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DEVELOPMENTS IN COMMUNIST CHINA'S

WATER TRANSPORT WORK

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DEVELOPMENTS IN COMMUNIST CHINA'S  
WATER TRANSPORT WORK

Following is a translation of selected articles from various issues of the Chinese-language periodical Shui-yun (Water Transport), Peiping. Date of issue, page, and author, if any, are given under individual article headings.

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DEVELOPMENT OF SALVAGE WORK IN CHINA  
No. 8, 22 October 1959 Lin Ching-hsin  
Pages 17-18

The old China did not have its own salvage enterprises. The two foreign commercial tug and salvage companies of Ma-lo and Hui-te-feng in Shanghai had only a small number of tugs and extremely simple salvage equipment. After victory in the war of resistance against the Japanese, many opportunist business men saw chances for profit and hung up signs of "salvage companies." They had no machines and tools and no permanent personnel. It was only after business had been obtained that they hired temporary workmen and rented machinery tools.

In 1947, the bogus China Merchants Steamship Company set up a salvage team. Its bureaucratic capital eventually was used to set up several salvage units. At that time, the bogus Company's salvage team and the Hua-hsing Salvage Company were equipped with only a small technical staff and a few items of salvage machinery and tools, and by straining themselves, could perform some dredging and salvage work which did not involve too much in the way of techniques.

In 1947, for the sake of salvaging the steamer "Hai-che," the China Merchants Steamship Company engaged an American registered "underwater salvage specialist" who couldn't salvage and who didn't know how to work under water. While carrying out his job, this "specialist" exhibited his incompetence and when he saw our workers successfully salvaging the steamer, he had no alternative but to slip away. In 1948, when it was desired to salvage the steamer "Hai-hu," the China Merchants Steamship Company asked Japanese salvage specialists for advice and received an answer that the salvage job presented problems which were impossible to solve. The result was that it was our own salvage men who recovered the vessel. At the beginning of 1949, the bogus China Merchants Steamship Company asked Japanese salvage companies to salvage the steamer "Chiang-ya." The outcome was that they had no method to salvage it. After the liberation, we, in a few years, recovered this steamer.

In salvaging sunken ships, the underwater work is mainly dependent upon divers. In the old society, the life of the diver was full of sorrow. There were only three months of work each year, and moreover, they were exploited level after level. They spent their days hungry and cold. The capitalists wanted only to make profits, and basically they did not have any consideration for the safety of the divers. The diver, for the sake of his livelihood, risked his life and went under water. If there were accidents, they could only take what came, and if they were lucky and no accidents occurred, they frequently had to change occupations after a few years because they were no longer physically able to perform this kind of work.

Due to deficiencies in salvage capacity, in the past, the sunken ships in the rivers and seas of our country have mostly been unsalvaged. On the eve of the liberation, the Kuomintang reactionaries, when they were retreating and escaping, wantonly destroyed large numbers of ships. Consequently, after the liberation, the problem of how to quickly salvage sunken ships, clear navigation routes, restore transportation, and develop water transportation immediately confronted us. After the bogus steamship company was taken over, the salvage team was given a new life. In the month of June, 1949, alone, three tankers of 1,500 metric tons capacity each were salvaged. The Hua-hsing Salvage Company, jointly operated by the public and private interests, in the end of 1949, salvaged the railway ferry "Nanking" which had been sunk by planes of the Chiang clique. In addition, other ships sunk in the Huangpu River were salvaged one after another. The vessels which had been bombarded were also saved. Under the leadership of the Party, our reborn salvage capacity was victorious in its first ventures.

In 1950, the China Merchants Steamship Company and the Hua-hsing Salvage Company jointly set up the Chinese People's Salvage Company (later changed its name to the Salvage Engineering Bureau), and China's first socialist salvage enterprise was established. The area of operations extends south to Yu-lin harbor and north to Ying-k'ou, covering almost all the rivers and seas of the country. In 1956, the province of Kwangtung organized a salvage company. In 1958, after the engineering team of the Salvage Engineering Bureau in South China had been turned over to Kwangtung, the salvage capacity of this province became augmented. At present, it is responsible for the dredging and salvage work in the whole South China area. From 1949 to the end of 1958, throughout the country, a total of 300,000 tons of sunken ships have been recovered, thereby clearing many navigation routes and greatly increasing the transport capacity of the country.

In the past 10 years, salvage work has developed from a small scale to a large scale, in water from shallow to deep, in work area from rivers and harbors to the seas, and in actual work from the easy to the difficult. Salvage techniques have improved day after day. The amount of tonnage has also gone up from the 10,000 or 20,000 tons in the period of the first five year plan to the approximately 100,000 tons of 1958-59. The improvement of salvage techniques can be gauged from the following examples:

1. In 1949, the method of sealed bags of air for flotation was first used in salvaging the railway ferry "Nanking" of the 3,000 ton class from water more than 20 meters deep. A foundation was thereby laid for salvaging large ships from deep water from then on.
2. In 1950, the "Shui-han" (1,500-ton tanker) and the "Po-hsien" (2,000-ton passenger and freight steamer) which had been sunk by storms were salvaged. The technique of pulling upright and floating for salvaging large and medium ships was further advanced.

3. In 1952, in Shanghai, sealed bags of air and large type salvage ships were used in combination to recover the 4,000-ton steamer "Chiang-hsin." In 1953, the technique of combining sealed bags of air to pump out water and the method of pulling upright was used to salvage the 4,000-ton steamer "Cheng-ho" (after its salvage, its name was changed to the "Min-chu No. 16." In 1954, at Wu-hu, by a combination of sealed bags of air to displace water and of barges to help raise the vessel, the 5,000-ton steamer "Te-ho" was salvaged. Afterwards, its name was changed to "Chiang-p'ing.") These are examples of the advances in the salvage techniques of our country.

4. When salvaging the "Min-chu No 3" in 1955, we used floating tubes to prevent the breaking up of the sunken ship. When salvaging the "Chi-nan" and the steamer "Tung-shan," we again used the floating tubes method. We used the same method entirely to salvage the "P'ing-tac" and the "Ch'ang-shan" and other vessels. These constituted the beginning of the most advanced salvaging technique of floating tubes.

5. In 1956, we used the floating tube method to bring to the surface the whole steamer "Chieh-hsi," which had already broken up. Moreover, the floating tube method was used in conjunction with large type work barges to raise and float the 5,000-ton steamer "Chiang-ya." In 1957, in a deep sea area, we used the floating tube method to salvage the 5,000-ton "Ching-shan". Then, one after another, in 1958 and 1959, we repeated the same method to salvage 10 or 20 large type sunken ships, of which the largest could displace 8,500 tons when loaded. This series of accomplishments shows that we already are well on the way of employing the most advanced salvaging technique -- the floating tubes.

6. At the beginning of 1956, we used the method of slippery blocks to pull out the "Chiang-shun" and two other ships of the 3,000-ton class perched high on shoals. In April 1959, Kwangtung Province used a combination of the three methods of anchor windlasses, pushing by poles, and towing by tugs to free safely a 10,000-ton steamer which had gone aground on shoals. This vessel was originally English, and tugs had been hired to go from Hong Kong to save it several times without success. It was we who succeeded. This shows that in the technique of freeing ships from shoals, we have made great strides all by ourselves.

7. Accomplishments in difficult rescue work for ships at sea can also be listed. For example, in 1954 in Tsingtao, we rescued the steamer "Lin-ch'eng," which had run into shoals, and brought it safely to Shanghai for repairs and use. In 1959, the "Ho-p'ing No 44" went aground at Ta-wei-shan Tao on the Ch'ang-shan waterway. After three days, it was freed.

After the liberation, following the step by step tightening of control over the ship salvage work, the days of opportunist commercial salvaging were gone forever. A small number of privately-managed salvage enterprises with good foundation were left behind. After a socialist reform, some of them were amalgamated into the Salvage Engineering Bureau and others were broken up and finally wound up in the ship

repair and building work. In October 1957, after the "law of the Chinese People's Republic for the control of the salvaging of ships," was promulgated, it became instrumental in the regular development of our country's salvage affairs.

In the last few years, after several political movements, and after undergoing training and education by the Party, the ranks of salvagers have grown, their working class consciousness has increased day by day, and not a few of them have gloriously joined the Communist Party.

Underwater work is comparatively hard on the body. After the liberation, we first improved the diet of the diver, giving them full nourishment. In order to prevent the bends, we also built chambers for fighting the effects of pressure and frames for reducing pressure. Furthermore, based on the nature of the constitutions of the divers of our country and the hydrological conditions of the rivers and seas, we drew up a "table for the time spent under water for relieving the effects of pressure," and mapped out a series of regulations for safety operations and for the protection of the worker. In the last 10 years, we have salvaged more than 200 sunken ships. In all these operations, no fatal accident has ever taken place among the divers.

The selfless aid of the socialist fraternal countries has also been an important factor in the raising of our salvage techniques to a high level and in the growth of work capacity. We obtained many advanced experiences and new types of salvage equipment from Russia. In 1955, the chief of the bureau, Chang Chih-K'uei, along with others, went to Poland to practice deep water operations and floating tube salvaging. We acquired many valuable experiences. In turn, we aided other fraternal countries. In 1953, we trained a batch of divers for the People's Democratic Republic of Korea. In 1955 and 1957, we sent teams of divers to the Democratic Republic of Vietnam to help it raise several sunken ships. We also contributed to it a batch of salvaging equipment and trained some of its technicians.

Today, the salvage business of our country, whether in designing, in the underwater elimination of mud, in salvaging, or in the manufacture of underwater equipment, is progressing systematically along modern scientific lines. In the field of rescue work on the high seas, we have established a radio communications network. In salvage work which even the capitalist countries, comparatively well developed in water transport, do not dare to undertake, we have been successful. At present, our country's salvage work personnel are enthusiastically responding to the great call of the Party to oppose rightist tendencies, to be enthusiastic, to raise the red flags, and to exert even greater efforts for accelerating our socialist construction.

II, 1960 AIMS IN BOAT REPAIR WORK IN CHINA  
No. 8, 22 October 1959  
Pages 20-21  
Unsigned Article

The Ocean and River General Bureau of the Ministry of Communications  
Calls a Balance Conference for Ship Repair Work

From September 15 to 20, the Ocean and River General Bureau of the Ministry of Communications convened a balance conference for ship repair work for 1960 in Shanghai to make arrangements for the shipyards directly under the Ministry and for some of the ship-yards doing field work for their ship repair plans for 1960. At the conference were the Shanghai Ocean Transport Bureau, the Yangtze River Navigation Transport Bureau, the shipyards directly under the Ministry, 10 communications departments including those of Kiangsu, and Chekiang, the harbor bureaus and navigation bureaus of places such as Tientsin, and 95 representatives from 37 units that do field work, such as the Hsin-kang, Hsin-ho, and Chang-hua-pin Shipyards.

The conference first summed up the experiences in boat repair work in 1959 and discussed the trends in the development of water transport and some problems that exist in boat repair work at present. After discussions by the delegates, there was unanimous recognition that under the existing conditions where passenger and freight transportation by water is increasing rapidly, where transport capacity is inadequate, and where the degree of mechanization at the harbors is low, the machinery units and shipyards must always continue to exert their cooperative efforts to carry out boat repairs so as to increase the number of boats that may be used. The shipyards, whether they are directly controlled by the Ministry or those doing field work, must first complete their duties of boat repairs, and in addition, in accordance with existing facilities must manufacture harbor loading and unloading machinery, and implement the policy of "repair and build, with emphasis on repair, and serve for water transportation." Pursuant to this policy, the conference, while making plans for the shipyards for 1960, first arranged for the manufacture of parts used by ships and for boat repairs, and then made arrangements for the manufacture of harbor machinery, and lastly discussed problems relating to the building of boats during the year.

