firms can in-

crease their own share of the market.

From full plant purchases to self-reliance

China in the 1970s seemed to promise a great future for foreign engineering and construction firms, with Chinese planners willing to spend their limited cash on importing complete plants and contracting with foreign companies for everything from plant design to start-up. Generally, only labor and local materials were supplied domestically.

Typical agreements between Chinese organizations and foreign engineering firms were fixed, lump-sum, contracts that did not break out the financing, interest charges, or service costs. While these types of agreements allowed China to maintain the facade that it paid no interest to foreign banks or suppliers, and had no need to spend its money on

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Photo courtesy of M. W. Kellogg Co.



M.W. Kellogg Company, which completed this meta-cresol plant in 1987, has been active in China since the early days of full plant purchases.

“intangibles” like engineering-design services, they also made it difficult for Chinese clients to ascertain the true costs of the products purchased. As a result, clients couldn’t determine the real costs of equipment or actual interest rates and therefore could not bargain for the lowest rates possible.

China’s fixed-price, lump-sum purchase of 10 ammonia fertilizer and 11 urea plants from the M.W. Kellogg Co. (US) between 1973 and 1978 provides an example of the usual model for engineering contracting in China at that time. Kellogg’s package included design engineering, process technology, full equipment purchases, construction advice, and project management work. Other American engineering companies such as Fluor Inc., Bechtel Inc., and Lummus Crest Inc. won complete plant contracts in the fuels, agricultural chemicals, petrochemicals, and energy resource development sectors. Japanese companies such as Mitsubishi Petrochemical and Nissho Iwai, and West European engineers including Tecnip-Speichim, Lurgi, Zimmer, and Linde won contracts in the coal, nonferrous metals, and port and harbor sectors.

The long-term market seemed even more promising to foreign engineers because Chinese clients usually did not acquire the technology that would enable them to assume more of the design and detail work themselves or to apply it on future projects. But the full plant purchase bonanza was cut off in the late 1970s by the depletion of China’s foreign exchange reserves and the concurrent call for modernization through self-reliance. From that point on China was much more discriminating about its foreign purchases, selecting only products and skills that could not be supplied domestically and purchasing or licensing technology rather than equipment wherever possible—particularly for design, fabrication, and management techniques for use in high-priority sectors such as agriculture, energy, light industry, and transportation. The imported technology would help improve the skills of China’s own engineers and further reduce the need for foreign services.

Waiting out the lean years

In the early 1980s, many foreign

consultants and contractors found the cost of doing business in China too great and the rewards too small. Some were hurt by abrupt changes in the status of large projects proposed by Chinese planners during the foreign engineering buying spree of the 1970s. During this period, the Pingguo aluminum project was cancelled, for example; plans for the Dexing copper mine scaled down; and Japanese plans for the high-priority Baoshan Iron and Steel Complex drastically modified. With China emphasizing domestic capabilities, foreign firms found themselves

Many American companies have overcome the lack of US concessionary export financing by teaming up with well-financed contractors and suppliers from other countries. Chinese clients will often direct American engineers to partners in countries such as Japan or Canada, where cheap financing is available.

largely limited to promotional activities, such as sending and hosting delegations, and training Chinese personnel—activities they pursued at great expense in order to maintain a presence in the market. Many businesses withdrew from China altogether, while those that chose to weather the dry spell lowered their sights and accepted more modest consulting assignments.

Opportunities for foreign firms did not vanish altogether, however. Foreign engineers, especially those with technology to sell, were brought in for limited, highly specialized work. Ebasco Services (US), for example, contracted for limited design engineering services in China’s high-priority thermal power sector. The company received consulting contracts for four thermal power

plants in the early 1980s. One of the plants was selected as the engineering model, for which Ebasco did the theoretical design. The Ministry of Water Resources and Electric Power (MWREP) then did the detailed engineering for the plant. On the other three plants Ebasco supervised the design work, which was based on Ebasco’s theoretical work for the first plant. Ebasco also provided procurement and construction advice on all four plants. The company hoped that its participation on this project would help it maintain a strong stance for the future—a strategy that has paid off on a number of projects, including the first phase of the World Bank-funded Beilungang Thermal Power Plant in 1986.

China seeks foreign technology and funding

As China’s economic reform program picked up speed in 1983–84, so did business for foreign engineering firms. Leaders had come to recognize that domestic skills could be improved through exposure to the training and technology foreign engineering firms could offer. Although most Chinese industries had a thin strata of excellent technical engineers, weaknesses in conceptual design and engineering methods—both computer-aided and traditional—created bottlenecks on major projects. And a dearth of planning and management skills caused a great waste of time and money on many vital projects (see p. 30). Foreign engineering firms willing to sell the technology and expertise China needed thus found new pockets of business opportunities, providing training and expertise in these areas.

By this time, full-project responsibility shifted from foreign contractors to Chinese contractors, and each project was broken down into many small, specific packages. These were then offered separately for bid to both foreign and domestic engineering, technology, and equipment suppliers. Chinese planners clearly hoped that this approach would not only save money, but also reserve a larger share of a project for Chinese designers and engineers. This approach favored foreign firms that were specialized and technology-intensive over large contractors that provide a project with a complete package of services.

The course of China’s economic

reforms also shifted funding for new projects away from government grants and cash purchases toward such alternatives as domestic and foreign bank loans, concessional financing, bilateral and multilateral grants, and countertrade. These arrangements have now become an integral part of most major engineering contracts with China.

Collaboration catches on

In the fall of 1984 the State Council Regulations on the Building Industry established competitive bidding procedures for China's capital construction projects and stipulated a more limited and specialized role for foreign firms. These were followed in 1986 by the Provisional

Regulations on Sino-Foreign Cooperative Designing of Projects, which required foreign contractors competing for work on major projects to collaborate with Chinese engineers and designers. As more and more work on domestic projects was put out for bid, Chinese consulting and engineering firms began to seek out foreign engineering partners to strengthen their position. The chance to acquire technology, know-how, and training also attracted Chinese organizations to cooperation with foreign firms.

In the wake of the State Council's Building Regulations, two basic patterns emerged for foreign engineering companies working with Chinese firms—cooperative work on specific projects, and the establishment of engineering joint ventures.

Joint ventures were initially the most popular route for many large engineering firms with an established Chinese clientele. As early as 1982, Morrison-Knudsen (US) established an engineering joint venture with the East China Hydropower Survey and Design Institute to tackle work on the Shuikou Hydropower Project in Fujian. In the following year, Brown and Root (US) established two engineering joint ventures to pursue offshore oil engineering opportunities.

Following release of the 1984 and 1986 regulations, several Sino-foreign joint ventures were established. Today 11 Sino-US engineering joint ventures (*see list*), as well as several Sino-Japanese and Sino-European joint ventures, pursue business in a variety of sectors including petrochemicals, nonferrous metals, mining, and highway construction. Lummus Crest and Kellogg, for example, have each set up joint ventures with SINOPEC International to work on chemical process and petrochemical projects. Fluor pursues mining and other projects through a joint venture with the China National Nonferrous Metals Industry Corporation.

The scope of work for most of these joint ventures includes engineering design, procurement, and construction advisory services. The Chinese partner generally supplies the facilities, technicians, and detail engineers, while the foreign partner contributes engineering software, production technologies or licenses (in some cases), and senior engineers.

US-CHINA ENGINEERING JOINT VENTURES

BECHTEL, INC.

JV: *China American International Engineering, Inc. (CAIEI)* Est. 11/84.

Chinese partner: China International Trust and Investment Corp. (CITIC), Beijing. CAIEI maintains registered business offices in Beijing, Shanghai, Guangzhou, and Shenzhen.

Scope: Full range of engineering, procurement, and construction services for projects in the chemicals, civil works, communications, mines, mineral processing, petroleum, pipeline, thermal power, hydropower, transportation, and water conservation sectors. **Contracts include:** Proctor & Gamble soap factory (1988): engineering, international and domestic procurement, and construction management for this joint venture; Guangzhou soap factory (1987): site analysis, economic and tax analysis, Chinese legal requirements and associated regulations, utilities evaluation and costs, land-use fees, environmental regulations; Xi'an Sheraton Hotel (1986): preliminary engineering of 500-room hotel; Shanghai coal gasification project (1986): feasibility study; Junggar Open-Pit Coal Mine (1985): engineering, procurement, and construction management work suspended in July 1985 at client's request, (1984) project implementation plan; Shanghai Municipal Gas Co. (1985): prefeasibility study of high-pressure coal gasification plant; Wenzhou Airport (1985): preliminary engineering for a new airport in Zhejiang.

BROWN AND ROOT has three cooperative engineering joint ventures in China staffed on a project-specific basis:

JV: *China Brown and Root Marine Engineering and Construction Co., Ltd.* Est. 1/83.

Chinese partner: China Offshore Industrial Corp. (formerly the China Offshore Platform Engineering Corp., under the China State Shipbuilding Corp.).

Scope: Manufacturing offshore oil development platforms.

JV: *COES Brown and Root Marine Construction Co., Ltd.* Est. 2/83.

Chinese partner: China Ocean Engineering Services (under the Ministry of Communications).

Scope: Transportation, construction, and installation services for offshore oil and gas development projects.

JV: *COESK-Taylor* Est. 1984.

Chinese partner: China Ocean Engineering Services, Guangzhou branch.

Scope: Underwater engineering services for oil and gas development projects.

FLUOR DANIEL, INC., a unit of Fluor Corp., has two engineering joint ventures. The staff of each is small, with engineers brought in on a project-specific basis:

JV: *Sino Fluor Engineers* Est. 1985.

Chinese partner: China National Petrochemical Corp. (SINOPEC).

Scope: Design and modernization of new and existing petrochemical and processing plants. **Contracts include:** Foreign investor project (1988): cost estimate for two or three plants that may be built in Beijing or Shanghai; Guangzhou baby food plant (1988): engineering, procurement, and construction assistance for expansion project; Qilu Petrochemical Complex (1986): engineering, procurement, construction assistance, and training for 70,000 tpy polypropylene plant using Himont technology; Daqing Ethylene Complex (1986): engineering, procurement, and construction assistance for light hydrocarbon processing and storage facilities.

JV: *Inter-Continental Engineers, Inc.* Est. 1986.

Chinese partner: NFC, engineering and construction subs. of China National Nonferrous Metals Industry Corp. (CNMC)

Scope: serves a variety of industrial, mining, and metallurgical clients.

Both parties generally contribute capital for initial operations.

Engineering joint ventures run into problems

After an initial burst, enthusiasm for Sino-foreign engineering joint ventures has begun to wane. One reason for this is that domestic-content discount bids on World Bank tenders and greater access to domestic projects for joint ventures did not materialize as anticipated. Also, most joint ventures found it hard to stir up business outside their Chinese partner's sector because of bureaucratic rivalries, as well as difficulties involved in coordinating project implementation across ministerial boundaries. Bechtel's success in branching out beyond coal mining projects—by switching joint venture partners from a coal corporation to the multifaceted China International Trust and Investment Corp. (CITIC)—provided a useful blueprint for other foreign engineering firms. Nevertheless, the success of joint venture engineering operations to date has been limited, and many of the joint ventures proposed in 1985 have been abandoned. Foreign companies remain cautious about committing additional resources in this area until solid opportunities arise.

Because of the problems and limitations of engineering joint ventures, many foreign firms have turned to an alternative form of collaboration, consisting of flexible and short-term cooperative agreements with partners to pursue work on a project-by-project basis. Kaiser Engineers, for example, is working on the Huangling Coal Mine with a design institute affiliated with the Ministry of Energy's Bureau of Coal Industry to provide design and engineering work and an extensive training program. The division of responsibility between the partners was worked out as the project developed, and the collaboration will probably be dissolved when work at Huangling is complete.

Transnational teamwork

Many companies have taken the cooperative approach even further afield, teaming up with companies from all over the world to combine technical specialties and financial subsidies in order to improve their chances for successful bids.

Contracts worth \$400 million for

the Shidongkou Thermal Power Plant in Shanghai, for example, were awarded to a consortium of four firms: two US companies, Sargent & Lundy and Combustion Engineering, who provided engineering and equipment, and two Swiss companies, Brown Boveri BBC and Sulzer Brothers. The bids were supported by favorable financing from both the

Swiss and US governments, while the Canadian government provided support for Canadian subcontractors to Combustion Engineering. Together these four companies presented the Chinese client with an attractive package featuring top-of-the-line quality at a bottom-of-the-barrel price.

As the Shidongkou experience

US-CHINA ENGINEERING JOINT VENTURES

THE M.W. KELLOGG CO.

JV: *SinoKellogg Engineering Co.* Est. 1985.

Chinese partner: SINOPEC International.

Scope: Design, procurement and construction advisory services on chemical/petrochemical projects. Staff is selected on a project-specific basis by the joint venture partners. **Contracts include:** Lanzhou Chemical Industry Co. (1986): engineering, offshore procurement, and construction/start-up advisory services for a 60,000 tpy linear low-density polyethylene/high-density polyethylene facility; Dong Ting Nitrogen Fertilizer Complex (1986): modernization of a 1,000 tpd ammonia plant through energy saving and capacity enhancement features.

LOUIS BERGER INTERNATIONAL, INC.

JV: *China Highway Engineering Louis Berger International (CHELBI)* Est. 1985

Chinese partner: Ministry of Communications

Scope: Full range of design and engineering services, provided by an engineering staff of 20. **Contracts include:** Beijing-Tianjin-Tanggu Expressway (1988): construction supervision on the World Bank project; Jinan-Qingdao Expressway (1988): preparing specifications and bid documents; computer design and drafting for the Shengyang-Dalian Freeway and Chengdu-Xinjing Grade II Highway design projects; feasibility study for the Hainan Circle Highway engineering project; and feasibility studies and analysis of several bridges.

LUMMUS CREST, INC.

JV: *Hua Lu Engineering Co., Ltd.* Est. 1985.

Chinese partner: SINOPEC International

Scope: Design, engineering, technical, and construction services for projects in the petrochemical, petroleum, chemical fiber, natural gas processing, light industry, power, environmental, and building material sectors. **Contracts include:** SINOPEC Qilu Petrochemical Complex (1986): detailed engineering for a hydrocracker project based on Chevron technology.

MORRISON-KNUDSEN ENGINEERING CO.

JV: *ECHSDI-MK* Est. 1982.

Chinese partner: East China Hydropower Survey and Design Institute (ECHSDI)

Scope: Design, engineering, construction, and management services for hydropower projects. **Contracts include:** Shuikou Hydroelectric Power project (1982): engineering services from feasibility study through execution of project in Fujian; Nepalese Hydropower project (1984): engineering and hydrology services.

RONALD HSU CONSTRUCTION INC.

JV: *Shanghai International Construction Management Co.* Est. 5/85.

Chinese partners: Jinjiang United Co., Shanghai Investment and Trade Corp., and Shanghai No. 1 Construction Corp.

Scope: Construction services.

Compiled by Lisa Jacobsen and Ann Elizabeth Dean
Source: The US-China Business Council; company interviews

shows, an attractive financing package is often the key to a winning transnational team. In most cases financing is provided by equipment suppliers from countries with strong government export financing programs. Many American companies have overcome the lack of US concessionary export financing by teaming up with well-financed contractors and suppliers from other countries. Chinese clients will often direct American engineers to partners in countries such as Japan or Canada, where cheap financing is available.

Working as a subcontractor to a transnational consortium also offers the advantage of access to comprehensive performance guarantees. Because non-American contractors are generally willing to meet Chinese demands for unlimited production and patent guarantees, some highly specialized American consulting engineers, such as Scientific Design, offer their services solely to Euro-

pean and Japanese contractors.

There are some difficulties involved in working in transnational teams. For example, negotiating a mutually satisfying package often takes longer—and is thus more expensive—than formulating standard proposals. Some companies also find it difficult to set aside their national allegiances to work alongside foreign competitors. But the successes of this approach so far have certainly caused many companies to consider the option.

Opening the door to further foreign involvement

China's foreign exchange reserves are healthy again, and its insistence on self-reliance is tempered with an awareness of its technical limitations. State planners now encourage cost-efficiency and detailed planning for all projects, which has opened the door further to foreign expertise.

Foreign firms are now finding opportunities in several different areas of China's engineering and construction market, including providing services directly to major projects, renovating existing facilities, and working on projects for foreign investors.

The largest and most lucrative market for foreign

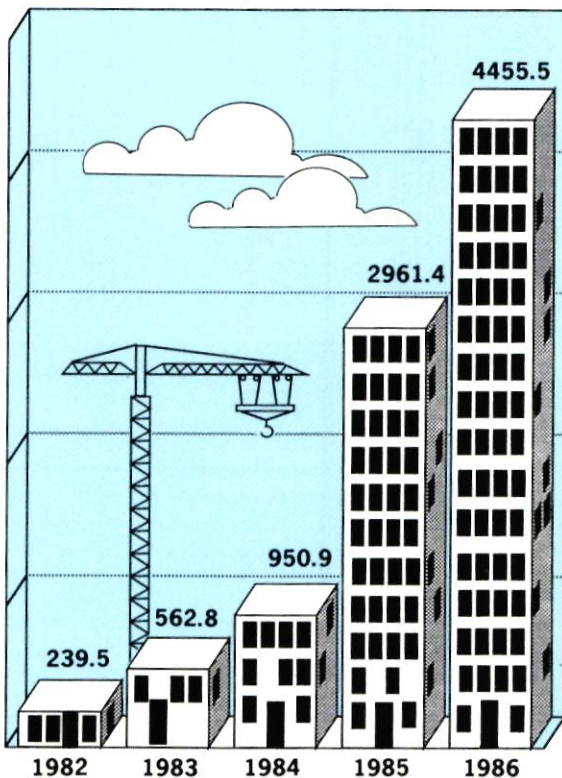
engineering firms remains the supply of specific services directly to major projects. China's ambitious development program encompasses roughly 1,000 major projects at any one time, with about 100 projects started and completed each year, and some \$5–\$6 billion earmarked annually for importing necessary consulting services, technology, and equipment. Despite attempted cutbacks on capital construction expenditures and big budget problems in 1986, the purchases of engineering, technology, consulting, and construction work have risen dramatically since 1982 (see chart).

Certain sectors enjoy a higher priority than others. Since 1986, for instance, the steel sector has been assigned a high profile and a large budget in order to reduce China's dependence on steel imports. Companies such as Kaiser that specialize in steel technology are selling engineering services, technology, and equipment to the Ministry of Metallurgical Industry.

Other sectors are not so encouraging. In areas such as thermal power, where the technology is not complex, advances made by Chinese engineers have allowed them to bid successfully for World Bank and Asian Development Bank (ADB) projects that call for international technical qualifications. While China still lags behind advanced countries in most simple technologies, its engineers are closing the gap quickly—and shrinking the role of foreign engineers in the process.

FOREIGN ENGINEERING AND RELATED SALES TO CHINA, 1982-86

TOTAL VALUE OF PLANT AND SERVICES CONTRACTS (million \$)



BREAKDOWN OF PLANT AND SERVICES CONTRACTS

(million \$)

	1982	1983	1984	1985	1986
Complete Plant	157.0	250.5	581.2	2234.3	3651.8
Technical Licenses	37.8	110.5	182.4	219.8	419.4
Technical Service	39.9	183.3	128.5	12.9	235.8
Consultants	.8	8.0	6.6	8.9	12.1
Cooperative Production	4.7	10.4	51.2	485.4	36.4

SOURCE: *Opportunities in China's Major Projects, Can American Companies Compete?*, The U.S. China Business Council, 1988.

Artwork by JoEllen Murphy

Roughly half of the national budget for major projects is spent on modernizing and refitting existing facilities. Working in the renovation market can be difficult, however, because such projects require extremely detailed—and thus expensive—studies and plans. And Chinese planners are reluctant to spend foreign currency for the feasibility studies needed to pursue such projects (see p. 31). Furthermore, past sales do not always guarantee future renovation and refitting work, as M.W. Kellogg discovered when it lost several contracts to upgrade plants it had installed in China in the 1970s to European and Japanese competitors.

More foreign-funded projects

Many foreign engineers and contractors concentrate their efforts on major Chinese projects funded by international or bilateral lending institutions. These projects are financially secure and include considerable funds to hire foreign engineers and consultants who use standard international procedures for conducting feasibility studies, design engineering, cost analysis, procurement assistance, and project management services.

Competition is strongest for projects financed by agencies such as the World Bank, the United Nations Development Programme, and the Asian Development Bank. The World Bank alone plans to double its commitment to China, providing \$12 billion in loans between 1988 and 1992, boosting the number of projects that include foreign design or engineering components. These agencies require that contracts be awarded by sealed bids submitted under the International Competitive Bidding process, which awards the contract to the lowest technically qualified bidder. While the extensive paperwork and bureaucracy involved makes bidding cumbersome, most companies find that the sealed bid system keeps negotiations fairly straightforward, and holds down promotion costs. Some engineering firms also work as consultants to the World Bank or the ADB.

Foreign investors provide a modest market

As direct investment in China grows, so does the market for engineering services involving Sino-for-

Although still in need of specialized foreign technologies, China emphasizes the improvement of its own engineering and construction capabilities.

eign investment projects. Foreign contractors on these projects have the advantage of working for a party with a guaranteed source of hard currency, which also demands and upholds familiar international standards and assumes the major risks.

CRS Sistine (US) has successfully focused on this market, deriving 75 percent of its China business from foreign investors. In a 1984 lump sum, turnkey, design-build contract for the Heinz UFE Infant Food Factory in Guangzhou, CRS Sistine undertook all engineering and architectural design, equipment procurement and installation, and project management for the facility (see *The CBR*, May-June 1987, p. 30).

The foreign investor market is limited, however. Although the number of equity joint ventures increased from 48 to 4,628 between 1981-87, most investments average just over \$5 million. Since engineering costs normally run from 8-10 percent of the total investment, many engineers need a project with an investment of at least \$10-\$15 million to break even. Engineering work on larger investor projects has usually been narrowly focused on technical ser-

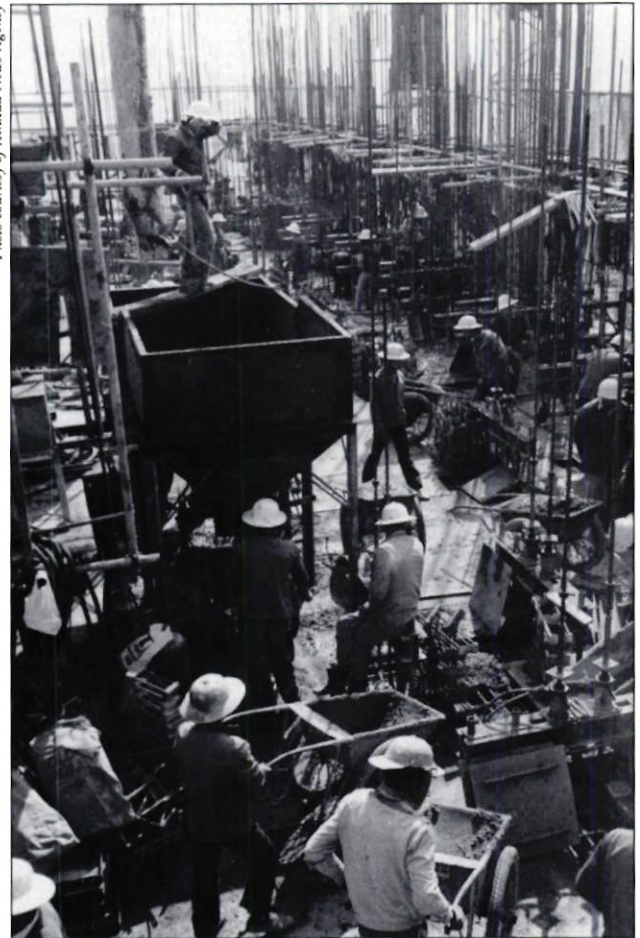
vices such as site-selection surveys, offshore oil drilling, preparation of export license applications, and verification of local design institutes and construction companies.

