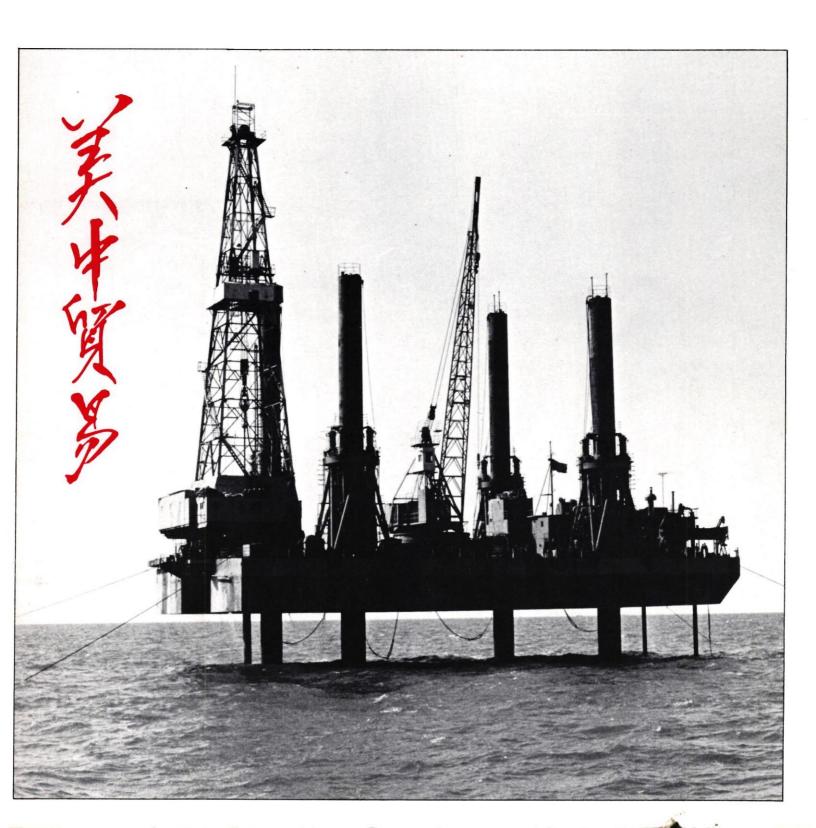
The China Business Review





THE CHINA TRADER

An audiocassette program of down-to-earth interviews by Julian M. Sobin, presented by the National Council for US-China Trade, as a service to the China trade community. Learn the business first hand, from those that have done China business first hand.

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Front Cover: China's Pohai I, visited by the National Council's petroleum equipment delegation, September 1978. See page 18.

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The National Council for United States-China Trade is grateful to His Excellency Huang Chen, formerly Chief of the Liaison Office of The People's Republic of China in Washington, for the calligraphy on the front cover of the China Business Review.

China Trade Events

KWANGCHOW, CHINA, October 15-November 15, 1978

China's 44th biannual Export Commodities Fair was held. Council staff member Richard Glover manned the National Council office at the Tung Fang Hotel during the first half of the fair, while Suzanne Reynolds, Director of Importer Services, represented the National Council during the second half of the fair. Both Washington staff members were assisted by John Kamm, the National Council's Hong Kong representative.

NEW YORK CITY, October 16, 1978

The Chase World Executive Forum on Developing US-China Commerce, sponsored by the Chase World Information Corporation, addressed major policy issues involved in technology transfer to the PRC. Speakers included David Rockefeller, Chairman of Chase Manhattan Bank and National Council Vice Chairman, Michel Oksenberg of the National Security Council, Winston Lord, President of the Council on Foreign Relations, and Jerome Alan Cohen, Associate Dean of the Harvard Law School. National Council Vice President Stanley Young was among participants of a panel discussion on the political framework of high technology sales to China.

ROCHESTER, NEW YORK, October 18, 1978

National Council Vice President Stanley Young spoke on pragmatic and policy considerations in doing business with China at a seminar organized by the Rochester Area Chamber of Commerce and the Upstate New York District Export Council. The five-hour program was attended by representatives of major companies in the upstate New York area.

CAMBRIDGE, MASSACHUSETTS, October 20, 1978

Stephanie R. Green, Deputy Editor of the China Business Review, presented remarks on current issues of US-China trade to a seminar given by the East Asian Law Center of the Harvard Law School.

KANSAS CITY, MISSOURI, October 20-21, 1978

A conference entitled "China and America: Mutual Perceptions" was sponsored by the China Council of the Asia Society jointly with the Kansas City International Relations Council and the Missouri China Council.

WASHINGTON, DC, October 25, 1978

The inaugural meeting of the UNA-USA National Policy Panel to Study US-China Relations was held, the first of a series of meetings in which panel members will discuss the policy alternatives of normalizing diplomatic relations with China and formulate recommendations for US policy. UNA-USA, the United Nations Association of the United States, previously contributed to the debate on Chinese representation in the UN through reports prepared by its Policy Studies Program in 1966 and 1976. An early objective of the panel will be the preparation and dissemination of a National Policy Report on normalization. A book of background papers by outside experts has also been commissioned under the direction of panel raporteur John Bryan Starr, of the Political Science Department of Yale University.

The panel is a broadly representative group, chosen from a variety of backgrounds and political persuasions. National Council Director William Hewitt has been appointed Chairman of the Panel. National Council President Christopher Phillips, and National Council Directors Walter Surrey, of Surrey, Karasik, and Morse, and David Rockefeller, Chase Manhattan Bank, are among participants.

COLUMBUS, OHIO, November 3, 1978

National Council President Christopher H. Phillips delivered remarks on US-China trade in the era after Mao to a seminar sponsored jointly by the Ohio Regional China Council of the Asia Society and the International Trade Committee of the Ohio Chamber of Commerce.

MINNEAPOLIS, MINNESOTA, January 10, 1979

National Council Vice President Stanley Young will address a symposium on "Doing Business in the PRC," cosponsored by the Department of Commerce and the Minneapolis World Trade Council. Contact Bill Clarke (202) 377-4681.

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CHINA WIRE

An Executive Briefing on Major Trends in the China Business

CABINET PAVES WAY TO PEKING FOR CARTER

Secretary of Energy James Schlesinger and Secretary of Agriculture, Robert Bergland are scheduled to go to China in October and November. Visits by Secretary of Commerce Juanita Kreps and other Cabinet officials are a definite possibility for the first half of 1979.

SPACE COOPERATION MAY BE OFFERED CHINESE BY US

Following the visit of President Carter's Technology Advisor, Dr. Frank Press, to Peking, the White House hopes to discuss cooperation in space projects with the Chinese and arrange for a number of joint programs (Page 27).

DESPITE CLAIMS/ASSETS, FIRST US FLAGSHIP AIR CARRIER LANDS IN CHINA ON HISTORIC FLIGHT

October 5, 1978 saw the first US-registered commercial air carrier land in China, direct from Chicago, a historic first in US-China economic relations. The DC 8, carrying hogs from the midwest, landed in Canton. (Page 27).

CHINA'S PLAN WILL COST \$75 BILLION A YEAR THROUGH 1985

China has announced that its seven-year plan, 1978-1985 is to cost RMB ¥ 1,000 billion equivalent to \$600 billion, or \$75 billion a year. In 1978, with total PRC foreign trade projected at \$19.5-22 billion, and yearly technology imports 1978-1985 of about \$5 billion, the PRC's posture remains prudent. (Page 36).

CHINA HAS \$40 BILLION WORTH OF BUSINESS IN HAND OR UNDER DISCUSSION WITH FOREIGN FIRMS

That's right, \$40 billion worth of purchases, mainly of plant and technology, has already been committed, or is being discussed by the PRC with foreign companies. (See page 65). Recipients of the business: Japanese, German, French, British, Dutch and Italian companies.

AMERICAN OIL, MINING, HOTEL COMPANIES MAY GET PART OF THE ACTION BUT WITHOUT US EXIMBANK HELP

While the US administration considers that US Exim

financing is "not practical" as a way of expanding US exports to China, US banks are telling those American companies negotiating major plant sales to Peking to obtain fixed rate financing—and supplies—overseas if they want to be competitive. While US banks can syndicate fixed-rate financing up to five years in relatively minor amounts, US Exim Bank facilities would leverage such financing five times, extend for longer periods, and put the US in a more competitive position vis-a-vis China. The immediate prospect for US firms wanting to make major sales to the PRC is that they must export jobs to get the business. (Page 65).

US BANKERS TROOP TO PEKING AS GERMANY AND FRANCE OFFER CHINA MULTI-BILLION DOLLAR FINANCE FACILITIES

Notwithstanding claim/assets, there is apparently nothing in US law to prevent major US banks making normal commercial loans to Peking, in dollars, individually or as a consortium: With this in mind major US banks are visiting the Bank of China one after another this Fall. Their visits come after announcements that the Germans and French have offered Peking \$14 billion and \$12 billion financing facilities. But how much financing US banks are prepared to put up for the PRC is almost certainly restricted by lack of US Exim guarantees.

BOB BERGLAND, SPURRED BY CCC FINANCING THAT MAKES US AGRICULTURAL GOODS MORE COMPETITIVE FOR CHINA, MAY DISCUSS LONG TERM GRAIN ARRANGEMENTS WITH THE CHINESE

The House, down on Exim Bank for China, was up for Ag credits for Peking despite Rep. Charles Vanik's contention that the move was an end-run round Section 402 of the Trade Act. Clem Zablocki, Chairman of the House International Relations Committee, voted for the bill. The new CCC availability for China means that Bob Bergland, Secretary of Agriculture, could discuss long-term, competitively priced grain sales to the PRC, on his trip to Peking. (Page 36).

NEW IN CHINA

A 47-story office block for Japanese companies is planned in Peking . . . China has 15 new domestic corporations . . . Foreign technical seminars are being held all over China, in Dairen, Tsingtao, Wuhan, Nanking . . . Subways planned in China in Tientsin, Canton, Shanghai . . . Thirty to fifty 1,000 room hotels in Chinese cities will accommodate a million visitors to the PRC by 1981, if construction and transportation facilities are on schedule . . . To transport those travelers Peking is now shopping for rail passenger cars in Japan and France.



Iron ore from Nan Fen and Szechiaying will be processed at blast furnaces such as this one at Anshan. (Hsinhua).

First U. S. Engineering Service Contract:

CALIFORNIA'S KAISER ENGINEERS

Sometimes good things—like mining service contracts—come to those who sit and wait. That's what happened with Kaiser Engineers, of Oakland, California, which recently received a contract for developing two iron ore mines in China—the first engineering service contract ever received by an American company from the Chinese.

Although Kaiser had sent a representative to the PRC several years ago to give a paper on coal mining maintenance, the firm had not been particularly aggressive in seeking to develop the China market.

It thus came as something of a surprise when the Chinese Liaison Office in Washington contacted the firm, a unit of Raymond International, in March 1978, regarding the possibility of developing some iron ore mines in China.

The company wrote back to the Liaison Office, explaining that it is purely a service firm. After the Chinese responded that, yes, they were aware of Kaiser's role, the firm sent technical material to Peking through its agent. That was June 1.

After reviewing the papers from Kaiser, the Chinese, acting through TECHIMPORT, gave the company enough information to compose a suitable team to send to China in July, ostensibly for three weeks of technical discussions. The mission consisted of R.W. Fisher, vice president for Australasia (with reponsibility for operations and marketing in the Pacific Basin); Les Trew, manager of the ferrous minerals department and a specialist in iron ore beneficiation; George Aitken, an engineer with expertise in open-pit mining operations; and James Stephenson, a project engineer in direct reduction and pelletizing.

As many other companies do in China, the Kaiser people found their technical discussions with Chinese technical personnel "quite exhaustive." Referring to the extensive questioning of the technical people by the Chinese, both TECHIMPORT representatives and end-users, Fisher said, "That was to determine whether we knew what we were doing." Among those

checking out Kaiser was Minister of Metallurgical Industries Tang Ke, who invited them to dinner one evening. In addition to the purely technical discussions, the Kaiser representatives submitted proposals for developing six iron ore mines.

One Month Later—A Contract

On August 25, a month after the visit to Peking, the Kaiser people obtained what they wanted: a contract from TECHIMPORT's 2nd Department to develop two of the mines—Nan Fen, a relatively old unit of the Penhsi Iron and Steel Co. near the Korean border that has been operating for at least 10 years, and Szechiaying, an iron ore deposit 180 miles east of Peking in Hopeh province.

The contract calls for Kaiser to try to increase production of iron ore and develop primary crushing and ore transportation methods at the Nan Fen mine, which now has a rated annual capacity of 7.5 million tons. After upgrading of the mine is completed in 1981, its annual capacity could be at least several times that amount. Production at Szechiaying is scheduled to begin by 1981. Kaiser will assist in designing beneficiation and pelletizing facilities at the mine.

The one-year contract calls for a lump sum payment to Kaiser and for arbitration in Sweden in the event of a dispute.

The contract calls for Kaiser to do only the general engineering work at both mines, though the company stands an excellent chance of receiving the contract for the detailed engineering development work as well. Kaiser Engineers president James F. McCloud hints at that possibility, saying he sees the contract "as the beginning of a long and close working relationship" with China.

The next step in that relationship took place during the first week of October, when Kaiser sent an 11-man team to China for varying lengths of time, ranging up to eight weeks. In January or February Kaiser will send a second group of six or seven people to China for a six-week stay, with the balance of the work to be done in Oakland. Over the next several months, the Chinese will send three groups of approximately six engineers for training in California. Other countries in which Kaiser is currently developing iron ore mines include Guinea, Algeria, and Brazil, as well as the US.

Kaiser, acquired by Raymond International from Kaiser Industries in June 1977 for \$30.5 million, also has a shot at landing contracts for developing the other four mines for which the Chinese had asked them to submit proposals, though it may be that Peking will want to spread the work out among a variety of companies. At least four other US mining firms, including Dravo, US Steel, Bethlehem Steel, and Morrison-Knudsen, were in China over the the summer, as well as a number of European companies. The other mines to be developed include two in the vicinity of the Anshan steel complex.

The similarity between North American and Chinese iron ores is, Fisher believes, a major reason for the Chinese interest in getting US firms to bid on the projects. China's ores average about 30 percent in iron content. Fisher also feels that Kaiser's reputation had undoubtedly helped to stimulate Chinese interest in the firm.

The Kaiser representatives dealt primarily with TECHIMPORT's 2nd Department, which is responsible for importing mining and metallurgical technology and systems. They also met some people from the Chinese Society of Metals, which sent a 17-member delegation to the US from August 12 to September 20 under the auspices of the National Council.

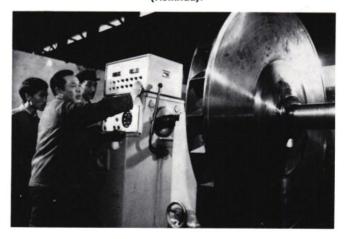
With that group getting a good, firsthand look at what US companies can do in their own backyard, contracts for the other four mines will probably be awarded shortly, particularly in view of the Chinese desire to double steel production to 60 million tons by 1985. To achieve that goal, the Chinese must double their iron ore output, now at about 112 million metric tons per year (1978) to 240 million plus tons by 1985. It usually takes about three years to map and develop an iron ore mine.

The Kaiser contract could also produce a bonanza for American mining equipment manufacturers. The company's usual practice is to solicit bids for the equipment on behalf of its client, though as of early September it was not yet clear whether that would be the case with the Chinese. American firms will, however, have to make sure their bids are competitive, as Kaiser's procurement practices are always done on a world basis.

But given the obvious Chinese interest in American mining technology, not just for iron ore but for extraction of coal and phosphate as well, it would be surprising if the Chinese did not buy their equipment from US companies.

The Kaiser deal could thus mark the beginning of a new era in relations with China, not only for Kaiser, but for the entire American mining equipment industry as well.

Chinese blower rotor for a large-size blast furnace. (8/78) (Hsinhua).





HOSTING A DELEGATION FROM THE PRC

Nicholas H. Ludlow

Tell your members to be more aggressive: we want to buy from them.

Chinese official to National Council Staff, Spring 1978.

Delegations from China's industry to the US are rarely able to spend all the time at a company's facilities that a firm would prefer. Missions to the US representing China's ministries, corporations, factories, and scientific organizations are as busy as the top executives of most US corporations. Their stay in the United States will necessarily be shorter than both sides would prefer.

The first impression a company makes on the Chinese is the most important. It is much harder to undo a bad impression than it is to make a good impression in the first place. At a time when the Chinese are visiting companies in all industrial nations, competition for what may be considerable amounts of business is tough.

The need, therefore, for your firm to maximize its time, contacts, and impact is important, especially when your company is among many that the Chinese will be visiting. It makes sense for your firm to prepare thoroughly.

The following article will provide any company hosting the Chinese with a set of guidelines by which the time and activities with the delegation may be maximized.

Nicholas Ludlow is the editor of the China Business Review.

PREPARING FOR THE VISIT

Appoint a Coordinator

One person at a company should be appointed coordinator. The Chinese, National Council, or other host organizations must know who is responsible for the delegation's activities during the company's segment of the trip. In some cases, a senior executive, such as a vice president, may be responsible for general arrangements, but the coordinator should be the main contact with National Council or host staff, and responsible for day-to-day arrangements.

The coordinator's responsibilities include:

- Preparatory survey work
- Dissemination of relevant information about the group, the group's purposes, the Chinese industry concerned, to company executives who will be meeting the delegation. Educating executives about the Chinese and their sensitivities
- Scheduling and coordinating all the group's arrangements, including travel, while in the hands of the firm
- Rehearsing all participants
- · Preparation of materials in Chinese
- Checking that presentations are relevant to the Chinese interests, comprehensible, and timed correctly (including translations)
- Coordination of meals, protocol, and seating at
- Forwarding company materials and itinerary (both in Chinese, if possible) to the Council's coordinator to present to the delegation prior to arrival at the firm—well ahead of time if possible

- Scheduling company photographers, and later seeing that photos or album are sent to Chinese
- · Providing local maps and general information
- Coordination of meals, protocol, and seating at meals, toasts, and presentations
- · Provision of gifts
- Sending information requested by the Chinese to group's address in PRC
- Advising Council's escort officer of all changes in the itinerary. Coordinator must work closely with escort officers to avoid embarrassing situations (A company, for instance, that ships in twenty extra people for a "quiet little dinner" creates a surprise that is not appreciated by the Chinese.)

Research the Delegation and the Industry It Represents

Information is available at the National Council and elsewhere on China's:

- Economy and industries
- · Ministries, including functions and officials
- Industrial societies
- Research institutions
- · Factories, etc.
- Market data, etc.

Such data should be helpful in tailoring the visit to Chinese needs.

Assess the Composition of the Delegation

Why is the delegation here? By looking at the composition of a Chinese group, the importance of the delegation and its expectations may be judged. Key things to spot:

- Have any members of the group been met by your company before, in China, the US, or abroad?
- Are there any ministerial-level people or other decision-makers in the group?
- What are the responsibilities of individual group members? The Council can help in assessing the composition. The titles supplied by the visitors may not be indicative of their real position. An individual described simply as an "advisor" to a Chinese industrial society may turn out to be a senior vice minister.

Assess the Context of the Delegation

Check out what is going on in the Chinese industry. Points to look for:

- How is that sector of China's economy developing?
 What is planned?
- What other delegations are abroad from China relating to this industry? What countries and companies have they visited?
- Has the delegation itself come from another country?
- What contacts has your firm had with the Chinese industry?
- · What kind of itinerary is proposed by the delega-

- tion? Recently, delegations have indicated their purpose by the character of installations they have picked out to visit.
- Putting the above together, what conclusions can be drawn? Why is the delegation visiting the US?
 - -study?
 - -plan?
 - -make decisions?
 - -negotiate?

Establish the Purpose of the Group

There are several categories of Chinese technical and trade-oriented delegations—

- (a) **General or Ceremonial.** Generally, China is pragmatic in the individuals it selects to send abroad. The senior people in this type of group have divergent interests and are not coming to buy or survey, except in a preliminary sense. Individual members, however, may have an important role in technological decisions in China. Such delegations have included those from the China Council for the Promotion of International Trade (CCPIT) and China's Ministry of Agriculture.
- (b) Preliminary Survey Delegations. At the beginning of an economic planning cycle, the Chinese may send a group from, say, an industrial design institute and a factory, to conduct a preliminary survey of the types of theoretical and applied technology available in the US. This kind of group hosted by such groups as the CSCPRC (e.g., Silicates Society Group), National Committee on US-China Relations (e.g., Municipal Administration Delegation), and IEEE, paves the way for more specific planning missions.
- (c) **Planning Groups.** These missions are responsible for following up company visits to China and for discussing details of major proposals made by US firms to the point of negotiation. The Mining and Metallurgy Survey Group, the Diesel Locomotive Technical Survey Delegation of China Railway Technical Equipment Corporation, and Communications Engineering Institute, are recent examples of this kind of group.
- (d) **Negotiating Groups.** National Machine Tool Builders Association-hosted groups from TECH-IMPORT have toured US machine-tool makers for ten weeks, then negotiated contracts at the Liaison Office of the PRC in Washington, DC; with import-related groups, negotiating en route is common.
- (e) **Training Delegations.** These groups normally visit US firms that have made sales to China to train on products or technology sold to the PRC.
- (f) **Engineer Survey Delegations.** While some training groups remain in training at a company, others have used the occasion to visit other companies with technology of interest. The host company has arranged the visits to other firms, sometimes over an extended period.

Check on Export Controls

Do they apply to the product or technology your company will be showing the Chinese? It is important you check with the Department of Commerce early if you have any questions.

US export-control regulations provide that the written authorization of the US Office of Export Administration (OEA) is required prior to the export or reexport to Communist countries of a wide range of unpublished technical data relating to the production or utilization of commodities. The Department of Commerce construes "export" to include the release in the US of data in any form—oral, visual, or written—to a foreign national for use abroad.

The regulations do permit, however, the unrestricted export to any destination of unclassified technical data which are generally available to the public in any form or which are scientific and educational in nature.

Questions concerning the interpretation and applicability of these regulations may be directed to John W. Shepard, Office of Export Administration, Department of Commerce, Washington, DC 20230. Phone: (202) 377-5094.

ROLE OF NATIONAL COUNCIL OR OTHER SPONSOR

The National Council has an important role in the development of Sino-US trade and individual companies are encouraged to see each visit as part of the expansion of overall Sino-US economic relations. The National Council, as general sponsor, is responsible for all organization, itineraries, coordination of individual company visits, and schedule at each company. It is the sponsor's job to see that all goes smoothly.

The sponsor may also be in a position to know what the Chinese want because it has the closest contact with them. It is in the company's own interest to coordinate as closely as possible with the Council or other sponsor's delegation officer.

The Role of Escort Officer

The Council's escort officer has overall responsibility for scheduling and handling the delegation. Look to your escort for help and guidance of any kind you may need. Such help may preclude embarrassing situations. Normally the escort officer will speak Chinese, know about Chinese customs, industry, and protocol, and be sensitive to the interests, needs, and specialties of the delegation. The escort, who is with the group 24 hours a day, also learns the mood of the mission. No meeting, even if between two people, should take place that the escort doesn't know about. All proprietary information and discussions are, of course, kept in the strictest confidence.

SCHEDULING

The National Council is first advised of a delegation's arrival by the Chinese Liaison Office in Wash-



Chinese visitors get firsthand look at equipment on US plant tour.

ington, DC, or by Peking one to two months before a delegation arrives. Names, titles, and affiliations of delegation members come three weeks to one month before arrival.

The lengths of visits vary. Some PRC groups have stayed for two months and visited only two companies. More commonly, delegations stay about six weeks, often arriving from Europe or Canada. Typical recent groups saw 35 companies in six weeks, and six firms in three weeks. Delegations can vary in number of members from three to twenty-five, and may often split into smaller subgroups.

Selection of Companies to be Visited

While the National Council has an important advisory role in the selection of companies to be visited or met, the Chinese themselves make the final choice. The Council does its best to arrange for meetings that it considers may be helpful in the short- or long-term to Chinese decision-makers. The Council also does its best to arrange for the optimum time for the group at each company to suit both Chinese and US sides.

Suit the Schedule to the Delegation

To maximize the time of the Chinese, arrange an itinerary that will:

- · Closely relate to any proposals under discussion
- Demonstrate company capabilities relating to the proposal
- Show relevant capabilities that may have future interest for the Chinese
- Permit time for open discussion of proposal and demonstrations seen by delegation
- Be flexible—be ready to arrange for splinter group visits or to change itinerary
- Allow for only one formal or semi-formal evening occasion
- Be prepared to have the schedule completely or greatly revised.

The schedule should be timed, rehearsed, and sent

to the Council coordinator at least two weeks before the delegation arrives.

On arrival, the Council discusses the specific interests of the group with its spokesman and will make this information available to all companies meeting the delegation. Some changes may have to be made at this point. The complete itinerary, and any revised version, is given to the delegation on arrival.

A Pattern to Follow

While the delegation is traveling, its daily schedule should allow for numerous breaks. The following pattern usually works well:

7:30- 8:30 Breakfast

8:45 Departure from hotel

9:00-12:00 Morning program with 20-minute break

12:00- 1:00 Lunch

[1:00- 2:00 Rest period (Optional but greatly appreciated by the Chinese)]

2:15- 5:00 Afternoon program with 20-minute break

6:30- 7:30 Cocktails

7:30- 9:00 Dinner followed by free evening or program ending not later than 9:00 P.M.

Keep the visit relaxed. An overloaded program with unnecessary walking or driving around can be exhausting and unproductive.

Lunch in the company cafeteria may be scheduled early so as not to conflict with lunch periods of workers in the plant. If possible, do not transport the group out of the way to a restaurant for lunch—it wastes too much time.

Try not to schedule lectures or seminars immediately following the midday break. Experience has shown that it is more productive to schedule walking tours or working sessions at that time, avoiding situations which encourage drowsiness. The Chinese should be back at their hotel by 5:30.

For formal evening dinners, cocktails at 7:00 and dinner at 7:30, ending at nine o'clock sharp is recommended. Please advise all company guests to be prompt.

Try to vary food at the end of the trip. Keep social occasions, such as a visit to a ball game, to a maximum of one-and-a-half hours.

Upon the group's arrival, a package of information should be given to members of the delegation or put in their hotel rooms the evening before the visit. A typical package might contain a map of the local area, local guidebook, information about the city, additional company literature, an extra agenda, and a list of participating company employees. One copy should have been sent to the Council ahead of time. Written information given to the Chinese should be minimized, as they will be meeting scores of firms and cannot be expected to carry a great deal of material.

During the group's visit, arrange to have on tap:

- -a doctor
- —a company security official. Hopefully, neither will be needed.

Transportation

The only satisfactory ground transportation is the bus. Delegations do not usually want to split up, which often happens if several cars are used. The bus is faster and more efficient. All people and luggage should be in the same bus or plane. This avoids confusion and many complications.

THE SCHEDULE

A Model Itinerary

A good itinerary should include a time schedule, names and positions of executives giving presentations, specifics of presentations, and opportunities for discussion.

A good tour is illustrated by this recent WABCO program.

Tuesday, September 19

- 7:30 A.M. Breakfast in hotel
- 8:45 A.M. Pickup by bus at hotel
- 9:00 A.M. Arrive Westinghouse Air Brake Division (WABCO), Wilmerding, Pennsylvania.

 Meet in office of Mr. C.H. Mertz, Vice President of Manufacturing—Introduction J.C. Janke, Vice President, Marketing C.D. Wright, Vice President, Engineering D.M. Hart, Manager, International Mktg.
- 9:30 A.M. **Plant Tour:** Materials Engineering Lab, New Exhibit Room, Foundry
- 10:10 а.м. Break—refreshments (Mr. Mertz' office)
- 10:30 A.M. Continue Plant Tour: East Product Shop, West Product Shop, Rubber Manufacturing Plant
- 11:30 A.M. Meet bus at west end of factory and proceed to dining room for lunch
- 12:30 P.M. Return to hotel for rest period
- 2:00 P.M. Pickup at hotel
- 2:15 P.M. Arrive in Wilmerding

Engineering facilities tour, Freight Brake Test Rack, Compressor Test Lab, Dynamometer Lab

- 3:40 P.M. Break—Engineering Conference Room
- 4:00 P.M. Questions and Discussion
- 5:00 P.M. Return by bus to hotel

Introducing Your Company

Introducing your company, including its products, organization, and review of itinerary, should be accomplished as quickly as possible. One hour should be adequate time. The introduction should dovetail with information, preferably in Chinese, provided to the Chinese via the National Council on their arrival in the US or a few days prior to their arrival at the plant.

While it is difficult to predict how particular groups

will respond, various product lines, other than the main item(s) of interest, may turn out to be relevant to Chinese needs. In one case, a delegation was so interested in product lines besides those it had come to see, as shown on slides at the introduction, that it asked for quotes on several of the products.

Company organization itself is of interest to many Chinese since business management is of increasing importance to China's plans to modernize.

THE PLANT TOUR

The plant tour is an important highlight of the visit by the Chinese. It should be prepared as thoroughly as possible.

How to Conduct a Plant Tour

- Brief the Chinese before they enter the plant—do not plunge them into the plant unprepared. It is also hard to hear in the plant
- Prior to the visit, give the Chinese (one copy each)
 a four- or five-page notebook, preferably in Chinese,
 with:
 - -chart of the plant layout
 - —names and positions of people they will meet and at what point
 - —a two- or three-line summary of reasons group is visiting each point in the factory
 - —statistical data, such as number of square meters, employees, shifts worked, types of operations and equipment the group will see
- Give delegation single-sheet copies of the plant layout, showing principal buildings and points en route—in Chinese
- Divide the mission into subgroups; if possible, two to five Chinese in each group. The Chinese will select who will be in each group. Make sure there are enough well-qualified guides and an interpreter for each. Be sure each group sees the same things as the others, including equipment in operation, product, or processes
- Be sensitive to Chinese interests and flexible in accommodating interests of individual or small

Welcoming the Chinese at WABCO.



- groups of Chinese. If the Chinese seem uninterested, move on
- Explain beforehand if a part of the factory is not in operation, and why
- Be as open as possible with the visitors—show them everything they want to see while in the plant, within the limits of company policy on proprietary technology
- Make it clear that questions can be asked anywhere en route. Be prepared for very technical questions.

Several companies have prepared—in Chinese—signs or plaques at each stopping point, describing what the delegation is seeing.

VISITING LABORATORIES

Since the visitors are at a company's laboratories to see specific tests and experiments, these activities should be closely coordinated and timed, especially if several subgroups are visiting a number of different laboratories. Among points to bear in mind:

- Be as technical as possible—do not be superficial.
 All Chinese visiting the US are technology-oriented groups and very capable
- Rehearse all presentations and experiments. Devise experiments relevant to Chinese needs
- Do dry runs to make sure equipment operates correctly
- Have materials in Chinese, if possible
- If company cannot provide interpreter, go slowly
 and be sensitive to the delegation's translator—
 give him or her the script in advance if possible.
 However, do not expect the interpreter to work from
 the script—they will use it to get a feel for what
 needs to be covered. Pause after each line or concept—remember the translator has to remember
 each word being said. Be sure Chinese comprehend
 what is being expressed
- If, during demonstrations or tests, there are printouts, flow charts, scatter diagrams, etc., be sure the Chinese obtain copies; otherwise arrange for printouts to be sent to Peking later
- If a delegation splits, be sure that similar demonstrations are carried out for each subgroup and that qualified staff are with each subgroup
- Be sensitive to Chinese interests—if a member of the delegation seems to be interested in a modification of the testing, arrange it.

GIVING PRESENTATIONS

- Be careful with numbers. Know what the numbers mean and be prepared to support them. The Chinese language requires conversion of large numbers to its mode of expression, which requires time. For example, 56,000 translates as five units of ten thousand, six units of one thousand. Be ready for a lag in translation time
- Convert all numbers to the metric system in advance or you will waste time converting them.

- Be technical: Do not give sales promotion pitches
- Make sure presentations are in language Chinese can understand. If there is too much information in English, too much company or American jargon, or if the presentation is too fast, the Chinese technical translator cannot convey the information adequately
- If possible, have the presentation in Chinese. This takes half the time, is much appreciated by the Chinese, and minimizes the chance that the information will be misinterpreted
- Keep presentations short, 20 to 30 minutes, with time for questions immediately afterwards, followed by question-and-answer-period later
- The amount of information the Chinese can absorb on slides varies between English and Chinese language use. Slides of computer printouts in English are not useful since few Chinese delegates are able to understand the detail
- If possible, translate slides into Chinese, or spend time to insure the full meaning is understood. Provide copies, on paper, of slides shown, so that they can be studied in more detail later. Best, give or send the slides to the group
- Avoid movies in English. These are almost impossible to translate.

TRANSLATION

Language is perhaps the biggest barrier in the expansion of Sino-US trade relations. Poor interpretation, partial translation, and lack of translation during Chinese visits to companies represent a major communications problem in the development of business with the PRC.

Consider the following:

- —The president of a major US firm that has very substantial projects in the China market addresses the head of a visiting Chinese delegation. The leader of the group has vice-ministerial rank and is in the US to make decisions about the purchase of American technology. The president's 20-minute presentation is translated by the delegation's interpreter. Only 25 percent of the meaning of the speech is conveyed to the visitors.
- —The executive vice president of a Fortune 500 firm welcomes a visiting PRC group with whom the company hopes to have a longstanding relationship. Due to improper briefing, the executive welcomes the group "from the Republic of China." The Chinese translator is embarrassed but revises the greeting for his colleagues. The slip-up, however, will be discussed later at the delegation's meeting, which mulls over a company's presentation.
- —A vice president for international marketing tells the Chinese "the principal feature of our proposal, one that we take pride in presenting, is . . ." The translation becomes "one feature of our proposal is . . ."

- —At a dinner given to welcome a PRC delegation at the end of a long day, 10 company executives stand to give ad hoc, albeit sincere, presentations of various kinds, each ending with a toast. Each person's speech is translated by the PRC's own interpreter, who is embarrassed and eventually exhausted.
- —At a technical briefing, the Chinese translator doesn't hear the English correctly at an important part of an explanation and says, "one second" instead of "one minute." Luckily the error was caught.

Use Your Own Translator—But Only If He or She Is Qualified

Some of the instances above are due to a company relying entirely on the Chinese translators accompanying the delegations, which not only increases the burden for this person but, in some cases, is discourteous.

Whenever possible, as a basic courtesy, translation should be arranged by the company. Having your own interpreter means you can be sure that meanings are clearly conveyed.

Firms should try to use a person who is familiar with the subject, well versed in terminology and the technical matters under discussion, can speak clearly and easily to a group, and is politically aware.

The Council's escort officer can provide some interpretation, a check on translation, and translation for social occasions. A specialist, however, is recommended for all technical discussions.

The following are points to consider in hiring an interpreter:

- Be sure the person knows and understands modern Mandarin, PRC terminology, and simplified modern Chinese. The kind of Chinese used in China today is quite different from any used overseas
- Beware of hiring a scholarly type or professor who may use classical-style Chinese, an overseas Chinese who speaks Cantonese or other dialect, or someone with strong political feelings
- An interpreter from Taiwan is acceptable provided he or she is technically proficient and politically sensitive
- Have the person telephone or meet the Council's director of translation services to check on the person's Chinese and technical knowledge.

Thoroughly rehearse all occasions with the interpreter; be sure he or she knows what is to be said beforehand.

At functions at which corporate executives are present, be sure the interpreter remains with key executives.

The more you translate, the better. Among the items companies have had translated into modern, simplified Chinese are:

- · Name badges
- · Welcoming signs
- Business cards
- Product catalogues

- Introductory brochures
- Itineraries
- · Place cards
- Slide presentations
- Movies
- Plant tour guides
- Single-sheet plant layouts
- · Signs in plant describing products and processes
- · Business proposals
- · Organization charts
- Contracts
- Menus

The Chinese Interpreter

Normally, one or two Chinese interpreters accompany each delegation from the PRC, and often one has the major responsibility for all technical translation as well as interpreting for the leader of the group.

Try to make the Chinese interpreter's job as easy as possible. Keep sentences short and concepts clearly explained.

Often he will be assisted by other members of the group who may understand English to some degree.

Help the interpreter to understand what is being said. Don't use jargon or long, involved sentences. Make sure ideas are understood.

Be alert for misunderstandings.

Give special consideration to the interpreter toward the end of the trip. He or she is usually tired.

At social functions, if you must use the Chinese translator, don't use him for more than one or two formal presentations.

Inform him in advance that you wish to use him for a presentation of x minutes at a given point in the proceedings, and provide him, either before or during the event, with a copy of intended remarks. Give him as much time as possible to study it in advance. Let him read over your shoulder if you can't give him his own script.

Any questions about translation will be gladly answered by the Council's Translation Service at (202) 659-1456 in Washington, DC. The Council's Director of Translation Services is happy to discuss and review any aspect of translations, and to recommend other services.

TALKING TURKEY

To maximize the time available, it is usually best to defer substantial discussions to the end of each session or each day, rather than interrupting presentations to do so. Allow plenty of time if technical proposals are being talked over prior to actual negotiations. Schedule discussion periods in the evening or late afternoon.

Note the questions at these meetings—they may have an important bearing on later discussions or negotiations, and help you understand Chinese needs. Question the Chinese to improve your understanding of their needs. Never ignore any member of the delegation. You may be surprised.

When concrete discussions are already underway, or expected to begin, arrange for someone competent to ride next to whoever appears to be the relevant person on the Chinese side.

Be ready to discuss the complete nuts and bolts, including technical and financial details of plant, product, or proposal of interest to the Chinese.

Be frank. The Chinese expect you to tell them how and why your product is better than your competitor's. If you don't, they will think you don't care very much about selling to them.

These concrete discussions may be the most important part of the trip.

Be ready to arrange a side-visit for further personto-person discussions. Such visits have taken place late at night in company offices, at the home of a company executive, or during flight on a company plane.

The Chinese think carefully before they speak, and assume others do as well. They will take any figures you quote or suggestions you make very literally. Take careful note of their questions and interests.

SENSITIVITIES TO BE AWARE OF

- Avoid careless speech in the hearing of Chinese who have a good knowledge of English
- Don't try to speak Chinese if you don't know how.
 Chinese is a tonal language of extreme difficulty and half-hearted, comical attempts by executives to say a few words do not help the company image at all
- Use the right terms:
 - —The "People's Republic of China" (PRC) or simply "China"
 - —Advise all company employees the delegation will meet not to use "Mainland China," "Communist China," or "Red China"
 - —Taiwan is considered a province of China by all Chinese. Avoid referring to it, and particularly avoid the names "Republic of China" or "Nationalist China"
- Read the Shanghai Communiqué of February 1972, which set the spirit of present Sino-US political and trade relations
- Remember that Chinese family names come first.
 Mr. Wang Ching-teh, for example, should be addressed as Mr. Wang. Chinese women retain their maiden names when they marry and may be addressed as "Miss" or "Madame"
- Countries not recognized by the PRC include Israel, South Korea, and South Africa. It is best to avoid discussions of your company's activities in these countries and in the Soviet Union.
- Use care when including maps of Asia in company briefings
- Check the affiliation of any Chinese restaurant before planning to host a delegation for a Chinese meal

Concerning manners and morals, the Chinese attitude differs from that in the US. Sexually suggestive films, music, magazines, shows, or jokes will not be appreciated and should be avoided.

SOCIAL OCCASIONS, PROTOCOL, GIFTS

For each social occasion, you should give out a guest list in advance with names, titles, and protocol order.

The group will also want to know who is the official host/hostess (name and position): will there be toasts? who will present the toasts? will there be an interpreter on the American side?

Give the delegation at least one hour to refresh itself and prepare for the dinner.

Developing a Seating Arrangement

Making sure your guests are properly seated is essential to the success of the occasion. The seating should be arranged so that the leader of the delegation and his interpreter are seated together next to the company host, and all non-English speaking members of the delegation are next to or across from interpreters.

Seating plans for a three-table gathering of 30 people are shown below. Round tables are customary for 'Chinese meals, but the order of seating can be easily adapted to rectangular tables.

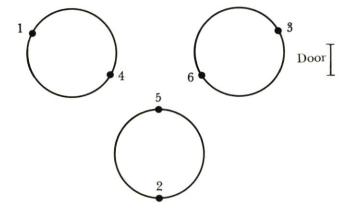
Name cards should be prepared in both English and Chinese if possible.

The name list distributed by the delegation is the protocol order of the Chinese group.

While every seating arrangement differs, the guiding principles for arranging tables at an evening function are the same:

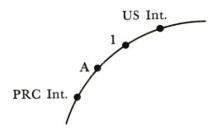
Stage 1

- 1. Each table has a main host and second host, the latter sitting opposite the main host. The tables form a triangle.
- The ranking host sits facing the door with the second and third ranking hosts (2 and 3) chairing the tables on the outside looking toward the center of the triangle.
- 3. Company executives ranking 4, 5, and 6 sit opposite the "first hosts" in the inside of the gathering, thus:



Stage 2

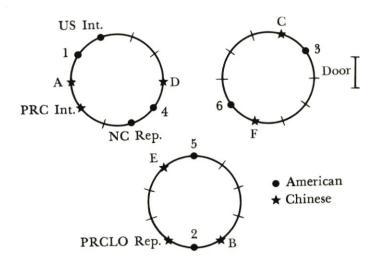
- 4. The Chinese leader (A) sits on the right of the main host, with other Chinese (B, C, D, E, F) sitting to the right of their counterpart company executives 1 through 6.
- 5. The principal interpreters should flank or be within earshot of the host and chief guest, the chief American interpreter to the left of the host, the Chinese interpreter to the right of the delegation leader, as follows:



6. In addition, the National Council representatives (or escort officer of the host organization) and the member of the Commercial Staff of the Liaison Office of the PRC accompanying the delegation should be seated at the first and second tables.