After discussions by the representatives of the various units, the conference decided that the 7 shipyards directly under the Ministry of Communications and the three "field" shipyards undertake repair work. Moreover, general agreements on repairs involving a total of 800 boats

were signed. All the boats under the Ministry of Communications that need repairs and all the boats which the provinces and cities are unable to repair have already been given to 10 shipyards.

During the conference, problems in regard to the division of work for the manufacture of parts for internal combustion engines on boats were discussed. The principles adopted for solving the needs for such parts were as follows:

1. The parts which conform to national standards shall be ordered by various unit from commercial firms.
2. As to those parts which are not standardized throughout the country, the Yangtse Navigation Bureau has already instructed the Shanghai Motive Power Company to undertake their manufacture. A team composed of people from the Bureau and other similar units has placed orders with the Company's various plants. In addition, the team is striving to extend its coordination to other types of parts.
3. The parts which the shipyards under the Ministry of Communications manufactured in the past will still be manufactured by those shipyards. When large numbers of parts are involved or when parts formerly not manufactured by cooperating plants are involved, they will be experimentally made by the shipyards on an experimental basis. The trial manufacture of new types of items will be expanded steps by steps.
4. Small numbers of parts and parts of individual different types will be manufactured by the various repair plants while they are doing boat repair work.
5. Each province and city shall exert efforts to revive their former cooperative relations. Electroplating and welding repair methods for repairing and restoring worn parts shall be used to the utmost.

On the basis of the above principles, the conference decided that the shipyards of the Ministry of Communications will manufacture a total of 178 parts for 24 different models of internal combustion engines. For next year, more than 30,000 pieces will be manufactured.

During the conference, proposals of preliminary production regulations for the manufacture of harbor machinery and for ship building were brought up for discussion.

This conference proceeded rather smoothly. The time agreed upon for boat repairs is long enough to meet the needs of transportation and also gives due consideration to the production equilibrium of the shipyards. In accepting boats for repairs, the shipyard representatives showed great enthusiasm. Many transport units of the provinces and cities indicated they would work on those boats which they could repair themselves in order to reduce the workload of others. For example; the Shantung Communications Department moved during the conference to pull out three boats which were to be repaired in the Shanghai Boat Repair and Building Yards so that it would undertake the repairs itself; The Shanghai, Min-sheng, and Hankow Shipyards, cognizant of the importance of the production of spare parts for use in boat repairs, agreed to

implement the policy of serving the transport industry and readily accepted the obligation to manufacture spare parts for internal combustion engines, even though their capacity for this kind of work is weak and their workload of boat repairs are very heavy. These examples prove that the representatives of these units can implement the spirit of the resolution of the 8th Plenum of the 8th Central Committee, and that they will strive to the utmost to develop the spirit of communist cooperation, and will struggle together for a continued leap forward in boat repair work.

Wang Pao-shan, the deputy chief of the Ocean and River General Bureau of the Ministry of Communications, when summing up in the conference, pointed out that the rapid development of water transport has led to the need for more machinery and plants in order to reduce the time for boat repairs. He predicted that the boat repair work for next year will be very heavy and that there will certainly be some difficulties encountered. However, he said, under the leadership of the Party committees of the various levels, it behooves the various units to strive to the utmost, to rely on the masses and to cooperate with each other so that all the difficulties will be overcome. From now on, he said, the various units should resolutely prevent any fear of difficulties or slackness or other types of rightist sentiments among their workers. He pointed out there might be difficulty in the supply of materials next year, and that such difficulty might persist even over a comparatively long period of time. Therefore, he said, the shipyards may have to conserve materials and use substitutes. Besides, they must also develop a cooperative spirit and mutually make adjustments and help each other and should rely entirely on the yards or the higher levels to solve their problems. If the materials are deficient, the duty of planning should be split up into light and heavy, easy and urgent. We must first guarantee the repair of those boats which do not need much material and time. Boats that were involved in accidents and boats needing little or some repairs should be worked on and sent out of the yards first in order not to affect the transport capacity. Basic and large repairs should be carried out according to the degree of urgency after small repairs are made.

Deputy bureau chief Wang emphasized that each yard should manufacture harbor loading and unloading equipment and he explained that according to analysis of the transport conditions for the first half of this year, the damage sustained by boats while in anchorage was extremely high. The main problem was the low degree of mechanization in the loading and unloading process in the harbors. At present, how to reduce the anchorage time of boats in the harbor in order to increase transport capacity is a major problem. Therefore, in the next few years starting from now, in order to help raise the degree of mechanization in the harbors, the shipyards will have to use their extra facilities to manufacture harbor machinery. This is a duty which the shipyards, in serving navigation transport, cannot neglect. It is also a glorious duty which the shipyards must perform.

In regard to the manufacture of spare parts for internal combustion engines, Wang proposed that every shipyard take part, that the work be spread out and that each shipyard strive to do the best. Because there are many types of internal combustion engines and these types are very complex, he said, we cannot rely simply on a few plants to produce enough to meet the needs. Consequently, he expressed the hope that each unit will do the utmost to restore cooperative relations with other plants, mutually exchange information and recommend experiences on how to overcome difficulties. We must teach the sailors to respect machinery, he said, and ask the shipyards to extend their experimental work on spare parts.

Deputy chief Wang lastly asked that the various yards actively adopt measures to raise the quality of their products and that they strengthen the collective leadership of the Party committees, mobilize the masses and rely on them to continue to push the movement for increasing production and conserving materials, and make the boat repair work head toward a new high tide. He also asked that the machinery units work closely with the shipyards, perform the preparatory work well for boat repairs, take care of the boat repair manifests, prepare the technical documents properly, and strive refrain from too many changes in boat repair plans and reduce extra repairs outside of the plans.

This conference laid a firm foundation for further improvement in the maintenance and repair systems in order to guarantee the operational quality and quantity of next year's boats. It made boat repair work more methodical and raised the level of shipyard management. Consequently, this conference, it can be said, constitutes an excellent beginning of the continued leap forward in boat repair work for next year.

### III. THE ORGANIZATION OF THE SHANG-KUAN

#### PEOPLE'S COMMUNE BOAT-BUILDING PLANT

No. 9, 7 November 1959  
Page 11

Party Committee of  
Shang-kuan People's Commune

The water and land communications of the Shang-kuan People's Commune in Tao Hsien in Hunan are comparatively convenient. Water routes go through the commune and there are two highways that also traverse the commune, these water and land routes constituting the transport pivots of Tao Hsien.

According to statistics, in 1959, the volume of short distance transport alone reached 37,500 tons. During the stimulus of the policy of steel as the core, an all-round leap forward of last year, and under conditions where the transport duties were extremely heavy, the commune operated a shipyard with 33 workers divided into carpentry, sawing, and transport squads. Within the yard, there was a yard chief and 5 operational teams. The minute the yard began its work, it used the method of building the yards, cutting wood, sawing wood, and building [boats] at the same time. After a few months of hard efforts on the part of the workers, all types of difficulties were overcome, and not only was the yard constructed, by using native, old, and simple methods, but many other accomplishments were also obtained. The plan for the yard for this year calls for the building of 200 boats totaling 716 tons. As of September of this year, there had been built already 56 boats totaling 278 tons. There were repaired 56 boats of various types totaling 2,387 tons. In addition, the yard also built 50 pole-powered boats for the commune, forcefully aiding industrial and agricultural production.

#### Unifying Ideology, Raising Understanding

When the shipyard was first started, the ideology of the workers was comparatively confused. They had different ways of regarding the existence of the yard. Some complained of difficulties and lacked faith in the operation of the yard. Some did not like the work, believing that boat building called for no skills. Some didn't care one way or the other. The commune Party committee and the leadership of the yard called all types of small conferences to deal with these wrong ideologies. They used the method of citing facts, reasoning, making detailed accountings, and simultaneously doing and studying. The consciousness of everyone was raised, ideology was unified, and a high tide of a mass nature for operating the yard very quickly took form.

## Use the Crude and the Simple, Break the Three Barriers

In the process of building the yard, not a few difficulties were encountered. First was the problem of building the shipyard. Under the leadership of the Party committee, the yard chief Chou Chia-hsing conferred many times with the workers, called meetings of the squad and team chiefs and workers' meetings, and called on everyone to consider the problem. After discussions by the masses, the policy of starting from reality, relying on the locality and using local materials was adopted. Because of the forceful support of the commune, the steel plant and other units solved the problem of materials by providing old wood and other materials, and by having everyone help, 2 sheds, 2 huts, an iron-working shop and an office were quickly built. Afterwards, whenever a deficiency of materials for boat building existed, everyone actively thought of methods to help and went everywhere looking for materials. When there were no nails, the workers used their spare time to pull out some 300 chin of nails from abandoned boats. The second problem, when there was no lumber, the commune obtained some 100 square meters from Shui-nan and Pai-shui-yen. Other things like small tools were mostly brought to the yard by the workers themselves. The third problem was the problem of techniques. The yard solved this problem by using the masters to lead the apprentices, combining the master and the apprentice, and do, teach, and improve at the same time.

## Set Up Control Systems, Practice Scientific Control

To make the yard develop and stabilize, under the leadership of the Party committee, the masses were mobilized and work was started from the work of summing up investigations. Improvements were made and the following control systems were set up.

(1) In production control, there was established the production control method of the "5 fixes" and the "3 includes" (fixed personnel, time duty, and quality and responsibilities; include materials, cost and duties). Of these, in the matter of fixed personnel, the workers should be organized into squads according to need, based on the strengths and weaknesses of the individuals, and the level of the individual's technical abilities. In the matter of fixed responsibilities, we should clearly have a division of labor and have specialists bear the duty. In fixed duties, within a certain period, based on the strength or weakness of the worker and the level of his technical ability, a fixed volume of work should be completed. For instance, for building a 5 ton boat, we might have 22 A class workers, 24 B class workers, and 26 class C workers working 10 hours each day. Fixed quality refers to the adhering to the requirements in all work, thereby guaranteeing quality. The three "includes" refer to the completion of work on time while adhering to the already determined cost and raw materials targets. For example, in

building a 2- to 3-ton boat, the cost and raw material targets may be 30 chin of nails, 25 chin of lime, 5 chin of bamboo strips, 16 chin of Tung oil, 17.50 yuan for boards, and 15.20 yuan for labor.

(2) Setting up systems for the control and acquisition of raw materials. Materials and production tools were acquired through unified purchases by the yard. There were fixed the system of responsibility by specialists and responsibility by the specialists and by users in the squads.

(3) Set up financial and tool accounts, practice independent economic accounting. The products are distributed for use by the commune work and communications department and their value reported to the commune finance department. In the yard, there were accounts kept of receipts. Accounts of the expenditures that the yard needed for production etc., were kept and were used after permission from the commune.

(4) Set up study and production, livelihood, and conference systems. Each week, there was one evening of leisure. Generally, there were 2 days of leave per month, not counting exceptional circumstances. The time from 7 to 9 at night was for study or conferences. Livelihood conferences were convened when needed.

(5) The system of a basic wage and rewards for merit was used for the workers' wages. Classes were determined, based on the strength or weakness of the person's labor, on the level of technical skills, and on labor attitudes. There was a total of 7 classes which were drawn up each month. The wages were: first class, 16 yuan; second class, 18 yuan; third class, 20 yuan; fourth class, 22 yuan; fifth class, 24 yuan; sixth class, 26 yuan; and seventh class, 28 yuan. Those who overfulfilled their quotas 20 percent of the above wages.

(6) The responsibility of the workers to their families was, except for 8 yuan used for food, to give the rest themselves to invest in the brigade for purchases of grain and other such expenses.