The Antaibao Open Pit Coal Mine, for example, has provided foreign engineering companies with specialized subcontract work. Fluor reviewed the initial mine development plan in 1982; in the next stage Morrison-Knudsen's mining division was taken on as an engineering consultant to the banking consortium led by the Royal Bank of Canada (a principal source of project financing) to monitor the project; and in 1988 Kaiser won a contract to redesign the mine's coal processing plant. While the number of investor projects exceeding \$15 million is growing, particularly in the energy and transportation sectors, they are not likely to provide a substantial market for foreign engineering and construction firms until the size of the investments consistently tops \$200 million.

The 1990s: a maturing market

As China has matured politically

Photo courtesy of Xinhua News Agency



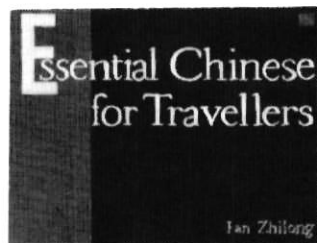
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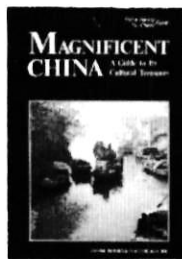
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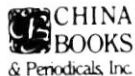


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and economically in the past two decades, so have its markets for engineering and construction services. The most promising markets for foreign engineering firms lie in China's priority sectors of petrochemicals, thermal power, ports and harbors, energy resource development, management information systems, and factory automation, and it is unlikely that the situation will change significantly as the country rolls into the Eighth Five-Year Plan in 1991.

American engineering companies enjoy a good reputation in China for their willingness to transfer technology and for their consistently high-quality work. Their technologies and software are also respected for effectiveness in keeping projects on schedule and within budget. Because most American firms are not directly affiliated with their own domestic suppliers, they are trusted to steer the Chinese client toward the most appropriate technology and equipment for the job, even if it comes from a third country company.

Competition for China's projects is

stiff, however. Japanese contractors, for instance, benefit from aggressive financial subsidies, a willingness to engage in countertrade, low overheads, excellent business intelligence, and a close relationship with Japanese equipment suppliers. European competitors supply impressive performance guarantees and attractive training packages in addition to creative financing options. A willingness to disguise fees for services within the total contract is shared by all but American engineering companies—who lose out on some contracts as a result.

Companies from all over the world face at least one common constraint, however—China clearly hopes to lean less heavily on foreign engineering services as it gradually continues to develop its own engineering and construction work force. But the need to update technology in priority sectors and upgrade plants in all industries should ensure a continuing modest market for foreign engineering companies that understand how to operate in the complex China market. 完

Working quietly in new overseas markets, Chinese construction firms lay the groundwork for future projects

China Builds Overseas Business

Susan Poole

American construction and engineering firms may find themselves facing stronger competition from their Chinese counterparts not only in China, but overseas as well. Although Chinese firms have been active on construction projects around the world for the past 40 years, their original goals were largely political: forging Third World alliances through work on cooperative development projects. Today, these firms

have assumed a more commercial orientation, with the earning of foreign exchange now a top priority. The profit motive is balanced, however, by the desire for experience, and Chinese firms have proved willing to enter new markets with lower

Susan Poole, a former intern at the US-China Business Council, is pursuing an MA in Chinese Studies at Johns Hopkins' School for Advanced International Studies.

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China now boasts some 70 construction firms active overseas, employing more than 60,000 engineers and laborers in 100 countries. Together these companies captured a relatively small total of \$1.7 billion in contracts in 1987, just 2 percent of the world market—but up from \$1.35 billion the year before.

Some of these firms are already internationally known. The China State Construction Engineering Corporation (CSCEC), China's largest overseas construction firm, was ranked among the top 25 international contracting companies in 1985 by two US business magazines. In 1987 CSCEC defeated 10 international construction giants to win the contract to build a royal palace in Jordan. Even some provincial companies have made their mark overseas, like the Sichuan Corporation for International Technical and Economic Cooperation, which landed a \$15 million contract in May to install container facilities for three Somali ports.

New approaches to new markets

China's overseas construction firms have traditionally worked in the Middle East, Africa, and Southeast Asia, building projects ranging from hydroelectric power stations to schools, airports, petrochemical plants, fisheries, and sports stadiums. By 1986 these firms had gained enough confidence to venture into the more competitive markets of North America, Japan, and Europe, where they have secured several dozen contracts to date. Although most of these projects are relatively small, they include several larger projects such as China City, a tourism and service complex outside of Paris that will be built by a Guangdong subsidiary of the China Civil Engineering Construction Company (CCECC).

Chinese firms are limited in their ability to compete in the West by poor marketing and management skills. To coordinate the marketing efforts of China's 15 largest international construction companies, the China Overseas Construction Contracting Engineering Council was established earlier this year. The council will help companies develop strategies for different markets and

get to know foreign counterparts. In addition, since many of China's construction firms have had trouble obtaining foreign bank loans, the Council will also strive to develop better links with international financial organizations.

Chinese firms are also handicapped by the fact that their engineering and design technology still lags some years behind that of American, European, and Japanese competitors. Thus, the primary goal of Chinese firms is to gain experience in the more demanding markets, rather than to turn an immediate

The primary goal of Chinese construction firms in the West is to gain experience in the more demanding markets, rather than to turn an immediate profit. To achieve this, many have worked on projects in a manner similar to that of a developer—financing and monitoring a project, but doing little of the actual construction work themselves.

profit. To achieve this, many have worked on projects in a manner similar to that of a developer—financing and monitoring a project, but doing little of the actual construction work themselves.

This strategy makes sense in the West, where strict immigration and labor laws make it very difficult to employ Chinese workers on a project. In the United States, laborers can only be brought in if such labor is in short supply or unavailable domestically (although some managers may be brought in as a company's international employees). In Dunkirk, NY, for example, Chinese laborers were denied permission to disassemble a steel mill, although the mill was to be shipped to China and reassembled by the same workers for use there.

Pioneering the American market


CSCEC, China's largest overseas construction company, recently became the first of the Chinese firms to establish an office in the United States. CSCEC, U.S. Inc., headquartered in New York, has a staff of 10 mechanical, civil, and hydraulic engineers, and is now involved in about a dozen projects including a \$107 million hotel project in San Antonio, Texas; a \$27 million retirement condominium complex in Charlotte, North Carolina; and housing developments in California, Florida, and New York. Plans for an \$80 million resort with hotel, casino, cottages, and a golf course on Bimini Island off the coast of Florida are underway.

All of these projects are joint ventures with US construction firms except a low-rent housing development currently under construction in Jacksonville, Florida—CSCEC's first attempt at a solo project in the United States. This development, originally called Chinaberry Lakes, received strong support from the local government. CSCEC paid \$1.7 million in cash for the 107 acres, on which it plans to build 370 to 500 single-family homes priced from \$65,000–\$95,000.

Unfortunately for CSCEC, local residents have been less than enthusiastic about the project. Concern over the fact that new low-cost housing will downgrade their property values is compounded by hostility toward developers from a communist country. When yards in the area accidentally flooded during the construction of man-made lakes, local tempers flared, and a bulldozer ended up at the bottom of one of the lakes—apparently the result of vandalism.

CSCEC's measured reaction to these problems appears to be paying off. CSCEC lowered the profile of the project by renaming it the Lantana Housing Development, took pains to inform local residents that all construction workers on the project were American, and reduced their staff on site to one Chinese national monitoring construction. Since then, six homes have been sold and the project is drawing praise for its quality. This type of patience and willingness to learn will be key to the success not only of this project, but to the activities of all China's overseas construction firms as they try to market. 完

ENGINEERING AND CONSTRUCTION SERVICES CALENDAR



MINING CHINA 88/2ND INTERNATIONAL MINING EQUIPMENT EXHIBITION. October 14–19, 1988. Beijing. Exhibits include mine exploration and laboratory analysis, excavation technology and machinery, electrical equipment for mining/processing, engineering and consulting services, mine and plant maintenance. *Contact:* Monica Kan at Adsale Exhibition Services, 618 Royal View St., Duarte, CA 91010 (Tel: 818/359-4653).

GEOLOGY 88/INTERNATIONAL EXHIBITION ON GEOLOGICAL PROSPECTING, SURVEYING, SEISMOLOGY, AND METEOROLOGY. October 11–17, 1988. Beijing. Exhibits include land surveying and exploration equipment and facilities, mine exploration and well-drilling equipment, mineral identification and research equipment, analytical instruments, underwater surveying equipment, and instruments for meteorology and seismology. *Contact:* SHK International Services Ltd. in Hong Kong (Telex: 89587 SHKIS HX)

CHINA FIRE 88/2ND FIRE TECHNOLOGY CONFERENCE & EXHIBITION. October 20–26, 1988. Beijing. Exhibits include building and industrial fire protection measures and techniques. *Contact:* Paul Seline at Asia Marketing Associates, P.O. Box 8074, Natick, MA 01760 (Tel: 617/655-4000).

LAND TRANSPORT EXPO/CHINA 88 (4TH EXPO). October 28–November 2, 1988. Beijing. Exhibits include air freight transport facilities, container equipment and services, port and sea transport facilities, rail and road freight transport facilities, urban transport services and equipment, road systems and equipment, railway and subway equipment and systems. *Contact:* Linda Davidson at Glahe Interna-

tional, 1700 K Street, NW, Washington, DC 20006 (Tel: 202/659-4557), or China Promotion in Hong Kong (Telex: 76270 CHOCH HX).

CHINA 88/INTERNATIONAL PETROLEUM EQUIPMENT AND TECHNOLOGY EXHIBITION. October 31–November 5, 1988. Tianjin. Exhibits include exploration and drilling equipment, well completion, production machinery, enhanced recovery, logging and formation evaluation, marine equipment and services, offshore equipment and services, construction services, transportation communications, instruments and control, pumps and compressors, pipelines, process equipment, technical and laboratory services. *Contact:* Society of Petroleum Engineers, P.O. Box 833836, Richardson, TX 75083-3835. (Tel: 214/669-0135).

CHINA HARDWARE 88. November 3–7, 1988. Beijing. Exhibits include air conditioning and heating equipment; piping and exhaust systems; household hardware and fixtures; industrial finishing, sealants, and adhesives. *Contact:* Paul Seline at Asia Marketing Associates, P.O. Box 8074, Natick, MA 01760 (Tel: 617/655-4000).

CHEMTECH CHINA 88/2ND INTERNATIONAL EXHIBITION ON CHEMICAL ENGINEERING AND SPECIALTY CHEMICALS. December 3–9, 1988. Beijing. Exhibits include thermal processes; mechanical processes; fine and specialty chemicals; laboratory and analytical techniques; engineering; materials technology; materials testing; instrumentation, control, and automation techniques; pumps, compressors, valves, and fittings; industrial and labor safety; packaging and storing techniques; and nuclear engineering.

Compiled by Priscilla Totten.

Contact: John Engel at SHK International Services Ltd. in Hong Kong (Telex: 89587 SHKIS HX).

SPECHEM CHINA 88/INTERNATIONAL SPECIALTY CHEMICALS & ENGINEERING EXHIBITION. April 1989. Beijing. Exhibits include production technology, equipment, and raw materials for the production of specialty chemicals; and laboratory, analytical instruments, and apparatus. *Contact:* Sino Trade Promotions in Hong Kong (Telex: 65131 STPCH HX).

CHINA SAFETY 89. May 5–9, 1989. Beijing. Exhibits include electrical safety instruments, and instruments for detecting flammable and explosive gases, static electricity, dust, toxic substances, and noise. *Contact:* Paul Seline at Asia Marketing Associates, P.O. Box 8074, Natick, MA 01760 (Tel: 617/655-4000).

CONSTRUCTION CHINA 89/INTERNATIONAL EXHIBITION ON BUILDING AND CONSTRUCTION. June 20–25, 1989. Beijing. Exhibits include building and construction equipment, construction materials, machines and plants for materials, and a special section on ceramic industry plants, machines, and accessories for floor and wall tiles, refractory, and bricks. *Contact:* Monica Kan at Adsale Exhibition Services, 618 Royal View St., Duarte, CA 91010 (Tel: 818/359-4653).

BUILDTEC 89/INTERNATIONAL CONSTRUCTION & BUILDING EXHIBITION. September 6–10, 1989. Guangzhou. Exhibits include equipment and vehicles for building, construction, building materials, exploration, engineering, measuring, controlling, materials testing, and assembly work. *Contact:* Guangdong International Trade & Exhibition Corp. in Guangzhou (Telex: 44476 GITE CN).

Opening Doors for American Engineers

The US Trade and Development Program helps American engineering firms gain access to the difficult China market—but could it do even more?

Ann Elizabeth Dean

After watching Australia, Canada, Japan, and West Germany provide millions of dollars in seed money each year to help their countries' firms do business abroad, the US government decided it should establish a program of its own. Thus, in 1980 the US Trade and Development Program (TDP) was created under the State Department's International Development Cooperation Agency, and has since become active in 91 countries around the world. TDP helps American companies get in on the critical first stages of overseas projects by covering the cost of feasibility studies for projects that the agency judges to hold excellent potential for follow-on sales of US goods and services.

In the past five years, TDP has spent more than \$18 million on 50 China project grants in sectors ranging from aviation to manufacturing to city planning (*see map*). This has made China the largest single-country recipient of TDP support, receiving roughly 25 percent of TDP's worldwide budget, followed by Thailand—which gets almost half as much as China—the Philippines, Indonesia, and Turkey. In fiscal year 1988 TDP's \$25 million budget will likely be distributed according to the same ratio.

Choosing projects can be tricky

In theory, all projects chosen for TDP funding must offer potentially lucrative payback in sales of US goods and services. TDP uses a benchmark ratio of between 50:1 and 100:1 between the potential US sales and the size of the TDP grant, and projects must be carefully chosen to meet this criterion. In China, project ideas are originally submitted to the Ministry of Foreign Economic Rela-

tions and Trade (MOFERT) by industrial ministries. MOFERT screens these projects and presents a revised list to TDP officials at periodic meetings in China. TDP in turn selects those projects it believes have the best business potential for American firms. In return for TDP project funding, MOFERT agrees that "all other factors being equal" American engineers and suppliers will be given preference in the design and procurement phases.

Choosing the most appropriate projects for funding is not always easy. In some cases, TDP supports projects that critics say would yield sales for US firms in any case. Some would like to see greater funding directed toward promising markets in which the United States has something to offer, but has yet to establish a presence.

On the other hand, TDP must be careful not to support projects on which US firms will not prove competitive—a risk shown by a power plant conversion project in Jilin. Following a \$600,000 TDP feasibility study conducted by Burns and Roe Inc., the Asian Development Bank (ADB) extended a \$30 million loan to the project for the purchase of boilers. Yet despite American involvement in the feasibility study, not a single American firm bid on the boiler procurement, and the contract went to Ansaldo, an Italian company working closely with a Chinese boiler shop. Some industry experts believe that American firms never really had a chance on the project in the first place—given China's strong domestic boiler manufacturing capability—and that TDP should not have supported the project.

Ann Elizabeth Dean is associate editor of The CBR.

TDP must consider not only the competitiveness of American firms on a particular project, but also the likelihood that the project will be implemented at all. Although TDP's project selection criteria include the availability of Chinese or outside financing for the project, changes in local and national priorities may sometimes shift available funds to other projects. Of the 25 TDP projects in China for which feasibility studies have been completed, for example, two-thirds still await money for implementation.

Equipment vs. engineering

Engineering firms are involved in TDP projects in two basic ways. First, most of the feasibility studies supported by TDP are performed by American engineering firms. Moreover, they also play an important role as project implementation moves forward. Because project development after the feasibility study stage usually involves detailed design and engineering, follow-on business generated by TDP projects worldwide frequently involves engineering and design firms.

But in China follow-on engineering business is less secure. Traditionally, China has given priority to technology and equipment purchases over intangibles like services. Thus, China tends to buy the foreign equipment and technology it needs for many projects, but skimp on the necessary engineering support services. As a result, expensive machinery and technology is often wasted by improper or delayed installation. According to David Matthews of Stearns Roger, which is conducting a TDP-funded feasibility study on the Shanghai Medical Instruments Factory, if China's expenditures were more balanced between equipment

and engineering support, their money would be spent more effectively.

China's bias toward equipment, along with its determination to improve its own design and engineering skills, makes it more difficult for TDP to help engineering firms in China than in many other countries. Daniel Stein, TDP's regional director for Asia, estimates that less than 25 percent of TDP follow-on business in China has gone to engineering and design firms.

The situation may be improving, however. Stein notes that one explanation for this record is the nature of the TDP China projects that have been implemented: the 1985 Tianshengqiao Hydropower Dam project (\$21 million in sales of US goods and services); a 1985 silicon materials plant (\$10 million); the 1985 Zhuhai Industrial Park development project (\$7 million); the 1986 Shanjiassi heavy oil reservoir (\$5.6 million); the 1987 Huangling coal mine (\$11 million); and the 1987 Xinhua News Agency (\$3.5 million). These projects are all oriented more toward equipment sales than sales of services. Projects that require more complex design work, such as the process-oriented Yuxian coal gasification project and the Shenzhen airport development, have been held up in the funding cycle. Some TDP-financed projects that are now being implemented, such as the World Bank-supported Zhongyuan Pharmaceutical Plant, promise more work for engineers. In the future TDP hopes to continue this trend by selecting more projects that offer strong engineering opportunities.

Promising trends for engineers

The difficulty in moving good projects beyond the feasibility study stage has led TDP to fund more studies for large projects likely to receive loans from the World Bank or ADB. These loans all but guarantee that a project will go forward. The Shandong and Sichuan highway projects and the Ningbo port project have recently received TDP-funded feasibility studies, and are now also supported by the World Bank. World Bank and ADB support tends to benefit design and engineering services suppliers since these procurement packages generally include design engineering, consulting, and training components.

TDP is also considering funding some projects that should help bridge the imposing gap between feasibility study and project implementation by providing follow-on design and consultancy grants. Kaiser Engineers and the Ministry of Chemical Industry have already approached TDP to fund a test program for a flue gas desulphurization system developed for the Yuxian coal mine—a project for which Kaiser conducted the initial TDP-funded feasibility study. Another promising development involves funding project-specific training programs in new engineering technologies. The first grant of this kind went to Kaiser Engineers to provide a seminar for technicians and engineers from the Ministry of Energy, as a follow-on to the TDP feasibility study on the Huangling coal mine. In that study Kaiser introduced the American

method of underground continuous mining to the Chinese miners, who have traditionally advocated European mining techniques. Already the Huangling project has helped American firms sell millions of dollars of US continuous mining equipment, and if this seminar is successful, a much larger market could open up to American coal engineering firms.

Does TDP have enough muscle?

There is no question that TDP has helped both US engineering and equipment firms, but has it done enough? Although TDP's China budget over the past five years has grown tenfold—from just \$517,000 in FY83 to \$4.5 million in FY87, it is still small compared to some other countries' programs. Dave Reaney, Kaiser's manager of international business development, spoke for many firms when he said, "I can't tell

Consultants discuss the feasibility of the Shanjiassi Oil Field with Ministry of Petroleum Industry personnel in Beijing. The project has led to sales of US goods and services worth \$5.6 million to date.



A telecommunications expert inspects the output of an extruder machine for a TDP-funded study of the Meishan Multichannel Equipment Plant in Sichuan Province.

CHINA PROJECTS FUNDED BY TDP, 1983-1988

ENERGY

1. Ma'anshan Energy Conservation (Anhui). Study completed 3/88 by International Institute for Energy Conservation. Helped establish an energy conservation model for the Ma'anshan Iron and Steel Plant, to be duplicated at other Chinese steel plants. Project implementation pending. FY86 TDP grant: \$250,000.

2. Power Plant Conversion (Jilin). Study completed early 1988 by Burns and Roe. Examined the conversion of two power plants from oil- to coal-fired. The Asian Development Bank extended a \$30 million loan to cover purchase of boilers, but none of the three major US boiler manufacturers pursued the contract and it went to Ansaldo (Italy), in conjunction with a Chinese partner. FY86 TDP grant: \$600,000.

3. Yuxian Coal Gasification (Hebei). Study completed 6/86 by a Kaiser Engineers and Lumus Crest joint venture. The study explored methods to gasify coal at the mine's mouth and transport the gas to Beijing. Additional funding from TDP for a second study on potential export products has been requested. The World Bank may consider funding the project. FY85 TDP grant: \$750,000.

4. Huangling Coal Mine (Shanxi). Study completed 2/87 by a Kaiser Engineers and Constructors, Inc. and Consolidation Coal Co. consortium. The study introduced US room-and-pillar mining techniques. Project is being implemented using underground continuous mining. FY85 TDP grant: \$550,000. Sales of US goods and services to date: \$11 million.

5. Wujing Trigeneration (Shanghai). Study completed 5/87 by Bechtel Inc. Examined a complex for coal gas, steam, electricity, and synthesis gas production. Shanghai has approved the first phase of project implementation, and has about \$60 million in foreign exchange available for imports. FY85 TDP grant: \$600,000.

6. Ansai Oil Field (Shaanxi). Study completed 10/87 by CER Corp. Examined issues related to maximizing oil production from a low permeability field. Project implementation pending. FY86 TDP grant: \$650,000.

7. LiuHu Oil Field (Shandong). Study completed 10/87 by Core Laboratory. Recommended a well-stimulation program to increase production. Project implementation pending. FY86 TDP grant: \$580,000.

8. Shanjiashi Heavy Oil Reservoir (Shandong). Study completed 11/86 by Science Applications International Corp. Helped develop a plan to recover heavy oil from the reservoir. FY84 TDP grant: \$280,000. Sales of US goods and services to date: \$5.6 million.

9. Sichuan Gas Well Testing (Sichuan). Scientific Software Intercomp is carrying out a study involving gas well head testing. FY87 TDP grant: \$550,000.

10. Qinghai Petroleum (Qinghai). Western Geophysical is reviewing geophysical data relating to the Shizigou oil field in the Qaidam basin. FY88 TDP grant: \$500,000.

11. Bohai Offshore Oil (Phase I) (Liaoning). Study will consist of a geological and geophysical analysis of an oil field in the Bohai Sea for future development. Selection of a contractor is underway. FY88 TDP grant: \$645,000.

12. East China Sea Offshore Gas (Shanghai). Study will explore development planning options for a gas field off the coast of Shanghai. Canoean will receive a requested grant from CIDA to fund a concurrent study of the same project. Selection of a contractor is underway. FY88 TDP grant: \$660,000.

13. Tianshengqiao Hydropower (Yunnan). Feasibility study completed 3/85 by Harza Engineers for this large hydropower dam. FY83 TDP grant: \$400,000. Sales of US goods and services to date: \$21 million.

INDUSTRIAL DEVELOPMENT

14. Ma'anshan Wheel and Tire Plant (Anhui). Study completed 6/85 by Rust Engineering. Determined methods for improving the quality of railway wheels and tires. Project implementation pending. A Chinese request for a US Eximbank concessional loan was turned down. FY84 TDP grant: \$200,000.

15. Zinc and Aluminum Castings Investor Project (Hebei). Partial funding to study a proposed joint venture involving Kiowa Corp. FY86 TDP grant: \$150,000.

16. Steel Building Systems Investor Project (Beijing). Study completed 11/87 by Thyssen (US), a subs. of Thyssen AG (FRG). Joint venture negotiations underway. FY86 TDP grant: \$150,000.

17. Graphite Electrodes (Henan). Union Carbide is conducting the feasibility study for a new plant to produce graphite electrodes. FY87 TDP grant: \$150,000.

18. Baoshan Management Information System (Shanghai). Study completed 11/87 by United Engineers Corp. Determined the feasibility of a management information system for the Baoshan Iron & Steel Complex. Project implementation negotiations are underway between UEC and Baoshan for the sale of computers and software. FY87 TDP grant: \$650,000.

19. Automotive Sector (Beijing). The University of Michigan is conducting a study on the future prospects for Sino-US cooperation in the automotive sector. FY87 TDP grant: \$500,000.

20. Automotive Investor Project (Beijing). Partial funding for a feasibility study by General Motors Corp. of major investments in China's automotive sector. FY86 TDP grant: \$200,000.

