

INFORMATION REPORT INFORMATION REPORT

FE

CENTRAL INTELLIGENCE AGENCY

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COUNTRY North Korea REPORT

SUBJECT Description of The Facilities and Equipment at the Najin Shipyard, description & types of ships produced there - including tugs, transports, fishing patrol, minelayers, tankers, merchanters, etc. (adding)

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REFERENCES [Redacted]

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DATE OF INFO. [Redacted]
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THIS IS UNEVALUATED INFORMATION.

[Redacted]

the Najin Shipyard

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GROUP 1
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STATE	X	ARMY	X	NAVY	X	AIR	X	NSA	X	OCR	X	DIA	X	AID
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Location and Number of Employees:

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1. This Shipyard is located in Ch'angp'yong-dong, Najin-gun, Hamgyong-bukto: EB 073767, N 42-15, E 130-18. The number of employees working in the Shipyard reached a total of 7,000 persons among whom about 30 percents were women workers.

Facilities:

1. Iron Works and Ship-building Plant (see No.1 of the attached sketch):
The machines installed in these workshops are as follows.
 - a. Ceiling crane (2):
These are all Soviet-made. The lifting capacity of each is 2 ton and 500 kilograms.
 - b. Drilling machine (2):
The machines were made by Huich'on Machine Manufacturing Shop. The size is 4 feet each.
 - c. Lathe (1):
Chech-made. The size is 4 feet.
 - d. Roller (4):
The source of manufacture is Ch'ongjin Steel Mill. The roller is used

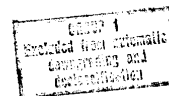
Disposition:

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in bending iron plates.

- e. Polishing machine (2): These are Soviet-made.
- f. Electric drill (15): These are all Soviet-made.
- g. Plate-bending roll (1):
This machine was made by Kimch'aek Steel Mill. The size is **2,660** m/m in length; 2,000 m/m in width; and 200 m/m in thickness.
- h. Iron-plate cutter (2): Made by the Najin Shipyard itself.
- i. Rivet hammer (10): All made in Red China.
- j. Electric welder (3): Made by P'yongyang Taeon Electric Factory; the electric capacity is 10K each.
- k. Oxyacetylene welder (2): Soviet-made.
- l. Vice (5): Produced by Yongsong Machine Factory; all are vertical-type.
- m. Horizontal vice (3): Produced by Yongsong Machine Factory.
- n. Oil jack (10): Soviet-made; the lifting capacity is 10 tons each.
- o. Jack (5):

All are second-hand ones the capacity is 3 tons. 50X1-HUM

- p. Finishing-up board (1):
It is about 3 meters long and 1.5 meters wide.
- q. Small forge (1)

2. Iron Works and Ship-building Plant (see No.2 of the attached sketch):

The installed machines are as below.

- a. Ceiling crane (1): Soviet-made; the lifting capacity is 2 tons and 500 kilograms.
- b. Drilling machine (1): Produced by Huich'on Machine Manufacturing Shop; the size is unknown.
- c. Lathe (1): Made in Czechoslovakia; the size is 4 feet.
- d. Iron-plate cutter (1): Manufactured by the Najin Shipyard.
- e. Plate-bending roll (1): Produced by Kimch'aek Steel Mill; the size is about 2,500 m/m long, 1,500m/m wide and 200m/m thick.
- f. Polishing machine (3): All Soviet-made.
- g. Electric drill (10): All Soviet-made.
- h. Rivet hammer (8): All made in Red China.
- i. Electric welder (2): Produced by P'yongyang Taeon Electric Factory; the capacity is 10K each.

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- j. Oxyacetylene welder (1): Soviet-made.
 - k. Winch (1): Made in North Korea; the size is unknown.
 - l. Painting compressor (1): The source of manufacture and its efficiency are unknown.
 - m. Vertical vice (5): Manufactured by Huich'on Machine Manufacturing Shop.
 - n. Horizontal vice (8): Manufactured by Yongsong Machine Factory.
 - o. Oil jack (5): All Soviet-made; the capacity of each is 10 tons.
 - p. Jack (5): the capacity is 5 tons.
 - q. Finishing-up board (1):
The size is about 2.5 meters long and 1.5 meters wide.
3. Machine Manufacturing Plant (see No.16 of the attached sketch):
The installed machines are as below.
- a. Lathe (35):
 - 1) Two pieces..... Czech-made (size: about 24 feet).
 - 2) 2 pieces Hungarian-made (size: about 15 feet).
 - 3) 4 Pieces East-German-made (size: about 10 feet).
 - 4) 6 pieces Soviet-made (size: about 8 feet).
 - 5) 1 piece Soviet-made (size: about 32 feet).
 - 6) 8 pieces Czech-made (size: about 6 feet).
 - 7) 3 pieces Soviet-made (size: about 4 feet).
 - 8) 4 pieces Produced by Huich'on Machine Manufacturing
Factory (size: about 4 feet).
 - 9) 3 pieces (vertical lathes) East-German-made (size unknown).
 - 10) 2 pieces Soviet-made (size: about 12 feet).
 - b. Shaper (6):
 - 1) Two shapers sized at 8 inches of stroke are Soviet-made.
 - 2) Two other shapers sized at 8 inches of stroke are ones made by Huich'on Machine Manufacturing Shop.
 - 3) Two remaining shapers sized at 7 inches of stroke are also Soviet-made.
 - c. Hobbing machine (4):
Two pieces are Czech-made and other two are Soviet-made.

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d. Milling machine (3): **NOFORN** Soviet-made.

e. Boring machine (4):

Two are made in East Germany and others are Soviet-made.

f. Press (2): Soviet-made.

g. Polishing machine (2): Soviet-made.

h. Radial drill (2): Soviet-made.

i. Drilling machine (5):

Three are ~~ones~~ produced by Huich'on Machine Manufacturing Factory;
two other ones are Czech-made. 50X1-HUM

j. Boring machine for hot-bulb engine (1)

k. Plate-bending roll (2):

All produced by Songjin Steel Mill. The size of the one is
4,000m/m long, 2500m/m wide and 200m/m thick; the other is 2,000m/m
long, 2,000m/m wide and 150m/m thick.

l. Ceiling crane (2): Soviet-made; the lifting capacity of each
is 2 tons.

m. Electric drill (5): Soviet-made.

n. Electric grinder (8): Soviet-made. Five out of the eight are
portable ones.

o. Iron-plate cutter (1): Made by the Najin Shipyard.

p. Air compressor (1): Soviet-made; the capacity is 10K.

q. Experimental hydraulic press (2): The source of manufacture unknown.

r. Center detector (20): Made in North Korea; the source of manu-
facture unknown.

s. Vertical vice (10): Manufactured by Huich'on Machine Manufac-
turing Shop.

t. Horizontal vice (5): Produced by Yongsong Machine Factory.

u. Finishing-up board (wooden-made) (3):

One board is 3 meters long, and 1.5 meters wide; the two other
ones are 2 meters long and 1.5 meters wide.

4. Casting Plant (see No.21 of the attached sketch):

This plant is divided into three rooms: the wooden pattern room,
casting room and furnace room.

The machines installed in the wooden pattern room are as follows.

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- a. Drilling machine (1): Produced by Huich'on Machine Manufacturing Shop.
- b. Lathe (1): Czech-made. It is used in shaping wooden patterns.
- c. Lumbering saw (2):
All made in Red China. The size of the one is 16 inches in diameter and the other, 13 inches. The motors equipped in this room were all two -- one for each saw. One motor has the capacity of 6 HP and the other, 5 HP.
- d. Electric plane (1): Made in Red China. It is equipped with a motor of 5 HP produced by Huich'on Machine Manufacturing Shop.
- e. Wooden pattern cutter (1): Made in Red China.
- f. Electric drill (2): Soviet-made.
- g. Vertical vice (2): Produced by Yongsong Machine Factory.
- h. Horizontal vice (2): Produced by Yongsong Machine Factory.

The machines and tools in the casting room are as follows:

- a. Ceiling crane (1): Soviet-made. The lifting capacity is 3 tons.
- b. Chain block (1): Manufactured by Kimch'aek Steel Mill; its capacity is 1 ton and 500 kilograms.
- c. Casting ladle (2): These ladles are fixed on pushing carts.
- d. Electric motor (1): The 10-HP motor was produced by P'yongyang Tae'an Electric Factory.
- e. Tools: All the tools in the casting room are Soviet-made.

The objects installed in the furnace room are:

- a. Furnace (1):
It is 2.8 meters in diameter and 4 meters in height. Its working capacity is 2 tons and 500 kilograms.
- b. Ceiling crane (1): Made in Red China. The lifting capacity is 1 ton and 500 kilograms.
- c. Electric fan (1): Produced by the Najin Shipyard.
- d. Electric motor (1):
The motor, 15 HP, was produced by P'yongyang Tae'an Electric Factory.

5. Finishing-up Plant (see No.20 of the attached sketch):

The machines and tools installed in this plant are as follows.