#### IV. TEN YEARS DEVELOPMENT OF THE HONAN INLAND WATER TRANSPORT

No. 9, 7 November 1959  
Pages 12-13

Navigation Transport  
Office of Honan Provincial  
Communications Department

##### Ten Years of Changes, Sails are Hoisted Everywhere

Honan province is in a central plain, with the western part next to mountains. The land is fertile and the products are abundant. Rivers criss-cross the 167,000 square kilometers of territory. The 4 large water systems of the Huai Ho, Yellow River, Han Chiang, and Wei Ho traverse 79 hsiens and cities, and navigation has taken place since history.

However, until 10 years ago, under the rule of the reactionary Kuomintang, the rivers were not dredged. Not only did sediment accumulate on the navigation routes, but conditions became worse each day, and the districts adjacent to the rivers were subject to floods. The families that lived on the river banks were under capitalist exploitation by oppressors and exploiters, such as the reactionary government, feudal elements, etc., and were exploited to the utmost. Their lives were worse than animals and they were on the verge of death each day.

In the ten years since the liberation, under the leadership of the Party and Chairman Mao, the undertaking and glorious completion of the great water conservancy projects for the control of the Huai Ho and the Yellow River, and especially since 1958 the development of the large scale conversion to river networks in the plains, transport on the rivers has been in extremely advantageous conditions. The broad masses of the workers on the navigation transport front, under the glorious illumination of the general line of the Party, and under the correct leadership of the Party and government at the various levels, have manifested revolutionary enthusiasm and have step by step changed "harmful rivers" to "beneficial rivers" through fixing up, dredging, and opening up work. Up to the present, the rivers in the province open to navigation have reached 60 (or sections) totaling 5,405 kilometers in length, (of which 838.5 kilometers are navigation lines capable of handling steamers), an increase of some 100 percent over the early period after the liberation. We have set up navigation signals so that transport on the rivers can take place day and night, so that sails are hoisted everywhere.

Particular cause for joy is that since 1955, mechanically powered boats have appeared on the Wei, Sha, Huai, and Yellow rivers, and these boats have gradually increased in number. The cumbersome physical labor of various types typical of wooden sail boats is beginning to be replaced by machinery.

Following the improvement of the navigation routes and additions to the number of boats, transport capacity increased rapidly. The volume of freight transported by river in the province in 1953 increased 9.37

times over the volume for 1950. The amount [ton-kilometers] of freight transported increased 7.93 times. The volume of freight transported from January to August of this year increased 121.97 percent over the same period of last year.

### The People's Communes Are Good Without Limit

Following the arrival of the high tide of socialism throughout the country, the individual family living on the river banks voluntarily followed the happy road of cooperativization or the road to joint public-private management. Especially since the realization of the conversion to the communes in 1958, people's communes have been established on the river valleys. In only one year, the commune members already profoundly understand that the commune is a source of happiness and the path to heaven. The population and capacity of the commune are large, and the organization of transport could be even more rational and effective than before. The establishment of collective welfare affairs and the improvement of the livelihood of the commune members are added benefits. The main harbors along the rivers have established new hostels and children's schools, barber shops, health stations, old age homes, nurseries, and dining halls. In addition, they have also set up many sewing, shop repair, and animal care supplementary industry plants. The families which lived on the river banks and which lived in boats, have come on shore and have settled down. Some have entered productive labor, resulting in ability to support the old, give education to the young, increase their incomes and guarantee their security. The masses of the commune members have praised the people's commune, saying: "The commune is really good. Our clothes keep us warm and the food keep us full. We do not have to make the old and the young work, the old can enjoy the happiness of old age homes, the young can go to school free, wonderful days are without end, and we deeply thank Chairman Mao and the Party. Load fast, unload fast, navigate fast. Communism will soon arrive." The unlimited superiority of the people's commune even more excites the activism of the people of the rivers. In the "10 compares 10 emulations" high tide, the masses of communes members guaranteed the unceasing increase of transport efficiency. The average ton-boat monthly output this year has increased more than 40 percent over last year.

### New Techniques, Great Increases in Efficiency

The wooden sail boat is the main implement for river transport in Honan Province. In the last several thousands of years, due to conservatism, there has been little improvement.

In the last ten years, especially since the Convocation this year of the Ch'ang-sha National Conference for the Exchange of Experience in Technical Innovations and Revolution Movement in Wooden Sail Boat Transport, the various river systems have all broadly developed the movement of "2 changes" (improve boat types and supplementary tools) "one clear" (clear out the holds to increase capacity), and "4 conversions" (convert boat transport to towing, make loading and unloading at the harbors fast, open up small streams and rivers, use local materials to make many types) with mechanization and semi-mechanization as the core. The most effective and the fastest progress has been in the conversion to the "wood wood combine" towing. After the conversion to towing by boats, labor power was saved, and it was possible to save supplementary tools, raising navigation speed 20 to 30 percent. At the same time, collective navigation by groups brought together can increase solidarity and raise socialist ideology. In the matter of forcefully expanding the speeding up of loading and unloading in the harbors, the 5 harbors of the Yellow River system have used the "heavenly bridge type" coal dispensing chute, which raised the boat loading efficiency 2 to 4 times as compared with human labor. The masses felt that "the chute is really good. It does not require human labor and is high in efficiency. Since we do not use gang-planks in loading boats, safety is guaranteed. There is no damage or waste."

#### Changing the Custom of "South Boat and North Vehicle"

The great leap forward in industrial and agricultural production and in the overall development of forestry, animal husbandry, fishing, and supplementary activities of the communes have given even vaster and more glorious duties for communications transport. The contradiction of large volume for transport and small transport capacity is becoming more prominent daily. Short distance transport is especially tight. For speedily changing this situation, the various localities, under the leadership of the Party committees of the various levels, should conscientiously implement the policy of the central committee on "The Comprehensive Use of Water Resources for Developing Navigation Transport," combine with the extensive engagement in water conservancy for the fields and in the building of canal networks on the plains to forcefully develop water transport. At present, the areas that have already realized the conversion to canal networks and the 46 hsien which are on the banks of rivers should set up simple boat repair plants for medium and small boats and use local materials to actively build boats. The province has already organized more than 2,050 supplementary industry boats to participate in transport. These boats total more than 14,000 tons in capacity and has completed more than 27 percent of the volume of freight transported by river throughout the province. The Hsin-hsiang Special District, under the stimulus of the heroic slogan of "a thousand boats, ten thousand tons," changed the custom of "boats in the south and

vehicles in the north." At present, it has opened up some 530 kilometers of navigation lines and constructed and restored more than 850 wooden sail boats totalling more than 11,000 tons. The people of Yuan-yang Hsien, in the last three months, have used the method of raising low bridges and widening narrow bridge to rebuild 17 bridges, opening up 120 kilometers of navigation routes, and building 36 new wooden sail boats, thus taking the first step toward solving the difficulty of inconvenient communications.

**Trends are Limitlessly Good, Tomorrow Will Be**

**Even More Resplendant**

The great development of navigation transport in the last ten years shows that transport on the rivers in Honan has already leaped into a new era and following a glorious and resplendant road. Especially since conscientiously implementing the resolution of the 8th plenum of the 8th Central Committee on the movement for increasing output and conservation, there has been started a new high tide in the movement of a mass nature for opposing rightism, striving hard, increasing production, and conservation. At present, the province, by the end of the 25 days left in August, will have completed 91.29 percent of the volume and 68.61 percent of the amount of transport for the year. The Yellow River and Nan-yang river systems have completed their transport plans for the year three months ahead of schedule, with a volume transported representing an increase of more than 150 percent over the previous year. These accomplishments show that the river transport workers of Honan, under the glorious illumination of the general line of the Party, are in the process of raising high the red flag, riding the winds and breaking the waves and creating a more resplendant future for themselves.

## V. DIRECT LOADING FROM VEHICLES TO VESSELS

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Wei Wen-hua

The forceful organization of vehicle-boat direct loading (also called vehicle-boat direct acquisition) is one of the most effective measures for guaranteeing the combined water and land transport of freight and for expanding the capacity of the combined water-land transport stations. The 6th loading and unloading area of the Shanghai harbor, (an area for combined water-land transport operations) on the foundation of the leap forward of last year, advanced a step in furthering the cooperation between land transport and the harbors, engaged extensively in vehicle-boat direct loading, and obtained very great results. In the first quarter of this year, the accomplishment of vehicle-boat direct loading represented 26 percent of the total combined water and land transport for the quarter. At present, the organization of vehicles and boats for direct loading has become one of the major problems in production organization and on-the-spot control of loading and unloading areas.

The so-called vehicle-boat direct loading is the direct loading of freight that has been unloaded from a boat (or train) onto a train (or boat). The freight does not pass through storage yards and does not pile up. It is only one operation from boat to train or from train to boat, and does not consist of several processes from the boat (vehicle) to the storage yard and then to the vehicle (boat).

### The Significance and Value of Organizing the Direct Loading from Vehicles to Boats

1. It can reduce loading and unloading time. In the first quarter of the year, the 6th loading and unloading area of Shanghai Harbor organized about 61,000 tons of freight for direct loading, or about 26 percent of the combined water and land transport for the quarter. If the trans-loading period of the combined land and water transport for freight going through Shanghai Harbor is set by the Ministry of Communications at 4 days, (including the loading of the freight), the direct loading method will reduce the time to three days. If we calculate on the basis of the 61,000 tons of freight directly loaded, the trans-loading time will be greatly reduced by 183,000 "ton-days" at the harbor.

2. It cuts down the expense for the flow of commercial goods and reduces the cost of transport. Due to the direct loading, there is only one operation. Therefore, the fees for loading and unloading and insurance, etc., are correspondingly reduced. The average saving per ton of freight can reach 0.9 yuan. Calculating by the volume that the 6th area is loading in the first quarter, the amount saved was 54,900 yuan.

3. It conserves labor and fully brings out the potential capacity in machinery. Direct loading saves the labor that was formerly used for carrying freight to the storage yards and used machinery to load the freight directly onto the trains (boats). The labor and machinery needed for the operation of carrying freight to storage now can be used to load and unload in the direct loading operations. Therefore, large amounts of human and material capacity are conserved. Generally, to load a 60-ton coal car by human labor requires 10 persons working 2 hours, making a total of 20 man-hours. The loading of a 50-ton box car with packaged goods requires 12 persons working one hour, totalling 12 man-hours. In the first quarter, the 6th area directly loaded 47,000 tons of coal and about 14,000 tons of packaged goods. Calculating from the above standards, a total of 19,020 man-hours were saved.

4. It reduces damage to freight. Freight, in the process of trans-loading, has to be subjected to an additional operation and is susceptible to more damage. Direct loading involves only one operation from the boat (vehicle) to the vehicle (boat), and requires fewer operations than the process of going from the boat (vehicle) to the storage yards (including the moving back and forth and piling up operations etc.,) and then to the vehicle (boat). Therefore, the elements which lead to damage are reduced and the damage to freight will naturally also diminish accordingly.

5. It can expand the pass-through capacity of combined land water transport. The forceful organization of direct loading can render unnecessary large volumes of freight passing through storage yards. Instead, the freight is directly shipped out, thus greatly conserving storage capacity and reducing the pressure of combined land and water transport on the storage yards. If we calculate on the basis of the 610,000 tons that the 6th area directly loaded in the first quarter and that the average length of stay of freight for the entire harbor in the same quarter was 5.49 days, (the actual trans-loading time), then the total saved was 273,890 "ton-days." A daily average of 3,043 tons of storage capacity is saved, which, in terms of storage yard space saved is 837 square meters and in terms of warehouses, is 349 square meters. In addition, the labor and machinery that are thus idled can be diverted to do more combined land and water transport work. At the same time, because direct loading is not subject to limitations from labor, loading and unloading time can be reduced, so that we can add to the number of cars put on the road in a given period and the number put on the road in one day and night. Therefore, the pass-through capacity of the lines used only for land and water combined transport (namely, the railway) lines, will be greatly expanded and their latent capacity will be brought out.

