

4. Methods of Announcing Signals.

a. Sirens. The sirens within the city of KYOTO were sounded from a warning central installed in the tower of the municipal building. Reference Item No. 2 is a map of the city of KYOTO showing the locations of the 17 large sirens controlled from this central, which were the same type as those used in KOBE. In addition to the large ones, 30 smaller sirens, averaging about one-half horsepower, were individually operated throughout the city. Exhibit B is an illustration of one of the large municipal sirens located on top of the municipal building, together with a close-up view of the same siren. Exhibits C and D are views of the control panels by which the 17 sirens in KYOTO were operated. Although these sirens were rated to cover an area having a radius of one and one-fifth miles (two kilometers), in order to compensate for adverse weather conditions they were spaced on a conservative calculation of coverage of a radius of nine-tenths of a mile (one and one-half kilometers). On that basis, the adequacy of the coverage is evident. (See Reference Item No. 2.) In the event of disruption of the power lines running from the warning central to the large municipal sirens, they could be sounded by an individual switch located at each siren.

b. Other Methods. Supplementary and auxiliary means of sounding signals, i.e., bells, flags, sleeves, lights, and cards, were also used. While the sirens were relied upon primarily, visual means were essential for communicating the warnings to the deaf, to those persons out of the range of siren coverage, and as an auxiliary means in the event of power failure.

CONTROL CENTERS

1. Introduction. The investigation of air-raid procedure in KYOTO revealed the existence of two organized control centers from which varied air-raid services were dispatched, those of the auxiliary police and fire unit (KEIBODAN) and of the prefectural control center (here called SAKUSEN SHITSU). There was also a smaller control center, that of the block association (CHOKAI), from which only fire services were dispatched.

2. Operation.

a. The Block Association (CHOKAI). In the section of this report, entitled "Block Associations," it will be seen that in KYOTO, differing from the target cities already examined, the fire-fighting duties of the neighborhood group (TONARI GUMI) were assigned to the block association. The headquarters of this association was alerted during raids and was available to receive requests for aid. From the viewpoint of the control center as generally conceived, this headquarters was not completely equipped (it had no operations map, equipment check boards), neither did it dispatch varied services (fire, police, first-aid). The headquarters housed the hand pumps with which these associations were equipped, and served as an assembly point of the personnel during periods of air raid. Because of the comparatively small area covered by this association, fire equipment was frequently dispatched upon reports of its fire watchers even before requests for help were received from leaders of the neighborhood groups.

b. The Auxiliary Police and Fire Unit (KEIBODAN). When bombing incidents grew to proportions beyond the effective control of the householder and the assistance he received from the block association, calls for help were made to the control center of auxiliary police and fire unit. This was the first organized control center in the sequence of air-raid operations from which varied services were dispatched. The supervising personnel of this headquarters included the leader, two assistant leaders, and the leaders of the services (fire and first-aid) which were dispatched from this control center. (A complete discussion of the organization of this unit is contained in another section of this report entitled "Auxiliary Police and Fire Units.") As reports of incidents were received from lower echelons, they were plotted on an operations map and forwarded immediately to the police and fire stations. In addition to the services dispatched from this control center, reinforcements from neighboring units might also be requested by the leader.

c. Prefectural Control Center.

- (1) Personnel. In KYOTO, as in the other target cities, the main control center was well organized and manned by all the officials who might have any emergency duties during the period of a raid. There is attached hereto, as Exhibit E, a diagram of the control center showing the personnel present, the seating arrangement, and the equipment used (less communications). The following is a list of the personnel in the control center. (The letters used correspond to the letters shown on the chart - Exhibit E.)
- (a) Governor of the Prefecture -- The governor was titular head of the control center and exercised general supervision of all air-raid-defense activities in the prefecture.
 - (b) Air Defense Headquarters Commander -- Actual head of all air-defense activities in KYOTO prefecture.
 - (c) Chief of Operations of the Control Center - Assisted the air defense headquarters commander and directed the actions of the control center.
 - (d) Chief of the General Affairs Division -- In charge of emergency budgets, handling of air-raid casualties and homeless, and liaison between the several sections.
 - (e) Chief of the Public Works Division -- Supervised the defense and repair of public utilities and roads.
 - (f) Chief of the Foodstuffs Division -- Directed the procurement and distribution of food to air-raid sufferers and the distribution of food supply in the event of disruption.
 - (g) Chief of the Materiel Division -- Directed the procurement and supply of materiel other than food.

- (h) Telephone Maintenance Clerk -- Charged with the maintenance of communications to and from the control center.
- (i) Message Clerk -- Charged with the receipt and transmission of information from the watch tower on the roof of the prefectural building.
- (j) Information Clerk -- Concerned with the information received from civilian air-raid observation corps headquarters.
- (k) Information Clerk -- Supervised the gathering of information received from police and fire stations within the prefecture and from neighboring prefectures.
- (l) Transmission Clerk -- Transmitted the commands of the air defense headquarters commander to each police and fire station.
- (m) Liaison Clerk -- Supervised handling of messages to and from each police and fire station.
- (n) Recorder -- Recorded permanently the information displayed on the operations map or blackboard.
- (o) Plotting Clerk -- Traced the route of approaching enemy planes.
- (p) Clerk -- Entered on the blackboard information pertaining to incidents.
- (q) Operations Map Clerk -- Plotted the disposition of the fire services.
- (r) Operations Map Clerk -- Plotted incidents on operations map and indicated the disposition of the guard services.
- (s) Operations Clerk -- Kept a running inventory of the dispatch and availability of police and fire forces. There were tabs representing each piece

of fire equipment available. As the equipment was dispatched for service, this man moved the appropriate tab showing dispatch of the service.

(t) Message Clerk -- Received and recorded reports of fires and casualties. As information was received by this clerk it was written on a form which was passed to the air-defense headquarters commander and to the governor after which it was placed on a blackboard for the information of all in the room (after plotting on the operations map).

(u) Special Staff Members --

Head of the Police Affairs Section
(KEIMUKA).

Head of the Secret Police (TOKUTOKA).

Head of the Economic Peace Preservation Section (KEIZAI HOANKA).

Head of the Criminal Section (KEIJIKA).

Head of the Labor Section (ROSEIKA).

Head of the Transportation Section
(YUSOKA).

Head of the Buildings Section (KENCHI-KUKA).

Head of the Guard Rescue Unit
(KEIBITAI).

Head of the Information Section (JOHOKA).

(2) Services Available. Services available for dispatch solely by the control center were as follows:

The Guard Rescue Unit (KEIBITAI). For a complete discussion of the organization and operation of this unit, see section of this report entitled "Rescue."

Fire ARM. In addition to the municipal fire equipment available for service (see section entitled "Fire Service") and that available from the auxiliary police and fire unit (KEIBODAN) and block association (CHOKAI), there was also a central reserve of fire equipment at the sole disposition of this headquarters. This equipment consisted of motorized pumpers, sent to KYOTO

from OSAKA after many of the municipal fire stations in that city had been destroyed.

Damage Evaluation Squad. This squad, composed of five or six men, was specially selected by the police department for the purpose of dispatch to large incidents for prompt assessment of bomb damage.

Telephone Repair Squad. This squad of 15 men was charged with the maintenance of police telephone lines and equipment.

Truck Pool. Upon the sounding of the air-raid alert, there assembled near the control center a pool of 20 specially designated trucks for use in the transportation of emergency supplies and personnel.

Army Personnel. Request for assistance from the armed forces for rescue and emergency clearance of debris was made by the leader of the control center to the KYOTO army division.

Utility Repair Squad. There was included in the KYOTO air-raid organization plan a central pool of men for the sole purpose of repair to public utilities. However, it appears that this squad was never actually organized.

INCIDENT CONTROL

1. Introduction. Although the basic theory of control of bombing incidents was generally similar throughout the target cities investigated, differences in the organization and operation of the several services engaged necessitates the description of the methods employed. For illustration, in KYOTO it was found that the air-defense leader of the neighborhood group operated during periods of air-raid as a member of the block association under the immediate leadership of the air-raid-defense leader of that association. That and other variations require the review of incident control practice in this report.

2. Operation. The effect of bombing on a household is first attacked by the members of that home, using their air-raid equipment. These householders received prompt assistance from their neighbors. At the first public warning of an impending enemy raid, the leaders of each neighborhood group, trained in air-defense duties, assembled at the headquarters of the block association. This is the first evidence of such practice; in prior investigations the neighborhood group leader stayed with his own group of families and directed operations of the householders and neighbors who came to assist, as well as supervising the employment of the hand pump with which the group was equipped. In KYOTO, however, the hand pumps were under the control of the block association and not the neighborhood groups. As the neighborhood group leader, operating as a member of the block association, came to the incident he assumed control. At or about that time, the hand pump of the block association arrived at the incident. The neighborhood group leader continued as the incident control officer and directed the employment of the pumper. If the urgency of the situation required reinforcement of other pumpers of the block association (and fire groups from neighboring block associations) the leader first on duty continued to command. If, at this time, the air-raid defense leader of the block association appeared at the incident, he assumed control of the operations. In the next higher echelon, the federated block association (RENGO CHOKAI), there was also an air-raid defense leader whose duties were generally to direct the shifting of air-raid services of the various block associations within his federated block association. When the incident grew to such proportions that his personal direction became necessary, he assumed control of the incident. A call for assistance was made to the auxiliary police and fire unit (KEIBODAN) if the incident grew out of control. As assistance from this unit appeared, the control authority continued on through a new sequence - first the leader of the squad sent to the scene, then the leader of the

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particular arm, and finally the over-all leader of the unit. The authority of these men continued in spite of the arrival of reinforcements of equal echelons. By this time it was logical to assume that the fire watcher atop the nearby fire station had spotted the fire, reported to his chief in the fire station below, and that municipal fire equipment had been dispatched. Upon the arrival of the municipal pumper, the leader of that unit took over control, continued in control regardless of the arrival of like reinforcements, but was superseded by his chief or any succeeding officers in the channel of municipal command who might have come to the incident. This sequence was not disturbed by the arrival of any reinforcements from outside the city. It is to be noted that the general leader of the various organizations, because of his over-all authority, can supersede the leadership of the leaders of the services or the air-raid leader because of the special training given these arm and air-raid leaders. However, supervision of incidents was rarely, if ever, taken over by the general leader of the organizations referred to in the chain of incident control.