Stage 3

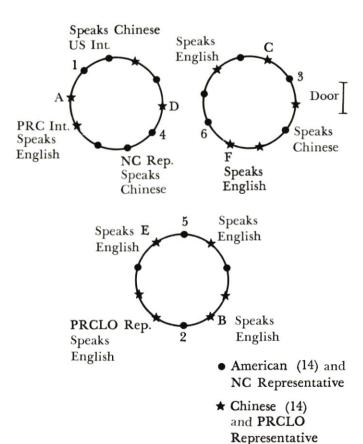
The arrangement is now as follows:



Stage 4

- 7. Having seated the main parties, the remaining people should be arranged so that:
 - (a) interpreters are as evenly spread as possible;
 - (b) company executives and their counterpart Chinese specialists are seated next to or as close to each other as possible, such as the head geologists or computer engineers together; and
 - (c) there is approximately the same number of Chinese at each table.

The final arrangement looks thus:



In variations, where a company does not have an interpreter, the principal Chinese translator can be across from the main hosts. Sometimes an important company executive can sit next to the company president but never to the right of company hosts.

Alternate head seating arrangements may include a ranking Chinese official from the Liaison Office in Washington, DC, member of the State Department or other government agency, etc., who should be seated at the head table.

If there is a senior advisor listed as #2 below delegation head, that senior advisor should be seated at table #1 along with delegation head.

Stage 5

The above example is provided as guidance only. Within the bounds of protocol a company should feel free to seat guests as it pleases: no two table arrangements are the same. Following the suggestions above, however, will insure a reasonably cordial evening, permitting good communications and rapport.

In this last stage, double check that bilingual guests are strategically placed, that names are correct, and that the right Chinese are sitting next to the right host (many Chinese names look alike). Change individual placements to fine-tune the seating.

The Toast

It is customary for the company host to propose a toast, to which the delegation leader will respond. At a major meal, toasts and presentations are short—

about three minutes, normally after the soup or before the main dish. If possible, Americans should have their own interpreter translate their toast, rather than impose on the delegation's interpreter. Let the Chinese know in advance that there will be a presentation.

Be sure wine glasses are filled. Soon afterwards, the leader of the Chinese delegation will give a short presentation. Hosts at the other tables may later offer their own toasts.

Short, simple toasts of a general nature, including a warm expression of hospitality and hopes for continued friendship, are appropriate. Examples are: "To the progressive development of trade between our two countries" and "To the friendship of the Chinese and American peoples."

Meals should be scheduled to end at a given time, such as 9:00 P.M. The Chinese usually depart very shortly after the last course is completed. This is no reflection on you; the Chinese customarily do not engage in prolonged after-dinner conversation.

Gifts

It is not essential to give gifts, but if they are given they should be functional and modest such as:

ashtrays
ballpoint pens
briefcases
calendars
cigarette lighters
digital watches (inexpensive)
pen and pencil sets
pencil flashlights
penknives
pocket calculators (slim)
tote bags

For the delegation as a whole, books of Americana

New Orleans Port to China: taking back a memory.





A toast to friendship—and business.

are appropriate. They should be presented to the head of the group. Check with the escort officer to see if a particular gift is suitable.

In addition, an album of photographs of the group at the company's facilities will be much appreciated, if it can be prepared in time.

ACCOMMODATION

If your company is securing, providing, or coordinating local accommodations for the group, ask the hotel for:

- · reasonable rates
- adjoining single or double rooms on the same floor
- · a television in each room
- a conveniently located restaurant suited for rapid breakfast service
- room lists for every member of the delegation and escort officer.

Thoughtful companies arrange for hot water (in carafes or electric kettles) and fresh fruit to be in every delegation member's room.

Sometimes companies arrange for a private room for a breakfast buffet.

FOOD

For breakfast, visiting delegations prefer fresh fruit, cereal and/or eggs. They generally prefer an American breakfast to a Continental one.

For between-meal snacks, the Chinese occasionally enjoy peanuts in the shell, sunflower seeds, watermelon seeds, preserved plums and dates, and potato chips. Fresh fruit is also welcomed.

Tea, coffee (including decaffeinated), beer, wine, and soft drinks are appropriate with meals, and tea, coffee, and soft drinks are preferred for mid-morning or midafternoon breaks. Favorite beverages of Chinese groups include orange juice, soft drinks, lemonade, cola, beer, and wine. Chinese visitors rarely partake of hard liquor, such as bourbon or scotch.

Note that the Chinese are accustomed to "green tea," not the darker variety common in this country, which they consider on the strong side. Green tea is taken without milk, lemon, or sugar. If served, both coffee and English tea should be accompanied by milk and sugar.

Delegation members are, however, usually curious to try new, especially typical American foods such as hamburgers and hot dogs.

Generally, the Chinese do not enjoy dairy products such as cheese and sour cream, or over-cooked vegetables. They prefer meat that is served in small pieces, well-cooked, and combined with other foods. A large, rare steak may not be appreciated.

Hot buffets have proven to be successful, as they allow the visitors to choose from a variety of dishes. Going through a cafeteria line can also be an interesting experience, particularly if there are Americans along to explain the dishes.

Occasionally, US firms have arranged meals at local Chinese restaurants, particularly when the group is staying for several days. These meals are much appreciated by delegations, but the affiliation of the restaurant should be checked.

PRESS

Not until September 1978 has a Chinese delegation talked openly to the US press, although many groups have had contacts with individual members of the news services. Generally, Chinese groups have preferred all press contacts to be handled by the escort officer and company executives.

Press relations, nevertheless, should be played by ear. The Chinese should be asked beforehand about meeting with any particular person from the media and forewarned about television or photographic coverage.

FOLLOW UP

The follow-up is an important as the visit itself.

 Note the Chinese interests—follow up with letters to the individuals concerned

- Airfreight multiple copies of all materials promised by the company
- Check that any test printouts are prepared and forwarded to China
- · Mount and send photographs of the group
- · Review the delegation's visit:
 - —Was it successful?
 - —What was accomplished?
 - -What was learned about China's needs?
 - —What is the next step?
 - —How much closer is your firm to concrete discussions with the Chinese?

GOOD LUCK AND GAN BEI

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EXAMPLES OF SCHEDULES

While each schedule differs, the following recent program at one company (names omitted), is a good example.

Mining Company Program

8:30 A.M.—Pick up group at Inn after breakfast 9:00 A.M.—J.W. Smith, (Title)

Review 3-day agenda in detail (agenda in Chinese in their hands). Invite any changes—willing to split group for coverage

Introduction of people participating during the day

9:15 A.M.—R.M. Jones, (Title)

The Mining Company

Ownership

Reserves and rights

Its origin and formation

Geology

Technology (process, mine develop-

ment)

Feasibility

Operation

10:00 A.M.—The Mine Plan—P.W. White

10:15 A.M.—Break (juice, soda, coffee, tea, snacks)

10:30 A.M.—Tour briefing—S.M. Green

10:45 A.M.—Tour mine pit—three groups

11:45 A.M.—R.M. Johnson/W.K. Jackson

The Process Flowsheet (visual aids in Chinese)

Lab work done to develop its unique

Advantages—power, manpower, capital

cost

W.K. Jackson

Design, Equipment Selection, Construction

Responsibilities—Corporation/ Engineers 2 phases

Corporate organization

Unique features—mill size, computer, water supply, tailings

water suppry, tairing

Results to Date

Pellet quality (handouts in Chinese)

1978 production to date

Operating costs—#, BTUs, loss to tails, etc.

12:30-1:30 р.м.-Lunch

1:30-4:00 P.M.—Tour (three groups)

(15 mins.)—Mine service bldg.

(15 mins.)—Crusher

(30 mins.)-Mills & concentrator

(Refreshments on bus)

(50 mins.)—Balling & pelletizing w/load-

out

(40 mins.)—Tailings

4:00-5:00 P.M .- J.S. Smith-Q&A

5:45-7:15 P.M.—Plane to X—Dinner on plane

7:15-8:15 P.M.—Bus to Holiday Inn

8:45 P.M.—Evening free

Too Elaborate

An itinerary should also not be so crowded or elaborate as to be difficult to maintain as in the following:

8:30- 8:40—Board limousines (at hotel)

8:40- 9:10-Travel to airport

9:10- 9:20-Disembark limousines

9:20- 9:30-Board jets

9:30-10:00-Fly to factory site

10:00-10:10-Disembark jets (Gate 1)

10:10-10:40-Official welcome

10:40-10:50-Board vans

10:50-11:10-Travel to plant

11:10-11:20-Disembark vans

11:20-11:50-Tour plant



National Council petroleum equipment delegation at Talien, September 1978.

Council Activities

It has been an extraordinarily hectic time in the China business and in the Council's activities as a whole. The sheer volume of the PRC's economic initiatives and interactions is at an unprecedented level. Christopher H. Phillips was told in Peking that the Council could expect its activities to continue increasing in 1979.

PHILLIPS MEETS CHINESE TRADE LEADERS

National Council President Christopher H. Phillips traveled to Peking in mid-September for a week of discussions with Chinese trade leaders, including Wang Yao-ting, Chairman of the China Council for the Promotion of International Trade, Sun Chingwen, Minister of Chemical Industries, and Chang Wen-Ping, Managing Director of China Petroleum Corporation.

During his visit to Peking, Mr. Phillips met with representatives of fifteen Chinese trade and economic organizations and had significantly detailed talks with them. During his stay in Peking, Mr. Phillips hosted a luncheon with 15 representatives of National Council member firms. As a result of this session, he made two recommendations to the CCPIT designed to assist foreign businessmen in Peking. The first suggestion is that the CCPIT establish a shuttle bus service between the principal hotels and Erh Li Kou, the district where most of the foreign trade corporations have their offices. The businessmen told Mr. Phillips that the severe taxi shortage in Peking has frequently caused them to be late for meetings with the Chinese.

The second recommendation passed along by Mr. Phillips to the CCPIT is that CAAC establish an office in the same part of Peking where foreign airlines have their offices. Regardless of which foreign airline they are taking, all travelers leaving China must receive a stamp from CAAC. Businessmen have found it very time-consuming to make an additional trip cross-town merely to get the CAAC stamp.

PETROLEUM DELEGATION VISITS POHAI GULF

The first US multi-company petroleum equipment mission to visit offshore drilling operations in the People's Republic of China left Peking on September 29, after tours of both onshore and offshore oil fields.

The delegation, sponsored by the National Council's petroleum committee, conducted technical seminars in Talien on US onshore and offshore technology and equipment for over 100 engineers from China's oil fields, petroleum and shipbuilding corporations, and design institutes.

The 24-member group spent a night on the Pohai I, China's first self-constructed jack-up drilling rig built in 1972, and saw other drilling and production platforms in the Pohai Gulf, an area China has pin-pointed for major oil development in the near future. The group also spent three days at Taching, China's largest oil field, seeing a wide range of drilling and production operations.

The delegation toured Talien shipyards, where it observed construction of a new Chinese jack-up rig of advanced design as well as a single-point mooring storage facility. It also visited the newly constructed oil pier at the new port of Talien, capable of loading and unloading up to 100,000 tons dwt.

The group identified a number of operational areas in which US technology could make a significant contribution to the rapid development of the Chinese petroleum industry, including semi-submersible drilling operations, downhole well completion, seismic computer technology, drilling mud, treating, and handling practices, and bit hydraulics.

The group felt that the Chinese were more open than ever before to a genuine two-way exchange of information. The high level of technical information imparted by the American engineers during the seminars was fully reciprocated by the Chinese willingness to show the delegation members the complete scope of their drilling and production activities.

The following companies participated in the seminars: American Coldset Corporation; Baker Trading Company; Zapata Offshore Company; Texas International/Skytop Brewster; Friede & Goldman; Delaval Turbine, Inc.; Gulf Publishing Company; IBM Corporation; McEvoy Oilfield Equipment Co. (Division of Rockwell International); Martin-Decker Company (Division of Gardner-Denver Company); National Supply Company (Division of Armco Steel Corporation); Otis Engineering Corporation; United Technologies International-Sikorsky Aircraft; and Stewart & Stevenson Services, Incorporated. The delegation was led by Robert W. Scott of Gulf Publishing Company and escorted by Stephanie Green of the National Council.

The group was hosted by the China Council for the Promotion of International Trade. The reception committee included Yu Jen-chuan, Deputy Director, Technical Exchange Department; Chiang Kuanhsiang, staff member for US exchanges, Technical Exchange Department; and Cheng Hsi-fa, interpreter.

CHINESE PETROLEUM RESEARCH TEAM VISITS US

The National Council delegation's visit was reciprocated by a 13-member petroleum research group that arrived in the US on October 14 for a five-week stay. The delegation's interests include theoretical petroleum geology, geochemical laboratory equipment, the application of telemetry and remote sensing tech-

niques in oil exploration, seismic stratigraphy, core analysis preservation, the application of physical and mathematical modeling in oil field development, and new logging and drill-stem testing techniques. The team is led by Shen Li-sheng, director of the Scientific Research Institute of Petroleum Exploration and Development. The delegation is visiting the US Geological Survey, Phillips Petroleum, the University of Oklahoma, Core Laboratories, Mobil, IBM, the University of Texas, Union Oil, Stanford University and Exxon. Escorts for the mission include Jeffrey Schultz, Norman Getsinger, and Stephanie Green.

PACKAGING DELEGATION

Prior to that, the National Council sent a five-man packaging equipment delegation to the PRC for three weeks in July and August. The delegation was led by Robert W. Coughlin, chairman of the National Council's Packaging Committee and vice president of Pneumatic Scale Corporation. Other delegation members were Robert C. James, chairman of Hayssen Manufacturing Company (Bemis Packaging Machinery Group); John M. Johnston, vice president and general manager of Doboy Packaging Machinery (Domain Industries Inc.); Richard L. Joice, president and treasurer, Universal Machinery Corporation; and Robert E. O'Donnell, manager of international operations, Package Machinery Company.

The delegation, hosted by the China National Export Commodities Packaging Corporation (CHINA-PACK), presented 35 hours of technical seminars and toured eight Chinese production units: a pharmaceuticals factory in Peking; confectionery, canned foods, cosmetics, and plastic film production plants in Shanghai; a brewery and a winery in Tsingtao; and a metal-decorating facility in Wusih.

Delegation members reported that the Chinese are extremely interested in studying Western packaging equipment and technology. They said the Chinese may buy US equipment in certain areas of flexible packaging, bottling, and can-making.

Members of the delegation will have an opportunity to renew acquaintances with their Chinese hosts in late October when the Chinese will attend the Packaging Machinery Manufacturers Institute (PMMI) exhibition in Chicago.

CONSTRUCTION DELEGATION

A National Council construction equipment delegation will arrive in China for an 18-day visit beginning December 1. The 29-member mission will be led by Stewart Roberts of Clark Equipment Company.

Other companies taking part in the delegation are JI Case (Tenneco), Caterpillar Tractor, Deere & Co., FMC, Harnischfeger, International Harvester, Rockwell, Terex (GM), and WABCO. Nicholas H. Ludlow will be the National Council escort.

METALS MISSION

Chinese delegations visiting the US under National Council auspices in recent months included a 17-member team from the Society of Metals led by Hsu Chih, vice minister of the Ministry of Metallurgy. Other ranking members of the delegation included the heads of two of China's major iron mining companies and the director of the Planning and Design Institute for the Metals Industry.

The Chinese made it clear from the beginning that they had been assigned responsibility for developing China's iron mining capacity to support the planned doubling of steel production by 1985. The Chinese also indicated that the US is likely to play a major role in the development of China's iron mining capacity. One reason for this is the similarity in the low grade ores found in both countries.

Sandwiched between visits to Canada and Mexico, the mission's 36-day tour of the US, beginning August 12, included iron mines in Minnesota, Michigan, and Arizona; steel plants in Alabama, Indiana, Utah, and Colorado; mining equipment supply facilities in Michigan, Wisconsin, Illinois, and Colorado; and discussions with mining engineering companies in Minnesota, Arizona, California, and Pennsylvania.

Although no precise dollar value can yet be assigned to possible US participation in Chinese iron mining development, the delegation sought US proposals for development of six mines. The total capital development cost for each mine could amount to more than \$1 billion, including \$250 million for equipment. And this does not include the cost of installing additional steel-making capacity. The Chinese also expressed interest in possible US assistance in establishing a number of regional steel mills with capacities of up to 1 million tons per year.

RAILWAY TEAM

Another Chinese mission hosted by the National Council was a 14-member internal combustion engineer survey group from late September to early October. The delegation, escorted by Jack Dewinter, spent one week each with General Electric, General Motors, and WABCO.

The National Council also hosted six Chinese selling missions during the late summer and early fall. (See Importer's Notes for details.)

COUNCIL MEMBERSHIP JUMPS

Parallel to the phenomenal increase in US-China trade and trade-related delegations this year has been a substantial rise in National Council membership. Fifty companies joined the Council between April 21 and September 21. As a result, membership on September 21 stood at 418, compared to 374 on April 21.

CHINA'S NEW REPRESENTATIVE TO THE US

A seasoned diplomat, China's new Liaison Office Chief, Ambassador Chai Tse-min, took up his post in early August. He has had several ambassadorial posts—Hungary (1961–64), Guinea (1964–67), Egypt (1970–74) and Thailand (1975–78)—all important overseas missions. He met only occasionally with Americans before coming to the US.

Chai was born in 1915 in Shansi Province. During the Sino-Japanese War (1937–45), he was deputy commander of the Chien-pang Military District in southern Hopeh Province and head of the Tai-yueh Military District Political Bureau. He was concurrently political commissar of the Tai-yueh Second Military Subdistrict in northern Shansi.

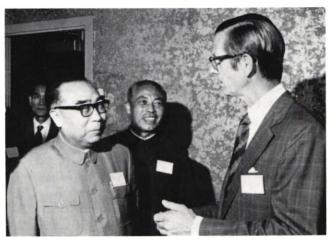
After the formation of the People's Republic in 1949, Chai spent 12 years in municipal posts in Peking. He held both Communist party and government positions, worked with the Association for Cultural Relations with Foreign Countries, and headed the local sports committee. In 1955 he was promoted to secretary-general of the Peking Municipal People's Council, and in 1959 he was noted as director of the Communications Department of the Peking Municipal Party Committee.

Chai entered the diplomatic service in 1961 as Ambassador to Hungary, where he served for three years. He left Budapest in 1964 to take up duties as Ambassador to Guinea. Chai remained there until 1967. In 1970 Chai succeeded current Foreign Minister Huang Hua as Ambassador to Egypt, one of China's most important positions in Africa. While assigned to Cairo, he negotiated the establishment of diplomatic relations with Nigeria.

Upon his return to Peking, Chai had a brief stint (1974–75) as president of the Chinese People's Association for Friendship with Foreign Countries, an organization that attempts to promote international people-to-people programs and binational friendship associations.

Li Yu-feng, Chai's wife, has accompanied her husband on all his diplomatic assignments. 完

Ambassador Chai Tse-min meets Council President Christopher H. Phillips; Deputy Liaison Office Chief Han Hsu looks on.





Railway Corporation officials on US plant tour.

A GUIDE TO CHINA'S NEW INDUSTRIAL CORPORATIONS

As China moves toward the "four modernizations," it has begun to establish a new organizational infrastructure to assist in the task. Within the past two years, at least 15 new end-user corporations have been identified. Some of these corporations are responsible for planning, production, and coordination in their respective fields.

In foreign trade, the corporations serve as consultants, advising their respective ministries and foreign trade corporations as to imports of foreign technology.

The responsibilities of each corporation vary, and some seem to exist only as a convenient tag for what is, in fact, the department of a ministry. But clearly the scope and functions of some of them indicate considerable autonomy, and new corporations will probably continue to develop and flourish. All have a key role in the selection and planning of new technology.

Leading personnel only are listed.

Summary List

China Agricultural Machinery Corporation

China Cereals and Oils Corporation

China Chemical Construction Corporation

China Chemical Fiber Corporation

China Coal Industrial Technique and Equipment Corporation

China Cotton, Spinning, and Weaving Corporation

China Feedstuffs Corporation

China Geological Exploration Corporation

China Oil & Gas Exploration & Development Corporation

China Petroleum Corporation

China Radio Equipment Corporation

China Railway Technical and Equipment Corporation

China Seed Company/Corporation

China Shipbuilding Corporation

China Waste Materials Reclamation Corporation

CHINA AGRICULTURAL MACHINERY CORPORATION:

Aegis: First Ministry of Machine Building:

Minister

Chou Tzu-chien

Vice Minister

Hsiang Nan (responsible for agricultural machinery)

Corporation Details

Established in 1976 or 1977 by the central authorities after consultations between the government and members of the agricultural machinery profession. As of mid-1978 had not fully consolidated its position, especially in regard to factories plagued by political factionalism during the "gang of four" period.

Head office in Peking. Directly subordinate to the Agricultural Machinery Bureau of the First Ministry of Machine Building. Members note that "branches have been set up in a number of cities all over China, under the dual leadership of the central and local authorities." Network aslo includes agricultural machinery companies in every province and county.

Functions: corporation acts as a "national trust," a supernational agricultural machinery procuring and distributing company. Large tractor, agricultural implement, and diesel engine factories under the direct control of the First Ministry of Machine Building buy components and sell finished products through the corporation. Other units under ministerial control also place orders for agricultural machinery with the corporation. If stocks and inventories are bare, the corporation will turn to MACHIMPEX to fill the order outside China. Also possible for state farms under the Ministry of Agriculture to place orders with the corporation for certain pieces of foreign equipment.

Corporation is an "economic accounting unit," op-

erating on the basis of profit and loss. The principal form of revenue is commissions charged on commercial transactions; the company works on a markup of approximately 20 percent.

Known Personnel

Manager

Ha Si (Huhehot branch, Ag Mach and Livestock Husbandry Corporation)

Engineers

Cheng Kwei

Ding Shao-chang (associated with First Ministry of Machine Building)

Fei Kai-ming (Shichiachuang City branch)

Liu Tuen-yi (Peking branch)

Tu Ken-chuang (Huhehot branch, Ag Mach and Livestock Husbandry Corporation)

Wang Wen-chuen (Kaifeng City branch)

CHINA CEREALS AND OILS CORPORATION:

Aegis: Ministry of Agriculture and Forestry

Minister

Yang Li-kung

Vice Ministers

Hao Chung-shih

Hsiao Peng (President, China Fishery Society)

Liang Chang-wu

Lo Yu-chuan

Corporation Details

Met members of National Council agricultural machinery delegation, May 1978. Functions unknown, activities unknown.

Known Personnel

Chief Engineer

Wu Wan-chin (Peking branch)

Engineers

Chao Kwang-ming (Wusih branch)

Li Wei-min (Peking branch)

Yang Yen-ye (Peking branch)

Address: c/o Ministry of Agriculture and Forestry, Peking

CHINA CHEMICAL CONSTRUCTION CORPORATION:

Aegis: Ministry of Chemical Industry:

Minister

Sun Ching-wen

Vice Ministers

Fang Po-hua

Yang Yi-pang

Corporation Details

It is responsible for engineering and construction of all kinds of chemical facilities in the PRC from phosphates extraction to petrochemical plant. First identified as part of delegation to US visiting major petrochemical firms in March-April 1978. Makes purchases through TECHIMPORT. As of May 1978, petrochemicals was debated jurisdiction in China.

The corporation has imported hydrocracking knowhow from Lummus, was responsible for the purchase of eight synthetic ammonia plants from Kellogg in 1974, and is currently engaged in negotiations with US companies in the areas of petrochemicals, fertilizers, and chemicals.

Current buying priorities include technology and equipment for production of agricultural chemicals. Insecticides, herbicides, and fungicides are of special interest, but "anything which serves the development of agriculture," according to one high-ranking PRC official, will be considered.

Known Personnel

President

Ching Chung-ta

Vice-President

Hsu Hsiao

Deputy Director

Teng Yu-ping

Department Chief

Tao Tsun-hua

Deputy Chief Engineer

Ou Tsan-chi

Engineers

Shen Wei

Tao Chih-hua

Address: Ministry of Chemical Industry

CHINA NATIONAL CHEMICAL FIBERS CORPORATION:

Aegis: Ministry of Textiles:

Minister

Chien Chih-kuang

Vice Ministers

Hao Chien-hsiu

Hsieh Hung-sheng

Wang Jui-ping

Corporation Details

Established January 1978, the Fibers Corporation, administered by the Ministry of Textiles, has direct operational responsibility for large integrated plants. According to officials of the corporation, other corporations under the textiles ministry such as the Cotton, Spinning, and Weaving Corporation (also a new corporation), do not have a direct operational responsibility, only policy planning supervision. The corporation does its buying through TECHIMPORT and works in conjunction with the State Planning Commission. It sent a delegation to US in May 1978 sponsored by National Council for US-China Trade.

It is CNCFC's role to evaluate petrochemical fiber technology studied in Europe, the US, and Japan, then make recommendations to TECHIMPORT as to which technologies China should purchase.

Known Personnel

General Manager

Wang Jui-ting (Vice Minister of Ministry of Textiles)

Advisor

Ku Hsiu-lien, (Vice Minister of State Planning Commission; Member, Chinese Communist Party Central Committee)

Deputy General Managers

Chiang Tsien Yu Li-ting

Address: c/o Ministry of Textiles, Peking

CHINA COAL INDUSTRIAL TECHNIQUE AND EQUIPMENT CORPORATION:

Aegis: Ministry of Coal Industry:

Minister

Hsiao Han

Vice Ministers

Chang Chao

Chia Hui-sheng

Ho Ping-chang (President, China Coal Society)

Hsu Tsai-lien Jen Chih-heng

Tsou Tung

Corporation Details

Formed prior to July 1978. Delegations to US and UK companies in July 1978. Probably responsible for the planning of major coal processing plants in China.

Known Personnel

Deputy Director

Wang Chi-chih

Deputy Manager

Chao Mao-lin (delegation leader)

Supervisor, Specific Contracts

Chen Pao-ho

TECHIMPORT contact

Chief Engineers

Tai Chun

Wu Wei-han

Address: Ministry of Coal Industry, Peking

CHINA NATIONAL FEEDSTUFFS CORPORATION:

Aegis: Ministry of Commerce:

Minister

Wang Lei

Corporation Details

Established in early 1978, the corporation is respon-

sible for the research and development, manufacture, and distributing of animal feedstuffs and nutrition products throughout the PRC. As a domestic organization, it is not responsible for importing or exporting animal feedstuffs, which is carried out via CEROILFOODS. Members of the corporation visited the United States at invitation of CSCPRC from July 13 to Aug. 10, 1978.

Known Personnel

General Manager

Yuan Chin-hsiu

Advisor

Chao Fa-sheng (Vice Minister of Commerce, Advisor, China Agriculture Association)

Deputy General Managers

Ho Tsien-ping

Lin Hsing-ju

Managers

Chang Cheng-yi (Peking branch)

Chang Yu-wen (Shanghai branch)

Liu Ti-chang (Tientsin branch)

Address: China National Feedstuffs Corporation,

Peking

CHINA NATIONAL GEOLOGICAL EXPLORATION CORPORATION:

Aegis: State Bureau of Geology:

Director

Sun Ta-kuang

Deputy Director

Li Hsuan

Corporation Details

Described as "an administrative department with overall responsibility for survey activities of the various brigades of the country." The corporation carries out exploration for minerals and petroleum, has two offshore survey vessels and several aerial survey planes. Under the jurisdiction of State Bureau of Geology, a ministry-level organization, with branches in every province. It has staff of 400–500 in Peking.

Known Personnel

Secretary

Yang Chun-min

Chief Engineer

Chang Song-hou

Chief Geophysics Engineer

Yang Kuang-ching

Deputy Chief Engineer

Li Fu-cheng (Mining Machinery)

CHINA NATIONAL OIL AND NATURAL GAS EXPLORATION & DEVELOPMENT CORPORATION:

Aegis: China Petroleum Corporation:

Corporation Details

Responsible for China's oil and gas exploration and development. Has hosted delegations from Pennzoil, Exxon, Union Oil, Phillips Petroleum, Mobil, Japan National Oil Corporation, etc. Closely associated with China Petroleum Corporation's Offshore Subsidiary Corporation. (See China Petroleum Corporation)

Known Personnel

Managing Director

Lin Yun-ken

Deputy Managing Directors

Chao Sheng-cheng (also General Secretary of China Petroleum Corporation)

Chia Chin-hui

Chiang Chi-kai

Liu Nan

Ma Chi-hsiang (also Managing Director, China Petroleum Corporation Offshore Company)

Yang Yung-kuei

Yu Te-hua

Deputy Managers

Chang Chih-sheng

Chin Feng

Jen Hung-liang (also Department Manager of Maritime Division, Mgr. of Liaison Dept.)

Ma Wen-lin

Mao Hsi-sen (also Department Manager, Maritime Division)

Sun Shu-chun (also Department Manager, Maritime Division)

Wei Pu-jen

Chief Geologist

Chai Kuang-ming

Chief Engineers

Chen Yuan-tun

Liu Ta-hung

Cheng Chen-shing (Geophysics)

Ma Ang-tse (Geophysics)

Liaison Department

Manager

Jen Hung-liang

Geophysical Department

Deputy Chief

Lu Pang-kan

Equipment Department

Vice Manager

Ho Yuan-ching

Maritime Division

Manager

Tang Chang-hsu

Chief Executive
Chung Yi-ming

Offshore Department

Manager

Tang Chang-hsu

Senior Engineers

Chou Han-chung

Lu Yung

Engineer

Chang Tung-yuan

Geologist

Chang Kuang-tsai

CHINA NATIONAL RADIO EQUIPMENT CORPORATION:

Aegis: Fourth Ministry of Machine Building:

Minister

Chien Min

Vice Ministers

Li Chao-chi

Liu Yin (Vice President, China Electronics Society)

Wang Shih-kuang

Wang Tzu-kang

Corporation Details

Founded late 1977, or early 1978, the corporation is charged with production/overseeing of all China's electrical and electronic equipment, with particular responsibilities relating to the establishment of national telecommunications network. Different branches, such as computers and printed circuit boards, handle different types of equipment.

The planning and distribution work of the corporation are of two kinds:

- (1) as intermediary between factories, foreign trade corporations, and end-users; in this capacity, it is probably an economic accounting unit;
- (2) as planner responsible for meeting needs for electronic components by production units.

Known Personnel

Deputy Director, Computer Department

Kung Tsien-peng (Member, Computer delegation from China Electronics Society, Spring 1978)

Address: c/o Fourth Ministry of Machine Building, Peking

CHINA NATIONAL UNDERWATER CABLE AND CONSTRUCTION CORPORATION:

Aegis: Probably Ministry of Posts and Telecommunications:

Corporation Details

Established at least by early 1978. Is responsible for laying cables for telephone lines. Has purchased ships from Japan through TECHIMPORT.

Known Personnel

None.

CHINA PETROLEUM CORPORATION:

Aegis: Ministry of Petroleum:

The Ministry of Petroleum is one of two ministries recently reorganized after the division of the Ministry of Petroleum and Chemical Industries.

Minister

Sung Chen-ming (former Vice Minister of Petroleum and Chemical Industries)

Vice Ministers

Chang Wen-pin (also General Manager of the Chinese Petroleum Company)

Chen Lieh-min Chiao Li-jen Hou Hsiang-lin Huang Kai Min Yu

Yen Tun-shih

Corporation Details

Established late in 1977 to plan, administer, and operate all phases of the oil industry from seismic exploration through extraction, refining, and production. Administratively under the Ministry of Petroleum.

Six operating divisions include the China National Oil and Natural Gas Exploration and Development Corporation (see above), Refining Corporation, Offshore Subsidiary Corporation, East China Branch, the Northeast Branch (based at Taching), North China Branch (based at Taku), and the Northwest Branch (based at Yumen).

Known Personnel

President

Chang Wen-pin (also Vice Minister, Ministry of Petroleum)

Vice President

Chin Wen-tsai

Deputy General Managers

Chang Chao-mei

Senior Advisor

Li Jen-chun (also Vice Minister, State Planning Commission; Advisory, Ministry of Metallurgy)

General Secretaries

Chao Sheng-chen (also Deputy Managing Director of China National Oil and Natural Gas Exploration and Development Corporation)

Ken Yu-yen

Chief Geologist

Min Tun-shih

Chief Mechanical Engineer

Li Tien-hsiang

Offshore Subsidiary

Managing Director

Ma Chi-hsiang (also Deputy Managing Director of China National Oil and Natural Gas Exploration and Development Corporation)

Senior Engineer

Yin Chia-te

Engineer

Lu Shou-te

Deputy Chief Geologist

Tao Jui-ming

Pohai Branch

Deputy General Manager Wei Pu-jen

Nan Hai Branch

Deputy General Manager Chang Chi-yu

Refining Subsidiary

Deputy Director

Wang Cheng-hua

Northeast Branch Corporation

Director

Li Yu-keng

North China Branch Corporation

Deputy Directors

Chi Yung-hsing

Hsueh Chi-yuan

Teng Li-lang

Division Chief

Wang Cheng-yu

Geologists

Wang Ping-hai

Wang Yeh

Engineering Director

Yao Fu-lin

Foreign Affairs Bureau (of N. China Branch)

Chief

Chao Ying-wen

Design Institute (of N. China Branch)

Director of Engineers Ning Yu-chuan

Northwest Branch Corporation

Engineering Director
Li Ching

Chief Engineer

Chao Tsung-nai

East China Branch Corporation

Deputy Managing Director

Li Yeh

Shengli Branch

Chief of Production Yeh Ta-hsin

Address: Box 766, Peking, People's Republic of China

CHINA RAILWAY TECHNICAL AND EQUIPMENT CORPORATION:

Aegis: Ministry of Railways:

Minister

Tuan Chun-i

Vice Ministers

Kuo Lu

Kuo Wei-cheng

Liao Shih-chuan

Su Chieh

Teng Tsun-lun

Corporation Details

Corporation founded prior to August 1978. Delegation to US in September 1978 sponsored by National Council for US-China Trade. Responsible for making technology decisions concerning locomotives and rolling stock (not signaling equipment), arranging technical exchanges with foreign countries, and arranging seminars in China for foreign companies. Effectively a department of the Ministry of Railways. Buys through MACHIMPEX 2nd Department.

Known Personnel

Train Group, Responsible Member Chiang Chih-chi

Engineers

Hsu Shu-chi

Liang Ping-chih

Wang Te-shan

Address: c/o Ministry of Railways, Peking

Cables: CRATECO, Peking

CHINA SEED CORPORATION:

Aegis: Ministry of Agriculture and Forestry:

Minister

Yang Li-kung

Vice Ministers

Hao Chung-shih

Hsiao Peng (President, China Fishery Society)

Liang Chang-wu Lo Yu-chuan

Corporation Details

Established July 25, 1978, by the State Council "to help speed up the development of agriculture" in China, the corporation's major tasks include:

—Guiding the selection, breeding, assessment, propagation, and popularization of fine seed strains.

—Managing the supply of new strains of grain, cotton, oil-bearing crops, hemp bast-fiber plants, and green manure throughout China.

—Guiding and supervising of the construction of

-Handling seed imports and exports.

—Organizing the experimentation, popularization, and management of special machinery, equipment, meters, and instruments used for seed selection.

—Collecting and storing fine seed strains for use in disaster areas or in bad years.

Internal structure: control of a network at three levels—provincial, prefectural, and county—to "unify the management of seed cultivation across the land with the object of breeding new strains every year." As of July 1978 it was already established in approximately twelve provinces and major metropolitan areas. It has begun to build seed cultivation bases in various parts of China.

Known Personnel

None.

Address: c/o Ministry of Agriculture and Forestry, Peking

CHINA SHIPBUILDING CORPORATION:

Aegis: Sixth Ministry of Machine Building:

Minister

Chai Shu-fan

Corporation Details

Formed in early 1978 to coordinate shipbuilding and oil-rig building activities in the People's Republic of China. Headquartered in Peking.

Known Personnel

None.

Address: c/o Sixth Ministry of Machine Building, Peking

CHINA WASTE MATERIALS RECLAMATION CORPORATION:

Aegis: Unknown. Perhaps Ministry of Public Health:

Corporation Details

In charge of managing waste recycling programs in China. First heard of May 1978.

Known Personnel

None.

Compiled by Jeffrey Schultz, Robert Boorstin, and Nicholas Ludlow. 炙

Exporter's Notes

Briefly:

- US may begin limited joint space cooperation with the Chinese; talks on "Westar"-type communications satellite.
- First flight into China from US by American flag carrier.
- US grain exports will be more competitive as Congress OKs threeyear credits for agricultural products to China—despite administration wishes.
- \$516 million of agricultural goods lead US exports to China, heading for record \$900 million in 1978.
- Secretary of Agriculture Bergland will discuss long-term grain trade arrangement with PRC.

SPACE—NASA WILL COOPERATE WITH PRC

The National Aeronautics and Space Administration (NASA) may begin a limited joint space program with the Chinese. The possible limited joint space cooperation emanates from discussions held in Peking in July by NASA Administrator Robert Frosch, who accompanied White House Science Advisor Frank Press on a mission to China. The arrangement was made with the Chinese Academy of Space Technology. (See CBR 5:4, pp. 21-22.)

FIRST DIRECT FLIGHT INTO CHINA BY US CARRIER

Airlift International of Miami, Florida, has become the first US commercial company ever to fly a US-registered plane directly between the US and the People's Republic of China. The air-freight charter company on October 5 flew a shipment of 437 head of breeding swine from Chicago to Canton. The shipment, worth about \$170,000, was supplied by Illinois Agricultural Service Company.

The flight was arranged by Skylift International of Redondo Beach, California. Skylift does not own any planes itself, but acts as a broker in arranging charter flights by other companies.

Skylift President Ray Vidal said the company expected to ship another 760 breeding swine, supplied by a different company, in late October. And over the next six months Vidal said Skylift expected to arrange at least 20 flights to China. Destinations will include Canton, Shanghai, Peking, and possibly Changsha and Chungking. The company, which now makes one round-trip flight a week between Hong Kong and New York, also hopes to carry freight from China directly to the US.

The shipment on a 40-ton DC 8-63, was arranged through Skylift's Hong Kong office. Vidal praised the Departments of State, Agriculture, and Commerce, as well as the PRC Liaison Office in Washington, for their cooperation in facilitating the shipment. He said the shipment was financed through a private company in Hong Kong that acts as an agent for the Chinese. The shipments over the next six months are expected to be almost entirely livestock, though Vidal said the firm might also be shipping some related equipment.

But the historic October 5 shipment was not the first flight into China by a US air carrier. Two years ago Skylift sent a shipment of breeding cattle from Australia on a US flag carrier. In mid-October the company expects to fly a shipment of goats from New Zealand into China on another US carrier.

Vidal said he also hopes to negotiate with the Chinese for direct flights between Shanghai and Japan. The regular weekly flights between New York and Hong Kong normally carry Hong Kong-origin merchandise on their return to the US.

GENERAL RECORD PRC-US TRADE PREDICTED: \$1 BILLION IN 1978

National Council President Christopher H. Phillips predicts record trade with the People's Republic of China in 1978. "Two-way Sino-US trade could reach \$1 billion or more this year," Phillips told the press on September 14, projecting exports to the PRC of as much as \$900 million by end 1978.

While expressing optimism about trade prospects with the PRC over the next three years, Phillips said he felt US companies could be more aggressive than they had been in doing business with China. "The success of US oil companies in their efforts with the PRC should not overshadow the lack of solid movement in other sectors of our export trade," said Phillips.

"Failure of the US government to obtain changes in the Eximbank legislation that would authorize credit facilities for companies selling to the PRC and the apparent lack of interest by the governments of both sides in resolving the claims/assets issue is not helping the development of our export trade with China," said Phillips.

US CABINET PAVES WAY TO PEKING FOR CARTER

Peking is becoming a revolving door for US officials.

• Agriculture Secretary Bob Bergland will visit China November 3–13 to discuss US-China agricultural trade, exchanges of technology and students, and a possible long-term trade agreement.

Bergland will discuss and formulate—

- Science and technology exchanges in the areas of forestry, plant genetics, biological insect control, germ plasms, and crop strain selection.
- Data gathering by satellite projects
 —possible weather and land-use satellite survey (ITOS/LANDSAT, etc.).
- Statistical methodology; exchange of data programs.
- Trade—long-term grain sale arrangements. Bergland said he will assure the Chinese that "we are capable of providing continuing supply of high quality foods and feeds at reasonable prices."

Will Secretary Bergland return with a framework for a three-year or longerterm wheat agreement?