#### The Organization of Direct Loading

The key to the organization of direct loading is in first strengthening the close relationship between the roads and the harbors. The harbors, (the areas directing operations), in addition to notifying the roads at the

beginning of each 10 day period of the plan for that period, should, as the most important measure, correctly inform the roads of the combined water land transport freight for the next day and night, the types of freight, the volume, the destination and direct loading conditions, so that the roads will be able to dispatch vehicles in time to receive the freight coming in and fit into the direct loading operations.

2. When making arrangements for the operations and plans of boats and vehicles, we must create favorable conditions for direct loading. We should arrange for the most suitable anchorages and machinery and make each way to the storage areas capable of engaging in direct loading. Based on the volume of freight and the different types of machinery and their capabilities, we must do the utmost to arrange for at least two routes for direct loading so that the number of vehicles to use will be increased. When using transportation belts to load and unload miscellaneous freight, we must have sufficient storage yards for stacking the freight when the belt is finished. When the belt machines are put to use, we must have the machines touching the vehicles, and when using towing vehicles, cranes, etc., around the belt machines, we must leave sufficient room for the movements of the machines.

3. Those on duty to arrange for personnel on-the-spot control personnel, and railway personnel, must understand direct loading conditions and on-the-spot conditions. For example, if there are several storage places and several routes which can load directly, we must consider the number of vehicles that can be directly loaded on each route at one time, the types of vehicles to be used for different types of freight, the speed of loading and unloading and the needs of the roads in loading and unloading time for the vehicles, and whether or not after the vehicle is unloaded and on the way back, full loads can be arranged for them. We must, based on the conditions of the above, strengthen our relations with the dispatching units of the railways and jointly organize direct loading. This way, we will be able to enhance the effectiveness of the use of vehicles and raise the number of direct loadings, and at the same time, we will be able to guarantee the requirements in regard to time.

VI. STATISTICS OF NANKING STEAMER TRANSPORT COMPANY

No. 9, 7 November 1959  
Page 14 (Excerpts)

Unsigned Article

The Nanking City Steamer and Boat Transport Company has 28 tugs totaling 2,306 horsepower, 4 passenger steamers with a capacity of 2,318 seats, 215 barges with a load capacity of 14,888 tons and a passenger capacity of 1,874 seats. In the first half of this year the Company completed the transportation of 435,278 tons of freight, an increase of 59 percent over the same period of last year. The average daily output in horsepower averaged 499 ton-kilometers, an increase of 30 percent over the same period of last year. The daily output measured in barge-ton was 36 ton-kilometers, an increase of 6 percent over last year. The unit cost for passenger and freight transport in the first half of the year (1,000 man-ton-kilometers) was 11,254 yuan, a decrease of 11.21 percent (of which passenger transport cost was 8.074 and freight unit transport cost was 12.062 yuan) compared with the same period last year.

## VII. STATISTICS OF THE SU-CHOU STEAMER TRANSPORT COMPANY

No. 9, 7 November 1959  
Page 15 (Excerpts)

Work Team of the Ocean and River  
General Bureau of  
Ministry of Communications

The transport trends of the Su-chou Boat Transport Company for the first half of the year are that the volume was large, the priorities many, the time tight, and the transport capacity insufficient. Under such intense traffic conditions, because we have grasped the "9 comparison" red flag emulation movement, unceasingly improved management and control, developed technical innovations, brought out latent transport strength, and remarkably improved the transport efficiency of boats, we have basically met the needs of the development of industrial and agricultural production. The volume of freight that was transported in the first half of this year was 379,229 tons or 108.87 percent of the plan, or a 13.08 percent increase over the second half of last year. The daily output in freight-ton horsepower was 502.26 ton-kilometers, an increase of about 20 percent over the last quarter of last year. In the first half of the year, 1,804,473 passengers were transported, being 58.86 percent of the plan for the year and a 39.81 percent increase over the same period of last year. In the first half of the year, we remitted upwards of 855,002 yuan or 67.56 percent of the plan for the year. The cost per passenger-freight transport unit (a thousand man-ton-kilometers) was 12.965 yuan, a decrease of 14.47 percent.

## VIII. DEVELOPMENT OF LOADING AND UNLOADING EQUIPMENT

### IN CHINA'S HARBORS

No. 10, 22 November 1959

Lin Hung-tz'u

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Before the liberation, facilities in our country's harbors were extremely backward. The loading and unloading equipment at the harbors consisted of only some simple tools, and simple cranes. The loading and unloading workers had to engage in extremely heavy physical labor.

In the early period after the liberation, due to the weakness of the foundation of the facilities in the harbors, although loading and unloading cranes had been improved, the types that existed were still very few. We were deficient in cranes for specialized purposes. The loads that the cranes could carry was small, and there was no way to calculate or determine the standards and strength of the cranes. The harbors were therefore comparatively inadequate in loading and unloading work. For example, in the process of unloading coal from ocean-going vessels in the Shanghai harbor, the workers at first used shovels in the holds to load the coal into containers which cranes would then haul to the deck. Other workers would then use carrying poles to carry the coal over a long and high gang-plank to the storages in the harbors, and only by then was the process of unloading the coal completed. Afterwards, improvements were made. The cranes of the ships were used to convey the containers of coal directly to the wharf, thereby eliminating the heavy and dangerous operation with carrying poles. Still, up to 100 persons were put to work in the holds, their work efficiency was low, and the degree of labor used was still very high.

During the period of the first five year plan, under the leadership of the Party and the aid of Soviet specialists, we mobilized the masses and started a new movement for technical innovations at the harbors. One of the important purposes of this movement was to improve the cranes, make new ones and popularize their use. At the outset, it was comrade Ch'in Hung-lin of Tsingtao harbor who built an "automatic crane" for use in loading ore. It guaranteed safety and also raised the work efficiency 20 percent. Following that, the Ocean Transport Control General Bureau of the Ministry of Communications and the National Committee of the Chinese Seamen's Union jointly held an "exhibition of loading and unloading operations at harbors." The main purpose of this exhibition was to launch a movement to improve cranes. The exhibition recommended the adoption of Comrade Ch'in's automatic crane and models were used to illustrate its operation, and construction. At the same time, we introduced scores of other types of more advanced cranes and implements including several cranes recommended by Soviet specialists. This exhibition was later held successively in Shanghai, Dairen, Tientsin, Tsingtao, Wuhan, and Canton. It greatly excited the workers of each of those cities. Afterwards, the workers at the harbors there based on the needs of production, daringly created and diligently

studied. The leadership forcefully supported the workers and gave them concrete aid. The movement for the improvement of cranes developed broadly and permanently and obtained remarkable results. For example, the "mid-air overturning net" was developed from the "automatic crane." There were also developed cranes for specialized uses. All these creations matched international levels.

After the harbor cranes had been improved during the period of the first five-year plan, capacity and capability were greatly raised, as shown in the following examples:

(1) Increasing the load in order to fully bring out the capabilities of the lifting machines, (including the cranes on ships). For example, the load for nets was raised from one ton to two or three tons; the number of fresh-freight containers and oil barrels lifted each time was raised from 4 to 6, 8 and finally to 12.

(2) Convenience of operation and reduction of the time required to hook lifting machines to the load. For example, in the past, when lifting steel tubes, iron plates and other metal products, we had to first go through numerous operations to prepare the load, but now we use all types of grappling hooks, so the operations have been more convenient, much effort is saved, and the efficiency rate greatly raised.

(3) Pull firmly and be reliable. For example, in the past, we used boards when lifting boxes and miscellaneous freight. It was easy for the freight to slide off. At present, we use boards which are protected by nets. Also, a spring was added to the hook on lifting machines so that if the rope breaks, the hook will not come loose.

(4) Reducing the weight of the crane itself. For example, in the past, when loading and unloading metal goods, we generally used iron chains, which were heavy and costly. Now we use steel wire nets connected together by a chain, thus reducing the weight and cost. Also, in the past, we generally used costly and easily damaged hemp, but now we use steel-wire cables. At the same time, the workers when using cranes, make calculations before hand and can thus determine whether load is safe or not.

During the great leap forward, the improvement of cranes was still one of the important aspects in the technical innovation movement in the harbors. Each province has developed many advanced cranes and popularized their usage. There will be many new equipment to come. These will have a great effect on the technical reform of harbor loading and unloading operations from now on. For example, in loading and unloading piece goods and other miscellaneous freight, we used primarily freight boards and also the cranes on ships, etc. After Shanghai used the 1.5 ton cranes, the load per hold on the ships reached 80 to 100 tons, with the highest reaching 120 to 130 tons. The original 20 to 22 workers per hold were reduced to only 4 to 6 (in the hook freight unloading section). Due to the reduction of the number of workers needed, more workers can be set aside to load and unload more ships and the time in which ships wait to be loaded

and unloaded is considerably reduced, thus bringing about commendable results. To compare this with the former backward operational processes is to see a great leap forward indeed.

To sum up, the work of improving the cranes in our harbors has had tremendous success. It has developed in accordance with the principle of "increasing the load, reducing the weight of the crane, rendering the operations more convenient, and reducing the cost." At the same time, in concrete work, we have implemented the general line and policy of the party. Under the leadership of the party, we have mobilized the masses and engaged extensively in the technical revolution, and then and only then obtained flying leaps forward and glorious accomplishments of our work. Following the continuous leap forward of the national economy, the harbors of our country will unceasingly increase the number of all types of lifting machinery and other loading and unloading equipment and thereby advance in developing cranes.

IX. CHINA WATER TRANSPORT PLANS FOR THE FIRST QUARTER OF 1960

No. 12, 22 December 1959  
Pages 2-7 and 10

Yu Mei, Chief of the  
Ocean and River General Bureau of the  
Ministry of Communications

Speech of Yu Mei, Chief of the Ocean and River General Bureau of  
the Ministry of Communications at the All-China Transport Conference.

Comrades:

The vast accomplishments and basic experiences which we obtained in 1959 along the communications-transport front throughout the country, the transport trends and policies and duties for the first quarter of 1960 have been reported fully by Deputy Minister Sun. Now, I will dwell on the implementation conditions for the water transport plans of the country, the arrangements for the transport production plans for the first quarter of 1960, and the main measures for guaranteeing the realization of these plans, I especially want to bring out the following points:

The Execution of the Water Transport Production Plan  
for the Country for 1959

It is estimated that the 1959 freight transport plan was completed 108.6 percent and 106 percent, and it is estimated that it will be possible to complete the plan for the year a month ahead of schedule, representing an actual increase of 62 percent and 40 percent over 1958. Of the above, for trunk line transport, it is estimated that the plan for the year will be completed 103 and 108 percent, representing a 32.5 and 41 percent increase over last year; for local transport, it is estimated that the plan for the year will be completed 109 and 106 percent, an increase of 65 and 39 percent over last year. As to water transport throughout the country of priority freight such as iron and steel, coal, and ore, it is estimated that the volume transported will increase 40 to 100 percent over last year, the equivalent of 104 percent of the plan for the year.