3. Conclusions. In the discussion of incident control, the question arises as to the wisdom of using a specially designated incident control officer, one supervising the action of the various services from the time of the dropping of the bomb until the effect of the bombing has been handled - as in the British system - as compared with the Japanese system - of shifting control upon the arrival of higher echelons - used by the Germans. In the KYOTO investigation, this question was posed to five different officials well versed in air-raid practice. Their unanimous opinion was that the use of a single incident control officer presented certain advantages but that it was impractical, especially in a large raid, because of the unavailability of a sufficient number of trained men, prefectural or civic, for service at every incident.

UNEXPLODED BOMBS

Operations in bomb disposal procedure in KYOTO were limited to the reporting of such missiles and the precautionary measure of cordoning-off a safe area prior to the arrival of the bomb disposal squad from the army in which lay the sole responsibility for actual disposition of the bombs. While the size of the bomb and its position (on top of the ground or imbedded) determined the final size of the area considered to be safe, an arbitrary radius of 325 yards (300 meters) around the bomb was roped off prior to the arrival of the bomb disposal squads. Final determination of the proper area of safety, however, lay with the leader of the army bomb disposal squad. The usual channel of reporting unexploded bombs was the same here as was described in the KOBE report, i.e., from the finder to the leader of the neighborhood group, to the leader of the auxiliary police and fire unit, or municipal police station, whichever was the closer. Reports received by the auxiliary units were sent by them to the police station. From the police station these reports were forwarded to the prefectural control center, and from there to the headquarters of the KYOTO army division. Official records revealed the discovery and disposal of only three high-explosive bombs in KYOTO during the war. Early training in bomb identification was not continued to include later types.

FIRE SERVICES

Fire Protection1. Introduction.

a. The information in this report of KYOTO City was obtained by interviews with officials of the fire and water departments; by checking fire department records; by inspecting fire equipment and fire stations; by observing fire drills; and, in addition, by inspecting several types of buildings. (For list of persons interrogated see Exhibit F.)

b. Size and Population of KYOTO City. KYOTO, one of JAPAN's historical cities, and the former seat of the government, covered 115.66 square miles (299.44 square kilometers), much of which was mountainous and thinly populated. In 1940 the population was 1,089,726, but there was a gradual decline in number until in November, 1945, there were 832,364 persons in the city.

c. Industrial Area. The industrial areas were located on the south and west sides of the city, where silk spinning mills, pottery manufacturing, and dye making were the pre-war industries. The manufacturing of airplane parts and submarine batteries was the principal war industry added to the city.

2. KYOTO Prefecture Fire Department Section.

a. Organization. KYOTO firemen, during the war, were under the police protection department of the prefectural police bureau. This department had in addition to the fire section, auxiliary police and fire unit (KEIBODAN) training, planning (plant fire brigade) and personal affairs sections. At the time of this survey, the fire section was under the public welfare department of the prefectural police bureau. The public welfare department directed, also, the business section, the peace maintenance section and the personal affairs section. The fire department in KYOTO rated only a sub-section position of a principal department of the prefectural police bureau, whereas, in TOKYO, OSAKA, and KOBE they were on a departmental level, which raised their fire-fighting organization from fire sections to fire departments.

b. MAIZURU Fire Department. The only other full-time fire department in KYOTO prefecture was located at MAIZURU

City (naval base), approximately 70 miles northwest of KYOTO City. In this secondary naval base city of 88,061 there were 10 pumpers and one battalion district. (See Reference Item No. 7.) The fire department in MAIZURU City was also under the direction of the police protection department (now public welfare department) of the police bureau. Thirty-seven villages throughout the prefecture had volunteer fire departments which were not under the police bureau. The villages purchased their own gasoline pumping equipment (350 to 500 g.p.m.), fire hose and appliances, and they operated very similarly to volunteer fire departments in the UNITED STATES. Before the war the prefectural office assisted these organizations once a year by detailing firemen from the KYOTO City department to conduct a week's fire-fighting training program in each village. In April, 1944, all motorized fire pumps were borrowed from the villages and assigned to KYOTO City fire stations and important war plants in the prefecture.

c. Fire Department Personnel. In December, 1941, there were 700 regular firemen employed by KYOTO prefecture and assigned to KYOTO City. In April, 1944, the chief of the fire department asked that the personnel be increased to 1,211, but only 329 men were added to the department. In November, 1945, there were 821 firemen employed in all grades. (See Reference Item No. 7.)

d. Fire Department Recruits. Prior to the war, applicants for the fire service were required to be between 20 and 35 years of age. After war was declared the minimum age for firemen was reduced to 17 years and the maximum age increased to 40 years. The physical and educational requirements were practically the same as in OSAKA prefecture.

e. Working Conditions. The two-platoon system (24 hours on duty and 24 hours off duty) was in effect for firemen. Their wages, advancement in rank, medical aid, and pension benefits were about the same as for firemen in OSAKA and HYOGO prefectures, except that salaries were slightly lower owing to cheaper living conditions in KYOTO.

3. Auxiliary Police and Fire Units (KEIBODAN).

a. Organization. The police department exercised over-all supervision of the auxiliary police and fire units, and trained them for guard duty and in fire-fighting technique. In actual operation the police and fire sections of the police department could call upon these units for reinforcing service. There were 140 units with 9,740 members. (For detailed organization, see "Auxiliary Police and Fire Unit" report.)

b. Duties. The duties of the auxiliary units of assisting the police and fire sections were more or less uniform throughout the empire.

c. Training. KYOTO started training its auxiliary police and firemen along the standard lines, except that three or four firemen would attend the meeting place of the auxiliary unit once each month and train them in fire-fighting technique. Each training period lasted from one to three hours, and consisted of lectures, demonstrations and drills. After the heavy air-raids on OSAKA and KOBE, officials from KYOTO visited those devastated areas and studied the effectiveness of fire-fighting. When the results of their studies became known most training of auxiliary groups stopped. It was their opinion that the type of fire-fighting training being given was of little value against American air-raids. The fire chief stated that after witnessing the devastating effect of air-raids on neighboring cities he had expected little, if any, assistance from the auxiliary units.

d. Equipment. Auxiliary police and fire units had, in addition to their usual small hand pumps and fire-fighting equipment, 208 hand-drawn, 120 g.p.m. gasoline-driven pumps; nine 120 g.p.m. pumps on small Datsun cars; and five 450 g.p.m. motorized trucks.

e. Affiliates. Block associations (CHOKAI) were equipped with hand pumps and received some training from the auxiliary firemen. The neighborhood groups in KYOTO were neither equipped nor trained to fight fire as they were in OSAKA and KOBE. However, many families did provide themselves with small, concrete, static water tanks, from 40 to 70 gallons in size, for fire-fighting.

f. Private Fire Brigades. Many manufacturing plants maintained fire-fighting units which received some training from the fire department. Their equipment consisted of hand pumps; a 120 g.p.m. gasoline-driven pump on a hand-drawn cart; a 450 g.p.m. motorized pumper; all depending on the size of the plant and the attitude of the management. These units, because of their inadequate training program, would not have been effective on large fires. The best private fire brigade observed was maintained by the Shinjo Gokurakuji Temple, which has 54 buildings within its area. All priests, gardeners, janitors, in fact, all employees, were members of the fire brigade. Special fire mains and hydrants had been installed within the premises, with a 500 g.p.m. electrically driven stationary pump, and a gasoline stand-by engine for use in the event of power failure. (See Reference Item no. 8.)

Fire hose was provided at all hydrants and an outside water curtain was installed on the exposed end of the main temple building. As there were no incendiary raids or fires in this area the effectiveness of the temple fire brigade could not be ascertained. The priest in charge of the temple stated that the fire protective measures, including the fire brigade, the automatic alarm system, the water system, water storage, stand-pipes and extinguishers, were instituted eight years ago, after a building valued at a million dollars had burned. The fire-protective installations provided little more than preliminary fire-fighting equipment, as the fire mains were small, not properly looped or valved, and the fire hose used was 1 1/4 inches in size.

4. Fire Stations.

a. Number Prior to and During War. In December, 1941, there were six battalion stations and 21 sub-stations. Only three sub-stations were added during the war, making a total of 24, and they were all still in operation. (See Reference Item No. 9, map of KYOTO fire stations.) The city was divided into six battalion districts, the SHIMO district being the highest valued and most important from a fire-protection standpoint.

5. Fire Equipment.

a. Motorized Apparatus. In December, 1941, there were 35 pumpers rated at 350 and 500 g.p.m. This number had been increased by May, 1945, to 80 pumpers, 54 of which were rated at 350 g.p.m. and 26 at 500 g.p.m. (See Reference Item No. 10, Make and Number of Fire Pumpers.) The increase of 45 pumpers during the war consisted of 12 new 500 g.p.m. Nissans in addition to 33 fire trucks appropriated from villages in the prefecture. The borrowed apparatus had been returned and the city had 47 pumpers, 17 of which were rated at 500 g.p.m. and 30 at 350 g.p.m. (See Reference Item No. 10.) One-third of the equipment in service was from five to 20 years old.

b. Types of Fire Apparatus. A Japanese-built 85-foot aerial ladder, mounted on a 1939 White truck, was the only ladder equipment in the department, except the usual 18 to 20 foot extension ladders carried on pumpers. The aerial truck was equipped with a 500 g.p.m. pump, but it had no hose, rescue gear, forcible entry tools, electric wire cutters, rope, extra ladders, heavy jacks, salvage covers, life net, shovels, saws, axes, or other small tools usually found on an average ladder truck in the UNITED STATES. It was a bare truck carrying only the aerial ladder and pump. (See page 26 for

Above

KYOTO's aerial truck, located at SHIMO battalion headquarters. Equipped with 500 g.p.m. pump, but had no hose or standard ladder equipment.

Right

Aerial truck extended 65 of its 85 feet with a 2 1/2 inch hose line playing a stream through a 7/8-inch nozzle tip made secure to the fly ladder.

aerial truck demonstration.) A small nozzle, 7/8-inch tip, was secured to the top of the fly ladder and could be used to throw a small stream into windows of the taller buildings. The fire chief stated he had never had an occasion to use the aerial ladder. The fire department was not adequately trained in the use of ladder equipment, and could not be expected to get the most out of it. Pumpers were the only other type of fire apparatus in the fire department and they were equipped the same as those in OSAKA and KOBE.

c. Maintenance of Fire Apparatus. The fire apparatus observed in the KYOTO fire department was in much better mechanical condition than was the equipment in OSAKA and KOBE. Electric starters were used on all motorized equipment. Motor repair and overhaul jobs were done by public garages which were selected at the discretion of the battalion chiefs. Spare parts were scarce and delays in repair jobs were frequent. No stand-by apparatus was available for temporary use while equipment was out of service.

d. Fire Hose. The Japanese standard fire hose (2-1/2 inch unlined linen), equipped with a snap-type coupling, was used in KYOTO prefecture. A total of 1,400 sections (65.5 feet per section) of fire hose up to 10 years of age was in service. Each pumper was supplied with a complete change of linen hose, in addition to 2-1/2-inch and 4-inch hard suction (rubber) for hydrant connections and drafting.

