

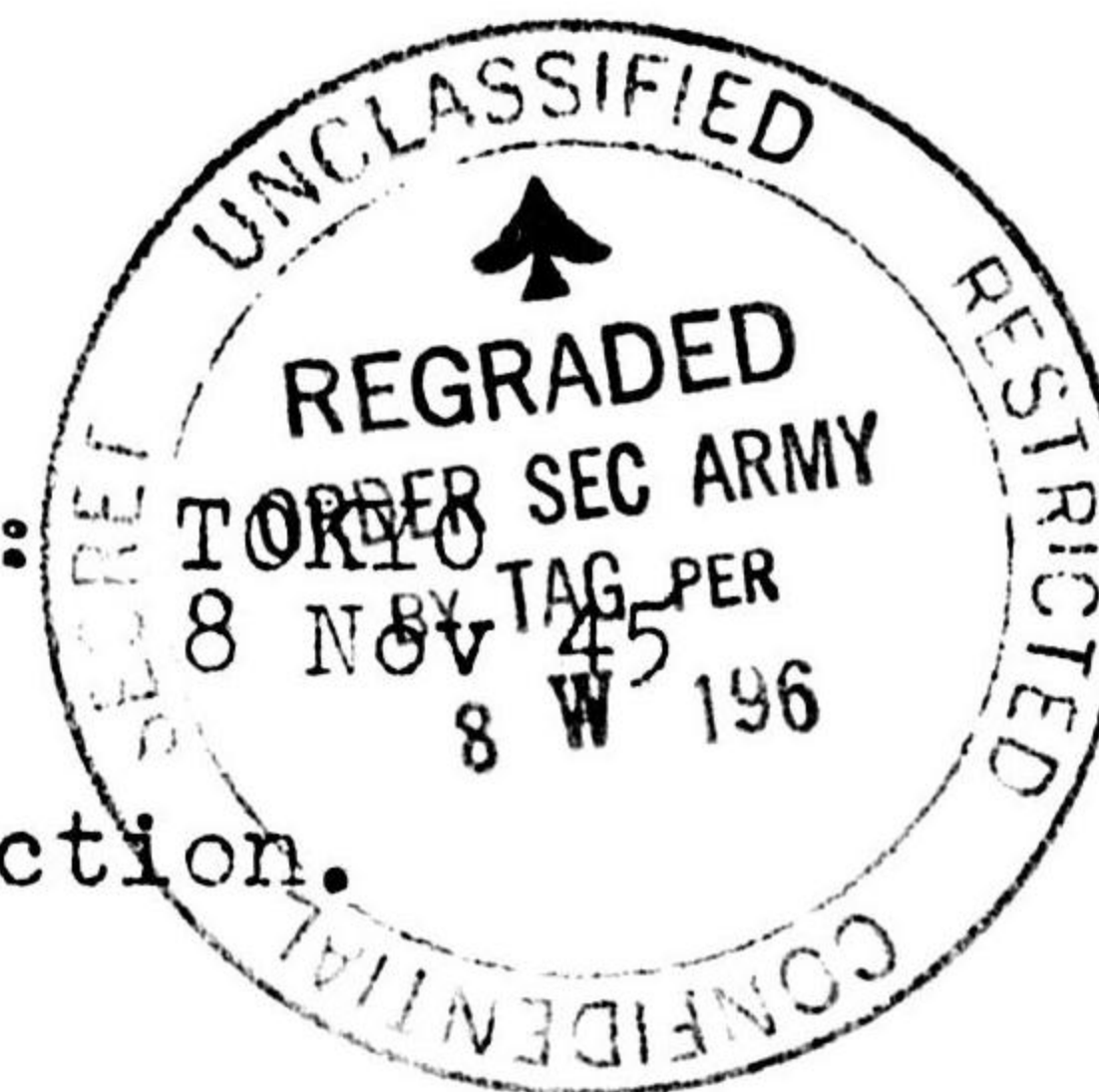
HEADQUARTERS
U.S. STRATEGIC BOMBING SURVEY
(PACIFIC)
APO 234
C/O POSTMASTER, SAN FRANCISCO

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INTERROGATION NO: 315

PLACE: TOKYO

DATE: 8 NOV 45



Division of Origin: Capital Equipment and Construction.

Subject: Visit to Hitachi Ltd.

Personnel interrogated and background of each:

Mr. N. TAKAO - Vice President
Mr. C. YOKOTA - Managing Director

Where interviewed: Office of Hitachi Ltd.

Interrogator: Pfc Jacobson

Allied Personnel Present: S/Sgt Stauffer.

Summary:

Damage to the Electrical Industry, production problems
and countermeasures utilized.