As seen from the above conditions in the completion of plans, water transport, like the other production fronts, is continuing to maintain a great leap forward pace. In the process of completing the plans, we took the basic characteristic of the discrepancy between present water transport capacity and the developing needs of the national economy, and used the methods of great mass movements, technical innovations and technical revolutions, and extensive engagement in communist cooperation, to dig out the latent capacity in existing facilities, and moreover, carried out a series of measures for speeding up boat turn-around time, and consequently obtained great results. In order to increase the "pass-through" capacity of the harbors, and to realize technical innovations and revolutions for

wooden sail boats, we convened a Ch'ang-sha and a Dairen harbor conference, in which we summed up and exchanged various experiences and in which the various localities adopted various formulas for the implementation of the directives of a series of conferences. In respect to technical reforms in the harbors, the various localities have already performed a great deal of work, such as the four conversions of Hu-chou harbor in Szachwan, the series of conversions in Su-chou harbor in Kiangsu, and the great accomplishments of other harbors in respect to technical innovations, all of which have already vastly increased the "pass-through" capacity of the country's large, medium, and small harbors, greatly reduced the harbor stopping time of boats, supplied new transport capacity, and increased the volume of transport. The "Two changes, one clear, and four conversions" movement in the last year has been remarkable in effectiveness, as for example, Szechwan, Hunan, Kweichow, and Honan have created many superior types of boats. With their holds cleared out and their load increased, the boats have been put to full utilization. The 80,000 horsepower of small diesel engines provided by the state this year added to the total of about 150,000 horsepower prepared by the localities themselves. The engines now being installed on boats will especially contribute to favorable conditions for the mechanization of wooden sail boats. In the field of large type tug boats, the "six conversions" and "six combines" technical innovation and revolution movements have been carried out, thus conserving labor power. The latent capacity of facilities was brought out, the height of gunwales was scientifically determined, and loads were increased. By speeding up boat repairs and reducing boat repair time, in the last year, on the Chiang-hai trunk line alone, some 3,000,000 ton-days in boats were supplied. We actively improved the management of enterprises, preliminarily mapped out a set of management methods for the combining of collective leadership and mass movements. We started communist style cooperation, and made known the experiences gained in such cooperation. These measures all were very useful for the guaranteeing of the overfulfillment of the transport duties for 1959.

In the mass movements in short distance transport, the people's communes' engagement in transport and loading and unloading was greatly developed. Even though the time was short, the importance of such engagement was nevertheless apparent, proving that the engagement by the communes in water transport can greatly save labor power and can also guarantee and promote the development of industrial and agricultural development.

In sum, the various aspects of the water transport front during the last year, under the leadership of the Party and the government of the various levels, and under the common active efforts of all the workers, basically guaranteed the development of industrial and agricultural production, and moreover, have made great accomplishments. I will now speak with the emphasis on the problem of fully utilizing water transport.

The full utilization of water transport is one of the important methods for ameliorating the tight situation in transportation in our country at the present. This policy, from the long range point of view, is also in accord with the rich and superior water resources of our country.

The comprehensive use of these resources is an important method for promoting unceasing leaps forward in industrial and agricultural production. In the last year, the problem of how to fully utilize water transport has gradually become a matter of widespread attention. The National Economic Commission has directed many times that we need to fully utilize water transport, and based on this principle, to fix rational flow directions for priority freight and to determine the division of work between land and water transport. Moreover, the Commission has also proposed that when making transport plans, we must implement the principle of "water transport must be fed first." The provinces of Kiangsu, Chekiang, Kwangtung, Szechwan, and Hunan have all made water transport a priority subject, with some of these provinces already given water transport the highest priority. In the northern provinces of Honan, Shantung, and Kansu, water transport is being given emphasis. For example, the various places are developing and tributaries and small rivers, extending the routes for through navigation, engaging extensively in building canal networks, using ditches for navigation, and are building boats on a large scale. They have accomplished a great deal in all these fields. According to incomplete statistics, from January through September, we opened up more than 3,000 kilometers of natural waterways and used 25,000 kilometers of streams for through navigation. At the present, this movement is in the process of being combined with the winter water conservancy movement and developing profoundly. Facts have proven that we need only to pay attention to the full use of water transport in order to have even greater transport capacity.

Water transport has the advantage of requiring only small investments, of fast results, of having large transport capacity, of being low in cost, and of being able to save labor and animal power. The use of water transport to connect with factories and mines not only can reduce trans-shipments and save expenses, but can also guarantee the quality of transportation and accelerate the flow time of freight and open up a broad path for the development of water transport affairs.

In the last year, even though in water transport work we obtained the above mentioned accomplishments, there still exists some deficiencies and problems, the most prominent of which are: on the one hand, transport capacity is insufficient, and on the other, the latent capacity of existing facilities has not yet been fully brought out. The stopping time of boats in harbors still amounts to 90 to 70 percent of their total operational time. This shows that the "traveling" rate of the boats is still very low. If we can increase the traveling rate of the wooden sail boats and tug boats throughout the country by 5 percent, it would be the equivalent of adding 230,000 tons of tug boats, barges, and boats and 330,000 tons of wooden sail boats, so that the latent capacity that exists can be imagined. Again, the horsepower efficient of the tug boats in the interior rivers in some cases gives a monthly output of 20,000 ton-kilometers and up, but there are also cases where the output is only 5,000 to 6,000 ton-kilometers. In the organization and management of production, it is tight sometimes tight other times slack, and the fluctuating phenomena are rather widespread. This adversely influences the stable raising of production and

the full utilization of the various facilities. Especially in guaranteeing safe production, even though there has been a turn for the better since the National Water Safe Production Conference called in Wuhan in May, still, serious and damaging accidents frequently occur. According to incomplete statistics for the first through the third quarters, direct damages have amounted to 14,178,000 yuan. Those suffered by the Yangtze Navigation Bureau have been most serious, and it necessarily requires our attention. The construction of water transport industries and technical management have also not developed in accord with the needs of the rapid development of water transport. The capacity for the manufacture of boat and harbor machinery is not adequate, the supply of maintenance materials and spare parts is not adequate, and some of the facilities do not make up complete sets, thus adversely influencing the full utilization of the machinery in the harbors and on the boats. These should draw our serious attention and must be solved in time.

#### Arrangements for Transport Duties for the First Quarter of 1960

The volume and amount of freight transported by water in the national water transport plan for the first quarter of 1960 represent an increase of 93.5 and 99 percent respectively over the corresponding estimates for the fourth quarter of 1959, they are an increase of 55 and 41.5 percent respectively over the same period of 1959. The volume and amount for the Yangtze Navigation Transport Bureau increased 50 and 60 percent. The volume and amount of the freight transported by the Shanghai Ocean Transport Bureau increased 36.7 and 29.2 percent. The volume and amount of freight transported by water locally increased 56.6 and 41.7 percent over the same period of 1959. The volume of freight handled by the 16 major harbors of the country was 102.1 percent of the volume for the fourth quarter of 1959 and increased 44.3 percent over the same period of 1959.

The transport trends for the first quarter of next year has already been analyzed by deputy chief Sun's report. To clearly guarantee the victorious completion of the plan for the first quarter, it must also be pointed out that we need to let politics take the lead, oppose rightist tendencies, strive to the utmost, and advance a step in implementing the general line of the Party in each item of work. This is the basic guarantee for the realization of continuous leaps forward in water transport. We must use firm faith and resolve to struggle not to allow the volume transported each day to fall below the level of the fourth quarter. We must have the spirit of using a great deal of transport to guarantee high output and of transporting whatever needs to be transported to fit in with the continuing all-around leap forward needs of the national economy.

Therefore, in regard to the pivotal cycle in water transport today, in carrying out technical innovations and the technical revolution to seek to fully bring out the transport capacity of the boats is the first duty in the guaranteeing of the completion of the transport plan for the first

quarter. It is also the main content of the mass movements in water transport. The major problem today in water transport work is first how to raise the efficiency of the harbors and expand their "pass-through" capacity, especially for the many small and medium harbors. Next is how to raise and expand the transport capacity of the boats, especially how to accelerate the technical work on wooden sail boats. The third problem is how to increase the depth of the navigation routes, and to develop and use tributaries, small rivers, and creeks for navigation. The fourth problem is how to shorten the boat repair periods, raise the quality of repairs, and set up water transport industrial bases. If we tightly grasp these problems in the first quarter, and in an organized and systematic manner step by step find solutions, we can predict that the existing transport capacity will show improvement, and consequently, will guarantee the victorious completion of our transport duties.

#### The Various Measures For the Realization of the Above Duty

1. Raise the loading and unloading efficiency of the harbors, expand the "pass through" capacity of the harbors, and especially treat the medium and the small harbors as more important.

Since the great leap forward, the workers of the harbors throughout the country, under the leadership of the Party committees of the various levels, have developed to differing degrees the technical innovation and revolution movements. The main harbors of the various localities added some equipment and installed some native machinery and combinations of native and foreign machinery. The various provinces have comparatively successful experiences and good models. The comparatively highly mechanized harbors on the Chiang-hai trunk line, with the exception of continuing advanced level in the handling freight, have taken six week cycles in moving goods out of warehouses where much labor was used, and the degree of labor was high, and instituted the use of sliding boards, small type belt machines, "flat warehouse machines," and other advanced tools to reduce the degree of labor and to save manpower.

However, speaking from the viewpoint of the entire country, the medium and small harbors are still in an inadequate condition, with loading and unloading operations relying primarily on manpower. The technical innovation and revolution movements are uneven in their development in these ports and we are still deficient in organized and planned leadership there. The six week cycles of the trunk line ports have not been basically solved and mechanical operations are not systematized.

I propose that the communications departments (navigation transport departments) strengthen their leadership over harbor work. We should have qualified people to bear the responsibility for this work, set up province-wide regulations and plans, perform well the work of selecting and setting up types of loading and unloading machinery, and sum up and organize the propagation of experiences. We require that in the first quarter, the harbors where the volume of freight handled reaches 500,000 tons or more

basically realize the conversion to native machinery and to machinery. Of these harbors, those with a volume of 1,000,000 tons or more, we require that, on the existing basis, they stabilize and improve, and that moreover, along the important front of loading and unloading, they break up the weak cycles and organize two or three "series". The harbors of 500,000 tons or less should also increase their planning and the realization of plans step by step. We are preparing to convene a specialist' conference in the first quarter of next year to advance a step in the implementation of this spirit to promote the all-around development of the mechanization and semi-mechanization of loading and unloading operations in the medium and small harbors throughout the country. The harbors on the trunk lines should continue, based on the spirit of the Dairen work conference, to fact the prominent weak cycles of each harbor, draw up plans, mobilize the masses, and attack the priorities. They should especially solve the three comparatively prominent problems of gradients, the moving of goods out of warehouses, and the loading and unloading of vehicles. At the same time, we must pay attention to the solving of the problem of "attached tools" to go along with the various types of tools, and on the foundations of the destroying of the prominent weak cycles, to organize 5 to 10 "serializations" for loading and unloading operations for bulky goods.

For existing machinery, we should strengthen technical controls, perform maintenance and repair work, to the greatest degree possible eliminate all types of procrastinating factors, and strive to raise the rate of utilization of working time. We should propagate all types of advanced operational methods and raise the efficiency of the work shifts. All harbors which have a comparatively large volume to load and unload, must have regular loading and unloading personnel and must set up suitable control organs. They must also pay attention to cooperating fraternal units and perform well the work of control and technical innovations for those harbors with specialized operations.

2. Raise boat efficiency, expand the transport capacity of boats, and especially grasp the work of technical reforms for wooden sail boats. At the present time, the national economy is developing fast, the volume of transport is increasing furiously. Transport capacity already cannot match the increase. Under conditions where it will not be possible in a short period to build large numbers of new boats, the work of technical reforms for existing tugboats, boats, and barges, and especially of wooden sail boats is extremely important and of real significance. In the last year, the various localities, in implementing the spirit of the resolutions of the Canton Boat Duty Conference and the Nanking and Ch'ang-sha conferences, have been emphasizing the work of technical reforms for boats, so that the various localities, in the matters of increasing load capacities, of digging out the horsepower efficiencies of engines, of selecting superior boat types, of installing small horsepower engines aboard boats, of realizing the mechanization of wooden sail boats, and converting to towing transport, have all made many accomplishments. Consequently, they have also raised the efficiency of the boats, expanded transport capacity.

These accomplishments will be of great usefulness for the work of this year. However, upon investigation, it was found that some localities had not grasped this work tightly enough.