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- a. Ceiling crane (1): Soviet-made. The lifting capacity is 2 tons and 500 kilograms.
 - b. Chain block (1): Made in Red China. Its working capacity is 1 ton and 500 kilograms.
 - c. Drilling machine (1): Made by Huich'on Machine Manufacturing Factory.
 - d. Lathe (1): Manufactured by Huich'on Machine Manufacturing Factory. The size is about 4 feet.
 - e. Shaper (1): Manufactured by Huich'on Machine Factory; the stroke is 8 inches.
 - f. Air compressor (1): Soviet-made. The capacity is 15-K.
 - g. Plate-bending roll (3): Made by Ch'ongjin Steel Mill. The two are of a size, 3,000m/m long, 1,500m/m wide and 200m/m thick; the rest is 4,000m/m long, 2,000m/m wide and 200m/m thick.
 - h. Vertical vice (1): Manufactured by Yongsong Machine Factory.
 - i. Horizontal vice (10): Manufactured by Yongsong Machine Factory.
 - j. Drilling machine combined on table (2): Manufactured by Huich'on Machine Manufacturing Factory.
 - k. Finishing-up board (4):
These boards are wooden-made and of a size of about 3 meters long, 1.5 meters wide and 1 meter thick.
6. Welding Room of Steel Manufacturing Plant (see No.19 of the attached sketch):
- Following are the machines and tools installed in the room.
- a. Drilling machine (1): Produced by Huich'on Machine Factory.
 - b. Plate-bending roll (2): Made by Songjin Steel Mill; the size is about 2 meters long and 1 meter wide.
 - c. Iron-plate cutter (1): Manufactured by Najin Shipyard.
 - d. Press (1): Made in Red China.
 - e. Electric welder (7): All made by P'yongyang Taeon Electric Factory; five are of a size and with the capacity of 10K; remaining two are also of a size and with the capacity of 7K.
 - f. Oxyacetylene welder (3)
 - g. Horizontal vice (3): Manufactured by Huich'on Machine Factory.
 - h. Vertical vice (3): Produced by Yongsong Machine Factory.
 - i. Rivet hammer (2)

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- j. Anvil (2): Made by Huich'on Machine Factory.
 - k. Electric grinder (2): One is large-sized and the other is small-sized.
 - l. Electric drill (2): Made in Red China.
 - m. Roller (2): Made by Ch'ongjin Steel Mill; they are used in bending iron plate up to 12 m/m.
 - n. Chain block (2): All made by Kangson Steel Mill; the capacity is 1 ton and 500 kilograms.
 - o. Electric motor (2): Produced by P'yongyang Taeon Electric Factory; each motor has the power of 10 HP.
7. Workshop of Power Department (see No. 25 of the attached sketch):
- The machines and tools are as follows.
- a. Lathe (2): Made by Huich'on Machine Factory; the size is 4 feet.
 - b. Drilling machine (1): Produced by Huich'on Machine Factory.
 - c. Hobbing machine (1): Made by Huich'on Machine Factory.
 - d. Plate-bending roll (1): Manufactured by Yongsong Machine Factory; it is of the size of 2,500m/m long, 1,200m/m wide and 100m/m thick.
 - e. Electric grinder (2): Made in North Korea; the source of manufacture is unknown.
 - f. Electric drill (1): Soviet-made.
 - g. Vertical vice (5): Manufactured by Yongsong Machine Factory.
 - h. Horizontal vice (5)

The machines installed in the electricity room of this workshop are as follows.

- a. Coil regenerator (3): Two are large-sized and one is small-sized.
- b. Generator (2): One has the generating capacity of 10K and the other, 5K.
- c. Relay (2)
- d. Diesel engine (1): Soviet-made; it has the power of 10 HP.
- e. Portable drilling machine (3): Produced by Huich'on Machine Factory.
- f. Plating machine (1): Soviet-made.
- g. Megger (2)
- h. Transformer repairing machine (1): Soviet-made.
- i. Lathe (1): Produced by Huich'on Machine Factory; it is of the size of 4 feet.

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j. Cutting machine (1): ~~Soviet-made.~~ **NOFORN**

8. Assembling Plant (see No. 28 of the attached sketch):

The machines and tools installed here are as the following.

- a. Lathe (1): This lathe of the size of 4 feet ~~1/2~~ was made by Huich'on Machine Factory.
- b. Drilling machine (1): Made by Huich'on Machine Factory.
- c. Plate-bending roll (2): Manufactured by Songjin Steel Mill; they are of the size of 2,500m/m long, 2,000m/m wide and 200m/m thick.
- d. Vertical vice (10): Made by Yongsong Machine Factory.
- e. Horizontal vice (5)
- f. Finishing-up board (2)

9. Diesel Engine Plant (see No. 26 of the attached sketch):

The machines and tools in this plant are as follows.

- a. Boring machine for diesel engine (1): Soviet-made.
- b. Lathe (1): Produced by Huich'on Machine Factory; it is the size of 4 feet.
- c. Shaper (1): Manufactured by Huich'on Machine Factory.
- d. Milling machine (1): Soviet-made.
- e. Drilling machine (1): Made by Huich'on Machine Factory.
- f. Plate-bending roll (1): Made by Yongsong Machine Factory; it is the size of 2,000m/m long, 1,000m/m wide and 100m/m thick.
- g. Vertical vice (5): Produced by Yongsong Machine Factory.
- h. Horizontal vice (5): Produced by Yongsong Machine Factory.

10. Merchant-ship Building Site (see No. 31 of the attached sketch):

The machines and tools installed in this plant are as follows.

- a. Winch (6): Made by the Shipyard and they are all of a size. The lifting capacity is 3 tons each.
- b. Vertical crane (6): All manufactured by the Shipyard into the same size; the lifting capacity is 1 ton and 500 kilograms.
- c. Iron-plate cutting machine (1): Made by the Shipyard.
- d. Electric welder (3): Manufactured by P'yongyang Tae'an Electric Factory; the size is all the same; the capacity is 10K each.
- e. Electric welder (2): Made by P'yongyang Tae'an Electric Factory;

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the capacity is 7K each.

f. Oxyacetylene welder (3): Soviet-made.

g. Oil jack (5): Made in Red China.

h. Jack (5): Second-hand ones

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i. Roller (1): Produced by the Shipyard.

11. Winch Room (see No. 11 of the attached sketch):

The machines and motors installed in this room are as follows.

a. Electric winch (3): All produced by Yongsong Machine Factory.

One has the capacity of 500 tons; the other, 300 tons; another, 200 tons.

b. Electric motor (3): One has the power of 250 HP; the other, 150 HP; another, 50 HP.

c. Chain block (2): Soviet-made; one has the capacity of 1 ton and 500 kilograms and the other, 2 tons.

d. Wire winch (2): One is large-sized and the other is small-sized.

e. Electric motor (1): It has the power of 50 HP.

12. Wooden Ship Building Plant (see No. 12 of the attached sketch):

The machines and motors in this plant are as below.

a. Electric plane (1): Made in Red China.

b. Lumbering saw, small-sized (1): Made in Red China; its diameter is 14 m/m.

c. Electric drill (4)

d. Electric motor (1): It has the power of 15 HP.

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13. Boiler Room (see No. 13 of the attached sketch):

The objects installed in the boiler room are as the following.

a. Boiler (1): Second-hand one the capacity is 15 tons,

b. Steam pot (3): All made by the Shipyard; they are made of wood.

The form is square: one side of the plane is 10 meters and the height is 1.2 meters.

c. Drying apparatus (1): Produced by the Shipyard.

d. Roller (1): Produced by the Shipyard.

e. Electric motor (1): It has the power of 10 HP.

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14. Forging Plant (see No. 18 of the attached sketch):

The machines and tools installed in this plant are as below.

- a. Electric polishing machine (2):
One is large-sized; the other is small-sized.
- b. Drilling machine (1): Manufactured by Huich'on Machine Factory.
- c. Iron bar cutting machine (1): Small-sized.
- d. Electric motor (2): Produced by P'yongyang Taeon Electric Factory.
One has the power of 5 HP; the other, 3 HP.
- e. Vertical vice (5): One is large-sized; one is small-sized; and the remaining is unknown of its size.
- f. Horizontal vice (3)
- g. Fan (2)
- h. Forge (2)
- i. Anvil (3)

15. Steel Manufacturing Plant (see No. 17 of the attached sketch):

The machines and tools in this plant are set forth as below.

- a. Drilling machine (1): Produced by Huich'on Machine Factory.
- b. Roller (1): This is used in bending iron plate; made by the Shipyard.
- c. Electric welder (3): Manufactured by P'yongyang Taeon Electric Factory; the electric capacity is 10K.
- d. Oxyacetylene welder (2): Soviet-made.
- e. Electric grinder (2)
- f. Iron plate cutting machine (1)
- g. Anvil (2)
- h. Vertical vice (3)
- i. Horizontal vice (3)

16. Carpentry Plant (see No. 24 of the attached sketch):

The machines installed in this plant are enumerated as below.

- a. Lumbering saw, round (1): Diameter is 12 inches; made in Red China.
- b. Electric plane (1): Soviet-made.
- c. Electric drill (5): Three are large-sized and two are small-sized.
- d. Drilling machine, portable (1)

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17. Lumbering Plant (see No. 24 of the attached sketch):

The machines in this plant are as below.

- a. Band saw (2): Soviet-made; one of the saws is 2.5 meters in diameter and the other, 1.7 meters.
- b. Lumbering saw, round (4): Made in Red China; diameter of each saw is 25 inches, 18 inches, 16 inches and 14 inches.
- c. Grinder (1): Made in Red China; this is used in repairing saws.
- d. Saw repairing tools: All made in Red China.
- e. Fan (1): Produced by the Shipyard.

18. Water Pump Room (see No. 47 of the attached sketch):

Equipments of the room are:

- a. Water pump (4): Two are 4 inches in diameter; two others are ⁵/₈ inches.
- b. Motor (4): All produced by P'yongyang Tae'an Electric Factory.
Two have 15 HP and the others, 10 HP.

19. Lumbering Mill (see No. 51 of the attached sketch):

Equipments are:

- a. Band saw (1): Soviet-made; diameter of the saw is 1.7 meters.
- b. Round saw (3): All made in Red China. Diameters of the saws are 8 inches, 12 inches and 16 inches respectively.
- c. Electric plane (1): Soviet-made.

20. Numbers of Vehicles or Carts employed in the Transportation Department, Najin Shipyard:

- a. Truck cargo, TCHIRU (transliteration), Soviet-made: 1
- b. Truck cargo, GAS, Soviet-made: 4
- c. Truck cargo, ZIS, Soviet-made: 2
- d. Automobile, crane, Soviet-made: 2
- e. Buldozer, Soviet-made: 1
- f. Tractor, Soviet-made: 2
- g. Passenger car, GAS-69, Soviet-made: 2
- h. Truck cargo, Czech-made: 1
- i. Horse-driven cart: 15
- j. Cattle-driven cart: 20
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1. Truck cargo, GAS-58: 2 (Made by Tokch'on Automobile Manufacturing Factory, NK).

Production:

The ships built in this shipyard are: small-gun boat, coastal patrol-boat, guard-ship, mine-sweeper, small-size patrol-boat, guard-boat, landing ship, military transport, non-military transport, operational boat, merchant ship, freighter, small mine-sweeper, small mine-sweeping patrol-boat, passenger ship, purse seine boat, whaling ship, deep-sea working boat, drag-net boat, purse seine tug-boat, oil-tank ship, sailing-ship, gil-net ship, anti-ROK-operation boat and agent boat to Japan (it takes the forms of Japanese raw fish boat, and other Japanese fishing-boats). Details pertaining to the technicians, number of ships annually produced and their costs are unknown.