6. Training of Firemen.

a. Training School. Prior to the war, firemen recruits were given two months training in the police and fire training school before being assigned to a fire station. They were given lectures on fire-fighting; practical drills in hose evolutions; pump operations; and military drill. During the war all training was reduced to one month and at the time of this report there was no training. The fire chief stated the war-time firemen were poorly trained and he expected to reopen the school for the purpose of giving these men a three to four-weeks refresher course.

b. Fire Station Drills. Practical drills were conducted in fire stations five times a month for a period of one to two hours each. A series of drill evolutions were observed at the SHIMO battalion headquarters, the most important station in the city. The raising and lowering of an 85-foot aerial ladder; pumping water to the secured nozzle on the fly of the 85-foot aerial; climbing ropes to a height of 25 feet; sliding ropes and empty hose lines from an

elevation of 25 feet; and finally, sliding through a 60-foot canvas fire escape chute attached to a watch tower were the series of drills performed. (See pages 29 and 30) Fire escape chutes were not carried on fire apparatus but were recommended by the Ministry of Home Affairs as equipment for all limit-height buildings. The fire chief stated that some department stores, office buildings, and hospitals had fire escape chutes, but he did not know where they were kept nor who owned them.

7. Fire Alarm System.

a. Electric Alarms. In 1928, the city installed 70 fire alarm boxes (Matsumoto MM type) at locations in the SHIMO battalion district. These boxes were connected to the nearest fire station and did not record in a central office. The electric alarm system had been out of service for more than five years, and the fire chief stated it had never been dependable. Most of the street boxes had had the electrical mechanism removed.

b. Telephone Alarms. The telephone number 119 was used exclusively for reporting fires. The telephone exchanges in the several districts had one trunk line to their nearest battalion headquarters station. The battalion station, in turn, called the nearest sub-station by direct phone. There was no central fire alarm office for dispatching fire apparatus. Each battalion station functioned in its district independent of other districts. In 1943, the SHIMO battalion district received a total of 56 fire alarms, which were recorded as follows:

(1) Fire Phone (119)	46
(2) Ordinary Phone (Business phone in station)	2
(3) Police Phone (Relayed through police dept.)	1
(4) Watch towers	5
(5) Still alarms (man ran to fire station)	2

c. Watch Towers. Located within the city were 16 watch towers, one at each battalion headquarters and one at each of 10 sub-stations. One of the towers was 130 feet high,

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SHIMO Battalion Headquarters personnel lined up at rear of station for inspection before beginning a series of company drills.

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Canvas fire escape chute,
attached to SHIMO station.

Used for drill purposes
only. It was not fire
department gear, but was
recommended by the Minis-
try of Home Affairs as
equipment for limit-height
buildings, particularly
department stores and
office buildings.

located on top of a building near a fire station, but the other towers were steel frame, much like an oil derrick. Thirteen of the steel towers were 40 feet in height and one was 60 feet. A 24-hour fireman watch was maintained on these towers and the watch changed every hour. Fires were spotted and reported in the same manner as described in the OSAKA and KOBE reports.

8. Water Systems.

a. Source of Water. Ninety per cent of KYOTO's water supply was secured from two parallel canals, each nine miles long, which brought water direct from Biwa Lake to KYOTO City purification plants, while 10% of the water was picked up from the Ugi River within the city at the Momoyama and Shin Momoyama purification plants. Fifteen pumps were used to lift water from the intakes to the five purification plants. There was an abundant supply of water flowing through these plants to small distribution reservoirs. There were no large reservoirs in the system and the largest purification plant (KEACE) could be by-passed in an emergency. (See Reference Item No. 6.)

b. Water Mains. The mains from the five purification plants were 12-inch to 38-inch cast iron pipe which fed a grid distribution system. The network of pipes was four-inch to 16-inches in diameter, well equipped with isolation valves, and had few dead ends. (See Reference Items Nos. 11 and No. 12.) Water was supplied to this network by gravity, with the exception of two small areas in the northwest part of the city where the high ground required two pumping plants, each with two electrically driven pumps to maintain pressure. The city pressure ran from 20 pounds to 80 pounds on all mains. Only one fire main was broken in the air-raids on KYOTO, a six-inch cast iron main receiving a direct high-explosive hit, but it was repaired within 24 hours.

c. Hydrants. There were 7,341 public and 1,744 private hydrants in the city. Fire hydrants in industrial plants were privately owned. (See Reference Item No. 7.) Both public and private hydrants were on four-inch risers and were located about 110 yards apart. (See Reference Item No. 11) Approximately 9,065 of the hydrants were flush type, located below the sidewalk with a steel plate cover. They had single 2 1/2-inch outlets with snap-on connections. The remaining 20 hydrants were post type and also had one 2 1/2-inch snap-on hose connection. All hydrant hose connections in JAPAN were

standardized. The fire department was responsible for testing hydrants, but there was no regular schedule for flushing them.

d. Wells. There were 183 wells listed as a possible source of water for fire fighting (See Reference Item No. 7.) The wells were about six feet in diameter with water approximately 15 feet below the surface. KYOTO did not use any wells to augment its city water supply. (See Reference Item No. 13.)

e. Other Sources of Water. KYOTO had 979 open water tanks, one 77,000 gallon underground tank and 47 swimming pools which might be used for emergency fire-fighting. (See page 33) The fire department had made a survey of the canals and three rivers that flowed through the city to determine where drafting of water could be done. At the suggestion of fire department officials, sumps with covers were sunk in the bed of shallow canals to receive the suction. (See pages 34) Small 40 to 70-gallon concrete tanks and 300 gallon barrel-type tanks were on the streets throughout the city for use by neighborhood fire fighters. KYOTO's water supply was adequate for normal fire-fighting.

9. Operations Under Air-Raid Conditions.

a. Pre-Arranged Plan. The plan was for each battalion district to protect the important areas in its district and forget others. Transportation centers, public buildings, munitions factories, storage warehouses, war plants and temples were classed as important areas. No particular effort was made to increase the size or to improve the fire department until the beginning of the Japanese calendar year, 1 April 1944. At that time 37 pumpers (350 g.p.m. to 500 g.p.m.), and 118 hand-drawn 120 g.p.m. gasoline pumps were appropriated from villages in the prefecture and turned over to the KYOTO fire department and industrial plants further to strengthen their fire-fighting facilities. Before April, 1944, the people had been led to believe that the war was going well and air-raids over the homeland were impossible. As B-29 bombers began flying over KYOTO on their way to TOKYO, more time and effort were devoted to the training of fire fighters, both regular and auxiliary. Fire officials made trips to TOKYO and other cities after their disastrous raids, in an effort to learn how to cope with the incendiary bomb. The fire chief stated that after the 14 March 1945 incendiary raid over OSAKA, a city 30 miles away, he was firmly convinced that there was no way to keep KYOTO from suffering a similar experience, if bombers came over in an equal number and started thousands of simultaneous fires throughout the city. There was no doubt

Emergency underground water tank (77,000 gal.)
at Bukkoji Temple with three openings for drafting, two
on street and third inside temple grounds gate as indi-
cated above.

Sump in Kiyamachi district, covered with stone slab, one of several in shallow canals for fire-fighting use.

that KYOTO would have burned to the ground by one concentrated incendiary bombing. The building construction, crowded conditions, narrow streets from 12 to 20 feet wide in residential and small business areas were ideal conditions for a conflagration similar to TOKYO, OSAKA and KOBE. (See page 36) The fire department was inadequately trained to cope with a large fire under normal conditions. In observing the drill of a typical fire company, it was noted that five minutes time was taken in spotting the pumper, connecting the two 10-foot sections of suction hose, and laying out one section of 2 1/2 inch linen hose, and then the engineer became excited and could not lift water to his pump. With some help from the inspection party he finally got water but not until after another 10 minutes.

b. Lone B-29 raid, 16 January 1945. At 2320, on 16 January 1945, a lone B-29 flew over the city, headed in the general direction of TOKYO, and the city was not alerted. After a few minutes it circled back over KYOTO and dropped several high-explosive bombs and a few incendiaries. Twenty-nine houses were completely destroyed; 112 half destroyed; 175 partially damaged; and two burned by incendiaries. Thirty-four persons were killed; 23 seriously wounded; 33 slightly wounded; and 750 were made homeless. A section of water main was destroyed; police and public telephone lines in the area were put out of commission, but all were restored the following day. (See Reference Item No. 7, page 3.) The fire department encountered no serious difficulty in controlling the small fires which burned two houses.

c. B-29 Air Raid, 26 June 1945. At 2141, on 26 June 1945, B-29's dropped high explosives in the KYOTO area, which destroyed 54 houses and partially destroyed 99 others. Forty people were killed, 19 seriously and 34 slightly wounded. These two raids were the most damaging of 11 small air-raids on KYOTO prefecture. (See Reference Item No. 7, pages 2 through 5.)

FIRE PREVENTION

10. Operation. No organized fire prevention bureau existed in KYOTO prefecture. One fireman was detailed each day from each fire station for a period of one to two hours for the purpose of inspecting his immediate area; fire hydrants and other sources of water; condition of streets; and rubbish burning in hazardous locations. No inspections were made of buildings, factories or homes. Once each month a pressure test by a static gauge was taken on fire hydrants. The fire chief stated that the pressure in the mains ranged from 30

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Typical residential street in KYOTO.
Looking east along Bukkoji Dori (street) in Yanagi
Bunba district.

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to 50 pounds, and during the early morning hours when domestic water was not being used, the pressure increased to 80 pounds in some districts. He added that fire hydrants were used more frequently than other sources of water in fire-fighting, probably because of the fact that KYOTO's water system was not damaged.