- Energy Secretary James Schlesinger was expected to arrive in Peking October 23 to discuss possible participation by US oil companies in China's offshore oil exploration program, sales of US energy equipment and technology, coal mining and gasification, hydropower, high energy physics, and possible transfer of nuclear technology.
- And, China's new ambassador to the US, Chai Tse-min, paid a visit to the Department of Commerce in early September to personally inform Secretary Juanita Kreps that she is ex-

TRADE-RELATED CHINESE DELEGATIONS TO THE UNITED STATES, SEPTEMBER-NOVEMBER

Date	Purpose (number of delegates)	Chinese Sponsor	US Primary Host
Late Aug early Sept.	Petrochemicals	Tientsin Petroleum and Chemical Fiber Plant	UOP
Early Sept mid-Oct.	Machine tools (5)	Chinese Mechanical Engineering Society	National Machine Tool Builders Association
Sept. 6- Oct. 5	Lightweight building material delegation	China Silicate Society	Committee on Scholarly Communications with the PRC
Sept. 10-30	Municipal administrators (19)	Mayors, deputy mayors, and heads of municipal construction bureaus	National Committee for US-China Relations
Sept. 11- November	Geophysical prospecting equipment (8)	MACHIMPEX	Texas Instruments
Sept. 13- Oct. 5	Printed circuit board technology group (8)	Chinese Electronics Society	American Electronics Society and Mentor International
September	Aeronautics group (5)	Peking Institute of Aeronautics & Astronautics	Johns Hopkins University
Sept. 14- late Oct.	Coal mining equipment and technology (19)	China Coal Society	National Coal Association and American Mining Congress
Sept. 26- late Oct.	Automotive survey group (8)	MACHIMPEX	WABCO
Sept. 28- late Oct.	Oil refining scientific research equipment survey group (8)	TECHIMPORT	Fluor
Late Sept mid-Oct.	Internal combustion engine survey group (14)	China Railway Technical Equipment Corp.	National Council for US-China Trade
Early Oct early Nov.	Satellite telecommunications group (7)	China Electronics Society (Communication Engineering Research Institute)	Electronics Industries Association

pected in Peking early next year. Kreps will lead a delegation of US businessmen to the PRC in March as guests of Foreign Trade Minister Li Chiang.

 Going to China sometime after the November elections in the US will be at least five Congressional delegations totaling some 50 senators and congressmen.

Also sending delegations to China were the California Chamber of Commerce, (members included Frederick G. Larkin, Jr., chairman of Security Pacific National Bank, and Norman Barker, chairman of United California Bank), the Pittsburgh World Affairs

Council (members of that mission included Robert Dickey III, president of Dravo, and Jerry McAfee, president of Gulf Oil Corp.); and the Financial Women's Association of New York.

AGRICULTURE

China Buys \$26 Million Worth of US Corn

USDA announced on October 11 that China has purchased 276,000 metric tons (about 10.9 million bushels) of US corn, marking its first such purchase since 1974. At an estimated price of \$95 per ton, the sale is worth about \$26.2 million. USDA said 76,000 tons would be shipped in October, with

the remainder to be shipped between October and January. Port problems in Argentina apparently were responsible for the large shipment of US corn, as the contract with US exporters had called for optional origin.

Sales of other agricultural commodities were considerably slower during the summer as no major developments were reported, though the Chinese bought more than a thousand US breeder pigs. While the value of those sales, contracted in late July, was probably less than a million dollars, analysts see them as indicative of increased Chinese interest in livestock production.

Date	Purpose (number of	Chinese Sponsor	US Primary Host
October	delegates) Marine gas turbines, engine automation system, inland waterway vessels	Chiao Tung University	University of California, Berkeley
Oct. 3- early Nov.	Textiles group (3) Garment selling mission	CHINATEX	Cotton Council
Oct. 3- early Nov.	Turbine training group (6)	MACHIMPEX/Refinery	Ingersoll Rand
Oct. 6- early Nov.	Agricultural group attending dry lands plant resources conference	Chinese Academy of Sciences	Texas Tech
Oct. 8-28	Geological museum (4)	Chinese Geological Society	University of California at Santa Barbara
Early Oct.– Jan. 1979	Ethylene mission (two groups, totaling 20 members)	TECHIMPORT	Stone & Webster
Oct. 13– Nov. 11	Science and technology mission (16)	Chinese Academy of Sciences (Science and Technical Commission, State Planning Commission, Scientific and Technical Association)	NSF/Committee on Scholarly Communication with the People's Republic of China
Oct. 12-27	Coal delegation (3)	National Coal Association	World Coal Study Project, Aspen, Colorado
Oct. 25– late Nov.	Petroleum research group (13)	Scientific Research Institute of Petroleum Exploration and Development	National Council for US-China Trade
Oct. 26— mid-Nov.	Tea selling mission (4)	CHINATUHSU	National Council for US-China Trade
Oct. 26— mid-Nov.	Geophysical mission (10)	China Geophysics Society	Society of Exploration Geophysicists
Nov. 2–27	Nylon tirecord survey group (11)	China Chemical Fiber Corporation	Chemtex (Goodlettsville, Tenn.)
Nov. 3– early Dec.	group (11) Mining survey group	Fiber Corporation China Coal Mining Technical Equipment Corporation	Tenn.) DuPont

Agricultural traders will certainly be able to remember 1978 as a very good year. Cotton exports, according to USDA projections, should be 131,000 metric tons (577,579 running bales), worth some \$163.5 million. (This figure includes 27.9 thousand tons contracted for marketing year 1978/79 and which may not be shipped during calendar 1978.)

Soybean oil sales contracted for as of the end of August amounted to 41,200 tons, worth an estimated \$24.7 million, and on September 29, USDA announced an optional origin sale of another 20,000 tons, with shipment expected in early 1979. Inedible tallow

sales of 13,900 tons will bring in \$6.2 million. No US sales of soybeans were reported as of late August, nor were any reported for the remainder of the year.

Congress OKs Farm Credit Bill for China

Congress has overwhelmingly approved a bill that would make US grain exports to the PRC more competitive. The Agricultural Trade Act of 1978 makes China eligible for credits of up to three years, giving US grain exporters an edge over their Canadian and Australian counterparts, who allow the Chinese to spread pay-

ments out over 18 and 12 months, respectively.

The bill, approved by the Senate on September 8 by a 65–1 margin and by the House on September 25 by a 325–62 vote, faced token administration opposition, but a presidential veto was not expected. The bill was expected to reach the president's desk by mid-October following resolution of certain differences in the House and Senate versions by the Conference Committee on October 5 and subsequent final approval by both houses.

The bill provides for both buyer's and supplier's credits that would be financed by USDA through the Com-

MORE THAN \$500 MILLION IN FARM SALES

Agricultural exports will account for more than half of all US sales to China this year, with the farm sector's total expected to reach \$500 million. Continental Grain, which sold one million tons (36.7 million bushels) of wheat in April, sold another million tons in mid-August. Then in another major sale, disclosed August 25, and believed to have been made by Louis Dreyfus, the Chinese bought an additional 500,000 tons, bringing the total for the year to a hefty 2.5 million tons. Grain dealers believe that additional salesperhaps another half-million tons -are possible before the end of the year.

With the price of wheat at \$130 per ton in April and then moving up to about \$140 per ton by August, the total value of the three wheat sales should be in the area of \$340 million. Only about \$290 million of that is likely to show up on this year's trade statistics, however; some 350,000 tons, worth an estimated \$49 million, are not likely to be shipped until next year.

modity Credit Corporation (CCC). The buyer's credits program, already available to countries enjoying most-favored-nation status, works like this. The exporter, after making his sales, registers with the CCC. If the sale conforms to CCC regulations, the exporter asks the buyer to post a letter of credit with CCC. After the goods are shipped, the exporter presents CCC with an onboard bill of lading, an invoice for the value of the commodities, and an assignment of his account receivable. CCC then buys the account receivable from the exporter at the port value. At that point, the exporter goes out of the picture. Assuming the buyer wants to spread payment out over the threeyear maximum period, CCC then bills the buyer for one-third of the principal plus interest each year.

In addition to direct CCC financing, the bill also sets up a system of deferred payment financing (supplier's credits) under which CCC extends credit to the exporter who in turn allows the foreign buyer to spread payments out over 36 months. Interest rates under this program would be the same as in direct financing by CCC.

The hitch, however, is that the exporter must pay back CCC even if the buyer does not pay him. The exporter is not faced with such liability under the direct CCC program. The rationale for including deferred payments is that the Chinese might find these more palatable than accepting direct financing from the US Government.

The bill also provides that countries enjoying most-favored-nation status (now eligible for credits of up to three years), would qualify for intermediate credits of three to ten years; for the upgrading of agricultural attaches at US embassies as well as the establishment of six to 25 agricultural trade offices overseas; and changing the title of Assistant Secretary of Agriculture for International Affairs to Undersecretary.

Administration Opposition

In a September 22 letter to Representatives Thomas Foley and Clement Zablocki, chairmen of the Agriculture and International Relations committees, respectively, Agriculture Secretary Bergland explained the administration's opposition to the bill. "We continue to oppose the extension of CCC credits to non-market economies which are not now eligible for such credits. As you know, Poland, Romania, Hungary, and Yugoslavia can now receive CCC financing. The administration supports an amendment to strike Title IV . . ." (Title IV was the section in the House bill extending credit eligibility to the PRC.)

Asked by *CBR* to elaborate, a Bergland aide responded that the secretary was articulating the administration's position and not necessarily that of USDA. He referred further questions to the State Department and the National Security Council. Julius Katz, Assistant Secretary of State for economic affairs, further explained the administration position: "We do not support a change in the Jackson-Vanik amendment." Katz added that such a change is "not practical at this time" and noted that the Chinese have not sought such credits.

Alhough Katz declined to comment on the possibility of a presidential veto,

an NSC official said he did not think a veto is in the cards. The NSC official added that the administration, while opposed to piecemeal modification of Jackson-Vanik, is interested in a full-scale review of Jackson-Vanik in 1979. Katz, however, said he is not aware of such plans. Interestingly, Senator Jackson voted for the bill, while Rep. Vanik opposed the measure, calling it "an end run around Jackson-Vanik," as he did on the AuCoin bill which would extend Eximbank facilities to the PRC.

Several congressmen, including Representatives James Broyhill and Ken Holland, opposed the bill on the grounds that no credits should be extended to the PRC until it cooperates with the Multifiber Arrangement and signs a bilateral textile agreement with the US. In a letter to all members of the House, Broyhill and Holland said the bill "needlessly gives away a US bargaining chip." Rep. Paul Findley, however, said the measure would give the US greater leverage in trying to get the Chinese to agree to a quota on textiles. The textile issue was not a factor in the administration's opposition to the bill, according to USDA.

TOP CHINA AGRICULTURE GROUP TOURS US

Agriculture Secretary Bergland will discuss trade and exchanges of agricultural technology on his visit to China in November. The invitation was extended to Bergland by a highlevel Chinese agricultural delegation which spent five weeks observing all phases of agriculture in 12 midwestern states and an additional four days in California. The 25-man delegation from the Chinese Society of Agronomy was led by Yang Yi-chen, first secretary of the Communist party in the northeastern province of Heilungkiang.

Other senior members of the delegation included Ho Kang, a vice minister of agriculture responsible for science and technology; Chao Hsin-chu, first secretary of the Communist party in Hupeh; Ma Ling, director of the foreign affairs section in the Ministry of Agriculture; and Huang Yung-ning, responsible for Western Hemisphere activities within the foreign affairs section of the ministry.

In addition to visiting Bergland while in Washington on July 28, the delegation also met the Senate and House agriculture committees.

Chinese Interests: Everything

The visit, coordinated by the Michigan Department of Agriculture in conjunction with the Mid-American International Agricultural Trade Council (MIATCO) and partly financed by USDA, was designed to allow the Chinese to get a broad overview of the entire food production system in the

United States, including mechanization, irrigation, pest control, financing, and handling of trade.

The Chinese were particularly interested in learning how midwesterners raise such crops as corn, soybeans, wheat, and grain sorghum. That interest in midwestern specialities was only natural since most of the Chinese visitors hail from the northern and

northeastern provinces where the climate and crops are similar to those in the Midwest. But while in Missouri, the southernmost swing of their Midwest tour, they also observed some cotton and rice production.

Among the stops on the itinerary were the Michigan State University Bean & Beet Farm; the B & W Elevator in Breckenridge, Missouri; the Heritage

Date	Purpose (number of delegates)	US Sponsor	Chinese Primary Host	
September	Agriculture	California State Board of Food and Agriculture		
Sept. 11-28	Petroleum equipment delegation (24)	National Council for US-China Trade	China Council for the Promotion of International Trade	
Mid-Sept early Oct.	Agricultural research (32)	Mid-American International Agricultural Trade Council	Chinese Society of Agronomy	
Sept. 24- Oct. 6	Study group (18)	California Chamber of Commerce		
Sept. 26- mid-Oct.	Computer study group (15)	Institute of Electrical and Electronics Engineers	China Electronics Society	
Late Sept October	Geological study group (26)	Wyoming Geological Association		
mid-Oct. mid-Nov.	Power-generating group (13)	Institute of Electrical and Electronics Engineers		
Oct. 23- early Nov.	gy			
Nov. 3–13	Agriculture	US Department of Agriculture: Secretary Bob Bergland		
Oct. 4-25	Study group (25)	Pittsburgh World Affairs Council		
October 8–22 Finance (25)		Financial Women's Association of New York		
November Civil engineers Conferen		Conference Service Bureau		
November	Shipping	South Carolina Ports Authority	China Ocean Shipping Corporation	
November	Oceanography	Committee on Scholarly Communications with the People's Republic of China		
		National Council for US-China Trade	China Council for the Promotion of International Trade	
1979				

Pork farm in Lincoln, Illinois, followed by a meeting with Gov. James Thompson; the Mid-State Cooperative Grain Terminal at Toledo Harbor and a tour of the Port of Toledo in Ohio; the Indiana Farm Bureau Cooperative Fertilizer Plant in Indianapolis; the confined hog and cattle facility at the Elk River Research Center in Minnesota, followed by a reception dinner at the Governor's Mansion; the Matthews Cotton Co. in Sikeston, Missouri; Pioneer Hi-bred International, Inc., a plant breeding research farm in Johnston, Iowa; the USDA Grain Research Center in Manhattan, Kansas and a luncheon with Gov. Bennett: Valmont Industries, an irrigation machinery manufacturer in Valley, Nebraska, which has sold center-point irrigation equipment to China: farm and ranching areas in South Dakota, along with visits to Mount Rushmore and the School of Mines in Rapid City; and the North Dakota Wheat Commission.

After spending three days visiting various agricultural installations in

Wisconsin, the delegation traveled to California, where it visited the Almond Growers Exchange and Rice Growers Association, along with meeting Gov. Jerry Brown and seeing various farms. Other items on the itinerary included canneries, soybean processors, building manufacturers, fruit orchards, seed processing, a winery, a cooperative fertilizer plant, a duck-processing operation, and a rodeo.

Meanwhile, MIATCO, fresh from hosting the Chinese, sent a 32-man mission to China for a three-week visit beginning September 15. The MIATCO team, including representatives of the various state agriculture departments, businessmen, and farmers, concentrated on those areas in North and Northeast China most similar to the Midwest. Included among the stops were the model agricultural brigade in Tachai and an agricultural research institute in Peking. Companies represented on the MIATCO tour included Archer Daniels Midland, the Indiana Farm Bureau Association, Inc., and Detroit Pure Milk Company.

US EXPORT LICENSES FOR SALES TO THE PRC SUMMARY 1971–1978

GRAND TOTALS

Grand Totals: (through June 1978, excluding January 1978)

	Value (in millions	Percentage of \$)
Export licenses	282.71	36.5
Reexport licenses	8.43	1.1
Temporary licenses	83.35	10.8
Technical data approvals	399.62	51.6
Total	774.11	100.0
PRODUCT AND DATA APPROVALS SUM	MARY	
All licenses	374.49	48.4
Technical data approvals	399.62	51.6
(mostly petrochemicals)		
Total	774.11	100.0
ALL PRODUCT LICENSES (Export, reexpo	rt, and temporary)
Geophysical	12.53	3.3
Computers	4.02	1.1
Machine tools	3.58	1.0
Semiconductors	.07	0.0
Instrumentation	1.27	0.3
Aerospace	295.09	78.8
Telecommunications	16.35	4.4
Petrochemicals		
Miscellaneous	41.58	11.1
Total	374.49	100.0

MINING

Kaiser Service Contract Is US First

It was a busy summer for American mining firms dealing with China, and fall promises to be even more active. The big news was the disclosure by Kaiser Engineers in early September that it had signed a contract with TECH-IMPORT to develop two iron ore mines in China—one at Nan Fen near the Korean border; the second at Szechiaying, 180 miles east of Peking. The deal is the first service contract an American company has inked with the Chinese.

The Kaiser contract could be the first of many such contracts. The Chinese want to develop at least six iron-ore mines, and there is a good chance that US companies will get some of those deals. Each mine could eventually cost \$1 billion to develop.

A mining delegation from the Society of Metals toured the US for five weeks in August and September under the auspices of the National Council. The mission expressed interest in all phases of iron-ore mining, including survey, mine development, beneficiation, pelletization, agglomeration, sintering, transport, and materials handling.

Many of the firms visited by the mission had previously sent delegations to China for technical seminars on iron ore mining, so this delegation afforded both Chinese and Americans an opportunity to engage in follow-up discussions.

Among the companies visited by the 17-man Society of Metals team were: US Steel, Pickands Mather, Bethlehem Steel, Dravo, Dresser Industries, Allis Chalmers, Clark Equipment, Bucyrus Erie, Rexnord, WABCO, International Harvester, Caterpillar, Fiat-Allis, Euclid, Tyler, Denver Equipment, Environtech, Eagle Mountain, Mountain States Research and Development, Fluor Mining and Metals, Morrison-Knudsen, and last but certainly not least, Kaiser Engineers.

Following \$1.2 billion of coal-mining purchases from European companies in August, the Chinese came to observe American coal mining firsthand early this fall. A 19-member delegation from the China Coal Society, invited in July by Robert H. Quenon, chairman of the National Coal Association and president of Peabody Coal, arrived in Washington September 15 for a six-week tour of US coal-mining facilities, including 15 surface mines, 10 under-

ground mines, energy research facilities, a mining engineering school, and associated coal-preparation plants.

After a September 18 meeting with US energy and coal officials, the group headed west, stopping in Pennsylvania, West Virginia, Kentucky, Indiana, Illinois, Arizona, New Mexico, Colorado, Wyoming, and Montana. The delegation, due to leave October 31, also attended the International Mining Show of the American Mining Congress in Las Vegas from October 8 to 12. The National Coal Association will send a team to the PRC next spring.

Coal-Mining Technology

McNally Pittsburg and Roberts & Schaefer, both of which had given technical seminars in China during the spring, co-hosted a coal-preparation technology study group in June. The firms are now competing, possibly along with British, Japanese, and West German firms, to build coal-processing plants in China that could eventually be worth as much as \$120 million. The Chinese, with their vast coal reserves, are understood to be interested in possibly as many as 10 such plants.

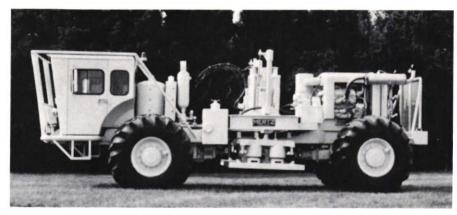
Nonmetallic mining was the focus for yet another delegation, this one consisting of 14 members from the China Chemical Industry Construction Corporation headed by a vice minister and cohosted by McKee and Brown & Root. The delegation, which arrived on Labor Day, was particularly interested in both the mining and processing of phosphate, especially regarding a three-million ton open-pit facility.

IN THE AIR: SATELLITE TALKS, OTHER TELECOMMUNICATIONS

The US will allow China to buy an American communications satellite—and the US will launch it.

That message was transmitted to Peking sometime before or just after the arrival of a team of Chinese telecommunications experts in early October. The delegation, which was interested in buying ground station equipment and related equipment, visited RCA, ITT, Scientific Atlanta, Digital Equipment, GT&E, California Microwave, Hewlett-Packard, and Rockwell

If the Chinese decide to buy a satellite, the cost for it and related equipment that would be required could run into hundreds of millions of dollars. A satellite would cost \$15 to \$17 million, while the cost of launching it could



Servo-hydraulic vibrator sold to China by Mertz, Inc.

range from \$13 to \$28 million. In addition, the Chinese would have to buy an undetermined number of ground stations to make it effective.

The delegation from the Communication Engineering Institute of the China Electronics Society was hosted by the Electronic Industries Association. It was expected to stay in the US until early November.

The proposed satellite sale was discussed in July by White House science adviser Frank Press and Chinese officials during a high-level US science and technology mission to the PRC. (CBR 5:4, pp. 21–22)

Also visiting China in early July was a five-member delegation from the US Communication Satellite Corp., led by COMSAT Manager Joseph V. Charyk. In addition to visiting Chinese telecommunications facilities and holding technical discussions with Chinese scientists, the COMSAT group also met with Shen Kuang, vice minister of posts and telecommunications. Modern communications facilities are essential for China's rapidly expanding economy.

In other telecommunications activity, AT&T hosted a seven-member mission from the PRC for three weeks during June and July. As of early October, no sales had resulted from the visit, which company officials described as a "ground-floor first effort."

Among the Bell System facilities visited by the Chinese delegation were AT&T's operations headquarters in Basking Ridge, N.J.; department headquarters in Bedminster, N.J.; Bell Telephone Laboratories in Murray Hill, N.J.; Illinois Bell; Teletype Corp. and Western Electric facilities in the Chicago area; Pacific Telephone in Los Angeles, and other Western Electric plants. The mission was led by Li Feng, vice chairman of the Research Institute

of Posts & Telecommunications in Peking.

A similar Chinese delegation had visited several US companies last year, while two US communications groups -EIA and IEEE-sent missions to the PRC last year. More recently, one US firm sent a 10-man group to the PRC in early August, while another electronics firm was planning to send a group in October for a technical seminar. According to a laser specialist who recently conducted a technical seminar in the PRC, the Chinese keep up with laser theory but manufacturing remains laborious. Chuck Koon Chan, scientific-marketing manager at Spectra Physics Inc., predicted that China will catch up with the US within a decade "in many areas of laser production and research." Chan reports that big lasers are assembled singly, while a heliumneon laser "factory" operated by the University of Peking turns out about 100 lasers a month.

PETROLEUM AND PETROCHEMICALS

MOBIL INVITED TO DISCUSS OFFSHORE OIL EXPLORATION

Mobil this summer became the fifth oil company invited to discuss offshore exploration with the Chinese. The invitations to those companies followed visits during the summer by Pennzoil, Exxon, Union Oil, and Phillips Petroleum, arranged and coordinated by the National Council. Among sites for possible American participation in offshore drilling are the Gulf of Pohai, the Nanhai offshore field, and the South China Sea. The Mobil team will be going November 5.

As of early September, the companies were still terming their discussions with

the Chinese as "preliminary." Stanley Young, vice president of the National Council described as "premature" a Japanese press report that American oil interests and the Chinese had reached agreement on developing China's offshore oil resources.

A National Council delegation of 23 petroleum equipment experts arrived in Peking September 11 for a series of seminars on onshore and offshore oil drilling. The delegation held a weeklong symposium in the port of Talien. The group later traveled to Taching, China's largest oilfield and the model for all petroleum development in the PRC, and to Tientsin for a visit to China's drilling operations in the Pohai Bay. (See Council Activities for details.)

Oil Equipment Sales

Mertz, Inc., of Ponca City, Oklahoma, sold \$7 million worth of servohydraulic vibrators for onshore drilling in June. It was the first direct sale to China by the company, which was invited to China in June to give a technical seminar. The sale was completed at the same time. Included in the deal is a six-month training program for seven Chinese technicians. The equipment will be delivered between January and June of next year.

In another sale, Cameron Iron Works signed a \$700,000 contract with MACHIMPEX in July for drilling packages to be used on two Chinese jackup rigs currently under construction. The packages consist of a double and a single blowout preventer, a hydraulic control system, wellheads, choke manifold, and other miscellaneous pieces. The sale was clinched after 10 days of technical negotiations and only three days of commercial talks. Delivery will take place within six months. Cameron had previously sold equipment to National Supply and Hitachi as part of oil rig sales to China by those companies.

Geosource Inc. of Houston announced in early October that it has signed four contracts for geophysical equipment worth \$15 million with the China National Oil & Gas Exploration and Development Corp. and the China National Geological Exploration Corp.

Subsidiaries of three American companies will be taking part in a French petroleum and gas equipment manufacturers exhibition in Peking from November 29 to December 8. The companies are Cameron Iron Works de France, Christensen Diamond Products, and FMC Europe. Meanwhile, two US companies are involved in discussions with the Chinese for as many as 20 land-based drilling rigs, while another firm was in Peking over the summer negotiating on well-servicing and workover rigs.

And finally, one US company has been discussing onshore oil exploration with the Chinese—in Sinkiang.

End-User Discussions Advancing

Intensive discussions by American pertrochemical firms over the summer involved potential end-users as well as representatives of China's FTCs and industrial societies. At least 10 American firms have either made specific offers to the Chinese or held discussions for such projects as hydrocrackers and ammonia plants. Union Carbide is involved in two oxo-alcohol projects with Davy Power Gas and another British firm that were announced in mid-August, while UOP hosted a delegation from the Tientsin Petroleum and Chemical Fiber Plant for three weeks in late August and early September. Six US firms have submitted abstracts for a technical seminar on petrochemicals that the National Council's Petrochemical Subcommittee plans to give in Peking.

Start-up Ceremonies for Ethylene Glycol Plant

A team of executives from Scientific Design and its parent firm, Halcron Corp., will be in China the week of November 6 to attend start-up ceremonies for a 100-million-pound-peryear ethylene glycol plant for which Scientific Design supplied basic process and residual engineering services. The general contractor was the Tokyobased firm Nisso Engineering Co. The contract for the plant, located 40 miles southwest of Peking, was assigned in March 1974. Construction began in September 1975.

INSURANCE

Continental Gets Contract and Discusses Diners' Club Cards

Following a visit to China in late June by Chairman John B. Ricker, Jr., and four other executives of the New York-based Continental Corp., the People's Insurance Company of China (PICC), signed a contract on August 14 with a Continental subsidiary, Marine Office of America Corp. (MOAC), designating MOAC as a claims agent for it in the United States. MOAC had previously contracted with the Chinese to insure the Bethlehem Singapore oil rig during its transport between Singapore and the PRC. MOAC joins Topliss and Harding and American International as claims agents for the PRC in the US.

Under the new contract, MOAC will conduct surveys of loss or damage to ships and cargoes in the US insured by PICC, determine the cause and extent of loss, issue relevant reports, secure claim documents, and settle claims within the terms and conditions of PICC insurance policies. MOAC had previously signed a similar agreement with PICC for representation of MOAC in China. The company is also discussing with the Chinese insurance and reinsurance of marine and energy risks and other cooperative underwritings.

In another development also stemming from Ricker's June visit to Peking, Continental, which controls Diners' Club Inc., reported in early September that it was having ongoing discussions with the Bank of China regarding the possible use of the Diners' Club credit card in China. The initial talks have focused on use of the card only by visitors traveling with Thomas Cook tours. (A joint venture between Diners' Club and Thomas Cook allows Diners' Club cardholders to purchase up to \$700 worth of Thomas Cook travelers checks without paying any service fee.)

Travel: Pan Am Ups PRC Trips

If Diners' Club does become the first credit card honored within China, there could be a lot of people scrambling to get the cards, particularly if the Chinese should not restrict use of the card to persons on Cook tours. Pan American Airways, which has been handling China tours for a year, has received permission to send 100 American tourists to China a week, beginning January 1. Clients of Pan Am world tours will fly from the US on Pan Am flights to Hong Kong and then take the train to Canton.

They will be able to choose different week-long itineraries before spending three or four days in Peking. They will then travel to Tokyo by the Chinese airline Civil Aviation Administration of China (CAAC) and switch to Pan Am flights from there. The trip



Unloading hogs flown to Canton on historic first direct flight by US air carrier to China.

will cost between \$2,500 and \$3,000, according to Pan Am.

Meanwhile, United Airlines filed an application August 22 with the Civil Aeronautics Board (CAB) for routes between the US and the Far East, including regularly scheduled passenger service to Peking, Shanghai, and Canton. A United application in 1971 for direct service to China was rejected in 1975, while no action has yet been taken on a similar application filed by Pan Am in 1972. Air service between China and the US requires an agreement between the two governments, and that requires resolution of the claim/assets issue.

MISCELLANEOUS

Construction Equipment Sales Booming

Caterpillar sold 93 units of equipment worth \$9 million to MACH-IMPEX in September. The equipment included 40 Model 572 pipe layers, 20 Model 571 pipelayers, five Model D-9 tractors, and 28 Model D-7 tractors. In another major equipment sale, WABCO sold 57 75-ton dump trucks. In addition, several other companies were discussing major sales.

Machine Tool Looksee

A five-member delegation from the Chinese Mechanical Engineering Society arrived in early September to attend the International Machine Tool Show in Chicago September 6–15. The delegation subsequently visited some 15–20 machine tool companies before leaving in mid-October. The firms

visited by the mission included Ingersoll Milling Machine, Bullard, and Gleason Works, all of which had previously made sales to the Chinese. Company officials said the delegation was primarily academic in nature and thus interested in seeing their entire product lines rather than specific types of equipment. No immediate sales were expected to result from the trip.

Centronics Data Corp. is in the process of serious negotiations with China for the sale of computer printers. According to an August report in the Houston Business Journal, a Chinese delegation recently visited the firm's New Hampshire plant. The company expects an invitation to China in the near future.

Medical Instruments

US companies have made a number of sales since the Canton Trade Fair last spring in the area of ventilators, and other equipment used in post-operative care. The Chinese have also purchased equipment used in heart surgery and are said to be interested in radiopharmaceuticals. Export controls have been the biggest obstacle to any sales of nuclear medicine equipment.

Transportation

At least one American firm is reportedly engaged in talks with the Chinese on possible sales of support vessels for offshore rigs. In other transportation news, Servo Corp. of New York traveled to China in early October for a technical seminar on railsafety equipment.

In other sales, Bently Nevada sold

diagnostic equipment and rack systems for use on power-generating test stands. The sale was made immediately after company representatives gave a two-week technical seminar in May. Although the company had previously sold equipment to the Chinese through its offices in West Germany and Holland, this was the firm's first direct sales to China. The Chinese have also bought teletype and instrumentation equipment from US firms recently.

In one of the more mysterious sales ever made by the US Geological Survey, the PRC apparently was behind a \$105,000 foreign purchase order for supposedly nonmilitary information gathered by US satellites over the Soviet Union. The information picked up by Landsat satellites deals essentially with various earth sciences, is intended for peaceful purposes, and is available to anybody who requests it.

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China Economic Notes

Briefly:

- China's 1978–80 plan will cost \$600 bilion.
- PRC hopes 30-Point Decision will have impact on management efficiency.
- National Conference on Capital Construction in Agriculture will lead to more state aid for farming.
- New Peking international airport almost completed.
- Sales of consumer goods rise substantially.
- · Good fall harvest predicted.
- New JEC volume focuses on post-Mao economy.

GENERAL

Eight-Year Plan Will Cost \$600 Billion.

China's eight-year economic plan, covering 1978–1985, will cost over **1,000 billion yuan** (about \$600 billion), said Vice Premier Li Hsiennien in a recent statement to a Japanese mission visiting China. It was the first time that a Chinese leader had assigned a price tag to the ambitious new plan, which exceeded previous speculations of a cost of \$380 billion. Li's large figure must reflect changes recently made to the original plan. The annual budget will thus average \$75 billion for each of the eight years from 1978 to 1985.

MANAGEMENT

New "30-Point Decision on Industry" Will Guide PRC Management

The Central Committee of China's Communist Party has issued a 30-point industrial charter which is regarded as the **definitive new guide-line for China's future management.** As the *People's Daily* observed, the 30-Point Decision is "the fundamental law of the industrial and communications front," and provides a set of rules for better enterprise management. The

People's Daily admonished, "All industrial and communications departments must implement this decision on a trial basis without delay." It can be seen, however, that these points do not represent any substantially new approaches to management.

The new regulations, to be used as a long-needed basis for running industry, emphasize hierarchical responsibility and division of labor at plant locations, specialization and coordination, use of industrial administrative structure, technical innovations and scientific research, and expansion of fuel, power, raw material, transport industries, and agriculture.

The 30-Point Decision supersedes earlier management guidelines, including the 1960 Charter of the Anshan Iron and Steel Company, the 1961 60-Point Document for Rural Areas, the 70-Point Decision on Industry, and the 1975 20-point document entitled "On Some Problems of Accelerating Industrial Development." The People's Daily report, blaming China's inability to implement these directives on the "gang of four," looked forward to a new phase getting underway. The 30 points include the following:

- Exposing and criticizing the "gang of four;"
- Intensive learning from Taching;
- Criteria for improvements in industry;
- The system of responsibility of the plant director and division of labor under the leadership of the Party Committee, and other basic systems;
- Overall planning and strengthening of leadership;
- Reorganization of industry in accordance with the principle of specialization and coordination;
- The initiative of the central and local authorities and the structure of the industrial administration;
- Emphasizing the expansion of fuel, power, raw material, and transport industries:
- Supporting agriculture;
- Developing all energy sources;
- Tapping the poetntials in existing enterprises through technical innovations and renovation;
- Strengthening scientific research, adopting advanced techniques and technology;
- Multipurpose utilization of resources, and environmental protection;
- Launching emulation drives;

- Training cadres, workers, and technical personnel;
- Applying the principle from each according to his ability, to each according to his work;
- Attending to the welfare of workers and staff members; and
- Urban work serving production and the welfare of workers.

RATIONALIZATION URGED

In addition to publicizing the 30-Point Decision, the Chinese media is continuing its blitz of articles exhorting workers to improve various aspects of management and of quality. A recent Kwangming Daily piece could be viewed as a teaching aid in economic terminology, providing explanations for standardization (identified as applying to product quality, unified technical requirements, and inspection methods), serialization (product specifications and classification into fewer, easier areas), and general utilization (use of spare parts and simplification so they can be interchanged for different product models). The article further isolated nine economic and technical targets: quantitative output, product mix, quality, raw materials, fuel and power consumption, labor productivity, costs, profits, and working capital utilization.

A People's Daily commentary urged plant managers in all industries to take back any substandard products, charging that their production is "very wasteful, even criminal." Another article urged leaders to compete with each other to become a "Po Lo," that is, to select and develop the ablest people. Po Lo was a famous ancient judge of horses.

The most efficient use of the system of **economic zones** has also warranted attention. NGNA recently charged that commodity shipments are often sent via circuitous routes based on administrative zones, not economic zones developed precisely to alleviate such waste. The over 1,500 wholesale agencies set up according to administrative zones are not operating in coordination with each other. The flow of commodities, the article said, must be altered to correspond to economic zones.

AGRICULTURE

Making headlines in mid-August was a massive National Conference on Capital Construction in Agriculture, attended by 1,200 delegates in Peking.



Agricultural mechanization is a top priority in China's modernization drive. (Hsinhua).

The most important new guidelines to come out of the event are six measures for stepping up state aid to agriculture, announced by Vice Premier Li Hsiennien:

1) Raise state investment in agriculture over the increase instituted earlier this year. Priority should be given to mountainous and border areas, and provinces and regions should strive to set aside at least 60 percent of their revenues for agricultural development.
2) Step up agricultural credits.

- Agricultural banks are to be restored to absorb rural deposits and use funds for farmland construction. Interest on rural deposits will be raised and interest on agricultural loans lowered. The state will provide long-term loans at low or no interest for specific projects.

 3) Readjust price differentials be-
- tween industrial agricultural produce. The purchase price of agricultural produce is currently too low and that of manufactured goods too high.

 4) Improve quality of industrial prod-
- 4) Improve quality of industrial products for agriculture. Every worker should be responsible for the products he turns out, and substandard products should not leave the factory gates.
- 5) Provide aid for expansion of commune- or brigade-run enterprises. More raw material and mining enterprises should be located where there are resources. City industries must help communes and brigades improve their equipment and skills.
- 6) Continue the policy of a fixed annual norm for state purchase of market grain for a five-year period. The state will raise the price for grain above the norm as a means of providing peasants with larger income, allow-

ing the portion above the production plan to be kept as reserves or sold back to the state.

The conference further stressed the absolute priority accorded the acceleration of agricultural mechanization and urged that a system of industries supporting agriculture be built in all provinces and regions. It pointed out that areas should produce more urgently needed wheelbarrows. steel rods, spades, and hoes. Nitramine plants will be built in various areas by 1980, as agreed to at the third national conference on agricultural mechanization. To provide the large quantities of cement necessary for capital construction, all areas are encouraged to build cement plants. Longterm, low-interest loans will be made to communes and brigades setting up their own small hydroelectric plants. The conference predicted that China must add at least 800 million mou (53.3 million hectares) of farmland assured of a steady high yield in order to produce the national goal of 800 billion catties (400 million metric tons) of grain by 1985. At present, less than one-fourth of the PRC's farmland is assured of a steady high yield.

Finally, capital construction is being pushed not only for agriculture but for forestry and animal husbandry as well. Grasslands, rivers, and mountains must be tied into improvement efforts.

On the production front, the US Department of Agriculture reported that weather conditions in the PRC during the summer will support a fall harvest as good as or better than that in 1977, continuing the trends indicated in late spring and

early summer. Using the barometer of the first major grain harvest, China's total grain production in 1978 should be significantly above the reduced output of 1977. If the remaining grain harvest only equals last year's corresponding harvest, the PRC will have a record grain production for 1978. Indeed, NCNA announced on July 15 that five million more tons of summer grain were harvested this year than last.

Total production of wheat in 1978 should reach 44 million tons, 3.5 million tons above the 1977 harvest but one million tons below the 1976 record crop of 45 million tons. PRC rice production for 1978 is currently forecast at 130 million tons, also 3.5 million tons above the 1977 harvest.

Rapeseed has achieved a record high of an estimated 1,458,000 tons, while other crops including cotton, sugar, and tobacco may have increased yields if the favorable meteorological conditions continue. NGNA reported that China's sugar production plan for 1977–78 has been "overfulfilled," reaching 15 percent higher output than last year.

China also expects a good harvest of octoploid triticale, a grain it has bred out of wheat and rye and which thrives in dry and cold areas. The new grain has been planted each year since 1972 and has reportedly yielded 20 percent to 30 percent more per hectare than either parent. It has thus far been planted on 26,000 hectares of mountain land in the northwest and southwest.

The PRC has established a new company, the China Seed Company, by decision of the State Council. It will be responsible for running seed imports and exports; guiding the selection and distribution of fine seed strains; managing the supply of new strains of grain, cotton, edible oil, hemp, and green manure; overseeing the construction of seed bases; organizing the production and management of special machinery, equipment, meters, and instruments used in seed selection; collecting and storing fine seed strains for use in disaster areas or in bad years.

Two other important national conferences were held in late summer. The Chinese Society of Agronomy sponsored a symposium calling for more scientific research and studying foreign achievements, and a National Forum on the Scientific Planning of Animal

PRC EXPORTS OF CRUDE OIL AND REFINED PETROLEUM PRODUCTS 1975-1985 1978 2 1979 1980 1981 1982 1983 1984 1985 1976 1977 1975 Value Quant. Value Value 1 Quant. Crude Oil Quant. 552-Up to 40 10 9.5 15.0 7.6 8.0 6.53 655 7.0 740 6.15 Japan 3 8.1 566 1.2 4 1.2 1.2 1.2 1.2 0.5 4 0.91 1.0 30.5 Philippines 0.65 0.6 5 0.6 5 35.0 Romania 0.5 1.07 North Korea 0.9 0.9 6 0.4 Australia 0.045 -0.09-11

Petroleum **Products**

Hong Kong

0.63

Brazil

Vietnam/	0.075	6.9	0.65	0.6 5			
Cambodia Laos	0.0075		0.0075	0.0075	5 5		
TOTAL	11.5	910 '	9.5	840 9 10.6 5	872 5	11.8-12.0 5	21–22 5

62.3 0.96

56.8

0.64

103.6

Husbandry pledged to overcome the retarded development of animal husbandry in recent years.

ENERGY

"Looking for Taching outside of Taching; looking for Taching beneath Taching" has become the new slogan for the workers of China's model oilfield. A Taching dispatch carried in Hong Kong's Ta Kung Pao recently announced the discovery of new oilfields near the 21-year-old Taching fields, noting that determination of the distribution of oil fields and layers has been basically completed.

Prospecting is also being conducted in areas farther from Taching, with preliminary indications of the presence of natural gas and black oil sands. Within the boundaries of Taching, prospecting is being pursued at depths of 2,000 to 3,000 meters. The oil field administration has set its sights toward the maintenance of a 10-year stable yield based on the present yield level.

While Chinese and foreigners alike are busy assessing new areas of exploration, China's New China News Agency announced that crude oil output climbed 11 percent and natural gas production 14.6 percent in the

first half of this year compared with the same period in 1977. Crude oil processing increased 8.1 percent and drilling footage 66.7 percent. According to NCNA, the PRC's oil drilling speed has doubled as a result of the widespread introduction of highpressure jet drilling, better drilling mud, and high-efficiency drill bits. The new techniques were first tried out in Shengli oil field last year, and earlier this year workers from several oil fields were given a short-term training program in use of the improved methods.

An editorial which appeared in the July 6 People's Daily entitled "Strive to Build 10 More Taching Oil Fields" called for the achievement of a major breakthrough in the speed of drilling oil wells. Within a 20-year period, the piece exhorted, "We should have drilled five times as many oil wells as the total number of wells drilled over the past 28 years." Each oil field should shift its priorities to the task of drilling oil wells and double the speed of drilling. Only a few days later came a report that oil workers at Shengli drilled a 10,900-foot well in only 258 hours (10 days) using "high pressure techniques."

The Luchou gas field in Szechuan

Province, a center for gas fields, has been the subject of recent press reports lauding its sevenfold annual output increase since 1965. More than 300 km of pipeline has been laid to Chengtu, Szechuan's capital. Luchou has built a large chemical works with an annual production capacity of 400,000 tons of synthetic ammonia and 640,000 tons of urea.