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1. Small-gun boat (80-ton class)

2. Coastal patrol-boat (100-ton class):

It was from around March 1956 that the Shipyard began to build the ships of the kind.

a. Hull:

Wooden-made. The size is about 24 meters in length; about 3.5 meters in width; about 2.1 meters in the height of bow; and about 2.6 meters in the height of stern.

b. Engine:

The boat has one czech-made diesel engine (name of engine: SKODA [transliteration], number of cylinders: 8); one Soviet-made diesel engine which has two cylinders and the power of 10HP is also equipped as the auxillary engine. Besides, there are 1 Soviet-made generator of the capacity of 3KW, 8 parallel-connected batteries of (12 volts) of Soviet-made and 1 relay (24 volts) in the engine room.

c. Horse power and speed:

The ship has the power of 323 HP and the speed is 13 miles per hour.

d. Rooms:

Enumerated from the bow are: bow store-room, crew's quarters, fuel

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oil tank room, engine room, stern crew's quarters, stern store room, Rudder and communications rooms are on the deck.

e. Equipments:

- 1) 1 Soviet-made machine-gun (37m/m) in the center of the bow.
- 2) 1 Soviet-made 76m/m gun in the center of the stern.
- 3) 1 Soviet-made 12.7m/m anti-aircraft machine-gun placed on the roof of rudder room.
- 4) 1 Soviet-made 12.7m/m anti-aircraft machine-gun on each hand of the stern.
- 5) 1 radio set (name: unknown) in the communications room.
- 6) 1 Soviet-made sound detector.

3. Guard-ship

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4. Mine-sweeper (30-ton class):

This mine-sweeper was made after Soviet mine-sweeper. The shipbuilding of the kind began from around May 1956. It is a little larger than the Soviet minw-sweeper (30-ton class) and looks comparatively less neat and even dull to some extent.

a. Hull:

This ship is double-coated in the hull. The size is about 19 meters in length; about 2.8 meters in width; about 2.1 meters in the height of bow; and about 2.5 meters in the height of stern.

b. Engine:

Two Soviet-made diesel engines, each with 140 HP are installed; besides, equipped in the engine room are 8 parallel-connected batteries (12 volts) of Soviet make and 2 relays (24 volts).

c. Speed and Rooms:

The Speed is 15 miles per hour. Rooms enumerated from the bow are: bow store-room, crew's quarters, store-room for mine-sweeping equipments, crew's quarters, engine room, stern store-room, and torpedo store-room; and rudder and communications rooms are on the deck.

d. Equipments:

- 1) 1 Soviet-made anti-aircraft machine-gun (12.7m/m) installed

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in the center of the bow.

- 2) 1 Soviet-made 12.7m/m machine-gun on each hand of the stern.
 - 3) 1 Soviet-made light machine-gun (7.6m/m, name: TCHUTCHUIROPFU
[transliteration])
 - 4) 2 Soviet-made mine-sweeping sets (name: KKAT'U [transliteration])
 - 5) 1 Soviet-made sweep-cable winch on each hand of the stern.
 - 6) 30 sweeping mines.
 - 7) 1 torpedo detector.
 - 8) 1 Soviet-made radio set.
5. Small -size patrol-boat (70-ton class):

This patrol-boat was 50X1-HUM

made after Soviet small gun-boat.

6. Guard-boat (150-ton class):

It was from about June 1957 that the Najin Shipyard began to build the ships of the kind.

a. Hull:

This is an iron vessel. It is sized at about 25 meters in length; about 4 meters in width; about 3.5 meters in the height of bow; and about 3.8 meters in the height of stern.

b. Engine:

Two Soviet-made diesel engines (name: Three to Twelve) which have twelve cylinders each and the power of 300 HP are installed; besides, equipped in the engine room are 1 Soviet-made auxillary diesel engine with 2 cylinders, 16 Soviet-made 12-volt batteries, ^{two} 24-volt relays and 1 generator with the capacity of 5KW.

c. Speed and Rooms:

The speed is about 15 miles per hour. The rooms are from the bow: bow store-room, crew's quarters, arms store-room, fuel oil tank room, engine room, radio set room, sound detector room, stern store-room and stern arms store-room. The rudder and chart rooms and the kitchen are on the deck.

d. Equipments:

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- 1) 1 Soviet-made 76m/m gun in the center of the bow.
 - 2) 1 Soviet-made 76m/m gun in the center of the stern.
 - 3) 1 Soviet-made 12.7m/m anti-aircraft machine-gun on each hand of the bow.
 - 4) 1 Soviet-made 12.7m/m anti-aircraft machine-gun on each hand of therooof of rudder room.
 - 5) 1 Soviet-made sound detector.
 - 6) 1 Soviet-made fixed transmitter.
 - 7) 1 Soviet-made radar for navigation (capacity unknown).
 - 8) 1 Soviet-made search-light (1.3 meters in diameter) in the center of the bow.
 - 9) 1 Soviet-made search-light (1.3 meters in diameter) in the center of the stern.
 - 10) 3 Soviet-made light machine-guns with the caliber of 7.62m/m and by the name of TCHUTCHIROPPU (transliteration).
 - 11) 1 telephone in each room.
7. Landing Ship (150-ton class): Indicated as item 19, section 4, KI-318-03;

8. Military transport (300-ton class):

This ship was a new-type iron vessel and was made after Soviet TTURARU (transliteration) ship. It was not until around April 1958 that the Shipyard began to build the ships of the kind.

a. Hull:

The transport is about 35 meters long; about 4.2 meters in the height of bow; and about 4 meters in the height of stern.

Rooms are enumerated from the bow as the following: bow store-room, cargo storage room, fuel oil tank room; while rudder room, chart room, crew's quarters, radio set room, sound detector room, and kitchen are on the deck.

b. Engine and Speed:

One Soviet-made diesel engine, MT(name of the engine), Model-380, with 8 cylinders is installed. It has the power of 500 HP and the ship's speed is 8 to 8.5 miles per hour. Also installed

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in the engine room are 1 Soviet-made auxillary diesel engine with 2 cylinders and the power of 10 HP, 1 Soviet-made generator with the capacity of 10KW, 20 batteries (12 volts), 2 relays, etc.

c. Equipments:

- 1) 1 winch in the center of the bow.
- 2) 1 Soviet-made anti-aircraft machine-gun (12.7m/m) on each hand of the roof of rudder room.
- 3) 3 Soviet-made light machine-gun (7.62m/m) fixed on the right and left sides of the upper part of rudder room.
- 4) 1 Soviet-made sound detector.
- 5) 1 Soviet-made radio set. Its capacity and name are unknown.
- 6) 1 Soviet-made search-light (80cm in diameter) in the center of the roof of rudder room.
- 7) 1 life boat for 3-man use hung on the davit of each side of stern.
- 8) 10 life-buoys made by the Shipyard hung at the stern.

9. Non-military transport (50-ton class):

This ship is an engine-driven wooden-made ship. It was imitated after large-sized towing boat. It was not until around February 1956 that the Shipyard began to build the ships of the kind.

a. Hull:

The size of the ship is about 24 meters in length; about 3 meters in width; about 3.2 meters in the height of bow; and about 2.9 meters in the height of stern. Rooms of the ship are: from the bow, bow store-room, cargo storage room, engine room, and stern store-room; while on the deck are rudder room, radio set room, crew's quarters and kitchen.

b. Engine and Speed:

One hot-bulb engine with 2 cylinders and the power of 100 HP, made by Pukchung Machine Factory, is installed; in addition, equipped in the engine room are 1 Soviet-made generator with the capacity of 2KW, 1 relay (24 volts) and 1 direct-connected battery (6 volts) produced by NK. The ship's speed is 7.5 to

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8 miles per hour.

c. Equipments:

- 1) 1 Soviet-made anti-aircraft machine-gun (12.7m/m) in the center of the bow.
- 2) 1 Soviet-made light machine-gun with the caliber of 7.62m/m and by the name of TCHUTCHIROPPU (transliteration).
- 3) 3 sub-machine-gun (7.62m/m) made in NK.
- 4) 1 Soviet-made radio set (name and capacity unknown).

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10. Small mine-sweeping patrol-boat (60-ton class) [redacted]

11. Small mine-sweeper (40-ton class) [redacted]

12. Agent boat (100-ton class):

This is an engine-driven wooden-made ship, The ship is imitated after the SINHUNG-HO, a ship of 100 tons, which is being employed by maritime stations of NK. The Najin Shipyard began to build the ships of the kind from around 1956.

a. Hull:

The ship is sized at about 2.9 meters in length; 3.5 meters in width; about 4 meters in the height of bow; and about 3.5 meters in the height of stern. The rooms of the ship are: from the bow, bow store-room, cargo storage room, engine room and stern store-room; while on the deck are rudder room, radio room, crew's quarters and kitchen.

b. Engine and Speed:

One hot-bulb engine with 3 cylinders and the power of 200 HP, made by Pukchung Machine Factory, is installed; besides, equipped in the engine room are 1 Soviet-made generator with the capacity of 3KW, 3 NK-made direct-connected batteries (6 volts) and 1 Soviet-made relay (24 volts). The ship's speed is 8 to 8.5 miles per hour.

c. Equipments:

- 1) 1 hot-bulb engine made by the Sonsan Shipyard at the bow.

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It has 1 cylinder and the power of 15 HP.

- 2) 1 NK-made winch at the bow (the source of manufacture unknown).
- 3) 1 ferry boat made by the Najin Shipyard hung on the davit of stern.
- 4) 1 Soviet-made anti-aircraft machine-gun (12.7m/m) on the roof of rudder room.
- 5) 1 Soviet-made light machine-gun (TCHUTCHIROPPU) with the caliber of 7.62m/m on the roof of rudder room.
- 6) 1 Soviet-made radio set in the radio room (name and capacity unknown).
- 7) 3 NK-made sub-machine-guns with the caliber of 7.62m/m.

13. Merchant ship (3,000-ton class):

The merchant ship was being built at the merchant ship building site of the Shipyard as of November 1959; then 35 percents had been already completed. Expected date of completion and the agency that will take over the ship built are unknown.

14. Freighter:

Freighters which are built in the Shipyard are: 100-ton class, 150-ton class, 200-ton class and 300-ton class.

a. 300-ton class:

The freighter is a new model made after the Japanese merchant ship of 500-tons; it is made of iron. From around the end of 1956, those ships were made.

1) Hull:

The length of the ship is about 36 meters; the width, about 5 meters; the height of bow, about 5 meters; and the height of stern, about 5.3 meters. Rooms are: from the bow, bow store-room, bow cargo storage room No. 1, bow cargo storage room No. 2, fuel oil tank room, engine room, stern store-room, drinking water tank room and one more fuel oil tank room; while on the deck are rudder room, chart room, crew's quarters, and kitchen.