21. Silicon Materials (Henan). Study completed 8/85 by Stearns Catalytic. Helped determine the equipment and materials necessary to expand silicon production at existing facility. FY84 TDP grant: \$100,000. Sales of US goods and services to date: \$10 million.

22. Shanghai Cement Grinding Plant (Shanghai). Study completed 2/87 by Kaiser Engineers for a new cement production plant. Project implementation pending. The World Bank is awaiting full project review before funding this project. FY86 TDP grant: \$150,000.

23. Shanghai Petroleum Coke Plant (Shanghai). Study completed mid-1988 by Foster Wheeler, Corp. for a petroleum-based regular and needle coke production plant. Project implementation pending. FY86 TDP grant: \$325,000.

24. Xian High Voltage (Shaanxi). Study completed 10/86 by Power Technologies, Inc. Recommended testing equipment for high voltage transmission lines, turbines, and switch gear. Project implementation pending. FY85 TDP grant: \$460,000.

25. Zhongyuan Pharmaceutical Plant (Henan). Study completed 7/87 by Davy McKee Corp. Determined feasibility of a new corn-based vitamin C and other pharmaceutical production plant. Project implementation began with \$127 million World Bank loan in early 1988. FY87 TDP grant: \$400,000.

26. Gongzhuling Packing Adhesives (Jilin). Swift Adhesives is carrying out a study to examine renovation of an existing plant to produce a wide range of packing adhesives. FY87 TDP grant: \$290,000.

27. Jiangnan Cement Plant (Jiangsu). Kaiser Engineers is carrying out a feasibility study for a new 4,000 tpd facility at an existing cement works. World Bank funding has been requested for this project. FY87 TDP grant: \$225,000.

28. Shanghai Medical Instruments (Shanghai). Stearns Roger is studying upgrading production of medical electronics instruments at an existing factory. FY88 TDP grant: \$220,000.

29. Tylenol Investor Project (Tianjin). Partial funding for a Johnson & Johnson feasibility study for potential investment in a plant to produce Tylenol. FY88 TDP grant: \$300,000.

30. Shanghai Tire Factory (Shanghai). Firestone Tire and Rubber Co. has been selected to study the expansion of the Tsen Tai Rubber Factory. FY87 TDP grant: \$176,000.

31. MOS Reagents (Shanghai). Kaiser Engineers is studying upgrading MOS reagent production at an existing factory. FY88 TDP grant: \$150,000.

32. Zibo Disposable Syringe (Shandong). Study will explore production of sterile, disposable plastic syringes at a greenfield plant. Selection of a contractor will begin soon. FY88 TDP grant: \$200,000.

33. Wood Products Demonstration Building (Beijing). Study will examine construction of a demonstration building at Qinghua University utilizing US wood products. FY88 TDP grant: \$100,000.

34. Zhubai Industrial Park Investor Project (Guangdong). Study completed 2/85 by MK-Ferguson. Examined the development of a new industrial park. FY84 TDP grant: \$162,000. Sales of US goods and services to date: \$7 million.

35. Tianjin Economic Development Area (Tianjin). United Planning Co. is carrying out a feasibility study for the master plan of a new economic development area. FY87 TDP grant: \$467,000.

36. Teleteaching (Beijing). Study completed 7/88 by Teleteaching International. Involved the demonstration of a newly developed technology using PCs, modems, and software transmitted over standard telephone lines. FY87 TDP grant: \$225,000.

37. Meishan Multichannel Carrier (Sichuan). Joint study completed 1/88 by Pacific Telesis International and Kaiser Engineers and Constructors, Inc. Examined the modernization of a telecommunications equipment plant. Project implementation pending. FY84 TDP grant: \$410,000.

38. Guangdong Dairy Plant Investor Project (Guangdong). Study completed 1/84 by China-Agro. A related project was subsequently implemented by China-Agro with significant sales of US goods and services. FY83 TDP grant: \$44,000.

39. Shanghai Corn Fermentation (Shanghai). Study completed 11/87 by Fluor/Daniel. Examined setting up a corn wet-milling plant to produce starch, alcohol, high-fructose corn syrup, and citric acid. Project implementation pending. FY85 TDP grant: \$425,000.

40. Shanghai Solid Waste Disposal (Shanghai). Klockner (INA), a subs. of Klockner Co. (FRG), is conducting a feasibility study for a 1,000 tpd solid waste collection and disposal system. FY85 TDP grant: \$250,000.

41. Shenyang Toxic Waste (Liaoning). Ecology & Environment, Inc. is conducting a study on the disposal of toxic waste from industrial facilities. FY86 TDP grant: \$325,000.

42. Quzhou Flue Gas Desulphurization (Zhejiang). Study completed 3/88 by Kaiser Engineers. Examined a spray dryer FGD unit and a roasting and calcining process facility for the Quzhou Chemical Industry Complex. Chinese enduser is requesting supplementary TDP funding for a test program, without which project is unlikely to move forward. FY86 TDP grant: \$143,000.

43. Shanghai Sewerage (Shanghai). Engineering-Science, Inc. is examining the design of a new sewer line's outfall entrance to the Yangtze River. \$145 million loan from the World Bank is being used to implement this project. FY87 TDP grant: \$380,000.

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XINJIANG

- Energy projects including: conservation, oil, natural gas, coal, and hydropower
- Industrial and technological development projects including: metallurgy, building materials, medical supplies, automotive manufacturing, telecommunications, and regional development
- Agricultural and environmental projects
- Infrastructure projects including: transportation and services

INFRASTRUCTURE

44. Shanghai Transportation (Shanghai). Barton-Aschman Associates, Inc. is conducting Phase I of a feasibility study for a master plan of Shanghai's transportation system. FY87 TDP grant: \$380,000.

45. Shenzhen Airport (Guangdong). Study completed 2/86 by a Parsons International and Lockheed Air Terminal joint venture for a new international airport in Shenzhen. Decision on whether to proceed with this project or approve construction of another airport in Hong Kong is pending. FY85 TDP grant: \$800,000.

46. Sichuan Highway (Sichuan). The Wilbur Smith Co. is providing consulting services on a highway to be built from Chengdu to Chongqing. A \$125 million loan from the World Bank will be used to implement this project. FY88 TDP grant: \$360,000.

47. Shandong Highway (Shandong). Louis Berger is providing consulting services on a highway to be built from Jinan to the port of Qingdao. Strong possibility of a \$125 million World Bank loan for this project. FY88 TDP grant: \$225,000.

48. Ningbo Port (Zhejiang). Parsons Brinkerhoff is providing consulting services for the construction of three new berths for the Phase II development of Beilun terminal. Approval of a World Bank loan is expected by 9/88 and first IFB should be issued immediately thereafter. FY88 TDP grant: \$330,000.

49. Capital Hospital (Beijing). American Hospital Supply Corp. is conducting a study of existing equipment and will recommend new equipment for a 900-bed expansion of the hospital. FY86 TDP grant: \$200,000.

50. Xinhua News Agency (Beijing). Study completed 3/87 by Phoenix Associates. Made recommendations for word processing and telecommunications systems for the Chinese national news agency. FY86 TDP grant: \$350,000. Sales in US goods and services to date: \$3.5 million.



PENDING APPROVAL FOR FY88 FUNDING

Lithium Batteries (Xinjiang). Study would examine the construction of a new plant to produce lithium batteries. Proposed FY88 TDP grant: \$150,000.

Wollastonite Processing (Jilin). Study would examine a project involving both mining and processing of wollastonite—a white pigment that substitutes for titanium dioxide. Proposed FY88 TDP grant: \$200,000.

Bohai Offshore Oil (Phase II) (Liaoning). Study would continue the geological analysis of the oil field. Proposed FY88 TDP grant: \$530,000.

Sanya Air Traffic Control (Hainan). The study would examine the installation of an ATC system at Sanya Airport to provide regional coverage for the HK-Bangkok air corridor. Proposed FY88 TDP grant: to be determined.

Project status current as of August 1988.

you how great TDP is—I just think it needs to be expanded.”

The Canadian International Development Agency, for example, spent C\$7 million of its approximately C\$35 million annual China budget on a feasibility study for the Three Gorges Dam in 1987. The worldwide budget for Japan International Cooperation Agency, another major TDP competitor, tops \$100 million a year. In contrast, the average TDP China grant runs from \$200,000–\$400,000—usually just enough for a bare-bones feasibility study.

Lack of aggressive follow-on funding from other US government agencies, such as US Eximbank, coupled with competition from foreign funding agencies, is another problem. Rust Engineering's hopes for follow-on business at the Ma'anshan Wheel and Tire Plant project in Anhui Province, for which they did the TDP feasibility study, collapsed when a Chinese request to US Eximbank for financing was turned down. Because the US government cannot guarantee future financing, some observers believe that TDP ends up with China's "C List" projects, while the "A and B List" projects, with top priority for available domestic funds,

go to the Canadians, Japanese, and Germans, who have deeper pockets.

Participating American companies hope that each TDP grant will be a financial Trojan horse wheeled into China carrying the implicit obligation that the Chinese will accommodate the firms in the belly of the beast. As it stands now, TDP's small budget reduces that obligation more to the size of a Trojan mouse, with nowhere near the leverage needed to influence major follow-on procurement decisions.

Spin-off benefits brighten the picture

Despite these limitations, the potential for sales of US goods and services from TDP China projects funded since 1983 is estimated to exceed \$1.5 billion, a return of 83 times the amount of the original grants. The six TDP projects that have been implemented to date comprise an excellent performance record for a young program—\$1.4 million in grants has already led to close to \$70 million in US exports, just meeting TDP's 50:1 minimum payback ratio. TDP's Stein believes that the difficulty in tracking every sale from a TDP project makes this a

low estimate, and that the actual amount of American business spin-off is even higher.

Many of TDP's benefits to US firms cannot be measured in terms of money alone. The program provides an entree to large China projects for smaller firms with proven technical capabilities, but low name recognition such as Stearns Catalytic, and Burns and Roe. And in China, where "old friend" status goes a long way, ministerial and industrial connections made through work on TDP projects are often invaluable. Kaiser Engineers, for instance, was discouraged with the China market by 1980, after completing a two-year study for China's Ministry of Metallurgical Industry on the feasibility of expanding the Sijiaying iron ore mine in Heilongjiang Province. When Kaiser finished the study, the ministry decided not to proceed with developing the mine, but to put its money into steel mills instead. Then TDP came along. Since 1983 Kaiser has conducted six TDP feasibility studies and done subcontract work on two others. "Without the US government's Trade and Development Program I don't think we ever would have made it in China," says Kaiser's Dave Reaney. The reputation and contracts resulting from that performance have helped the firm get involved in more than a dozen other China projects, including the sale of computerized control systems to two coal preparation plants through contacts made with the Ministry of Coal Industry on the Yuxian coal gasification project.

Congress appears to be pleased with TDP's performance so far, and the new trade bill expands TDP's mandate and promises \$10 million in additional TDP funding to support more project-oriented training programs, with an emphasis on the Pacific Rim—although it remains unclear where the funds will come from. When TDP can expand its budget it will probably spread the increased funds among the same number of projects. This will keep the agency streamlined and guarantee more support for targeted projects. TDP recognizes that the stronger the bridge from feasibility to implementation stages, the larger the opportunity for exporting American expertise. And to the American engineering community, that is the name of the game. 完

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Project Management Report

China's attempts to bring capital construction projects under control using Western project management techniques have met with mixed results

John A. Bing

Large capital construction projects in China are notorious for running behind schedule and over budget. Moreover, major planning problems are often uncovered too late—as in the case of several Beijing apartment buildings built in the early 1980s without water or electrical services, or the Wuhan Iron and Steel Plant, expanded but able to operate at only half of its designed capacity for several years because of an inadequate power supply.

Fragmented project authority is perhaps the greatest problem. Responsibility for major projects in China is generally divided between a ministry or State agency that commissions the project, the design institute and construction company chosen for the project, and a Chinese foreign trade company that contracts for procurement of foreign materials and services. Chronically poor coordination between engineering, procurement, and construction agencies increases the risk of planning problems.

This differs greatly from the standard Western approach to project implementation, which puts a single manager in charge of all aspects of a project, from preliminary design to finishing touches on the completed facility. The project manager integrates the work flow into one coordinated plan of action, often making use of a "critical path schedule" that allows the engineering and design tasks on the project to overlap with the procurement of materials and construction work, resulting in a significant savings of time.

With a record of inefficient projects behind them, many Chinese leaders are now convinced that their project implementation methods need improvement to reduce the

So far almost all of the project management work done by foreign firms in China has been paid for by non-Chinese entities, including foreign governments, international development agencies, and foreign companies themselves. When such money is not available, Chinese planners may be reluctant to shoulder yet another foreign currency expense for a project, even though such costs would be more than offset by the favorable results of improved efficiency.

costs and time required to complete major projects. But Western project management techniques are being introduced to China only slowly. Four years ago, this author described early efforts to introduce Western

John A. Bing, a consultant and lecturer on project management, worked as director of China operations for the MW Kellogg Co. from 1977–81, residing in Beijing for two-and-a-half years. For the last eight years he has lectured and conducted seminars in China on the management of major projects.

project management techniques to China in *The CBR* (see *The CBR*, Mar–Apr 1984, p. 20). Since then, despite growing pressures for more efficient project implementation, cultural, political, and financial barriers continue to impede the widespread adoption of Western project management techniques.

Pressures at home and abroad

China's economic reforms, coupled with external pressures from foreign business interests, are creating the competitive setting needed for sound project management techniques to flourish. Several recent changes should have a direct effect on project management. China's new Enterprise Law, which went into effect on August 1, gives managers greater decision-making authority and economic responsibility for their enterprises. This should encourage managers to be more efficient, and give them the authority to use new project management techniques at their discretion.

Last April's restructuring of China's State bureaucracy should also encourage better project management. Newly created industrial corporations will take over manufacturing and commercial functions from many ministries and, unlike the old system, they will be held responsible for seeing that projects are implemented efficiently. If they are not, the new corporations will be held responsible—at least in theory—for budget and time overruns.

Foreign companies doing business in China form a constituency pushing for better project management. Those that have formed joint ventures to undertake factory or real estate construction projects know only too well that a venture's economics can be severely damaged by

late, overbudget, or substandard project implementation.

Foreign suppliers of equipment and technology have also learned that a well-run project is better able to successfully absorb foreign products and technology. Moreover, foreign suppliers can become scapegoats when bad planning results in the loss of money or equipment. This problem is acknowledged in the 1985 Chinese film "The Black Cannon Incident"; when an expensive piece of foreign equipment breaks down, the Chinese factory leaders try immediately to lay the blame on the foreign supplier, before looking to themselves to find out why the problem actually occurred. Although such incidents are increasingly rare, all foreign firms involved in Chinese projects stand to gain from more responsible project management.

So do foreign and international banks and lending agencies, who have become another powerful force advocating better project management. The connection is simple—loan repayment depends on timely project completion. The practice of using project management to reduce overall project costs is also supported by the increased use of competitive bidding procedures on major Chinese projects. Competitive bidding practices now apply not only to internationally funded projects, but to strictly domestic projects as well.

Barriers to progress

Despite the myriad forces promoting unified and efficient project management in China, old ways of thinking are hard to overcome. Traditionally, much time has been devoted to accommodating the various points of view and priorities of the different groups involved in a Chinese project. As a result, operational decisions, generally made by committee, take an inordinate amount of time and may sacrifice efficiency and cost-effectiveness in order to preserve harmony. Furthermore, the various parties involved tend to be reluctant to relinquish their share of control over a project to a designated manager. And without that transfer of authority, the benefits of project management cannot be fully felt. Until efficiency becomes a higher priority than political consensus, Chinese project managers are unlikely to gain enough freedom to manage effectively, with or without a

LEARNING THE VALUE OF FEASIBILITY STUDIES

Standard Western management practice requires that before a major investment project is even approved, a detailed feasibility study must be conducted. Such studies typically analyze the technical and economic assumptions behind a project, and the risks, cost-benefits, and profitability of the venture. Chinese enterprises were first exposed to this practice in the 1950s by Soviet specialists working on China's major projects—but feasibility studies fell into disuse after the Soviet withdrawal from China in 1960, and were abandoned completely when politics took primacy over economics during the Cultural Revolution.

In succeeding years, poor capital construction planning left China with scores of inappropriate and unproductive projects. By the early 1980s, the country's leaders took a series of administrative and economic steps to regain control. One of these was to make feasibility studies a prerequisite to all construction and investment projects. China's Joint Venture Implementing Regulations, enacted in 1983, require partners to a Sino-foreign joint venture to prepare a detailed technical and economic feasibility study for review before getting approval from the Chinese government for the venture. And starting in 1986, feasibility studies were required for all projects in China's State plan.



Although feasibility studies are now required for all major projects in China, many Chinese organizations still do not understand their purpose—to make an objective analysis of a proposed project. Chinese managers often seem to view feasibility studies simply as a means to prove a previously held belief or to justify an agency's pet project. Given this attitude, feasibility studies performed by Chinese entities are often weak on cost analysis and short on objectivity. China's legacy of central planning further impedes a basic understanding of feasibility studies. Economic decisions were—until

recently—made at high levels of government and simply handed down, with the required funds, to the implementing agencies, with very few decisions made at the project level.

The cost of a feasibility study is just 1–3 percent of the total cost of a project. But because they do not yet fully understand the value of feasibility studies, decision makers on Chinese projects are reluctant to spend their own funds for such information. This reluctance may come from an unbalanced approach to funding feasibility studies in the past, in which the State reimbursed an organization for the costs of preparing a feasibility study if the project won approval, but did nothing to reimburse the costs of a study if the project was turned down based on the conclusions of that study. In fact, one Chinese enterprise manager once asked a foreigner whether the fee for the company's feasibility study would be lower if the study indicated that the project was not feasible! But their unwillingness to pay for such information also makes Chinese purchasers vulnerable to the recommendations of self-serving studies offered "free" by aggressive foreign contractors and suppliers. Many Chinese decision makers lack either the business experience or economic and technical background to evaluate feasibility study recommendations. As a result, many inappropriate projects have been pressed on China, and much unnecessary equipment has been sold.

As with other aspects of Western project management, China's growing exposure to international business practices has underlined the need for feasibility studies. World Bank procedures, for instance, require all loan recipients to prepare a detailed project feasibility study, usually with the help of internationally recognized experts. Commercial lenders also insist on detailed feasibility studies before backing a project.

To date, most comprehensive and objective feasibility studies done in China have been prepared by foreign joint venture partners or by foreign consultants, and paid for by the World Bank or foreign government agencies like the US Trade and Development Program (see p. 24). As exposure to these studies increases in China, an appreciation for the long-term savings they represent should grow, and Chinese planners should become more willing to pay the full costs for internationally accepted feasibility studies from their own pockets.—JAB



new law behind them.

Financial concerns also stand in the way of the widespread adoption of better project management techniques. Although project management training is often included in technology transfer agreements, it is generally not singled out as a separate cost item. On large capital construction projects, the cost of hiring the necessary foreign project management expertise can be significant. So far almost all of the project management work done by foreign firms in China has been paid for by non-Chinese entities, including foreign governments, international development agencies, and foreign companies themselves. When such money is not available, Chinese planners may be reluctant to shoulder yet another foreign currency expense for a project, even though such costs would be more than offset by the favorable results of improved efficiency.

American companies have been awarded several contracts to provide project management services on large Chinese projects. At the Daya Bay Nuclear Plant in Guangdong, Bechtel Inc. is providing a project manager and a team of several technicians. Since a full-service management team for a project this size would be many times this size, Bechtel's services appear to be advisory in nature. In a related contract, a small Bechtel team of specialists is providing the nuclear power plant with quality control advice. And Morrison-Knudsen won a World Bank contract to provide management control systems for a major coal

project in Shanxi Province.

Joint ventures provide on-the-job lessons

Sino-foreign engineering joint ventures are a relatively cost-effective way of disseminating the techniques of project management in China (see p. 16). In a typical Sino-American engineering joint venture, each partner appoints a project manager. Much of the preliminary engineering work is done in the United States, with the American manager taking the lead role. The Chinese manager travels to the US office for on-the-job training in conceptual design, basic scheduling, project controls, and other management techniques. The designs are then taken back to China to form the basis for the routine engineering work. At this stage, the American project manager steps back into a more advisory role.

Some American engineering joint venture partners provide extended overseas training for selected Chinese personnel. Although most of this is technical training, some time is spent on project management and related fields. But the foreign partners often find that the trainees are moved to another department or project when they return to China, and cannot follow through with what they have learned as it pertains to the project they were trained on. This tendency, along with a joint venture's limits on hard currency, often restrict the amount of overseas management training provided by foreign joint venture partners. Training in project management skills can also occur in

an indirect fashion when joint construction takes place (see p. 34).

Classroom training on the rise

Some Chinese managers do not have to go overseas to learn about project management. In 1981 the State Planning Commission began to offer courses in construction management, project management techniques, and project control subjects. Hundreds of construction managers have now been trained in a handful of technical and management schools at several major Chinese universities. But these programs are constrained by the limited curriculum and an acute shortage of experienced teachers. The SPC hopes to establish a new training center for project and construction management, but details have not yet been set.

Many Sino-foreign management schools such as the Sino-US Management Center in Dalian and the Canadian Management Center in Chengdu also provide training in project management and in related subjects like critical path scheduling and cost control. And international development institutions like the World Bank and the United Nations Industrial Development Organization have held seminars and lectures in China for a few hundred attendees to date.

While these courses help raise the level of awareness of project management and knowledge of the techniques, nothing replaces the experience gained by running a project from beginning to end. Western professionals agree that it can take from 10 to 20 years of practical experience to run a major capital project. The best training for project managers, whether Chinese or foreign, is still on-the-job-experience with projects using Western project management techniques.

Success stories

Several large projects in China, including refineries and power plants, have adopted some Western project management techniques during planning and construction. But as with projects in many other developing countries, these techniques are used mainly during the construction phase, with design and procurement tasks still handled separately.

The best known project in China employing such techniques in its construction phase is the Lubuge

Hydroelectric Power Station in Yunnan Province. The project manager, a 1960s graduate of the East China Institute of Water Resources with 20 years of field experience, has proved to be a skilled coordinator. With about 90 percent of the construction completed, the first of four generating units should go into operation by the end of 1988, one year ahead of schedule.

Lubuge's success derives from several factors in addition to the use of Western project management techniques. Because Lubuge is a key national project, it receives priority access to materials and resources. Loans from the World Bank, Australia, and Norway have helped buy top-of-the-line equipment and technology for the project. And the lenders have paid to send three special foreign consulting groups to the site to offer technical and procedural advice. Altogether more than 70 foreign firms have been involved in the planning and construction of Lubuge. Moreover, the delays normally caused by bureaucratic in-

fighting were minimized at Lubuge since virtually all the work fell within the authority of just one ministry—the Ministry of Water Resources and Electric Power, which has recently become part of the Ministry of Energy.

Lubuge has been targeted as a showcase project by China's leadership. Both Party Chairman Zhao Ziyang and Premier Li Peng have visited the site, and the State Council is publicizing the project through a "Learn from Lubuge" campaign. A television documentary on the project aired in China this summer, and a Chinese book on project management practices—which includes a study of Lubuge—was published. Clearly Lubuge is a special case, and not typical of what can be accomplished on China's lower priority projects.

Lubuge is not the only project in China that has been completed ahead of schedule and with a minimum of problems. Several projects in Tianjin, for example, have been completed in record time. But a

closer look reveals that this may be due more to the personal support of those in power than to efficient project management practices.

The giant China National Petrochemical Corporation (SINOPEC), has actively adopted more project management controls than any other Chinese industrial corporation to date. The petrochemical industry has benefited from a relatively broad and long-term exposure to Western business practices, in that it has purchased plants, services, and technology from foreign firms since the early 1970s. SINOPEC has also learned about Western project management through several cooperative alliances with foreign engineering firms.