Tangshan, the coal mining center largely destroyed by a devastating earthquake in 1976, is "rising like a phoenix from the ashes," according to a Hong Kong report in August. A new plan has been put into operation calling for complete reconstruction of Tangshan by 1982 using several billion yuan of investment by the state. The buildings of the new city all will be built of lightweight materials able to withstand an earthquake of greater than 7 on the Richter scale. In the first half of the year, industrial production in this important coal-producing city was back to pre-quake levels.

At China's third conference on nuclear physics held in mid-August in Kiangsi, it was announced that the country is building a six-meter separate-sector cyclotron for research on heavy ion nuclear physics. Work on

^{1. \$}US millions; 2. Quantities only (mmt) shown for 1978 and beyond; 3. Quantities 1978-82 as agreed under LTTA included Feb. 16, 1978; 4. Per long-term agreement for 6 mmt over a 5-year period (Manila Domestic Service, July 27, 1978); 5. Estimated; 6. Tokyo Mainichi/UPI, June 23, 1978; 7. Contracted; AFP Tokyo, July 2, 1978; 8. Bangkok Post, Aug. 3, 1977; 9. ER 77-10674, Nov. 1977; 10. Tokyo, Kyodo Aug. 22, 1978; 11. Contracted; delivery period sot specified (Brasilia Domestic Service, Sept. 5, 1978). Source: US Consulate General, Hong Kong

China's first 30–50 billion electron volt high-energy proton synchrotron, begun in May, "has made important progress." Accelerators for other nuclear physics departments of key universities are also under construction, including several low-energy accelerators at Szechuan University.

In its drive to expand energy resources beyond the traditional means. China has turned to some imaginative pursuits. According to its preliminary estimates, the country is capable of recovering exhaust industrial heat equivalent to tens of millions of tons of coal every year. The method utilizes steam produced by a mediumor low-pressure boiler operating on exhaust heat to generate power. By adding a back-pressure steam turbine. the excess steam can serve production again. The industrial city of Changchou in Kiangsu Province, for one, has channeled exhaust heat into 8,000 kilowatts of generating capacity, while at Shanghai's No. 2 Steel Mill recovered waste heat supplies the mill itself as well as numerous neighboring facilities.

A "quality control day" each month will be part of the metallurgical industry's new effort to reverse the downhill spiral in the quality of its products, it was announced at a national telephone meeting held recently. Currently, the Ministry of Metallurgical Industry is worried because the percentage of major products meeting "proper" standards is lower than in the past. Other proposals to raise quality include recall of inferior products, testing and maintenance of all equipment, and development of quality pace setters. Most factories around China are sporting posters calling for more effective quality control.

INFRASTRUCTURE

Passenger travel in China is beginning to grow a bit easier and less congested for Chinese and foreigners alike. The Peking airport has added a 3,200 meter-long, 50-meter-wide runway which was scheduled to go into use in late summer. A new control tower able to handle three times as many flights as at present is currently under construction, and a six-story hotel for transit passengers has recently been completed. The new international airport, scheduled for completion by the end of the year, is being constructed only a stone's throw from

the old airport building, which will be limited to domestic flights. Two wings with passenger ramps will allow passengers to enter the terminal directly from the plane.

New railroad schedules were introduced throughout China August 1 with faster and more frequent trains and express passenger service between Peking and all provincial capitals except Lhasa in Tibet. The New China News Agency reported that the timetable includes 1,066 new freight and 87 new passenger services, including 15 passenger express trains.

A half-mile-long bridge built with new techniques to withstand earth-quakes was opened on July 1 in Tangshan, replacing one destroyed by the great earthquake in July 1976. The Luanho Highway Bridge, completed in 18 months, utilized new techniques developed by the Ministry of Communications' Design Institute. The lower part of the 24-arch bridge is made of reinforced concrete, while the upper structure allows for earthquake vibration.

China's seaports handled over 50 percent more cargo in the first half of this year than in the same period in 1977, the New China News agency announced. While the volume of trade in the first half of last year was unusually low, owing to political difficulties following Chairman Mao's death, the increase nevertheless reflects a marked increase in China's overall foreign trade. The rapid expansion in cargo handling is due to better

organization and use of capacity, rather than the introduction of new equipment.

EDUCATION AND SCIENCE: ONE IN 20 ADMITTED TO UNIVERSITY

China's first national seminar on foreign education was held in Peking at the end of July, following the conclusion of an agreement with a high-level US science and technology delegation on the exchange of Chinese and American students. The seminar participants announced that publication of an "outline of education in foreign countries" and an "introduction to the world's famous universities" will begin next year.

The name of Confucius has been invoked to support the new trends in education and sciences. Vilified in a violent campaign during 1973 and 1974, the ancient sage has been on the road to rehabilitation since the beginning of the year. A July article in Kwangming Daily defending his ideas on education noted that "his teaching methods contained many rational factors." In a country where reference to the great men of history is of tremendous importance, the invocation of Confucius' name again is worthy of notice.

The gradual return to status of China's scientists, thrust into oblivion during the Cultural Revolution, received another boost in July with a national call to recruit Communist party members from among scientific personnel. Other editorials con-





PROJECTIONS OF CHINESE PETROLEUM INDUSTRY PERFORMANCE THROUGH 1985 1 CRUDE OIL OUTPUT

Year	Onshore			Offshore	Total	
Rate of Growth	8%	10%	12%			
(1978)		(99.3)		(2.0-3.5)2	101.3-102.8	
1979	107.2	109.2	111.2	2.4-4.2	109.6-115.4	
1980	115.8	120.1	124.5	2.9-5.0	118.7-129.5	
1981	125.0	132.1	139.4	3.5-6.0	128.5-145.4	
1982	135.0	145.3	156.1	4.2-7.2	139.2-163.3	
1983	145.8	159.8	174.8	5.0-8.6	150.8-183.4	
1984	157.5	175.8	195.8	7-11 + ³	164.5-206.8	
1985	170.1	193.3	219.3	8-13+	178.1-232.3	

	Crude Consumed in Power Generation '	Crude Requiring Refining ³	Refining Capacity '	Exports
	42.00	(00.0)	(05.7)	(11.0)
(1978)	(2.4)	(82.8)	(85.7)	(11.9)
1979	2.6	89.3-94.0	90.9	12.7
1980	2.9	97.2-107.6	96.1	13.6
1981	3.2	101.8-117.0	101.3	15.6
1982	3.5	109.6-130.8 4	106.5	22+
1983	3.9	108.9-139.5 4	111.7	30 + 8
1984	4.3	122.5-159.3	116.9	32 + *
1985	4.7	129.0-180.0	122.1	35+ *

NOTES ON CALCULATIONS:

- 1. All figures in million metric tons.
- 2. Output from Pohai Gulf; series assumes average rate of growth of 20 percent.
- 3. Assuming seismic studies are completed by end 1981, new offshore fields could begin to produce small amounts by 1984-85.
- 4. Series based on the following: (a) Total power generated in 1977 totalled 141.6 billion kwh, a 9.8 percent increase over the 129 billion kwh estimated for 1976; (b) The share of total power generated by thermal plants (1976) is approximately 75 percent; (c) About 25 percent of all thermal plants (1976) are oil-fired (See W. W. Clarke, China Business Review, Sept.—Oct. 1977); (d) The conversion factor for oil-fired plants is 1 metric ton crude=12,000-12,279 thousand kwh; (e) The power industry will grow at an average annual rate of 10 percent with the proportion of oil-fired thermal plants remaining constant (due to PRC's oil conservation policies).
- 5. Net of crude consumed by power plants, crude oil exports, and 5 percent transport and refining loss; assumes in-country refining of Pohai Gulf output through 1980 with 25 percent exported/refined abroad beginning in 1981 and that all crude from new offshore fields is exported.
- 6. Figures skewed by jump in exports.
- 7. Series based on estimated refinery capacity at end of 1976 of around 75.2 mmt Handbook of Economic Statistics, Central Intelligence Agency (ER 77-10537, Sept. 1977). Assuming a refinery capacity/output ratio of 89 percent (1974-1976), 1977 capacity would have reached 80.5 mmt. This agrees with the (derived) claim of an average annual increase in refinery capacity of 5.2 mmt over the past decade (NCNA Peking, Sept. 1); series assumes a continuation of this average increase.
- 8. Assumes progressive increase toward maximum export of 30 mmt to Japan in 1985.

Source: US Consulate General, Hong Kong

tinue to urge the full use of scientific and technical personnel in appropriate enterprises, one pointing out that the number of scientists and technicians not making use of what they have learned is equivalent to three to four times the total number of graduates in one year from several hundred institutions of higher learning throughout China.

While Chinese leaders struggle to make use of the existing ranks of trained personnel, they are pushing just as hard to increase those ranks. Nearly six million senior middle school students and other young

people took the 1978 nationwide unified college entrance exams in late July. This year for the first time the ratio of students to be enrolled in universities to senior middle school graduates has not been fixed; it is hoped that as a result the number of matriculants will increase. Latest statistics reveal that 5.9 million students applied for university exams last year, but that only 279,000 matriculated, giving an average of one out of 20 admitted.

On the most advanced level, postgraduate training is to be resumed this year after a 12-year hiatus. Postgraduates will be enrolled at 207 institutions of higher learning and 144 research institutes.

RECENT INNOVATIONS IN CHINA

Recent innovations mentioned in Chinese press accounts include:

Agriculture: Magnetized Water. Two years of experiments throughout the country in growing crops with magnetized water has produced a 10 percent increase in grain yield and 15–20 percent more vegetables. Magnetized water was used to irrigate 5,000 hectares of experimental farm plots (NCNA 7/27/78).

Building Materials. A new strong, multipurpose building aggregate made of expanded clay in pellet form is under production at the Shanghai Wuching Brick Works. The substance can be used in place of gravel to mix concrete (NCNA 7/25/78).

Coal: Fluidized Bed Boilers. Over 100 fluidized bed boilers burning low-quality bone coal have been introduced in Chekiang Province and are now in use in local power generation and in the chemical, paper-making, printing, dyeing, and food processing industries. The boilers conserve over 200,000 tons of coal per year (NCNA 7/23/78).

Computer Coding Language. Written Chinese may now be used in computers. A newly-developed code employs the 26 Latin letters, requiring four letters to denote each Chinese character. The system now allows a common teletypewriter to transcribe Chinese into binary codes as input information to be stored in computers. The Shanghai telephone service has already adopted the new code (NCNA 8/13/78).

Heart Transplant. China's first heart transplant was successfully carried out at Shanghai's No. 2 Medical College. The recipient was a 38-year-old primary school teacher with chronic heart problems (NCNA 7/9/78).

Human Joint Advances. Doctors in Shanghai recently completed the successful transplant of a whole knee on a crippled worker who can now walk without crutches. Other Shanghai researchers have made a new ceramic artificial hip joint, which has been used to replace injured hip joints in 11 cases (NCNA August and June 1978).

Railroad: Infrared Detector. China's first infrared detector for scanning the wheels of moving trains to pick out overheated journal bearings has been put into use in Chekiang Province after a year of trial operation (NCNA 7/31/78).

LIVING

The drive to better the quality of life of the Chinese people is continuing.

Sales of television sets in China this year are double those of last year, according to New China News Agency (NCNA), while sales of wrist watches, sewing machines, and bicycles increased 40 percent in the first six

months. The account admitted, however, that a shortage of some items exists. Other reports from China confirm that waiting lists for some consumer goods are very long. Some officials have been waiting for bicycles for four years.

Recent visitors to Peking familiar with the drab styles and plain colors of Chinese clothing have been astonished and pleased to see a sudden increase in bright colors, flowered patterns, and, for the women, lots of skirts. (The skirts are, however, limited only to summer time wear, and disappear entirely from view by mid-September.) The new look in China this year is due at least in part to the efforts of the Peking Clothing Research Institute, which held spring/summer and autumn/winter sample exhibitions this year. At the spring exhibition, according to a July broadcast, Peking clothing factories chose over 80 designs out of a possible 500 for blouses, pants, shirts, skirts, and dresses for manufac-

A late July report from Peking touted the fact that sales of books, daily necessities, and more expensive items "have grown remarkably . . . since the downfall of the gang of four." In the first half of the year, Peking's Hsinhua bookstore sold 1,500 titles and a total of 5.77 million science books, an 85 percent increase over the same period last year. And of the 30 titles of formerly banned Chinese and foreign literature which went on sale in May, six million copies were sold within six weeks.

Liberalization is also underway on the artistic front. A People's Daily commentator called in August for the production of "more spectacular and colorful" films, lamenting the fact, however, that few recently submitted scripts have met acceptable ideological and artistic levels. As part of this effort, Peking has just opened 12 new auditoriums and rehearsal halls which will add 6,000 seats to movie theaters in the capital. At the theater, the one-act comedy "Appointment" is reported to be playing to full houses in Shanghai. The plot involves love and romance, a subject ignored in the ascetic China of the last 30 years. A young scientific researcher and a librarian fall in love, but for all the ideologically correct reasons: seriousness about their work, and a healthy disdain for income, position, and good looks.

More foodstuffs are now becoming available in urban markets. In Shanghai, more fresh vegetables, eggs, fish, and poultry have been supplied in recent months than in any comparable period in the last few years, according to a July NCNA account. and in Peking in August, leavened bread made its first appearance in China. According to an AFP report, long lines have been forming every day in front of the first sales outlet for bread in Peking. Leavened bread is selling successfully at the East Wind Market around the corner from the Peking Hotel. A one pound loaf costs \$.20 and the smallest loaf \$.04. National Day holidayers in Peking's parks were seen munching the loaves by one recent visitor.

Harbin has pioneered a **new style** in **shopping**—a department store grain shop and auditorium built 20 meters below ground in the busiest district of the city. The stores, which were prefabricated, are connected with Harbin's air raid shelters.

RESEARCH VOLUME ON CHINESE ECONOMY DUE IN NOVEMBER

The Joint Economic Committee is expected to publish in November a major new research volume on the Chinese economy, focusing on developments in the post-Mao era. Chinese Economy: Post-Mao is a follow-up to several earlier studies by the JEC, the most recent being China: A Reassessment of the Economy, published in July 1975.

The new volume will consist of five sections, each dealing with various aspects of the Chinese economy. The part that will probably be of most interest to China traders is Section Five, which deals with China's foreign economic relations. China's foreign trade, Sino-American commercial relations, law and trade, China's hard-currency exports, and the question of mostfavored-nation status are among the subject dealt with in this section. It also includes chapters on China's economic relations with the Third World and the impact of Chinese aid on Albania's industrial development.

Section One gives an overview of Chinese economic policy and performance and includes chapters dealing with the PRC's economic future, prospects for the 10-year plan, Soviet perceptions of Chinese economic develop-

ment, and China's economic situation in the mid-1970s.

Section Two, dealing with manufacturing and extractive industries, includes chapters on machine building, industrial growth, energy, minerals, and electric power. Population and labor utilization are the main subjects discussed in Section Three, which includes chapters on population growth, Chinese employment policy, and urban-rural relations. Section Four has chapters on China's agricultural production and technology and the PRC's grain trade.

A second volume, under the direction of the Rand Corporation's K.C. Yeh and tentatively set for publication in December, will consist mainly of national income account studies. Dr. John Hardt of the Congressional Research Service planned and coordinated both volumes, with contributions from numerous scholars.

Those interested may obtain one copy of each volume free of charge by contacting the Joint Economic Committee, G 133, Dirksen Senate Office Building, Washington, DC 20510 (telephone: 202-224-5171). Additional copies may be obtained, for a price still undetermined, from the Superintendent of Documents, US Government Printing Office, Washington, DC 20402.

SHORT TAKES

In the military sphere, China recently released the first official photograph on a Chinese guided missile blasting off its launching pad last November. The photo was distributed worldwide by NCNA just before Chinese Army Day on August 1. In a related news brief, London's Flight International magazine described the PRC air force as the third largest in the world, with more than 4,500 aircraft in its inventory. Recent US estimates put

the current interceptor/fighter-bomber strength at about 4,100 domestically-produced MiG-17s (Shenyang F-4) and MiG-19s (Shenyang F6) and about 50 license-built MiG-21F (Shenyang F-8) interceptors.

According to FI, China's long-range bomber force is composed of 60 Tu-16 Badgers, a few Tu-4 Bulls and about 300 II-28 Beagle light bombers. MR duties are performed by Beriev Be-6s, while a substantial transport arm has about 400 aircraft comprising An-2s, Li-2s, II-14s and II-18s. In an emergency the civil aviation fleet of airliners, which includes 10 Boeing 707-320s, 38 HS Trdents, five Viscounts and five II-62s, could be used. Helicopters total some 300 Mi-4s, and the training fleet comprises Yak-11s, Yak-18s and MiG-15UTIs.

Two ministerial changes in only six months were reported at the third session of the Fifth National People's Congress Standing Committee in late August: Minister of Commerce Wang Lei and Minister Wang Cheng of the Fourth Ministry of Machine Building (responsible for electronics production), appointed only last March, were asked to hand over their duties to Yao I-lin and Chien Min, respectively.

After blissfully ignoring antismoking campaigns in the US and other countries, China has finally shown some official concern for the health of its very large smoking population. In early August, the PRC launched its first antismoking campaign, ostensibly to protect the health of its young people.

Awareness of potential hazards is also developing in another area. A Japanese environmental group which visited China in July reported that Wang Tsung-chieh, chief of the State Council's General Office of Environmental Protection, was concerned about **environmental pollution**, particularly from dust and soot. Pollution in industrial areas is causing chronic respiratory ailments, and during the Peking winters air pollution skyrockets because of the charcoal briquettes used for heating over half the capital's 990,000 households.

Two **new journals** began publication in August. Oceanographic Front, a national popular science journal, is issued bimonthly and will become a monthly next year. Environmental Protection is published quarterly in Kwangtung.

ESTIMATES OF CHINESE INDUSTRIAL OUTPUT 1978

Industrial Output: 14% greater than 1977

100 million tons Petroleum * 30 million tons Steel * 112 million tons Iron ore * Coal 1 600 million tons Natural gas 2 89,000 million tons w.m. 270-280 million tons Grain 3 Electricity 4 159 billion kwh Chemical fertilizer 5 51.45 million tons Chemical fibres 6 640,000 tons 600-650 units Locomotives *

¹ Half-year production figure of 300 million tons.

² 13.5% increase for first eight months of 1978 over 1977 projected for the whole year; 1977 estimate is National Council's.

25,000 units

- ³ Based on Chi Teng-kuei's August statement that without good autumn harvest, grain output might fall under 1977 270-million-ton figure. NCNA 8/17/78, FBIS 8/21/78.
- 4 Half-year 17% increase projected over entire year.
- ⁵ Half-year 47% increase projected over whole year.
- 6 100% half-year increase projected over whole year.
- ⁷ Comment attributed to Hua, Tokyo; Kyodo 8/13/78.
- * Estimates of Chinese officials.

Freight cars *

Chinese Petroleum Output by Field

(1) Taching ¹ 45–50 million tons (2) Shengli ² 23 million tons

- ¹ Taching 1977 estimated at 45–50 million tons by various sources; e.g., Kyodo 9/7/78, FBIS 9/8/78, Japanese sources.
- 2 15% half-year increase projected over whole year, Japanese 20-millionton 1977 estimate used as base. Kyodo $9/7/78,\,\mathrm{FBIS}~9/8/78.$

Importer's Notes

Briefly:

- FDA gives the go-ahead for more PRC canned goods.
- Cautiously, counter-production ventures in textiles, electronics, and other products get underway; US firms still on the sidelines.
- Selling delegations to the US double, double, and double again; Peking officials advise Council that the trend is here to stay.
- Shuttle service to Canton is inaugurated at 44th Trade Fair.
- New hope for PRC clothespins.

HONG KONG-CANTON SHUTTLE —THE AGE OF RAPID TRANSIT COMES TO CANTON

Tired of hard seats and the long lines at Lowu? Take a plane, it's faster: For the first time ever, China is offering an air shuttle service to foreign businessmen attending the month-long Canton Trade Fair. The air service, which will use Chineseowned Tridents, will cut travel time from Hong Kong to Canton from six hours to 25 minutes.

The air service will operate two flights daily, booking 100 passengers per flight, with one morning and an evening flight. Jardine Matheson is expected to handle ground arrangements for the service on the Hong Kong end, while the China Civil Air Administration will arrange flight schedules and carriers.

How to make reservations? Contact your Fair sponsor. According to the American consulate in Hong Kong, the Canton Fair committee will be responsible for booking seats on behalf of guests. Seats may be available on a space available basis as well. Contact China International Travel Service or the CAAC agent in Hong Kong for further information.

The air service will only last as long as the fair, but starting in mid-November, travellers will speed up the Chu Chiang River estuary to Canton on air-cushioned hovercraft. Sources in Hong Kong state that the ferry will operate two hovercraft, provided by the Hong Kong and Yaumati Ferry Company, with three runs daily. The trip will take 75 minutes.

CHINA ANNOUNCES NEW FTC: EQUIPEX

The China National Machinery Equipment Export Corporation, formerly a branch of MACHIMPEX, has been established to represent PRC exports of tools, machine tools, meters and instruments, other machinery and equipment, and small complete plants.

Oriented mainly to the third-world market, the new foreign trading corporation was introduced by China's Foreign Trade Minister Li Chiang in the July issue of *China's Foreign Trade* (1978, No. 3). Explaining the reasons for setting up the new corporation, the foreign trade minister said:

"A number of third-world countries want us to supply them with tools, hardware, machine tools, machinery, and other equipment. To meet the needs of their economic construction, we should steadily increase production and export of these commodities, and we can."

MACHIMPEX, the parent corporation, will continue activities as before with some modification. A complete list of specialties of the Machinery Equipment Export Corporation is not yet available.

China National Machinery Equipment Export Corporation

Address: 12 Fu Xing Men Wai Street Peking

People's Republic of China

Cable Address: EQUIPEX Peking

EEC LETS IN MORE CHINA PRODUCTS:

The European Community has proposed lifting quotas on 24 products from China, in a list that includes some of the PRC's top-selling items.

Among the items which may be allowed unrestricted entry to EEC countries are antimony, nitrogenous fertilisers, synthetic dyestuffs, plastic, rubber, leather, and fur gloves, lingerie, sporting goods, thrown silk yarns, ceramic tiles, luggage, nuts and bolts, and radio receivers and transmission equipment.

EEC commissioners submitted the proposal to the Council of Nine on July 31, in the first move to liberalize

trade with China since signing of the China-EEC framework trade agreement on April 3, 1978. In addition to the 24 quotas on which the Council may provide China with special treatment, China will benefit from several hundred products which are liberalized for exports of all state-trading countries to the European Community.

CHINA MAY ESTABLISH SPECIAL COUNTERTRADE CORPORATION

In September talks with China's Ministry of Foreign Trade's Export Bureau in Peking, Christopher H. Phillips, President of the National Council, was told China is considering establishing a new corporation to specialize in countertrade, welcome news for foreign companies looking for serious action from Peking.

In the meantime, China's formula for countertrade will use current foreign trade corporation division, with the export FTC as main negotiator and contractual partner, and the import corporation playing a subsidiary role.

US FIRMS SIZE UP TARIFF HAZARDS, PROCESSING OPTIONS IN THE NEW PRC COUNTERTRADE MARKET

US companies are gearing up to meet the challenge of a new offshore production center based in the PRC.

In April 1979, the first consignments of goods produced under productionsharing arrangements between China and Japanese companies will arrive in the US. Worth \$200,000, one lot of corduroy slacks destined for the US market will be made jointly by CHINATEX and the Japanese trading company Nichimen in Shanghai's Number One and Number Five Garment Factories. Itoman, which has signed a similar deal with CHINA-TEX, is said to be negotiating with US buyers to take part of its initial production of 300,000 pieces of pajamas and fashion blouses.

Offset deals—or countertrade—involving export processing arrangements for foreign companies are the latest wrinkle in the China trade, and as far as some importing companies are concerned, the best. China is eager to obtain foreign know-how, by osmosis, if necessary, and promising a part of future output seems a small price to pay for guidance in markets which the Chinese have only just begun to address realistically.

CHINESE CANNED GOODS REGISTERED WITH THE FDA

As of September 1978, CEROILS, the Chinese corporation which handles exports of canned foodstuffs, had registered 44 canned goods with the US Food and Drug Administration, 26 of which were listed in a previous issue of the China Business Review (CBR 5:2, page 44).

The following list of all Chinese canned goods registered with the FDA incorporates corrections and items listed in the earlier list as well as providing an update. Ng Fung Hong, the PRC agency in Hong Kong, is currently preparing registration forms for at least 20 additional items.

CEROILS Branch	Factory and FCE Number	Item	Can Size*
Shanghai	Maling Canned	Longtail anchovies, fried	511 x 315 x 106
Onanghai	Food Factory	Mixed vegetables	301 x 408
	#06186	Mixed vegetables with tomato sauce	301 x 408
	M BEADEN	Mushrooms, pieces and stems	211 x 400
		n	301 x 408
		n .	400 x 414
		"	602 x 701
		Mushrooms, sliced	211 x 400
		"	301 x 408
		11	400×414
		"	602 x 701
		Pickled cabbage	303 x 204
		Stringless green beans, whole	301 x 408
		Szu hsien bran dough	301 x 401
Kwangtung	Kwangtung	Bamboo shoots, pieces	306 x 407
	Cannery	Bamboo shoots, sliced	400 x 409
	#06188	Bamboo shoots, whole	602 x 613
		Bitter melon, pieces	306 x 403
		Fresh lotus root, pieces	306 x 407
		Green peas in brine	301 x 401
		**	301 x 408
		Pa Pao Chi, solid pack	301 x 401
		Straw mushrooms, whole	301 x 408
		Stringless green beans, cut	301 x 408
		Stringless green beans, whole	306 x 410
		11	400 x 414
		"	301 x 408
		Waterchestnuts, sliced	602 x 613
		Waterchestnuts, whole	306 x 407

For their part, foreign companies are lured by prospects of low production costs in China's state-controlled economy. According to one Japanese company involved in a textile contract, labor costs per piece in Shanghai are 10 percent of comparative costs in Japan.

US companies have offered arrangements from solidly practical barter deals to imaginative three-way contracts linking exporting and importing companies. But already there are signs that US companies will have to go slow on production-sharing, the form of countertrade most attractive to importers.

Customs surrounds articles produced under offshore arrangements with a maze of regulations. Articles which have undergone what is called by US Customs "substantial transformation" are subject to tax rates applied to their country of origin, rather than those of the originating countries of components. Thus US companies could face a double tariff hazard: the taxing of goods sourced from the US and the tax on the PRC product incorporating US components.

The US consulate general in Hong Kong has released information clarifying the tax standing of goods processed in China.

Tariff Status of US Goods Processed in the PRC:

- —Any item that is manufactured, produced, or has undergone a substantial transformation in the People's Republic of China (PRC) would be regarded as a product of the PRC. As such it is assessed US import duty on its full value under the Column II rates in the US Tariff Schedule regardless of the origin of its raw materials, parts, or components.
- —Cutting and finishing cloth is a substantial transformation and finished garments would thus be assessed Column II rates on their full value.
- -Cut pieces of cloth imported from

CEROILS Branch	Factory and FCE Number	Item	Can Size*
Chekiang	Hangchow	Asparagus spears, points, cuts, and tips	301 x 405
(exporting	Canned Food	11	307 x 613
through Shanghai)	Factory	Bamboo shoots in water, cut and quartered	307 x 410
	#07091	Braised bamboo shoots	301 x 401
		Cuttle fish in soy, seasoned and whole	307 x 202
		Cuttle fish in tomato sauce, whole	307 x 202
		Fresh green peas	301 x 401
		"	301 x 408
		Green beans, whole and cut	301 x 408
		**	307 x 410
		Mackerel in oil, fillets, sliced	415 x 301 x 104
			307 x 206
		Mackerel in tomato sauce, whole, sliced, chunk style	203 x 308
			501 x 306 x 104
			307 x 206
		Marine eel in tomato sauce, sliced	400 x 113
		Mushrooms, pieces and stems	211 x 400
		"	301 x 408
		11	400 x 414
		Mushrooms, sliced	211 x 400
		"	301 x 408
		"	400 x 414
		Mushrooms, whole	211 x 400
		"	301 x 408
			400 x 414
		Smoked marine eel in peanut oil, sliced	400 x 113
		Waterchestnuts, whole	307 × 407
		Winter bamboo shoots in water, whole and cut	307 x 410
Talien	Luta Canned	Chinese mackerel in tomato sauce	606 x 400 x 108
	Food Factory	Mackerel in tomato sauce	600 x 400 x 108
	#07377	Marine carp in tomato sauce	606 x 405 x 108
		Marine eel in oil	400 x 113
		Sardines in tomato sauce	606 x 405 x 108
Kwangsi	Nanning Canned	Whole stringless green beans	400 x 414
Chuang	Food Factory		
Autonomous	#07378		
Region			
Source: FDA, Data as o	October 1978		

the US and stitched in the PRC would normally fall under Section 807 of the US Tariff Schedule and would be subject to Column II rates on the the value of the product less the value of the US components. However, the US Customs Service reviews each applicant under Section 807 and therefore importers and exporters should seek the advice of the Customs Service on a case-by-case basis to verify the applicability or non-applicability of Section 807 to a given product (and the related production arrangement).

—Electronic equipment is generally subject to the same rules. If the item has undergone substantial transformation in the PRC it is regarded as a product of the PRC and is subject to Column II duty on its full value. If, however, electronic components from the US are shipped to the PRC for assembly only, and then re-exported to the United States, Column II duty would normally be assessed on the value of the product less the value of the US parts.

—Garments or electronic equipment manufactured or assembled in the PRC from products imported from third countries (or vice versa) do not qualify for Section 807 and would

be dutiable at Column I or II rates depending on the circumstances. As a general rule, a product acquires the origin of the country where it was substantially transformed; i.e., where it has undergone a process that changes it from its component parts to a new product. Thus, generaally, goods manufactured in the PRC from third-country (Column I) components become a product of the PRC and pay Column II duty on the full value. Also as a general rule, goods manufactured in Hong Kong from PRC components become products of Hong Kong and pay Column I duty on the full value.

IMPORTERS BULLETIN BOARD: PROCEDURES FOR REGISTERING PRC CANNED GOODS WITH THE FDA

A great deal of confusion has been caused by US companies attempting to register PRC canned goods with the US Food and Drug Administration (FDA). Many of the application forms have contained serious errors which resulted in needless delays for the companies involved.

Since 1976, Ng Fung Hong, a company based in Hong Kong, has been the sole agent appointed by CEROILS to register Chinese canned goods in the US. US companies wishing to expedite the registration of particular items should inform Ng Fung Hong or CEROILS head-quarters in Peking.

To date, Ng Fung Hong has registered some 60 canned goods with the FDA, of which 44 have been approved. Some of the forms have been returned to the Chinese because they lacked certain information such as packing media (water, brine, or other) and preparation (whether the items are whole, sliced, or in pieces). A list of the information needed to complete FDA registration forms has been sent to Ng Fung Hong to serve as a guide in completing the forms currently outstanding and future registrations.

All pickled foods, including pickled cabbage, must be registered if they are thermally processed and sealed.

Questions regarding registration of low acid foodstuffs would be directed to Ms. Micki Kistle, of the Industry Guidance Branch, Food and Drug Administration, tel. (202) 245-1523.

Importers should advise CER-OILS to put the name of the processing establishment as well as the FCE number on shipping manifests. The "processing establishment" is the name of the factory which has been registered with the FDA.

However, operations of assembly, repair, or alteration often do not constitute substantial transformation unless the operation of assembly, repair, or alteration is substantial and the value added by that operation is significant in relation to the value of the final product.

-Generally, an assembly operation is one in which parts are put together to form a final product, provided that the component parts have not lost their identity and that the parts have not been further processed, improved or changed. However, the rules in this field are complex and the exact limits of the definitions of assembly and substantial transformation have evolved over the years on a product-by-products basis as a result of Customs Service and court rulings on individual products. Accordingly, interested parties should seek the advice of the Customs Service when they wish to determine whether a specific manufacturing or assembly operation would constitute substantial transformation or be regarded as assembly. The Customs Service also is prepared to provide guidance on whether a particular operation or production plan involving US-made components would qualify under Section 807.

"Substantial transformation" defined:

Of significance is whether the article(s) in question has advanced in condition, resulting in a new and different article having a distinctive name, character, or use for tariff purposes other than that which the article(s) possessed before exportation from Hong Kong to the People's Republic of China. As a result, moving an item from one tariff category (such as cloth) to another (such as shorts, for example) would make the product Chinese, with no possibility under current law to segregate the HK components-it would all be dutiable at Column II rates. Even such a process as adding embroidery would move the shorts from 45 percent Column II rate (TSUSA 380.06 unornamented knit shorts) to ornamented shorts under TSUSA 380.00/90%, and the like. In addition, insignificant processes which add significant value (such as gilding with gold) may not be considered to change a product from MFN to Column II rate, unless the product was significantly transformed in the process. Value added to a product, then, does not provide as much reason for moving a product from one tariff category to another or through significant transformation; although a mixture of value added and transformation may be sufficient to change the country-of-origin determination in some cases. (US Customs)

BACK TO LIFE: CLOTHESPINS

First rabbits, now clothespins: President Carter has decided against imposing quotas on wooden clothespins imported from China, in a move which has aroused confidence in the Administration's good intentions toward the China trade. Overruling a decision by the International Trade Commission in favor of setting quotas on the Chinese pins, the President explained on October 2 that it would be better to seek action against clothespins from all foreign suppliers than to penalize China alone.

"Foreign sources, other than the PRC, are able to supply clothespins to the US market at prices significantly below the prices charged by US producers," the President said. "Moreover, existing foreign capacity would not be a limitation on foreign producers' ability to increase shipments to the US. Thus, third country suppliers would likely fill an excess US demand result-from a limitation of any kind on imports of clothespins from the PRC."

The President's decision put one of the claims by domestic clothespin makers out of action, but another is still pending with the ITC. Hearings on clothespins imports were again held on October 5 in Portland, Maine, in the same federal courthouse where hearings on the earlier case were held. Unlike the first, the second case has been brought against imports of clothespins from all sources, and is expected to receive presidential support if the ITC approves charges brought by the domestic clothespin industry.

It was the second time in less than a year that President Carter has taken action to defend China's share of the US market against efforts by the domestic industry to roll back PRC imports by various means. (The first case involved rabbits).

Domestic manufacturers are likely to continue pressing for relief from foreign competition. Import relief cases are the "wave of the future", according to a spokesman of the Office of the Special Representative for Trade Negotiations. Under the 1974 Trade Act, Section 406, domestic industry may claim market disruption if imports from Communist nations are "increasing rapidly, either relatively or absolutely."

In contrast, the legislation under which the ITC is proceeding with its second investigation of imported clothespins, section 201 of the Trade Act, calls for proof that imported products have reduced the proportion of the domestic market supplied by domestic producers, or have caused or threaten to cause serious production cutbacks.

The ITC will report its final decision on quotas for clothespins on November 21. If quotas are approved, Chinese clothespin dealers will face a further handicap. As it is, clothespins imported from China, of the types under investigation are subjected to higher Customs duties than those from MFN countries; PRC clothespins are taxed 20¢ on the gross, 35%, and 80% compared to 10¢ on the gross, 7.5%, and 8.5% respectively for clothespins from countries with Most Favored Nation status.

LEGISLATIVE NOTES: BILLS IN OFFING—PEANUTS, WORK-GLOVES, TROUSERS

In late July, three bills were submitted on the hill, which could involve tariff reductions for PRC imports. None, however, will be reported in this session of Congress.

Senator Wallop (R-Wyoming) submitted S3206, a bill to eliminate all quotas and tariffs on imported peanuts, in mid-July. According to staff aides, the proposed legislation is "symbolic" in intent and the senator will not press the issue. If the legislation passes, Chinese peanuts, which currently enter under the same tariff rates as peanuts imported from other countries, with or without MFN status, could be imported duty free.

Two related bills to provide duty-free treatment for imports of work gloves and trousers designed for for-estry uses came up in the House and Senate about the same time. Legislative aides say that the congressional interest in S3171 and HR12882 is serious, but that the bills will not be recorded until next year. In the House, the bill submitted by Congressman



Synthetic fabrics production at Shanghai's Number 4 Bleaching and Dyeing Mill (Hsinhua).

Ruppe (R-Michigan) will tackle the Ways and Means Trade Subcommittee, chaired by Congressman Ruppe, which has been the downfall of other legislation which aimed at lowering tariff rates on PRC imports. While not designed with Chinese imports in mind, the bill has been interpreted to include imports from Column II countries, including the PRC, within its scope. In the Senate, the bill is being steered by Senator Griffin, also a Republican from Michigan.

IF IT'S TUESDAY, THIS MUST BE CHINATUHSU: TEA, NATIVE PRODUCE, GARMENTS AND KNITWEAR, MINERALS AND METALS, CARPETS GROUPS HIT TOWN

With three Chinese selling delegations in the US simultaneously, September was a busy time for the National Council staff and the importing community. As many selling delegations were in the US in September as have been sent in any one year since the Council's exchange relationship with CCPIT and the foreign trade corporations began in 1973.

The most striking change in the delegations that have arrived on US shores since June 1978 is that they have combined buying and selling objectives. In Peking, the word is out that countertrade deals are in, and in discussions with some US companies, sales talks were overshadowed by negotiations to buy US technology or equipment to

improve production of goods promoted by the mission. Although by mid-September no US company had actually signed a countertrade agreement, interest in the prospects was high.

Selling delegates from the PRC in the future will be conducting business on a number of levels, not just export of existing products. They will also be more specialized. The delegations this summer and in the early fall tended to combine several interests under one hat. The largest of the groups, from CHINATUHSU, was made up of three smaller groups that traveled on separate itineraries most of the time. Later in the fall, product-oriented delegations from CHINATUHSU will travel around the US meeting with old and new customers in the tea and carpet trades.

Branch offices of the FTCs, particularly the Shanghai and Kwangchow branches, are increasingly represented. According to some reports, branches of CHINATUHSU are ready to begin sending delegations on their own, independent of head office arrangements.

The delegations are getting bigger and bigger. Since June 1978, missions have ranged in size from five to 10 persons, up from three to six in last year's groups. The increase in size is due in part to the multiple interests of the delegation, and division into subgroups.

Between June and the end of the year, six selling delegations will have visited the US, promoting products from barite to sportswear, bringing the total for the year to seven. Two delegations are yet to come, both from CHINATUHSU: the tea trade group, arriving in late October, and a carpet sales mission in November.

Tea delegation, 10/26-12/8/78:

This group will visit eight cities in a survey of the tea, coffee, and cocoa market. The group plans to look at operations of a tea blending and packing factory, tea warehouses and wharfs, cocoa grinding plants, coffee roasting plants, and instant tea and instant coffee packing facilities. The four-man group will meet with old and new customers including China Products Northwest, Salada Foods, and Tetley Standard Brands, Inc.

Native Produce delegation, 8/20-11/78:

The largest selling delegation ever to visit the US, the three subgroups of which the delegation was composed followed nearly independent paths. Feng Kuang-shun, of the Peking head office of CHINATUHSU, was the overall leader, traveling with a subgroup on Essential Oils, Spices, and Nuts. Another subgroup concentrated on Industrial Products, including rosin, hide and bone glue, turpentine, and other products, and a third subgroup focused on Bamboo Products.

The five-man Essential Oils group visited Coca Cola and Polarome, among other customers. Members of the delegation included Feng, Mme. Yang Shu-lien and Mme. Li Yun-chiu, both of the Peking head office, Wu Wen-an, of the Shanghai branch of CHINATUHSU, and Cheng Hung-chi, from the Kwangtung branch. Expertise was equally divided between essential oils and edible nuts.

The other two subgroups had two and three people each. Wan Chih-hsin and Mme. Shih Hsi-fang of CHINA-TUHSU headquarters handled negotiations with customers on gum rosin and turpentine, visiting old customers including Hercules, Sobin Chemical, and PDM Trading Company. PDM provided escort services for a good part of the trip. The subgroup promoting bamboo products of the Peking office and the Kwangtung and Kwangsi branches of the corporation included Wang Si-hsin, Wu Foo-shun, and Liu Yi-chin.

Of all the delegations, Native Pro-

QUOTAS ON PRC IMPORTS SOUGHT

Under pressure from sources both within and without US government agencies, the Carter Administration appears to be moving toward unilateral curbs on textile imports from China.

Various segments of the US textile industry have long sought to impose quotas on PRC textile imports, which are not controlled by the Multi-Fiber Agreement, or any of the other bilateral agreements in common use between the US and textile exporting countries.

China has as yet given no indication that it might concede to an orderly marketing agreement in textiles with the US.

In mid-October, National Council President Christopher Phillips and Suzanne Reynolds, Director of Importer Services, met with officials of the State Department and the PRC Liaison Office in Washington, DC, to review both US and Chinese sides of the issue and discuss possible solutions. In attendance at the PRC Liaison Office briefing were Peng Chin-po, Commercial Counselor, and Huang Tsien-mo, in charge of textiles in the Commercial Section.

The argument of the US domestic textile industry, stated concisely, is that, as long as there are no controls on the expansion of the US market share of PRC imports, they present unfair competition to US-made products. In 1978, industry complaints have intensified because Chinese exports have made increasingly large gains in the US.

By June 1978, textile imports from China were three times imports in the first six months of 1977. During the first half of the year, China shipped 107 million square yard equivalents to the US, compared to 38 million SYE's in 1977. Cotton fabrics made up 69 percent of the total in the January to June period of 1978, at 74 million SYE's.

Within the total import market, Chinese imports make up only 3 percent. China ranked sixth among leading non-US suppliers in the first six months, behind Japan, Hong Kong, Taiwan, Korea, and Italy. China's exports were less than 20 percent of Japan's, the leading supplier, with exports of 522 SYE's.