2) Engine and speed:

One hot-bulb engine with 3 cylinders and the power of 200 HP,

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made by Pukchung Machine Factory, is installed; in addition, equipped in the engine room are 1 auxillary engine with 2 cylinders and the power of 10 HP produced by Pukchung Machine Factory, 1 Soviet-made generator with the capacity of 5KW, 1 air-compressor with the capacity of 15K manufactured by Pukchung Machine Factory, 1 boiler with the capacity of 30K made by the Najin Shipyard, 40 NK-made batteries (6 volts) and 1 Soviet-made relay (24 volts). The ship's speed is 7 to 7.5 miles per hour.

3) Equipments:

- a) 1 hot-bulb engine with 1 cylinder and the power of 15 HP made by Pukchung Machine Factory in the center of bow.
- b) In the center of stern, there is 1 hoist made by the Shipyard.
- c) 1 winch (2 tons of capacity) made by the Shipyard on the top of bow cargo storage room No.1.
- d) 1 winch (2.5 tons of capacity) made by Najin Shipyard ~~hang~~ on the top of bow cargo storage room No. 2.
- e) 1 three-man life boat made by the Shipyard hung on each davit ~~at~~ both hands of stern.
- f) 1 search-light (80cm in diameter) made by P'yongyang Taaen Electric Factory on the roof of rudder room.

b. 250-ton class:

This is new-modelled iron freighter made after Japanese merchant ship. It is from around March 1957 that the Shipyard began to build the ships of the kind.

1) Hull:

The length of the freighter is about 30 meters; the width, about 4 meters; the height of bow, about 4.5 meters; and the height of stern, about 4.3 meters. Rooms are: from the bow, bow store-room, bow cargo storage room, fuel oil tank room, engine room, stern store-room, drinking water tank room and one more fuel oil tank room; while on the deck are rudder room, crew's quarters and kitchen.

2) Engine and speed:

One hot-bulb engine with 3 cylinders and the power of 200 HP made

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by Pukchung Machine Factory is installed; in addition, equipped in the engine room are 1 auxillary engine (diesel) with 2 cylinders and the power of 10 HP made by Pukchung Machine Factory, 1 Soviet-made generator with the capacity of 5KW, 28 NK-made series connection batteries (6 volts), 1 air compressor with the capacity of 10K produced by Pukchung Machine Factory, and 1 Soviet-made relay (24 volts). The ship's is 7.5 to 8 miles per hour.

3) Equipments:

- a) 1 Pukching-Machine-Factory-made hot-bulb engine with 1 cylinder and the power of 15 HP and 1 Najin-Shipyard-made hoist placed in the center of bow.
- b) 1 three-man life boat (wooden) made the Shipyard hung on the davit of both hands of stern.

c. 200-ton class:

This is wooden vessel made after the wooden freighter of 200 tons, SINHUNG-model, which is operated by NK maritime offices. It was not until around May 1956 that the Shipyard began to build the ships of the kind.

1) Hull:

The length of the ship is about 30 meters; the width, about 4 meters; the height of bow, about 4 meters; and the feight of stern, about 4.5 meters. Rooms are: from the bow, bow store-room, bow cargo storage room, fuel oil tank room, engine room and stern store-room; while on the deck are rudder room, crew's quarters and kitchen.

2) Engine and speed:

One hot-bulb engine with 3 cylinders and the power of 150 HP manufactured by Shanghai Marine Engine and Machine Factory, Red China, is installed; other equipments in the engine room are 1 Red-China-made generator with the capacity of 4KW, 20 NK-made series connection batteries (6 bolts) and 1 Red-China-made relay (24 volts). The ship's speed is 7.5 to 8 miles per hour.

3) Equipments:

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a) 1 hot-bulb engine with 1 cylinder and the power of 10 HP made by Pukchung Machine Factory and 1 Najin-Shipyard-made winch, in the center of bow.

b) 1 ferry boat made by the Shipyard hung on the davit at stern.

d. 150-ton class:

This is wooden vessel made after the engine-driven wooden vessel of 150-ton which is run by NK maritime offices. From around March 1956 the Shipyard began to build the ships of the kind.

1) Hull:

The length of the ship is about 29 meters; the width, about 4 meters; the height of bow, about 4 meters; and the height of stern, about 4.2 meters. Rooms are: from the bow, bow store-room, bow cargo storage room, fuel oil tank room, engine room and stern store-room; while on the deck are rudder room, crew's quarters and kitchen.

2) Engine and speed:

One Czech-made diesel engine, SKODA (name of engine), with 4 cylinders and the power of 135 HP is installed. In the engine room, there are also 1 Czech-made auxillary diesel engine named "SKODA" with 2 cylinders and the power of 8 HP, 1 Czech-made generator with the capacity of 3KW, 1 relay (24 volts) and 8 parallel connection batteries (12 volts). The ship's speed is 7 to 7.5 miles per hour.

3) Equipments:

a) 1 hot-bulb engine with 1 cylinder and the power of 10 HP made by Pukchung Machine Factory, at bow.

b) 1 Najin-Shipyard-made winch at bow.

c) 1 search-light (80cm in diameter) produced by P'yongyang Taean Electric Factory, on the roof of rudder room.

d) 1 ferry boat made by the Shipyard hung on the davit at stern.

e. 100-ton class:

This is wooden vessel made after the engine-driven 100-ton class

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wooden vessel which is operated by NK maritime offices. It was not until around March 1955 that the Shipyard began to build the ships of the kind.

1) Hull:

The length of the ship is about 28 meters; the width, about 4 meters; the height of bow, about 4 meters; and the height of stern, 4.3 meters. Rooms are: from the bow, bow store-room, bow cargo storage room, engine room and stern store-room; while there are rudder room, crew's quarters, kitchen, etc., on the deck.

2) Engine and speed:

One Pukchung-Machine-Factory-made hot-bulb engine with 2 cylinders and the power of 100 HP is installed; others equipped in the engine room are 1 Soviet-made generator with the capacity of 3KW, 18 NK-made series connection batteries (6 volts) and 1 relay (the source of manufacture unknown). The speed of the ship is 7 to 7.5 miles per hour.

3) Equipments:

- a) 1 Najin-Shipyard-made winch at bow.
- b) 1 ferry boat made the Shipyard hung on the davit at stern.

15. Passenger ship (150-ton class):

This ship is modelled after the MINHUNG-HO, a passenger ship of 150-tons which was run by Ch'ongjin Maritime Office before the Korean War. The shipbuilding of the kind started from around March 1955.

a. Hull:

The length of the ship is about 32 meters; the width, about 4.5 meters; the height of bow, 3.8 meters; and the height of stern, about 5 meters. Rooms are: from the bow, bow store-room, bow cargo storage room, drinking water tank room, fuel oil tank room, bow cabin No. 1, bow cabin No. 2, stern cabin No. 3, crew's quarters and kitchen; while on the deck are rudder room, radio room and chart room.

b. Engine and speed:

One Soviet-made diesel engine, named "THREE TO TWELVE", V-model,

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with 12 cylinders and the power of 300 HP is installed; besides, also equipped in the engine room are 1 Soviet-made auxillary diesel engine with 2 cylinders and the power of 10 HP, 1 Soviet-made generator with the capacity of 5KW, 2 Soviet-made relays (24 volts), 16 Soviet-made parallel connection batteries (24 volts) and 1 heating boiler with the capacity of 40K manufactured by the Shipyard. The ship's speed is 10 to 13 miles per hour.

c. Equipments:

- 1) At bow, 1 Soviet-made diesel engine with 2 cylinders and the power of 10 HP and 1 winch made by the Shipyard.
- 2) 1 four-man boat (wooden) made by the Shipyard hung on each davit of both hands of stern.
- 3) 1 Soviet-made radio set with unknown capacity in the radio room.
- 4) 1 Najin-Shipyard-made winch with 1-ton-capacity at stern.
- 5) 1 searchlight (1 meter in diameter) made by P'yongyang Taeon Electric Factory placed on the roof of rudder room.

16. Purse seine boat (150-ton class):

This is modelled after the Japanese purse seine boat of 150-tons which was operated by Ch'ongjin Fishing Station before the Korean War. The Shipyard started building the ships of the kind from around April 1956.

a. Hull:

The length of the purse seine boat is about 29 meters; the width, about 5 meters; the height of bow, about 4.2 meters; and the height of stern, about 4.5 meters. Rooms are: from the bow, bow store-room, crew's quarters, fuel oil tank room, engine room, stern store-room and crew's quarters at stern; while on the deck are rudder room and kitchen.

b. Engine and speed:

One Czech-made diesel engine with 8 cylinders and the power of 323 HP; others also equipped in the engine room are 1 Soviet-made generator with the capacity of 5KW, 2 Soviet-made relays (24 volts) and 8 Soviet-made parallel connection batteries (12 volts). The ship's speed is 10 to 13 miles per hour.

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c. Equipments:

- 1) 1 Najin-Shipyard-made hoist in the center of bow.
- 2) 1 Najin-Shipyard-made winch at stern.
- 3) 1 ferry boat made by the Shipyard hung on the davit at stern.

17. Whaling ship (130-ton class):

This is modelled after the NK Navy's patrol-boat of 130 tons. The shipbuilding of the kind started from around March 1956.

a. Hull:

The length of the ship is about 27 meters; the width, about 4 meters; the height of bow, about 4 meters; and the height of stern, about 4.5 meters. Rooms are: from the bow, bow store-room, crew's quarters, fuel oil tank room, engine room, stern store-room, etc.; while on the deck are rudder room, chart room and kitchen.

b. Engine and speed:

One Czech-made diesel engine, named SKODA, with 8 cylinders and the power of 323 HP is installed; besides, placed in the engine room are 1 Soviet-made generator with the capacity of 5KW, 20 Soviet-made parallel connection batteries (12 volts) and 2 Soviet-made relays (24 volts). The ship's speed is 10 to 13 miles per hour.

c. Equipments:

- 1) 1 search-light (1 meter in diameter) made by P'yongyang Taeon Electric Factory in the center of the roof of rudder room.
- 2) At bow, 1 hoist made the Shipyard.
- 3) At stern, 1 winch made the Shipyard.