There is no doubt that an awareness of the need for more effective project management is growing in China, and more effort is being devoted to learning the techniques. But while the groundwork is being laid, it will still be a long time before effective project management becomes the rule rather than the exception on projects in China. 完

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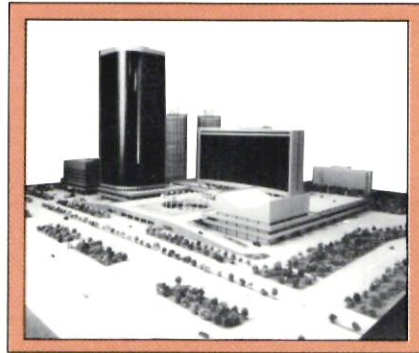
Consultants and contractors and from all over the world work together to help build China's most ambitious real estate project

Andrew Ness

The vast China World Trade Center (CWTC) currently under construction in Beijing is by far the largest commercial development project underway in China, and has already begun to change the face of Beijing's business district. When fully completed in the fall of 1989, the city-within-a-city will provide more housing and office space for expatriates than any other single location in China, in addition to hotel and retail space, parks and pools, and other recreational facilities (*see* box for project details). The shadow cast by the towers of office and hotel buildings on Jianguomenwai Avenue also symbolizes China's long-term commitment to modernizing through contact with the rest of the world—an attitude reflected in the make-up and management of the project itself.

The China World Trade Center is being built by a combination of forces and talents from all over the world. The important role and degree of autonomy granted to the foreign consultants and contractors providing vital engineering and management expertise is unusual for a China project. Together the contractors and subcontractors constitute a multinational group of 11 foreign and 11 Chinese companies and organizations. An additional 80 foreign manufacturers have supplied construction materials to the project so far.

The project's developer has taken an active stance in coordinating relations between the Japanese project architect, the French main contractor, and the Chinese principal subcontractor. Forging a good working relationship between these disparate elements is one of the project's quietest yet most impressive achievements. The successful coordination



of all the project's contractors is underscored by the fact that the project is finishing on time and within budget. CWTC is by no means a typical China project, but the challenges faced by the developer, and the strategies used to overcome them are common to many large and small projects in China.

Selecting the principal partners

The idea for a comprehensive project along the lines of the CWTC has been around since 1979. But it was 1982 before the State Council approved the project on its current scale, and not until 1984, when negotiations began between China Foreign Economic Consultants (CFEC), the premier business consulting corporation under the Ministry of Foreign Economic Relations and Trade (MOFERT), and the Kuok Group of Malaysia, that the project began to take on its present form. In November 1984 the Kuok Group's wholly owned Hong Kong subsidiary, the Kerry Industrial Company,

Andrew Ness is marketing manager for Richard Ellis SA, the sole joint leasing agent for the China World Trade Center. He authored the Council's Beijing Real Estate Report, and has previously written on real estate development for The CBR.

signed a contract with CFEC creating a 50-50 equity joint venture called the China World Trade Center Limited.

The Kuok Group, a diversified conglomerate best known as one of Asia's largest commodity traders, has built hotels, office buildings and mixed-use complexes throughout Southeast Asia and in London. The Kuok Group also brings to the CWTC project firsthand China expertise gained through the construction and launching of Beijing's Shangri-la Hotel and the Hangzhou Hotel in Zhejiang Province. The Chinese partner, CFEC, was well acquainted with Beijing's zoning and building regulations and had a thorough understanding of the municipality's utilities capacities, domestic labor practices, and the capabilities of various Chinese construction corporations. Headquartered in Beijing, CFEC was also in a good position to gather information from the authorities that would affect the project, such as regulations concerning the relocation of former tenants of the site.

Within the next year, CWTC Ltd. assembled a multinational team to carry out all aspects of the project's design and construction (*see* list). Nikken Sekkei of Japan was appointed principal project architect and engineer, and charged with a wide range of responsibilities including the execution of preliminary and final structural, architectural, and mechanical and electrical (M&E) design drawings for the project. Societe Auxiliaire D'Enterprise (SAE) of France submitted the winning bid to become the main contractor, with responsibility for translating Nikken Sekkei's designs into shop drawings and coordinating all of the architectural construction work on the site.

On the latter task, SAE would supervise the China First Engineering Bureau of Construction (C1), the main subcontractor in China.

Forging a unified workstyle

Developing a smooth operating procedure on a project with so many different consultants, contractors, and subcontractors has required special efforts by the developer to help the parties establish, in effect, a common language in which to proceed. According to Jerome LeConte, SAE's deputy general manager for the CWTC project, the three groups have different styles derived from different cultural backgrounds. Nikken Sekkei favors a linear working method in which each step is meticulously mapped out beforehand, while SAE prefers a flexible approach that can accommodate a greater degree of experimentation. C1's style falls somewhere in between, with consideration given to alternative solutions to problems, and a synthesis of solutions often attempted.

In addition to different culturally based attitudes toward problem-solving, the firms also employ a variety of construction techniques that had to be sorted out and agreed upon before work began. SAE and Nikken Sekkei did not initially agree, for example, on the most suitable concrete-pouring method. SAE preferred to use pre-cast concrete elements moved into place by crane, while Nikken favored pouring concrete in situ, and had designed much of the project accordingly.

In this case and others where the principal parties disagreed on technical matters, a solution was reached through a series of intensive discussions moderated by the CWTC engineering department. It was decided to use pre-cast elements for highly visible or unusually complex parts of the project, such as balconies and staircases, that demand a greater degree of control. The rest of the concrete would be poured in situ for the greater strength this technique offers.

West meets East on the labor front

The relationship between SAE and C1, the principal Chinese subcontractor, is one of the most critical to the project overall, because it represents the point at which advanced engineering and construction techniques confront the Chinese labor

Courtesy of China World Trade Center



An SAE foreman directs Chinese workers on the China World Trade Center construction site. Transnational teamwork is one of the project's most impressive achievements.

system and its bureaucracy. C1 manages the project's relations with the Chinese units that supply the labor, the China Fourth and the China Fifth Bureaus of Building Construction

(C4 and C5). These two units maintain over 6,000 Chinese workers at the site, and in addition to supervising and coordinating their work, C1 also handles the complex logistics

CWTC PROJECT TIMELINE

1984: Joint venture negotiations between China Foreign Economic Consultants (CFEC) and the Kerry Industrial Company (KIC), a wholly owned Hong Kong subsidiary of the Kuok Group of Malaysia.

September 1984: Sobel/Roth appointed schematic designer; Nikken Sekkei appointed schematic architect.

November 1984: Equity joint venture contract signed between KIC and CFEC creating the China World Trade Center Ltd. (CWTC).

February–April 1985: CWTC, in conjunction with the Beijing authorities and Nikken Sekkei, studies factors affecting design requirements, including local building codes, environmental and seismic factors, availability of building materials and equipment; and construction costs.

May 1985: Nikken Sekkei and Sobel/Roth develop preliminary designs.

September 1985: Excavation begins.

February 1986: Tender for main contract for construction work.

March 1986: Societe Auxiliare D'Enterprises (SAE) begins foundation work.

February–April 1986: Completion of final design development by Nikken Sekkei.

April 1986: Return of public tender for main contractor.

November 1986: Formal signing of SAE as main building contractor.

June 1987: Work begins on high-rise office tower steel structure.

June 1988: Steel structure completed for high-rise office building.

September 1988: Topping out ceremony for high-rise office building.

December 1988 (projected): Topping out of the North Lodge and South Lodge apartment buildings.

February–April 1989 (projected): Major utilities connected, including phone lines, gas, water, sewage, and power. Completion of electrical and mechanical equipment installation in high-rise office building. Commissioning of electrical and mechanical equipment in high-rise office tower.

May 1989 (projected): Tenants move into offices in high-rise office building.

August 1989 (projected): Tenants move into North Lodge apartment building.

Fall 1989 (projected): All facilities in the CWTC fully operational.

involved in registering, transporting, housing, and feeding the workers and some of their families.

SAE and C1 also had to iron out some differences of opinion on construction techniques before work could start. The largest initial disagreement, for example, concerned the type of formwork to be used for concrete-pouring. SAE favored using high-cost, reusable steel forms, while C1 preferred low-cost disposable plywood forms. The use of each type implies a very different approach to construction in general, as the reusable steel forms allow more tasks to be carried out at one time in a given area than plywood forms. This difference was resolved through many discussion sessions, in which SAE backed up its view with detailed presentations explaining the efficiency of reusable forms, and projected on paper the time required to complete various tasks using both steel and plywood. While the Chinese left the series of meetings not fully convinced, they were won over after actually putting SAE's technique to work.

To keep the lines of communication open, especially in the project's early stages, the developer actively worked to bring the principals together for discussion. The CWTC engineering department, for example, convenes weekly meetings with SAE and Nikken Sekkei personnel to evaluate progress. The department also chairs twice-weekly meetings between SAE and C1 to facilitate their relations.

Multi-tiered management

In order to streamline and clarify the lines of authority on the project, the developer has devised a three-tiered management system. The developer's own engineering department is at the apex, representing the joint venture's interests to all of the other firms working on the construction. Its staff of 25 expatriate and 80 Chinese engineers closely supervise work on various aspects of the project. The engineering department is also responsible for interfacing with the Beijing utility supply companies.

The next tier is SAE, whose direct management responsibility for all of the actual construction work puts it in charge of most of the subcontractors working on the project. C1 is on the third tier, coordinating and

managing the work of its own subcontractors, who supply the manpower for the bulk of the physical construction work.

Outside of this hierarchy but working with all of the parties in it, Nikken Sekkei is responsible for design and quality control. In addition to conveying design drawings from the developer to SAE, Nikken Sekkei's 17-member crew of engineers ensures that completed work on each step in the construction conforms to design specifications. If any step must be repeated, a back-up team of

22 Chinese engineers steps in to supervise the repetition. As part of its quality control function, Nikken Sekkei also monitors virtually all of the construction materials used in the project.

Utilities: a two-way street

Meeting the utilities needs for such a vast and complex project was an issue that concerned the developer in the initial planning stage. Aware that Beijing's power supply is not always reliable, for example, the CWTC power system was designed with 200

CWTC: WHO'S DOING WHAT

Foreign Consultants and Contractors

Nikken Sekkei (Japan) Principal project architect and engineer. *Responsibilities:* Executing preliminary and final structural, architectural and mechanical and electrical (M&E) design drawings, transferring concepts behind the final drawings to the main contractor. Making all design changes, solving technical problems, overseeing quality control, inspecting construction work. Writing monthly reports on construction progress in all areas. Evaluating all cost claims scheduled by SAE for changes in project design. Approving use and specifications of construction materials.

Robert Sobel/Emery Roth & Sons (Hong Kong) Schematic design architect. *Responsibilities:* Conceptual design drawings.

Societe Auxiliare D'Enterprises (France) Main contractor. *Responsibilities:* Managing all structural and architectural construction work; coordinating installation of M&E equipment with Indeco; rendering Nikken Sekkei's designs into structural and architectural shop drawings. Selecting materials for project's final finish; procuring all construction materials, and monitoring materials production schedule.

Indeco (Singapore) Mechanical and electrical engineer; nominated subcontractor to SAE. *Responsibilities:* Rendering Nikken Sekkei's final designs into M&E shopdrawings; installing all mechanical and electrical equipment, including building automation, ventilation, air conditioning, fire fighting, and fire detection and security systems.

Fujitec (Japan) Nominated subcontractor to SAE. *Responsibilities:* Supplying and installing 54 high-speed, computer-controlled elevators and 11 escalators.

Compagnie Francais d'Enterprises Metalliques (France) Direct construction subcontractor to SAE. *Responsibilities:* Erecting structural steel framework and installing curtain wall on high-rise office tower; installing windows in the low-rise office building and the China World Hotel.

Langdon, Every & Seah (Hong Kong) Quantity surveyor; consultant reporting directly to the developer. *Responsibilities:* Cost planning and modeling, evaluating tender, preparing contract documents, interim evaluations, and cost reports; evaluation and agreement of variation orders and contractual claims; preparation and agreement of final accounts.

Don Ashton Design Asia, Ltd. (Hong Kong) Interior designer. *Responsibilities:* Designing interior of the 750-room China World Hotel and five restaurants in the shopping arcade.

Paul Leese (Hong Kong) Interior designer. *Responsibilities:* Designing the interior of the business class Traders' Hotel and of all 448 apartments in the North and South China Lodge apartment buildings.

Belt and Collins Ltd. (Hong Kong) Landscape consultant, reporting directly to the developer. *Responsibilities:* Design consultant for 2.8 hectare traditional Chinese garden.

percent back-up capacity. Likewise, the project's fiber optic phone system is supported by a conventional solid cable.

Despite such precautions, however, the project remains dependent on utilities supplied by the Beijing municipality. And in order to ensure that these are provided efficiently and on time, the developer has tried in a number of ways to forge good working relationships with the relevant municipal bureaus and departments. For example, the developer has responded quickly to official

requests for information needed by local authorities in order to approve the project's requirements. Also, in the course of explaining to the authorities the demands of the project, CWTC engineers have ended up in effect transferring know-how to them. The Beijing Fire Department, for example, was introduced to a waterless firefighting technique using halon gas, as well as to a number of advanced fire resistance materials.

CWTC project engineers also explained the transformer substation and its back-up systems to the Beijing

Electricity Supply Bureau, and introduced the automatic safety features of the project's boiler plant to the Beijing Labor Bureau. And because the project's advanced equipment and sophisticated design requires parts of the project to conform to American fire safety codes and Japanese building codes, the Beijing fire and building safety authorities have been able to study these foreign safety codes and use that knowledge to refine their own codes, which currently exist only in draft form.

The fact that CWTC is a centrally approved project with high levels of both investment and visibility has meant, of course, that it enjoys a very high priority in all of the municipal bureaus, including those responsible for utilities supply. While its special status has doubtless helped to smooth its way, CWTC has also found it helpful to provide information and know-how quickly and cooperatively.

Imported techniques keep project on schedule

In order to stick to CWTC's tight construction schedule, SAE brought a variety of project management skills and modern construction techniques to the site, some of them never before used in China. In these cases the Chinese subcontractors have required a considerable amount of education and encouragement to overcome their resistance to changing established practices.

Labor practices on the site, for example, differ dramatically from the average Chinese construction project. Workers are on the site 24 hours a day in two shifts, with 4,000 scheduled during the day and 2,000 at night. The day shift handles most of the actual structural and architectural work, while the night crew pours concrete and prepares surfaces for work during the day.

SAE further expanded the schedule by continuing work throughout the winter, when Chinese contractors normally suspend operations because concrete will not set in below-zero temperatures. At the CWTC site, the steel forms used in pouring concrete were insulated, and dozens of hot-air blowers were placed on the site to warm both the concrete and the floor slabs on which the walls were joined.

Another time-saving technique introduced by SAE, well-known elsewhere but new to China, involves

Wong & Ng, and Steven Leech Jr. and Associates (Hong Kong) Joint signage consultants reporting directly to the developer. *Responsibilities:* All internal and external signage.

Chinese Consultants and Subcontractors

China First Engineering Bureau of Building Construction (C1) Main construction subcontractor in China; direct subcontractor to SAE. *Responsibilities:* Managing and coordinating work between all local Chinese construction crews; acting as an intermediary between them and the main contractor or other subcontractors they work under.

China Fourth Engineering Bureau of Building Construction (C4) Subcontractor to C1. *Responsibilities:* All structural and architectural construction on the high-rise office tower, low-rise office building, and apartments.

China Fifth Engineering Bureau of Building Construction (C5) Subcontractor to C1. *Responsibilities:* All structural and architectural construction on the China World Hotel, exhibition and convention center, shopping podium, and traditional Chinese garden. (C1, C4, and C5 are all under the the China National Construction Engineering Corporation of the Ministry of Construction.)

China First Engineering Bureau of Building Construction Installation Corp. Subcontractor to Indeco. *Responsibilities:* Installing M&E equipment and ventilation system.

China Mechanical Industry Installation Corp. Subcontractor under the management of the Compagnie Francais d'Enterprises Metalliques (CFEM). *Responsibilities:* Erecting the steel structures of the high-rise office tower and the China World Hotel.

Central Engineering Research Inc. of Iron and Steel Industries Subcontractor to SAE. *Responsibilities:* Assisting SAE's architects and draftsmen in the execution of structural and architectural shop drawings.

Huabei Design Institute Subcontractor to Indeco. *Responsibilities:* Executing M&E shop drawings.

Beijing Nuclear Industry Design Institute (BNIDI). Architect; consultant reporting directly to the developer. *Responsibilities:* Doing final designs for the Traders Hotel, based on Nikken Sekki's preliminary designs.

Jiangsu Provincial Construction Co. Construction contractor reporting to the developer through BNIDI. *Responsibilities:* Structural and architectural construction on Traders Hotel and staff quarters.

Beijing Institute of Landscape Architecture Design & Research Landscape designer; consultant reporting directly to the developer. *Responsibilities:* Consult on design of gardens and other green areas.

Chinese Academy of Applied Art and Design Consultant reporting directly to the developer. *Responsibilities:* Designing interior of Chinese restaurants and guest rooms in the China World Hotel.

CWTC FACTS & FIGURES

Occupying 31.6 acres in Beijing's central business district, the China World Trade Center is the largest commercial development under way in China today and includes two hotels, two office buildings and two apartment towers, an exhibition and convention center, and parks and recreational facilities. The two hotels and office buildings will provide more expatriate housing and office space than any other single location in China. By the time the project is fully completed in fall 1989, 625,000 tonnes of concrete will have been poured, 40,000 tonnes of reinforcement bar embedded in the concrete, and 10,000 tonnes of structural steel assembled.

FINANCING The project represents a total investment of \$400 million, of which \$120 million consists of equity put up by the joint venture partners, CFEC and KIC. The remainder consists of a \$280 million bank loan, provided by a syndicate of 22 banks, arranged and lead managed by the Bank of China. The syndicate includes eight co-lead managing banks investing \$16.5 million each, and 13 participants investing \$10 million each.

HOTEL SPACE The complex includes the deluxe 740-room China World Hotel and the 300-room business class Traders Hotel. Shangri-la

Hotel International China Management Limited (SLICML), a joint venture between the Kuok Group's Shangri-la International Hotel Management Corporation (SLI) and MOFERT's China Business Management Corporation, will manage the two hotels, the exhibition center, and 25 food and beverage outlets throughout the complex. Staff for all of these facilities totals 2,300, including 167 expatriate managers and specialists. Both hotels will be completed in late 1989.

OFFICE SPACE Upon completion, the 38-story, high-rise office building will provide 53,000 sq m of office space; and the 6-story, low-rise building will provide 10,000 sq m. The joint venture's Building Management Department (BMD) will operate the two office buildings, the shopping center (excluding the food and beverage outlets), and the car parks. BMD's 350-member staff will include 10 expatriate and 20 local managers. Facilities for the estimated 1,000 Chinese staff for the buildings include a 380-seat cafeteria, shower facilities, drivers' lounge, and bicycle parking sheds. The high-rise tower will be completed and ready for occupancy in May 1989.

APARTMENT SPACE Two 30-story towers will offer a total of 448 apartments divided into one, two, and three bedroom units, all fully furnished including kitchen facilities and home appliances. BMD will manage the apartment buildings, which will be ready for occupancy in August 1989.

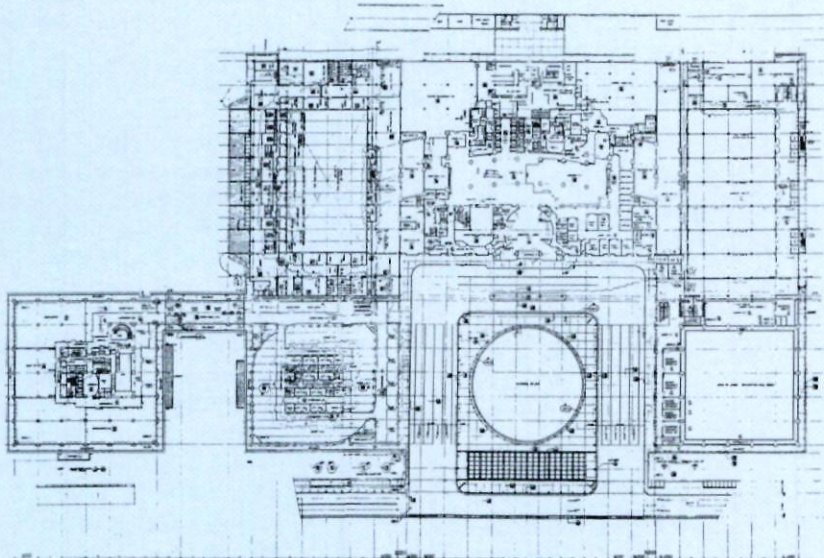
COMMERCIAL SPACE A shopping mall will offer 14,000 sq m of usable commercial space divided into approximately 85 stores and shopfronts. The 800 sq m supermarket, 2,800 sq m department store, and 400 sq m drugstore will probably be contracted out to foreign management. Some stores will accept payment in Foreign Exchange Certificates (FEC) only, and some will take renminbi (RMB).

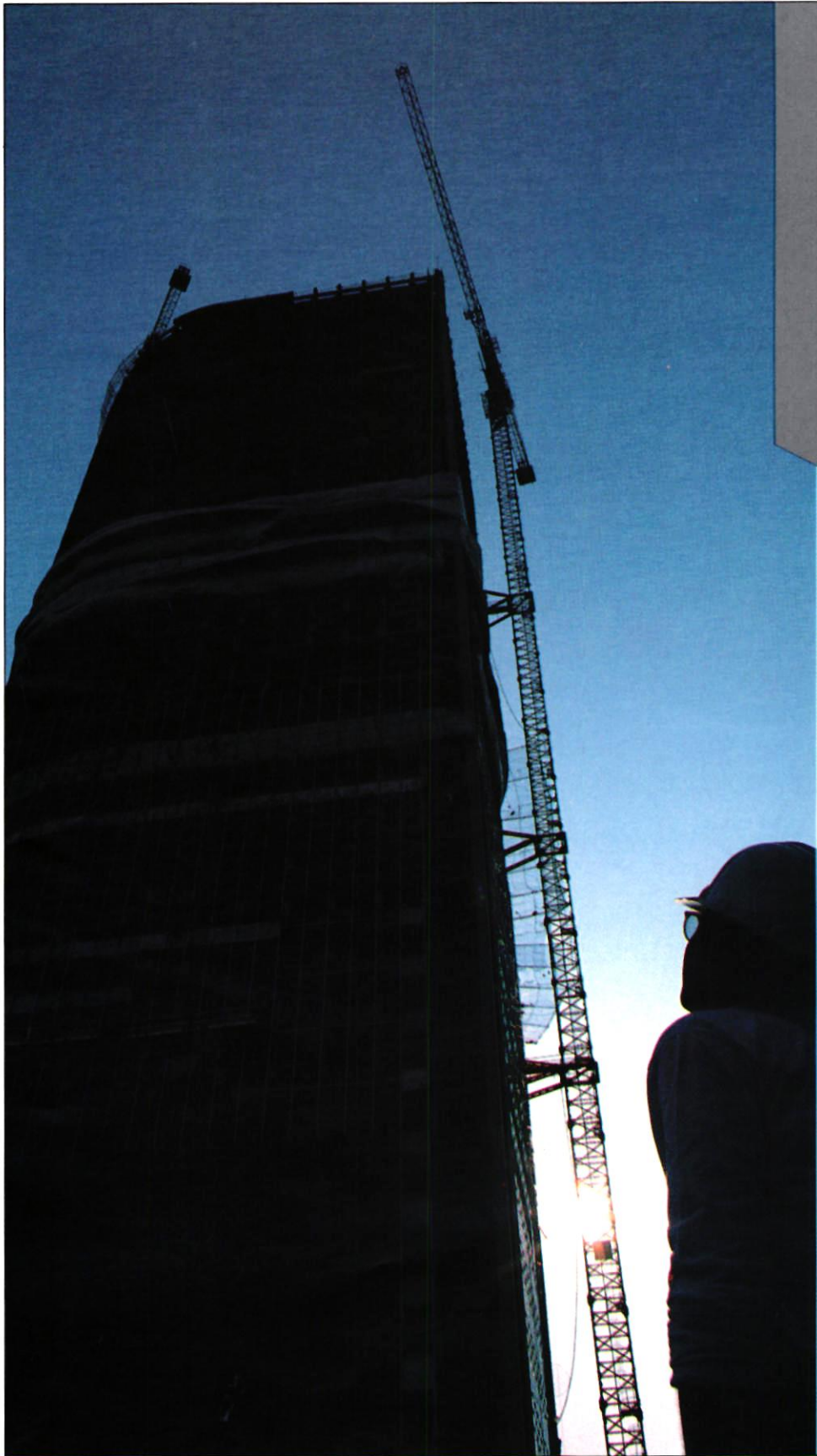
EXHIBITION AND CONVENTION CENTER The two-level exhibition center has a total of 7,300 sq m of exhibition space, 2,000 of which will be of high-ceilinged, pillar-less design. A system of movable walls enables several events to be held simultaneously. The center will be completed in late 1989.