The smallness of the PRC market share, combined with the fact that

duce was most sure of itself and its objectives. As of July 1978, all three of the products promoted by the deleimports from China, including bamboo baskets and bags (\$3.6 million worth), cassia oil (\$2.6 million), cashew nuts (\$2.5 million). Lead time on the delegation was only three weeks.

Arts and Crafts delegation, 8/29-10/24/78:

Among the highlights of the delegation was a visit to the Gifts, Jewelry, and Housewares Show of the Dallas Trade Mart, one of the biggest national fairs in the giftware trade. Rubbing shoulders with the some 20,000 traders who visit the fair each year, the Chinese group visited showrooms before the meeting with Dallas customers including Neiman-Marcus, Fluorafax, and American Coldset.

The Arts and Crafts delegation changed its old pattern of selling from a showroom in New York, deciding this time to concentrate on studying and examining the US giftware market. The five-person group stayed together during their six-city tour (Washington, Dallas, New Orleans, New York, Los Angeles, and San Francisco). Within the group, three specialists represented straw products, porcelain, and handicrafts.

In discussions with old and potential customers, members of the group interrogated their hosts on the whys and wherefores of seasonal changes in retailing, and the decorative fashions associated with different seasons. In walk-throughs of showrooms in department stores from Neiman-Marcus to Bloomingdale's, the delegation inspected fashion arrangements first-hand.

BY US TEXTILE INDUSTRY

China consistently buys large quantities of textile raw materials from the US, has led the Chinese to question the seriousness of the situation. From the Chinese point of view, the profits they make from selling textile products to the US are more than offset by purchases of cotton and synthetic fibers. In the first six months of 1978, China bought close to \$100 million worth of textile raw materials from the US, while sales of garments and other textile products to the US came to \$58.2 million.

Moreover, China's rising exports to the US in the first half of 1978 follow a year during which textile exports to the US were at a low ebb. Textile imports from China in the January to June period of 1977 dropped 57 percent compared to the same period the year before. Going back two years, China's mid-year textile exports to the US in 1976 came to 89 SYE's, or 83 percent of the 1978 level.

Discounting the unusually low level of China's textile exports to the US in 1977, China's exports show an annual growth rate of 10 percent between 1976 and 1978. This is a reasonable growth factor for a textile exporting country.

The figure which has agitated domestic textile manufacturers, however, is based on the low 1977 level of PRC textile exports. Comparing the mid-year 1978 and 1977 figures, China's textile exports expanded 182 percent, the highest rate of any country.

The US industry rests its case on the quite high percentage increase of PRC textile imports in the first half of 1978.

In the absence of a Most Favored Nation agreement with the PRC, the imposition of unilateral quotas or other restrictions could have adverse consequences on Sino-US relations in general and on US textile exports to China in particular. The National Council is encouraging efforts by members to work with US Government officials and the Chinese toward the establishment of an orderly marketing arrangement which both sides would enter into on a voluntary basis. China has already set a precedent in 1978 by accepting a voluntary limitation of textile exports to Canada.

If it's Thursday, this must be Bloomingdale's: the gala atmosphere of a Bloomingdale's showroom opening was spiced by the attendance of venturesome Chinese representatives from Arts and Crafts, in an occasion that was a first for Bloomie's no less than for the Chinese. Bloomingdale's fall furniture display features Oriental themes in basketry, wall hangings, and objets d'art; and the Chinese were able to view a wide selection of the products their corporation shipped, including baskets, embroidery, and carved jade pieces. Color coordination of fashion displays was one of the areas which fascinated the group.

Arts and Crafts customers had more conventional topics to bring up with the Chinese. Most emphasized the need for prompt delivery of goods in time to meet seasonal rushes. One customer reported difficulty with documentation of shipments from the Kwangchow and Tientsin branches of the Arts and Crafts Corporation, claiming that it had on occasion taken as long as nine weeks for bills of lading to arrive after goods had been delivered.

Members of the delegation were Sung Kuo-fan, of the Peking head-quarters; Wang Chin-chin, Peking; Li Yen, Peking; Chang Sheng-ting, from the Kwangtung branch of Arts and Crafts; and Li Jun-yuan, from the Shanghai branch.

Garment and knitwear delegation, 8/10-9/20/78:

The seven-person delegation from the garment and knitwear department of CHINATEX was the most enthusiastic and well-planned of the fall delegations. The group came with the purpose of getting to know more about their customers than their faces. They wanted to know business size and volume of the buyers who have returned to Peking and Canton year after year.

Visiting 34 customers in all in New York, Chicago, and on the West Coast, the group had ample opportunity to find out the nature of its clientele. Meeting with executives of department store chains including J. C. Penney's and Sears, Roebuck & Co., the delegation learned the ins and outs of marketing to populations of different class and income levels.

One of the main objectives of the delegation was to learn about packaging of clothes for the US market.

The delegation brought samples of woven goods and knitwear to show their customers such as wool, acrylic, angora and cashmere sweaters, pants, cotton, terry, and corduroy goods, blends, and children's wear.

Fang Tzu-ping, in charge of the apparel business with the US, led the delegation. Members of the group included Mme. Chang Lu-chun, Mme. Chen Kuei-ying, Miss Shen Li-chin, Chou Chia-ming, Hsiao Kuei-po, and Wei Lien-ti.

Minerals and Metals delegation, 6/22-7/31/78:

The delegation from the hardware and nonferrous metals bureau of MIN-METALS discussed buying production equipment and know-how as eagerly as sales.

Two subgroups, one on nonferrous metals and minerals and one on hardware products, pursued itineraries that gave them an almost scientific introduction to the US hardware market. At the Bureau of Mines, the nonferrous metals and minerals side of the delegation attended seminars by Bureau specialists on major products which the corporation sells to the US: tungsten, antimony, tin, mercury, fluorspar, barite, and refractory materials.

The nonferrous metals group also visited the General Services Administration to learn about stockpiling. On the hardware side, the delegation visited the Department of Commerce to learn about the trigger price mechanism for steel imports, and a case before the ITC that could mean greater restrictions on fastener imports.

Barite was one of the big items in discussions between the nonferrous



Quality inspection at the Shanghai Number 13 Radio Factory (Hsinhua).

metals group and their customers in Washington, New York, Boston, Houston, and New Orleans. Barite has been rapidly moving up in the list of top US imports from China; as of July 1978, \$0.7 million worth had been shipped to the US since the beginning of the year, compared to none at all in 1977.

Processing arrangements were discussed by the nonferrous metals group. One proposal submitted by a US company calls for payment for tungsten purchases in finished tungsten wire. Tungsten and antimony, another PRC product promoted by the metals side of the delegation, remained comfortably close to the top of the sales list as of July 1978, with \$2.8 million worth of tungsten ore and \$27 million of antimony shipments to the US.

The high point of the hardware group's stay was with Miller Supply Company, which has been given the exclusive distribution of wire nails from MINMETALS. At Miller Supply, the group was treated to a careful presentation on trigger pricing.

In frank discussions with company executives, the group learned how the trigger price mechanism might affect sales of nails and other steel products to the US in the future. Company executives urged the Chinese to broaden the lines of nails offered to the US market in order to avoid conflict and to look beyond nails to other products which could become important in the hardware trade in the future.

Products traded by the hardware section of the delegation included not only hardware, but also steel products, building materials, and electrodes.

Yeh Lei, manager of the MIN-METALS export department for hardware and finished products, was the overall leader of the delegation, joining company with the hardware subgroup on the road. The hardware subgroup included Kuo Shan-hsing and Li Fangcheng. Deputy leader of the delegation was Mme. Chao Hung-yu, manager of the export department for nonferrous metals and minerals, returning for her second visit to the US with a MIN-METALS delegation (Mme. Chao's first visit, and the first MINMETALS delegation was from January 23 to March 8, 1976). Members of her group included Shu Kuo-yu and Jen Ang-sheng.

Carpets delegation: The delegation will be arriving in November. No further information was available as of early October 1978.

CURIOUS ABOUT PRC ANTIQUES?

Try Shanghai's new antique store, a department of the Shanghai Friendship Store located in a two-story building near the emporium at 33 Zhong Shan Road East. It's been designed with a foreign clientele in mind. Products on display range from woodblock reproductions of famous traditional paintings to jewelry, jade and ivory carvings, imitation bronzes, redwood screens, and "ingeniously devised" porcelain decorative ware. If you can't find what you need among the 23,500 objects on the shelves of Shanghai Antiques, maybe you shouldn't be in the business. Each of the items has a price tag, notes the August 16 New China News Agency dispatch announcing the opening of the new shop. No haggling.

The opening of the new store, and the buildup it received in PRC media, is one aspect of China's drive to adopt new and more dynamic marketing practices. Plans are being formulated to develop credit card facilities in the chain of Friendship Stores reserved for the custom of foreign tourist and business travelers. Hundreds of new retail outlets will be set up for overseas Chinese. And the Friendship Store chain itself may expand: new links have been added recently including the antique shop and the first Friendship Store in Sian (5/1/78).

The arts and crafts establishment is undergoing the same kind of shake-up as the rest of China in its effort to develop higher standards in everything. An arts and crafts academy has been set up to develop and maintain standards in special handicraft art, industrial art, decoration, dyeing and weaving, and pottery. Announced in late May, the Chekiang Academy of Arts and Crafts is accepting students on a trial basis in 1978. Entrance examinations are expected to be rough. The new academy may in the future provide a center for exchange of ideas about new product designs and creative marketing of handicrafts.

OIL FOR US LAMPS

In mid-September, US government sources reported that a "substantial amount" of oil from China was on its way to the US, ordered by a West Coast-based oil company.

The report followed earlier stories which evaporated after disavowals by company officials. Gulf Oil Corporation officials dismissed the Washington Post's August 30 claim that the company had been approached "through an intermediary" with an offer of Chinese crude. The spokesman added that the company might be interested if and when discussions could be held.

Could SINOCHEM become a big name in the oil business? As of early October, the American company reputedly at the forefront of the US-China oil trade had not divulged its identity or the extent of its involvement.

PRC EXPORT ZONE NEAR HONG KONG TAKES SHAPE

Amidst some signs of dissent from Hong Kong manufacturers, a PRC export production zone is taking shape just across the border in Kwangtung Province. Hong Kong and Macao businesses have already set up processing plants in Swatow, Canton, Kongmoon, and Waiyang, including several electronic watch assembly plants. A \$1.5 million wool yarn spinning mill financed by businessmen in the lease territory will rise soon close to the Chinese border with Macao. In Canton, a \$7 million spinning mill equipped by a Hong Kong textile firm is underway.

Hong Kong manufacturers have reached agreement on two more garment plants, one in Shumchun and another in Yungkay.

A US firm is involved in negotiations to set up a radio and electronic clock factory in Fatshan.

Some Hong Kong observers are skeptical about the prospects for a special zone for offshore production in China, arguing that creating a special zone will muddle the country of origin status of the products made there.

What does China have in mind? A recent article in *Ta Kung Pao*, a pro-Peking newspaper based in Hong Kong, disclosed three types of joint production which are currently being considered or have already been implemented in Kwangtung Province.

- The first type, which has been in operation "for the past two or three years," is simple processing of raw materials supplied by overseas businessmen. The foreign partner supplies specifications and delivery schedules, in addition to raw materials, paying only for the processing work performed by the Chinese corporation.
- The second type involves supply of both raw materials and equipment by the foreign partner. Factory buildings are provided by China while finished goods belong to the overseas businessman. The costs of the equipment are paid by a reduction in China's processing fee in 20 to 30 percent installments over a period of several months to three years. Once the installments are completed, the equipment becomes Chinese property.
- Offset deals are the third type. In this type of arrangement, China pays the overseas partner for imported plants and equipment through cuts in the processing fees, as with the second type. Applying mainly to imports of large complete plants, the major restriction on this type of contract is that the production plans, including raw materials' consumption, salaries for workers, and energy consumption fit in with

China's industrial plans.

Written by Ta Kung Pao's "Kwangchow correspondent", the article advises businessmen interested in production-sharing arrangements to contact representatives of the FTC's in Hong Kong.

NEW CHINA TRADE REPRESENTATIVE

Boxer & Ashfield Trading (USA) Ltd. 1115 Broadway

New York, NY 10010

Tel: (212) 243-9100, 01, 02, 03, 04 Executive Offices:

1115 Broadway, New York, NY 10010

Ocean Center, Kowloon, Hong Kong

Telex:

WUI 620349 New York 74225 Hong Kong

Cable:

BOXERUSA, New York
BOASHLD, HONG KONG

Date Established—1973, USA; and Boxer & Ashfield Trading (HK) Ltd., Hong Kong—1963

Principals:

C. L. Chan, President (N.Y.) Stephen Chiu, Exec. VP (HK) Daniel Tung, Vice Pres. (N.Y.) Robert H. Tsai, Vice Pres. (N.Y.) Sun-tat Cheung, Vice Pres. (N.Y.)

Types of Services:

Boxer & Ashfield is the sole agent and distributor of bamboo products from Shanghai Arts & Crafts branch of the China National Arts & Crafts Import & Export Corporation since 1975. Boxer & Ashfield buys direct from PRC for its own account and distributes to wholesalers and retailers throughout the US. The company also acts as representative/agent for US importers in products related to handicrafts, giftware, and various consumer products from China National Light Industrial Products Corporation. The Import & Export Division acts as consulting/commission agent for American firms in textiles, garments, knitwear, and canned and frozen foods. Clients: The identities of all our clients with China are kept in strict confidence.

Product Area Specialties

PRC home decorative accessories related to arts & crafts industries, woven bamboo and straw products related to houseware and gift industries.

Payment Arrangements:

Retainer and/or commission.

Other Information:

Boxer & Ashfield was among the first US firms to be appointed as sole agents and given sole distributorships in the US for PRC products. In the last few years the principals of Boxer & Ashfield have been to China on numerous occasions and have established a trusted, confidential and friendly relationship with the top-level management of the import and export corporations. Boxer & Ashfield maintains an executive office in Hong Kong and has access to PRC agencies and resources there for quick and responsive communications. All Boxer and Ashfield's principals were born in China and speak several Chinese dialects fluently.

NEW TELEX NUMBER IN PRC

LIGHTINDUSTRY, Kwangchow branch 44078 LECKB CN

CCIB: WINDS OF CHANGE

In what may be a sign that China is interested in beginning a dialogue on inspection standards, FDA tea inspector Robert Dick has been invited to China for discussions with the China Commodity Inspection Bureau (CCIB). Robert Dick is the first FDA official to be invited to China.

Bearishness has been the hallmark of China's attitude towards inspection terms in the past. Buyers have not been allowed to put inspection clauses into contracts, and as a result, have had problems with products not conforming to US inspection standards.

But with enthusiasm for quality control apparently sweeping through the halls of industrial ministries in Peking, inspection is another area in which the Chinese may be prepared now to learn Western ways. An article in the July issue of China's Foreign Trade seemed to presage a change in the attitude toward foreign standards of inspection by describing the role of a CCIB inspector as ensuring "that quality requirements and technical standards stipulated in foreign contracts are met."

China International Notes

GENERAL

China's foreign trade growing by leaps and bounds, may hit \$22 billion in 1978 • UK Trade Secretary Dell in China discusses Harriers, credit options • Trade agreement signed with West Germany on \$4 billion worth of equipment and services • Self-reliance revisited: Japan wants offices in Peking, gets to build its own 47-story Trade Center • China asks for Western teachers as part of its academic exchange program.

CHINA TRADE: ZOOMING

Hong Kong analysts are predicting that 1978 will be a banner year for China's foreign trade. Based on a 30 percent growth rate over 1977 trade totals, China's combined imports and exports should reach \$19.8 billion worth. But most experts agreed that this is a conservative estimate.

"Almost anywhere you look, the direction is up," states one analyst. "Wheat imports will reach between eight and nine million tons, and steel imports will be above 1977 imports of

five to six million tons. Imports of fertilizers are up; rubber imports are up."

The PRC's imports for the year are almost certain to exceed \$10 billion, up 40 percent from 1977. The only question is whether China can maintain the high export growth rates achieved in the first half of the year. PRC exports could reach \$11.2 billion by the end of the year, up 38 percent from 1977, based on a 29 percent growth rate for the second half of the year. If growth rates are maintained, Peking's total trade in 1978 could be in the range of \$20–22 billion.

A high rate of g.rowth in China's foreign trade is likely to continue. China will buy between \$30 and 50 billion worth of complete plants in the next five years, depending on its export earnings. Discussions are currently underway on at least \$25–27 billion worth of plant imports and investment projects utilizing inputs of foreign equipment or know-how.

And a 20 percent increase per year in the real value of exports is felt to be well within China's grasp, at least for the next five years. Comparable growth rates in exports of oil and manufactured products could reap China \$150 billion in foreign exchange earnings by 1985.

Meanwhile, the US is not the only country reporting spectacular increases in trade with China (see Exporter's Notes). At \$2.14 billion, Sino-Japanese trade was up 42 percent compared to the first half of 1977. West Germany reported that exports in the first six

months of 1978 had already overreached the value of 1977 exports to China, at \$500 million worth, while imports worth \$389 million had risen 17 percent compared to the 1977 period. By June 1978, \$319.7 million worth of PRC products had crossed the docks in Hong Kong on their way to foreign destinations, up 24 percent in value from Hong Kong re-exports in the first half of 1977.

LANDMARK TRADE AGREEMENT SIGNED WITH WEST GERMANY

On September 22, China signed a trade protocol with West Germany guaranteeing German coal-mining and processing equipment manufacturers sales of at least DM8 billion or US\$4 billion. The agreement, the second ten-figure contract the Chinese have signed this year, ensures German firms a major role in China's program to modernize its coal mining sector.

The agreement is also significant from the financing perspective. According to reports from Bonn, China has for the first time accepted buyers' credits from German banks in order to pay for orders under the agreement. Details of financing terms could be finalized in October when Dr. Hans Friederich, chairman of the FRG's second largest bank, the Dresdner, is scheduled to visit Peking.

The broad agreement with Germany's Industry East Committee (ODI) will not exclude sales concluded or nearing conclusion which have been announced in the last few months by a number of German, British, French,

CHINA'S TOP TEN TRADING PARTNERS IN 1977 AND 1978 (millions of US\$)

Country	1977 Exports	1977 Imports	1977 Total Trade	1978 Est. Total Trade
Japan*	1.469.97	2.035.57	3,505.54	4,336.0
Hong Kong	1,735.40	44.00	1,779.40	2,001.6
West Germany	316.05	550.45	866.50	1,304.0
Romania*	NA	NA	600.00+	NA
Australia	NA	460.82	585.00	720
East Germany*	124.08	NA	420.00+	NA
Canada	75.06	337.30	412.36	487.2
United States	171.40	202.70	374.10	912-1,200
Singapore	286.67	61.87	348.54	352
Soviet Union	161.00+	177.00+	338.00+	344

^{*} Figures for China's trade with Japan, Romania, East Germany, and the Soviet Union are adjusted to reflect Chinese imports c.i.f. + Estimated.

Sources: OECD Statistics of Foreign Trade, Series A; National Foreign Assessment Center; Japan External Trade Organization (JETRO).

CHINA'S WORLD TRADE IN 1977 AND 1978 (billions of US\$)

Area	1977 Total	1977 Exports	1977 Imports	1977 Balance	1978 Total (Est.)
World	15.2	8.1	7.1	1.0	10.5
Non-Communist			7.1	1.0	19.5
countries	12.5	6.6	5.9	0.7	16.0
Developed			0.0	0.7	10.0
countries	7.4	2.9	4.5	-1.6	9.4
Less developed				1.0	5.4
countries	3.2	1.9	1.3	0.6	4.1
Hong Kong and				0.0	4.1
Macao	1.84	1.8	0.044	1.75	2.3
Communist countries	2.7	1.5	1.2	0.3	3.4

and US firms. According to the protocol, West German firms will participate in the complete development of two new open-pit mines, and the expansion of a sixth, already established, deep shaft mine. They will erect a large factory to build mining machinery and may also be involved in the modernization of seven existing factories.

Details of individual contracts will be worked out in the next few months. The list of companies which may be involved in projects under the agreement includes several which have already announced sales or letters of intent. Krupp and Demag, which have announced letters of intent from China for \$630 million worth of open-pit mining equipment, will almost certainly be involved.

Orenstein and Koppel (owned by the Dutch Hoesch-Hoogovens) and Weserhuette, a firm controlled by the Otto Wolff group, have also been mentioned in connection with the open-pit mine projects. Estimated cost of development of the two open-pit facilities is \$1.7–2 billion. Located in Northeast China, each of the mines will be designed to produce 20 million tons of coal annually.

The six shaft mines will be developed by a group of companies which is expected to include the Thyssen group, Ruhrkohle AG, and Salzgitter. The five new mines will have a combined capacity of 20 million tons per year, according to reports.

The ODI group which signed the protocol on the agreement was led by Otto Wolff von Amerongen, chairman of ODI and president of the German Chamber of Industry and Commerce (DIHT).

UK OFFICIAL OPTIMISTIC AFTER PRC VISIT

British Trade Secretary Edmund Dell returned from a visit to China in August optimistic about Sino-British trade after Chinese Foreign Trade Minister Li Chiang said at a welcoming banquet "We expect bigger development of our foreign trade." Dell sought to reassure the Chinese that Britain has overcome the problems that caused exports to drop in the past two years—a lack of competitiveness.

Dell discussed two Harrier options—
(a) outright purchase of 200 or 300 at \$8-10 million each, or (b) purchase of 30 Harriers plus a licensing agreement for further manufacture.

Stops on the group's itinerary besides Peking included Sian, where Rolls Royce is providing the technology for a Spey engine factory, and Canton.

Although the Chinese categorically rejected proposals for direct governmental loans, Dell said, "They are open to proposals for financing arrangements of all kinds, and think what will be necessary is to work out the appropriate financing arrangements for specific projects as they come along."

Dell agreed with Foreign Minister Huang Hua to resume negotiations for the signing of a civil aviation agreement.

ACADEMIC CONFERENCES: FIRST STEPS TOWARD PRC-TAIWAN RECONCILIATION?

Attendance by representatives of both the PRC and Taiwan at academic conferences in Asia this year indicates a possible mellowing in the long-standing dispute between Peking and Taipei, while the omission of any reference to Taiwan in the joint communiqué establishing relations between Libya and the PRC was another significant development. And this summer a senior Chinese reportedly said that Taiwan, as well as Singapore and South Korea, had achieved considerable economic successes, and that attention should be paid to this.

The first face-to-face meeting between scientific representatives of Taiwan and the PRC occurred April 20 at the Twelfth International Symposium on Remote Sensing of Environment in Manila. The Philippine Ministry of Foreign Affairs prevented the Taiwan delegates from registering, but they nonetheless attended several sessions.

Both PRC and Taiwan representatives were aware of the other delegation's presence, and papers from both groups will be published in the symposium proceedings. That undoubtedly reflected not only a possible change in attitude by the two on their political differences, but also a mutual recognition of the contribution that remote satellite sensing can make in mapping natural resources.

The second "close encounter" took place on August 24 when physicists from both sides of the Taiwan Strait appeared in Tokyo at the 19th International Conference on High Energy Physics. When asked why the PRC sent a delegation to a conference at which representatives from Taiwan would be in attendance, Tzu Hungyuan of Peking's Institute of High Energy Physics responded, "Taiwan is a province of China. As fellow countrymen we are pleased to attend the same conference." A Taiwan delegate would say only, "I came for a study conference. I'm interested in the study of science. I don't know about these other matters."

That conference followed remarks by Chinese Vice Premier Teng Hsiaoping to a visiting US congressional delegation in July in which he expressed a willingness to negotiate directly with Taipei.

EXCHANGE WORKS BOTH WAYS

After nearly three decades of isolation, China is accepting a cosmopolitan frame of reference for the future.

China's plans to send 10,000 students abroad over the next eight years have apparently been revised upward. Japanese sources report that the Chinese have asked for training slots for 10,000 in Japan alone by 1985, which, at the equivalent of \$7,000 a year each, will cost China \$70 million.

In mid-August, the word from Peking was that the overall target for 1985 had been changed to 20,000 and, in September, sources close to the White House suggested that the target had been increased again to 30,000.

China's students are being encouraged to strive to achieve the coveted honor of a degree from a foreign university, and according to travelers, students and parents are getting into the competitive swing of things. Foreigners have been approached spontaneously by proud parents anxious to unburden themselves of hopes or fears for their offspring. For the first time in years, professional people see opportunities opening up for their children which were blocked for political reasons before.

On a modest scale, the Peking leadership has taken steps to insure that the academic exchange will not be one-sided. A report from the New China News Agency on August 30 detailed a program that brought 90 foreign scholars to China in the first half of 1978, while plans to invite 70 for-

eign linguists to give language courses starting in the second half of 1978 are already underway. The foreign language teachers will stay in China for one to two years. One of the newly endowed instructors is a 23-year-old American (Harvard, 1977), now teaching a course in English at the Chinese Academy of Sciences in Peking.

A high-ranking official has issued a directive explicitly urging Chinese to mix with foreigners in the interest of learning more about Western science and technology. Officials in Peking and elsewhere are said to be turning a blind eye to violations of long-established regulations against social relations between foreign residents and Chinese.

Agriculture

World farm machinery makers trek to Peking in October for giant Expo • Upswing in potash purchases by PRC linked with foreign fertilizer plant imports • Aggresive tactics on the essential oils market by CHINATUHSU irk the competition • China patches up spotty soybean trade with Japanese bean connoisseurs.

FARM MACHINERY EXHIBITION

As part of its drive toward mechanization of agriculture, China has taken the unprecedented step of inviting 12 nations to display their farm machinery at an exhibition in Peking from October 20 to November 3. Previous foreign exhibitions in China have been single-country affairs. Among the countries participating in the fair are Italy, France, Britain, and Denmark, all of which were visited by a high-level Chinese farm machinery mission in May and June.

Also participating are Japan, Australia, Sweden, Canada, West Germany, the Netherlands, Switzerland, and Rumania. The US was not invited, but some American firms, including Caterpillar, Deere & Co., International Harvester, and Uniroyal will be represented by their foreign affiliates. The China Council for the Promotion of International Trade is hosting the exhibition.

Among the products to be exhibited in the 430,000 square feet of space allocated for display are tractors, plows, excavators, air-cooled diesel engines, animal husbandry equipment, harvesters and threshers, sprinklers, sowing machines, and equipment for artificial insemination. The Chinese have set targets of 70 percent mechanization in agriculture by 1980 and 85 percent by 1985. (See box).

SALES TO CHINA

The Journal of Commerce reported September 29 that the Chinese bought 150,000 bales of cotton from the Sudan, while rumors of actuals buying by the PRC prompted a moderate rise in world sugar futures in late September.

A Canadian firm claims it has received the largest order for potash ever placed by China. Canpotex Ltd. announced in September the sale of 300,000 metric tons of muriate of potash for shipment from Vancouver between October 15 and next June 30. In announcing the sale, Canpotex President Roger Hatch said the Chinese have found that much greater use of potash fertilizer is required to obtain maximum benefits from the urea plants they have recently constructed.

Canpotex, the offshore marketing company for Saskatchewan potash producers, shipped 50,000 tons of potash to the PRC in July and August 1977.

In other sales activity, New Zealand sold 100,000 processed cattle hides to China between April and June, while trade sources reported in late June that Brazil had sold "a large quantity" of soybean oil to China.

MENTHOL PRICE WAR

Seeking to capitalize on a drought in Brazil which has cut Brazilian menthol output for 1978 to 700 tons, half the normal level, China has dropped prices of natural menthol by over a dollar per pound. Industry sources report deals ranging from \$6 to \$6.50 per pound, cif New York, duty unpaid. Even with the duty of 50 cents per pound added in, that puts the price well below the \$8 per pound for Brazilian menthol, including freight charges and 17 cents duty.

Manufacturers of synthetic menthol are also hoping to increase their share of the market now that Brazil, at least temporarily, is no longer the dominant figure. Responding to the Chinese challenge, Takasago USA, which sells

Japanese synthetic menthol in this country, has cut its list prices to as low as \$6.40 a pound, fob Long Island City. The other major producers of synthetic menthol have cut their list prices to \$6.90 per pound and are reportedly willing to go much lower. Synthetic menthol is used by the tobacco industry in large quantities and can replace natural material in nonfood applications where natural ingredients are not specifically called for. The principal industries using menthol are tobacco, pharmaceuticals, and food.

According to a study by Haarman & Reiner Corp., a major synthetic menthol producer, China's annual total production is about 600 tons. Another source said the Chinese had exported 400 tons this year as of mid-August, but most industry officials believe that figure represented accumulated stock. They pointed out that strong domestic demand is a major constraint on Chinese ability to export menthol.

CHINESE SELLING REPORTS: SOYBEANS ON THE UPSWING

China is gearing up for sharply increased soybean exports to Japan, according to an August 25 Journal of Commerce report. The report quoted a trade source which said China would probably be able to sell about 200,000 mt to Japan next year because of expanded planting. China agreed early this year to ship 100,000 mt to Japan between this November and March 1979. The newspaper subsequently (9/5) reported a possible sale of 30,000 mt to Japan. A poor harvest last year

caused a delay by the Chinese in delivering 20,000 mt ordered by the Japanese in fall 1977.

A rice glut in Sri Lanka this year has caused the Colombo government to ask China to put off shipment of 200,000 tons of rice scheduled for delivery this year until 1979. Sri Lanka has been buying an average of 200,000 tons of rice a year from China since the two countries signed a rubber-rice barter agreement in 1952. Meanwhile, the FAO has forecast a recovery in average annual rice exports by China to 1.8 million by 1985, the same as its 1972–1974 average.

China has started airfreighting live eel fry from Shanghai to Hong Kong for reexport to Japan, according to a June report in *Fish Trader*. Although China experimented last November with sending live freshwater crabs from Nanking, this is the first time it has exported live eel fry to Hong Kong.

China was the largest exporter of gum rosin to the Netherlands in 1976. The 7,337 tons imported from China accounted for 40 percent of all Dutch gum rosin imports that year and compared favourably to the 3,000 tons China sold in 1975.

FAST CLIP OF AGRICULTURAL EXCHANGES PRESAGES EXPORT GROWTH

During the summer and early fall of 1978, agricultural exchanges with Canada, Australia, and the countries of Western Europe provided Chinese agriculturalists with opportunities to study new techniques of seed potato



Tractors lined up on the grounds of the Loyang Tungfanghung Tractor Plant (Hsinhua).

production, oil extraction, and grain harvesting.

The first agricultural mission from Australia under an exchange program initially established in 1976 departed for China in August. Led by T. J. Kelly, a first assistant director in the Commonwealth Department of Primary Industry, the delegation's motive was exploratory: "to identify specific areas of interest for mutually beneficially exchanges and collaboration in the future," according to Kelly.

The first Chinese mission to visit Australia under the same program was scheduled to arrive in Australia in September or October. A team of animal husbandry specialists would spend three weeks touring Australian breeding farms.

China is learning from Australia in tractors, too. Connor Shea, a Sunshine agricultural machinery manufacturer,

PRC GRAIN IMPORTS JULY-JUNE 1971/72-1977/1978 (Thousand Metric Tons)¹

Year	Total	Canada	Australia	Argentina	U.S.	Other
1971/72	2,967	2,967	0	0	0	0
1972/73	6,194	4,375	274	68	1,477	0
1973/74	7,844	1,382	1,165	275	4,966	26
1974/75	6,069	2,265	1,421	684	1,519	180
1975/76	2,225	1,205	1,020	0	0	0
1976/77	3,159	1,920	761	478	0	0
1977/78	8,566	3,320	4,576	432	238	ō
1978/79 ²	8,700*	_	_	_	_	_

- 1 Includes mainly wheat and some corn.
- 2 Projection includes
- wheat 8.0 million metric tons corn 0.7 million metric tons

Source: U.S. Department of Agriculture

PEKING MACHINERY SHOW PARTICIPANTS Peking. October 1978

Australia

Alfarm Industries
Chamberlain John Deere
Connor Shea
Dunlite Electrical
Farmers and Graziers
Cooperative
Layne and Bowler Pump
Napier Grasslands Sales
Simpson Pope
Sunbeam Corp.
Toft Brothers Industries
Toowoomba Foundries

Canada

Transavia Corp.

Uniroyal

France
L'Air Liquide
Berthoud
Brambilla Cogros
La Buvette
Caterpillar France
Compagnie Olivier
Gard Pere & Fils
G.M.D.
Groupe EMC
Huard-UCE-SCM
John Deere France

KUHN
Liebherr France
Lorin
Matrot
Moreau
Nicolas
Nodet Gougis
Pal Lecieux & Cie Safite
Promafex
Renault

TECNOMA Japan

Ibara Manufacturing Co. Isuzu Motors Hitachi Construction Machinery Co. Honda Motor Mitsubishi Mitsui Yanmar Diesel Co. Netherlands

Euribrid International Flower-Bulb

Netherlands Council For Trade Promotion Philips Gloeilampenfabrieken Schugi

Sembodja Holland Vicon Oskamp en Vrijland

Wavin Overseas Zweegers en Zonen Sweden

Alfa-Laval Falling Number Flygt Hiab-Foco Jonsereds Kamas

Nils Weibull Saab-Scania Tecator Volvo W. Weibull

Switzerland Agrar

Manufacturers VSM
Birchmeier
Brown, Boveri
Bucher-Guyer
Buehler Brothers
Ciba-Geigy
Croco
Fischer
F. Gehring
Globogal
W. Kunz
Motosaccoche
Rapid Machines and Vehicles

Samro Bystronic Machines

Association of Machine

Agricultural Research Tesa Wild Heerbrugg

Associated Engineer's

Swiss Federal Institute for

UK

Glacier Metal; Wellworthy David Brown Tractors Edbro International Elbar Industrial F.A. Standen and Sons (Engineering) F.W. McConnel Hestair Farm Equipment Horstine Farmery Howard Rotavator Imperial Chemical Industries Innes Walker Engineering Leyland Vehicles Micron Sprayers Micronair (Aerial) Plessey Hydraulics R.A. Lister Farm Equipment

West Germany

Amezonen-Werke BASF Karl Becker Daimler-Benz (Mercedes) John Deere Fendt & Co. Hassia-Rau Hudia & Co GmbH International Harvester Kali und Salz AG KWS Kleinwanzlebener Deutz Krinke Kruger KWS Kleinwanzzlebener Saatzucht Lohmann

Perrot Rabewerk Maschinenfabrik Schmotzer Wilhelm Stoll

was invited to China in June to demonstrate farm machinery in the dry wheat areas of Inner Mongolia and northwest China. Connor Shea is among companies with displays in Peking in October.

Chinese delegations traveled to Canada and Great Britain in June and August to look at production techniques in oil extraction and seed potato production, among other things.

A mission from the First Ministry of Machine Building led by Vice Minister Hsiang Nan looked at a wide range of agricultural machinery in Great Britain. One of their stops was at the Simon Food Engineering Group, from June 3–4. The mission discussed machinery and complete plant for oil extraction from seeds and nuts and for processing poultry and meat. Animal feed engineering, biscuit manufacture,

and the latest techniques in cereal milling were discussed.

Sebastian Unsinn

In August, a three-man agricultural delegation from China spent a week in Canada's Manitoba Province meeting with operators of large potato farms, processing facilities, and the Province-run Elite Potato Farm. The study team's chief interest was in bulk storage facilities and disease protection techniques.

Provincial potato production specialist Garth Stone averred that the Chinese seemed receptive to disease-free potato propagation techniques, noting that most of the white potato varieties grown in Canada are either grown by or familiar to the Chinese.

Delegations: A French agricultural science delegation led by Mr. Cauderon, inspector general of the National Agronomic Research Institute, visited China in May and June.

Chemicals, Petrochemicals, Fertilizers

CHINA BUYS MORE INTERMEDIATE PLANTS, SCOUTING FOR FIBER FACILITIES

Major purchases: Two petrochemical intermediate plants from Davy Powergas-\$74 million • MDI plant from Japanese consortium-\$35 million • Half-year fertilizer imports from Japan finalized.

COMPLETE PLANTS

As of late August, China was wrapping up a petrochemical plant buying spree that has already cost some \$500 million.

A sixth big contract won by a European firm, following five by Uhde (CBR 5:4), was announced by Davy Powergas-a subsidiary of Davy International, in early August. The order, for two 70,000-ton-per-year oxoalcohol plants, has been under negotiation for the last 12 months, and negotiations are still proceeding on a companion contract to build a 100,000ton-per-year methanol plant based on heavy fuel and a partial oxidation process. The total value of the contract is \$74.5 million. One of the oxo-alcohol plants will go to Taching, where it will join the Uhde plants soon to be constructed as key components of a major new petrochemical complex. The site of the second plant has not been disclosed. Technology for the plants will be based on a process developed jointly by Davy Powergas, Union Carbide, and Johnson Matthey.

To keep abreast of fast-breaking market developments in the chemical sector the European conglomerate Rhone-Poulenc has announced the creation of a new China division with a branch office in Hong Kong. The division will be headed by Group Vice President M. Gandois. Rhone Poulenc is currently grossing over \$10 million annually in sales of organic chemicals and synthetic fibers to China (6/10/78).

Orders placed with Japanese companies for petrochemical and synthetic textile facilities have already reached \$169 million and, according to recent reports of negotiations in progress, the figure may rise before long to \$250 million. In late June, Maruzen Oil Company announced that inquiries had been received from China for a 150,000 ton/year plant to produce high-purity terephthalic acid (HTA), the base material for polyester. The plant will cost between \$50 million and \$250 million, depending upon the level of output finally settled upon.

About the same time, Toray Industries revealed that negotiations were in the initial stage on a contract for an integrated polyester fiber mill with an annual capacity of 60,000 tons. According to company spokesmen, the excessive size of the contract may force Toray to seek cooperation from other Western textile plant suppliers. Toray was tapped during the visit of the synthetic fiber survey mission under Wang Jui-ting. No prices were mentioned, but Toray's last sale for a much smaller facility in 1973 resulted in \$60 million worth of sales by Japanese companies including Teijin Ltd., in addition to Toray.

China is on the lookout for two polyester plants worth \$526 million, according to recent reports. One of the plants will have a capacity of 180,000 tons of polyester annually and the others 530,000 tons of polyester per year. Inquiries so far have been made with two Japanese firms, Hitachi and Kanebo (9/14/78).

In August, four Japanese companies announced a \$35 million order for an MDI plant. Diphenylmethane disocynate, or MDI, is a base material for synthetic leather, and part or all of the plant's projected 10,000-ton annual output will go to a Clarino leathermaking plant which was ordered in May from another Japanese firm, Kuraray. The MDI plant is to be located in Shantung and will go onstream in 1981. Providing engineering services will be JGC Corporation, which in the past has sold BTX and ethylene plants to China. Other companies involved include Nippon Polyurethane Industry Corporation for chemical processing, and the trading firms C. Itoh & Co. and Western Japan Trading Co. Payments will be made in cash, half in yen and half in US dollars, according to a spokesman for IGC Corporation (8/ 24/78).

JGC is also intimately involved in a contract to build a 300,000-ton-per year ethylene facility in the PRC,

which is the largest single petrochemical plant contract of the nine signed in recent months. Other suppliers associated with the ethylene plant contract include Nippon Zeon Co., which will provide its butadiene extraction license and take up blueprinting of related equipment, and Yuka KK, to handle computer control and training of operators. Further licenses related to construction and design of the plant will come from America's Stone & Webster.

RAW MATERIALS

In raw materials trade, one of China's regular suppliers of polyester staples, Toyobo Co., has decided to cut back exports to China in calender year 1979 by about one-third to 4,690 metric tons. Compnay spokesmen explained that the Toyobo will be reducing output in 1979 temporarily due to the rehauling of its main plant at Iwakuni in Yamaguchi Prefecture. The decision was expected to have a serious impact on semiannual polyester staple negotiations for next year which began in late August. In 1978, Toyobo shipped 7,000 metric tons of polyester staples to China.

Semiannual fertilizer export talks reached a conclusion with less than favorable results for the Chinese side: due to the appreciation of the yen, they will get less than they thought. China agreed to import 645,000 tons of fertilizers from Japan for delivery in the second half of this calendar year, the first half of the 1978 fertilizer year. The volume includes 130,000 tons of ammonium sulphate, 400,000 tons of urea, and 115,000 tons of ammonium chloride. The contracts represent a drop of 90,000 tons in the level of trade compared to the first half.

Prices have been revised upwards by 12 percent for ammonium sulphate and 6 percent for urea, although prices for the latter still fall short of \$150 per ton, according to press reports. The half-year contracts were signed in Peking on July 7. In calendar year 1977, Japan shipped a total of 1.9 million metric tons of chemical fertilizers to China, valued at \$148.9 million. From Baghdad come reports that 8,800 tons of urea were sent to China in June as part of a \$13.2 million deal, details undisclosed, between China and Iraq.

Delegation Highlights:

Four high-ranking Chinese delegations toured Japan and Western Europe during the summer in preparation for final decisions on plant imports.

The first, led by Textile Vice Minister Wang Jui-ting, head of the newly-established China National Chemical Fiber Corporation, visited Great Britain's ICI and Courtalds, spent three weeks in the US, and finished up in Japan (See CBR 5:3). Subsequently, delegations from the State Planning Commission and the State Capital Construction Commission visited British and West German chemical companies including ICI and the FRG's Hoechst and Wacker-Chemitronic in the course of surveys of a broad range of technology.