11. Fire Regulations. The fire regulations in KYOTO prefecture were the same as in OSAKA and HYOGO prefectures. They were sketchy and were interspersed in the building regulations promulgated by the Ministry of Home Affairs. Firemen had no authority to enforce fire regulations, but they might file an official complaint with the district police office where action would be taken, if the police so desired. Action on fire regulation violations was, however, seldom taken by the police, and firemen hesitated to file complaints. Fire extinguishers were not required in most buildings and those observed were the soda-acid type, and in poor condition or empty. (See page 38)

12. Building Construction. The Ministry of Home Affairs regulated building laws in all Japanese provinces. Some consideration had been given to zoning for business, industrial and residential districts. Karasumara Dori and Shijo Dori, 80 and 100 feet wide, respectively, were the principal streets of KYOTO and they had been zoned for only new construction of reinforced concrete. (See Reference Item No. 14.) A total of 363 concrete buildings from three to eight stories in height were located on those two streets. The south and west sides of the city were known as industrial areas and there were no specific building regulations for them. In the residential area dwellings were bunched together, separated by a solid wall with one inch of plaster on each side. The roofs were tile and slate. (See page 39, dwellings and small stores in the central part of the city.) (See Reference Item No. 15, Building Regulations.)

GENERAL

13. Annual Fire Loss. The last published KYOTO prefecture fire department year book (1941) listed a total of 367 fires, 251 of which were in KYOTO City. (See Reference Item No. 16, page 27.) The causes and frequency of fires were given in detail in the year book. The fire chief stated that in his 18 years in the fire department, KYOTO had suffered only two large fires, one was 11 years previously when 36 houses burned, and the second was eight years ago when a building at Shinjo Gokurokuji Temple burned, causing a loss

Soda-acid fire extinguishers in the modern, limit-height, Sumitomo building (Sixth Army headquarters). None of these portable extinguishers was in an operative condition.

Residential and business district, looking southwest.

Crowded residential district, looking northeast.

Views taken from roof of Asahi Press Building on Kaharamachi Dori (street), KYOTO.

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of more than a million dollars. The chief attributed the low fire loss in KYOTO City, as compared to other Japanese cities, to more cleanliness; better than average Japanese buildings; wider streets; a good water system; and public interest in the general welfare of the historic city.

14. Mutual Aid. KYOTO dispatched 10 pumpers to OSAKA on 14 March 1945, to assist in combating the conflagration caused by an air raid. The apparatus was late in arriving and required refueling before it could work on the fire. Two hours actual working time was credited to each pumper. No further attempt was made to dispatch fire equipment to subsequent fires.

15. Fire Barriers. The removal of houses for the purpose of building fire roads and creating fire breaks around important buildings and plants was first begun on 17 July 1944 when 677 houses were demolished. On 27 February, 18 March, and 21 July 1945, additional buildings were demolished, making a total of 6,068. (See Reference Items Nos. 17 and 18.) (See page 41, area from which buildings were removed.) The removal of these buildings would not have saved KYOTO from fire destruction in one large incendiary raid.

Fire break, widest in city, approximately 195 feet, built by removing houses. Looking west toward Teramachi Dori (street) from KYOTO City Hall.

One of many fire breaks created near important buildings. Looking north toward Daimaru department store, from Shijo Dori, Takakura district.

EMERGENCY MEDICAL SERVICES

1. Introduction. The same grouping of subjects is followed in the KYOTO report as in those of OSAKA and KOBE. Briefly stated, the term Emergency Medical Services comprises three subdivisions: (1) emergency medical service which includes first aid and hospital services; (2) Red Cross activities; and (3) mortuary services. The foregoing order will be pursued in the discussion of these subjects.

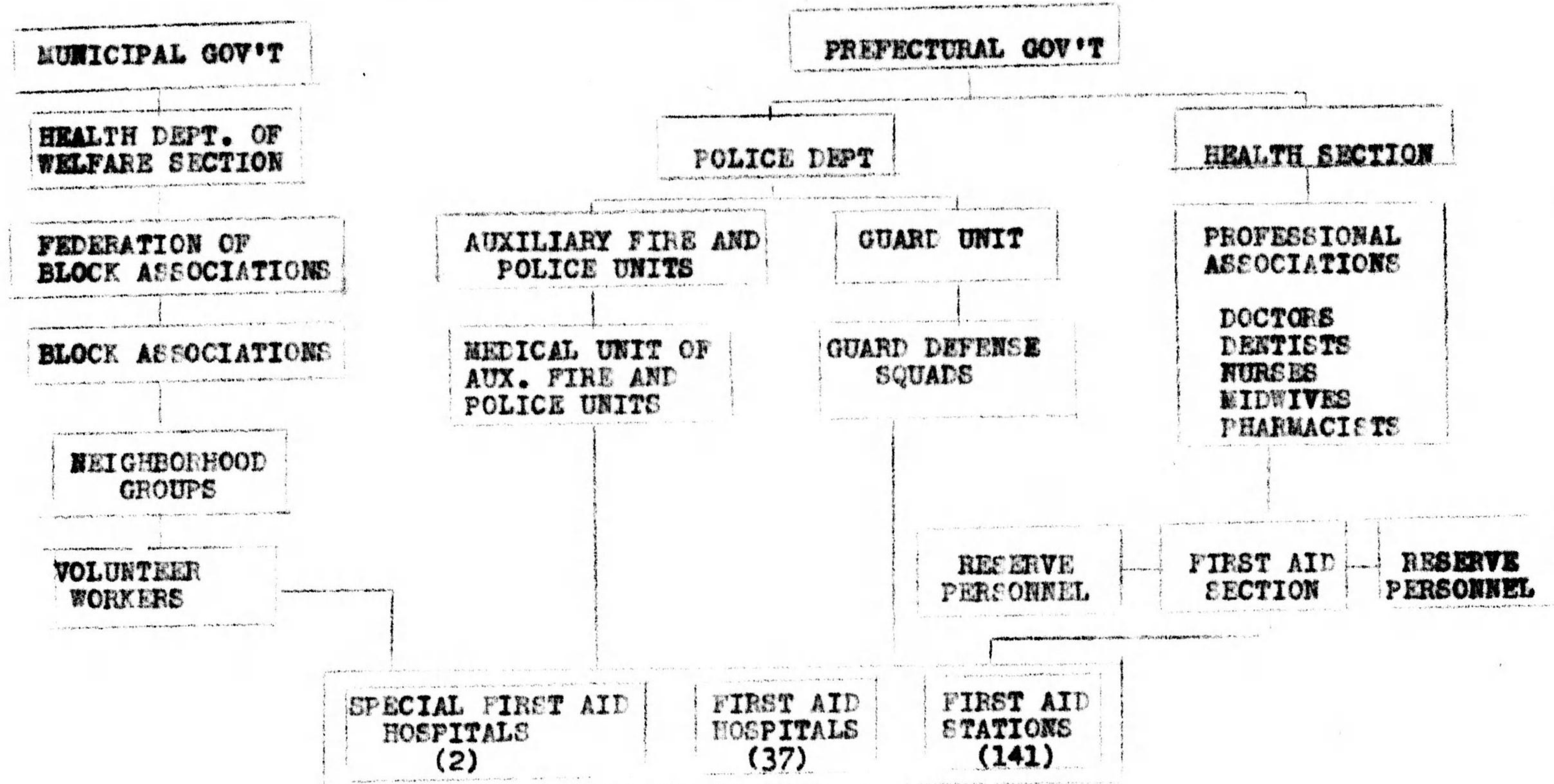
Emergency Medical Service

2. Organization. The emergency medical service of KYOTO was organized under a combined municipal-prefecture plan. At the prefectural level the service was under the authority of the health section in conjunction with the police department, while at the municipal level the service was under the health department, a subsidiary of the welfare section. (See page 43) In a document, dated 7 July 1945, from the prefectural governor to the mayors of all large cities and towns of KYOTO prefecture, an air defense medical organization plan was established. This document included the air-defense first-aid regulations, first-aid facilities, and functional classifications of medical personnel and their assistants. This plan represented an ideal and differed to some extent from the plan that was in actual operation. Exhibit Q is a translation of the above-mentioned document.

3. Personnel. In KYOTO there were 890 doctors, 216 dentists, 1,467 nurses, 484 midwives and 558 pharmacists. All of the above medical personnel were organized into their several associations and assigned by their professional qualifications for specific duties in the air-defense medical set-up. These assignments were classified into eight categories: first-aid stations, first-aid hospitals, obstetrical first-aid stations, special first-aid hospitals, medical arms of the auxiliary police and fire units, gas-defense squads and two reserve sections. Pharmacists were assigned to the gas defense squads, midwives to the obstetrical first-aid stations and the old and physically weak physicians to the reserve sections.

4. Evacuation of Casualties. During the air-raid alert, all personnel reported to their pre-assigned locations for duty. Ambulatory air-raid casualties were to walk to the first-aid stations and all others were to be carried to the stations by stretcher bearers from the guard units of the prefectural police, the auxiliary police and fire units, and

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volunteer workers of the neighborhood groups. At the first-aid stations the patients were to be separated into categories of injuries and, either treated and dismissed, or sent to the hospitals for further treatment.

5. Transportation of Casualties. The transportation unit of the municipal welfare section (YOSUKA) maintained a pool of trucks and other vehicles for the removal of air-raid wounded from the first-aid stations to the hospitals. When transportation was needed, the chief of the public health section notified the prefectural police who in turn instructed the transportation unit to dispatch vehicles to the necessary location. There were only two or three ambulances in KYOTO and they played a negligible part in the transportation of the wounded. There were no arrangements made with the army or navy for use of their vehicles in transporting air-raid casualties from first-aid stations to hospitals.

6. First-Aid Stations. There were 141 first-aid stations, each located at a public elementary school building, but, in a few instances, in the school nurses' office or in the basement. There were no specially constructed first-aid stations and none located within department stores or railroad terminals. Each large factory had a small first-aid station and dispensary for the use of its own employees. It was believed by the municipal and prefectural health authorities after their visit to OSAKA immediately following the 14 March 1945 raid, that the first-aid stations as planned would have been insufficient in the event of heavy air raids on KYOTO. Based upon that decision, the Japanese Red Cross was directed to assemble 20 supplementary first-aid stations to be used when directed by the health department. These stations were to be located in tents in any part of the city that might be in need of them. (See Red Cross section.)

a. Equipment of First-Aid Stations. The medical equipment in the first-aid stations was very meager and consisted mainly of cotton, gauze bandages, disinfectants, and small amounts of opiates and stimulants. Surgical instruments were not furnished as standard equipment but were brought to the stations by the physicians assigned there for duty. There was no sterilizing equipment nor any facilities for administration of plasma, or for blood transfusions. The army had taken over practically all anti-tetanus serum and none was available for use in the first-aid stations. There were few available beds, and severely wounded patients were to be placed on the floor while awaiting treatment.

b. Reserve Personnel. After heavy air raids, if the assigned personnel were insufficient to handle large numbers of casualties, supplementary aid would be furnished by physicians in the reserve sections or by physicians assigned to first-aid stations in an undamaged section of the city.