POWER The site will be equipped with a 110 KV underground transformer substation with three alternative feeds providing 200 percent power backup. CWTC will have a total installed capacity of 94,500 KVA. The project will require an estimated 45,000 KVA per day, and the remaining KVA will be supplied to more than 30 other endusers in the immediate vicinity of the project. Six emergency power generators will also provide backup. Project engineers estimate that even in the event of total power blackout in Beijing, the CWTC should retain about 50 percent of its normal power supply.

COMMUNICATIONS A fiber optic cable and conventional solid cable backup will support 6,000 phone lines. Four thousand have been allocated to the project itself, and the remaining 2,000 will be made available to other endusers in the project's vicinity.

RECREATIONAL FACILITIES The basement of the China World Hotel is equipped with a fitness center, a 20 m swimming pool, two indoor squash courts, a bowling alley, aerobics room, and a sauna/massage room. In addition, a separate three-story entertainment center located in the northeast corner of the project will also include squash and tennis courts, a 23 m swimming pool, changing rooms, and observation galleries, a 288-seat cinema, and a snack bar.





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carrying out different tasks on the site simultaneously rather than allowing work teams to stand idle while tasks are completed in other areas. This has helped forestall the loss of skilled workers to other sites during periods of enforced idleness caused by the standard rotational system.

In addition to overlapping tasks, SAE has sought other means to increase efficiency. By doubling the supply of steel concrete forms, for example, any delay in removing forms from one area does not hold up concrete-pouring in another.

In the project's early stages, the Chinese balked at using these unfamiliar methods for saving time and increasing efficiency, and in response, SAE set up presentations and on-site demonstrations to persuade the Chinese of their feasibility. For example, SAE brought engineers, foremen, and technical personnel into a classroom-like setting to learn how to operate the site's computer-controlled cement-batching plants, which are among the largest in the

world. SAE provided the Chinese with all of the technical manuals required to operate and maintain the plant, and brought technicians over from France to provide further on-site instruction.

After several weeks of education—including slide shows of techniques and projections of task completion time using foreign and Chinese methods—the Chinese subcontractors were eventually won over. Transferring expertise has also given the Chinese subcontractors an incentive to keep a full complement of construction teams working on the project, further reducing the problem of desertion.

Lessons from an unusual project

The CWTC's high level of investment and corresponding priority in China's State plan make it an unusual project for China. Nevertheless, the ongoing process of building the China World Trade Center provides some useful lessons that may be applicable to projects large or small.

The effective teamwork fostered by all the parties involved and the developer's active role in keeping lines of communication open has been a significant source of strength in the management hierarchy. Both on and off the site the project has operated on the premise of mutual benefit. The Western management's willingness to address Chinese workers' needs and concerns through education and training has kept full construction teams on the site and promoted feelings of pride in the project.

Beyond the project itself, relations with Beijing municipal authorities have been propelled along by CWTC's willingness to provide as much information and know-how as necessary to clearly explain the needs of the project. While the China World Trade Center is by no means the only large project bringing modern management techniques to China, its size, complexity, and international make-up have made it a milestone in China's march to modernization. 完

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Keeping Joint Venture Accounts

Procedures are growing more complex—but also more sophisticated

Terry Tam and Mark Cheung

As with many other legal and practical aspects of running a joint venture in China, accounting has only recently been supported and directed by regulations. Until 1985, bookkeepers turned to China's major joint venture (JV) legislation concerning foreign taxation and investment for guidance on accounting procedures. But this legislation left many questions unanswered, such as how often audits were required or how to accommodate different exchange rates on the same balance sheet.

In March 1985, the Ministry of Finance (MOF) spelled out guidelines and requirements in "The Accounting Regulations for Joint Ventures Using Chinese and Foreign Investment" ("JV Accounting Regulations"), and provided further format guidance with "The Chart of Accounts and Forms of Accounting Statements for Industrial Joint Ventures Using Chinese and Foreign Investment." Together these documents established the principles and procedures for accounting in equity joint ventures, which is fast becoming more complex as China continues its program of economic reform. Buying and selling materials both at State-set and market prices, for example, makes it difficult to assess the true cost of a transaction. And keeping track of both renminbi (RMB) and foreign currency transactions involves the use of multiple exchange rates that need to be calculated regularly.

Accounting rules for cooperative and wholly foreign-owned enterprises (WFOEs) are currently in the planning stages, with no firm date set for their release. For now, cooperative ventures should resolve accounting issues with reference to the

JV regulations. Since WFOEs have no Chinese investment, they are expected to be allowed more autonomy and flexibility than joint ventures in recording income and expenditures.

Reporting requirements

China's accounting procedures for JVs generally follow international norms. They specify, for example, that accounts be kept on the accrual basis using the debit-credit double-entry system, and that assets be valued at their actual cost. But unlike many countries, China's accounting year for enterprises is the calendar year rather than the fiscal year. A newly established joint venture therefore counts its first year as the period between the start-up date and December 31.

While JVs have some flexibility in choosing the language in which to keep accounts, two requirements support the choice of Chinese: the required annual audit must be performed by a Chinese CPA, and all vouchers, accounting books, and records, as well as the annual statement submitted to tax authorities, must be in Chinese. Quarterly and annual statements in Chinese must be filed with the joint venture partners, the local tax bureau, and both the finance and regulatory departments that oversee the JV's industrial sector. These statements include a balance sheet, income statement, a statement of changes in financial position, and relevant supporting schedules. Quarterly accounts should be filed within 20 days after the close of the quarter, and the annual statement, together with the auditor's report, should be filed by

Terry Tam is a senior manager and Mark Cheung is a manager in the Hong Kong office of Price Waterhouse China.

April 30 of the following year.

While no specific regulation stipulates that accounts must be reported in RMB, nearly all JVs choose to do so because their income and expenses are largely denominated in Chinese currency. A few export-oriented JVs, with the consent of all the JV parties, have opted to report in a foreign currency.

In order to protect and encourage its growing domestic accounting practice, China permits foreign CPAs to consult in China, but not to perform statutory audits. Foreign CPAs may be engaged only to perform profitability reviews and management assessments, or to review financial statements to ensure that they meet the home country's auditing standards and requirements. Therefore, a joint venture must retain a Chinese CPA to certify the parties' capital contribution to the venture, perform the annual audit, and examine accounting statements upon the liquidation of a venture.

Limits on depreciation and amortization

Chinese accounting practices diverge from international conventions by generally limiting depreciation of a JV's assets to a straight-line assessment, in which the cost of an asset is allocated in equal portions over a period of time. The MOF has set minimum periods of depreciation for certain categories of assets, including 20 years for buildings and structures; 10 years for trains, ships, machinery, and production equipment; and five years for electronic equipment, tools, furniture, and transport facilities. Local tax authorities can approve accelerated depreciation under certain circumstances. For example, approval has been granted to JVs with a contractual duration of less

than the minimum depreciation period. Chinese regulations also limit the residual value of a fixed asset to 10 percent of its original value.

The amortization of intangible assets, such as patent or land-use rights, is computed monthly over the useful life of the asset, which is generally defined in the technology transfer agreement or other pertinent governing agreement such as a joint venture contract. If the agreements do not stipulate the length of the asset's useful life, it is automatically set at 10 years.

Expenses incurred before a JV is operational, such as the legal fees for setting up the JV, can be capitalized in the pre-operational phase and subsequently amortized when the JV goes into operation, if the JV agreement specifies that these costs are to be borne by the JV and not by the partner who incurred them. Amortization of these expenditures begins at the start-up date at an annual rate of not more than 20 percent; thus expenses can be amortized in five years at the earliest.

Translating transactions into RMB

As most JVs incur expenses and collect revenues in more than one currency, some transactions must be translated into the reporting currency. The JV Accounting Regulations stipulate that two different exchange rates be used depending on whether the transaction results in an increase or a reduction to the corresponding accounts: a recording exchange rate or a book exchange rate, respectively. As of January 1988, JV accountants have been allowed to bring unrealized foreign exchange gains and losses into the income statement over a period of time. This period is determined jointly by the JV and the local tax bureau.

The recording exchange rate is either a spot rate calculated on the day of the transaction or a fixed rate calculated on the first day of the accounting month, quarter, or year. The book exchange rate is either the original recording rate on the day of the transaction or a calculation based on, for example, the first in-first out, moving average, or weighted average methods.

Three basic rules determine which of the two rates is called into play in recording a transaction. An *increase*

in the balance sheet and income statement accounts will be entered using the recording exchange rate, while a *decrease* in both accounts calls for the book rate. And if a journal entry causes a *decrease* in one account and an *increase* in another, the decrease would be recorded using the book rate and the increase using the recording rate. For instance, if partial payment is received for a credit sale, the cash account increase would be noted using the recording rate, and the accounts receivable decrease would be recorded at the

Chinese accounting practices diverge from international regulations by generally limiting depreciation of a joint venture's assets to a straight-line assessment. Chinese regulations also limit the residual value of a fixed asset to 10 percent of its original value.

book rate.

Both fixed and spot exchange rates have advantages and disadvantages for bookkeepers. Using a spot rate as the recording rate requires constant monitoring of exchange rates and corresponding daily adjustments in calculations, but most accurately reflects the economic impact of the recorded transaction. Conversely, using a fixed rate is easier but less accurate. Standard international accounting methods favor the spot rate for its accuracy, but since the official exchange rate in China is fixed, using a fixed rate there is a reasonable compromise to make for efficiency.

A JV using a foreign currency as a reporting currency must also use the recording exchange rate and book exchange rate procedures when recording transactions involving RMB. By law the enterprise is required to compile both annual financial statements with the foreign currency as the reporting currency and separate financial statements in RMB trans-

lated from the foreign currency statements using the spot exchange rate on the last day of the reporting year.

A JV's RMB bank deposits, bank loans, and other RMB-denominated accounts must be accounted for in their original RMB amounts, and this information must be combined with all other accounts converted into RMB from foreign currency statements. The difference between the original RMB amount of the RMB items and their RMB amount from currency translation is not recognized as a foreign exchange gain or loss, but appears on the equity section of the balance sheet under the heading "currency translation difference."

Increasing use of the foreign exchange swap centers—where foreign-invested and some Chinese State enterprises can exchange RMB for hard currency—has complicated the determination of foreign exchange gains and losses. While the JV accounting regulations stipulate that gains or losses will be determined by the official exchange rate quoted by the State Administration of Exchange Control (SAEC), foreign exchange may be obtained at a swap center at a rate agreed upon by the buyer and seller, which has sometimes been as high as RMB6:\$1. To account for the variation in rates, JV bookkeepers record the transactions at the actual rate, and use the recording and book rates to assess actual gains or losses.

Addressing remaining issues

The step-by-step development of China's accounting rules and practices reflects increasing understanding of the importance of recording the value of assets and funds as accurately as possible. JV bookkeepers would like to see China continue bringing its system in line with standard international accounting practices, particularly in terms of increasing the flexibility of depreciation methods, and permitting the use of a spot rate as the book exchange rate to allow for greater accuracy in recording. The growing numbers and sophistication of trained Chinese accountants will likely aid the push for more extensive and flexible accounting regulations as both foreign and domestic enterprises respond to China's increasingly complex economic environment. 完

新闻人物

Jia Shi on CCPIT's Expanding Role

Julia S. Sensenbrenner

Jia Shi is a man on the move. In 1987 he visited nine foreign countries in his role as chairman of the China Council for the Promotion of International Trade (CCPIT), and last June at the invitation of the US-China Business Council he led a delegation through three US cities to expand business contacts on behalf of his rapidly growing and diversifying organization. During his Washington, DC, visit with the Council, CCPIT's US counterpart organization, Jia discussed CCPIT's ongoing changes and plans for the future with *The China Business Review*.

Jia's frequent trips highlight his responsibilities for overseeing a large nongovernmental agency charged with promoting trade, technology transfer, and investment between China and foreign countries. In addition to taking its show on the road, CCPIT also invites foreign groups to China to explore business opportunities. During 1987 CCPIT played host to some 11,000 people from 47 countries, including the Foreign Trade Advisory Committee of France, the Finnish Fund for Industrial Development Cooperation, the Brazil-China Chamber of Industry and Commerce, the American Intellectual Property Lawyers' Association, and the National Council for US-China Trade.

Hosting international delegations has been CCPIT's primary role since its establishment in 1952. Now, Jia Shi is leading CCPIT through a transition aimed at increasing both its international profile and its market orientation. The late-June announcement that CCPIT had taken a second name as the China Chamber of International Commerce signals CCPIT's ultimate goal of being named China's official member to the International Chamber of Commerce.

Photo by Ray Cronnell



CCPIT Chairman Jia Shi

Editor's note: Just as *The CBR* was going to press, the Council learned that CCPIT Chairman Jia Shi passed away of a sudden heart attack on September 4 in Beijing. His leadership will be sorely missed.

Meeting members' needs

Jia described CCPIT's 1986 conversion to a membership organization as one of the most important changes since he took over the chairmanship in 1986. (Jia previously served as a vice minister of the Ministry of Foreign Economic Relations and Trade.) In the past two years CCPIT has attracted some 2,000 Chinese companies, organizations, and individuals as dues-paying members.

Membership has strengthened CCPIT's emphasis on business and forced the organization to actively assist its members. Jia's June delegation to the United States, for example, included managers from two Chinese factories, both CCPIT members, who used the opportunity to meet with several American companies. And CCPIT's consulting arm, China International Economic and Technical Cooperation Consultants Inc. (ECOTECH), established in 1985, has shifted its energies toward providing fee-based assistance to member enterprises for solving specific problems.

Julia S. Sensenbrenner, former editor of The CBR, is now pursuing a Ph.D. in sociology at Johns Hopkins University.

To efficiently channel current data to its members, CCPIT set up an information department in January 1987 to collect, process, and disseminate information on trade and economic issues. Publishing more periodicals, another goal, has been met by launching new journals and newsletters such as the *China Trade Promotion Review*, *Information on Overseas Trade Promotion*, and *Trade Promotion*, which join CCPIT's existing periodicals *China's Foreign Trade*, *China's Exports*, and *China Patents and Trademarks*.

Jia described how CCPIT is expanding its foreign contacts to assist members searching for foreign partners. The previous focus on forging ties with large foreign firms and major financial institutions has been broadened to include cultivating small and medium-sized firms, particularly "those in the high-technology areas appropriate to China's industrial needs," according to Jia.

National and international networking

During the past summer Jia focused his attention on expanding CCPIT's traditional regional structure by creating five national CCPIT-sponsored associations for Chinese enterprises in the textiles, light industry, electronics and machine building, agriculture, and automotive industries. CCPIT has previously been supported by 37 local subcouncils in provincial capitals and major cities and 49 branches in secondary cities, but these smaller organizations have had trouble covering the wide range of products made in their region. Jia described the new "subcouncils for industry" as "aimed at developing a domestic network for each industry with vertical and horizontal links." The industry subcouncils will cut across regional boundaries and promote

better national links within specific industries. These organizations may also work directly with foreign companies to facilitate business negotiations and avoid duplication of efforts.

To help find suitable partners for Chinese member organizations—and to aid foreign firms that want to learn more about China—CCPIT has also established six overseas offices in Washington, DC; Mexico City; Frankfurt; Tokyo; Hong Kong; and Abu Dhabi. These representative offices introduce business partners, provide consultative services, conduct market research, and assist in strengthening relations with foreign governments. According to Jia, CCPIT plans “to form an overseas network in major international areas and cities” by establishing additional offices in Paris, Milan, London, Toronto, and Sydney in the near future.

Moving beyond trade promotion

CCPIT also oversees several relatively independent legal offices. Both the Foreign Economic and Trade Arbitration Commission and Maritime Arbitration Commission, for instance, come under CCPIT’s umbrella. Jia explained that these two commissions are overextended by the 200 arbitration cases currently pending. As a result, the arbitration system is being restructured to set up more arbitral subcommissions at the local level, revise the existing arbitration regulations, and draft a “law of arbitration.”

The China Patent Agency, another CCPIT-affiliate, assists in processing both foreign and domestic applications to protect intellectual property. Branch offices in Hong Kong and New York City work on patent applications from foreign firms.

These offices have the freedom to handle their own affairs, including the authority to restructure or expand. Comments Jia, “CCPIT will not interfere with their affairs... they can handle their own business.” CCPIT’s hands-off approach to its affiliates reflects national policies that encourage decentralized management and greater competition in the foreign trade sphere. While CCPIT’s Department for Exhibitions will continue to oversee and sponsor national exhibits, other organizations can now compete to sponsor provincial-level shows. For an electronics exhibition, for example, a

provincial office of the Ministry of Electronics and Machine-Building may find itself competing against an electronics industry association and a provincial CCPIT office for sponsorship.

Raising CCPIT’s profile

With the mushrooming of contacts between Chinese and foreign companies, CCPIT has realized that it must work to strengthen its position as an effective trade promotion organ at home and abroad. To expand its international role, CCPIT is concentrating on forming subsidiary organizations and Sino-foreign joint ventures.

One such recent addition to CCPIT’s network is the China Legal Service (HK) Ltd., set up by CCPIT’s Hong Kong Office and the All China Lawyers’ Association in December 1987 to aid Chinese and foreign clients in all types of legal transactions. Likewise, China Technology Trade (HK) Ltd. assists in licensing and other technology transfer arrangements. And in cooperation with West Germany, CCPIT’s Foreign Economic and Trade Arbitration Commission has set up conciliation centers in both Beijing and Hamburg to effect joint conciliation of trade disputes.

Increased participation in international organizations, such as the World Intellectual Property Organization and the International Commission of Commercial Arbitration, is also aiding CCPIT in its quest to make its name known throughout the world. CCPIT plans to host several international activities in cooperation with the International Chamber of Commerce to enhance its stature as a business promotion organization.

The route to CCPIT’s increased prominence in China and internationally is not without hazards, however. CCPIT must juggle diverse responsibilities from helping member companies find suitable partners and hosting foreign delegations, to coordinating China’s efforts to independently host more international exhibitions and accommodating increasing applications for patents and trademarks. Jia Shi’s challenge will be to balance the need to increase efficiency though decentralization and specialization with careful monitoring of the organization’s rapid growth.

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Recent developments in arbitration and conciliation cases provide clues as to what to expect in disputes

Dispute Resolution in China

Thomas Peele and Marsha A. Cohan

Chinese organizations usually prefer to arbitrate rather than litigate disputes, reflecting the culture's age-old emphasis on compromise rather than confrontation. For their part, foreign companies are not in principle averse to litigation, but most prefer not to take disputes into China's "people's courts," which may not have yet fully recovered from their role as political instruments during the Cultural Revolution.

Most contracts between foreign and Chinese parties therefore provide for arbitration rather than litigation in the event of a dispute. With both sides usually willing to write an arbitration clause into the contract, the questions to be settled during contract negotiations include where the arbitration proceeding will take place, who will conduct it, and what procedural and substantive rules will govern. Ultimately, however, a foreign party may have to take a case to a people's court for enforcement if a Chinese party refuses to pay an arbitration award. Disputes between foreign and Chinese entities that have already gone to arbitration, both in China and abroad, give the foreign business community some idea of what to expect in terms of procedures used, awards rendered, and enforcement difficulties in arbitration proceedings.

Stockholm: favored foreign locale

Many contracts between Chinese and foreign organizations specify Stockholm as the locale for arbitration, often stipulating that the proceedings be conducted before the Arbitration Institute of the Stockholm Chamber of Commerce. Since China's Ministry of Foreign Economic Relations and Trade

(MOFERT) accepted Stockholm as the designated arbitration venue in one of the earliest investment contracts between a Chinese and a foreign party, it has become more or less standard for contracts to provide for arbitration there if the parties agree to third-country arbitration. Chinese organizations have on occasion accepted other venues for arbitration, including London, Zurich, Paris, and Hong Kong, but only in exceptional cases.

The arbitration body of the International Chamber of Commerce (ICC), better known to US companies as the Stockholm Institute, has traditionally been unacceptable to China because of Taiwan's membership in the ICC. Nonetheless, in at least one contract a Chinese party did agree to ICC arbitration—according to its Chinese counsel, neither the Chinese nor the foreign party was aware that ICC arbitration was unacceptable to China until after the contract was implemented. China's attitude toward the ICC may be changing, however: last June, the China Council for the Promotion of International Trade (CCPIT), the parent organization of China's arbitration entities, co-hosted an arbitration seminar in Beijing with the ICC.

As of March 1988, five arbitrations had been initiated before the Arbitration Institute of the Stockholm Chamber of Commerce by foreign

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corporations against Chinese entities. Three of the cases were settled before any awards were issued, while two are pending. In addition, at least two arbitrations have been initiated before ad hoc tribunals in Stockholm. In one of these arbitrations, an award was rendered against a Chinese foreign trade corporation (FTC) in favor of a US company, but the FTC has not yet honored the award.

The settlement of the three cases before the conclusion of arbitration, along with numerous instances of disputes resolved before third-country arbitration proceedings were initiated, give foreign companies grounds to hope that clauses calling for third-country arbitration may encourage the Chinese—who dislike formal dispute settlement proceedings—to resolve disputes before arbitration is necessary. On the other hand, the instances of Chinese organizations refusing to honor arbitral awards have heightened foreign companies' concerns about enforcement.

Reasoned rulings in Beijing

Despite the foreign preference for Stockholm, far more arbitrations take place in Beijing than in any third country because the Chinese push hard for this provision in contract negotiations. Two organizations under CCPIT hear arbitrations in Beijing: the Foreign Economic and Trade Arbitration Commission (FETAC), and the Marine Arbitration Commission (MAC).

About 200 arbitration cases are currently pending in Beijing before FETAC. Most involve sales contracts, which in China routinely contain a clause calling for FETAC arbitration.

One 1986 FETAC case involved a Canadian company's purchase of nails from the Tianjin branch of the China National Metals and Minerals

Import-Export Corporation. The goods were shipped on a Shanghai Ocean Shipping Company vessel to Long Beach, and then transported to Vancouver. When the shipment was opened in Vancouver, the Canadian company found that some cartons were damaged and the nails inside were heavily rusted.

The Canadian marine surveyors' report concluded that the rust was caused by sweating in transit, so the buyer's insurer applied to FETAC for arbitration. The arbitration tribunal ruled that the insurance company was not entitled to compensation because the company could not prove whether responsibility for the damage rested with the Chinese seller (for defects existing when the goods were loaded on the vessel) or the Chinese shipper (for harm caused in shipping). The Canadian insurance company believed that the arbitrators should have determined which Chinese entity was more likely to have caused the damage, and rendered an award against that entity, since the insurance company suffered a loss and could not reasonably be expected to know which entity was responsible.

Another FETAC arbitration agreement involved a European seller and a Chinese buyer who contracted to purchase a commodity in a series of shipments. The contract required the seller to advise the buyer of the expected shipping dates and quantities before the buyer became obligated to open a letter of credit (LC). The seller delayed advising the buyer of shipments but the Chinese buyer went ahead and set up an LC. The seller asked for a higher price than the contracted price. The buyer responded that it would institute arbitration proceedings if the seller did not move to fulfill the contract within 45 days. The seller replied that it was under no obligation to deliver the goods because the buyer had not set up a new LC. FETAC decided that "the key fact of the case is that after signing the contract, the market price of the contracted commodity went up by large margins," and the seller had tried to interpose the argument about an LC as an excuse. The Chinese buyer was awarded the difference between the contract and market prices during the shipment periods called for in the contract.