Finally, a mission from TECHIM-PORT set out to sign plant contracts with European companies in the petrochemical sector, based on ministerial recommendations. The first results of the mission, led by Cheng Chung-fang, deputy director of the China National Chemical Construction Corporation, were the Uhde contracts.

In other reports from the UK, the Chinese have made inquiries to Humphrey and Glasgow for construction of a fertilizer plant. The West German and British contracts followed the TECHIMPORT tour, which included discussions with Zimmer and BASF executives in West Germany and stopovers at Davy Powergas, ICI, BP and Kellogg in the UK. From Britain the group went to the Netherlands for talks with Shell and Kellogg International.

Specific topics covered included: methanol (Davy Powergas, ICI); ethanol, metacresols, polymers (HDPE, LDPE, PVC, PP), phenol and acetone technology (Kellogg); SCP technology (ICI, Teeside); butadiene extraction, polypropylene, and PVC (Shell).

Delegations: Synthetic fiber survey mission led by CNCFC General Manager Wang Jui-ting and Ku Hsiu-lien, vice minister of the State Planning Commission, visited Japan (5/29-6/18/78) • TECHIMPORT delegation headed by Cheng Chung-fang, deputy director of the China National Petroleum and Chemical Construction Corporation, visited West Germany, Great Britain, and the Netherlands (May-June, 1978) • 14-man delegation from Marubeni Corporation led by President Taiichiro Matsuo traveled to China to discuss exports of high technology products in which the trading company specializes. The team also proposed importing Chinese products including farm produce, textile products, and nonferrous metal ores (6/6-14/78) . Feng Pohua, vice minister for the Chemical Industry, led a survey mission to Yugoslavia (6/7/78) . Toray Industries team reportedly visited Peking in late July to pursue negotiations for integrated polyester fiber mill (July, 1978) . Chinese chemical industry survey mission visited Romania after a month-long stay in Yugoslavia (7/3-21/78).

Construction Equipment, Vehicles, Other Machinery

MASSIVE PURCHASES IN LIEU OF PLANT ORDERS

Major purchases: From Kobe Steel, construction and civil engineering machines worth \$20 million • 158 large shovel loaders from Kawasaki Heavy Industries, at \$10.8 million • From Hino Motors, 664 heavyduty trucks and trailers, for \$17.2 million • \$53.7 million order for three hopper dredgers to Ishikawajima-Harima Heavy Industries . Six cutter dredgers from IHC Holland valued at \$17.7 million . Negotiations on cement plant imports underway with five Japanese companies; asbestos slate plant also under discussion . Japan mounts major exhibition of metal processing and building materials technology in Peking.

Chrysler UK is bridging the gap between complete plant and product sales by offering Knocked-Down (KD) facilities, which would allow China to incorporate domestically-manufactured components with imported components. Mitsubishi has submitted a similar proposal. Meanwhile, Berliet's "Sock-it-to-me" request to Chinese was vetoed by French government.

CHINA AGREES TO BUY-BACK IN MACHINERY WITH JAPANESE COMPANIES

China will begin limited production of machine parts and valves for Japanese companies in 1978 in preparation for beginning full-fledged countertrade in 1979. According to the Japan Economic Journal (9/19/78), two valve makers and a mining machine parts manufacturer have signalled their interest in the arrangement which Fuji Trading Company has worked out with China's MACHIMPEX. The arrangement calls for the Japanese companies to provide designs, basic materials, and technical assistance. Initial imports are anticipated in the range of \$250,000 to \$500,000.

Fuji Trading Company spokesmen have indicated that the Chinese are ready to accept consignment production of construction machines and valves at present and machine tools in the near future. A MACHIMPEX team is scheduled to travel to Japan in October to work out final details of contracts for mining machine parts and valves.

JAPAN PLAYS THE EXHIBITION CARD

Moving quickly to consolidate its leading position in the market, Japan opened its biggest ever exhibition of construction and metalworking equipment and technology in China in early September. The two-week exhibition was mounted in the Peking Exhibition Center, the most prestigious exhibition site in China, and included the products of 100 manufacturers and 34 trading companies. Earlier Japanese exhibitions in the industry in 1972 were held in provincial capitals and represented a much smaller range of companies (eight to thirteen).

Over \$4 million worth of equipment are on display, most of which will probably remain in China after the show ends. The opening ceremonies were attended by Minister of Foreign Trade Li Chiang, Shen Hung, vice-minister of the First Ministry of Machine Building, Aiichiro Fujiyama, charman of the Japan Association for the Promotion of International Trade, and other top officials. (9/26/78).

CONSTRUCTION EQUIPMENT: SURGE IS UPWARDS

With an outlay of at least \$129 million for imported capital construction equipment between May and September, China's construction industry began its 1978—1985 plan with a bang.

Nor is the flow of foreign orders likely to abate. In Peking, the chief of the State Capital Construction Commission, Minister Ku Mu, told assembled leaders of the industry in early May that construction investment over the next eight years will equal that of the past 28 years.

The minister did not disclose how much of the investment was slated for imported equipment. But indications are that the percentage will be high. Before the closing session of the conference, attended by the PRC's top economic officials, Minister Ku and no fewer than six of his vice ministers

were on their way to points West.

Their mission was to produce authoritative estimates of the cost and optimum timing of imports of foreign equipment under the plan. Some of the results of their missions are reflected in China's recent purchases; others are expected to emerge over the next three years as appropriations are made for projects which, in the words of Minister Ku, are unprecedented in their scope and technical requirements.

Other delegations have been out including a municipal administrators group to the US with engineers interested in all aspects of urban construction, and a silicate society group bent on evaluating building material costs and technologies.

As one preliminary, several construction-related missions have been invited to China in recent months, including master builders from Australia, the British Ceramic Plant and Machinery Manufacturers Association, and the Chairman of the UK's Taylor Woodrow & International, Robert Aldred. After his five day visit to Peking, Aldred said that China could well use expertise and construction management for power projects, industrial plants and coal mine development.

Major Purchases:

Two major sales associated with the \$1.8 billion Paoshan Steel Works, the contract for which was signed in late May, have been reported to date. Kobe Steel Ltd. announced in late July that an order had been received for \$20 million worth of construction and civil engineering equipment. The machines, including 40 pile drivers, 20 crane trucks, and three to four electric shovels, will be used in construction of the Paoshan mill. Company spokesmen said that more orders were anticipated in the future "in accordance with the progress" on the plant.

In a related order, MACHIMPEX has asked for \$10.8 million worth of large shovel loaders from Kawasaki Heavy Industries. The contract calls for supply of 158 shovel loaders, with delivery scheduled between last 1978 and early 1979. Shovel loaders with 3.1 cu. meter buckets and other models are included in the order, which was arranged by Taiyo Bussan Kaisha, a Tokyo-based trading company (8/1/78).

In connection with harbor expansion projects, China has ordered six cutter dredgers, valued at \$17.7 mil-

lion, from IHC Holland. The sale, announced in August, brings the number of dredgers the firm has sold to the PRC since 1973 to fifty. In early September, Mitsubishi Heavy Industries said that it had received a \$53.7 million order for hopper suction vessels from China. The three dredgers ordered each weigh 7,120 dwt, have a 4,500 cubic meter capacity, with engines raising 16,000 hp, and are 129 meters in length. The contracts have been denominated in yen or a cash payment basis. Deliveries are scheduled to be completed within 13 to 17 months after signing of the contract. (9/5/78)

Delegations: Chinese machinery delegation under Chi Tien, vice minister of the First Ministry of Machine Building, visited industrial sites in Yugoslavia and Romania (4/13/78). • British Ceramic Plant and Machinery Manufacturer's Association to China, including representatives of F. Malkin and Co., Blythe Colours, Casburt, Gibbons Bros., Service Engineers, and William Boulton. (4/78) • Engineering specialists of Chinese-American descent invited to Peking by science and academic organizations included Yun-chow Whang, head of the Department of Mechanical Engineering at Catholic University (6/24/78), and Chang-lin Tien, chairman of the Department of Mechanical Engineering at UC Berkeley (7/3/78) . Chinese study group on rubber sealers and high-pressure hosing visited Europe at the invitation of the Association of Hydraulic Equipment Manufacturers (late June or early July, 1978) • Master Builders Association, Victoria, Australia to PRC (8/78) . Construction group from UK to Peking, including Taylor Woodrow International (8/78) . National Council delegation from the US construction equipment industry will visit China to discuss equipment sales (December 1978).

CEMENTING RELATIONS

A sudden flurry of negotiations on building materials and plant suggest that Peking is expecting shortages of key construction materials. Although China's cement industry produces an estimated 55 million tons annually, ranking fourth in the world, domestic production of other building materials, including specialty steels and timber, is limited. Breaking a tradition of 22 years standing, China has ordered cement from a Japanese company, Sumitomo Cement. In late August, the company said that China had committed itself to the purchase of 44,000 tons for delivery in September and October, but the contract had not at that time been formally signed.

A few weeks earlier, the Japan Economic Journal (8/8/78) reported that four Japanese companies had received inquiries from Peking authorities on supplying cement facilities for the first time. Kawasaki Heavy Industries sent a technical team into Peking almost immediately, while the three other com-

panies—Ishikawajima-Harima Heavy Industries, Mitsubishi Heavy Industries, and Kobe Steel—were still working on the blueprints for similar missions. The reported price range of the deal is between \$188 million and \$215 million. The Kawasaki team was followed to Peking shortly by an engineering team from Nippon Cement Company to discuss a different but related contract.

As an alternative to adding expensive new plant facilities, Peking may be considering the import of modern equipment to upgrade the cement industry across the board. In this respect, the contract which Nippon Cement has been invited to discuss could be a pathbreaker. China has asked the Japanese company to study the feasibility of using Nippon Cement technologies for fuel-efficient new suspension preheaters (NSP) to raise output of an existing facility from 400,000 tons to one million tons of cement annually. With three conventional kilns, the plant under survey is one of China's front-line cement facilities.

In still another cement-related development, the Japanese cement industry began negotiations with MINMET-ALS in July. The Japanese want to barter 200,000 tons of cement for steam coal.

Negotiations are going on with two Japanese companies for supply of an asbestos slate plant. Asano Slate Co., a subsidiary of Nippon Cement, is competing against Onoda Cement Co., according to reports in August.

Technical Seminars: Blue Circle (UK), cement-making technology (5/17/78): Delegation from the consultancy division of the British Blue Circle Group presented eight papers on cement production including fuel economy, quality control, and plant operation.

FORESTRY EQUIPMENT

Investigating the means for updating its obsolete forest-based industries, from lumber processing to papermaking, a delegation on forestry planning and harvesting techniques left China on August 3 for visits to Austria and Romania. Led by Luo Yu-chuan, a vice minister of agriculture and forestry, the group attended the 27th International Timber Fair, in Klagenfurt (8/3/78).

VEHICLES: CHRYSLER UK OFFERS KD FACILITIES

Joining a delegation from the British 48 Group which visited China in mid-April, representatives from Chrysler UK brought a presentation package which included a proposal for a knock-down (KD) facility for making Dodge trucks.

The company also expressed an interest in selling trucks and complete plants, and according to some reports, submitted a bid for a truck-assembly plant for which the Japanese firms Hino, Isuzu, and Mitsubishi HI have been competing. But the KD concept is something new to the China market. The proposed facility would involve incorporating truck components of domestic manufacture with others sourced from Britain.

But the Japanese firm Mitsubishi may have stolen Chrysler's initiative. Making what the company euphemistically termed a "courtesy call" on TECHIMPORT officials in Peking, company President Tomio Kubo entered into the first phase of negotiations on a project that sounds as though it may have been adapted directly from the Chrysler presentation in April.

What the Chinese want from Mitsubishi is a KD facility or the equipment to convert an existing auto plant in Nanking into one. According to Japanese sources, China wants to use the knock-down production system to manufacture trucks for export. Mitsubishi, along with Hino Motors and Isuzu Motors, has already presented proposals on a factory to manufacture 6- to 12-ton trucks.

Major Purchases:

In moving equipment, Japanese firms continue to lead the field in sales of heavy dump trucks to the PRC. The latest sale, announced at at the beginning of August, is for 664 heavy-duty trucks and trailers worth the equivalent of \$17.2 million. Won by Hino Motors, Ltd., the sale includes 547 ten-ton general cargo trucks, 70 five-ton general cargo trucks, 15 nineton dump trucks, four 15-ton dump trucks, ten heavy tractors, ten trailers, and six 10-ton tank lorries. Adding to the order delivered to Hino in May for 2,473 trucks for \$38 million, the latest order brings Hino sales to China in 1978 to \$59.2 million for 3,164 units. In the realm of engine technology, the British firm Ricardo and Co. Engineers (1927) Ltd. has won a \$950,000 contract for engine testing and defect-detection know-how. Details

on the contract, which involves testing of prototype engines, have not been disclosed (5/26/78).

Negotiations:

The expanded needs of China's agricultural transport has become the common cause of the British Society of Motor Manufacturers and Traders (SMMT) and the Chinese Society of Mechanical Engineering. A delegation from Parliamentary representatives of the British motor industry, dubbed 'All-Party Parliamentary Motor Industry Group' held talks with officials from the Chinese society and other organizations in Peking in mid-June.

Among other things, the group learned that China would have to reorganize its motor components industry before planned expansion of truck production could be carried out. The Chinese told the group that they wanted to increase production by 300,000 units annually. Domestic assembly lines are adequate to the task, officials said, but they would need outside help in systematizing stock control, automation, and management of the components industry.

The contest between Mitsubishi and Isuzu over filling a Chinese contract for a 100,000 unit per year truck plant continues unabated.

From France come reports of an illfated venture to trade French trucks against five million pairs of socks made in China. The novel idea, sponsored by Renault, whose chief executive Paul Berliet traveled to China this spring in the entourage of Premier Raymond Barre, was firmly vetoed by the French Ministry of External Trade.

Delegations: Engineers from Flat toured truck and tractor factories in China to promote technical aspects of the company's equipment (3/78) • Ford Motor Company Chairman Henry Ford II visited China in company with vice President Donald Peterson and other company directors (6/19-21/78) ● The senior research physicst of Ford's Scientific Laboratory, Charles C. Want, was in Peking shortly thereafter to carry out "academic exchanges", according to the Chinese press (6/27/78) • The Engingeers Digest, a British trade publication, announced that it was forming a trade mission to travel to China in the fall (11/26-12/12/78) The British Society of Motor Manufacturers and Traders has invited the Chinese Society of Mechanical Engineering to Britain for talks on the trade in motor vehicle components and knowhow (1979) Vandervall Products, a bearing manufacturer, noted the visit of a Chinese delegation to its plant located in Maidenhead, England (7/4/78).

MACHINE TOOLS: NEGOTIATIONS

Delegations led by a vice minister of the State Planning Commission and the Minister of Metallurgical Industries both saw machine-building enterprises in Great Britain. At GEC Electrical Projects, the group led by Tang Ko, the minister of Metallurgy, visited machine-making gear-cutting, and control gear factories. Vice Minister of the State Capital Construction Commission Hsieh Pei-yi was present at the demonstration.

Later, the chief of the delegation, Ku Ming, together with Sun Yu-yu, held talks with the president of the British Machine Tools Trade Association on developing further exchange in the industry; in the first five months of year, Britain exported \$1.2 million worth of metal-working machines to China and imported \$113,000 worth of Chinese-made milling and gear hobbing machines.

SCIENTIFIC INSTRUMENTS

In June, a delegation from China's Ministry of Public Health visiting Great Britain saw ultrasonic scanners for medical diagnosis and gamma camera equipment used for cancer research at the Edingurgh Laboratories of Nuclear Enterprises. The delegation also visited MEL, a company which has already sold three linear accelerators to China for treatment of patients suffering from cancer and related diseases. The delegation led by Deputy Minister Chien Hsin-chung, visited medical research institutes, medical colleges and factories producing medical equipment and pharmaceuticals. Chien was accompanied by 11 directors and heads of major medical establishments in Peking and Shanghai (6/13-26/78). Exhibition: In Shanghai, China, exhibitions of Japanese medical equipment, photosensitive materials, and related equipment, sponsored by the Association for Promotion of International Trade (11/16-30/79).

SUNTORY IN CHINA

Beer drinkers in China undoubtedly lifted a glass or two to celebrate a September 11 report that the PRC plans to buy from Japan a brewery that would more than double the PRC's annual beer production capacity.

Suntory Ltd., a major Japanese distiller, will supply the \$50 million plant, according to Japan's Kyodo News Service. The plant will have an annual capacity of 100,000 kiloliters. China's current beer production is estimated at 60,000–70,000 kiloliters.

Defense

DEFENSE: CLOSING THE CIRCLE
In the headlines: Huang Hua expected to discuss the Harrier jumpjet during October mission to the
UK • Talks on arms sales with East
Europeans and French anger Soviets • Austria promises technical
cooperation in high-tempered steel
for military uses • Delegations
march East and West; Chinese
delegations attend British arms
shows for the first time.

"GUERRILLA DIPLOMACY" AND THE SEDUCTION OF NATO

The PRC's latest strategy against its northern foe has been called by some observers "guerrilla diplomacy."

Meanwhile, the People's Liberation Army is seeking to narrow the advantage of the 60 crack Soviet divisions poised across the Sino-Soviet border by importing advanced weapons systems, provided Western nations can sell what China needs.

At West Germany's International Air Show 78, at the Rotterdam Naval Expo in June, and at Britain's Aldershot and Farnborough military equipment exhibitions, Chinese delegations have had a close look at the latest Western weapons systems at work. In arms factories and at displays, the Chinese have observed assembly lines of B0-105 attack helicopters, SCOR-PION light tanks, MARDER armored cars. LEOPARD and CHIEFTAIN tansk, MILAN/HOT anti-tank guided weapons, the ROLAND anti-aircraft tank, the AIRBUS and TRANSALL military transport aircraft, the Clansman military communications system, and the multi-role combat aircraft TORNADO.

Western arms suppliers have said that they will permit sales only of defensive weapons systems, such as the short-range vertical-takeoff and -landing craft, the Harrier, and others that might help China combat a Soviet attack but not mount one of their own. But behind their guarded compliance with China's requests for arms, the Western powers clearly are weighing the benefits of having a strong Chinese military to stalemate Soviet advances in Africa and Southeast Asia and draw Soviet fire from the European border regions.

The Chinese are meanwhile assiduously burning any remaining bridges with the USSR. In early September, China's Vice Premier Teng Hsiao-ping stated publicly that China will not renew the Sino-Soviet mutual defense pact when it expires in 1980 (9/7/78).

THE WOOING OF EASTERN EUROPE

Shortly after Chairman Hua Kuofeng arrived in Yugoslavia on August 22, 1978, reports surfaced in the Western press that arms purchases were near the top of his list of topics for discussion with Yugoslav President Tito. Official sources soon confirmed the reports, claiming that it was "only natural" that the East European country should look toward China as a market for its thriving modern arms industry.

Before the formal opening of discussions by the Chinese Party Chairman and Premier, a Chinese military team flew to Belgrade in June to brief Yugoslav military officials on China's needs and to go over terms. Led by a member of the CP Central Committee, the official military goodwill mission showed the importance which Peking placed on winning its objective. A similar group sponsored by the People's Liberation Army visited Romania at the same time. Before visiting Yugoslavia, Chairman Hua spent five days in Romania, China's leading East European trade partner, where discussions of arms sales may also have been held.

Delegations: PRC military goodwill delegation to Yugoslavia, led by Yang Yung, Deputy Chief of Staff of the PLA (6/22/78) ● PLA military friendship delegation to Romania, led by Liang Pl-yeh, Deputy Director of the PLA General Political Department (6/16-30/78) ● Chairman Hua Kuo-feng, to Romania (8/16-21/78) ● Chairman Hua Kuo-feng, to Yugoslavia (8/22-29/78).

THE WOOING OF WESTERN EUROPE

The PRC team that visited four countries of Western Europe in June and July ranked almost as high as the military delegations to Romania and Yugoslavia. Spending 35 days in Sweden, Switzerland, and finally Italy, the mission was headed by Chang Ai-ping, Deputy Chief of Staff of the PLA and Chairman of the Science and Technology Commission for National Defense. Sweden's Supreme Commander Stig Synnergren, French Chief of Staff Guy Mery, and the Italian Minister

of Defense, Attilio Rufino, gave warm welcomes to the 15 generals who composed the delegation.

In Sweden, General Chang's group zeroed in on submarines, the Saab-Scania supersonic Viggen jet fighter, an underground dockyard and civil defense center and warships. According to some reports, in Italy, contracts were discussed for naval vessels, armored vehicles, cannon, and aircraft.

In related news, China has announced its intention to establish a military mission and consulate in West Berlin (6/25/78). Another European military leader, the Austrian Defense Minister Otto Roesch, returned from a three-week China visit in August with a definite invitation to Austrian manufacturers to supply production technology for specialty steels, a vital input to China's military machine-building industry. The Austrians will also accept Chinese metallurgical and mining specialists for study at Austria's Montan University, according to the defense minister.

Some obstacles yet remain for China to overcome in the European arena. In early June, the Paris-based Western European Union (WEU) voted down (34-21) a proposal to sell arms to China. An association of Belgium, France, West Germany, Italy, Luxembourg, the Netherlands, and Great Britain, the WEU was founded in 1955 to coordinate mutual defense operations of the seven member countries, and is a parent organization of NATO. Although the proposal for direct weapons sale was turned down principally due to the efforts of left-wing European politicians, the WEU Assembly voted overwhelmingly in favor of proposals to increase technological and commercial exchange with China. Proposals were based on a WEU report, China and Western Security, which Sir Frederick Bennet presented to the Assembly (6/22/78).

Delegations: Delegation to the first International Naval Technology Expo and Conference, Rotterdam (6/6-8/78) ● PRC military goodwill delegation to Sweden, France, Switzerland, and Italy, led by Chang Ai-ping (6/26-7/16/78) ● Austrian Minister of Defense Otto Roesch to China (7/30-8/21/78).

CHINA ON THE VERGE OF ACQUIRING THE HARRIER

While negotiations are proceeding on a variety of modern weapons systems with European arms manufacturers, China is about ready to close the deal on the Harrier. Negotiations begun last fall may be concluded during the upcoming visit of PRC Foreign Minister Huang Hua to Britain from October 10 to October 14. Over the summer, two high-ranking Chinese military delegations held meetings with British Aircraft Corporation, manufacturers of the Hawker Siddeley Harrier STOL jump-jet, and the Harrier contract was among those included in British Trade Secretary Dell's portfolio for his China trip in August.

The Harrier was the main order of business of a 60-man military delegation which arrived in Great Britain on September 2 to attend the annual Farnborough Air Show. Led by Wang Ting-lieh, chief of staff of the PLA Air Force, the delegation viewed a selection of Britain's most sophisticated aircraft and aerospace equipment.

After watching flight demonstrations of the versatile Harrier, the team split up so that members could visit a variety of factories making Harrier components. Aircraft industry spokesmen said that the Chinese pressed them for information on every facet of the jump-jet.

Invited by Sir Neil Cameron, the British defense chief of staff, the Chinese delegation to the Aldershot Army Equipment Exhibition in June was the first PRC military group sent to the UK, and the first to attend a British weapons show. The leader of the delegation was Tang Chung-wen, deputy chief advisor to the Northern Industrial Company, described in the British press as a weapons manufacturing company

Out of the 10,000 pieces of equipment on display at the Aldershot show, the Chinese gravitated toward new electronic defense artillery systems. EMI's Cymbeline radar for mortar-fire location and Marconi Space and Defense Systems' pocket calculator for artillery guidance were among chief items of interest. From Aldershot the team went to Dorset to view British army firepower demonstrations, including a demonstration of the Harrier in action.

The delegation spent the remainder of its two-week tour in discussions with companies including Plessey and British Leyland. At the Plessey Isle of Wight plant, the company showed off its radar artillery systems. British Leyland hosted the Chinese at their Alvis plant in Coventry. Arousing specula-

tion that BL might win the first contract with the Chinese for military production technology, the Chinese showed particular interest in the Scorpion light tank and other armored vehicles.

Delegations: PRC military team attended the Aldershot Army Equipment Exhibition (UK, 6/20-25/78) ● British Trade Secretary Edmund Dell visited China at the head of an industry delegation (8/6-13/78) ● Chinese team attended the Air Display at Farnborough (UK, 9/3-10/78) ● PRC Foreign Minister Huang Hua visited Great Britain (10/10-14/78).

CHINA STRENGTHENS TIES WITH JAPAN

Arriving in China in mid-September, a full-fledged delegation from the Japanese defense industry began the first formal talks on arms sales to China.

While Japan is officially constrained by its US-imposed 1947 "peace" constitution from selling weapons to China, many types of equipment with military applications can be sold. Led by Eitaro Murai, president of the Society of Japanese Aerospace Companies, the delegation reportedly took up where informal discussions broke off three years ago. At that time, China is said to have presented a specific weapons list to the Japanese.

The arrival of the delegation followed the conclusion in early August of a peace and friendship treaty between China and Japan which has the potential to change the military balance of power in East Asia. Although the loosely worded treaty, signed August 12, states only that "relations of peace and friendship between the two countries" will be "strictly observed," few observers could doubt that some form of military cooperation was entailed.

In signing the treaty, Japan acquiesced to a crucial clause condemning "hegemonism." The clause, referring implicitly to the Soviet Union, had been the sticking point of negotiations.

In early September, the Japanese cabinet announced the impending visit of PLA Deputy Chief of Staff Chang Tsai-chien, apparently to follow up security implications of the peace and friendship treaty. Details of the general's itinerary were being arranged by the Japanese Defense Agency and the Foreign Ministry, according to the statement. Chang was scheduled to hold talks with Takehiko Takashina, chairman of the Joint Staff Council, among other Japanese military officials.

Agreement: China-Japan Peace and Friendship Treaty (8/12/78).

Delegations: Retired Japanese military officers visit China (5/21/78) ● Deputy Chief of Staff of the PLA Chang Tsai-chien visits Japan (9/5/78) ● Society of Japanese Aerospace Companies visits China (9/78).

CLOSING THE CIRCLE: THIRD-WORLD DELEGATIONS

Amid reports that China had offered tanks and artillery pieces to Zaire's President Mobutu Sese Seko, the normal flow of delegations to and from Africa, the Middle East, South America, and the less-developed countries of Asia was maintained:

Delegations: Tunisian Defense Minister Abdullah Farhat visited Peking for talks with the PRC Ministry of National Defense (4/30/78) ● As guests of the PLA, General Felix Lopez, Mexican secretary of defense, visited China (5/13/78) ● Burma's Minister of National Defense, General Kyaw Htin, held talks in Peking with Chairman Hua Kuo-feng and others (6/7/78) ● Chih Hao-tien, deputy chief of staff of the PLA, led a military goodwill mission to the Congo and Zaire (6/15/78).

Electronics

 Domestic satellite network being readied—Peking scouts European and US for system • Siemens 7000 computer OK'd for China by COCOM
 Japanese TV plant contract reportedly signed in August.

TELECOMMUNICATIONS— DOMESTIC NETWORK BY 1985

Since RCA and Western Union International placed earth stations in China in early 1972 prior to President Nixon's historic trip, the need has steadily risen for China to (a) expand its domestic communications nework and (b) develop its international communications network.

- The first need can be met by one to three satellites and 30–100 ground stations. This network should exist by 1985.
- The second need requires more time on the Intelsat system, which the PRC joined in August 1977, and has been using since 1972. Chinese groups have participated in Intelsat working conferences in May and July in the US.

The Chinese have petitioned the International Telecommunications Union, which allocates radio frequencies around the world, for two satellite "slots" in stationary orbit 22,300 miles high. Peking is expected to get the positions over the Pacific.

While the US government has begun talks on the sale of an American satellite to the PRC (see Exporter's Notes), China's agreement with West Germany for leasing time on the Franco-German Symphonie 1 communications satellite has sparked hopes in the UK that the Chinese may be in the market for British satellites. With the Chinese reportedly expressing interest in satellite equipment at the Hanover Show in early June, British Aerospace Dynamics believes that it may be able to sell its common spaceframes for OTS (orbital test satellites), ECS (European Communications Satellites), and Marots (maritime communications satellites). Industry officials believe that the Chinese may want to develop a regional communications system based on OTS and ECS.

Peking intends to launch its own communications satellite in 1981.

Kokusai Denshin Denwa Co. has proposed to the Chinese Posts & Telecommunications Ministry that the two countries build a high-speed facsimile network between them. The proposal by KDD, which has a monopoly on Japan's overseas telephone, telegraph, and telex operations, is aimed at meeting the expected increase in demand for facsimile services as a result of the jump in trade and technical cooperation between the two countries. The proposal was disclosed in August by KDD president Manabu Itano.

COMPUTERS: SIEMENS 7000 MODEL APPROVED FOR PRC

Siemens AG announced in July that it has received COCOM approval to sell a \$700,000 computer to China. The company said the computer will be used in the Hangchow Turbine Works for technical calculations, project design work, order processing, and manufacturing control. The sale is connected to a licensing agreement concluded by Siemens with the Hangchow Turbine Works in early 1976. The computer, in the 7000 series, is the first of its kind that Siemens has sold to China. Other computer sales by the firm involved process-control computers used in factories to control manufacturing processes.

Siemens hopes to follow up this sale

with some big sales in December, when it will hold an exhibition of its products in Shanghai. The 10-day show is reportedly the first occasion in a decade when a single company will be exhibiting its entire product range in the PRC. Products to be displayed include data processing equipment, turbines, electronic components, and nuclear power plants. The company has budgeted \$500,000 for the exhibition.

The Chinese are also interested in buying advanced computer systems from Britain's International Computers Ltd. A seven-man delegation from ICL, invited to China by the China Council for the Promotion of International Trade, was originally scheduled to give 15 computer seminars in a week, but ended up staying twice as long and giving 28 seminars. The Chinese reportedly expressed most interest in the bigger units of ICL's advanced 2900 series, some of which cost about \$1.5 million. Computer manufacturers' hopes have been buoyed by reports that the Chinese plan to import an additional 40 to 50 large computers in the near future.

JAPANESE FIRMS CLAIM SALES RELATED TO COLOR TV PLANT DEAL

Several Japanese companies have signed contracts with the Chinese for sales of equipment related to China's plans to acquire a color TV plant. Hitachi Ltd. and Tokyo Shibaura Electric Co. (Toshiba) announced in July that they had reached a basic agreement with the Chinese on the \$150 million sale. The two companies signed a contract in Peking with TECHIMPORT Deputy General Manager Chen Yang on August 19, according to the Daily Yomiuri. The sale must be approved by COCOM before it goes through.

The related sales are Asahi Glass Co.— a \$55–65 million contract to produce glass valves; Dai Nippon Toryo Co.—a \$9.4 million order for a plant that will make fluorescent materials for color TV picture tubes; Dai Nippon Screen Mfg. Co.— an order for shadow masks.

The Chinese Radio Administration has signed a \$1.4 million contract with the French firm, General Automation, for the installation of an international message transfer system using the GA 16/440 system.

SOLD OUT

A Hong Kong firm taking part in an exhibition in Peking in August came back empty-handed—well, not quite. The Chinese snapped up all equipment displayed by Filmo Ltd. for a total bill of \$400,000. The equipment included projectors, language laboratory, training devices, and equipment for vocational education as well as educational films. With the increasing Chinese interest in audio-visual equipment as a result of the leadership's modernization drive in science and technology, Filmo officials believe that additional orders are possible.

Delegations: Shen Kuang, vice minister of posts and telecommunications, led a mission to France and Great Britain in July. Among the stops on the delegation's itinerary was the Racal Group Presentation Center at Bracknell, where the team observed the company's latest range of radio equipment.

Energy

Japan pushing hard for offshore oil agreement with PRC • Chinese oil sales to Philippines, Thailand, and North Korea reported, while Italy may join list of customers • Hitachi sells two oil rigs • China also buys five oil skimming ships • Japanese firms vie for power plant sale • Japan likely to aid China in coal development • Nuclear aid for Pakistan.

OIL: JOINT VENTURE PROSPECTS FOR JAPANESE

The government-owned Japan National Oil Corp. has reached a "basic agreement" with China on joint development of oil resources in Pohai Bay, company officials announced in Tokyo in late July following a mission to China. The two sides initially agreed to meet again in Peking in September to discuss details of the project, but the second mission was later postponed to October. The Japanese officials also said the two nations had agreed to study the feasibility of joint development of oil resources at the mouth of the Chu (Pearl) River. The Japanese expected that details of the proposed accord would involve Japanese technical and financial assistance in exchange for eventual production-sharing arrangements.

SANSHUI OIL: HIGH QUALITY LIGHTER CRUDE

The JNOC mission also visited the new Sanshui oil field north of Kwang-chow and analyzed the crude, which it found to be of high quality. Sanshui crude has a 32.5 degrees C. pour point and is 39 percent in lighter fraction, 0.05 percent in sulphur content, 0.04 percent in nitrogen content, and 43 in API gravity.

SINO-FRENCH COOPERATION AGREEMENT

France and China reportedly concluded a very important petroleum cooperation agreement in August, following a visit to China by Jean-Pierre Capron, director of motor fuels in the Ministry of Industry. The report did not give any details, but other sources indicate that France is negotiating with China regarding participation in China's offshore oil development.

OIL FOR SALE

The Japanese aren't the only ones thinking in terms of increased purchases of Chinese oil. The Philippines signed a long-term agreement worth \$500 million on July 27. The deal commits the Philippine government to import from China an average of 1.2 million tons of Shengli crude, with prices to be negotiated on an annual basis. This volume is an increase of about 300,000 tons over last year's imports from the PRC, worth some \$71 million. The agreement makes the Philippines China's second largest petroleum customer, trailing Japan.

Meanwhile, Thailand, another of China's oil customers, has reportedly agreed to buy about 300,000 metric tons of high-speed diesel fuel, alleviating a serious shortage for the Thais. The price was reported to be below the prevailing market price. Another country that will probably soon be buying Chinese oil is Italy. According to an Italian news agency report in May, Vice Premier Teng Hsiao-ping, in a meeting with Transport and Merchant Marine Minister Vittorino Colombo, confirmed China's "complete readiness" to sell oil to Italy.

In an apparent bid to weaken Soviet influence in the northern half of the Korean peninsula, China will sell North Korea crude oil at a price more than \$5 cheaper per barrel than the Soviet Union charges, according to Japan's *Mainichi Shimbun*. The paper said Chinese Communist Party Chairman Hua Kuo-feng made the promise to North Korean President Kim Il-sung in May.

Chinese crude oil was also flowing to South Korea via American oil firms. Although a South Korean embassy official in Washington denied the report (CBR 5:4, p. 39), an official of one US oil firm subsequently confirmed that his company had bought petroleum from China for resale to the Philippines and other countries, though he was not sure whether South Korea was one of them. The four companies named in the Mainichi Daily News report as buying Chinese oil were Shell, Exxon, Mobil, and Caltex. The article said Caltex and Mobil sold South Korea 30,000-50,000 tons of Chinese crude last year and that Caltex and Shell had shipped some 220,000 tons of Chinese crude to Japan last vear. On August 30 the Washington Post reported that the Chinese had recently approached Gulf Oil Corp., through an intermediary, offering crude for sale.

HITACHI SELLS TWO OFFSHORE DRILLING RIGS

China has ordered two offshore drilling rigs worth a total of 11 billion yen (US \$53 million) from Hitachi Shipbuilding and Engineering Co. According to Hitachi, each rig will be a semisubmersible triangular platform with three 127-meter-long columns that sink or float according to sea depths. The rigs will be built at Hitachi's Osaka shipyard and are to be delivered in January 1980. The yen-priced contract, announced in late June, calls for payment of the entire amount in cash by the time of delivery.

World Ocean System, Inc. has won a 1.2–1.3 billion yen (US \$5.9–6.4 million) order from China for five twinfuselage oil-skimming ships. Each of the five vessels will be 190 tons, 30 meters long, 3.8 meters deep, with an ability to skim 30 cubic meters of oil an hour. Four of the five ships will be built in Japan for delivery by the end of this year, with the fifth to be built in Hong Kong for delivery by March 1979. The company will use the dynamic inclined-plate (DIP) process licensed by JBF Scientific Corp., the largest oil-skimmer builder in the US.

ELECTRICITY: HITACHI, MITSUBISHI, AND TOSHIBA SEEK POWER PLANT CONTRACT

Three Japanese heavy-machinery producers are competing with each other for a contract to build a 600,000 kw power station that will supply electricity for the Paoshan steel works, scheduled for completion by 1980. The projected plant, to include two 125,000 kw units and one 350,000 kw unit, will reportedly cost at least 70 billion yen (US \$350 million).

The companies—Mitsubishi Heavy Industries, Hitachi, and Toshiba—completed technical negotiations in July and are now submitting price quotations for the power plant. The companies received inquiries from the Chinese about the plant in May.

Babcock-Hitachi KK, which was initially in the running for the project, subsequently teamed up with Hitachi to submit bids on a joint basis for boilers, turbines, and generators, all of which are to be fabricated on a full, turnkey basis. Mitsubishi HI has joined with Mitsubishi Electric Corp. in the same endeavor, while Toshiba, which has no boiler division, has entrusted Mitsubishi HI with production of boilers on a consignment basis for supply to China.

Although the companies initially believed that the Chinese would not split the order, the entry of Toden Engineering & Consulting Co., a subsidiary of Tokyo Electric Power Co., into the talks at a later stage makes it now seem possible.

China has also been sounding out Japanese atomic reactor makers such at Hitachi regarding the possibility of building atomic power generating facilities. Japan thus joins the US, France, and West Germany on the list of countries to which the Chinese have expressed interest in nuclear technology (CBR 5:3, p. 41 and 61).

CHINA LIGHTS UP HONG KONG

The trilateral coal-mining and energy deal involving China, Hong Kong, and the UK (CBR 5:2 p. 49) may result in China buying electricity from the China Light and Power Company in Hong Kong within the next five years. The partnership agreement calls for a UK group led by General Electric Company to build a coal- and oil-burning plant in Hong Kong, with the Chinese also buying \$500–600

million worth of coal mining equipment from UK firms.

Once the Hong Kong plant is completed, the Chinese hope that it will be able to furnish some electricity to Canton, which had to go on a four-day workweek last year because of a lack of electricity from the Hong Kong plant during off-peak hours.

NUCLEAR AID FOR PAKISTAN

China has offered to help Pakistan build a nuclear reprocessing plant, according to a July 22 report in the Bangladesh Times. The report stated that Vice Premier Keng Piao made the offer during his visit to Pakistan in June. The report also said diplomatic sources in Islamabad believe the Chinese intention was to bring Pakistan up to the level of India in nuclear development. China and Pakistan had signed a protocol in early July on scientific exchanges.

Finance

WITH \$40-43 BILLION IN FOREIGN PURCHASES AHEAD, BANK OF CHINA READIES OPTIONS— INCLUDING CREDIT CARDS

Bank of China ponders \$40-43 billion worth of purchases . Meanwhile China lends \$2 billion on Eurocurrency market . US banks, still out in the cold, expand ties with BOC . Japan's domination of the PRC financing hangs by slender thread, while China shops for cheaper money in Europe; US banks find a crack in door . Question marks in China's new financial portfolio: \$1-2 billion loan for resource development from Japan? Japanese Eximbank offers mixed funds for export financing . Bank of Japan may give private bankers low-interest cash for export loans to China, at their own risk . Lines worth \$200 million under negotiation with British banks . European banks canvassed on syndication . Credit cards discussed • \$1 billion a year from overseas Chinese?

TIME TO JOIN THE IMF?

With at least \$40 billion of purchases by the PRC of foreign plant

and technology in hand or ahead, the Bank of China (BOC) is now sitting in the hot seat.

According to Chinese officials, the PRC's development plan will cost Peking RMB ¥ 1,000 billion (\$600 billion) 1978 through 1985, equivalent to \$75 billion a year.

But annual expenditures of \$5 billion for foreign technology will be a relatively small—6 percent—share of the PRC's annual budgets through 1985. China's projected foreign technology expenditures are conservatively estimated by *CBR* over the next eight years as follows—

Peking's Foreign Technology Budget

1978-1985 (Rounded estimates)

Category	\$ billions
Iron and Steel	21
Petroleum	3-5
Coal	4
Ports	5
Hotels	2-3
Power development	2
Fisheries	2
Aircraft	1

Total \$40-43 billion

With these developments ahead, China should certainly consider applying for membership in the International Monetary Fund (IMF), already granted to Rumania and Yugoslavia (both recently visited by Chairman Hua Kuo-feng). This would be a major benefit to the PRC, not because of lending facilities afforded by the fund, but because of the knowhow and experience of the world's most mature and sophisticated financial community. The expertise of the IMF and its members could benefit China's banks at a time when China's dealings in the world's financial circles are rapidly expanding. Peking sent no message or observers to the September IMF annual meeting in Washington, DC, but NCNA wrote it up.

CHINA LENDS \$2 BILLION ON EUROCURRENCY MARKET

The Bank of International Settlement (BIS) put the PRC's net position on the Eurocurrency market as of end-1977 at \$2.0 billion, about the same as in June 1977 (See *CBR* 4:6 pp. 41-43). With only \$455 million given as borrowings on the market as of that date, the PRC's interbank debts were peanuts compared to the UK's (\$68.7 bil-

lion), Germany's (\$36.2 billion), USSR's \$10.6 billion) and South Korea's (\$5.2 billion). The PRC figures relate to reporting banks, including branches of US banks in Belgium-Luxembourg, France, Germany, Italy, Japan, Sweden, the UK, and the US.

New figures released in July by BIS reveal that at end-1977, of China's \$455 million worth of liabilities, \$390 million will fall due in 1978. BIS reported \$499 million of "undispersed commitments," loans which have been made by other banks to the Bank of China but not yet drawn upon.