18. Deep-sea working boat (60-ton class):

The vessel is wooden-made and engine-driven. It was first built after the large towing boat operated by NK fishing stations, about in May 1958. The deep-sea working boat is a little longer than the large towing boat; especially the rudder room and kitchen are constructed

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of iron plate. Besides, every rooms, port holes, or doors including the door of fish tank, are well-packed with sea-water-proof rubber packings.

a. Hull:

The length of the ship is about 25 meters; the width, about 4 meters; the height of bow, about 4 meters; and the height of stern about 4.5 meters. Rooms are: from the bow, bow store-room, bow fish store-room No. 1, bow fish store-room No. 2, engine room, stern fuel oil tank room, stern store-room, etc.; while there are crew's quarters, rudder room and kitchen on the deck. Besides, above the kitchen there is heavy machine-gun shooter's chamber.

b. Engine and speed:

One Pukchung-Machine-Factory-made hot-bulb engine with 3 cylinders and the power of 200 HP is installed; in addition, there are 1 Soviet-made generator with the capacity of 3KW and 30 NK-made series connection batteries (6 volts). The ship's speed is 8 to 9 miles per hour.

c. Equipments:

- 1) 1 winch on each hand of bow.
- 2) 1 life-buoy on each side of the roof of rudder room.
- 3) 1 Japanese radio set (name and capacity unknown) in the rudder room.
- 4) 1 search-light (50cm in diameter) made by P'yongyang Taeon Electric Factory on the roof of rudder room.

19. Large drag-net boat (50-ton class):

This vessel is modelled after the Japanese second-hand towing boat used before the Liberation of Korea. The shipbuilding of the kind started from around April 1954.

a. Hull:

The length of the ship is about 23 meters; the width, about 4 meters; the height of bow, about 4 meters; and the height of stern, about 4 meters. Rooms are: from the bow, bow store-room, bow fish tank No. 1, bow fish tank No. 2, engine room, stern fuel oil tank room, and stern streeroom; while on the deck are rudder

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room and kitchen.

b. Engine and speed:

One Pukchung-Machine-Factory-made hot-bulb engine with 2 cylinders and the power of 100-HP is installed; other installations in the engine room are 1 Soviet-made generator with the capacity of 3KW, 1 Soviet-made relay (24 volts) and 25 NK-made batteries. The ship's speed is 7 to 7.5 miles per hour.

c. Equipments:

- 1) 1 wire hoist made by the Shipyard on each hand of bow,
- 2) 3 life-buoys made the Shipyard on each hand of the roof of rudder room.
- 3) At the center of the roof of rudder room, 1 search-light (50cm in diameter) made by P'yongyang Taeon Electric Factory.

20. Small drag-net boat (30-ton class):

It was not until around February 1955 that the Shipyard started building the ships of the kind.

a. Hull:

The length of the ship is about 20 meters; the width, about 3.5 meters; the height of bow, about 3.5 meters; and the height of stern, about 3.5 meters. Rooms are: from the bow, bow store-room, bow fish tank No.1, bow fish tank No. 2, engine room, stern fuel oil tank room and stern store-room; while there are crew's quarters, rudder room and kitchen on the deck.

b. Engine and speed:

One Namp'o-Machine-Factory-made hot-bulb engine with 2 cylinders and the power of 75 HP is installed; other installations in the engine room are 1 Soviet-made generator, 1 Soviet-made relay (24 volts) and 15 NK-made series connection batteries (6 volts). The ship's speed is 6.5 to 7 miles per hour.

c. Equipments:

- 1) 1 wire hoist made the Shipyard at each hand of bow.
- 2) On the roof of rudder room, 4 life-buoys made by the Shipyard.
- 3) At the center of the roof of rudder room, 1 search-light

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(40cm in diameter) made by P'yongyang Taeon Electric Factory.

21. Large tug-boat (50-ton class):

This is modelled after Soviet iron vessel of 100-tons. It was around March 1956 that the shipbuilding of the kind started.

a. Hull:

The length of the ship is about 23 meters; the width, about 3.5 meters; the height of bow, about 4 meters; and the height of stern, about 4 meters. Rooms are: from the bow, bow store-room, crew's quarters, fuel oil tank room, engine room, stern store-room, stern fuel oil tank room and drinking water tank room; while on the deck are rudder room, chart room and kitchen.

b. Engine and speed:

One East-German-made diesel engine with 8 cylinders and the power of 300 HP is installed; also equipped in the engine room are 1 East-German-made generator with the capacity of 5KW, 1 Soviet-made relay (24 volts) and 15 East-German-made parallel connection batteries (12 volts). The ship's speed is unknown.

c. Equipments:

- 1) At bow, 1 Najin-Shipyard-made hoist.
- 2) At the center of the roof of rudder room, 1 search-light (50cm in diameter) made by P'yongyang Taeon Electric Factory.
- 3) At the rear of kitchen, 1 signal light produced by P'yongyang Taeon Electric Factory.
- 4) 7 life-buoys on the roof of rudder room.

22. Small tug-boat (30-ton class):

This vessel is modelled after large tug-boat of 50-tons built of iron. The shipbuilding of the kind started from around September 1956.

a. Hull:

The length of the ship is about 20 meters; the width, about 3 meters; the height of bow, about 3 meters; and the height of stern, about 3.5 meters. Rooms are: from the bow, bow store-room, crew's quarters, fuel oil tank room, engine room, fuel oil and drinking water tanks room and stern store-room; while on the deck

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are rudder room, chart room and kitchen.

b. Engine and speed:

One hot-bulb engine with 3 cylinders and the power of 150 HP, made by Shanghai Marine Engine and Machine Factory, Red China, is installed; also equipped in the engine room are 1 Red-China-made generator with the capacity of 4KW, 1 Red-China-made relay (24 volts) and 20 Red-China-made parallel connection batteries (12 volts). The ship's speed is unknown.

c. Equipments:

- 1) At the bow, 1 Najin-Shipyard-made hoist.
- 2) On the roof center of rudder room, 1 search-light (40cm in diameter) manufactured by P'yongyang Taeon Electric Factory.
- 3) At the rear of kitchen, toward the stern, 1 signal light manufactured by P'yongyang Taeon Electric Factory.

23. Purse seine tug-boat (40-ton class):

This is wooden-made and engine-driven. From around January 1956, the shipbuilding of the kind started.

a. Hull:

The length of the ship is about 20 meters; the width, about 2.5 meters; the height of bow, about 3 meters; and the height of stern, about 3,5 meters. Rooms are: from the bow, bow store-room, crew's quarters, fuel oil tank room, engine room, one more fuel oil tank room and stern store-room; while there are rudder room and kitchen on the deck.

b. Engine and speed:

One hot-bulb engine with 3 cylinders and the power of 150 HP, made by Shanghai Marine Engine and Machine Factory, Red China, is installed; besides installed in the engine room are 1 Red-China-made generator with the capacity of 3KW, 1 Red-China-made relay (24 volts) and 20 Red-China-made series connection batteries (6 volts). The ship's speed is 10 to 11 miles per hour.

c. Equipments:

- 1) 1 Najin-Shipyard-made hoist at the center of bow.

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- 2) 1 search-light (30cm in diameter) made by P'yongyang Taeon Electric Factory, at the center of rudder room.

24. Oil tank ship (100-ton class):

This is constructed of iron. The Shipyard began to build the ships of the kind from around May 1956.

a. Hull:

The length of the ship is about 29 meters; the width, about 4 meters; the height of bow, about 3 meters; the height of stern, about 3.5 meters. Rooms are: from the bow, bow store-room, oil tank room, engine room, fuel oil tank room and crew's quarters; while on the deck are rudder room and kitchen.

b. Engine and speed:

One hot-bulb engine with 3 cylinders and the power of 105 HP 50X1-HUM is installed; also 50X1-HUM is installed; also 50X1-HUM equipped in the engine room are 1 Soviet-made generator with the capacity of 3KW, 1 Soviet-made relay (24 volts) and 1 Najin-Shipyard-made signal light. The ship's speed is unknown.

c. Equipments:

- 1) 1 Najin-Shipyard-made hoist at the center of bow.
- 2) 2 fuel oil pumps of 4 inches at the center of the top of oil tank room at bow.
- 3) 1 search-light (50cm in diameter) produced by P'yongyang Taeon Electric Factory, at the roof of rudder room.

25. Sailing-ship (50-ton class):

This is a wooden vessel. It is about 28 meters in length, 3 meters in width, 3 meters in the height of bow and 3 meters in the height of stern. It was not until around July 1956 that the shipbuilding of the kind started. Rooms are: from the bow, bow store-room, cargo room and crew's quarters. This ship has no engine and marine equipments installed.

26. Large gill-net boat (30-ton class):

This vessel is modelled after the Soviet-made SSENEL (transliteration) ship. The shipbuilding of the kind started from around March 1958.

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a. Hull:

The length of the ship is about 21 meters; the width, about 3 meters; the height of bow, about 3 meters; and the height of stern, about 3.5 meters. Rooms are: from the bow, bow store-room, crew's quarters, engine room and fish tank; while on the deck are rudder room and kitchen.

b. Engine and speed:

One Namp'o-Machine-Factory hot-bulb engine with 2 cylinders and the power of 75 HP is installed; except for the engine, there are 1 Soviet-made generator with the capacity of 3KW, 1 Soviet-made relay (24 volts) and 1 Najin-Shipyard-made signal light. The ship's speed is 7 to ~~8~~ 8 miles per hour.

c. Equipments:

- 1) 1 Najin-Shipyard-made winch at the ~~center~~ center of stern.
- 2) 1 search-light (40cm in diameter) made by P'yongyang Tae'an Electric Factory, on the roof of rudder room.
- 3) 4 life-buoys on each hand of the roof of rudder room.

27. Small gill-net boat (25-ton class):

The size of the ship is about 18 meters in length; about 2.8 meters in width; about 2.5 meters in the height of bow; and about 3 meters in the height of stern. The Shipyard started constructing the ships of the kind from around March 1958.

a. Hull:

Rooms of the ship are: from the bow, bow store-room, fish tank, engine room, stern store-room and crew's quarters; while on the deck are rudder room and kitchen.

b. Engine and speed:

One Pukchung-Machine-Factory-made hot-bulb engine with 2 cylinders and the power of 35 HP is installed; beside the engine, there are 1 Soviet-made generator with the capacity of 2KW, 1 Soviet-made relay (24 volts) and 1 Najin-Shipyard-made signal light.

28. Fast boat (15-ton class):

This is a double-board engine-driven vessel modelled after ROK fishing-

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boat. NK started the shipbuilding of the kind from around July 1959 for the benefit of anti-ROK-operation. The length of the boat is about 13 meters; the width, about 2 meters; the height of bow, about 2.8 meters (about 1.5 meters from the sea-level); and the height of stern, about 3 meters (about 1.2 meters from the sea-level).

a. Rooms and speed:

Rooms are: from the bow, bow store-room, bow fish tank, fuel oil tank room, engine room, stern crew's quarters, etc.