7. Hospitals. Throughout the entire city of KYOTO, there were approximately 100 hospitals including all large and small, public and private institutions. Thirty-nine of the hospitals, with a total bed capacity of approximately 2100, were designated by the prefectural health authorities for use in treatment of air-raid casualties. Thirty-seven of the hospitals, with a total bed capacity of 600, were designated as first-aid hospitals, while the other two hospitals, with a normal total bed capacity of 1,500 and emergency expansion capacity of 3,000, were designated as special first-aid hospitals. The latter two hospitals, the Imperial University Hospital and Prefectural University Hospital, were designated as such because they were the largest hospitals and were more adequately equipped to handle major surgical problems. When hospitals could not accommodate all of the casualties, schools, office buildings, large houses and churches in the near vicinity were to be converted into reserve hospitals.

a. Treatment in Hospitals. Patients were taken from the first-aid stations to the first-aid hospitals where definitive treatment was given. The most severely wounded patients, and those requiring some specialized form of treatment, were sent to the special first-aid hospitals.

b. Air-Raid Protection in Hospitals. When an air-raid alarm sounded, all ambulatory patients went directly to pre-assigned locations, either in the basement of the building or in dugout shelters on the premises outside the building. Bed patients were carried on stretchers into the basement or to the center of the lower floors of the building. Anticipating incendiary bomb raids, the larger hospitals, as a fire prevention measure, razed all wooden buildings which were used as hospital wards, and patients were then placed in concrete or brick veneer buildings. These frame veneer buildings were shabbily constructed and were themselves a great fire hazard. Blackouts were enforced during alarms, and strategic points in the hospitals, such as operating and X-ray rooms, were equipped with special blackout curtains. It was believed by the health authorities that air-raid protection for hospital patients, as provided, was insufficient and that more adequate shelter space was urgently needed. There were two hindrances

to proposed additional shelter facilities: first, there was no cement or wood obtainable for construction purposes; and, second, due to the close proximity of the hospital buildings, there was very little space for the building of shelters.

8. Medical Training. As in KOBE and OSAKA, a delegation of doctors, appointed by the chief of the prefectural health section, was sent to the TOKYO army medical school for a course in emergency treatment of air-raid casualties. Upon their return from TOKYO, the members of this delegation gave a course of instruction to the leaders of the several professional medical and allied associations and they, in turn, gave a required course of instruction to all members of their respective associations. Primarily, medical information and instruction reached the people through the usual block association channels. Doctors who were assigned for duty with the first-aid stations and with the auxiliary police and fire units were responsible for dissemination of medical information and instructions to the people. Some elementary first aid was taught to the people by the Red Cross Association, but because of the acute shortage of paper, printed first-aid instructions were not distributed to the public. The medical training actually received by the people was essentially the same as that in KOBE and OSAKA.

9. Medical Supplies. All medical supplies for KYOTO were received on a pro rata basis from the Ministry of Welfare in TOKYO and distributed to the municipal welfare section and to the professional associations of KYOTO prefecture. The health section obtained supplies from the association and distributed them to the several first-aid installations. As in KOBE and OSAKA, medical supplies were very scanty and it was known by the health authorities that they were definitely insufficient to give adequate treatment to all patients. The supplies were unobtainable because the army had taken over major portions of all drugs and equipment for exclusive military use.

Red Cross Activities

10. Introduction. The source of information relative to the Red Cross activities in KYOTO was the director of Red Cross for KYOTO prefecture, who had an intimate knowledge of Red Cross procedure at the height of the air attacks, since he has been in his position for nearly two years. It would be expected that the framework would be uniform in each of the prefectures, but in those surveyed so far, OSAKA, HYOGO and KYOTO, minor differences have been noted. These differences

will be brought out in the analytical study of organization and procedure.

11. Organization. The principal departure in the organization plan of KYOTO from that of OSAKA and HYOGO was the fact that the director of the prefectural Red Cross branch was appointed by Red Cross headquarters in TOKYO, whereas in the case of the two latter prefectures, he was appointed by the prefectural governor. In no instance has there been discovered any evidence pointing to local branches or chapters of the Red Cross in the separate municipalities.

12. Personnel. In the prefectural office the director had in addition to himself a clerical staff of 15 employees. The technical employees connected with the hospital and clinics averaged about 50 doctors and 100 nurses, all of whom were full-time paid workers. During the war, doctors and nurses were furnished to the army upon demand from TOKYO headquarters of the Red Cross. There was no accurate record of how many were thus furnished to the military and naval forces, but it is estimated that since the "Manchurian Incident" in 1931 the prefecture has sent 600 nurses into the armed forces. When doctors and nurses were taken into the military services their pay was assumed entirely by the respective services. Also, when their duty with the military service had been completed, they were discharged and returned to civil life without any obligation on the part of the Red Cross for their reemployment. It is interesting to note that the Red Cross employed only those nurses who had been trained in Red Cross hospitals.

13. Functions.

a. Training.

- (1) Training of nurses was one of the major functions of the Red Cross. Of the two Red Cross hospitals in KYOTO the larger, with a bed capacity of 300, conducted a training school which graduated 100 nurses annually. These nurses were of two classifications, a and b. The a group consisted of nurses who had been graduated from high school and their course of training covered a period of three years. Candidates for the b group were accepted upon graduation from primary schools, and their course of training covered only two years. The

a class nurses were preferred, but, in order to meet the demands of the army and navy, more attention was given to the recruitment and training of b class nurses.

- (2) Training of the public did not occupy a position of prominence in the Red Cross program. In girls' schools, a course of lectures and demonstrations was offered to those who wished to receive this instruction. The content of the course comprised a study of simple first-aid measures. The length of the course was not clearly defined, but upon its completion students were given certificates of attendance, after which they were authorized to teach first-aid to the neighborhood groups. There is no record of how many persons were reached by first-aid instruction given in this way. Another method of carrying first-aid instruction to the public was by means of a team consisting of one doctor and two or three nurses sent out from Red Cross prefectural headquarters, who held mass meetings in public places at no specified intervals, and gave lectures and demonstrations. This was neither a formal nor systematized plan of instruction and no certificates were issued. Printed matter used in the instruction program was furnished not to the public but only to instructors. The fact that there was no charge for the instruction pamphlet was in contrast with the policy pursued in OSAKA and HYOGO prefectures.

b. Operations. The Red Cross maintained no first-aid stations except at the Red Cross hospitals and clinics but worked in coordination with the first-aid program of the health department. Upon call from the latter it was planned that doctors and nurses would be sent to assist the first-aid personnel at stations designated by the health department. There were, however, Red Cross teams organized and held in readiness to go to any point of need and set up temporary first-aid stations. For that purpose, tents and other equipment were assembled and held on a stand-by basis.

- (1) In contrast with the information received in KOBE, the Red Cross of KYOTO had no plans

whatever for furnishing any kind of welfare service, e.g., food, clothing, or shelters.

- (2) The preponderance of Red Cross activity in KYOTO was in the operation of Red Cross hospitals and clinics. There were two hospitals in KYOTO City, one with a bed capacity of 100, and the other with a capacity of 300. In addition there were three clinics maintained by the Red Cross outside the city of KYOTO, but no patients were hospitalized in these institutions. Refugees who flocked in to KYOTO prefecture did not add materially to the load carried by the Red Cross hospitals: first, because they were cared for principally in the clinics on an out-patient status; and second, because the Red Cross hospitals were reserved primarily for army and navy casualties. At all times, however, some civilians were accepted in these hospitals.

14. Finances. Although the Red Cross received no support from the government, it did receive compensation on a per diem basis for the care of army and navy patients. Civilian patients who were able to pay for hospital care were also required to do so. As will be seen from the account of funds derived from membership and special contributions, those sources were quite inadequate for the support of the annual budget, so that the major amount of revenue came from fees paid by patients. Regarding membership fees, there were three classifications: (1) the usual fee of three yen per year for 10 years after which no further fees were charged or, as an alternative, a person might secure a paid-up life-time membership by the payment of 25 yen at one time; (2) honorary life-time membership by the payment of 200 yen; and (3) a super-honorary paid-up membership by the payment of more than 1000 yen. All of those classes of membership are included in the total membership of 238,118 as of September 1945. Membership was not entirely voluntary, as the Red Cross headquarters in TOKYO set quotas which each prefecture was required to raise. For 1944 the call was for 14,917 new members. Every family was expected to have at least one member. Although special donations were sometimes demanded, e.g., for the construction of a new hospital, there was no emphasis placed on drives for support of the Red Cross current expenses. Ten per cent of all funds collected for memberships was contributed to the national headquarters. The annual budget for all operating expenses of the Red Cross program in KYOTO prefecture for 1944 was ¥2,336,000.

15. Comment. The Red Cross program during the war was not greatly different from its peace-time activities. The principal difference lay in the extra-mural training in first-aid that was conducted for the benefit of the general public. During the war, also, priority was given to military and naval casualties. On the whole, however, the Red Cross in KYOTO was not geared for disaster relief.

Mortuary Service

16. Introduction. Since the mortuary service was not called into operation except on a very limited scale as a result of two raids by single B-29's, in which 34 were killed at one time and 43 at another, the program, for all practical purposes, did not develop beyond the planning stage, but even the program as planned was somewhat immature.

17. Organization. The mortuary service differed from that found in the other two cities surveyed thus far. In normal times the disposal of the dead was a function of the health department. In anticipation of the necessity for handling large numbers of dead bodies, as judged from the experiences of OSAKA and KOBE, it was decided that the job would be too much for the health department and it was, therefore, transferred to the police department, first to the auxiliary police and fire units (KEIBODAN) but eventually, to another section, the purpose of which appeared to be personnel management and accounting (KEIMUKA), as indicated by its duties which included employment and training of police and firemen, the management of budgets and accounts, and planning for the guard section of the police department. It was under this last-named function that the disposal of the dead was arbitrarily placed. The personnel and accounting section was one of the 14 independent sections of the prefectural police department, on the same level as the guard section which has figured frequently into the organizational charts. At the close of the war, when the need for special plans for the disposal of the dead had ceased to exist, this function was transferred back to the health department. The principal difference between the management of this problem by the auxiliary police and fire units and the personnel and accounting section was that the former was a voluntary organization whereas the latter was official.

18. Duties. Duties imposed upon the personnel and accounting section with respect to disposal of the dead did not contemplate that the work would actually be done by the section, but only that instructions would be issued by it to the city of KYOTO specifying the place and manner of disposal.

This section had no personnel and no equipment for disposal of the dead, so that whatever the emergency should require would have had to be done, not by the police department, but by the city of KYOTO.