The work of installing small engines on wooden sail boats was started especially late. The work of universally inspecting boats and of deciding on types of boats were not carried out with urgency. The work of technical control of boats after they have been mechanized and of training cadres was also not taken on in a timely manner. In the ideology on the part of the cadre, even up to today, there still exists in various degrees of seriousness ideologies of seeking modernization, of emphasizing the foreign and neglecting the native, and of emphasizing the steamer and neglecting wooden sail boats. This type of ideology is the main factor in influencing adversely the forceful development of this work.

In order to continue to implement the spirit of the Nanking and Ch'ang-sha conferences and the Wusih on-the-spot conference on sets of small machinery for wooden sail boats, we should continue to develop the "2 reforms, one purification, and four conversions" movement with mechanization and conversion to towing as the core, and we should especially first grasp with urgency the installation of sets of small engines on boats. For this year, the state and the provinces will manufacture 2,000 small type engines with an aggregate of about 150,000 horsepower. Because, in the past, timely solutions had not been obtained in the problems of techniques and in materials, as of the end of October, there were only a little more than 800 units installed on boats. At present, we have already passed the crisis in the problems of materials and techniques, and in the on-the-spot conference on small engines called by Wusih in Kiangsu, we also exchanged experiences on this problem and on solving the problem of choosing the types of boats. Consequently, it is required that we install 1,000 units during this year and that we struggle to install engines on all boats before February of next year, and at the same time, that we perform well preparatory work for installing small type engines on the boats for which this is to be done.

In addition, we should also continue to carry out the work of selecting types and determining classes for wooden sail boats. We should implement the principle of "small repairs small changes, large repairs large changes," and improve boat types step by step. We should carry out inspections, measurements, research, and experiments on existing boats to determine the classes of boats for the various types of rivers.

For steamers, we should continue to implement the experience of the "6 conversions" for boats. In the last year, the rate of utilization of facilities for the unified operation of engines on ships and for automatic steering was very low, generally only 30 percent. We should carry out an inspection to seek to use most of these facilities while guaranteeing safety. In regard to the use of coal feeding and pulverising engines, we should also carry out technical inspections and determinations and the selection of types. We should actively sum up and propagate experience in the absorption of water by diesel oil. We must seek to convert, in 1960,

10 to 12 ships using fuel oil and steam to ones using coal. Every province, for internal combustion engine boats, should propagate the experience of the engine which uses anthracite and both diesel oil and coal gas and should forcefully solve the problem of the corrosion and wearing of coal gas engines. In control of machinery, we should strengthen maintenance work of a constant nature and work toward the "6 diligents;" (diligently inspect, repair, wash, lubricate, rap, and paint), strengthen the various types of responsibility systems, and eliminate accidents which are adverse to navigation and damaged machinery.

3. Increase the depth of navigation routes, increase the kilometrage open to navigation, and especially combat low waters and actively develop and use small rivers and creeks for navigation.

In the past year, the various localities have had mass movements and actively opened up natural navigation routes. They have used creeks for navigation, have set up navigation standards, and have dredged and dug mud, resulting in great accomplishments. Some of the southern provinces, under conditions of severe drought, mobilized the masses to combat low water levels, carrying out the removal of banks and the digging of rivers, in the end guaranteeing the victorious completion of transport tasks. For example, Hunan province mobilized the wooden sail boat transport communes and started a movement for "transporting and dredging, and at the same time" for struggling for volume of transport. Kiangsi, Hupeh, Shantung, and Honan combined transport with water conservancy and used creeks for navigation. They called an on-the-spot conference for conversion to river networks and obtained not a few accomplishments. However, these accomplishments were still far from matching the requirements of that time arising from the rapid development of transport affairs. For example, some rivers needed only a little bit of straightening out work to be useable for navigation or to have their transport capacity increased, and some creeks were already adequate in depth for navigation, but at the present, there are still many places which have not utilized them. In general, the latent capacity in water transport is still great. The problem now is that the work of fully using water conservancy resources to develop water transport is still unbalanced. Consequently, we require the various localities to be adept at using the favorable trends from the high tide of water conservancy construction this winter and next spring, that the localities be very close to the water conservancy units, that they mobilize the masses, that they universally develop and improve the navigation conditions on the small rivers and tributaries, and that they especially pay attention to the clearing out of routes to ore districts, grain producing districts, and districts where transport is not convenient. They must also fully use creeks for navigation, and especially the communes and hsien which have water transport should actively study the experience of Chun Hsien in order to step by step achieve the utmost that is possible in making connections between routes to build up a water transport network that reaches everywhere.

In regard to the problem of the tributaries, small rivers, and creeks, under conditions where we mobilize the masses and rely on them, we must still, based on obtaining materials locally, select the methods of explosives, of diversions, of digging up sand, of building dams, and of raising the water level to make "dead waters into through routes." In regard to dams, we should rely on simple construction methods and first make them operational before improving them. The Kwangsi Chuang Autonomous Region has had the experience of combining dredging, blocking up, and change. "Dredging" is the digging out of sand and the removing of rocks and relying on digging but supplementing it with explosives. ("Blocking" is the building of dams to raise the water level. "Change" is the changing of the courses to straighten routes and the changing of small dams for combating droughts, which are not open to navigation, to multi-purpose dams which will allow the passage of boats.) Hunan has had the experience of fully mobilizing the members of the wooden sail boat transport communes for the carrying out of transport by sections and of transporting and dredging at the same time. The Huai River in Honan has had experience in route maintenance of the "3 includes, one fixed, and 3 combines" (the 3 includes are including section, materials, and duties; the one fixed is in times for completion; the 3 combines are the combining of dredging and straightening out work, dredging in currents and under still conditions, and navigation personnel and boat personnel). Szechwan province has had the experience of carrying out "low, construct dikes; deep, dig out the banks" and of shallow digging, medium cleaning out banks, and deep breaking up. All these methods have obtained much, quick, good, and economical results and are worthy of copying by other localities. Consequently, the general requirements for 1960 are that throughout the country, we plan to open up 16,000 kilometers of natural navigation routes, with 7,000 kilometers to be completed in the first quarter; to use 21,000 kilometers of creek networks for navigation, with the use of 11,000 kilometers to be reached in the first quarter. In addition, we should fully bring out the latent capacity in existing facilities for digging mud, thus guaranteeing adequate depths in trunk rivers and in harbor navigation routes. The work of setting up navigation standards should also be carried forward urgently, seeking to have standards for all navigation routes with steamers operating upon them. For navigation routes which have heavy wooden sail boat traffic, there should be simple standards. For main trunk streams and large harbors, we want to attain navigation standards based on electrification and automation. In 1960, the country will set up navigation indicators on 20,000 kilometers of routes, with 10,000 kilometers to be attained in the first quarter. For performing the work of setting up navigation indicators well, consult "The Method for Setting up Simple Navigation Indicators on Small Rivers" of the Ocean and River General Bureau. The harbors along the coasts should conscientiously implement the spirit of the Tientsin Conference on Navigation Indicators, strengthen relations with units concerned with their operations, cooperate extensively, and raise the quantity and quality of the indicators.

At the same time that we carry out the above work, we must also strengthen the maintenance work on existing navigation routes, navigation indicators, and mud digging facilities. We should correct the ideology of emphasizing heavy repairs, bigness (big rivers) and the foreign, and of neglecting light repairs, the small, and the native, in order to emphasize both repair and maintenance, the big and the small, and the native and the foreign. We should sum up and propagate advanced experiences in a timely manner and make the navigation route worker the "outstanding soldier" of water transport, and respond to the needs of transport to the utmost possible limits.

4. Raise the quality of repairs and manufacturing, reduce repair periods for boats and machines, especially set up water transport boat and machine repair and manufacturing bases in the provinces, hsien, and communes.

There has been a definite degree of development in water transport work since the great leap forward. The various localities have set up some boat repair and building plants (also machines), and moreover, some of them have been "made from one's own capabilities from nothing." These plants will be of great use to this year's repairing and building of boats and harbor machinery, to the processing and manufacturing of spare parts, and to technical reforms on wooden sail boats. The various shipyards, in speeding up boat repairs and in raising the quality of repairs and manufacturing, have also made very large accomplishments. Not a few shipyards have attained the target of "reducing of repair time by one-half." In ship building, the various localities have selected the principle of relying on one's own area and acquiring one's own materials, have used substitute materials to build various new types of boats, and have created not a few experiences.

The water transport industry is still one of our weak cycles in our water transport. The industry cannot meet the needs of the development of water transport affairs. The weakness is especially bad in local repair and manufacturing capacity. The construction of plants at the hsien level and below has not yet been solved.

To meet the requirements of the development of transport trends at the present and in the future, the various localities should, in a planned manner and basing themselves on the step by step development of the water system, set up and strengthen the boat repair and building industry's bases, carry out the duty for repairing and building of boats, and carry out technical reforms on the wooden sail boats. They should also take on the duty of installing motive power and loading and unloading machinery which combines the native and the foreign. The localities below the hsien and commune level should advocate the policy of "using one's own strength from nothing, from the native to the foreign, and improve step by step" to lay a basis for the water transport industry from now on.

The repair and building shipyards should implement the policy of "treat repair as the primary, combine repair and building." We should first struggle hard to complete the boat building duties for next year. To reduce repair time, we should continue to push the various experiences in speeding up boat repairs, and greatly reduce the limits on time for repairs. It is required that the two shipyards attached directly to the Bureau have their "boat-periods" advanced 550,000 ton-days, that their mechanization and semi-mechanization be raised 20 to 30 percent over 1959, and that the rate of utilization of facilities be raised 10 to 20 percent. The local shipyards should emphasize the carrying out of mechanization and semi-mechanization involving carpentry operations. They should step by step expand their capacity to process machinery. There should be close cooperation between boats and shipyards. The manufacture of parts should be done before the need, and preparatory work for boat repairs should be performed well. We should strive, on the foundation of reducing repair time by one-half, to reduce it even further. It is required that the directly-attached boats have a transport operational rate of 90 percent and more and the same rate for the boats attached to the provinces should be not less than 80 percent.

We should forcefully propagate the experiences in the use of substitute materials in building boats. Fukien, Kiangsu, Heilungkiang, and Kiangsi have already used networks of steel strands and glass strands to combine with cement to fabricate and build boats, barges, and tug boats. They have already obtained good results. Our Bureau plans to call a conference to sum up these experiences and to propagate them. Hopeh has used reeds and wood-like materials to build boats. Szechwan has used bamboo to construct boats. There are many such experiences. We believe that in our country at the present, where the supply of steel and wood materials are not sufficient, the method of using what is suitable for the locality and using local materials is worthy of study.

5. Strengthen and improve the level of transport organization work, push the great experience in cooperation, change the alternation of tenseness and slackness in transport production.

The practicing of the great experience of "a dragon" can greatly increase transport capacity. This is a major problem of the present in the digging out of latent capacity. After the Ch'in-wang-tao Conference, the various localities have already begun to propagate this experience, and moreover, have further developed it. In order to push this great experience in transport all-around in the first quarter of next year, it is required that:

(1) Continue to stabilize, improve, and develop the "one dragon" combined water and land transport.

The main water and land trans-loading harbors of the 4 navigation districts of the northern and southern sea coasts and of the Yangtze and Chu Chiang have all been organized. The two harbors of Chia-mu-ssu and

Harbin on the Sung-hua Chiang should perform preparatory work before the opening of the river. The harbors of the various provinces that connect with railways also should organize local "one dragons."

Very recently, in the conference convened by the Ministry of Railways and the Ministry of Communications for developing and spreading the "one dragon" transport throughout the entire country, a total of 42 water and land "dragons" with coal as the emphasis were organized. Of these, the harbors of Dairen, Tientsin, Ch'in-wang-tao, Tsinghai, and Lien-yun-kang along the northern sea coast organized 23; P'u-k'ou, Yu-ch'iao, ch'i-k'ou, and Hankow harbors on the Yangtze River organized 17; Huang-p'u and Chan-chiang along the southern coast organized 2. We have made overall arrangements and methods for laying a foundation for advancing a step in realizing the great cooperation of "one dragon" for combined water and land transport. It is required that in the first quarter of next year, we continue to expand and improve this cooperation.