It is difficult to draw general conclusions, except to say that these

cases reflect reasoned decisions. According to a FETAC official, the foreign side now wins about half the time in FETAC arbitrations. But while FETAC is clearly gaining experience in dealing with international trade disputes, many foreign companies will continue to insist on third-party arbitration as long as the FETAC membership list of potential arbitrators does not include arbitrators outside China. It is natural for foreign companies to expect that FETAC may be partial to the Chinese side in an arbitration. The same motivation encourages Chinese com-

Despite the foreign preference for Stockholm, far more arbitrations take place in Beijing than in any third country because the Chinese push hard for this provision in contract negotiations.

panies to insist on arbitration in a third country other than the United States when the foreign party in a dispute is a US company.

Enforcement problems: Two case studies

A recent case involving a Sino-US joint venture illustrates the difficulties involved in enforcing an arbitral award. A US and a Chinese party negotiated and signed a joint venture contract that the Chinese authorities refused to approve without certain modifications. When the US party would not agree to all of the requested changes, the Chinese party amended the contract without the US side's knowledge or consent, submitted it to the authorities, and was granted approval. The Chinese party then notified the US party that the contract had been approved, and the US party naturally assumed that the approved document contained only those amendments to which it had agreed. After the joint venture was established and the US party had made its equity contribution to the venture, it discovered that the ap-

proved contract was not the version to which it had agreed. At the same time, the Chinese side claimed that the US party was incapable of supplying the technology that it had promised to provide the joint venture.

At this point, the parties agreed to arbitrate the case before FETAC. Among other things, the US party asked FETAC for a declaration that the joint venture contract was invalid, and demanded the return of its investment, plus interest, and compensation for the technology transferred to the venture. FETAC decided that the contract was indeed invalid, and ordered the Chinese party to return the US party's investment, with interest—although it awarded less interest than the US party had requested. FETAC denied the claim for compensation for technology because it found no evidence that technology had actually been transferred.

The US company has run into difficulty collecting the award for return of its investment, however. When the Chinese enterprise refused to pay the award, the US party sought enforcement in the local people's court, but so far the court has not required the Chinese enterprise to pay the award. It has, however, agreed to hear a counterclaim from the Chinese enterprise for goods that it says it sold the US party which had not been paid for.

Some foreign observers speculate that the Chinese government will ensure that awards against Chinese entities are paid because foreign investors might avoid investing in China if international awards are not honored there. China's accession to the New York Convention on the Recognition and Enforcement of Foreign Arbitral Awards in January 1987 has been taken as a signal of China's serious intent to enforce arbitration awards. But the New York Convention only requires signatory countries to enforce *foreign* arbitral awards. However, in the case of the US party who got an arbitration award against a Chinese FTC from a Stockholm tribunal, the US party ran into difficulties in its efforts to enforce its award. When it applied to a Shanghai court for enforcement, the court refused to recognize it, for reasons that are not clear. According to a FETAC arbitrator, the reason the court failed to recognize the award was that it had been issued before the

date of China's accession to the New York Convention. Since Chinese officials had promised enforcement of foreign arbitral awards for years before accession to the New York Convention, this explanation is unconvincing.

A more likely explanation was offered by an American lawyer in Beijing, who speculated that the Shanghai court did not have jurisdiction over the FTC, which is headquartered in Beijing. In any case, the US party, frustrated by its efforts in court, appealed to MOFERT for help. MOFERT investigated and reported that the FTC claimed it had never learned of the award because it was represented by its sales agent at the arbitration proceeding, and the sales agent had never informed the FTC of the results of the arbitration. When told by MOFERT of the existence of the award, the FTC agreed to investigate the matter and contact the US party in the near future.

Rules governing arbitration awards

To enforce a foreign arbitral award in China, the foreign party must apply to the Chinese people's court in the jurisdiction where the Chinese party against which the award is rendered has its principal place of business. If the Chinese party has property in another country that belongs to the New York Convention, the foreign company can also apply in this jurisdiction for enforcement against the property located there.

Some restrictions apply. When China joined the New York Conven-

tion, it made two standard "reservations" on applicability of the Convention. The first is a "reciprocity" reservation, which requires China to recognize and enforce an arbitral award only if the award is made in another state that belongs to the New York Convention. The United States, Sweden, and many other countries belong to the Convention. The second is a "commercial" reservation, which means that Chinese courts will recognize and enforce an award only if the dispute arose out of "what are considered according to Chinese law as commercial legal relationships of a contractual nature or a noncontractual nature." The Supreme People's Court has provided a broad list of examples of such relationships that should cover almost all arbitration awards that US companies might seek following disputes with Chinese organizations.

The Supreme People's Court notice specifically *excludes* disputes between "foreign investors and governments of host countries." In making this stipulation, the Chinese may have had in mind a well-known arbitration in which an award was rendered for breach of a hotel development contract against both an Egyptian corporation and the Egyptian government. The Egyptian government had given its written approval to the contract, similar to the way in which MOFERT approves investment contracts. The reservation would presumably relieve the people's courts of any obligation to enforce an award against MOFERT or the Chinese government. It should

leave unaffected awards against State-owned enterprises, however, since as a formal legal matter most such enterprises are considered legal persons separate from the State.

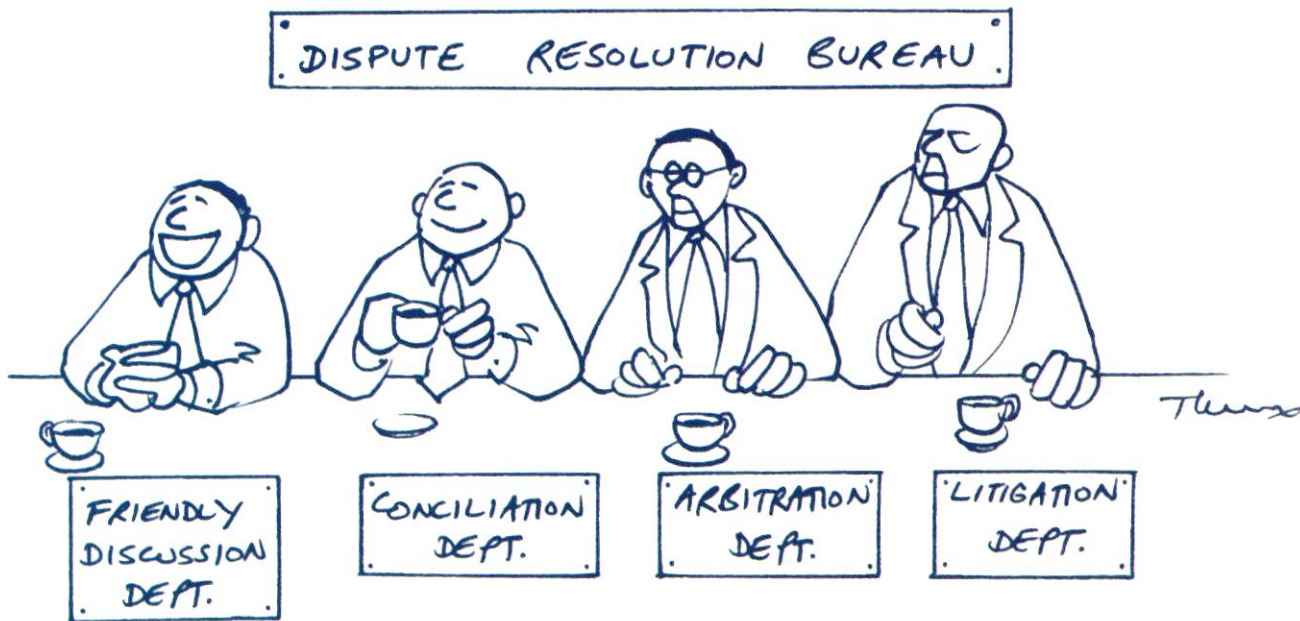
It will take a number of disputes, arbitration awards, and refusals to pay before the effectiveness of the New York Convention is proved in China. US companies should also bear in mind that the New York Convention is effective in the United States—and since China is a member of the Convention, US courts are required to enforce arbitration awards rendered by FETAC against US companies.

Conciliation: an easier answer?

Many cases avoid arbitration entirely by resolving disputes through less adversarial means, such as "friendly consultation" and "conciliation." Thus, arbitration clauses in contracts with Chinese organizations routinely call for friendly consultations and conciliation (or mediation) before arbitration proceedings are initiated. If a contract specifically calls for conciliation prior to arbitration, the foreign party may wish to include a statement detailing how conciliation can be terminated or setting a deadline such as 60 days to prevent a Chinese party from delaying arbitration by arguing that the conciliation agreed to in the contract has not ended.

Conciliation chiefly differs from arbitration in that the parties are not bound by the findings of the conciliators and may resort to arbitration if they cannot reach an agreement

Cartoons by Eugene Thernaux



through the conciliation. About half the cases submitted to FETAC and MAC are, according to Chinese officials, resolved through conciliation. Examples of successful conciliation cases demonstrate the range of problems that can be resolved through this process.

"Joint conciliation" involves the appointment of conciliators from arbitral organizations of both countries. The American Arbitration Association (AAA) and FETAC have had a joint conciliation agreement since 1976 under which each organization appoints an equal number of conciliators to work on a dispute. The conciliation may take place under the Conciliation Rules of the United Nations Commission on International Trade Law (UNCITRAL Conciliation Rules).

The newly established Beijing Conciliation Center, which like FETAC falls under CCPIT's umbrella, has an arrangement with the Beijing-Hamburg Conciliation Center in West Germany. The arrangement provides for conciliation proceedings in Hamburg or Beijing under the Beijing-Hamburg Conciliation Rules, which are similar to the UNCITRAL rules except in a few significant respects. For example, the UNCITRAL rules provide that the parties may agree to settle their dispute during conciliation and, if they sign a settlement agreement, that agreement is binding upon them. The Beijing-Hamburg rules also state that the parties may agree "any time before or during the conciliation proceeding that they will accept as final and binding a settlement proposal made by the conciliator." Finally, the Beijing-Hamburg rules permit a conciliator on the case to act as an arbitrator later on, a practice the UNCITRAL rules prohibit.

Despite traditional Chinese aver-

sion to formal dispute resolution proceedings, the experience of the last few years has made clear that when problems cannot be resolved through informal means, the Chinese will actively participate in the dispute resolution proceedings to which they have agreed in their contracts. Foreigners who have participated in arbitrations before FETAC and in conciliations in Beijing appear to be reasonably satisfied with the performance of those organizations.

There are still too few precedents to be able to definitively answer the crucial question of whether arbitral awards will be honored by Chinese parties and enforced by Chinese

courts. China's accession to the New York Convention was seen by many foreigners as a sign of its intent to conform to standard international business and legal practices. However, as noted above, at least two companies have encountered serious difficulties in obtaining enforcement of arbitral awards. Foreign companies are anxiously watching to see how China will handle these and any other cases that may arise in the near future. Prompt honoring of awards or, in the absence thereof, strict enforcement of awards by Chinese courts will greatly boost foreign confidence and do much to stimulate foreign investment in China. 完

When a US company can—and cannot—take a Chinese enterprise to court

The Foreign Sovereign Immunities Act

Thomas Peele

Since China opened its doors to foreign investment, US companies and Chinese organizations have entered into thousands of business arrangements, most of which have been concluded in written form within a framework of "equality" and "mutual benefit." As happens anywhere, however, some disputes arise that cannot be resolved by the parties themselves. What happens when the dispute reaches an impasse? Can an American company sue a Chinese organization in a US court to get satisfaction?

The answer to this question is sometimes yes, sometimes no, and always depends on a number of factors. If the parties have an arbitration clause in their contract, for example, litigation probably has to wait until after arbitration has run its course (see p. 46). Another factor is that most Chinese organizations are State-owned enterprises, and when a company can sue such an organization in a US court, the action will probably be governed by the complex US Foreign Sovereign Immuni-

ties Act of 1976 (FSIA), which applies to foreign State-owned enterprises.

The legal doctrine of "sovereign immunity" is thought by some to derive from the ancient notion that a king can do no wrong. This principle protects governments and their agencies from being sued, except in areas where a government has waived its immunity. The FSIA stipulates when cases may be brought against a foreign government or a State-owned enterprise, which means that determining whether or not the FSIA applies is the first consideration in any US lawsuit against a Chinese organization.

When can a State-owned enterprise be sued?

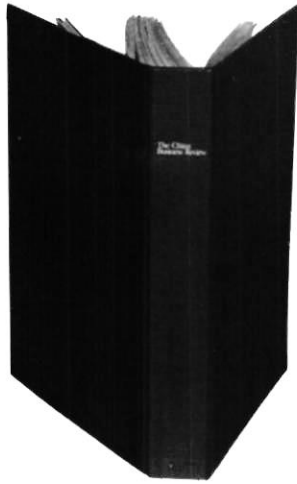
A fundamental principle of the FSIA is that a foreign government may be sued if the dispute centers on

Thomas Peele, an attorney with the international law firm Baker & McKenzie, has been involved in several FSIA cases, including the Huguang Railway Bonds Case.

CLARIFICATION

The United States Export-Import Bank would like to clarify an explanation contained in "The Foreign Role in Major Projects," an article appearing in the May-June issue of *The CBR*. The Bank's foreign content rules for US exports to China are the same as those for all other countries. The rules apply to each item being shipped. Items of wholly foreign-made equipment may not be included in an overall package financed by the Bank.

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its commercial activities; therefore, a lawsuit based on the breach of a commercial contract could be brought against a foreign government in a US court. The idea behind this principle is that when a sovereign descends from the throne and assumes the role of a trader, he should be treated like any other commercial actor.

Suits based on noncommercial activities generally cannot be brought to a US court unless the foreign government waives immunity. If a US company is wronged by a foreign government's "discretionary" activity—for instance, if a government prohibits remission of joint venture profits overseas—it might not be possible to sue the government for the action, even though it interferes with the company's commercial activities.

State-owned enterprises receive the same degree of immunity from jurisdiction as a foreign government if they qualify as "agencies or instrumentalities of a foreign state." The FSIA defines these as 1) separate legal persons that 2) are at least majority-owned by the foreign state, and which 3) are not incorporated in a third country. Most Chinese enterprises with which US companies conclude commercial contracts are likely to qualify as agencies or instrumentalities of the Chinese State. Even a joint venture can qualify as an instrumentality if the Chinese side owns over 50 percent of the venture. (However, in a dispute involving a joint venture, the US company would probably arbitrate with or sue the Chinese enterprise that owns the joint venture, not the joint venture itself.) And while the US State Department would support an amendment excluding agencies and instrumentalities performing purely commercial functions from the FSIA's protection, no satisfactory definition of such organizations has yet been formulated and presented to Congress.

Bringing a case to court

Answering the following questions will help determine if a lawsuit involving a Chinese organization can be brought to trial in a US court.

1. Does the contract contain a binding arbitration agreement? If the dispute focuses on the interpretation or performance of a contract that contains a binding arbitration

might cause some contracts between Chinese and foreign organizations to be considered noncommercial as well, if they were concluded contingent on the granting of tax benefits that can only come from the Chinese government.

While the district court's decision in the Bolivian case was overturned by an appeals court, other precedents for this type of reasoning remain, particularly in the area of natural resource exploitation. US courts have tended to treat contracts for the exploitation of natural resources as sovereign and not commercial in nature, with the result that the foreign government repudiating the contract cannot be sued for breach in the United States.

4. Does the dispute have sufficient "contacts" with the United States? A US company does not have

a right to bring a lawsuit in a US court just because it is a US company. Even if the US and foreign parties agree that a dispute will be litigated in a US court, the court cannot handle the case unless there are actual "contacts" with the United States. Determination of what constitutes sufficient contacts is made on a case-by-case basis. For example, in the case of *Patterson, Zochonis (UK) Ltd. v. Compania United Arrow*, 40 foreign companies brought suit in a New York court against China Ocean Shipping Company (COSCO) for losses after cargo shipped from Fuzhou was lost at sea off South Africa, and the US court dismissed the case because it had insufficient connection to the United States to be tried there.

On the other hand, in the case of *Barkanic v. CAAC*, representatives of

the estates of two American businessmen killed in the crash of a CAAC plane on a domestic flight from Nanjing to Beijing in 1985 sued CAAC in New York. CAAC's attorneys argued that the domestic flight had insufficient connection to the United States for a US court to hear the case. The lower court agreed and dismissed the case. In an expansive ruling, an appeals court ruled that a US court could handle the case because the businessmen's tickets were bought from and paid for through CAAC's US agent, Pan American Airlines in Washington, DC, and that CAAC entered into a contract with the deceased for transportation at the time of purchase.

Answering these questions will help a company determine its chances of bringing a lawsuit to a US court. One important question re-

LAWSUITS INVOLVING CHINA IN US COURTS

Barkanic v. CAAC Representatives of the estates of two American businessmen killed in the crash of a CAAC plane on a domestic flight from Nanjing to Beijing in 1985 sued CAAC in New York. CAAC's attorneys argued that the domestic flight had insufficient connection to the United States for a US court to hear the case. The lower court agreed and dismissed the case. In an expansive ruling, the US Court of Appeals for the Second Circuit ruled that a US court could handle the case, because the tickets were purchased from CAAC's US agent, Pan American Airlines in Washington, DC, and CAAC entered into a contract for transportation with the deceased at that time.

Bauhinia Corp. v. China National Machinery Import-Export Corp. (CMEC) Bauhinia Corporation entered into a contract with CMEC to buy nails from CMEC. CMEC failed to deliver the nails, claiming that it was prevented from doing so by a Chinese government edict. The *force majeure* question was not addressed by the court because the contract contained an arbitration clause. However, the parties had not agreed on the location of an arbitration; one paragraph begins, "in case arbitration is necessary and is to be held in Beijing . . ." while another starts, "In case arbitration is to take place at [blank] . . ." The trial court ordered the parties to submit to arbitration in the United States, before the American Arbitration Association. CMEC appealed, claiming that the judge should have ordered arbitration in Beijing. On

appeal, the higher court agreed with the lower court, pointing out that when the parties agree to arbitrate but fail to agree on an arbitration location, a US court is empowered only to order arbitration within its own district.

Wang Bingzhang v. Renmin Ribao The leader of a dissident movement known as China Spring filed suit in Washington, DC against the Chinese newspaper *Renmin Ribao*, for libel. The newspaper allegedly libeled the dissidents when it reported that the late Henry Liu, an editorialist killed by members of the Taiwanese "Bamboo Gang," had said that the leader and others in his movement were "subsidized by Taiwan." The trial court determined that *Renmin Ribao*, which is an organ of the Central Committee of the Chinese Communist Party, is an "agency or instrumentality" of the Chinese state, and therefore the FSIA applies to lawsuits against the paper. The FSIA contains a specific prohibition on libel suits against foreign states and their agencies and instrumentalities. Since the FSIA barred the libel suit, the court dismissed the case.

Patterson, Zochonis (UK) Ltd. v. Compania United Arrow Cargo shipped from Fuzhou was lost at sea, and the China Ocean Shipping Company (COSCO) was sued in New York for the loss. The court concluded that there were insufficient contacts with the United States for jurisdiction to be exercised, and dismissed the case.

China National Technical Import Corp. (TECHIMPORT) v. United States

Techimport sued the US government to recover damages for the loss of its property caused by the inadvertent surfacing of a US submarine under a Japanese freighter transporting the property. The US court would not permit the case to proceed until it had determined whether China would allow US nationals to sue in the people's courts "under similar circumstances." On the basis of Chinese laws, an affidavit of a US law professor specializing in the study of Chinese law, a legal opinion from CCPIT, and the acquiescence of the US Department of Justice, the US court concluded that suits "under similar circumstances" would be permitted in China, and ordered the case to be heard.

China National Chemical Import-Export Corporation (SINOCHEM) v. M/V Lago Hualaihue In a case pitting an "instrumentality" of one foreign state against an "instrumentality" of another foreign state, SINOCHEM sued a Chilean enterprise for the loss of bulk nitrates in a collision off Panama. The US court determined that the suit was based on commercial activities, and permitted SINOCHEM to press its case against the Chilean enterprise.

China National Chemical Import-Export Corporation (SINOCHEM) v. Nitron International Corporation SINOCHEM sued a US company for breach of contract and fraud in a case involving a forged letter of credit and a phantom shipment of urea from Kuwait. The case was settled. The perpetrators of the fraud (not Nitron personnel) were found abroad and

mains, however: what happens after a judgment is obtained in court against a Chinese organization?

How can a judgment be enforced?

Executing a judgment against any foreign party, particularly a foreign government, presents special complications. A company holding a judgment against an agency or instrumentality of a foreign state engaged in commercial activity in the United States can satisfy the judgment by taking any property belonging to that agency or instrumentality in the United States. A company with a judgment against a Chinese FTC or a joint venture may not, however, execute against the property of a different Chinese FTC, or against the Chinese government itself, on the grounds that they are all part of the

“same ball of wax.” It might, on the other hand, be possible to execute against the assets of the US subsidiary of an FTC against which one has a judgment.

If the agency or instrumentality has no US assets, then the company may consider going after assets in China or in a third country. Going to China would involve asking a people's court to recognize a US judgment against a Chinese organization, while going to a third country would bring the company face-to-face with the problem of getting judgments recognized in foreign jurisdictions. Given the difficulties with enforcing judgments, being permitted by the FSIA to sue a Chinese organization is only the first hurdle a US company must clear in order to obtain legal satisfaction.

US companies should also remem-

ber that the tables can be turned, and that they can be sued by Chinese organizations in US courts. Despite the traditional Chinese aversion to litigation—illustrated by the saying “It is better to enter the jaws of a tiger than the door of a courtroom”—Chinese organizations have already brought suits in the United States (*see* box), and there may be more such cases in the future as China increasingly adapts to the notion of a system governed by the rule of law.

Of course, no company likes to go to court to resolve a dispute. It is expensive and a court's decision may be to neither side's liking. Perhaps both American and Chinese enterprises will make extra efforts to resolve their differences when they realize that the alternative of litigation is open to either side. 完

jailed in Germany; the money from the Bank of China letter of credit was traced to Lichtenstein and recovered.

Haumeder v. China Travel Service (CTS) A tourist fell while touring a locomotive plant in Datong, and sued CTS and the Chinese government for the injury she suffered. The case was dismissed by agreement of the parties, apparently because of a settlement. Had the case continued, the US court may have decided that it lacked jurisdiction.

Scott v. People's Republic of China An American boy was blinded in one eye while playing with Chinese-made fireworks. Some time after a Texas court entered a default judgment of \$1 million against the PRC and the China National Animal By-Products Import-Export Corporation, the case was voluntarily dismissed by the plaintiff, presumably because a settlement was reached.

Jackson v. People's Republic of China (“The Huguang Railways Bonds Case”) Individuals from Alabama brought suit against the Chinese government for payment of bonds issued in 1911 by the Qing Dynasty for the construction of the Huguang Railways. The Chinese government refused to appear, claiming absolute immunity from the jurisdiction of foreign courts. The trial court decided that the issuance of the bonds constituted a commercial activity, and, since the FSIA permits suits based on commercial activities, held that China did not enjoy immunity. On this basis,

plaintiffs obtained a judgment by default for \$41.3 million. The case became a major diplomatic irritant. China's Minister of Foreign Affairs Wu Xueqian personally delivered an aide memoir to Secretary of State Shultz protesting the US court's claiming jurisdiction over China. Subsequently, the Chinese government made a special appearance in court. The court removed the default judgment and dismissed the case, concluding that, although the activity on which the suit was based was commercial, nevertheless, at the time that the Qing Dynasty issued the bonds, US law granted foreign governments complete immunity from suit in US courts, and the law existing at that time was the correct law to apply in the case. The dismissal was subsequently affirmed by the appeals court, and the US Supreme Court declined review. One of the bondholders later brought suit against Taiwan, and his case was dismissed on the same grounds. Two other cases involving old Chinese bonds, *Casey v. People's Republic of China* and *Walk v. People's Republic of China*, have been abandoned by plaintiffs, while a final two cases are pending but likely to be dismissed.