Rudder room is situated on the top of stern crew's quarters.

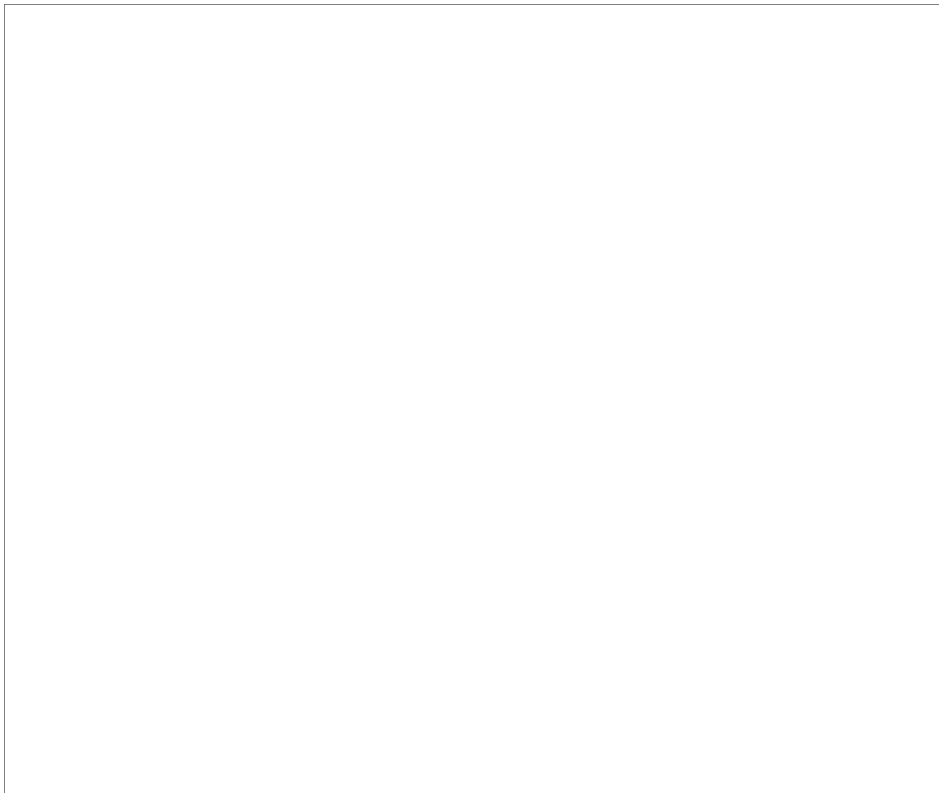
The boat's speed is 25 to 28 miles per hour.

b. Engine:

The boat has one Soviet-made diesel engine, ~~named~~ named M-50, with 12 cylinders and the power of 400 HP; besides, installed in the engine room are 10 Soviet-made parallel connection batteries (12 volts), 2 Soviet-made relays (24 volts) and 2 Najin-Shipyard-made muffling tanks.

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[Redacted]

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30. Raw fish boat (50-ton class):

This is modelled after the Japanese raw fish (carrying) boat [Redacted]

50X1-HUM

[Redacted]

[Redacted] The length is about 19 meters; the width, about 2.5 meters; the height of bow, about 3.5 meters; and the height of stern, about 3.5 meters. It was not until around November 1959 that the Shipyard began to construct these ships. The boat is not always made, but only in the event that some directive is given by the Liaison Department, Central Committee, KLP. [Redacted]

50X1-HUM

[Redacted]

a. Rooms and speed:

Rooms of the boat are: from the bow, bow store-room, bow fish tank, fuel oil tank room, engine room, stern store-room, etc.; while on the deck are rudder room, crew's quarters and kitchen. The boat's speed is 9 to 10 miles per hour.

b. Engine:

The boat has one hot-bulb engine with 3 cylinders and the power of 150 HP [Redacted]

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[Redacted] installed in the engine room are 1 generator with the capacity of 3KW, 8 batteries, 1 relay (24 volts) and 1 signal light [Redacted]

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31. Fishing-boat (loading capacity: 30 tons):

This is just the same as the Japanese fishing boat of the kind. The engine-driven wooden vessel is about 16 meters in length, 2 meters in width, 3 meters in the height of bow and 3 meters in the height of stern. [Redacted]

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[Redacted]

The Shipyard began

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building these fishing-boats around August 1959, under the direction of the Liaison Department of the Central Party.

a. Rooms and Speed:

Rooms are from the bow, bow store-room, bow fish tank, engine room, stern store-room, etc.; while rudder room, crew's quarters and kitchen are on the deck. The speed of this ship is 8 to 9 miles per hour.

b. Engine:

This fishing-boat has one hot-bulb engine with 2 cylinders and the power of 100 HP [redacted] Other equipments 50X1-HUM installed in the engine room are 8 [redacted] batteries (12 volts), 1 [redacted] generator with the capacity of 2KW and 1 50X1-HUM relay (24 volts) [redacted]

c. Miscellaneous Fictures:

- 1) 4 life-buoys [redacted] 50X1-HUM
necessary [redacted]
- 2) All/fishing implements [redacted]
- 3) 2 anchors [redacted]
- 4) 1 set of nets.
- 5) 1 set of multi-hook-line fishing tackle [redacted] 50X1-HUM

32. Wooden boat (for three-man use):

The shipbuilding of this kind started from around March 1956.

The boat is sized at about 4 meters length, 1.5 meters in width, 1.3 meters in the height of how and 1.2 meters in the height of stern.

33. Others:

The by-products of the Shipyard are as follows:

- a. Iron bridge
- b. crane
- c. Boiler
- d. Water pump
- e. Belt conveyer
- f. Winch
- g. Chain.

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Production costs and monthly output of the above items are unknown.

Materials

1. Metal materials

a. Iron plate:

Until 1954, iron plates used by the Shipyard were imported ones from the Soviet Union and Communist China; but since 1955 the Shipyard has employed the iron plates turned out from the Songjin Steel Mill, the Ch'ongjin Steel Mill, the Kangsong Steel Mill, etc. In regard to the price of iron plate and its monthly consumption, no information is available.

b. Angle iron:

Produced by the Songjin Steel Mill, the Ch'ongjin Steel Mill and the Kangsong Steel Mill. The price and the monthly consumption of angle iron are unknown.

c. Copper plate:

This material was being imported from the Soviet Union and Red China. The price and the quantity of monthly consumption are unknown.

d. Shaft:

Being used were the ones manufactured by the Songjin Steel Mill, the Ch'ongjin Steel Mill and the Kangsong Steel Mill.

e. Brass plate:

It was imported from the Soviet Union and Red China. The price and the quantity of monthly consumption are unknown.

f. Tin plate:

Imported from the Soviet Union, Red China and East Germany; the price and the quantity of monthly consumption are unknown.

g. Square steel bar:

Produced by the Kimch'aek Iron Works and the Hwanghae Iron Works. The price and the quantity of monthly consumption are unknown.

h. Copper pipe:

Imported from the Soviet Union and Red China; the price and the quantity of monthly consumption are unknown.

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- i. Steel pipe:
Manufactured by the Ch'ongjin Steel Mill and the Sngjin Steel Mill;
the price and the quantity of monthly consumption are unknown.
 - j. Zinc pipe:
Produced by the Munch'on Smelting Factory and the Namp'o Smelting
Factory; the price and the quantity of monthly consumption are unknown.
 - k. Brass pipe:
Imported from the Soviet Union and Red China; the price and the
quantity of monthly consumption are unknown.
 - l. Aluminium plate:
Imported from the Soviet Union.
 - m. Casting:
Turned out by the Kimch'aek Smelting Factory and the Hwanghae Smelting
Factory; the price and the quantity of monthly consumption
are unknown.
 - n. Sheathing metal:
Imported from the Soviet Union and Red China; the price and the
quantity of monthly consumption are unknown.
 - o. HAIS (transliteration):
Imported from Communist China; the price and the quantity of
monthly consumption are unknown.
 - p. Iron bar:
Manufactured by the Ch'ongjin Steel Mill; the price and the quan-
tity of monthly consumption are unknown.
 - q. Lead:
Produced from Kumdok Mine.
2. Lumber
- Lumbers of the following trees are used; but the price and the quan-
tities of monthly consumption are unknown.
- a. Larch:
Imported from the Soviet Union or brought from the Paekdu-san
Forest Enterprising Station.
 - b. Aspen: Imported from the Soviet Union.

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c. Maple-tree:

Brought from the Paekdu-san Forest Enterprising Station.

d. PUUNBI (transliteration):

Brought from the Paekdu-san Forest Enterprising Station.

e. Red pine:

Brought from the Soviet Union and the Paekdu-san Forest Enterprising Station.

f. Paulownia: Imported from Communist China.

g. Cryptomeria: Imported from Red China.

h. Oak: Brought from the Paekdu-san Forest Enterprising Station.

i. Pine-tree:

Brought from the Paekdu-san Forest Enterprising Station.

j. Wild willow;

Brought from the Paekdu-san Forest Enterprising Station.

3. Oils:

Various oils are all imported from the Soviet Union: that is, mobile oil, motor oil, transformer oil, grease, light oil, boiled oil (used for mixing with paints), SINNA (transliteration) oil (lacquer-dissolving oil), etc.

Explanation to the Sketch of the Shipyard

1. Building:

single-story
This building that is about 60 meters long, 20 meters wide and 8 meters high was built by the construction department of the Shipyard in 1954. It has the roof covered with white slate and is used by the iron works and the shipbuilding plant.

2. Building:

single-story
This building was also constructed by the Shipyard in 1954. It is a red-brick building which is about 60 meters long, 20 meters wide and 8 meters high and of which roof is laid with white slate. It was used by the iron works and the ship-building plant.

3. Slip:

The slip was constructed by the Shipyard after the Armistice -- in 1954.

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The total length is about 130 meters, of which 50 meters are submerged in the sea, inclining downward at an angle of 15 degrees. A track underlaid by cross-ties is laid on this slip. The depth of sea at the end of the slip is about 2 meters. As indicated in the attached sketch, there are on the slip three carts of which size is about 3 meters long and 2.5 meters wide. The maximum tonnage of ship applicable to this slip is 200 tons; in case of 100-ton class, two ships can be accommodated; in case of 50-ton class, three ships; and in case of 30-ton class, four ships. The slip is called the fifth line.