(2) We must forcefully organize "dragons" for river and ocean transport. In addition to the "dragons" which will be organized along the northern coast and the Yangtze trunk line, we must also organize "dragons" combining trunk and branch transport and "dragons" for connecting the various water systems within the provinces.

In addition, we must also study the experience of Ch'ang-1<sup>st</sup> Hsien to organize truck lines, and to organize long and short distance "dragons" and "dragons" within cities for freight handling.

In concrete methods for spreading the transport experience of "a dragon," we must carry out the "4 grasps," (grasp organization, systems, criticism, and exchange of experience). The "dragons" on rivers and seas must consider the water transport conditions of the various localities. We believe that we can first organize water transport "dragons" in the four areas of the water network areas in Chekiang and Kiang/su/ at the lower reaches of the Yangtze, the water system of Hunan in the middle reaches of the Yangtze, in the river systems of the upper reaches of the Yangtze, and in San-chiao-chou on the Chu Chiang, and that we can build up models, obtain experience, and prepare to call an on-the-spot conference in the first quarter (or the second) to propagate the experiences all-around.

In addition, we should implement the great communist spirit of cooperation of the "one dragon," help each other, leap forward together, and improve water transport work all-around.

(3) Change the present situation in the fulfillment of transport plans of slackness at the beginning of the year and of the months and of tightness at the end of the year and months, and struggle for balance. This is an important step for maintaining the firm rise of production levels and is also an important aspect of the bringing out of latent transport capacity.

An important reason for this type of phenomena in production is because there exists the ideology of "slackness at the beginning of the year and months and tightness at the end of the year and months." Because of this ideology, we loosen up on preparatory and organizational work for

production, do not take the initiative in strengthening cooperative relationships on all sides, and ahead of time perform well the work of organizing the freight sources and the concentration of transport. To change this condition, we must first seek to go from the strengthening of control work over plans to timely arrangements and the setting of plans, then to the making of detailed arrangements for operations and the making of planned, concrete technological measures for the realization of plans. Especially important is the performing of preparatory and organizational work for production ahead of time and the urgent grasping of the organization of the freight sources for the purpose of concentrating transport, so that the cycles of the boats, freight, and harbors will follow one another closely. After planning and determining, we must strive very hard for advanceness in planning, and have a month start off tight, and be tight day after day and 10 day period after 10 day period. In the process of executing plans, if there are changes from the plans, we should in a timely manner carry out balancing and adjusting. In the organization of boat transport traffic, we must to the greatest degree possible have small spacing and evenness and accuracy in the boat dispatching plans. In addition, we must also strengthen the ideological education of the workers and the masses, establish the ideology that seeks to be ahead rather than behind, have consideration for the top through the bottom, and do the utmost to attain balance in transport production.

6. Raise management and control levels all-around and make leadership work more detailed and complete.

One of the characteristics of mass movements this year is that there has been an overall leap forward achieved in each piece of work. If we want to continue to bring out this superiority, at the same time that we struggle not to allow the average daily volume transported in the first quarter to fall below that for the fourth quarter of this year, we must make an all-around leap forward in each piece of work and realize the requirements of "much, quick, good and economical." In other words, we want high output, superior quality, low cost and safety, we want the urgent grasping of the production work of the present, of basic construction, and of the training of technical personnel. To take a step in making preparations well, we need unified collective leadership and also need to pay attention to the strengthening of the work of the basic level organizations.

(1) Grasp well safety work, guarantee navigation safety.

In May, after the Wu-ch'ang conference on work safety, the various localities implemented the resolution of this conference to differing degrees. The facts prove that if the leadership pays serious attention and implements this resolution, accidents will be greatly reduced. In contrast, accidents still occur. Especially there are still some units where accidents causing injuries to workers are still comparatively prevalent. This should draw our attention. The first crucial point in the guaranteeing of navigation safety must be the setting up of the

ideology of "safety is for production, production is for safety." All the places where accidents are still severe and safety work has not yet been properly carried out more attention must be given to it. While seeking to improve latent capacity, they must first solve the problem of guaranteeing safety. We should firmly rely on the leadership of the Party, fully mobilize the masses, implement this policy among the masses, and make the masses accept it and grasp it. We must oppose all rightist tendencies and the rightist sentiment that accidents "are difficult to avoid," and heighten the sense of duty on the part of the masses. In addition, we must also set up safety models for various types of boats, forcefully publicize the May conference, and publicize the advanced experiences in safe production exchanged at the national "heroes" conference. The control of wooden sail boats and boats at ferry points still is weak, and these points contribute a comparatively large proportion of all damage-inflicting accidents. We must continue to implement the combined directives of the four Ministries and eliminate the phenomenon of no one being in charge. In the first quarter, we will face difficulties of ice, low water levels, and fog. We must adopt all effective measures to satisfactorily make arrangements early.

In addition, in the various directions, we must pay attention to the strengthening of the work of protecting labor and to guaranteeing personnel safety.

(2) Pay attention to the raising of the volume of freight transport.

The strengthening of on-the-spot control and the improving of loading and unloading operations are the main cycles for the raising of the volume of freight transported. According to the incomplete statistics of the Yangtze and the northern coast, indemnities for damaged freight from January through October reached 3,781 settled and unsettled cases, involving about 2,300,000 yuan. Low quality in freight transport is still rather severe. According to the statistics for 599 cases in the three month period of August through October, 535 took place during loading and unloading operations. This is the main cause of damage to freight. It is required that each unit sum up the experiences and lessons in this field and select measures for the elimination of serious accidents in the weak cycle of loading and unloading of freight, where damage is easily done to freight. We must forcefully eliminate all accidents. In the process of accepting freight for transport and in handing over freight, we must inspect carefully the condition and quality of the freight containers. We must strengthen the control of freight transport manifests, set up and maintain storage yards, and look after the stacking of freight and protection and transfer systems. We must perform well the on-the-spot control of rational "concentration" loading, "fitting" loading, and loading and unloading operations. Moreover we must strengthen technical leadership and strengthen the system of the loading and unloading team being responsible for the freight in order to guarantee the quality of freight transport.

(3) Strengthen economic accounting work, practice conservation, and reduce costs.

In the mass movements of this year, the various localities must pay attention to this work. Many units have already developed economic accounting work of a mass nature and are practicing single ship accounting and loading and unloading team shift team accounting, thereby contributing greatly to increases in output and conservation. From now on, we should continue to develop this work. In concrete methods, we should select those that are common and easy to understand, that are simple and easy to practice, and that can be taken and grasped by the masses of the workers. In the conservation of fuels and the use of substitute and waste materials, we have also obtained great results. We should continue to forcefully conserve all kinds of fuel and propagate experience in all types of advanced methods for lighting fires, the absorption of water by diesel oil, and in substituting heavy oil for light oil.

It is required that in the first quarter, the northern coast and the Yangtze trunk line, on the foundations of 1959, reduce costs by 7 percent and that for water transport enterprises throughout the country, the drop be 10 to 15 percent. It is also required that the consumption of fuel by boats be reduced 3 to 5 percent and the consumption of rare materials by the shipyards be reduced 10 percent.

(4) Grasp well capital construction work, struggle to turn over facilities over for use ahead of schedule.

Capital construction work in 1959, because of reasons having to do with materials and orders for goods, etc., was not completed well enough, with some of the projects having to be completed in the 30 days coming up and in the end of the first quarter of next year. The capital construction plan for the first quarter of next year had arrangements made for it in the planning conferences. The state has taken into consideration our present tight situation in water transport and the mass movements that will be engaged in this winter and next spring in communications construction, so that the investment that has been arranged for the first quarter is comparatively large. We hope that each unit will conscientiously carry out well designing, construction, and preparations, and that they will especially grasp tightly the projects of comparatively large usefulness to transport and the construction of boats, in order to hand over early the results of their work to invest in production. In buying and processing [of products] by other units, we should sign contracts with the units concerned as soon as possible. The capital construction projects handed down from this year should be forcefully completed all-around, and moreover, the picking up work afterwards should be performed well, so that all the projects will be put into production in the first quarter. The transport communes, companies, and commune transport teams, in engaging in the mass movements in communications construction, will build boats in large numbers. This is a capacity which cannot be neglected and which should be emphasized and aided and led technically, so that all the difficulties which they cannot overcome by themselves will be solved, and so that these boats will be put into production work earlier.

(5) Grasp the training of technical personnel

Following the rapid development of transport production, the increase in water transport capital construction and in other mechanical facilities, and especially the profound development of the technical innovation and revolution movements, has created a pressing need for the strengthening of the work of training of technical capacity. According to the preliminary estimates of the various provinces and directly attached units in their capital construction plans for 1960, we will need some 50,000 persons of technical capacity, of which about 2,500 will be technical cadres and about 48,000 technical workers. It will be especially urgent in the first quarter to solve the problems of the large numbers of machine operators, steering, and machinery control cadres that will be needed after the installation of 150,000 horsepower on wooden sail boats. We should immediately start the training of these people. We must adopt the principle of relying on one's own resources, combine with the development of the technical revolution and cultural revolution movements, strengthen technical and cultural education, establish training squads of various types in large members, and train and raise the technical levels of existing personnel. The water transport enterprises and wooden sail boat communes of the various localities can still use the method of training soldiers on the spot, combining this with production realities and realizing "one specialty and many skills." The provinces where conditions exist should set up technical schools. At the same time, we must pay attention to improve the labor organizations so as to bring out our labor reserve strength and to attain the rational use of labor. The various units, in the first quarter, must make plans and determine concrete training measures, and actively develop training work in order to guarantee the needs of production.

In addition, we should still strengthen the cooperation within each sphere of the various cooperative areas. The localities where the foundation exists should aid other localities and train people for them, and moreover can take part with the other localities in training squads. This work will be further concretely organized.

To solve the problem of the pressing need of the various provinces at the moment for technical personnel, the Ocean and River General Bureau plan, in the first quarter, will arrange for training squads in the operation of medium and small type internal combustion engines, in the control of machinery, on designing and planning, on boat repair, and on transport control. We hope that the various provinces will spare personnel to take part in study.

(6) Grasp well basic level work

Boat teams, boats, harbor work teams, shops in factories, and work sections and work teams are basic level production units. The level of efficiency of boats, the speed of loading and unloading, the quality, and whether or not boat repairs can be completed so that the boats can leave the repair plant ahead of schedule, are directly related to these basic level organizations. All our work must be realized

through the basic level organizations. Consequently, we must strengthen the leadership over basic level work and bring out their activism and combative spirit. In realizing the plans, go down to the boats, the squads, the teams, and mobilize the masses for discussions for repairs and changes, implement the system of having the workers participate in management, and advance step in raising the spirit of placing the group first and of responsibility.

We should especially strengthen the leadership of communes engaged in transport. At the same time that we establish and make firm the participation of the communes in transport, we must forcefully develop the water transport teams and loading and unloading teams of the communes to control and fully bring out their usefulness. All communes where conditions exist, should combine the intra-field transport needs of the collection of fertilizer, the transport of fertilizer, the collection of grain, and the transport of grain, and put into effect the conversion to boat transport in river networks. They should combine with the irrigation motive power used in agricultural production for developing boats with the dual purpose of bailing water and transport, and step by step realize the conversion to towing. According to need, we should add some simple loading and unloading and freight handling tools and realize the conversion to mechanical tools in loading and unloading and in freight handling in order to save labor. At the same time, we must pay attention to the maintenance of transport and loading and unloading implements and unceasingly raise the rate of good running order of the implements.

7. Advance a step in broadening and deepening the development of the "six compares red flag emulation" movement, organize the realization of proposals.