19. Identification. Identification of dead bodies was a mandatory duty of the police in peace time as well as in war. When identified, the body was sent to the victim's family or friends. Should casualties be few, the plan was to leave the body where it fell, as that would have made identification much easier, but when bodies were removed from the site of death, a tag showing where the body came from formed a part of the plan. In the event of comparatively small numbers, these procedures would have been adequate, but the authorities realized that larger numbers of dead would require more advanced planning. The contemplated procedure was to collect the bodies in a public place such as a temple or park, where they would be held for identification by friends and relatives for a period of 24 hours in hot weather and 48 hours in cold weather, after which the bodies would be finally disposed of. Should crematories be unable to handle the load, the plan was to burn them en masse, but burial in a common pit would probably have been necessary due to lack of coffin material, and wood or oil for burning.

20. Personnel. The personnel relied upon for the disposal of the dead were undertakers and their employees. Military personnel who had had experience with the disposal of dead bodies on the battlefields were counted upon as members of the operative force. The groups designated for discharging these duties could not be considered a systematized organization in the sense that they engaged in practice drills or any other formal exercises. If trouble had descended upon them on a large scale, they would have had to "do the best they could" to meet the situation.

21. Transportation Facilities. Ambulances were virtually non-existent. The plan was to depend principally upon litter bearers to pick up the dead, and take them either to a home or a collection center, but should the distance, and the numbers to be transported be too great, trucks would be requisitioned through the transportation section of the police department.

22. Comments. After the great raids on OSAKA and KOBE, representatives were sent from KYOTO to observe the effectiveness of the defensive preparations. They saw at first hand that many of the war emergency measures broke down completely in the

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presence of dire and devastating attacks. They observed, for instance, that using basements of houses and buildings for air-raid shelters often resulted in suffocation from smoke and death from intense heat. The effect of these observations demonstrated the futility of many relief and protective efforts. Presumably this should have stimulated more intensive preparations for disposal of the dead, because of the probability that, as a result of major air raids, the fatalities would be increased in proportion with the relaxation of defensive measures. It is, therefore, strange, but apparently true, that plans for large scale operations in the disposal of dead persons pursued the same tendency to decline as did plans for certain other emergency projects.

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RESCUE

1. Introduction. The purpose of this report is to present a study of the organization authorized and formed to carry out rescue services, the training procedures employed, and the methods of rescue technique advocated in KYOTO. The same program of development of the rescue service occurred in KYOTO as in both OSAKA and KOBE, with the date of the establishment of the guard rescue unit (KEIBITAI) definitely established as 1 May 1944.

Guard Rescue Unit (KEIBITAI)

2. Organization. The directive which authorized the formation of this unit afforded the prefectural governments considerable latitude in its organization. Since the city of KYOTO was the only large city in the prefecture, the officials decided that one battalion would be sufficient to provide rescue services. The battalion had two companies, each company was divided into two platoons, with each platoon composed of three squads (See Exhibit H). The unit was operated entirely from the prefectural level and its headquarters was established in the prefectural building. The only other city in KYOTO prefecture was MAIZURU, a naval base on the northern coast, where all rescue services were performed by naval personnel.

3. Personnel. The members of the unit were recruited mainly from applicants between the ages of 18 to 20 years with a few applicants accepted up to 25 years. The emphasis upon the low age was due to the military draft law which took the males from 20 years of age. In contrast with OSAKA and KOBE, no educational qualification was required of an applicant.

4. Table of Organization. Each squad was composed of one leader and ten men, each platoon had one leader, one orderly, and three squads; each company had two leaders, two orderlies and two platoons; and the battalion had two leaders, one orderly, and two companies. An orderly performed liaison and messenger service along with any other duties assigned to him by his commanding officer. The entire organization had a total complement of 151 men. (See Exhibit H.)

5. Training. Each selected applicant was sent to school for three months where he received training in rescue technique and minor police duties concerned with the operation of the police boxes scattered around the city. At the end of that period, on the basis of their records, 30 men were selected to

attend for 10 days a series of lectures and practical demonstrations on rescue operations at an engineering school (KOHEITAI) conducted in KYOTO by army personnel. Upon the completion of the course of instruction, these men returned to their unit and trained all other members of the units. Each company was on duty every other day and on the night of that duty day was billeted in a dormitory at the headquarters. Each duty day was devoted to continued training in rescue operations, since this unit, after the initial three-months training period, was assigned no duties except those directly concerned with rescue service. Some practical training was secured by assisting in demolishing houses to build firebreaks and in the construction of shelters. This complete training program was the responsibility of the leader of the unit.

6. Operational Control and Procedure. As soon as an air-raid alert was sounded, the entire battalion assembled at the headquarters from where its movements were directed from the control center. When an incident occurred which required the guard rescue unit, it was planned to relay the information to a police box, then to a police station, then to the control center where the decision was made as to disposition of the guard rescue unit. All other procedures and controls were carried out as described in the OSAKA and KOBE field reports.

7. Mutual Aid. On 13-14 March 1945, 60 men of the unit were dispatched to OSAKA City to aid in rescue operations. All requests for such mutual aid had to go through the police chief in each prefecture.

Guard Arm (KEIBIBU) of the Auxiliary
Police and Fire Unit (KEIBODAN).

8. Organization. Rescue service in this unit was assigned to the guard arm. (For a detailed description of the auxiliary police and fire unit see that section of this report). The lack of personnel precluded any specialization of the various responsibilities charged to members of this arm.

9. Personnel. The members of the guard arm were arbitrarily selected and assigned by the leader of the auxiliary police and fire unit.

10. Table of Organization. The guard arm was composed of one leader and 19 men, and, with 140 auxiliary police and fire units in KYOTO, there were 2,800 members available, if needed, for rescue service.

11. Training. The leader of the guard arm usually received his training in schools conducted at police stations, but in a few instances, he was trained by the leader of the auxiliary police and fire unit. It was then his duty to instruct the members of his arm.

12. Operational Control and Procedure. The method of maintaining operational control of the auxiliary police and fire unit in KYOTO was identical to the procedures described in the OSAKA field report.

Features Common to Both Organizations.

13. Location of Casualties. The same methods and procedures for locating trapped victims as depicted in the OSAKA and KOBE field reports were carried out in KYOTO. In addition, the statement was made that in the very few instances in which the guard rescue unit performed actual services, the leader requested all persons in the immediate vicinity to be quiet so that the groans of trapped victims could be heard in order to determine their locations.

14. Rescue Technique. In KYOTO, as in OSAKA and KOBE, the only method used for extricating trapped victims was the debris clearance method.

15. Equipment. The identical, simple and crude equipment as described in the OSAKA and KOBE field reports was standard rescue equipment in KYOTO. In the early part of the war, the guard rescue unit had only two trucks, each capable of transporting 16 persons, so to alleviate this deficiency an agreement was made with the trucking association to provide transportation, but the poor mechanical condition and lack of replacement parts for the trucks compelled the unit to depend principally upon bicycles and their own feet.

General Comments

16. The guard rescue unit and the auxiliary police and fire units did not perform rescue services in factories as this service was carried out by fire and first-aid units (Refer to Factory Air-Raid Protection Section of this report).

17. The complete lack of heavy rescue equipment and of transportation was observed in KYOTO, as it was in OSAKA and KOBE.

18. The guard rescue unit with a complement of 151 men, and the auxiliary police and fire units with approximately 2,800 men were in a good position to handle rescue operations as far as manpower was concerned. However, the lack of proper rescue equipment, transportation, and specialized training in rescue techniques greatly offset any advantage which might have accrued from the large complement. Statements by KYOTO leaders in the rescue service readily confirmed what has already been stated in the OSAKA and KOBE field reports, namely, that the rescue services would never have been able to perform satisfactorily, if KYOTO had been hit by such devastating raids as OSAKA and KOBE were compelled to undergo. The demolition of heavily constructed buildings by high explosives bombs would have created a situation far beyond the capabilities of the rescue services.

POST-RAID CLEARANCE

1. Introduction. The general pattern of prefectural and city planning for clearing streets and highways, repairing roads and bridges, and for executing restoration measures in KYOTO followed the broad outline described for OSAKA and KOBE. Minor differences in emphasis reflecting the attitudes of KYOTO officials will be pointed out below, together with brief accounts of the clearance and repair plans made there in order that basic uniformity of preparations in the three localities will be made evident. At the end of the discussion, there will follow a commentary on the estimated effectiveness of the plans, had KYOTO been obliged to put them into full operation.

2. Post-Raid Clearance.a. Preparation for Mass Air Raids.

(1) Administrative Organization. In the prefecture, the entire public works organization was included in the table of organization for air defense, with no change except in the name of the public works department (DOBOKUKA); under the air-defense set-up, it was called department of construction with the head of the department made a member of the air-defense staff. The sections thereunder, operations (KANRIKA), roads (DOROKA), rivers and port (KAKOKA), embankment (SABOKA) and city planning (TOSHI KEIKAKUKA) remained the same in operations and personnel. In the city the public works office was placed on the city's air-defense table of organization but it made no changes of any kind. The city public works bureau (SHISETSU KYOKU) had the following sections: general affairs (SHOMUKA), civil works (SHISETSUKA), operations (GYOMUKA), and city water (JOGESUIKA). In the air-defense arrangement of prefectural offices, the public works operations were subject to control by the police when necessity demanded, and the city forces automatically became subject to the same authority at the will of the prefecturally controlled police. The prefecture anticipated no need for emergency road clearance

in the 17 districts outside KYOTO City and MAIZURU, and held those cities fully responsible for clearing their own streets as a result of air raids.

- (2) The Emergency Public Works Construction Group (OKYU DOBOKU KOSAKU DAN). The prefecture public works department required each of its 17 branch offices to organize the emergency public works construction group in January, 1944. It informed the local heads of the group that they were to take orders from their respective local police authorities, and transmitted the plan which provided for organization of the workers into brigades, battalions and companies. There was no follow-through by the prefecture, however, either on the organization recommended or the "training" suggested by the Ministry of Home Affairs. There were no "maneuvers" held and no reports made beyond those of normal peacetime operations. The city held maneuvers once a year, but considered them of little value, and regarded training a matter of going through motions to conform with instructions from the Ministry of Home Affairs. Neither the prefecture nor the city added any new personnel to the road clearance forces with the one exception of civil engineering students from RITSUMEIKAN University, who organized to assist in clearance and repair emergencies. It was stated, however, that the motive for this student help was that of providing laboratory experience for the students rather than assistance to harrassed road crews. The city provided for one company of the emergency public works construction group, 25 to 30 men, in each of the seven wards. There were no more than 20 actually listed for each ward and of these some were only names of persons which had been kept on the rolls even after the individuals had been conscripted by the army. The city officials stated that in August, 1945, had there been an emergency, hardly 5 to 10 men in a ward could have been called upon because "the shortage of food made it

impossible for the men to work hard." In addition, it was found that road laborers were working one week out of four for the city, and the rest of the time for factories through private arrangements with the ward road boss. Such men were discharged when this fact was discovered by the city authorities.