4. Slip:

This about-130-meter-long slip was built by the Shipyard after the Armistice but the exact date is unknown. About 50 meters out of its total length are laid under sea, inclining downward at an angle of 15 degrees. The depth of sea-water at the end of the slip is about 2 meters. One about 2.5-meter-wide track underlaid by cross-ties is there on the slip, along with three carts as indicated in the attached sketch. The authorized limit of tonnage of ship for this slip is 250 tons; however, 3 ships of 100-ton class, or one 250-ton class plus one 50-ton-class ships can be taken in at the same time respectively. In case of 30-ton class, 4 ships can be placed at the same time. The fourth line is the name of the slip called by the Shipyard.

5. Crane rails:

Crane-rails are laid as indicated in the attached sketch, each on the right side and on the left side of the place where there are 3 slips. The length of the rails is about 70 meters and the interval between the crane-rails is about 30 meters.

6. Travelling crane:

This electric-driven crane with the capacity of 2 tons is made in Communist China. It plays a part of taking up and down ship-engines.

7. Slip:

This slip, about 150 meters long, and with an about 2.5-meter-wide track underlaid by cross-ties, was constructed by the Shipyard after the Armistice but the exact date of construction is unknown. About

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50 meters out of the slip(s total length are submerged under sea-water, inclining downward at an aggle of 15 degrees. The depth of sea at the end of the slip is about 3.5 meters. There are 5 carts on the slip as indicated in the attached sketch. The tonnage of ship applicable to this slip is 350 tons to maximum: two 150-ton-class ships and one 50-ton-class ship can be taken in. However, in case of 100-ton-class, it is possible to lay 4 ships at the same time; in case of 30-ton class, only 5 ships; in case of 350-ton class, one ship plus one more 100-ton-class ship. This slip is separated about 10 meters away from the next one. It is called the third line.

8. Slip:

This slip that is the same as the above third slip in size and form, was constructed by the Shipyard after the Armistice; however, the exact date of construction is unknown. The depth of sea-water at the end of the slip is said to be about 3 meters. There are also 5 carts on the slip as indicated in the attached sketch. The limit of ship's tonnage applicable to this slip is up to 400 tons to a maximum: that is, only one 400-ton-class ship can be taken in -- in case of 100-ton class, 4 ships are able to be placed on the slip at the same time. But no more than five 50-ton-class ships or five 30-ton-class ships can be accomodated at the same time. Built or repaired here at the slip are iron-vessels and military vessels. This slip is called the second line.

9. Slip:

The length of this slip is about 160 meters, of which about 60 meters are submerged under sea-water inclining downward at an angle of 15 degrees. The depth of sea at the end of the slip is about 4 meters. There are 4 carts on the slip as indicated in the attached sketch. The limit of ship's tonnage applicable to the slip is from 500 tons to 550 tons. Built or repaired here are large military vessels.

10. Cart:

The total number of carts on the slips of the Shipyard amounted to 20 as indicated in the attached sketch. Each cart is sized at about 3 meters in length and about 2.5 meters in width. It has small wheels.

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11. Building:

This building, about 15 meters long, 5 meters wide and 5 meters high, is a single-story brick building with the roof of white slate, which was constructed by the Shipyard after the Armistice. It was being used as the workshop of construction slip and for the hoist room.

12. Building:

This building constructed by the Shipyard in 1954 is about 30 meters long, 7 meters wide and 6 meters high and has the roof of white slate. It was used as the wooden-vessel building plant.

12-A: Construction slip

This slip was built by the Shipyard after the Armistice in 1954 and has a single track. The size is about 40 meters long and 2 meters wide.

13. Building:

The single-story brick building with the roof of white slate is about 35 meters long, 7 meters wide and 6 meters high. It was being used as the steam-boiler room.

13-A: Chimney

This chimney is made of iron; the size is about 30 meters high and about 2.5 meters in the diameter of the base.

14. Platform for loads:

This is made of cement-concrete; the size is about 30 meters long, 10 meters wide and 50 centi-meters high.

15. Building:

This single-story brick building constructed by the Shipyard in the year of 1954 is about 15 meters long, 4 meters wide and 3 meters high and has the roof of cement-tile. The building was used as the inquiry office room and as the guard room of the industrial defense squad.

16. Building:

The single-story brick building having the roof of white slate is about 45 meters long, 20 meters wide and 7 meters high. In the middle of the building, a narrow-gauge track is laid as indicated in the attached sketch. It was used as the machine manufacturing plant of the Shipyard.

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17. Building:

This is a single-story brick building with the roof of cement-tile, of which size is about 25 meters in length, 7 meters in width and 5 meters in height. It was used as the steel manufacturing plant. In the middle of the building, laid is a narrow-gauge track as indicated in the attached sketch.

18. Building:

This is a single-story brick building with the roof of cement-tile, which is about 25 meters long, 8 meters wide and 5 meters high. In the middle of the building, a narrow-gauge track is laid. It was used as the forging plant.

19. Building:

This is a single-story brick building with the roof of cement-tile, of which size is about 25 meters long, 6 meters wide and 5 meters high. In the middle of the building, a narrow-gauge track is laid. It was used as the welding room of the steel manufacturing plant.

20. Building:

This is a single-story brick building with the roof of white slate, of which size is about 30 meters in length, 10 meters in width and 5 meters in height. It was used as the finishing-up plant.

21. Building:

This is a single-story brick building with the roof of white slate, of which size is about 40 meters long, 10 meters wide and 7 meters high. The building which was being used as the casting plant was divided into three rooms: wooden pattern room, casting room and furnace room.

22. Foundry-pig-iron crushing tower:

This tower is constructed of angle-iron. It is shaped in the form of square pyramid; a side of the base is about 1.5 meters and the height is about 20 meters. A casting crusher with the weight of 700 kilograms is installed in the center of the tower.

23. Building:

This is a single-story brick building with the roof of cement-tile of which size is about 25 meters in length, 8 meters in width and

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5 meters in height. It was used as the carpentry plant.

24. Building:

This building, about 30 meters long, 15 meters wide and 7 meters high, is a single-story building with the roof of galvanized iron. It was used as the lumbering workshop. In the middle of the building, laid is a narrow-gauge track.

25. Building:

This building, about 40 meters long, 15 meters wide and 6 meters high, is a single-story brick building having the roof of cement-tile. The interior part of this building is divided into two rooms; one was used as the electric equipment repair shop of the power department of the Shipyard and the other as the finishing-up workshop of the power department.

26. Building:

The building which is about 30 meters long, 10 meters wide and 5 meters high is a single-story red-brick building with the roof of white slate. It was used as the diesel-engine workshop. In the middle of the building, laid is a narrow-gauge track.

27. Building:

This is a single-story red-brick building, about 30 meters long, 8 meters wide and 5 meters high, which has the roof of white slate. One of the two divided rooms was used as the implement store-room and the other as the semi-product store-room.

28. Building:

This is a single-story brick building, about 35 meters long, 10 meters wide and 6 meters high. It has the roof of white slate and was being used as the assembling workshop.

29. Building:

This is a single-story brick building, about 35 meters long, 10 meters wide and 6 meters high and with the roof of white slate. It was used as the warehouse of fishing implements of the Shipyard.

30. Building:

This is a single-story brick building, about 25 meters long, 8 meters wide and 4 meters high and with the roof of white slate. It was used

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as the warehouse of fixtures of the Shipyard.

31. Merchant ship building site **NOFORN**

This ship-building site was constructed in 1958 as part of basic construction. The cement-concrete-made site is about 150 meters long, 40 meters wide; but the thickness of the site is unknown. The site is made inclined at an angle of 5 degrees, and the space under the site is divided into three parts making the whole as a structure. The first room was used as the office of this merchant ship building workshop; the second, as the store-room of equipments and materials; the third, as the store-room of ship-building tools. There are 3 vertical cranes each on the right hand and on the left hand as depicted in the attached sketch.

32. Building:

This is a single-story brick building, about 30 meters long, 10 meters wide and 4 meters high, and with the roof of red-colored tiles. It was used as the dining-room of employees of the Shipyard.

33. Building:

This is a L-formed single-story red-brick building, about 40 meters long, 10 meters wide and 5 meters high. As for the roof, no information is available. The building was used as the office of the Shipyard.

34. Building:

The building, about 25 meters long, 6 meters wide and 4 meters high, and with the roof of cement-tile, was used as the barber's shop and the bathhouse.

35. Building:

This is a single-story red-brick building, about 10 meters long, 5 meters wide and 3 meters high, and with the roof of cement-tile. It was used as the inquiry office of the industrial defense squad in charge of the western entrance.

36. Building:

This is a single-story red-brick building, about 20 meters long, 5 meters wide and 4 meters high, and with the roof of cement-tile. The interior part of the building is divided into the office of the

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warehouse department and the office of the transportation department of the Shipyard.

37. Field storage site of shipbuilding equipments and materials and fuel oil:

Barbed wire is around the site as indicated in the attached sketch and a narrow-gauge track goes into the middle of the site.

38. Building:

This is a single-story brick building, about 15 meters long, 6 meters wide and 3 meters high, and with the roof of cement-tile. It was used as the store-house of tools of disjointsing sunken ships.

39. Building:

This single-story brick building with the roof of cement-tile is about 15 meters long, 5 meters wide and 4 meters high. The building was also used as the store-house of tools of disjointsing sunken ships.

40. Building:

The U-formed three-story reinforced concrete building, about 55 meters long, 10 meters wide and 9 meters high, was constructed under the Japanese domination. The exterior part of the building is all coated with tiles. The first floor was used from the left as the club, movie-room, cultural instructor's room, office-room of the construction department and office-room of the supply department; the second floor, as the worker's school; and the third floor, as the unmarried worker's dormitory.

41. Chimney:

This chimney erected by the Japanese before 1945 is made of reinforced concrete. The height is about 35 meters and the diameter of the base is about 2.5 meters.

42. Building:

The single-story building constructed of unknown materials is about 10 meters long, 6 meters wide and 6 meters high, and has the roof of cement-tile. Inside the building, a second-hand boiler of 15 tons of capacity is installed.

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43. Breakwater:

It was made by the Japanese before 1945.

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44. Pier:

This wooden pier made by the Shipyard in 1957 is L-formed: the length is about 55 meters; the width, about 7 meters; and the height from the sea-level, about 1.2 meters. On the pier, a narrow-gauge track is laid as depicted in the attached sketch and there are always three vertical cranes with the capacity of 2 tons made by the Shipyard and one Soviet-made air compressor with the capacity of 10K.