Shanghai Power Company v. Delaware Trust Company Shanghai Power Company was organized as a Delaware corporation in 1929 to acquire and operate an electrical utility in the International Settlement in Shanghai. Its assets were damaged by the Japanese between 1937 and 1945, and were then expropriated after the People's Republic of China was

founded in 1949. The company received a payment in partial compensation from the Japanese government for the damage inflicted by Japanese troops. The US Foreign Claims Settlement Commission (an agency of the US government) also evaluated Shanghai Power's expropriation claim against the PRC at more than \$53 million. Subsequently, in 1979, the United States and China concluded a claims settlement agreement, under which the Chinese government agreed to pay an amount in settlement of all post-1949 claims by US nationals against the PRC. Shanghai Power's share of the settlement amount was \$20.5 million. (Shanghai Power then sued the United States in Claims Court for compromising its claim of over \$53 million for \$20.5 million, and lost.) Thirty-three Chinese entities then filed claims in *Shanghai Power Company v. Delaware Trust Company*, a long-running case to determine how Shanghai Power's assets will eventually be distributed; the Chinese entities alleged that they should share in the settlement money belonging to Shanghai Power. Shanghai Power counterclaimed against the Chinese entities, arguing that they were “alter egos” of the PRC, and that the power company had a right to set off against the Chinese entities an amount up to the difference between the value of expropriation claim (over \$53 million) and the amount actually received for that claim under the US-China claims settlement agreement. This case, originally filed in 1972, has not yet ended.

—TP

BOOKSHELF

书刊介绍



Doing Business With China 1987-1991, produced and distributed by China Films, Ltd., 3804 N. Washington Street, Westmont, IL 60559. Includes one 80-

minute videotape and a 331-page book of the same title. 1987. \$695.

This video does not measure up to the standards set by two other films on doing business with China that were previously reviewed in *The CBR* (see May-June 1987, p. 28). Narrated by Illinois Senator Charles Percy, who led the first congressional visit to China in 1976, the video is a poor guide to the complexities of China business, in some cases providing misleading or inaccurate information.

The film has a clearly defined structure, broken down into segments on general background, needs analysis, contact, protocol, legal considerations, taxation, negotiation, compensation, and long-range planning. But the content fails to flesh out this outline clearly and accurately. After viewing the section on how to find Chinese contacts, for example, a newcomer to China business would assume that walking into a MOFERT or CITIC office is all one needs to do to establish fruitful relations, as these are the only Chinese organizations mentioned. Their functions are not adequately explained, nor is there any discussion of which other Chinese organizations might make more appropriate business partners.

It is clear that the video was not produced by a China expert, but is instead an uneven amalgamation of conversations with so-called experts—foreign and Chinese. Some of the foreign experts interviewed in the video, especially John Morton from the law firm of Hale & Dorr, really deserve the title—but others appear to have been roped into commenting simply because they happened to be outside the US

embassy or touring the Great Wall while the crew was filming. Several of the foreign corporate representatives interviewed seem more interested in advertising their companies' services than in providing useful information.

The book is tied to the video in no other way than by supplying a transcript of its text, reducing the effectiveness of the two as a package. The book does contain some additional material on legal issues and taxation, as well as a few organizational charts and a map of the SEZs. A resource directory included in the book provides addresses of US, Hong Kong, and Chinese organizations, but some of the material is out of date.

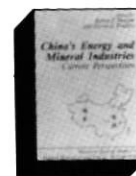
All in all, this is a mediocre work that appears to be designed to exploit a fashionable and lucrative market. The video's few actual gems of information are buried in a narrative that aggravatingly repeats simplistic maxims such as "You need patience;" "Doing business [in China] is not for the faint-hearted;" and "China is now in the midst of a renaissance." If your company needs a China business video, don't waste your money on this one. —JLL

Legal Aspects of Foreign Investment in the People's Republic of China, by Ren Jianxin et al. Hong Kong: China Trade Translation Co. Ltd., 1988. 276 pp. \$35 hardcover.

This book stands out from the usual run of China business texts for its rare presentation of the Chinese point of view on foreign investment provisions. Chinese legal experts from government organizations, legal institutes, and university law faculties have contributed chapters covering a variety of practical areas, including joint venture capital structure, land-use fees for foreign investment enterprises, dispute settlement, choice of law, the legal characteristics of contractual joint ventures, and a theoretical discussion of wholly foreign-owned enterprises.

Although much of the information repeats or summarizes existing regulations and practices, and therefore offers nothing new to a Western legal expert on China, both business practitioners and nonspecialist observers of Chinese law will find this book of value. Each chapter pulls together relevant legislation, theory, and practice into a clear and concise discussion that in many cases goes beyond simple summation to offer interpretation and debate of key issues. Both the information and the analysis make for worthwhile reading.

—John Frisbie



China's Energy and Mineral Industries: Current Perspectives, edited by James P. Dorian and David G. Fridley. Boulder, CO: Westview Press, 1988. 162 pp.

\$30 softcover.

A 1987 East-West Center symposium on China's natural resource industries generated this interesting collection of papers touching on resources, energy development policies, and foreign investment in China's energy sector. Foreign companies who have been frustrated by China's reluctance to throw open this sector, or who are considering investing in China's energy development, should read the case study of the Occidental Coal project in particular, which highlights many of the problems that Western companies face.

Chinese contributors, among them senior researchers and officials in the energy industry, realistically assess China's mineral and energy potential, concluding that while China has a huge resource base, rapid economic growth will continue to cause the demand for energy to outstrip the supply. While noting that foreign investment is needed to develop China's energy resources, the Chinese writers did not specify how much cooperation was desirable,

tacitly reflecting the view that China should try to develop its resources as independently as possible.

The contributions by Western authors generally address energy resources and potential markets in the entire Pacific Basin region without focusing on China in any great detail. For those in search of the perspectives promised by the title, the sections written by Chinese authors will be the most worthwhile parts of this book. —Sam Wong



The Chinese Army After Mao, by Ellis Joffe. Cambridge, MA: Harvard University Press, 1988. 210 pp. \$20 hardcover.

Recent reports of booming Chinese arms exports have fueled broad interest in the current status of China's People's Liberation Army (PLA). Ellis Joffe's timely book traces the PLA's transformation from the bloated, politicized, under-trained, and ill-equipped army of Mao's later years to the smaller, sleeker, and more up-to-date fighting force fashioned by his successors, led by Deng Xiaoping. Well-organized, brisk, and clearly written, this book is a surprisingly easy read that will appeal to almost anyone interested in China's recent political history and economic reforms as well as military developments.

The book describes the events and ideological shifts that culminated in China's current blueprint for military modernization. Mao's original concept of "People's War," which assigned greater value to soldierly spirit than to weapons and tactics, won the Communists control of China in 1949, but spelled disaster in the Korean War, when China tried unsuccessfully to overwhelm advanced Western weaponry and tactics with little more than onslaughts of personnel. China's later humiliation in Vietnam further demonstrated to Deng and his supporters the need to overhaul the military. The doctrine they devised, known as "People's War Under Modern Conditions," emphasizes that modern warfare calls for advanced weapons, tactics, and training.

Joffe explains that political and economic expedients tempered the urgency to revamp the PLA in the wake of battlefield disasters. A diminished sense of the threat of Soviet

invasion in the 1970s gave China some room to maneuver in establishing domestic priorities, and the military was designated the fourth—and last—target area of the Four Modernizations program announced in 1979.

The PLA's weapons development strategy reflects its subordinate status. Hardware upgrading is being pursued only gradually, with a few highly selective purchases from abroad supplementing controlled domestic improvement efforts. While the chapter devoted to weapons development delivers only a very general assessment of the types and quality of the PLA's weapons, Joffe's analysis of the thinking behind the development strategy, along with explanations of the financial and technological limitations on China's ability to absorb foreign purchases, provides useful and interesting background for any potential supplier of military technology.

Making major changes in the PLA has required a delicate balancing act between military and civilian interests. In the book's final chapter, Joffe highlights Deng's key role in successfully guiding the military out of the political arena, where it had held sway since the Cultural Revolution, and back into the barracks, where it has been limited to a more traditional military role. Deng's personal prestige and broad-based support gave him tremendous control over military reform, and the fate of the civilian-military balance after his death looms large over current discussions of China's military modernization. Joffe ends his book on this open question, having provided a useful frame of reference for what-

BOOKS RECEIVED

China's Education and the Industrialized World: Studies in Cultural Transfer, edited by Ruth Hayhoe and Marianne Bastid. Armonk, NY: M.E. Sharpe, 1987. 369 pp. \$37.50 hardcover, \$26.95 softcover.

New Directions in the Social Sciences and Humanities in China, edited by Michael B. Yahuda. New York: St. Martin's Press, 1987. 169 pp. \$27.50 hardcover.

Shopping in China, by Roberta Stalberg. 2nd ed. San Francisco, CA: China Books & Periodicals, 1988. 208 pp. \$10.95 softcover.

ever the future may bring. —SER

China's Military Modernization: International Implications, edited by Larry M. Wortzel. NY: Greenwood Press Inc., 1988. 224 pp. \$37.95 hardcover. ***China's Military Modernization: International and Domestic Implications***, edited by Charles D. Lovejoy, Jr., and Bruce W. Watson. Boulder, CO: Westview Press, 1986. 142 pp. \$20 softcover.

A reader in search of detailed information about certain aspects of China's military modernization—particularly regional and global strategic implications, and the development of nuclear weapons—will find that these books supplement Joffe's survey, although they are neither as well-balanced nor as pleasant to read as *The Chinese Army After Mao*.

Each book is a collection of papers presented at a symposium by specialists in various aspects of China's military, and enjoyment of the expert analyses is to some extent offset by format problems. Style varies from chapter to chapter, while the authors repeat many general themes. And the publishers' unfortunate decision to print from typewritten pages rather than typesetting the texts forces the reader to squint at small, dense print.

Of particular interest in the Watson and Lovejoy text is the chapter on the role of foreign technology in China's military modernization process. Short, clear subsections describe the major methods of Chinese weapons development using foreign technology, including coproduction and reverse-engineering as well as purchased equipment. Additional sections describing Chinese procurement and development policies and priorities make this chapter a useful background briefing for potential suppliers of technology.

Wortzel's book is noteworthy for the extremely detailed information presented in two chapters on China's nuclear industry, including energy and weapons development. The editor's own chapter on the effects of US export controls policy toward China provides a backdrop for COCOM's ongoing control liberalization, and gives a clear picture of what's at stake for each country. The first chapter, which focuses on the domestic constraints of modernizing the PLA, is an excellent summary of the events and issues that Joffe treats at greater length. —SER

CHINA BUSINESS

中外貿易

Susan Poole

The following tables contain recent press reports of business contracts and negotiations exclusive of those listed in previous issues. For the most part, the accuracy of these reports is not independently confirmed by *The CBR*. Contracts denominated in foreign currencies are converted into US dollars at the most recent monthly average rate quoted in the IMF's *International Financial Statistics*.

US-China Business Council member firms can contact the Business Information Center to obtain a copy of news sources and other available background information concerning the business arrangements appearing below. Moreover, firms whose sales and other business arrangements with China do not normally appear in press reports may have them published in *The CBR* by sending the information to the attention of the Business Information Center at the US-China Business Council.



Foreign Party/
Chinese Party

SALES AND INVESTMENT
THROUGH JUNE 30, 1988

Arrangement/Value
Date Reported

Agricultural Commodities

China's Imports

Kansas (US) Sold 95,000 tonnes of wheat for July-August shipment. \$9.2 million. 4/88.

Investments in China

Chia Tai Development Co. Ltd. (Thailand)/Hainan Will use prawn fry and technology for prawn-raising venture in 16,666 ha. of shoalwaters. \$99.8 million (HK780 million). 6/88.

Chia Tai Development Co. Ltd. (Thailand)/Hainan Will invest in hog farm. \$38.4 million (HK300 million). 6/88.

Central Soya Co., Inc. and Jip Hong International (HK) Ltd. (US)/China Export Bases Development Corp., Shandong Will form Weifang Zhongji Animal Feed Co. to manufacture complete feeds and related products for domestic sale. US investment through HK firm. (50-50). 5/88.

Agricultural Technology

China's Imports

Ibberson International (US)/Beijing Everbright Industrial Co., Nei Monggol Will provide engineering, equipment, and supervision construction of feed plant. 5/88.

Hybrid Turkeys Inc., subs. of Norbest Inc. (US)/Tianjin Skylake Foodstuff Corp. Ltd. and China National Animal Breeding Stock Import and Export Corp.

Signed agreement to provide parent stock eggs, training, and state-of-the-art technology, including a hatchery and processing plant. 3/88.

Investments in China

Giaran Co. (Italy)/Tumd Left Banner, Nei Monggol

Will jointly develop 10,000 mu of pastureland to run 300-head dairy farm with supplementary projects including a fodder grass power processing plant and dairy products plant. \$2.9 million. (ITL:66%-PRC 34%). 6/88.

Sapporo Breweries, Tokyo Maruichi, and Shoji (Japan)/China Seeds Corp.

Established the Huayue Nursery Co., Ltd. to develop new varieties of vegetables and flowering plants. \$400,224 (¥50 million). 6/88.

Avion Farms International Inc. (US) and Chia Tai Livestock Corp. (Thailand)/Beijing Dafa Livestock Production Corp.

Opened a chicken breeding system joint venture using advanced US equipment and livestock. \$10 million. 2/88.

Correction of Listing in May/June 1988 issue: Cargill Southeast Asia, Ltd. (US)/CITIC (HK) Ltd. and Shandong Supply & Marketing Cooperative

Formed 22-year Shandong Cargill Ltd. cottonseed-crushing joint venture in Jinan. \$11 million. (CSA: 60%-CHK: 10%-SSM:30%). 2/88.

Other

Claas OHG (FRG)/China National Agricultural Machinery Corp.

Signed cooperative agreement. 5/88.

Chemicals (Agricultural)

China's Imports

Snamprogetti (Italy)/Chinese Chemicals Authority

Awarded World Bank contract to build four fertilizer plants in Hebei, Henan, Shanxi, and Beijing using Snamprogetti technology. 6/88.

Chemicals, Petrochemicals, and Related Equipment

China's Imports

Tecnicas Reunidas, S.A. (Spain)/Fushun Detergent Chemical Plant, Liaoning

Will supply equipment to produce 72,000 tpy of alkylate and 50,000 tpy of other detergent-making chemicals. \$94 million. 4/88.

Chiyoda Chemical Engineering & Construction (Japan)/Liaoning

Will build a butane plant at Fushun Petrochemical Complex. \$16 million (¥2 billion). 6/88

Abbreviations used throughout text: BOC: Bank of China; CAAC: Civil Aviation Administration of China; CAIEC: China National Automotive Industry Import-Export Corp.; CASS: Chinese Academy of Social Sciences; CATIC: China National Aero-Technology Import-Export Co.; CCTV: China Central Television; CEIEC: China Electronics Import-Export Corp.; CHINATEX: China National Textiles Import-Export Corp.; CITIC: China International Trust and Investment Corp.; CITS: China International Travel Service; CNCCC: China National Chemical Construction Co.; CNIEC: China National Nonferrous Metals Corp.; CNOOC: China National Offshore Oil Corp.; CNTIC: China National Technical Import Corp.; COSCO: China Ocean Shipping Co.; CPIC: China National Corp. of Pharmaceutical Economic and Technical International Cooperation; ICBC: Industrial and Commercial Bank of China; HIPDC: Huaneng International Power Development Corp.; INSTRIMPEX: China National Instruments Import-Export Corp.; ITIC: International Trust and Investment Corp.; MACHIMPEX: China National Machinery Import-Export Corp.; MAI: Ministry of Aviation Industry; MEI: Ministry of Electronics Industry; MINMETALS: China National Metals and Minerals Import and Export Corp.; MLI: Ministry of Light Industry; MOCI: Ministry of Coal Industry; MOFERT: Ministry of Foreign Economic Relations and Trade; MPT: Ministry of Posts and Telecommunications; NA: Not Available; NDSTIC: National Defense, Science, Technology and Industry Commission; NORINCO: China North Industries Corp.; SINOCEM: China National Chemicals Import-Export Corp.; SINOPEC: China National Petrochemical Corp.; SINOTRANS: China National Foreign Trade Transportation Corp.; SITCO: Shanghai Investment and Trust Corp.; SPC: State Planning Commission

Lummus Canada Inc. (Canada)/CNTIC, Liaoning Signed contracts to build two petrochemical plants in the Fushun Ethylene complex. \$170 million. 5/88.

Nobel Chemateur, subs. of Nobel Industries (Sweden) Signed agreement to build 20,000 tpy TDI plant to produce intermediates used in polyurethane production. \$14.7 million (SK87 million). 3/88.

Technip (US), Mitsubishi Petroleum Engineering (Japan), and Shell (UK)/CNTIC, Fushun, Liaoning Will build 50,000-tpy unit to produce ethylene oxide and ethylene glycols. 3/88.

Investments in China

Codan Gummi (Denmark) and Danish Industrial Development Fund Will set up rubber tire and gas pipe plants; currently negotiating establishment of 22 similar plants. \$4.6 million (DKR30 million). 3/88.

Anni Chemical Co. (Italy)/China Hainan Petrochemical Corp. Signed letter of intent to jointly construct large-scale polyethylene plant. \$580 million (ITL:30%-PRC:70%). 6/88.

Petro Oil & Gas (US)/Beijing, Guangdong, and North-east China Will set up three separate joint venture plants to produce polyurethane, polystyrene, and polyethylene. \$50 million each. 6/88.

Chia Tai Development Co. Ltd. (Thailand)/Hainan Will invest in development and production of petrochemicals, including a 200,000 tpy polyvinyl chloride plant. \$2.3 million (HK18.72 million). 6/88.

Alta SpA, subs. of Enichem SpA (Italy)/Wujin Co., Guangzhou Agreed to jointly produce and market polyethylene strip and paints for subterranean pipelines in China. \$12 million (IL15 billion). 3/88.

Enichem SpA (Italy)/China Hainan Petrochemical General Corp. Signed letter of intent for joint construction of petrochemical complex including, 250,000 tpy naphtha cracker, polyethylene, polypropylene, and butadiene production plants. \$800 million. 5/88.

Chinese Investments Overseas

Novacor Chemicals Ltd. (Canada)/China National Packaging Corp. Commenced work on polyethylene plant joint venture in Joffre, Alberta, to produce 450 million lbs. of resin for Chinese market. \$200 million. 3/88.

Construction Materials and Equipment

China's Imports

Sumitomo Co. (Japan) Will supply spare parts for bulldozers. \$31,962. 6/88.

Orenstein and Koppel (FRG)/Tianjin Will provide technical service and software for the production of bulldozers. 4/88.

Gehl Co. (US)/Xuzhou No. 2 Construction Machinery Company, Jiangsu Will license skid steer loader technology and provide production training to supply Chinese and Pacific Rim markets. 3/88.

Humboldt Wedag (FRG)/CNTIC, Urumqi, Xinjiang Contract to supply and construct 2,000 tpd cement plant. 4/88.

Investments in China

North Hauler Limited Liability Co. (UK)/Nei Monggol Will establish joint venture to produce 300 40-tonne dumpers annually. 5/88.

Saint Gobain Group (France)/China State Administration for Building Materials Industry Signed agreement to jointly produce building materials including insulation, asbestos, electrofused refractories, glass wool, glass fiber, and float glass. 6/88.

Other

Guyana Wood Products, Ltd. (Guyana) Negotiating the supply of timber in return for Chinese forest industry machinery. 4/88.

Consumer Goods

China's Imports

Thorn EMI and Osram GEC, (UK)/Nanjing Glass Factory, Jiangsu Will supply production line for stem glassware and tumblers. \$2.3 million (HK18 million). 6/88.

Anadarko Co. (US) Negotiating sale of 17,000 square yards of carpet. 6/88.

Investments in China

Swarovski Ventures (Austria)/Huizhou Municipal Porcelain Coloring Crafts Factory, Guangdong, and Guangdong Foreign Trade Development Corp. Will establish HUSI Fashion Jewelry and Crafts Co. to manufacture fashion jewellery and gift items for domestic and international markets. \$1 million. 3/88.

Tele-Art Co. (HK)/Shanghai Diamond Watch Factory Will form Shanghai Diamond Tele-Art Electron to produce 4.5 million watches annually. \$2 million. 3/88.

Hope Tak Sundries & Co. Ltd. (HK)/Shanghai Will engage in joint sales of imported plastic products at Shanghai's largest department store. 5/88.

Electronics, Electrical Equipment, and Computer Software

China's Imports

Ferranti International Controls Corp. (US)/Guangdong General Power Co. Signed contract to supply Ranger energy management system based on Intel 386/30 single-board computers. \$5 million. 5/88.

Honeywell Bull (HK) Ltd./International Science Center, Beijing Will supply two DPS 6 Plus model 400 mini-computers. 6/88.

Honeywell Bull (HK) Ltd./Zhuhai Resort, Zhuhai SEZ Will install two Unix-based XPS-100 model X-20 minicomputers. 6/88.

Apollo Computer (US)/Chengdu Mold Design and Training Center (Sichuan) and Mold Design Institute under Zhejiang University Will purchase 46 Apollo workstations, including seven systems from GE/Calma to over 30 NC machine tools. 4/88.

Sun Microsystems Inc. (US)/Ministry of Education Will supply Sun-3 workstations and file servers. \$4 million. 3/88.

Control Data China, Inc., subs. of Control Data (US)/Dongfang Boiler Works, Zigong, Sichuan Will supply mainframe computer system for design and manufacture of large-scale boilers. \$1 million. 3/88.

Control Data China, Inc., subs. of Control Data (US)/Dongfang Electrical Corp., Sichuan Sold Cyber 830-Dual CPU to Chengdu plant. \$1.5 million. 3/88.

Control Data China, Inc. subs. of Control Data (US)/State Commission for Education Awarded World Bank-funded contract to provide two computer systems for scientific, engineering, and CAD applications to Wuhan Institute of Building Materials and East China Institute of Chemical Technology, Shanghai. \$1 million. 5/88.

Hawker Siddeley, subs. of Westinghouse Systems Ltd. (UK)/CNTIC Won contract to supply computer-based remote control system for the Datong-Qinghuangdao rail electrification project. \$1.9 million. 4/88.

GEC (HK), subs. of General Electric (UK)/Liaoning and Sichuan Signed contract to provide sports stadium lighting in Dalian, Dandong and Chengdu. 5/88.

Stratus Computer Ltd. (HK)/Golden Dragon Hotel, Kunming (Yunnan) Installed hotel computer system. 5/88.

Hewlett-Packard (US)/Textile Science and Technology Information Research Institute under the Ministry of Textile Industry Sold the HP3000/930 superminicomputer for information retrieval and data processing. 4/88.

Hamilton-Brighton (UK)/Harbin Railway Bureau, Heilongjiang Awarded World Bank-funded contract to supply two Data General MV7800 computer systems for the management of north-east China's railway stations and control centers. \$476,819. 4/88.

Control Data China, Inc., sub. of Control Data (US)/CNTIC	Awarded World Bank-funded contract to provide office automation system to the Beilungang Thermal Power Project. \$1 million. 5/88.
Unisys China (US)/Ministry of Finance	Will supply mainframe systems to computerize tax collection and revenue accounting processes. \$3.6 million. 5/88.
Harmon International Industries Inc. (US)	Has begun installation of sound system in the Great Hall of the People. 6/88.
Molex Inc. (US)	Will begin production of cable assemblies. 6/88.