- (3) Equipment. The prefecture owned 15 rollers in January, 1943, of which nine were unusable because of lack of spare parts, and the six still in service were taken by the army for airfield construction. The army likewise borrowed the city's pneumatic drills, as well as its six rollers. The remaining equipment consisted of hand tools, of which there was a sufficient supply, greater in fact than the equipment requirements recommended by the Ministry of Home Affairs as the minimum necessary for road clearance and repair.
- (4) Mutual Aid. That mutual aid was not considered important in mass air raids was indicated by the virtual disregard on the part of the prefectural and city public works departments of the training maneuvers suggested by the Ministry of Home Affairs. It was the feeling of the city officials that each ward of the city was fully capable of handling its own street clearance problems, and that, if, by any chance, additional aid were needed in a given ward, help could be summoned from another ward without making any more elaborate arrangements than those already in effect for peacetime operation. Likewise, in their planning for street clearance, as in street repair, the city officials did not contemplate calling upon the prefecture for help.
- (5) Role of the Police. The general rule regarding clearance throughout the city and the prefecture was that, if a job of clearance were a small one, the local police authorities would handle it with help immediately at hand, i.e., auxiliary police and fire

units (KEIBODAN) or neighborhood group (TONARI GUMI) personnel. If the problem were serious, the emergency public works construction group was to be called out through a call from the local police station to the prefectural police headquarters which issued the necessary orders to the public works officials.

b. Operations. In none of the minor bombing incidents was there any post-raid emergency clearance necessary beyond the routine activity of the local auxiliary police and fire units.

3. Emergency Repair of Roads and Bridges. The prefectural and city repair set-up was the same as that for clearance in organization, personnel, training, equipment, and the authority exercised by the police. Materials were gathered by the prefecture for emergency purposes, but were not distributed to strategic points as in the case of KOBE. The city made no effort along this line whatsoever on the grounds that there were no materials to be gathered and dispatched. As in OSAKA and KOBE, the police organized and were authorized to call out the emergency repair organization (KINKYU KOSAKU TAI) for road or bridge repair. It was felt that auxiliary police and fire units were quite capable of making temporary repairs to roads since "no training is needed for temporary restoration." No bridges were hit, either in the city or outside of it, no roads were damaged in the areas outside of the city, and the city streets receiving slight damage were repaired by the regular city road crews without more than the ordinary amount of delay.

4. Emergency Repair of Other Installations. The prefecture held itself responsible for repairs to roads and bridges outside of the cities of KYOTO and MAIZURU; the municipal water system and street car system were city responsibilities. Each of these public utilities set up its own emergency public works construction group, organized along the same lines as that for roads and bridges. No new personnel was added, and no special training was given to the regular maintenance men. The only incident requiring the emergency services of either of these groups was that of a bomb hit on the UMAMACHI section of the city. The story as told by the chief of the city water works section follows: "When the firemen noticed a drop in their pressure as they were fighting a fire in the area, it was thought that a water main might have been hit, but since it was at night, and there were no lights, it was difficult to see. Someone was sent to investigate. There was a river nearby and

the sound of water flowing from a broken pipe was mistaken for the sound of the river. The water from the ruptured main flowed all night, but it was turned off the next morning and the damage was repaired by noon." This was the only hit on the water system and there were no hits on street car installations. No plans were made for the repair of buildings necessary to the public welfare. It was thought that in the absence of repair materials, it would be best to plan for use of the buildings that escaped damage.

5. Demolition. Demolition was left to the auxiliary police and fire units and, under police supervision, to the emergency repair organization. No training was provided for anticipated emergency demolition, but it was thought that the practice gained by the auxiliary police and firemen who had helped in the demolishing of houses for the fire-breaks operations would be adequate. Since the structures in KYOTO were mainly of wood, the planning contemplated little need for demolition. No thought was given to the use of dynamite because it was unobtainable.

6. Salvage. There was no city official agency for the salvaging of materials from buildings destroyed or damaged by air attack, but there was a section for collection of usable materials (SHIGEN KAISHU) in the prefectural department of commerce, the responsibility of which included post-raid salvage. There was no post-raid salvage accomplished after the three small raids on KYOTO City, but the section operated a program of scrap collection prior thereto. In October, 1942, a metals collecting control company (KINZOKU KAISHU TOSEI KAISHA) was set up under the authority of the section, with about 200 laborers and 70 office workers. Up to March, 1945, some 5,000 tons of metal had been collected (temple bells, statues, cooking utensils, stoves, bridge railings, radiators) and sent to war industries. The law respecting scrap remaining unclaimed on burned property, quoted in the KOBE report, would have been put in operation had there been heavy raids on KYOTO, but there was nothing salvageable from the light raids on the city.

7. Comments.

a. The attitude toward air-raid precautions as observed in KYOTO two and one half months after the end of hostilities among officials charged with the responsibility of restoring roads and bridges as well as public utilities, gave the impression, at first glance, of indifference to the calamitous possibilities of mass air attack that had become

actualities in cities hardly ten minutes away by air. Part of this attitude may have been a post-war development springing from the fact that KYOTO escaped serious bombing and may not have accurately reflected the feelings of the officials while the war was still in progress. One city official, when asked why no effort was made to obtain extra personnel or equipment for street clearance and repair emergencies, stated that "we had no need of them here." However, that manner of projecting present knowledge backwards to explain previous inadequacies can not be taken at its face value, and the lack of preparation must be further explained. It is perfectly true that road building and bridge repairing equipment was scarce, and that conscription made labor hard to find, but far more could have been done by way of training volunteer auxiliaries and perfecting plans for emergency service by personnel already at hand. It is probable that, after viewing the destruction wrought in neighboring cities, officials felt that further preparations were useless, for a spirit of resignation was observed in all of the officials interviewed. Such an attitude may have been furthered by the conviction, quite prevalent in KYOTO, that the city would be spared. In that connection it was stated that persons who had formerly headed for shelters began to stand in the streets to watch the passing parade of B-29's. But, on the other hand, the rule that members of the emergency public works construction groups, with the few trucks they had, should assemble at ward headquarters upon the sounding of the air-raid warning was never relaxed, and it was stated that the members of the groups always responded immediately to the calls.

b. Both in the city and in the prefectural government, however, there was a marked depreciation of the air-raid precautionary measures advocated by the air defense general headquarters of the Ministry of Home Affairs in TOKYO. The city officials went out of their way to make it plain that the city operated "independently" of advice from TOKYO, and took its injunctions as "suggestions and not orders." The public works officials of the prefecture said that the national government was of no help to them. They sent an observer to watch practice maneuvers of the emergency public works construction group in OSAKA prefecture, but did not think them sufficiently worthwhile to repeat the performance with the groups in KYOTO prefecture. The air-defense authorities planned for auxiliary police and fire units to take care of immediate post-raid clearance and repairs, but even elementary information required to effect these, available from the public works specialists, was never transmitted.

c. On 9-10 October 1945, a flood damaged several bridges in the vicinity of KYOTO, and, in an effort to determine whether the prefectural repair crews had gained anything from their wartime alert, the public works officials were questioned on this point. They said that there was no perceptible difference in efficiency than as though the war had not occurred, and as though the emergency public works construction group had not been organized at all. The net result of the wartime planning centering around this group in the three cities studied seems to boil down to three results: (1) the giving of a new name to public works personnel; (2) the establishing of possibilities for mutual aid (though only half-heartedly carried out in KYOTO planning; and (3) the extension of police authority over the groups. There was nothing to indicate that either the city or prefecture had made preparations that would have rendered the effect of a mass raid on KYOTO any less destructive than those inflicted upon OSAKA or KOBE.

KYOTO FIELD REPORT, C.D.D.

CONFIDENTIAL

IV. PROTECTION OF FACTORIES, UTILITIES,
INSTALLATIONS AND BUILDINGS DEVOTED
TO PUBLIC USE

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FACTORY AIR-RAID PROTECTION

1. Introduction. The purpose of a brief industrial study in the KYOTO area was to observe in a given case, such as the Mitsubishi Aircraft Engine Plant, the plans for, and efficiency of, an air-raid protection organization of a factory located in an area upon which no extensive air-raid strikes were made. The above mentioned plant was selected as an example study (see Exhibit I) for the reason that it had been badly damaged and moved from the NAGOYA area to its present site as a part of the new Japanese plan of April, 1945, for industrial dispersion. It was representative of the new wartime emergency type of construction and layout and was the sole assembly plant in JAPAN for a particular style of aircraft engine. It was built and owned by the Japanese government on its present site but operated as plant unit No. 8 of the powerful Mitsubishi Heavy Industries, Limited, which owned the machine tools and equipment.

2. Control and Responsibility. While responsibility for adequate plant protection measures rested with the owner and operator, the Munitions Ministry, the army and navy and the prefectural government exercised control of plans and policy for air-raid protection, the latter governmental body supervising the execution of the plan.

a. Following the disastrous experience of this Mitsubishi plant in the early NAGOYA raids and the bombing of a sister plant (No. 14) located 30 miles north of KYOTO, the management took a serious attitude toward the perfecting and training of a sizeable factory protection organization in this plant. They did not share the illusion that beautiful KYOTO with its temples and shrines would be spared, as did the prefectural officials of KYOTO. The general manager of this important plant of 10,000 employees assumed personal charge of all protection matters and was chief of the air-raid protection organization.