The \$390 million due in 1978 includes long-term maturities falling due in 1978 as well as more recent obligations. The remainder is broken down as follows: \$7 million maturing in 1-2 years; \$55 million maturing in over 2 years' time; and \$3 million "unallocated" liabilities.

AMERICAN BANKS STILL OUT IN COLD, BUT READYING FOR NORMALIZATION

US bankers, flocking to Peking this fall, will see expanded relationships with the BOC in 1979 before normalization. But, precluded from holding mutual accounts with the BOC and transferring funds directly to Peking, US banks remain spectators watching foreign banks race for the Triple Crown. Neither the US nor the Chinese side seems seriously interested in resolving the claims/assets issue. The BOC continues to say the issue is a US government problem. And although Congress has OK'd CCC agricultural credits for the PRC, funds from the sales must still be channeled through non-US banks. While major US bank loans to China are possible despite claims/assets, direct dollar ties with the BOC still seem to hinge on normalization. And since EximBank financing and guarantees are unavailable, US companies trying to make plant sales to Peking must obtain fixed rate financing aboard using foreign eximbank facilities, thus doing little to improve US exports or US jobs.

RISING YEN, FALLING GRACE

The Chinese have seized on the rise of the yen as the latest and best argument to beat down the cost of Japanese money.

Since September 1977, the value of the yen has jumped almost 40 percent, driving up export prices "across the board" by a factor of 20 percent, according to a recent statement by a member of Prime Minister Takeo Fukuda's cabinet (9/27/78). The Chinese can see that they will be paying more and more for less under their dollar-denominated long-term trade agreement with the Japanese.

Measures may be taken against use of the yen in future transactions, PRC officials have warned. First, Japanese press correspondents in Peking were called together in mid-September to hear a special message from Vice Premier Kang Shih-en. The vice premier instructed Japanese importers not to let the rise of the yen distract them from their responsibilities to the Chinese side. If the Chinese have to pay more, the Japanese will have to buy more as well.

In less than a week, the implications of Kang's remarks were formulated in less genial terms. Meeting with a group of businessmen from Kansei Economic Federation on September 14, Tuan Yun, vice minister of the PRC's State Planning Commission, told the Japanese that the rise of the yen, if unchecked, would "ruin" the Sino-Japanese trade agreement.

Requesting the Japanese to hold the yen in the range of 200 to 220 to the US dollar, Tuan warned that China will turn to other currencies if the situation does not improve.

EUROPE: "WE WILL BORROW FROM YOU"

For Europeans, it's a waiting game. As one London bank executive told *CBR*, "We haven't heard the last of interest rates," and few bankers were willing to risk a guess on China's next move.

Definite word that China would do business with British banks came only in late June, when Britain's Lord Chalfont, advisor to the Lazard Brothers, returned from Peking with the message from Vice Premier Li Hsiennien that "we will borrow from you."

In the last week of September, the BOC's review of documentation submitted by three British banks on proposed credit lines entered its seventh week. The proposals were formally presented, amid much fanfare, in early August during British Trade Secretary Edmund Dell's China trip. Each is for the same amount of cash, \$100 million; one has been proposed in a joint arrangement between Lloyds Bank Inter-

national and the Merchant Bankers SG Warburg, and another by Standard Chartered Bank of London. Initially, funds have been offered on five-year terms at the standard OECD interest rate of 7.25%.

All three proposals have the full backing of the UK's Export Credit Guarantee Department, a relationship which reduces risk for the British banks to a minimum. Ken Cotterill, deputy chief of ECGD, traveled with the Dell party to Peking to work out technicalities of the arrangement. The relationship includes a 100% guarantee of principal and interest of the loan. In

addition, ECGD guarantees each of the lenders a minimum profit based on the difference between the interest rate settled upon with the Chinese, and LIBOR—the London Interbank Offer Rate—which determines how much the bank itself pays for the cash it lends.

Compared to Japanese proposals, the terms offered by the British banks are modest. Full-fledged buyers credits are not envisioned in the first tranche of financing. The line will be applied only to purchases of British capital equipment valued over \$5 million. With each new purchase, the Chinese will have to apply again to make a withdrawal from the line, which will be placed in the form of a deposit facility with the BOC in London.

The facilities are renewable. According to various observers, the lines could be worth between \$250 million and \$500 million as a result of routine renewals. To carry the deposits beyond that range, evidence of a significant rise in Sino-British trade will have to be presented to the ECGD. It is illegal for British banks to extend credit without ECGD authorization.

British bankers are cautiously optimistic about the prospects for extensio of the finoncing. In the meantime, they are putting together the operational framework for a long-term credit relationship with China. At least ten British banks have been mentioned in connection with syndicate formation, including merchant bankers Hill Samuel, Kleinwort Benson, and Morgan Grenfell, and the 'big four' British clearing banks (Lloyds, Barclays, National Westminster, and Midland).

US banks are clamoring for inclusion in syndicated non-dollar credit arrangements. According to banking sources in London, an American bank could technically lead a syndication through a British-owned subsidiary. US banks are more likely to participate through subsyndication arrangements, however, in which the sources of financing are disguised. British banks have been approached not only by US banks but by US manufacturing companies as well, seeking financing for contracts sourced from their British-based subsidiary companies.

British and Belgian, and German and Italian banks are pairing up to provide financing on specific export projects, the British-Belgian team for financing of the recent \$1.2 billion sale

RMB: DOLLAR RATES AS OF OCTOBER 1978

Date		RMB/US\$	US\$/RMB	RMB/US\$ % Change
July 4	Bid	1.7193	58.1632	
	Offer	1.7107	58.4556	
	Median	7.7150	58.3090	-0.70
July 29	Bid	л.7142	58.3363	
	Offer	1.7056	58.6304	
	Median	1.7099	58.4830	-0.30
Aug. 1	Bid	1.7091	58.5103	
	Offer	1.7005	58.8062	
	Mdian	1.7048	58.6579	-0.30
Aug. 8	Bid	1.7022	58.7475	
	Offer	1.6938	59.0388	
	Median	1.6980	58.8928	-0.40
Aug. 9	Bid	1.6971	58.9240	
	Offer	1.6887	59.2171	
	Median	1.6929	59.0702	-0.30
Aug. 10	Bid	1.6920	59.1017	
	Offer	1.6836	59.3965	
	Median	1.6878	59.2487	-0.30
Aug. 16	Bid	1.6785	59.5770	
	Offer	1.6701	59.8767	
	Median	1.6743	59.7264	-0.80
Aug. 18	Bid	1.6936	59.0458	
	Offer	1.6852	59.3401	
	Median	1.6894	59.1926	+0.90
Aug. 23	Bid	1.6987	58.8685	
	Offer	1.6903	59.1611	
	Median	1.6945	59.0145	+0.30
Aug. 24	Bid	1.7056	58.6304	
	Offer	1.6970	58.9275	
	Median	1.7012	58.7820	+0.40
Aug. 30	Bid	1.7004	58.8097	
	Offer	1.6920	59.1017	
	Median	1.6962	58.9553	-0.30
Sept. 21	Bid	1.6936	59.0458	
	Offer	1.6852	59.3401	
	Median	1.6894	59.1926	-0.40
Oct. 4	Bid	1.6801	59.5203	
	Offer	1.6885	59.2242	
	Median	1.6843	59.3718	-0.30
Oct. 5	Bid	1.6717	59.8193	
	Offer	1.6801	59.5203	
	Median	1.6759	59.6694	-0.30

of European coal mining equipment to China.

In the wake of an announcement on October 13 that China would place a \$14 billion order with West German industry to build an integrated steel works, the Dresdner Bank announced it was ready to head a consortium to put up credit for the deal.

On October 16 the French revealed that they had proposed a 10-year government/private sector finance package worth \$12 billion to the Chinese.

The Chinese are broadening their horizons on the European continent. Early in the summer, reports indicated that the BOC would soon open its fourth international branch office in Luxembourg (other branches are in Hong Kong, Singapore, and London).

JAPAN: THE ORIENTAL MYSTIQUE

In a stunning series of agreements to agree, in August and September the Chinese accepted a number of major Japanese financial propositions but what has actually been signed, if anything, is not clear. Apparently, the Chinese are still pursuing a strategy to force down Japanese interest rates to the lowest possible level.

Highlights of Sino-Japanese negotiations include:

- (6/16/78) The Japanese Eximbank announced proposals to expand yendominated deposits in the BOC, and to urge foreign exchange banks in Japan to exchange deposits of dollar-based funds with the BOC. Eximbank also promised to "take steps" to speed up the granting of suppliers credits to Japanese exporters engaged in trade with China. Deposit funds would be used to facilitate bilateral trade.
- (7/13/78) Vice Premier Li Hsiennien stated that China would need funds from Japan in two years' time, in meetings with the Mitsui Industrial Group delegation to Peking. It was the first time any Chinese leader used the word "loans" in connection with import financing.
- (8/24/78) Chinese trade and monetary officials told an economic reporters delegation that China was ready to accept private loans from Japan through the Japanese Eximbank, but not government loans from the Overseas Economic Cooperation Fund. China accepted all of the proposals made by Eximbank in June, and in addition agreed to give favorable attention to the requests of Japanese banks to open

representative offices in Peking.

- (8/29/78) According to Susumu Nakamura, head of Japan's Eximbank, following negotiations in Peking, China agreed to accept yen-quoted loans for import financing and resource development. Some accounts state that Chinese compliance was based on an understanding that interest rates on loans and other financing would be settled at 6%.
- (9/9/78) Vice Premier Kang Shih-en called on Japan to buy more Chinese products and lower prices to help make the long-term trade agreement stick.
- (9/12/78) Vice Minister of the State Planning Commission Tuan Yun delivered attack on the appreciation of the yen.
- (9/14/78) China accepted OECD terms of 7.25% interest rate for loans maturing in five years or less, for financing of capital goods imported from Japan. A "basic agreement" was reached on financing of Chinese projects for oil and coal development. Interest rates on resource loans are not bound by OECD standards. In view of the appreciation of the yen, China was reportedly considering plans to establish a 'flexible' interest rate based on an effective rate of 6.25%. The agreement calls for an investment by Japan of \$1-2 billion, which China will pay back even if development projects financed by the loan fail.

Imbalance of Payments Under China-Japan Trade Agreement Calls For New Financing Strategy:

The China-Japan Long Term Trade Agreement, recently extended from eight to thirteen years, which has guaranteed Japanese industry of at least \$10 billion in revenues from plant exports to China between 1978 and 1985, is itself creating problems for Japanese bankers. A recent JETRO study has revealed that for the first five years of the agreement, Japanese exports of steel plant and other capital goods will dominate the exchange. For three years out of the five, China's payments to Japan will exceed receipts for shipments of coal and oil to Japan.

To take up the slack, China has pressed for lower interest rates and longer maturities on deferred payment terms offered by the Japanese, as well as better terms for other options under consideration. After 1982, the situation will improve for China only if exports of oil exceed the level of 15 million

tons per year. China will be in a bind if a higher level is unattainable, because the majority of payments on plants and other imports falls due after 1982, according to JETRO. The worst squeeze will come in 1983, when China will be responsible for payments to Japan on at least \$1.72 billion worth of imported equipment.

The JETRO analysis is calculated on the basis of 1977 prices for oil and coal, using five and ten year deferred payment schedules (7.25% and 7.5% interest rates respectively) to assess Chinese payments year by year from 1978 to 1985. Among other findings, the JETRO study shows that China's earnings from oil and coal shipments to Japan over the first eight years of the agreement could reach as much as \$13.7 billion worth, based on a 5% annual price increase.

12 Month Yen Futures OK'd for Japan's Importers of PRC Goods:

Tokyo and Peking reached an agreement in June to extend the maximum period for yen-RMB forward transactions from six months to one year. This is being done by granting a special six-month extension over the original half-year contract.

The development, of dubious value to the Japanese, is an example of the lengths to which the Japanese will go to please their Chinese trading partners. Japanese importers making use of their new options will be able to give their Chinese suppliers an assurance against depression of buying prices for Chinese goods due to the rise of the ven

It has also been agreed that forward exchange commitments will now be made within a month of the signing of a trade contract or within five business days of the opening of letters of credit—instead of two business days as was previously the case.

AND NOW INTERNATIONAL CREDIT CARDS IN CHINA?

China has been holding discussions with a number of international credit card companies as a preamble to large scale tourism in the PRC. The Chinese want to try out a credit card system first in the network of Friendship Stores and special retail outlets serving foreigners and overseas Chinese. There are more than 50 retail stores serving the foreign community in Peking alone. In the initial stage of operations, some

300 branches of the People's Bank of China in 10 to 15 cities could be involved in cash disbursal and authorizations

Once the trial effort is completed, the system will be extended from retail stores to the new fleet of modern hotels that China hopes to construct by 1981. Telex and banking facilities at most of China's existing inns are not presently up to the tasks of providing quick authorizations or (for the credit card vendor) sales drafts, both of which require sophisticated telex and postal services.

Discussions are now focusing on the feasibility of setting up an authorization base system at branch banks of the People's Bank of China. The authorization base would provide quick approvals for large checks drawn on the credit card and carry out liaison with the foreign vendor. The possibility of setting up an authorization base in Hong Kong is also under consideration, according to US bank officials.

BANK OF CHINA: OFFSHORE ERA AHEAD?

An article published in Peking's Kuangming Daily on August 18 hinted at new ventures that may lie ahead for the BOC, including offshore banking. Citing V.I. Lenin, the article called for a high degree of corporate and financial involvement on the international scene as a necessary step on the way to modernization. "We must buy out capitalism by paying surplus profits," the article quoted Lenin, "Let the capitalists have these surplus profits. What we get will be the essential things."

To Lenin, a logical step in banking was the acquisition of foreign capital through government-guaranteed loans. If foreign loans are the first innovation, the next leap the BOC may take could be the expansion of its offshore banking system, already well-established in Eurocurrency operations.

Bank managers of the PRC branch and affiliate banks in Hong Kong met in July to map out a ground plan for modernization. The conference keynote was meeting the competitive challenge of Western banks. Peking has reportedly encouraged the Hong Kong-based Chinese banks to take more initiative and to diversify their banking operations by attracting local business as well as the China traders. But for 'old friends' in the China

trade, the Chinese pledged to offer lower interest rates and bigger loans than any of their competitors.

As a result of the conference, the Bank of China will set up a finance company to participate in Hong Kong's growing consumer market, and may offer trust department services in the near future (Wall Street Journal, 8/2/78). BOC Hong Kong's latest innovation is the acceptance of submortgages. With the completion of arrangements for the first transaction, involving \$2.1 million, the Bank of China deepened its hold on the Hong Kong real estate market. The submortgaged properties included residential and business properties (9/25/78).

PUMPING INVISIBLES: OVERSEAS CHINESE INVESTMENTS

China plans to raise annual overseas Chinese remittances from the current \$400 million to \$1 billion, according to reports in Hong Kong. In mid-August Peking authorities announced a series of measures to attract greater sympathy and increase the cash flow from Chinese communities abroad:

• Residential property of overseas Chinese in China seized during the Cultural Revolution will be returned to them, and investment in new construction is currently being accepted. (Before the Cultural Revolution, over-

- seas Chinese developed property in China as a means to improve living conditions for their relatives, and to provide comfortable circumstances for themselves if they returned to China).

 Overseas Chinese and Chinese re-
- ceiving remittances from relatives living abroad no longer have to present ration coupons to buy radios, TV sets, bicycles, or sewing machines.
- Special retail outlets with expensive and hard-to-get items have been established to serve overseas Chinese and Chinese with cash from their foreign relatives. Kwangtung Province will have over 50 of these shops by 1979. The shops will carry foreign imports such as watches, TV sets, and synthetic fabrics, according to reports.
- Each overseas Chinese family visiting China will be allowed to import one TV set and one radio.
- Overseas Chinese investment corporations, offering dividends of 7% annually, will be revived.

Observers in Hong Kong estimate that six million people in Kwangtung Province alone—one eighth of the total population of the province—receive money from their relatives living overseas. If each of them obtained enough money to buy a TV set, about \$225 for a Hungarian set, from their affluent cousins abroad, China could reap at least \$1.35 billion worth in foreign exchange earnings.

Delegations: • Delegation visited Peking from the Central Bank of the Philippines, led by Amado R. Brinas (6/22/78) • Britain's Lord Chalfont visited Peking (6/29/78) • Delegation fro the Mitsui Industrial Group visited China to discuss financing and other trade matters (7/7-20/78) • British Trade Secretary Dell led 13-strong mission to China (8/6-10/78) ● Team visiting China from the Kyodo News Service learned that China would accept Japanese loans (8/24-9/9/78) • Association for the Promotion of International Trade (Kokubosoku) sent a 14 members mission to China including Isao Masamune, chairman of the Industrial Bank of Japan, for discussions on aspects of bilateral trade (8/30/78) • Seven-member delegation from the Industrial Bank of Japan, led by Kisaburo Ikeura, visited China (9/8/78) Toshio Komoto, head of the Japanese Ministry of International Trade and Industry (MITI) led mission to China for discussions on financing (9/11-16/78) ● Japanese Eximbank Vice President Susumu Nakamura traveled to Peking to present final proposals on Eximbank loans for Japanese exports under the China-Japan Long-Term Agreement (9/12-17/78) ● Delegation from the Kansai Economic Federation (Kankeiren) visited China for discussions on credit ties (9/12/78) • Yoshihiro Inayama, president of the association, led a mission to China from the Japan-China Association on Economy and Trade (9/25/78).

Iron and Steel

Steel mill makers line up • Japanese steel sales for 1978 expected to top 5 million tons • Australia shipping 900,000 tons of iron ore to PRC • China and Brazil agree on oil, iron ore exchange • New Zealand Steel wins contracts for steel piping.

STEEL PLANT

August in Peking was at Q-BOP heat for steel mill negotiators. Among most recent developments:

• A West German consortium headed by Schloemann-Siemag announced in mid-October that it had been asked by China to present a tender on a \$14.6 billion integrated steel works to be built in Hopei Province. The works will be built in two stages, with a final total annual capacity of 10 million tons of crude steel.

- Sumitomo Metal Industries has presented its proposal to build a \$1.8 billion 6 million ton steel plant near the present Anshan steel works in Northeast China. Anshan's 6 million ton capacity is to be expanded by 2 millions tons by 1985;
- Britain's BSC, Davy Ashmore, Davy Loew, and GEC had groups to Peking in August, September and October to discuss a \$2 billion 6+ million ton per year steel complex to be located away from the coast in Northeast China near Peking.
- and two Australian delegations, from Conzinc Rio Tinto in August and Hamersley Iron Pty in July, made an intensive study of China's mines and steel works. The Conzinc executives were experts in ore extraction, steelmaking and metallurgical technology.

STEEL TRADE

With the decline in US steel purchases from Japan because of the trigger pricing mechanism, China could become Japan's largest steel market this year. The US bought 7.38 million tons from Japan last year, compared to China's 4.47 million.

China's steel purchases from Japan this year should amount to some five million tons, worth \$1.4-1.6 billion. Shipments during the first half of 1978 amounted to 2.5 million tons, while Chinese and Japanese negotiators agreed on a figure of 2.3 million tons for July–December shipment. MINMETALS then subsequently ordered 250,000 to 300,000 tons of steel tubing for use as pilings in construction of the new Paoshan steel complex near Shanghai. The tubing will be supplied jointly by Nippon Steel Corp., Nippon and Sumitomo Metal industries.

British Steel Corporation won a \$1.93 million order in July from the PRC to supply special steel sections with delivery set for September. The sale brings the total value of business done by BSC in China to over \$26 million since the corporation's chairman, Sir Charles Villiers, visited Peking with a trade delegation in October 1977.

New Zealand Steel Ltd. received two contracts worth \$3.5 million for supplying 8,000 tons of galvanized piping, according to July press reports. (The firm sold 1,400 tons of piping to the PRC in 1975.) Earlier reports from the

New Zealand Export-Import Corporation indicated that China bought some 25,000 tons of steel piping from the firm between April and June.

Meanwhile, China has indicated that it considers India to be its principal source for steel tubes and pipes and wants direct contracts for orders. The reports said China has in the past imported "substantial quantities" of Indian tubes and pipes, but through companies in West Germany and other European countries using Indian subcontractors.

The Chinese bought \$13.4 million worth of steel tubes from India earlier this year. T. D. Sinha, who led a delegation of the Association of the Indian Engineering Industry to the spring Canton Fair, identified wire ropes and prestressed concrete wires as other export items enjoying "good prospects."

The Chinese reportedly asked Indian delegates at the fair to prepare a quarterly supply schedule for next January involving 30,000 tons of pig iron every quarter.

IRON ORE TRADE

Australia shipped a total of three million tons of iron ore to the PRC in 1977, but mid-August reports indicate that this year's total will reach five million tons. One of this year's major deals calls for the delivery of 900,000 tons from the Mount Newman joint venture, being sent as a 55% lump, 45% fines mix in 25 shipments between August and the end of November. The deal is worth US\$23 million. Partners in the joint venture are America's Amox Iron Ore Corp., Pilbara Iron Ltd., Dumping Mining Co., Seltrust Iron Ore Ltd., and Japan's Mitsui-Itoh Iron.

Much bigger deals could be in the offing. The high-grade Australian ore, with an iron content of 60 percent, is being mixed (10-20%) with low-grade Chinese ore. BHP has been selling ore to the PRC from Cockatoo island at the rate of about one million tons a year, while Hamersley has also sold a million tons a year to China under a three-year contract signed in 1974, since rolled over. Australian ore sales to China could reach at least 10 million tons annually by 1985.

A seven-man Chinese iron and steel buying mission to Australia in mid-August for a one-month visit was led by Pi Yi-ming, deputy general manager of MINMETALS. The delegation was also expected to visit aluminum refineries, lead and zinc smelters, the Kambalda nickel mine, Pilbara iron deposits, port facilities, and Mt. Isa mines

Adding to the confidence of the Australians is a report that an executive of Nippon Steel, which is building the new Paoshan steel complex outside Shanghai, advised the Chinese that "the use of Australian ore would give them efficient mill operations."

A new trade agreement signed in July between Brazil and China calls for the exchange of 250,000 tons of Brazilian iron ore (half in pellets, half sinter feed) in return for 662,000 barrels of light, low-sulphur-content Chinese oil. Handling this first experimental arrangement for Brazil is the state mine conglomerate, Compañhia Vale Do Rio Doce (CVRD). The company has received permission from the Philippines government to set up an iron ore depot in Mindanao so that it can transship China-bound cargo from its large ore carriers to smaller vessels. (Shanghai can only take vessels under 40,000 tons.) Shipments began in October.

The Chinese will test the Brazilian ore in conjunction with Chinese ore.

Another Brazilian firm, Mineracoes Brasileiras Reunidas will furnish China's MINMETALS with 150,000 tons of lump ore in November, via Mizushima in western Japan where it will be transhipped to 20- to 30,000-dwt carriers for transport to China.

Hsiangyu Railway crosses a deep gorge in China (Hsinhua).



Japan

CHINA DIGGING IN IN EAST ASIA: EXTENDS BUSINESS PACT, SIGNS FRIENDSHIP TREATY WITH JAPAN

The extension of the China-Japan Long-Term Trade Agreement from 8 to 13 years in late September surprised few who have been watching the developing relationship between China and its second closest big power neighbor. Announcement of the extension of the pact came hard on the heels of the long-awaited China-Japan Peace and Friendship Treaty (PFT) signed in Peking on August 12.

Japanese Prime Minister Takeo Fukuda has described the PFT as an "iron bridge" that will make it possible to solve problems, when they arise, in the smoothest possible manner, and to support a continuing flow of exchanges on all levels.

In the wake of PFT, qualitative advances have been made in Sino-Japanese relations. China has accepted an offer of Japanese agricultural aid, breaking a long-standing prohibition against being on the receiving end of any country's foreign assistance program (8/26/78). In the latest meetings of the Coordinating Committee on Export Controls (COCOM) in Paris, Japan has championed the Chinese cause by asking for a significant easing of COCOM restrictions against export of industrial computers and atomic power generation equipment to China.

According to sources in Tokyo, discussions will be held soon to raise trade targets of the China-Japan Long-Term Trade Agreement from the present \$20 billion to as much as \$100 billion. Decisions have already been made to supplement the long-term trade agreement in other ways, including:

- The arrangement of regular governmental talks on trade, at the ministerial level.
- Technical cooperation from the Japanese in the power, coal, and nonferrous metals industries.
- Agreement to sign a science and technology pact.
- Agreement to allow the establishment of permanent representative offices of Japanese companies in Peking.

Since the long-term trade agreement was signed in February 1978, China has signed contracts for plant purchases from Japan worth at least \$2.4 billion.

As a result of the latest round of talks, Japan has agreed to extend the technological partnership to cover projects to develop the hydropower potential of the Yangtze and Yellow Rivers, coal mine projects in Shantung, Shansi, Hopei, Honan, and Liaoning, and projects in the nonferrous metals industry including expansion of China's production capabilities in aluminum and copper.

The chances for keeping the trade perfectly balanced are slim. But both sides are trying. In August, despite carping from the oil refining sector, the Japanese announced plans to increase annual imports from this year's 7 million kiloliters to 40 million kiloliters by 1985 and to a total 50 million kiloliters annually by 1990. The Chinese are bargaining to increase exports to 50 million tons by 1985.

JAPAN TRADE CENTER FOR PEKING

Construction will begin in 1979 on the visible symbol of Japan's preeminence in the China trade, a high-rise trade center in the heart of Peking.

The 40-story building will be China's tallest when it is finished, housing not only offices for Japanese firms but exhibition space, specially designed auditoriums for giving technical seminars, conference rooms, and machine demonstration areas. A press center will be provided to serve as the nerve center for disseminating news on conferences, exhibitions, and other business matters.

Japan will provide financing for the tower as well as design and construction contractors. Financing will probably follow the formula used by the Japanese in backing similar projects in East Germany and other countries: a lump-sum loan with a repayment schedule of 8 to 10 years.

The overall contract agreement was signed during the Peking mission of a 25-man delegation from the Japan-China Association on Economy and Trade in late September. The announcement followed shortly upon news released by the Japanese Ministry of International Trade and Industry (MITI) that Japanese traders would be allowed to establish business offices in Peking.

Metals and Minerals

CHINA TO USE REVOLUTIONARY COPPER PROCESS

China and Australia have reached agreement on the construction of a plant in China that will utilize a new copper-refining process developed in Australia by the Triako Mines Company, according to a July 5 radio report from Melbourne. The arrangement calls for the Chinese to build a pilot plant; they would have free use of the process, in return for which Triako would maintain world rights.

According to I. Shulman, chairman of Triako, the process developed by the firm over a three-year period, would revolutionize ways of refining copper. He said its advantages are cost savings, elimination of present smelters, and a high grade of copper.

In another copper development, China has asked three major Japanese copper smelters to cooperate in development of its copper mines. According to an August 31 report in the Japan Times, the companies-Sumitomo Metal Industries, Furukawa Co., and Nippon Mining Co.-are expected to accept the request if China agrees to ship copper ore to them in exchange for technology and equipment to be supplied by them for development of Chinese copper mines. The location of the mines is not known. The same three companies are also negotiating with TECHIMPORT on the export of a copper smelting plant with an annual capacity of 50,000 tons for construction in Kiangsi province. TECHIMPORT is expected to sign a contract with one of the companies by the end of the year. The plant would be put into operation by 1980.

NONFERROUS METALS TRADE

Portugal exported 10,000 tons of manganese worth \$3 million in June, while the Japanese trading firm, Marubeni Corp. signed a contract in May to export 1,300 tons of aluminum foil to China.

In line with the nation's industrialization program, China's aluminum demand is expected to grow about 10 percent annually, according to a report cited by *Mining Journal*. The report said imports will average about 100,000 tons per year until 1980, after which the figure will double.

China took another step toward meeting that demand through the acquisition of an aluminum-smelting plant when it sent a nine-man TECH-IMPORT team on a 40-day inspection tour of three major Japanese aluminum smelteries on August 15. The plants belong to Nippon Light Metal Co., Sumitomo Aluminum Smelting Co., and Showa Light Metal Co.

Mining Equipment

CHINA BUYS \$1.2 BILLION WORTH OF MINING EQUIPMENT IN AUGUST

Major Purchases: China buys at least \$1.2 billion worth of mining equipment from British and West German firms; another \$500 million worth may be on the way • China hires foreign consultants from US, West Germany, and Britain to solve hard issues of coal and iron resources development • Japan signs coal resource development agreement with China • Planned: Ten coal plants for China, each valued at \$50 million.

FIRST MINING CONSULTANCY CONTRACTS SIGNED

Between May and September 1978, China signed its first service agreements for coal and iron exploitation with foreign countries since Soviet technicians left the PRC almost 20 years ago. West German firms snagged the majority of machinery and service contracts, among the largest in recent history of the world mining industry.

EUROPEAN FIRMS SIGN CONTRACTS WORTH \$1.2 BILLION IN AUGUST

In late August, ten European companies disclosed contracts for coal mining equipment and services that together add up to one of the largest purchases of mining equipment by a

single buyer ever made. The companies involved-West Germany's Krupp-Demag, Westfalia Superator AG, Hermann Hemscheidt KG, Gebr. Eickoff Maschinenfabrik und Eisengiesserei GmbH, Orenstein and Koppel, the UK's Anderson-Mayor, Gullick-Dobson. National Coal Board Duffryn, and the Dowty Group and France's SAGEM -had either signed contracts or were in the final stage of contract negotiations for \$1.2 billion worth of coal mining equipment by early September. Another German company admitted that negotiations were in progress on the sale of \$500 million worth of equipment and consulting services.

On October 4, Germany announced it had signed a mammoth DM 8 billion agreement with Peking to supply coal technology and equipment through 1985.

The magnitude of the sales came as a complete surprise to companies which have been patiently negotiating equipment contracts since 1973. In 1973, the same group of companies (excluding Krupp-Demag, Westfalia, SAGEM and Eickoff) made sales of similar equipment of which the known value came to about \$60 million, in all. Earlier this year, in reports that excited more than a little skepticism, CBR reported that British companies were engaged in talks that might lead to between \$300 million and \$500 million worth of equipment sales. Firmly denied by the British government, the press claimed that during his visit to Britain in December 1977 China's Minister of Foreign Trade Li Chiang had made a "secret deal" with Trade Secretary Dell in which British firms would provide equipment and expertise to develop China's coal resources.

The \$1.2 billion dollar purchases have shown that the Chinese mean business. Having told the Japanese that they will double coal output over the next ten years to 1 billion tons per year, and a British delegation visiting the PRC that all new power stations in China will be coal-fired, the Chinese are simply putting their money where their mouth is. The more quickly China develops its coal industry, the more quickly oil can be siphoned off from domestic uses for exports, without causing severe energy shortage in the domestic economy.

The recent purchases are divided almost evenly between openpit mining equipment and long-wall systems for deep-pit mining. Known locations of the new mines include Kilin (China's largest brown-coal deposit), Tatung, in Inner Mongolia, and Shansi. Visiting Bonn in May 1978, PRC Foreign Trade Minister Li reportedly told the Germans that China would require foreign assistance for five of the eight coal mining projects slated for the 1976-1985 ten-year plan.

The "largest purchase of coal mining equipment ever made", according to one well-informed observer, included 33 complete hydraulic long-wall support systems, 51 sets of mine supports without long-wall equipment, and between 118 and 138 shearers. In addition, two complete opencast mining systems for mining brown coal were sold.

Aware that results must be in by 1985, the Chinese have ordered equipment that they would normally supply themselves, like steel sheeting and piling materials. The suppliers of the open-cast mining systems, Krupp-Demag, will be responsible not only for complete equipment but for full-term consulting. Consulting is an integral part of at least one other large contract under negotiation, and a separate consulting contract was signed with a consortium of the British National Coal Board and Powell-Duffryn.

Machinery Sales:

Ranging in value from \$630 million to a low of \$30 million, the purchases, even individually, are the largest China has made. The largest previous known sale was \$29.5 million worth of equipment sold by the Dowty Group in 1973. Unlike in 1973, German, rather than British companies, captured the majority of sales with over 80% of the total amount in terms of value. (Prices of German and British equipment are said to have equalized since 1973, when British prices were some 13% lower.)

The Krupp-Demag contract is a joint venture arrangement in which Krupp Industries and Stahlbau will join forces with Demag-Lauchhamer to open up China's largest brown-coal deposit, a 55 sq km field in Kilin Province in northeastern China with potential reserves in the 2 billion ton range. Although the companies have not disclosed the value of the machinery component of the contract, it is estimated at \$500 million + of the \$630 million total.

The Krupp-Demag sale is for the soup to nuts of opencast mining operations. Among other types of equipment, Krupp-Demag will supply bucketwheel excavators, stackers, conveyor installations, storage yard facilities, and a maintenance shop with foundry. Krupp-Demag is supplying complete facilities for two opencast mines, according to reports.

In a related sale, the West German firm Orenstein and Koppel announced a \$42 million sale of ten 135-ton hydraulic drag-lines in late August, for use in open-pit excavation on the Manchurian plain. The report in the Dusseldorf Handelblatt did not clarify whether O&K had contracted directly with the Chinese or was sub-contracting to Krupp-Demag.

Krupp-Demag is also reported to be negotiating on the sale of its coal gasification process to the Chinese.

The remaining German, British, and French sales have been for deep-shaft mining equipment. The West German firm Westfalia Superator AG made the largest single sale, with \$200 million worth of long-wall equipment. The contract, signed with TECHIM-PORT's second department, is for 27 complete sets of long-wall equipment, with supports, conveyors, and other auxiliary equipment, and 6 sets of long-wall equipment without supports. Each of the long-wall supports is 200 meters long with 100 to 140 supports.

The units weigh between 10 and 12 tons each.

Westfalia's equipment is being paid for in cash, with a 10% downpayment on signing of the contract, 85% on completion of deliveries, and 5% one year after completion of deliveries. The target date for completion of deliveries is December 1979.

The Dowty Group has made the second-highest value sale, with \$133.7 million worth of equipment announced in early September. The British consortium sent a party of representatives with Trade Secretary Dell to China from August 6 to 10, to negotiate on the contract for 25 sets of roof-support systems.

Hermann Hemscheidt KG's \$100 million sale of 30 long-wall face supports ranks third. In addition to Hemscheidt, Gullick-Dobson sold 6 sets of hydraulic supports for long-wall mining, valued at \$15 million.

Thirty-five shearers, the machines that do the work of cutting coal off the faces of underground coal seams, were sold by Eickoff in a contract valued at \$30 million. As of mid-September, Anderson-Mavor was still discussing contracts for 30-50 shearers valued at between \$30 and \$50 million.

The German company Montan Consulting, the engineering and design arm of Ruhrkohle, has disclosed that negotiations have been underway since June. Delegations from both the par-

ent and subsidiary company travelled to China in mid-September. Ruhrkohle representatives accompanied a mission from the German Industry East Committee (ODI) to China.

In mid-July MACHIMPEX negotiators signed contracts with five Japanese belt makers for mine conveyor belts worth a total of \$9.9 million. The contract specifies delivery of 210,000 meters of belts to China by September.

CONSULTING

In late August, European firms signed two major consulting contracts, and negotiations were well underway with Montan for a third. Almost at the same time, Japanese companies announced that agreement had been reached on joint development of coal resources (9/13/78), as a result of a mid-June visit by representatives of Japan's leading mining companies.

Rumors that Krupp-Demag had signed a consultancy agreement with China were first heard in July, although the official announcement was not made until August. Krupp-Demag has subcontracted parts of the design phase of the project to Rheinbraun Consulting GmbH, an engineering and design firm based in Cologne.

A second consulting contract was announced shortly before the departure of the delegation of British Trade Secretary Dell's group from China. The British National Coal Board and

Specifications:	Kailuan Coking Coal	Tsaochuang Coking Coal	Tatung Steam Coal	Tatung Steam Coal	Weipei Steam Coal
Ash (on dry basis)	11.5–12%	8.5–9%	10–12%	8% or less	25% or less
Sulphur (on dry basis)	0.6-0.9%	0.6-0.9%	1%	1.3% or less	0.5% or less
Volatile Matter (free water, free ash)	26–30%	33–37%	25–30%	25–30%	30%
Moisture	10% max.	10% max.	8%	8%	8%
Crucible Expansion Number	7–9	5–7			
Thermal Value			6800-7000	6900-7200	6500-6000
Size	50mm max.	50mm max.	kcal./kg min.	kcal./kg min.	kcal./kg min.

Powell-Duffryn have formed a consortium to prepare a feasibility study and carry out follow-up contracts for the development of two coal mines near Tatung, in Inner Mongolia. The initial contract, valued at \$250,000, is anticipated to lead to contracts for machinery worth at least \$250 million.

The Japanese will provide assistance on coal mine projects in Shantung, Shansi, Hopei, Honan, and Liaoning. Specifics of the cooperation arrangements are not yet available. A month previous to formal signature of the agreement, the Japan Economic Journal (8/15/78) reported that the Japanese government had decided to inform the Chinese of their readiness to cooperate in coal development projects in China, specifically by providing Japanese coal mining technology. Companies that lent their approval to the government's letter of intention included Mitsui Coal Mining Co., Mitsubishi Coal Mining Co., Sumitomo Coal Mining Co., Matsushima Coal Mining Co., and Taiheiyo Coal Mining Co. In mid-June, 20 coal mining specialists, led by Shingo Ariyoshi, president of Mitsui Mining Co. and head of the Japan Coal Mining Association, spent two weeks in China discussing plans for cooperation in coal mining technology and mining safety equipment.

The Coal Mining Association delegation which travelled to China in mid-June brought back along with other news the information that China might import as many as 10 coal processing plants from Japan, with a total value of \$500 million. Incorporating the most advanced technology, the sale, if realized, will be Japan's first export of mining processing equipment to China.

WILL IT WORK?

Some observers have expressed uncertainty about whether the technical resources of China's mining industry are up to the task of absorbing the large quantities of sophisticated machinery recently ordered (according to one observer, the German equipment sold is the top-of-the-line machinery from the leading manufacturers of long-wall equipment in the world, requiring one tenth the labor force to operate compared to conventional machinery currently in use in China).

Others, particularly the Japanese, are more optimistic about the current

state of Chinese mining technology. A coal technology and harbor mission visiting China in April reported that hydraulic mining has become an established technology in China, based on observations of the 8.1 Coal Mine in Shantung, where 60% of mining operations are hydraulic, and mines of the Kairan and Yanchow Mining Bureaus.

The teams' objective was to establish whether Chinese technology was adequate to ensure smooth exports of the 5.65–5.8 million metric tons of Chinese coal which have been contracted by Japanese companies for five years starting in fiscal 1978, under terms of the China-Japan Long-Term Trade Agreement. The consensus was that China's technology was more advanced than had been expected, according to delegation leader Sadao Sugumata.

The team observed at least one mine, the Lujiacha Coal Mine of the Kairan Mining Bureau, where operations were fully hydraulic.

MINING EQUIPMENT: IRON ORE

Kaiser Engineers, Inc., a unit of Raymond International, has become the first US company to sell services to China. In early September, the company's Oakland headquarters announced that it had received two contracts for basic engineering of iron mines in Central and Northeast China (See Exporters Notes).

The range of services included in the contract agreement covers the spectrum from design of a new mine site to upgrading facilities at an existing mine. At the Nan Fen mine near the Korean border, Kaiser Engineers will propose capital improvements to raise the mine's efficiency, including primary ore crushing and ore transportation methods. The second mine is a new one, located 180 miles east of Peking in Hupeh Province. Kaiser will assist in developing the mine and designing concentrating and pelletizing facilities. Production at the mine is scheduled to begin in 1981. (9/6/78).

Delegations: ● Japanese coal technology and harbor mission to China (4/7-28/78) ● Representatives of the Japanese mining Industry to China to discuss exports of coal mining technology (6/12-26/78) ● Mining and metallurgy delegation to the US under National Council auspices (8/12-9/20/78) ● Chinese delegation to survey the local US industry invited by the National Coal Association (9/14-11/1/78) ● Delegation from the German East Industry Committee (ODI) travelled to China to present proposals on sales of mining equipment and other German industrial products (9/18/78).

Ports, Fisheries, Shipping

New: Direct PRC cargo service to Europe, container line to Australia planned • China in RORO market • Huge (1.1 billion plus) fishery developments planned • Cooperation agreements in the air: shipbuilding technology, fisheries • Ship's log: Total 1978 purchases already in the \$300–400 million range • Mid-June orders for used cargo ships add \$50 million fillip • Danes sell \$30 million worth of cargo vessels to PRC in August • Oil skimming ships among purchases.

JAPANESE FIRMS PROPOSE COOPERATION AGREEMENTS

As the scope of China's infrastructure development plans expands, Japanese firms are rising to the challenge. Reports in early September detailed an inventive proposal presented by Taiyo Fishery Company to bring China's Chekiang fishing fleet into the 20th century. And plans first broached during signing ceremonies of the Sino-Japanese Long-Term Trade Agreement for "technical cooperation" in shipbuilding technology are beginning to take shape.

Taiyo's proposal, with a price tag of about \$1.1 billion, includes supply of fishing vessels, construction of a large scale modern fishing port on the Chekiang coast, and setting up processing, cold storage, and other facilities at the port. Operations at the port could begin by 1980.

Taiyo is merely the first company to present a comprehensive proposal for a plan which China disclosed in its 10-year development plan (1976-1985), and competition is expected to be fierce. China has disclosed to the Japanese the need for over \$160 million worth of ships, some of them highly specialized, to complete the plan. The port, with an eight km-long unloading wharf, a cold storage warehouse with a 2,000 ton capacity, processing, ship repair, and other facilities, may cost China as much as \$1.6 billion.