Investments in China

3Com Corp. (US)/South Information Enterprise Co. Ltd., Shenzhen SEZ	Signed agreement to set up joint venture to promote LAN computers in Hong Kong and China. 4/88.
Flextronics (US)/Shekou SEZ	Opened Flextronics Computer (Shekou) Ltd. to produce PC boards for OEMs in medical electronics, mass media storage, and instrumentation markets. 4/88.
Siemens AG Co. (FRG)/Chinese Academy of Sciences	Will jointly develop software for use with Siemens personal computers and adapt Chinese software to Siemens microcomputers. 5/88.
Intel Inc. (US) and Novel Precision Machinery Co. (HK)/CATIC	Signed agreement to establish China Intel Co., Ltd. in Beijing to produce Model 863 microcomputers. \$10 million. 6/88.
ISC (US)/Zhonghuan Computer Co., Tianjin (under ICBC)	Will set up joint venture to manufacture banking terminals and develop applications software. 4/88.
Lafe Holdings Ltd. (HK)/Panyu County, Guangdong	Will build plant to produce magnetic heads for computers. \$6.4 million. 4/88.
Hewlett-Packard (US)/Shenzhen SEZ	Will open new China Hewlett-Packard Co. plant to produce HP 3394 and HP 3396 integrators. 5/88.
Pulse Engineering Inc. (US)	Will set up a new 500-employee electronic components manufacturing plant. 5/88.
Fujitsu Ltd. (Japan)/MPT	Will establish joint venture to develop computer software for use in digital telephone switching systems. 6/87.

Other

Taiyo Keisan Center and Ascii Corp. (Japan)/Beijing	Will set up wholly owned computer software development firm. \$400,224 (¥50 million). 5/88.
American Schlumberger Technologies (US)/CEIEC	Began operation of joint technology service including repairs, consultation, testing, and training programs for automatic computer testing equipment. 6/88.

Electronics (Consumer)

Investments in China

Tai Wang Electronics (HK)/Fuzhou No. 5 Radio Components Factory and China Leasing Co.	Established joint venture to produce induction components. 6/88.
Matsuta Co., Ltd. (HK)/Fuzhou No. 5 Radio Components Factory	Established joint venture to produce spring hollow induction coils and chassis of TV intermediate frequency transformers. 6/88.
Philips Co. (Netherlands)/Novel Technology Development Co. Ltd. (HK-Sino joint venture between Novel Group and TECHIM-PORT) and Huadong Electronic Tube Factory, Nanjing	Established Huafei Color TV Tube Factory. \$162 million (¥600 million). 5/88.
Goldstar Co. (S. Korea-US joint venture)	Plans to set up glass bulb plant for television picture tubes. 5/88.
Samsung Corning (S. Korea-US joint venture)	Negotiating for glass bulb manufacturing joint venture. 6/88.

Engineering and Construction

China's Imports

Kampax International and Vejdirektoratet Public Road Administration (Denmark)	Will supply engineering know-how and construction supervision for World Bank 142 km Beijing-Tanggu motorway project. \$218.8 million (DKR1.4 billion). 5/88.
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Investment in China

Degremont, sub. of Lyonnaise Des Eaux (France)/Xi'an	Awarded contract to build 600,000 cu. m./day capacity water treatment plant. 2/88.
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Food Processing and Food Service

China's Imports

Ibberson International (US)/CEROILFOODS, Fujian	Signed contract to provide engineering, equipment, and supervision in construction of aquatic food factory in Fuzhou. 5/88.
(NA) Romania/Lhasa, Xizhang	Will supply brewery assembly line with beer production capacity of 10 million litres annually. 5/88.

Investment in China

Tino Fontana (Italy)/China Xinxing Corp., Ltd. 6/88.	Signed letter of intent for chocolate production joint venture. 6/88.
Tino Fontana (Italy)/Yimei Co., Beijing	Signed letter of intent to produce wine-filled chocolates. 6/88.
Leaf Inc. (US)/Xin Ming Food Products Factory, Wuxi, Jiangsu	Will establish Wuxi Hua Confectionery Co. to produce chewing gum. 6/88.
Warner-Lambert (US)/Harbin No. 3 Sweet Factory, Heilongjiang	Will establish the Harbin Warner-Lambert Confectionery Co. to produce Dentyne chewing gum, Halls cough drops, and other candies. \$5 million. 3/88.
Toula Group (Italy)/Beijing International Hotel	Opened Toula Beijing Italian restaurant. 4/88.
NA (HK)/Hunan Provincial Food Industrial Technology Development	Established Xiangrui Food Processing Co. to supply overseas Chinese restaurants with prepared vegetables and flavorings. 6/88.

Finance and Banking

Banking Agreements

Stadsparkasse Koeln (FRG)/ICBC	Signed staff and information exchange agreement. 3/88.
Diskont Und Kredit AG (FRG)/BOC	Signed factoring agreement. 3/88.
Instituto Bancario San Paulo Di Torino (Italy)/Beijing Everbright Industrial Co.	Signed cooperation agreement. 3/88.
Bank of America (US)/China Trust and Investment Corporation for Foreign Economic Relations and Trade under MOFERT	Signed agreement to cooperate on joint ventures, barter trade, trade financing, leasing, and foreign exchange deals. 4/88.
Development Bank of Singapore, International Financial Corp. (World Bank), Rabobank (Netherlands), Deutsche Genossenschaftsbank (FRG), and Yasuda Trust and Banking Co. (Japan)/Agricultural Bank of China, Xiamen SEZ	Signed 30-year agreement to form the International Bank for Agriculture Development. Registered capital: \$60 million. (DBS:5%-IFC, NET, FRG JPN:50%-PRC:45%). 5/88.

Loans

NA (France)/Qingdao Beer Factory, Shandong	Investing \$35 million in beer production. 5/88.
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B.A. Asia, subs. of Bank of America (US), I.B.J. Asia, subs. of Industrial Bank of Japan (Japan), and West-Deutsche Landesbank Girozentrale (FRG)/Jiangsu ITIC and joint venture between Nanjing Petrochemical Co., China National Petroleum Corp., Everbright Holdings (HK), and Zhong Shan Co. (HK)	Will fund capromandate plant near Nanjing. \$120 million. 5/88.	Steinel Co. (FRG)/Jinan No. 1 Machine Tool Works, Shandong	Will coproduce high-efficiency BZ-20 work centers. 5/88.
Banque Indosuez (France)/BOC	Reached agreement to extend financing of Beijing telephone network; will use French equipment. \$103 million. 6/88.	Yamazaki Mazak Corp. (Japan)/Jinan No. 1 Machine Tool Works, Shandong	Will jointly manufacture QT-10N digitally controlled lathes. 5/88.
World Bank and International Development Association (World Bank affiliate)/Sichuan and Shaanxi	Will provide highway development loans. \$125 million. (IBRD: 60%-IDA: 40%). 6/88.	<i>Investments in China</i>	
International Development Association (World Bank affiliate)/Ministry of Forestry, Beijing and Da Xing An Ling Forestry Corp., Heilongjiang	Will provide credit to help finance 35-year timber salvaging operation. \$56.9 million. 6/88.	Wanderer Machine Tool Manufactures (FRG)/Nanjing Machine Tool Works, Jiangsu	Will produce the TC500 flexible manufacturing units. 5/88.
Dutch Ministry for Development Cooperation (Netherlands)/SITCO	Will finance design of new terminal for Shanghai's Hongqiao Airport. \$75 million (DFI35 million). (DMDC:55%-SITCO:45%). 5/88.	Schiess-Froriep Co. (FRG)/Wuhan Heavy Machine Tool Works, Hubei	Will manufacture the FB260 digitally controlled floor boring and milling machines. 5/88.
(France)	Signed financial protocol to aid participation of French companies in energy, chemicals, textiles, food agriculture, and electronic industrial projects. \$221 million. 3/88.	Yokogawa Denki (Japan)/CNTIC, Suzhou, Jiangsu	Signed agreement to establish industrial instrument manufacturing joint venture; will export to Japan. \$72,040 (¥9 million). 6/88.
Reconstruction Credit Institute (FRG)/MOFERT	Will provide loan to supply container technology to finance construction of ships ordered from Germany. \$125 million (DM200 million). 5/88.	Medical Equipment and Devices	
First Bank of Chicago (US) and Industrial Bank of Japan (Japan)/China National Publications Import Export Corp. and China Resources Holdings Co. Ltd.	Provided seven-year credit. \$4 million. 6/88.	<i>China's Imports</i>	
Dai-Ichi Kangyo Bank, Ltd. and Long-Term Credit Bank (Japan) and Westdeutsche Landesbank (FRG)/China International Iron and Steel Investment Corp. under the Ministry of Metallurgical Industry	Signed two loan agreements to finance expansion of seamless steel tube plant in Chengdu, Sichuan. \$80 million. 5/88.	Siemens (FRG)	Will supply computer tomographs to 25 hospitals. \$31.2 million (DM50 million). 4/88.
Consortium of 17 banks from Europe, Asia, and US/BOC	Signed 10-year three-part loan for construction of commercial nuclear power plant in Daya Bay, Shenzhen, to be jointly owned by China Light and Power Co. (HK) and Guangdong Nuclear Power Joint Venture Co. \$205 million. (HK25%-PRC75%). 6/88.	Wearmax Ltd. (HK)/Shenyang People's Hospital	Sold Berthold Hermle (FRG) centrifuge. 2/88.
(Spain)/MOFERT	Advanced soft loan for detergent plant construction. \$54 million (SDR6 billion). 5/88.	Oxygen & Acetylene Co. Ltd. (HK)/Tianjin Municipal First Central Hospital	Sold one Sonolith 2000 lithotripter from Technomed International (France); negotiating the sale of Sonolith 3000 lithotripters. \$1.31 million each. 2/88.
Leasing and Insurance		<i>Investments in China</i>	
<i>Investments in China</i>		Sanwa Chemical Research Industrial Co. (Japan)/No. 1 Maluxiang Industrial Co., Shanghai	Opened the Shanghai Sanhe Medical Instrument factory to produce air cushions. 5/88.
Tokai Bank (Japan) and Banque Indosuez and LocaSuez Asia Ltd. (France)/MOFERT	Established Industrial and Commercial International Leasing Co. Ltd. to lease and sell foreign industrial, mining, transportation, telecommunications equipment, and land. 5/88.	Kulzer GmbH of Wehrheim, subs. of Heraeus/Beijing Amsterdam Biomaterials Industry	German company has acquired stake in Beijing company and will cooperate in the area of dental technology. 3/88.
Machine Tools and Machinery		King's Light Development Co., Ltd. (HK)/Heilongjiang Provincial Medical General Corp., Beijing Municipal Nutrition Resources Institute, and Fui Suo Industrial Group, Zhuhai SEZ	Will set up Huagang Group Corp. to research, produce, import, and export medical products. Registered capital: \$268,665 (¥1 million). (HK35%-PRC65%). 4/88.
<i>China's Imports</i>		<i>Other</i>	
DMC(Italy)/CNTIC, Qingdao, Shandong	Signed licensing agreement for woodworking factory machinery. 3/88.	(Italy)/Guangdong Provincial People's Hospital, Guangzhou	Will donate \$3 million to Guangzhou Cancer Prevention Research Center and \$2.5 for construction of Medical Imaging Center. 2/88.
MacDon Industries Ltd. (Canada)	Signed contract to supply spare parts for swathers. \$87,567 (C\$108,156). 6/88.	Metals, Minerals, and Processing Equipment	
Weiler Co. (FRG)/Jinan No. 1 Machine Tool Works, Shandong	Signed agreement to produce Primus digital controlled lathes. 5/88.	<i>China's Imports</i>	
		Voesst Alpine Industrieanlagenbau (Austria)	Will supply second hand rolling mill. \$5 million. 4/88.
		<i>Investment in China</i>	
		Cabot Corp. (US)/Shanghai Coking Plant	Set up carbon black joint venture. \$29 million. 5/88.
		New Technology Development Co. (HK)/Zhangjiagang Harbor Iron and Steel Works and Suzhou Economic and Technological Development Co., Jiangsu	Signed iron and steel joint venture contract. \$30 million. 5/88.

Intalimpianti (Italy)/Anshan Iron and Steel Complex (FRG)/CNIEC and Beijing Iron and Steel Designing Institute

Signed agreement to establish an integrated plant to produce 500,000 tpy by 1991; will use Italian government loans and Italian equipment. 5/88.

China's Investments Abroad

Ferrostaal Eisenbau Essem

Opened Latex GmbH and China Nonferrous Metals Import Export Corp. joint ventures for business in Dusseldorf and Essen. 6/88.

CITIC and L.H. Chang(HK)

Bought Delaware (US) steel mill to form Citisteel Corp. \$13.5 million. (HK:%30-PRC:%70). 6/88.

Other

NA (France)/State Science and Technology Commission

Will assist in mining and utilization of inferior grades of coal. 6/88.

Military Equipment

China's Imports

Ishikawajima-Harima Heavy Industries, Mitsubishi Electric, and Toyo Menka (Japan)/CNTIC, CNIEC, and Xinan Aluminum Processing Factory, Sichuan

Will provide technical assistance to upgrade aluminum smelter plant. \$12 million (¥1.5 billion). 6/88.

Weaver Arms Corp. (US)/NORINCO

Signed agreement to produce the Nighthawk semiautomatic carbine assault weapons. 5/88.

Mining Equipment

China's Imports

Orenstein and Koppel (FRG)

Negotiating sale of submarine knife wheel technology. 5/88.

Investments in China

Orenstein and Koppel (FRG)

Negotiating contract to coproduce hydraulic excavators of six to ten cubic meter capacity. 5/88.

Other

Bucyrus-Erie Co. (US)

Established cooperative agreement for the manufacture of electric mining shovels. 4/88.

Packaging Materials and Equipment

Investments in China

Battenfeld Gloenco (UK)/Shandong

Signed contract to invest in film packaging factory. 2/88.

Other

NA (Switzerland)/Weifang Cellophane Factory, Shandong

Supplied technology and equipment to newly opened factory in exchange for 50 percent of production. 5/88.

Petroleum, Natural Gas, and Related Equipment

China's Imports

Linde Co. (FRG)

Signed contract to supply petroleum equipment. \$22.9 million (DM38.33 million). 6/88.

Aquanetics Inc. (US)

Sold 10 oil reclamation units. \$250,000. 5/88.

Lummus Crest Inc., sub. of Combustion Engineering (US)/A.C.T. Operators Group (AGIP, Chevron, Texaco) and Nanhai East Oil Co., subs. of China Offshore Oil Corp.

Will provide engineering and procurement services for a floating production/storage offshore loading unit and drilling/production platform in the South China Sea. 5/88.

Pharmaceuticals

Investments in China

Ilyang Pharmaceutical Industrial Co. Ltd. (S.Korea)/Hainan Island

Negotiating health drink manufacturing joint venture. 5/88.

Ports

Other

Virginia Port Authority (US)/Port of Tianjin

Will provide US computer and port technological services in exchange for information on joint venture or cooperative projects, port development tenders, and trade inquiry services within China. 5/88.

MATATEC (UK)/China State Shipbuilding Corp.

Agreed to develop a global sales network for the Chinese. 4/88.

Power Plants and Power Equipment

China's Imports

Mitsubishi Heavy Industries and Mitsubishi Corp. (Japan)/HIPDC, Chongqing, Sichuan

Will supply stack gas-desulfurization facility for power plant installation. 6/88.

Babcock Energy Ltd. subs. of FKI-Babcock (UK)/Yueyang, Hunan

Won contract to design and supply boilers and associated equipment for coal-fired power station. \$33.3 million (£60 million). 5/88.

Dravo Wellman Co. (US)/HIPDC

Awarded contract to design and supply coal handling system for the Shanghai Shidongkou Power Plant. 4/88.

Ansaldo (Italy)/Xinhua Electricity Generating Plant

Signed coal conversion contract; includes modification of four units, equipment procurement, assembly management, and worker training. \$37 million. (IL46 billion) 3/88.

John Brown Engineering, sub. of Trafalgar House (UK)/HIPDC, Chongqing (Sichuan)

Awarded contract to design and supply equipment for a 100 MW gas turbine power station. \$25 million. 3/88.

IVO International, sub. of Imatran Voima Power Company (Finland)/Mudanjiang (Heilongjiang)

Will supply district heating system to town of 650,000 inhabitants. \$749,625 (FM3 million). 4/88.

Investments in China

Okano Valve Manufacturing Co. (Japan)/Dalian High-Pressure Valve Plant (Liaoning)

Production of valves for thermal and nuclear power plants and petrochemical projects at Dalian Okano Valve Plant using Japanese manufacturing equipment and measuring tools. 6/88.

Macao International Investment Co. Ltd. (HK-based Chinese venture)/Guangxi

Signed contracts to build power plants in Beihai (200 MW), Liuzhou (200 MW), and Xing'an (two 25 MW generators). \$100 million. 6/88.

Consortium of Deutsche Babcock, Mannesmann, Strabag, Innotech, and Brown Boveri (FRG)/Ministry of Nuclear Industry

Signed accord for joint construction of 100MW high-temperature nuclear reactor. \$328 million. 3/88.

Printing, Publishing, Public Relations, Broadcasting, and Media

China's Imports

NA (Sweden)/Jilin Paper Making Factory

Supplied offset newsprint production line with 200 tpd capacity. 6/88.

Patrick Media Group (US)/China United Advertising Corp.

Negotiating to upgrade and expand outdoor advertising. 5/88.

Investments in China

Zong Yuan Co. (US)/China Water Resource and Electric Power Publishing House

Established Beijing OA Co. publishing house using offset printing and electronic typesetting. (US:60%-PRC:40%). 5/88.

ChinAmerica (US)/China Radio Service Corp.

Signed agreement to coproduce weekly "American Music Hour" on State-run national radio and will sell bilingual five-minute advertisements for \$5,000/minute. 5/88.

Other

(Italy)/CCTV Will provide 36 TV programs and films in exchange for prime time advertising. 5/88.

Property Management and Development

Investments in China

Sara (Sweden), Puolimatka subs. of Hankkiya, (Finland), and two businessmen (HK)/All China Federation of Returned Overseas Chinese Will establish the Hua Qiao Mansion hotel in Beijing. \$50 million (FM200 million). (SWE:13%-FIN:11.5%-HK:25.5%-PRC:50%). 3/88.

Euromarket (Finland) and Polar Design (HK), subs. of Euromarket/Weitzzhou (sic) Commercial Development Co. Established a joint venture hotel to be leased to Euromarket for 18-year period for fixed rent. Euromarket investment: \$7.5 million (FM30 million). (FIN: 60% PRC: 40%). 3/88.

Hysan Development Co., Royden Properties, and Shui On (HK)/Hongqiao District, Shanghai Hysan will construct two 30-story residential buildings with financial backing of two other HK companies. \$30 million. (HYS:12.5%-RP:25%-SO:12.5%-PRC:50%). 5/88.

K. Yung Enterprises Ltd. (HK)/Sports Tour Co., Xinjiang Begun construction of Urumqi South Mountain International Skiing Course on the Tianshan mountain range. \$3 million. 5/88.

MGM (US)/Tianjin Plans to spend \$10 million for land-use rights of 4 sq km to build factories for US businesses. 5/88.

Other

Puolimatka, sub. of Hankkiya (Finland)/Hua Qiao Mansion Will supervise construction of Hua Qiao Mansion and handle foreign building materials procurement. 3/88.

Rudolph-Libbe Inc. (US)/Ministry of Aeronautics Will design and consult in the construction of 61-acre industrial park near Shanghai. 5/88.

Scientific Instruments

Other

NA (HK)/Xiamen Optical Instruments Factory Signed three-year contract to take over and improve operations of microscope production. 6/88.

Ships and Shipping

China's Imports

Fels China, subs. of Far East Levingston Shipbuilding (Singapore)/China Hong Kong Terminal Project Won turnkey contract to design, build, and deliver berthing pontoons. \$192 million. 3/88.

Sabroe Marine, subs. of J. Lauritzen (Denmark) Will supply refrigeration equipment for two reefers and four vessels. \$6.7 million (DKR43 million). 5/88.

Investments in China

Finsam International Inc. (Norway)/COSCO Will supply reefer containers and relevant equipment. \$4.9 million. (NOR:30%-PRC:70%). 6/88.

Other

Reconstruction Credit Institute (FRG)/MOFERT Will provide loan to supply container technology to finance construction of ships ordered from Germany. \$125 million (DM200 million). 5/88.

Telecommunications

China's Imports

Case Communications (US)/Ministry of Foreign Affairs and Ministry of Railways Will supply communications equipment. \$5 million. 3/88.

Case Communications (US)/BOC Will upgrade Beeline communications system. 3/88.

Hasler Co. (Switzerland)/MPT Sold 12 program-controlled telex systems and data switching exchanges to be installed in Xi'an, Qingdao, Fuzhou, Hangzhou, and Nanchang. \$5 million (SF7 million). 5/88.

Philips Ltd. (HK)/CEIEC, China Zhenhua Electronics Corp., and Hunan Chang De Factory Signed contract for technology transfer of switching system. 5/88.

Investments in China

(Brazil) Negotiating the joint research and manufacturing of satellites. 5/88.

Italtel (Italy)/Hebei Signed 3-year agreement to manufacture digital switching systems at two Beijing plants; includes establishment of a joint R&D facility to adapt Italian equipment to Chinese standards. \$24.3 million. 4/88.

Siemens AG (FRG) Negotiating three joint ventures to produce digital telephone switching systems, establish microelectronic production facilities, and create a technology center. 4/88.

China's Imports

Hino Motors Ltd. (Japan)/Beijing Will supply bus engines and chassis to bus company for local assembly. 6/88.

Hino Motors Ltd. (Japan)/Changchun (Jilin) Negotiating with automobile manufacturing enterprise to supply engines for export model trucks and completed trucks. 6/88.

Honda Motor Co. (Japan)/United Company of Motorcycle Industry, Guangdong Will provide motorcycle production technology and sales expertise. 6/88.

Mertz Inc. (US) Will supply 31 vibrator trucks financed by US Export-Import Bank. \$9.2 million. 5/88.

Transportation and Transportation Equipment

Mercedes Benz (FRG)/NORINCO, No. 1 and No. 2 Machinery Plant, Baotou, Nei Monggol Signed a 10-year contract to supply product information and manufacturing technology to produce 14 types of heavy trucks. \$180 million. 5/88.

Netherlands Airport Consultants, Ballast Nedam, Airport Management Services, and Philips Export (Netherlands)/SITCO Awarded contract to design a new terminal of Hongqiao Airport, Shanghai. \$19.4 million (DFI 35 million). (NET:55%-PRC:45%). 3/88.

Rovetta (Italy)/Nanjing Motor Corp. Will supply presses. \$8 million. 3/88.

Cross International AG, subs. of Cross & Trecker Corp. (US)/Beijing Jeep Corp. (US-PRC joint venture) Will supply turning machine. \$500,000. 3/88.

Sicma Aero Seat (France)/CAAC Will supply seats for one Boeing 767. 3/88.

Boeing Co. (US)/CAAC Signed contract to supply three new 747-400s. 2/88.

CGE sub. of Alsthom (France)/International Tender Co. Will supply 100 substation transformers produced in Le Havre and Xi'an to Chinese railway authorities to be installed along the Zenghou-Wuhan line. \$56 million. 3/88.

Pexim Enterprises Inc. (Canada) and Matheus Lumber Co. (US)/Qinhuangdao, Hebei Sold railroad ties. 6/88.

Investments in China

SWF Auto-electric GmbH, sub. of ITT Automotive Inc. (FRG)/Shanghai No. 2 Automotive Works, city of Shoucou, Shouchau Auto Electric, and Changsha Auto Electric Signed agreement to establish an automotive parts manufacturing joint venture. Initial investment: \$1-\$2 million. (FRG:25%-50%-PRC:50%-75%). 3/88.

Kia Motors (S. Korea)/Shandong Negotiating agreement to construct wholly owned auto assembly plant to manufacture trucks, vans, and cars. 5/88.

General Motors Corp. (US)/CNAIC Signed multi-phase umbrella agreement to assist in the development of automotive industry, including the sale of equipment and licenses of related technology for GM 2.0 litre engine to Bei Nei Engine Factory, Beijing. 2/88.

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