45. Waterbreak:

This was made by the Japanese before 1945.

46. Pier:

This is a wooden-made pier constructed by the Shipyard in 1957, about 10 meters long, 5 meters wide and 1.2 meters high from the sea-level.

47. Building:

This single-story wooden building is about 10 meters long, 5 meters wide and 6 meters high and has the roof of cement-tile. The building was used as the water-pump house for hydraulic test.

48. Field storage site of lumber and iron-plate:

The site is enclosed by barbed wire, about 100 meters long and 1.9 meters high.

49. Building:

This is a single-story brick building, about 30 meters long, 10 meters wide and 5 meters high, and has the roof of cement-tile. It was used by the Najin Farming Implements Manufacturing Factory until August 1956 and then by the Shipyard as the warehouse of materials.

50. Building:

One-story brick building, about 30 meters long, 8 meters wide and 4 meters high, and with the roof of cement-tile. The building was used by the Najin Farming Implements Manufacturing Factory until August 1956 and then by the Shipyard as the warehouse of materials of the construction department.

51. Building:

One-story red-brick building with the roof of red-colored cement-tile. About 35 meters long, 10 meters wide and 5 meters high. This building was used by the Najin Farming Implements Manufacturing Factory until August

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1956 and then by the Shipyard as the lumbering plant.

52. Building:

One-story brick building with the roof of cement-tile; about 10 meters long, 4 meters wide and 4 meters high. This building was used as the guard house of the Shipyard.

53. Building:

One-story brick building with the roof of cement-tile; about 25 meters long, 8 meters wide and 4 meters high. It was used as the arms storehouse of the industrial defense squad of the Shipyard.

54. Building:

One-story brick building with the roof of cement-tile; about 25 meters long, 6 meters wide and 3 meters high. It was used as the switchboard room of the Shipyard.

55. Building:

One-story brick building with the roof of cement-tile; about 25 meters long, 6 meters wide and 3 meters high. It was used as the hospital of the Shipyard.

56. Building:

One-story brick building with the roof of cement-tile; about 20 meters long, 8 meters wide and 3 meters high. It was used as the day nursery of the Shipyard.

57. Small iron bridge:

This was built by the Shipyard in 1957. The size is about 50 meters long and 2.5 meters wide. Only the vehicles up to 5 tons can pass through the bridge.

58. Iron bridge:

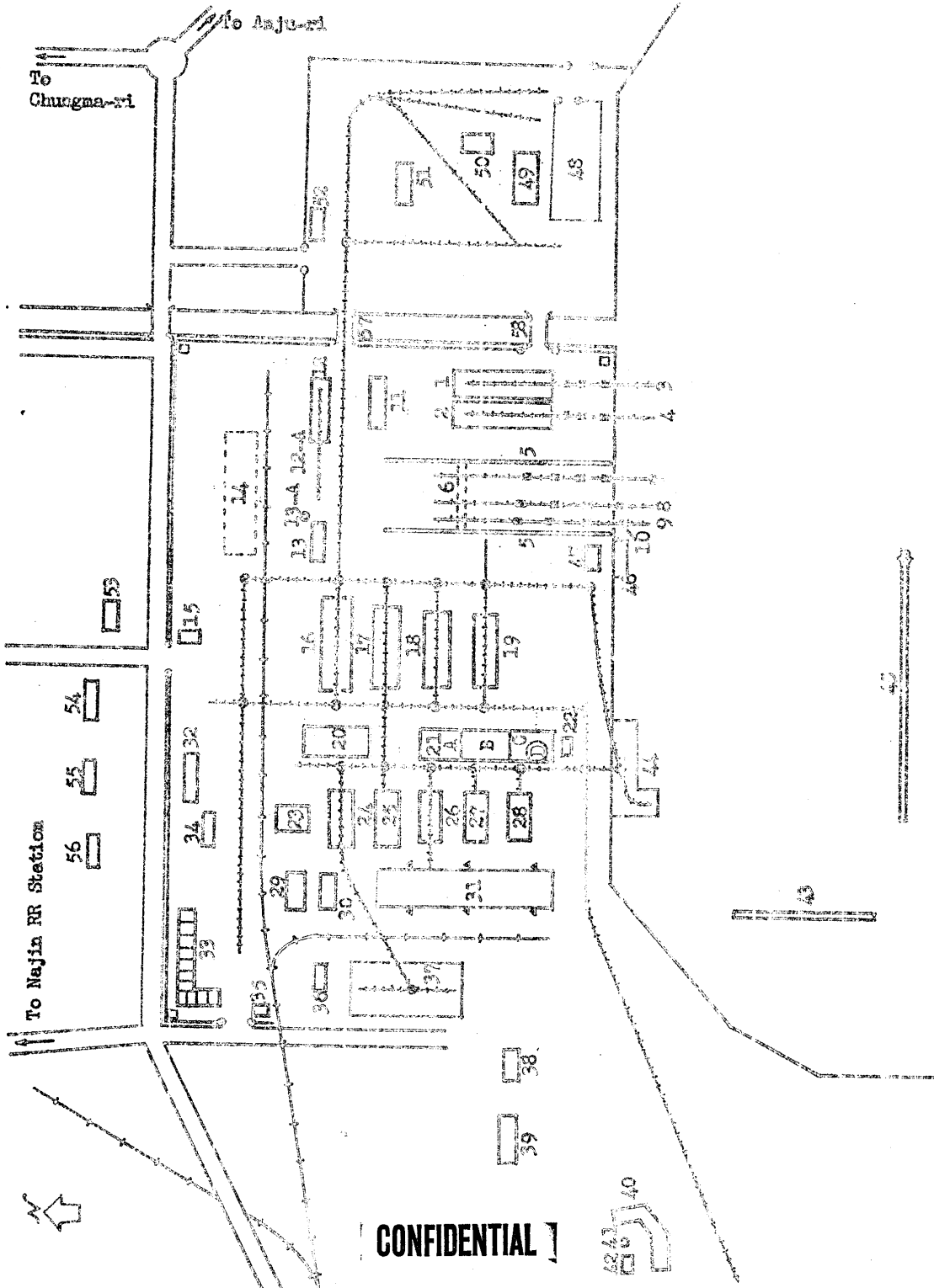
This bridge, about 50 meters long and 4 meters wide, was built by the Japanese before 1945; the vehicles up to 80 tons can pass through.

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Najin Shipyards

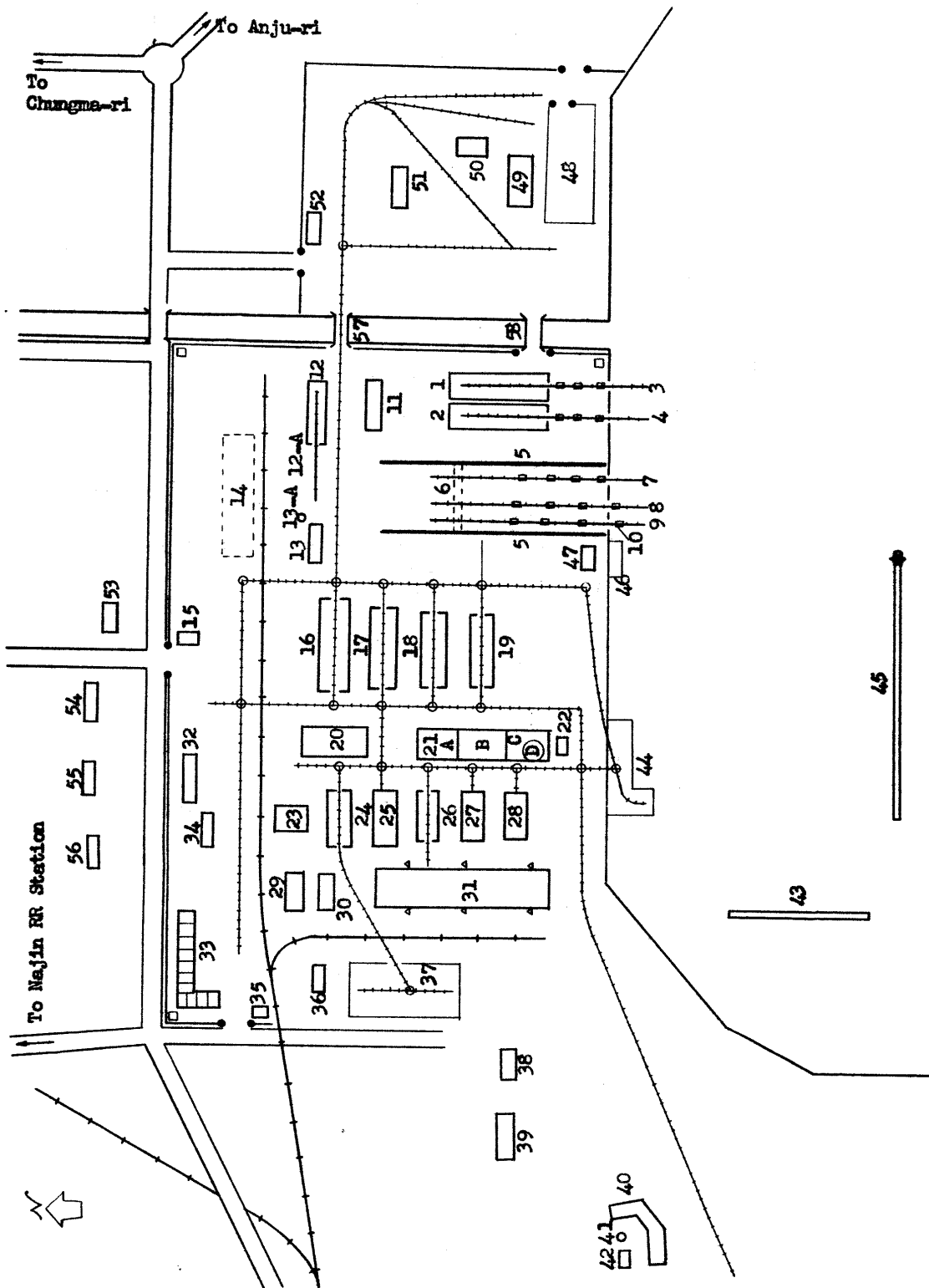


CONFIDENTIAL

NOFORN

C-O-N-F-I-D-E-N-T-I-A-L
NOFORN

Najin Shipyard



C-O-N-F-I-D-E-N-T-I-A-L
NOFORN