The project will enable China to shift the concentration of its fisheries from inland to deep-sea operations, based in the Yellow Sea and the East China Sea. According to the Japan Economic Journal (9/5/78), a 10-man Chinese survey mission arrived in Tokyo in late August to begin discussions with Japanese shipbuilders and shipowners about the kinds of vessels they will need to build up a deep-sea fishing fleet in the first phase of the project. Among other vessels discussed were a 10,000 dwt refrigeration-processing ship, a catamaran ship, fuel supply tanker, a freezer transport ship, and a fishery exploration research ship. China will reportedly import 100 new 140-200 ton trawlers in connection with the project. Priced at about \$2.15 million each, the fishing trawlers alone may cost China as much as \$100 mil-

During discussions leading to the China-Japan Long-Term Trade Agreement, China promised to tap Japanese companies for help in upgrading its shipbuilding industry, and in early September followed up with inquiries to four Japanese shipbuilding firms. The firms-Mitsubishi Heavy Industries, Ishikawajima-Harima Heavy Industries, Mitsui Engineering & Shipbuilding Co., and Hitachi Shipbuilding & Engineering Co.-in the past have sold China vessels from offshore oil rigs to floating drydocks. Now they will help China develop the facilities to build deep-draft carriers on its own.

China's shipping development plans have so far focused on port and harbor development and engineering of ship construction, while basic ship assembly facilities have been left to slide into obsolescence. Of China's 10 known shipyards, only six are equipped to build ships of 10,000 gross tons or more. (See "China's Merchant Marine," CBR 3:2.) An important part of the Chinese request to the Japanese is for help in developing the capacity to build large carriers.

The Danish firm East Asiatic Co. has finalized terms of a contract, first announced in April 1978, to modernize China's major ports and river estuaries to handle container traffic. Although full details of the deal, concluded in September with the PRC Ministry of Communications, are not yet known, the go-ahead has been given for the ports of Shanghai and Tientsin. The two ports serve a combined total of

about 4,000 ships annually without container equipment.

Britain's nationalized shipbuilding company is concentrating its sales pitch to China on offshore service vessels for the oil industry, but is more than willing to consider other options.

Spokesmen for the company said that a delegation would travel to China in October or November to promote sales of equipment and know-how. Besides vessels for oil development, the team will explore the possibilities of building conventional merchant ships for China.

SHIPPING LINKS

Hand in hand with its program to boost exports, China is seeking to improve shipping services that have in the past been plagued by the lack of containers, irregular arrival dates, long loading delays, and the scarcity of carrier vessels. In June, delegations from the China National Chartering Corporation (ZHONGZU) and the China National Foreign Transportation Corporation (WAIYUN) visited Australia and Europe to secure new shipping links with those countries.

By the end of 1978, Chinese Shipping authorities are hopeful of establishing a regular liner service to Europe. Now in its preliminary stage, the liner service will involve three to four ships per month moving between one loading port in China and four destination ports in Europe: Hamburg, Antwerp, Rotterdam, and London. Shanghai will be the only Chinese port of origin for the service and cargoes will move directly to Europe via the four destination ports.

Meeting with a delegation from Britain's 48 Group visiting China in April, ZHONGZU officials warned that the case for using London as a port of destination was not closed. Because of the corporation's view that London port services are both slow and expensive, some transshipment may be effected through Rotterdam. The decision to transship will be based on the quantity of goods destined for London on any given vessel.

The new service will be accommodated by nonchartered PRC vessels of 10,000 to 15,000 dwt and voyages will last from 20 to 30 days. Although cargo from small ports in southeast China will continue to be shipped through Hong Kong, plans to use Canton's Whampoa Port as a port of origin

were also divulged to the 48 Group party. The Whampoa Port service will involve one vessel per month.

In May through late June, a delegation from ZHONGZU visited Marseilles, Dunkerque, and Le Havre ports apparently to secure final details of the arrangements to establish a liner service. The eight-man mission was hosted by Watson Brown. Among other business, the delegation concluded an agreement on joint shipping arrangements with the Sea Malta Company, Ltd., of Malta (5/27/78).

Another ZHONGZU party arrived in Australia in mid-June to finalize details of a new container link between China and the island continent. Container vans bought in recent months from Japan will be put to use on routes between Shanghai, Tientsin, and Australia's Sydney, Melbourne, and the industrial Port Kembla.

The service opened at the end of June with two 350-400 TEU capacity vessels. The agent on the Australian side is Patrick Agencies, which has also received the stevedoring contract.

Bigger vessels may be needed before the end of the year, as Sino-Australian trade picks up. Major iron ore contracts have been signed and important negotiations are going on in other sectors. In the meantime, China is developing modern shipping facilities at Shanghai and Whampoa ports to accommodate container trade, and the gantries for lifting large containers at Tientsin's Hsinkang Port are already operational. The containerization program at Whampoa has entered its second phase. In June, executives from American President Lines toured China's three container ports for a first-hand look at recently-developed

The ZHONGZU team visiting Australia saw all of the major ports with container facilities. With the new container links between the two countries, China hopes to reduce dependence on Hong Kong shipping firms and capture a slice of the China-Australia feeder service now dominated by Japan.

EQUAL TIME FOR ARGENTINA

China has signed a maritime agreement with Argentina calling for a 50:50 share of the flag trade between the two. Argentine Economics Minister Martinez de Hoz signed the agreement in May in the course of talks aimed at promoting Argentinian exports to China.

China may also buy ships from Argentina, according to the economics minister. But the main object of the talks was to solve the problem of transport of 3 million tons of wheat and corn which will be shipped from Argentina over a three-year period from 1979. Argentina is concerned to have a share of the shipping trade under the agreement with China, which normally insists on using its own carriers for imports in order to pare down costs.

CHINA SNAPPING UP OLD AND NEW SHIPS

"Because they are a single buyer they will be dominant," a Norwegian ship-broker explains. "Greek shipowners have bought nearly as many ships, but it will be Greeks in New York, Greeks in London, and Greeks in Greece who are buying, and the ships will be registered in a number of different countries, and so they will not appear as such a colossal buyer as the PRC."

Although head counts by various observers of the world shipping scene may be at odds, nearly everyone agrees that the buying spree which China began in May 1977 has had considerable impact on the world market. According to the Oslo Aftenposten (8/7/78), from May 1977 to August 1978, China bought approximately one million tons of bulk carriers, valued at between \$90 million and \$100 million, and 900,000 tons of liners, from suppliers worldwide. The Chinese-controlled shipping firm Ocean Tramping of Hong Kong alone was responsible in 1977-1978 for the purchase of 96 ships with a total deadweight tonnage of 2.3 million tons.

Norway has been the primary supplier of bulk carriers to China, with the sale of 12 bulk carriers coming to 550,000 deadweight tons in all, over half of China's purchases in the 18-month period reviewed by the Norwegian daily.

China has also bought six liners from Norwegian firms since May 1977, including two 16,000 ton liner ships built by Bergens Engineering Works, sold by Reksten, since January 1978.

Total Norwegian ship sales during the 18-month period came to 18 vessels with a total tonnage of 621,000 tons. In addition, in 1977 China bought three Norwegian supply boats and an offshore drilling rig.

According to the Norwegian report, China has recently displayed a penchant for buying modern new ships, although it continues to build its reputation as a canny shopper for used tonnage when marketprices are down. "China is decidedly the biggest buyer of secondhand tonnage just now," the Aftenposten was told by Norwegian shipping circles.

The report noted as well the recent purchase of a Danish ship, the *Rita Maersk*, for conversion into steel scrap. Selling price of the vessel was \$74.25 per ton lightweight, indicating the quality of steel. The ship will be delivered to a yard in the Shanghai area.

China's spending spree on second-hand vessels is not likely to end any time soon, according to a survey by H. P. Drewry, a London shipping consultant. The survey claims that China's purchase of well over 100 secondhand dry cargo ships during the past year portends a large increase in China's foreign trade, which will require even more bulk carriers. Drewry estimates that over 30 of the PRC's recent acquisitions were bulk vessels, raising its bulk fleet to some 65 ships, compared to just one in 1972.

The survey said the Chinese are now showing more interest in larger vessels, compared to their earlier interest in ships of 35,000 DWT or less. Drewry estimates that there were probably 2.1 million DWT of bulk carriers registered in China as of mid-1978, with an additional 400,000 tons registered overseas.

China shipping specialist Irwin Heine estimates since the beginning of the year China has bought 2 million DWT of old and new ships.

MULTIFLEX VESSEL FOR CHINA

Among the modern, if not exactly spanking new ships China has bought in recent months is a Multiflex ship, one of a series of six, built by the Norwegian firm Burmeister & Wain. The China Ocean Shipping Company (COSCO) has bought the second ship of the series, the Nopal Audrey. Like its counterparts, the Nopal Audrey uses special ducts and a cp propellor which limits fuel consumption to about 23 tons per 24 hours. B&W delivered the ship at the end of August following its re-call from Nopal Lines.

Log of Ship Purchases, 1978: With the purchase of eight secondhand cargo vessels worth \$50 million, China reentered the used-ship market with a vengeance after a brief two-month interregnum. Shortly afterwards,

China abandoned its bias against buying new ships long enough to place a \$25 million order for new merchant vessels with Japan's Ishikawajima-Harima Heavy Industries (IHI). By August 1978, orders from Japanese firms alone topped \$100 million, and China's ship purchases from world-wide sources in 1978 were approaching the \$300 million mark, based on documented sales. The latest roster: Mineral Seraing, for \$1.45 million, reported in May (Belgian, built in 1965, 57,777 dwt); Nortrans Kathe, for \$4.3 million, reported in May (Norwegian, built in 1973, 38,254 DWT); dry cargo vessel, for \$9.7 million reported in June (Karachi Shipyard and Engineering Works, built in 1978, 13,160 DWT); Aristotelis, for an estimated \$4 million, reported 6/30/78 (Japanese motor bulk carrier, built in Osaka in 1968, 44,233 DWT, 24,599 GRT, IHI-Sulzer diesel, 13,000 bhp), sold by Prospathia Cia Naviera SA; Gard, for an estimated \$8 million, reported on 6/30/78 (Japanese motor bulk carrier, built in Hakodate in 1976, 66,157 DWT, 35,692, GRT, IHI-Sulzer diesel, 17,400 bhp, 15 knots), sold by A/S Corona, Haugesund; two 16,000 dry cargo ships, for \$18.3 million (total), reported on 7/5/78, sold by Aker to a Chinese-owned company in Panama. From Lloyd's Register of Shipping (7/11/78): 85,000 DWT ore carrier for \$4.4 million (built in 1971); 72,000 DWT bulk carrier for \$7.5 million (built in 1977) two three-deck 13,000 ton freighters, for \$3 million each (built in 1967); two general cargo ships for \$6.5 million each (Japanese); one general cargo ship for \$7.5 million (Japanese). According to the report, China is also buying a roll-on, roll-off ship now under construction in Japan and originally intended for an Italian buyer. From Japanese reports (8/12/78): From January to August, the Chinese have ordered some \$100 million worth of ships from Japanese suppliers, including two 1,500-ton geophysical survey ships for \$18.8 million (Mitsui Engineering & Shipping, 1978); one 850-ton geophysical survey vessel for \$6.9 million (Japanese, 1978); one 850-ton fishery research vessel for \$6.4 million (Kanasashi Shipbuilding Co., length 62.5 meters by beam 10.8 meters, 1978); one multipurpose work vessel for \$3.2 million (Japanese, 1978); three 1,500 ton supply boats for \$18.8 million (Mitsui Engineering & Shipbuilding, 1978); five twin-fuselage oil skimming ships, for \$6.9 million (World Ocean Systems, Inc., of Tokyo, built in 1978; each will be 190 ton gross weight, measure 30 meters long by 3.8 meters deep, and skim 30 cu. meters of oil per hour); two 22,000 DWT bulk carriers and one 14,800 DWT multi-purpose freighters, for \$25 million (Ishikawajima Harima Heavy Industries, 1978) to Ocean Tramping, a Hong Kong-based Chinese shipping concern. Container vessels and equipment are also among recent purchases: two semi-container ships from a European shipowner, and 50 container vans from Japan Leasing Corporation and other Japanese firms (7/4/78. More: 20 engines of 5,300 hp rating, for delivery by 1981, and a number of 5,000 DWT freighters to be delivered in the second half of 1980, from the Uljanik shipyard of Pula in Yugoslavia, according to reports in June and August; ten ships from the Lindinger line, valued at from \$2.9 million to \$3 million each, sold to the PRC-owned Ocean Tramping firm based in Hong Kong (8/10/78)

ENGINE LICENSE SALE

The Swiss engineering concern, Sulzer Brothers, has granted a production license to China's TECHIMPORT for the manufacture of its twin-stroke crosshead engine. This slow-running

diesel will be used to equip China's merchant fleet (8/24/78).

A Karachi shipyard may sign a long-term agreement with China for building ocean vessels, according to Pakistan's Federal Minister for Ports and Shipping Mustafa Gokal. According to the minister, a Pakistani team has already returned from a mission whose objective was to work out specifications of ships that may be built under the agreement, but details of the plans were not disclosed (9/6/78).

Negotiations:

According to Japanese reports, Ocean Tramping Company has sent inquiries to Japanese shipbuilders, "large and small," for several roll-on, roll-off freighters of 6,000 and 12,000 DWT. The price range of the so-called RORO ship is between \$10.7 million and \$21.5 million. In addition, Japanese firms have received inquiries for supply boats, refrigeration ships, and container vessels (9/5/78).

Delegation Highlights:

The many-faceted itinerary of Vice Premier Ku Mu's European tour this summer included stops at container wharfs and shipyards in major European ports. In Denmark, the vice premier and party called at the Burmeister & Wain shipyard, which has supplied China with ships and marine engines. Shipyards, traffic facilities, and container terminals were high on the list the Chinese presented the Danes befroehand as key items of interest to the delegation. In the Belgian port of Antwerp, the party had a walkthrough tour of the Antwerp docks, viewing ships at berth, the terminal warehouses, and containers in open storage. China's Premier Hua Kuo-feng also had shipyards on his list of things to see on the Romanian leg of his first trip abroad. He toured shipyards in Constanta on the Black Sea, less than 200 miles across the water from Sevastopol headquarters of the Soviet Union's Black Sea fleet, on August 19.

Delegations: President Hisashi Shinto of Ishikawajima-Harima Heavy Industries led a "friendship delegation" to China for talks on shipbuilding technology, among other topics (7/19/78).

Exhibitions: The British Marine Equipment Council is putting together a proposal for an exhibition of marine equipment in China, according to the Sino-British Trade Council (May 9 1978).

Textiles

NOTES ON A CHANGING SCENE

Major Moves—International Relations: PRC runs into textile flack in US, but signs quota agreements for textile exports to Canada; meanwhile, TECHIMPORT enters cooperation agreement with Japanese firm. Major Purchases: From ENI, two complete sets of spinning machinery (no value given) • Textile equipment from Itoman and Company.

JAPANESE COMPANY ENTERS INTO JOINT VENTURE WITH CHINA

China entered into its first full-scale product buy-back agreement with the signing of a contract for cooperative garment production with the Japanese firm, Itoman and Company. The Osaka-based trading house will supply production facilities and consulting engineers for a new textile mill in Shanghai. In exchange, the firm has committed itself to import the plant's entire output, according to Japanese sources.

The first phase of the Itoman-CHINATEX project will get underway in early 1979, with the production of 300,000 pieces of pajamas and blouses. For each piece, China will get \$5.26 or \$1.57 million for the entire lot.

Under the agreement, the Japanese company will provide the advisory services to help increase the efficiency of the mill, 100 industrial sewing machines, and higher-priced synthetic fabrics for the blouses. The blouses and pajamas will be made according to Itoman specifications and sold under the Itoman brand label.

Customers are already lined up in Japan, Europe, and North America for the first batch of jointly-made garments. Sears, Roebuck and Co. is reportedly studying the pajama specifications and may place an order.

In the wake of the Itoman agreement, at least two additional Japanese firms announced that similar deals were signed or pending. Nichimen and Co., a large trading house, announced that a project was underway to have slacks, shirts, and other apparel produced in Shanghai's Number One and Number Five Garment Factories.

Nichimen anticipates \$5.3 million in initial busness under the arrangement with CHINATEX. At least \$200,000 worth of goods will go to US buyers who have signed contracts for delivery in April through June 1979. Like Itoman, Nichimen has agreed to provide production facilities including sewing machines, presses and other equipment.

A third company, Yamaki Co., envisions opening the Fall 1979 season with a new line of dress shirts and sports shirts made in Shanghai. Yamaki Co. President Masashi Miyamoto disclosed that the plans called for an initial production of 100,000 pieces per year, but declined to comment on the status of negotiations with CHINATEX. A company team was scheduled to visit China in October to close the deal. US companies are known to be negotiating similar arrangements.

INDIAN SILK WILL BE CHINESE

After a 15-year hiatus, India will be resuming purchases of silk from China. Late June reports from New Delhi outlined a barter agreement currently under discussion by which India will trade tobacco for silk. The agreement will entail a switch from India's current suppliers including South Korea, Italy, Brazil, and Japan in order for India to fill most of its domestic silk requirements from China. India's annual silk needs are in the 400-ton range, according to the report in the Mainichi Daily News (6/22/78).

On the buying side, China is sending more orders Thailand's way, to the consternation of Japanese textile exporters, among others. In late June, the Thai Jutemills Association announced that China had ordered seven million gunny bags on a trial basis. Valued at \$2.1 million, the contract brings Thailand's textile exports to China in 1978 to at least \$12 million. China earlier in the year ordered \$10 million worth of synthetics from Thai suppliers for the first time.

Two vinylon (polyvinyl alcohol) manufacturers, Kuraray and Unitika have signed vinylon canvas export contracts with China worth \$1.5 million. The first major contract signed with China in this fiber product, one combined shipment of 180,000 meters a month is equivalent to 10% of the monthly demand for canvas from Japanese companies. Deliveries will be completed over a five-month period with Unitika committed for 400,000

meters and Kuraray for 500,000 meters of canvas (9/12/78).

CHINA BOWS TO CANADA'S APPEAL FOR TEXTILE QUOTAS; SIGNS ANNUAL TEXTILE TRADE AGREEMENT WITH JAPAN

In a groundbreaking development for China's relations with textile importing countries, the Canadian Ministry of Industry, Trade, and Commerce announced that China has accepted proposals to hold down textile exports to Canada to an agreed-upon level. Beginning on January 1, 1979, China will restrict exports of garments to Canada to no more than 138 million units, a figure based on a 2 percent increase over the average of Canada's imports from seven major suppliers in 1975.

Canadian textile manufacturers asked for the agreement because imports in the last three years have shown startling increases, causing significant damage to domestic sales.

As the first bilateral pact China has formed to limit trade in a major export product, the agreement sets a precedent for other countries seeking to control imports from China without resorting to unilateral restrictions. In addition, the agreement has silenced critics who have argued for unilateral quotas on the grounds that China has both the will and the capacity to flood world markets with lower-priced textile goods. China's compliance with the Canadian government's request for a reduction of exports shows conclusively that China will recognize the economic needs of its trading partners, even at its own economic expense.

On August 26, the Japanese government announced that bilateral talks in Peking on the China–Japan silk trade for 1978 had come to a successful conclusion. Under the agreement, which was signed after only two days of talks, the Japan Silk Importers' Association will keep imports of silk textiles to the 1977 level of 27.5 million meters. Imports of raw silk will also be held to the 1977 level of 55,000 bales, on the insistence of the Japan Raw Silk Corporation. Japan is seeking to hold down silk imports in 1978 to reduce competition with domestic fibers.

SHOE GUIDANCE

Meanwhile, Kuraray Co., which has recently won a contract to build a synthetic leather factory in China based on the company's exclusive Clarino process, announced plans in August to help the Chinese make shoes out of the synthetic end-product.

Most of China's shoemaking factories use natural materials such as pigskin, cowhides, and cloth. Kuraray technicians will show the Chinese how to set up facilities for buffing synthetic leather and sealing natural rubber boot soles.

The synthetic leather plant will produce enough leather to make 18 million pairs of shoes annually, according to a spokesman from Kuraray.

Possibly connected with the Japanese cooperation contracts is the sale of 51 industrial buttonhole sewing machines to China by Singer Nikko at a cost of \$255,000. Singer Nikko is a joint venture of Singer Co. and Japan Steel Works.

In a more conventional purchase, China has bought two machines for spinning wool and acrylics from the Italian consortium, Ente Nazionale Idrocarburi (ENI), according to an August 23 report. The consortium has not disclosed the sales value of the contract, which was signed between ENI's Cosimo SpA unit and the China National Machinery Import and Export Corporation.

Technical Seminar:

UCIMAC (Italy), "New technology in shoemaking machinery," (January 12-16/78): Representatives of the consortium presented films, graphs, catalogues, and samples to members of a 12-man study group in Shanghai. The technical team found evidence of widespread weaknesses in the PRC shoe manufacturing industry, which continues to rely on home manufactures. Results: Establishment of technical exchange committee between the Italian group and the CCPIT, to meet in alternate years in China and Italy; China invited to send engineers for training in servicing of Italian equipment exported to China.

Delegations: Survey team on location in Khartoum, Sudan, to prepare estimates on construction of a ready-made clothing factory (6/7/78). ● Hosted by the Chinese Society of Textile Engineering, a delegation from the Hong Kong branch of the British Textile Engineering Institute visited Peking (7/31/78). ● From CHINATEX, a sales mission promoting garments and knitwear visited the US (8/10-9/20/78). ● Carpet sales mission slated to arrive in the US in November from the China National Native Produce and Animal By-Products Corporation.

Tourism

GOING FOR BROKE

Travellers' Hot Line: Luxury hotels, mountain resorts, and tourist zones coming up in China • China seeks foreign hotel expertise for \$2–5 billion project • Bevy of new tourist spots open to cash-carrying foreign friends • China rapidly hiking prices on tourist services.

It's a far cry from the days when grim cadres herded foreign tourists from poultry farm to wig-weaving factory. Almost daily, another of China's spectacular collection of historic and scenic landmarks is made accessible to foreign tour agents, travel agencies, and package tour operators.

LUXURY HOTELS

Discussions are now going on between Chinese authorities and international hoteliers on the most ambitious hotel and resort development schemes since the Club Mediterranean discovered Tahiti.

By 1981, China wants to have between 25 and 50 modern 1000-room hotels to accommodate 1,000,000 visitors anticipated by 1985. Official sources assert that the level of strictly tourist influx will be held down to 95,000+ in 1978 and 1979, because of the lack of adequate facilities to receive more.

Removing the physical constraints to the expansion of China's tourism will cost between \$2 and \$5 billion, based on a price range per individual hotel of \$80-100 million. But the long-run profits will more than compensate. Fifty 1,000 rooms hotels could provide the Chinese with revenues of \$8.7 billion over a ten-year period, based on 100% occupancy for 350 days out of the year. If the rooms are filled only 250 days of the year, China could still make \$6.2 billion over a ten-year period, clearing a \$1.2 billion profit over the highest estimated expenditure for construction and set-up costs.

Austerity has long been the hallmark of Chinese hotels. Outside the major cities, tourists have had to take their chances on finding such amenities as hot water and mosquito nets, not to mention air-conditioning.

No longer: China is determined that the new hotels match or surpass international standards. Negotiations are currently taking shape that will establish facilities on a par with the big hotel consortiums. The Intercontinental, Sheraton, and Hilton corporations have all been approached, while architect Henry Liu has been appointed as agent by the General Administration for Travel and Tourism of China to "initiate preliminary negotiations on our behalf, with any commercial organizations you deem appropriate, on matters regarding the development of tourism, including tourist hotels' construction and tourist related transportation facilities and equipment in China."

The foreign companies will provide construction, financing, and management training. The Chinese have drawn the line at ownership and management, which they will assume, but in all but name the new hotels will closely resemble those established by the hotel chains in other international capitals.

Discussions on means of financing have so far oscillated between 10-year deferred payment terms and a fifteenyear plan with three rollovers at five year intervals.

The new hotels will be expensive. Rates will probably not fall below those of China's premier hotel, the Peking Hotel, which range from \$25 a day for singles to \$50 for doubles and \$60 for suites (double bedroom with sitting room). Rates could go as high as \$80–100 per day, the par rates in Western luxury hotels.

More hotel news: A new 300-room air-conditioned hotel is under contruction in Soochow, and work may begin soon on a 2,000 room hotel in Peking, according to travellers' reports.

AND NOW: TOURIST RESORTS

Reports from Hong Kong and London claim that work has already begun on a 72-square mile tourist resort in Kwangtung Province immediately north of Macao. The 145-mile long road between Macao and Canton has been resurfaced and widened to accommodate three-lane traffic; at least one American and his wife have travelled it by car. The tourist "zone", as it is called by the orderly Chinese, will offer, at a price, such attractions as the birthplace of Sun Yat-sen, the father of the Chinese Republic, the hot springs at San Heung, fishing villages, and the Tai Wan Shan and Tuen Shan reservoirs. According to the Macau Travel Talk, China Travel Service is organizing a special bureau to handle the entry of tourists into the zone. Visa procedures will be minimum.

Another development, aimed mainly at tourists from Macao and Hong Kong, is being set up on a 400-acre site a few miles northeast of Macao. Both of the Macao-oriented projects are scheduled to open their gates in early 1979. A third project, designed for tourists from Hong Kong, will convert sleepy Shumchun, the PRC entry point on the route between Hong Kong and Canton, into a booming holiday resort by 1983.

Several of these ventures may involve foreign capital. PRC agencies in Hong Kong have already set up a cooperative framework with major Hong Kong hongs or trading companies, including Jardine, Matheson and Co., and China's largest property company, the Hong Kong Land Co., which could provide the basis for development projects on Chinese territory. In early September, the two well-known Hong Kong firms and two-PRC-backed companies announced the formation of a joint venture to develop and sell the Luk Yeung Sun Chuen township in Hong's Kong's new territories. According to reports, hotel and tourist development projects in China are the next move for the four-sided joint venture company.

PRC TOUR PACKAGES

China Travel Service has enthusiastically taken up the challenge presented by foreign tour operators and travel agencies. On a limited scale, the Chinese agency has begun to offer its own package tours of China. Capitalizing on China's richly varied cuisine, the CTS tours provide gastronomes with opportunities to sample the best of the best in Chinese surroundings. A lychee tour during the summer brought as many as 2,000 tourists a day to try the famous lychee harvest of Shumchun. Oyster trips to three Po On County communes in Kwangtung will begin this autumn, to be followed shortly by crab tours to Shanghai, which will obtain heavy subscriptions from the same aficionadoes who last year arranged for the first direct air cargo service between Hong Kong and China in order to bring in fresh "hairy crabs" from Shanghai by the planeload.

WHY A DUCK?

For Pekingers and the privileged few who have managed to obtain reservations at Peking's Peking Duck Restaurant (they must be made a week ahead of time), roast duck is a many-splendored thing. The Peking Duck Restaurant is the only place in the world where a 10-course meal can be had with duck in every platter. Rising now in the western suburbs of Peking is a new incarnation of the legendary mecca of duck cuisine. With seven stories of banquet rooms and conventional dining facilities, the New Peking Duck Restaurant will be able to accomodate 1,500 connoisseurs of duck at a sitting. Each floor will have its own kitchen facilities for eating and service convenience. And speaking of servants, the new restaurant incorporates the latest proletarian design features. The corporate penthouse on the upper two floors of the building will be reserved for use of cooks and kitchen staff. The facilities will include sleep-in and recreational space as well as offices.

MORE PLACES TO VISIT

Events of the summer have placed nearly all of China within the reach of foreign travellers. On June 30, the *Peking Review* gave the welcome news that 34 cities and 10 sites of "general historic interest" were being made accessible to foreign tourists. The cities include historic Chengtu, in Szechuan, Lanchow, in Hofei Province, Kunming, remote Urumchi in the Sinkiang Autonomous Region, and Huhehot, capital of Inner Mongolia.

Historic locations newly open to foreign visitors range from Lu Hsun's hometown of Shaohsing in Chekiang (also known for the potent local Shaohsing wine), to the carved grottoes of Yunkang, a Buddhist pilgrimage spot dating from 453 A.D. Tourists will now be able to visit Shanhaikuan, where the Great Wall begins, and the summer palace of the erstwhile Manchu rulers of China in Chengteh, Hopei. The list goes on. The 1,300-year-old Chaochow Bridge in Hopei Province; the "stone forest," an area of bizarre rock formations southeast of Kunming; the birthplace of the 19th-century Rebellion in Kueiping, Taiping Kwangsi Province; the famous scenery of Yangshuo in Kwangsi; and Taishan Mountain in Shantung, revered as China's "sacred mountain."

Sinophiles and antique-hunters may

be getting the best of the bargain this year, but next year the nature-lovers will have a selection of mountain resort spots to look forward to. In 1979, tourists will be able to visit Huangshan and Chiuhua Mountains in Anhwei Province, Mount Omei in Szechuan, Yentang and Mokan Mountains in Chekiang, and Chikung Mountain in Honan. The Chinese may not be quite ready to welcome the ski crowd, since the resorts are billed in the Chinese press as "summer resorts attractive for their refreshing climate and fascinating landscape." But the day may come when the slopes of Szechuan vie with Aspen, Sugar Bush, and the Swiss Alps for skiers and their dollars.

Only five of China's 21 provinces are still proscribed from tourism: Fukien, Ninghsia, Kweichow, Tsinghai, and Tibet.

Other spots opened up this summer include industrial cities (Tsupo, Weifang, Maanshan, Wuhu, Chingtechen, Changchow, Yihsing, and Hsuchow in East China; Hantan, Chinhuangtao, Paotou, Silinhot in North China; Central China's Shashih, Hsiangfan, Sanmenhsia, Hsiangtan, and Hengyan; and South China's Foshan, Liuchow, and Pinyang); key water control projects (Tanchiangkou in Hupeh Province, Shihhotzu in Sinkiang, and the Kangnan Reservoir in Hopei Province); and sites of revolutionary interest (Hsipaipo in Hopei Province, headquarters of the Communist Party Central Committee from 1948 to 1949; Chou En-lai's birthplace in Kiangsu Province; and Chungking).

Even exotic Tibet is now open to certain visitors, according to a September AFP report. China will permit Hindu worshippers of the Goddess Shiva to visit a holy place in the Tibetan Himalayas which has been barred to them for 20 years, the report said. Pilgrims will have to wait until roads into the area can be built, according to Vice Minister of Foreign Affairs Chang Hai-feng, but otherwise passage into the region of Mount Kailas and Lake Manasarowar, in Hindu iconology the home of Lady Shiva, is guaranteed. Disciples of Shiva are "thrilled" by the development, according to reports. (9/5/78).

GETTING THERE GETS EASIER

Not only the devotees of Shiva will be getting a look at the Himalayas on the Chinese side of the border. An overflight agreement signed on August 31 between His Majesty's Government of Nepal and China will give travellers en route from Katmandu to Peking a spectacular view of the eastern Himalayas and Szechuan.

The bottleneck of in-traffic to Peking via Tokyo's new International Airport at Narita will be mitigated as a result of an agreement signed on July 31 to increase flights on CAAC and Japan Air Lines carriers from one to four weekly flights. Representatives of the Japanese Embassy to Peking have been discussing an increase in air service with their counterparts of the PRC Ministry of Foreign Affairs and the China Civil Aviation Administration since last February. According to notes exchanged on the agreement, the two countries will also increase the staff of their airservice representative offices from one to 12 persons.

Transportation

Railway missions to Europe and the US to buy, and decide on system—UIC or AAR? • Planemakers Line Up To Sell; Aussies claim Chinese copied plane design • French sell six helicopters • First air cargo route to West • GM to Peking, fire trucks too • Hong Kong-Canton hoverferry service discussed.

PRC RAILWAY SHOPPING LIST: 200 LOCOMOTIVES

With the Chinese planning soon to buy 200 locomotives in the 3,000-4,000 horsepower range, for a total of at least \$100 million, businessmen in the US and Western Europe hosted two delegations from China's Ministry of Railways in September.

The 200 locomotives will supplement China's 1978 production of nearly 650 units. Delivery will be for 1979 through 1981.

Railways Minister Tuan Chun-yi led the mission to Romania, Sweden, France, and Germany. France's Alsthom Atlantique, now reportedly operating at 50 percent capacity, was perhaps the most eager to host the group: the firm hopes to sell one hundred 4,000 hp electric locomotives. Also hoping to make big sales is West Germany's Henschel. How fast delivery can be made is an important Chinese concern.

Both SNCF and Bundesbahn, the national railway agencies of France and West Germany, hoped to sign consultancy agreements with the Chinese officials. (See *CBR* 5:3 p. 66) The mission arrived first in Sweden, where it met with Prime Minister Thorbjorn Falldin and other government officials, as well as representatives of ASEA, Atlas Copco, and other companies.

The delegation to the US, led by Shih Yu-yung, deputy director of the Industrial Bureau in the Ministry of Railroads, visited General Electric, General Motors, and WABCO.

With the Chinese ready to expand their 50,000 km line railway system (nearly 100,000 km if parallel tracks, sidings and sidelines are included; figures as of September 1978), a key issue is whether China should adopt the European UIC fast, short-haul, passenger-oriented rail system or the AAR longhaul, heavy freight system.

UIC has smaller cars, shorter trains, smaller diameter curves, and lower-headroom tunnels than in the U.S. American flatbed cars take two piggy-back 40-foot containers of 25 tons dwt each on trailers, while European cars take single containers minus trailers, thus requiring less headroom.

China's locomotives today (85 percent steam) pull about 60 cars averaging 55 tons dwt, averaging 3300-3500 dwt ton loads according to official September 1978 reports. This is higher than the US average freight train load in 1977, 2,030 tons, according to the AAR; the average US freight car load in 1977 was 61.1 tons. Chinese freight car production, about 25,000 units in 1978, now includes 60 and 70 ton cars.

American rail cars carry 100 tons, and often travel in 100- to 150-unit trains, one mile or more in length; although the average number of cars per freight train in 1977 in the US was only 67.2.

For a more efficient freight-dominated system, with coal, iron ore, and grain the key commodities hauled, China's rail development in the American mode makes a lot of sense.

The Chinese visits to Sweden and Germany reciprocated earlier visits to China during the summer by railway delegations from those two countries. A delegation from the Japanese National Railways, led by President Fumio Takagi, had also visited China during July. Takagi expressed the hope that the two countries could come to an agreement on technical cooperation in railways.

AIRCRAFT: ONWARDS AND UPWARDS

The world's aircraft workers are revving up to sell planes to Peking. As Peking's transportation needs develop with an expanding economy, the best direction for China to take is upwards. Air transportation is a good answer to China's traffic problem since land available for expansion of rail and road services is limited. But resources are needed for freight, and tourist needs are going to develop fast. (In the US 80% or 163.7 billion of total passengermiles in 1977 were by air compared to 12.7% by bus and 5.1% by rail.)

Readying to open a new international 7-story air terminal and 3,500 km runway to take 747s in Peking, China is now looking at a variety of types of aircraft—

- Helicopters for oil servicing, French and probably US;
- STOLS—China may buy perhaps 200-300 Harriers from UK or license to build them.
- Wide-bodied jets for international routes (Tokyo-Peking services are so packed JAL has been running two planes per "flight") to bring in one million travelers by 1981;
- Short-haul commuter jets to transport tourists between 30 to 50 Chinese cities;
- Executive planes to transport oil and other engineers between sites;
- Aerial-survey planes to conduct nationwide systematized studies of China's ferrous and nonferrous mineral and other natural resources;
- Crop-dusting planes to facilitate pesticide application, especially on state farms and less populated, more extensive agricultural areas.

Rolls-Royce, which sold China a license to manufacture Spey jet engines 18 months ago, is negotiating again for a contract that could be worth £80 million (\$160 million) from Peking. The new arrangement would be for Rolls-Royce to help modernize the PRC's aeroengine industry, by licensing further aeroengine manufacture, and include equipment such as machine tools.

Among other PRC interests-

—The HS 146 short-haul four-engine jet from Britain, with 70-80 seating capacity (8/10/78)

—Lear 35s: four Learjet 35s have been applied for export license to the US OEA for use as an air ambulance and three photomapping planes (8/78)

—Boeing has been discussing 747s and wide-bodied 727s for a 10-20 plane fleet with the Chinese.

Lockheed Chairman Roy A. Anderson led a technical mission to China in late June at the invitation of the China Council for the Promotion of International Trade. Anderson reportedly met Vice Premier Fang Yi, CCPIT chairman Wang Yao-ting, and Tuan Tzu-chun, President of the Chinese Society of Aeronautics.

The Smethwick, UK firm of Commercial X-Rays, visited by a five-man Chinese aerospace-related group in July, is optimistic of winning an order for radio-active isotope equipment and X-ray cabinets for aerospace non-destructive tests.

China will buy six additional Super Frelon helicopters from France for \$28 million, French officials announced on June 28. Peking had previously bought 11 of the heavy duty helicopters and is using them to transport supplies and equipment for offshore oil rigs, as well as engaging in search and rescue work. The 13-ton Super Frelon can carry 30 passengers at a cruising speed of 290 km per hour and has a range of 800 km.

In late June the UK delivered the last of a fleet of 35 Trident jetliners to the Chinese. The \$120 million order for the 80-180 seater jet from British Aerospace took five years to complete. On September 20 British Airways signed a multi-million dollar contract to repair engines in the Trident planes.

CAUTIONARY TALE: AUSSIES FIND NOMAD REPRODUCED IN PRC

Imitation may be the sincerest form of flattery, but it's not consoling when it means millions of dollars in lost sales. That's how Australians feel about China's copying of the Australian-designed Nomad aircraft, disclosed in late June.

Eager to promote a sale, officials of Australia's Government Aircraft Corporation displayed a Nomad fuselage at the Australian trade exhibition in Peking in 1974. They also supplied extensive performance data but shied away from handing over blueprints, which the Chinese apparently did not need anyway. All the technical data necessary to reconstruct the plane was contained in Jane's All the World's Aircraft. Unfortunately for the Australian government, it could not do anything to prevent the Chinese, or anyone else, from reproducing the plane and selling it to other countries.

The exterior of the Nomad has been reproduced in detail by the Chinese even down to the stub wings and the all-round visibility of the cabin, according to Australian press reports. The major difference between the Chinese copy and the original version are the substitution of the turbo engine with a piston engine and structural strengthening to support extra weight. Australian officials contend that the Nomad is superior in performance and efficiency to the copy. The Chinese are using the plane for domestic flights.

FIRST AIRFREIGHT ROUTE TO WEST, OTHER ROUTES

Japanese sources disclosed in mid-September that China has granted JAL permission to operate non-liner cargo flights from Shanghai to Hong Kong. It will be the first time that non-Chinese planes have flown such a route, which is close to the Taiwan Strait and thus of military significance to the PRC. JAL will use a DC8-62F aircraft on the route.

An Air France 707 Pelican Freighter began monthly service between Paris and Peking in July. This is the first direct air cargo service between China and the West, though a delegation from Pakistan International Airlines that visited China in June is understood to have discussed air cargo service between China and Pakistan. In related developments, Hong Kong and Chinese officials have been discussing the establishment of a Hong Kong-Macao helicopter service and a Hong Kong-Canton hoverferry route. The former, to which the Chinese reportedly agreed in principle in June, requires Peking's permission because it involves Chinese air space. The service, which could begin by the end of the year, would be operated by the Far East Hydrofoil Co. The firm reportedly plans to purchase two Puma 330 | helicopters at \$2.54 million each from Aerospatiale of France to operate the service.

The Hong Kong-Canton hoverferry service would reduce traveling time between the two areas to 75 minutes, compared to the three hours it takes by train. A negotiating team from the Hong Kong and Yaumati Ferry Co. took on a trial run to and from Canton on the hoverferry in June.

ROAD VEHICLES: GM, FIRETRUCKS

Meanwhile GM's Chairman, Thomas O. Murphy, will head a delegation from GM to Peking later this year to discuss motor vehicles—and their manufacture. The PRC has been discussing truck-making plants in the order of \$2 billion with other foreign car manufacturers.

A new kind of American vehicle is on its way to Peking: the Firebird 150 firetruck, that enables firemen to rise 150 feet in a few minutes, is destined for the Peking Fire Department. The truck was shipped from the Port of Long Beach, August 9, from Calavar Corp of Santa Fe Spring California, following a sale arranged by New York's Henry R. Jahn & Son.

Will this single sale of sophisticated equipment be followed by more, or will we see many reproductions of the Firebird putting out fires in Peking's rapidly improving high-rise buildings—such as the new 47-story Japan trade center?

With 30 to 50 4,000 room hotels targeted to be operational in China by end-1981, the need for fleets of buses and mini-buses to cope with China's million visitors is also expected to grow.

Japan's Toyota Motor Sales Co. disclosed in mid-August that it had received a \$9.5 million order for 670 microbuses from China. It was the first time the Chinese had ordered such a large shipment of microbuses from the company, which expected to complete delivery before the end of the year. Toyota's vehicle sales to China were 317 units in 1976 and 854 in 1977, with small trucks accounting for 90 percent of the orders.

The opening of the Karakorum Highway in July, linking remote areas of Pakistan with western China, is expected to increase the volume of China's foreign trade going through Pakistan, as well as providing a vital link. The highway, built by Chinese and Pakistanis as a cooperative project, also offers new possibilities for tourism.



Anti-pollution facilities at a nitrogenous fertilizer plant in Szechwan Province (Hsinhua).

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