In 1959, the workers of the entire water transport system developed a "red flag emulation movement" of the "6 compares" with the speeding up of boat turn-around as the main target. Very great accomplishments have already been made. The large batches of advanced collective groups and advanced individuals which have appeared during this movement have been of great usefulness to the water transport affairs of the country as a driving force. The two proposals of profoundly developing the movement for increasing output and conservation in the water transport system and of advancing a step in strengthening socialist cooperation, are proposals made by the delegates of water transport at the national heroes conference and by the national railway, communications, metallurgy, and coal representatives. All propose that we develop the "15.5, 1" emulation movement for boats, that we make concrete combative targets and measures for the cooperation of the harbors and plants. It can be estimated that the realization of these two proposals will certainly greatly promote the movement for increased output and conservation for water transport throughout the country. The proposals also added new content to the development of the "6 compares red flag emulation" movement. It is proposed that the management units of the various localities organize the

realization of these two proposals into their daily work and combine them with their daily work to push the emulation movement to a new high tide.

The spring season will come upon us quickly. The passenger transport duty for this spring will certainly be very large. We must, based on last year's experience, make good investigations of passenger sources, arrange the transport capacity to meet them, and guarantee transport safety. To strengthen leadership, the harbor bureaus and navigation transport bureaus of the various localities can, under the leadership of the local party committee, organize the personnel concerned into a spring season passenger transport office to unify leadership and guarantee the completion of the duty for the spring transport of passengers.

Comrades, let us, on the foundation of the great victories of 1959, raise high the red flag of the general line, perform well the preparatory work for the first quarter of next year, and be full of enthusiasm and combative spirit to struggle for the all-around leap forward in 1960 and for redness at the beginning of the year and every month thereafter.

**X. HUAI HO WATERWAYS TRANSPORT BUREAU COMPLETES  
ANNUAL PLAN AHEAD OF SCHEDULE**

No. 12, 22 December 1959  
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The workers of the Huai Ho Navigation transport Control Bureau of Anhwei Province, on the foundation of the victory of a great leap forward in 1958, this year scored another significant victory in its continued leap forward. By 25 October, the bureau has transported 1,888,977 tons of freight, completed the plan for freight transport for the year 65 days ahead of schedule, and overfulfilled the plan by 0.22 percent, thereby leaping into 1960 with broad steps.

The accomplishment of the bureau in completing the plan 65 days ahead of schedule is the victory of the Party's general line for socialism and of the leap forward movement, and at the same time, is also the victory of the workers against overwhelming odds. The conditions for transport on the Huai Ho this year were unfavorable. Because of the lack of rain in April and May, the water levels in the subsequent months were low and the navigation routes presented many obstacles in the form of shoals. Because of the fact that agricultural workers fought the drought by storing up water, choked the majority of waterways with dams, great dangers were created for navigating boats. Under the correct leadership of the Party, we criticized the rightist ideology and the feeling of fear in a timely manner and succeeded in strengthening the determination of the workers and whipping up their enthusiasm. In the end, we overcame the difficulty of low water levels and the obstructions posed by dams and shoals, etc.. We scored many victories. The main measures used by the bureau to reap such successes were as follows:

1. We have resolutely improved the existing facilities and fully developed the transport potentials. From January to October, the workers of the entire bureau made a total of 570 proposals for technical innovations, of which 170 were put into effect. Consequently, the latent strength in transport was very greatly brought out. For example, after "guide flow tubes" and "pressure flow boards" were installed on tugboats their hauling efficiency was increased by about 15 percent. After 11 tugboats had adopted the method of "side cable towing", their speed increased 6 percent. Some tugboats have installed machines to clear out dirt and mud with the result that the boilers are cleaned every 2 months instead of every 16 days as hitherto. In the harbors, we have built loading equipment such as "chain boards," and the work efficiency there was increased to as much as 300 percent as compared to the use of carrying poles previously. As a result of improvements in tools and in operational methods, the potential transport capacity of the boats has

been greatly expanded. From January to October, each horsepower in the tugboats covered on the average 6,694 ton-kilometers per month, the highest figure being 8,832 ton-kilometers a month.

2. We divided the navigation routes into sections, and carried out the transport work by stages, thereby overcoming the obstacles caused by low water levels and dams. In view of the dams on the navigation routes and the low water levels, we have made rational distribution of boats that needed different depths of water and arranged for the two types to make contact with each other and for the boats that needed low depths to make contact with wooden sail boats, thereby guaranteeing that freight will be transported without obstruction. For example, Fou-nan Hsien has the duty to transport grain to the city of Huai-nan. The navigation route used was long and the water was at different levels. The hsien broke the route into three parts, used wooden sail boats from Fou-nan Hsien to Jun-ho-chi, then shallow water tugboats to Yang-kuan, and lastly deep water teams of tugboats to Huai-nan. The hsien thus completed its duty for shipping grain to Huai-nan according to schedule.

3. Improve the methods of loading, mobilize crew members to participate in loading and unloading, and overcome the inadequacy of such work. The crew members, when loading ore, used the method of separately loading the holds and the decks. After unceasing improvements, they reduced the loading and unloading time by two-thirds, and as a result accelerated the transport process. In a 100-ton boat, when the ore was entirely loaded in the holds, the unloading time needed was generally 24 hours. The sailors loaded one third of the ore on the decks, and then only 12 hours were needed to unload. At present, we have changed our method by putting two-thirds of the load on the decks, and we need only 8 hours to unload a boat. At the same time, in making improvements in loading the ore, we loaded the small pieces of ore in the holds and the large pieces on the decks. In this way, loading and unloading labor was saved and the loading and unloading time was reduced. Also, the rate of damage to the boats was also greatly reduced. In harbors when the loading and unloading capacity is inadequate, the sailors themselves organize the loading and unloading work. For example, this Bureau has helped the boat teams of the Wu-hu River Transport Navigation Bureau in this way: When unloading freight at Ma-an-shan, because freight handling capacity was adequate, sometimes, the boats waited three days. Under these conditions, the sailors unloaded the boats themselves. The result was that in one day, freight was completely unloaded, speeding up the boat turn-around rate.

4. Strengthen maintenance and servicing of machines, mobilize the crew members to carry out repairs themselves, and keep the boats in good shape. In addition to mobilizing the sailors to inspect, clean, and repair the boats in order to keep them and their engines in good conditions at all times, we have also organized mobile repair teams which carried out inspections and repairs at harbors and on boats. This solved the problem of boats which were unable, due to the dams, to return to

their bases for repairs. At the same time, the workers in the shipyards did their utmost to speed up boat repairs, so that the number of boats in good running order was always maintained at a high level. From January to October, the rate of good running order of tugboats for the entire Bureau reached 84.54 percent, with the highest figure reaching 95.16 percent. The boats were more able to complete the transport tasks.

At present, the workers of this bureau, under the leadership of the Anhwei provincial people's council, have proposed the slogan, "Work hard for 50 days, and complete our duties ahead of schedule." They are in the process of putting the slogan into practice. And they have guaranteed that they would transport a total of 2,403,000 tons of freight 16 days ahead of schedule before the end of the year.

**XI. DEVELOPMENT OF CHINA'S TRANSPORT ACTIVITIES**

Chiang Chia-yen

No. 12, 22 December 1959  
 Pages 22-23 (Excerpts)

After the new China was established, the vigorous development of the national economy resulted in our country's communications and transport affairs reaching an all-time high tide. This was basically different from the various capitalist countries. The amount [ton-kilometers] of freight transported by modern transport implements grew each year. The amount of freight transported by water increased especially fast. If the index number of 1952 were 100, then the amount of freight transported by water in 1958 had increased to 429, and the amount of freight transported by railway, although increasing comparatively at a slower pace as compared to that of water transport, had increased to 308 by 1958. Due to the comparatively rapid development of water transport, especially in the rivers within the country, its ratio with the total amount of freight transported throughout the country also increased gradually. The amount of freight transported by the various means of transport in the past years was as follows:

Table 5. The Ratio Between Different Amounts of Freight Shipped by Various Means of Transport in Our Country \*

	1952	1953	1954	1955	1956	1957
Railway	84.1	84.0	81.9	78.4	79.1	77.8
Waterway	14.8	14.6	16.4	19.6	18.6	19.9
Inland rivers	5.3	6.0	6.9	8.2	8.5	9.0
Coast	5.6	4.3	6.2	5.8	5.7	6.4
Trucks	1.1	1.4	1.7	2.1	2.3	2.3

\*Not including the amount of freight transported by civilian transport.

From the above Table, it can be seen that the railway is the basic and most important means of transport of our country. Although the amount of freight transported has gone down from year to year, yet up till now, the railway has carried the greater part of the amount of freight in the country. In the future, railway transport will still be basic and most important and will lead in the transport work of the country.

We can also see from the Table the development of water transport in our country, especially the development of transport on the rivers. The proportion of transport on the rivers has increased from 5.3 percent of 1952 to 9 percent in 1957. The rapid development of water transport in our country is related to the advantageous economic and natural conditions. At the same time, it is also related to the superior nature of water transport itself.

The advantageous conditions in our country for the development of water transport are: The various large river basins in our country and the coastal areas are the places that have the highest concentrations of industry and where industrial and agricultural output is incessantly leaping forward. They are also the places with the highest concentrations of population. The increases in production will supply tremendous freight for water transport. At the same time, in the matter of the exchange of goods between the city and the countryside, the directions of flow of our rivers are also comparatively close to the directions of the flow of goods.

Another advantageous condition for the development of water transport is that with the exception of Manchuria, most of China's main rivers and harbors are not frozen in the winter and spring, and can be used for transport work throughout the year. This creates excellent conditions for water transport work everywhere continuously.

The comparative advantages for the development of water transport also lie in these features: the capacity is large, the consumption of metals is small and the cost of transport is low.

At present, due to the technical backwardness in water transport, most of the boats are made of wood, and the horsepower of whatever modern boats we have is small. Consequently, the cost of transport is rather high. In some cases water transport costs even higher than railway transport. However, it should be pointed out that this is a temporary situation. As the technical improvement of water transport is realized, the cost will necessarily fall below that of other carriers. In the last few years, actual water transport in our country has made this point clear. In Russia, the cost of transport by water is far lower than by railway.

Some comrades believe that because the conveyance of freight by water is too slow, the development of water transport will not be worthy of consideration. We believe that speed in the delivery of freight is extremely important and it must be increased. The speed at present is indeed low, but this is because of the backward technical facilities, and this is a temporary phenomenon.

With the development of industry in our country, the technical reform of water transport is being realized gradually. If we add to this the improvement of organization, the speed of delivery will have greatly increased. In past years, the actual work of water transport has also proven this point. In the period of the first five year plan, the number of trips made by boat has increased 35 percent.

To sum up, we have many favorable conditions for the development of water transport. Our Party and government have been emphasizing on the use of every possible means to serve socialist construction, and on the wider use of water transport. As the editorial entitled "Fully Bring Out the Usefulness of Water and Land Transport," appearing in the June 1, 1959 issue of the Jen Min Jih Pao pointed out, from the short-term viewpoint, "water transport will ameliorate the tight transport situation and is one of the important means to satisfy the needs of the development of the national economy." "From the long range point of view, we must make water and land transport manifest even greater usefulness in the national economy, and we must furthermore solve the problem of how to distribute industries so that they may best fit into the water and land transport networks." "When possible, plants should be built along the coast and rivers" in order to utilize fully the advantage of water transport. Therefore, we cannot ignore or neglect the development of water transport in our country.

The other means of transport of the country, trucks and airlines, and petroleum pipelines, all have their own advantages. Under socialist conditions, they will all develop rapidly and will be rationally and fully used. Our country's railways, waterways, trucks, airlines and pipelines will be coordinated in unified plans to make up a national communications and transport network in which the different methods of transport will manifest their superiorities in working for the socialist industrialization of the country and for satisfying the needs in the development of our national economy and the needs of travelers.