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Approximately 35% of the plant facilities of Hitachi Ltd were damaged in air attacks. Loss of productive capacity was greater (over 50%), since vital parts of the most important plants of the company were seriously damaged. Hitachi produced 20-25% of all electrical machinery in Japan. Damage to heavy electrical equipment productive capacity is estimated at 35-40% by Messrs TAKAO and YOKOTA. Loss of productive capacity in the communications industry due to air raid attack is estimated at 45%, due to the dependence of communications manufacturers on small shops for parts. Wire and cable productive capacity of the Hitachi concern suffered a loss of 50%, but the estimate for overall damage and loss of capacity in wire and cable manufacture is lower. About 35% of capacity is estimated to have been lost.

Recovery after damage was very difficult. Buildings suffered much more damage than machinery, but the labor force scattered to the countryside after area raids burned down their homes.

Hitachi Ltd protected its machinery with stone blast walls. This helped minimize damage to machinery. Temporary roofing over the machines helped prevent their deterioration, but production of any proportion could not be resumed. Damage to heavy cranes in June practically brought the main plants to a halt.

Hitachi Ltd formerly produces about 25% of the heavy current equipment of Japan, and about 5% of communications equipment (radio and telephone). It was working at about 80% of capacity on a two (2) shift basis (20-24 hrs of operation per day). Shortages of material and skilled labor, especially in 1944 prevented utilization of 100% of 2 shift capacity. Conversion of production to new products (munitions mainly) also had a retarding effect on production to some extent. Otherwise, it was felt production could have been expanded to a greater extent.

Before the war, about 5% of industrial research was carried on through government facilities, but during the war the government participated to the extent of 60-70%.

Industries producing munitions had obtained financial assistance from the government even before the war. Electrical equipment manufacturing concerns, however, did not generally fall into this category.

By 1940, coal and steel were already rationed through the Ministry of Commerce and Industry and a loosely knit control association of electrical machinery manufacturers. By 1942, other materials (eg copper) were added to the ration list under a more formal control organization.

Manufacture of power generating equipment attained a peak in 1938-39. Demand then declined, but production of motors and generators continued to increase due to the demand for smaller types of equipment for military and naval use or for war industries.

Before the war, concrete and steel were used for new construction in Hitachi's expansion program. During the war only wooden structures could be built. Expansion of industry became more difficult because of the more rapid changes in the demand for products and a growing shortage of skilled labor.

Production plans set for the company were never considered to be practical for they were not based upon the capacity of the company to produce, but were apparently arbitrarily set about 30% above capacity as a mark at which to aim. When the company

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saw what share of production was allotted to it, it requested permission to expand its facilities even more. Such permission was granted if the product made was in great demand by the Armed Forces.

A shortage of mica for wireless, especially radio detector equipment was noted in 1943. Tungsten for vacuum tubes production was not available in the quantities needed. A too low priority was set for the production of vacuum tubes, and when this was realized by the Armed Forces in 1942, incandescent lamp manufacturing facilities were at times converted to vacuum tube manufacture in 1943. The Tokyo-Shibaura Harikawacho (Kawasaki) plant, largest lamp producer in Japan, is an illustration of this conversion. Another cause for the shortage of vacuum tubes, was a shortage of some of the materials needed for their manufacture. Boric acid was not available, for glass manufacture. Nickel was not available, nor were tungsten molybdenum. Changes in types and radical changes in design of tubes also had their effects. The shortage of vacuum tubes was never overcome.

Dispersal in the industry started on a very small scale in the spring of 1944 and increased slightly after the loss of Saipan. The Ministry of Munition was in charge of dispersal and helped provide transportation and new machinery if some had been damaged in raids. Hitachi was building underground tunnels beneath its Kaigan plant in the spring of 1945, but the force of the high explosive raid on 10 June caved in the tunnels.

A long narrow tunnel nearby was planned. It was to have been 400 meters long, but was about 20% dug when the war ended.

The quality of products was not too greatly reduced in the manufacture of electrical machinery, according to YOKOTA, although tolerances and efficiency ratings were reduced. The machine tools purchased in latter years were generally universal types, since single purpose machinery was very difficult to acquire. Much repair of machinery was necessitated by a reduction of quality, especially in the iron and steel used in the manufacture of the machine tool.

About 5% of Hitachi's electrical machinery parts were subcontracted, and about 20% of its communications parts were made in home industries. YOKOTA and TAKAO felt this percentage was considerably lower than for most manufacturers, especially in the manufacture of communications equipment. Damage to Hitachi's subcontractors amounted to about 50%, since many of these were in outlying areas. Damage to home industries in general is stated to be much higher. Loss of subcontractors was made up to some extent by orders from undamaged subcontractors and by making parts itself, but the comparative amount of supplies thus obtained was very low.

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