3. Organization. This plant followed the general plan and outline of a typical Japanese factory air-raid protection force, but introduced certain pertinent variations, adapting them to the peculiar needs of this type of industry, its geographical layout and its temporary wooden and steel frame

type of construction. Divided into four sub-units under the direct control of the general manager of the plant and two assistants, it contained one innovation that was a departure from the commonly used plan, in that the permanent guard department, a strongly staffed and well equipped casualty and first-aid group and the repair department were held together in a permanent sub-unit rather than dispersed throughout the rank and file of subordinate war emergency air-raid groups of the organization.

a. Sub-Unit No. 1, covering a relatively small but highly important group of buildings, was divided into three administrative sections only one of which, Section No. 1, was organized and active. Sections No. 2 and No. 3 were planned and could be activated quickly if air-raid emergencies so dictated. Section No. 1 of this sub-unit was further divided into four groups, namely, the first-aid, fire fighting, fire pumping and liaison groups, organization and duties of which are fully described in Exhibit I.

b. Sub-Unit No. 2 was organized similarly to sub-unit No. 1 except that it contained only two sections, No. 4 and No. 5, but with four groups in each section. It was charged with the protection of a large group of factory assembly buildings including several storage warehouses located in the central portion of the plant.

c. Sub-Unit No. 3, comprising four sections, Nos. 6, 7, 8 and 9, was the largest unit in the plant protection organization and covered a wide area at the northwest corner of the plant property, comprising all of the assembly plants where new employees were trained in the art of part finishing and assembly, and also the dormitories which housed some 2500 employees. Each section of this sub-unit was sub-divided into the same groups as Section 1 of Sub-Unit No. 1.

4. Protective Equipment. This plant possessed, both in type and quantity, the best fire-fighting equipment, casualty and first-aid station appliances and interior communication facilities that could be obtained in JAPAN for a high priority war production plant. Motorized fire pumpers of 500 gallon per minute capacity, and the portable hand-drawn 120 gallon gasoline-driven pumpers, as well as the large supply of Japanese fire-fighting tools of all kinds, while good, were not sufficient to provide adequate protection for the number of buildings included in this plant, or to cope with the conflagration that would certainly result from fires in this type of wood building construction. Proper interval was

practiced in the erection of these buildings, which would prove of great assistance in fire fighting and control of an average fire, but a saturation raid of incendiary type bombs would have caused a complete loss in this plant area. The roof construction of the industrial "saw-tooth" type, covered with quarter-inch corrugated asbestos sheathing, would not have prevented perforation by incendiary bombs, but would have provided roof levels on which incendiary bombs could accumulate and make extinguishment by the fire fighting forces difficult.

a. Water supply for fire fighting purposes was supplied through 6-inch mains from the city of KYOTO and delivered through the yard grid system at not more than 15 pounds per square inch pressure. This was supplemented by the introduction of gasoline driven pumps set in the plant lines which brought the pressure in the hydrants up to 45 pounds per square inch. Even with the addition of some 27 static water supply pools ranging from 500 gallons to 100,000 capacity, the water supply would have been insufficient to cope with a major fire, especially in view of the remote location of some of the static supply.

b. Automatic Sprinkler Protection, generally recognized in American factories as the first line of protection, was not installed or even contemplated in the construction of this new factory.

5. Training. Under the guidance of the 30 full-time paid firemen of the plant fire brigade, assisted by the firemen of the prefectural police, all employees of the plant engaged in fire-fighting and fire-pumping groups were given extensive training concerning their duties. Many employees in addition to those comprising the first-aid groups of each section of the air-raid protection force were taught the rudiments of first-aid practice. The fire-defense forces drilled three times weekly with their equipment and went through evolutions covering each of their posts of duty. The entire air-raid protection force of the factory practiced five times per month simulating actual air-raid conditions.

6. Air-Raid Shelters. This plant had erected two shelters of reinforced concrete for the particular use of management and their immediate staffs which might have been considered to be up-to-date in design. (See paragraph 9, Exhibit I). The employees of the plant were afforded only the small, shallow dug-out type of shelter, capable of holding not more than six to eight persons within the plant yard, but,

in the case of apprentice workers and female employees, they could have taken to the nearby mountain foothills for protection on the first alert. This industry was just another example of utter Japanese disregard for adequate protection of human life against air raids even in a vital industrial plant where the safety of workers was tantamount to the continuity of production so badly needed to keep the war machine in motion. Such protection as was provided could not accommodate more than 2,000 persons at any one time of a total number of approximately 7,000 on a day shift and 3,000 on the night.

7. Air-Raid Warning System. Due to the suburban location of this plant with respect to the nearest center of population, air-raid sirens and fire bells were not deemed necessary by the management for exterior use, the method employed for the alerting of employees being a direct telephone call from the control center to each sub-unit station which was relayed to all section posts. The personnel of these units, when alerted, would then sound small bells dispersed throughout the manufacturing areas of the plant. Air-raid intelligence was received over the public radio and by telephone from the central police headquarters of KYOTO prefecture. Although this plant did not suffer any air-raid strikes during the period of its operation, it did receive as many as 11 air-raid alerts, at which time the air-raid defense forces sprang into action and the employees took shelter, indicating the adequacy of the warning system for this type of industry.

8. Protective Lighting and Concealment. This plant depended upon power supplied from the outside and its transformer station controlled all lighting and power from this central point so that during night operations lighting could be complete controlled, as well as power to moving machines. Certain administrative offices as well as one room in the office group housing the air-raid control center were protected by means of blackout curtains and light baffles. Little attempt was made to conceal the plant by a pattern of camouflage painting, as it was easily distinguishable from the air by the pattern of its "saw tooth" roof construction, although the stacks from the furnaces were painted a black and white color combination.

9. Dispersal Plans. This industry was one of those in the important system of war production plants selected by the Japanese Ministry of Munitions for dispersal to rural areas on 4 April 1945. On the following day, the movement of certain

machine tool operations was started toward the surrounding foothills to be reinstalled in schools, small shops and private warehouses. At the end of the war this plan had been 80% completed, but production suffered seriously as a result of the interruption.

10. Summary. It was generally evident among official circles in the KYOTO prefecture, after representatives of their government had visited other bombed and burned out cities of JAPAN, that all they had done in the way of air-raid protection would indeed prove futile if KYOTO was visited with the same type of devastating incendiary raids such as OSAKA, KOBE and TOKYO, or with any special type of weapon, such as HIROSHIMA and NAGASAKI. This official attitude soon manifested itself in the cessation of training and recruitment of air-raid personnel, and, although they were not abandoned as worthless, the organization came to a stand still and might well have been considered a stand-by organization. However, it is noteworthy that the attitude of the people in KYOTO generally concerning the futility of air-raid precautions was not shared by industrial management who were tremendously concerned about their investment and fulfillment of their contracts and the desire to take every conceivable step available to them to provide adequate protection. They carried on extensive training and conducted daily inspections throughout the plant, taking the position that they would have no regrets if worse came to worst and the plant was completely destroyed, provided they had taken all precautions within their power.

AIR-RAID PROTECTION OF PUBLIC BUILDINGS

1. Introduction. The purpose of the survey of public buildings in KYOTO was to determine the adequacy of their air-raid-protection preparations and organizations in an area which had not been heavily bombed and to make an estimate of the probable efficacy of such organizations in the event of serious air raids. For those purposes, the KYOTO Imperial University (see Exhibit J), the Miyako Hotel (see Exhibit K), the Daiken office building (see Exhibit L), and St. Agnes Episcopal Church and Girls' School (see Exhibit M) were selected as representative examples of their particular fields.

2. Types of Buildings Selected. KYOTO Imperial University was the largest institution of learning in JAPAN, composed of some 227 buildings covering an area of 140 acres. The Daiken building was the largest and most modern of its kind in the city. It was a concrete and steel structure, housing 90 offices distributed over eight floors, each floor having an area of 3,856 square feet. The Miyako hotel was of the ultra-exclusive type, elaborate in design, and equipped with extensive gardens, comfortable lounges, spacious dining and banquet rooms, and game and recreation halls. It had 95 guest rooms, both Japanese and American styles. St. Agnes Church and Girls' School was an Episcopal missionary unit comprising one concrete and steel, four wooden, and three brick structures within an area of approximately one-quarter of a city block.

3. Control and Responsibility. The responsibility for air-raid protection rested with the administrative head of each of the institutions under discussion, over-all control being exercised by the prefectural government, except in the case of the university which received orders from both the prefecture and the Ministry of Education. Varying degrees of interest were evidenced among the responsible leaders: the university approached the problem in an apathetic manner, while the hotel made a conscientious effort to develop an effective protective plan. The office building and the church fitted somewhere in between the two extremes.

4. Organization. The university, having over 900 instructors and a student body of 7,000, had a fairly extensive organization with an air-raid protection unit (BOEIDAN) for each of the 16 academic departments. Each unit was the responsibility of the head of one of the departments, and consisted of fire, guard, emergency medical, repair, gas-defense, and liaison squads. The other institutions had less

comprehensive organizations, the church, for example, having five squads, one each for fire-fighting, first aid, guiding, spotting, and liaison, and the office building and hotel providing only two squads, one for fire and the other for first aid.

a. Fire-Fighting Squads. In general, fire-fighting squads were inadequately trained, and their equipment consisted largely of hand pumps, fire beaters, mats, buckets and sand, scarcely the implements required to cope with even minor fires, to say nothing of conflagrations. The hotel and office building had interior standpipes equipped with linen hose on each floor, which would have served to combat normal fires only. The church was too late in attempting to secure fire-fighting equipment on the competitive open market with the result that its equipment was negligible.

b. Guard Squads. At the university the guard squads were charged with spotting and reporting enemy aircraft, with guarding dormitories and valuable equipment, with light control and guiding. Although these squads were not provided in the other organizations under discussion, some of their functions were delegated to other air-raid-protection squads, e.g., the guiding and spotting squads in the church's set-up.

c. Emergency Medical Squads. The university's emergency medical service was adequate in view of the fact that it had at its command the staff, equipment, and other resources of the university hospital. Likewise the squad of St. Agnes church was benefited by the fact that its girl students had been trained in first aid by the local Red Cross hospital, but the emergency medical personnel at the hotel and office building had little or no training and only crude equipment.

d. Repair Squad. In a sense, no repair squad was formally established as such in any of the subject air-raid protection organizations, repair being effected by the normal building and maintenance departments where they existed, although they were called repair squads in the air-raid-protection table of organization. In the case of the university assistance was obtained from students who were assigned to the repair squads (maintenance department).

e. Liaison Squad. The duties of this squad consisted of carrying messages between air-raid-protection services and control centers. Only the university and the church provided for such a squad in their organizations.

f. Gas-Protection Squad. A gas-protection squad was included in the university's set-up but its equipment was meager and rudimentary and the training of its personnel was sketchy. The other institutions ignored gas protection entirely.

5. Protective Equipment. In addition to the ordinary fire-fighting hand implements and certain fixed installations already mentioned, there was some mobile fire-fighting apparatus available, although it was of questionable value in most cases. There was a unit of the city fire department stationed on the university's campus, which had a motorized pump, mounted on a 1926 Chevrolet chassis, and two hand-drawn motorized pumps, but none of the pumps was in operating condition at the time of this report and there was no hose visible. The church had one hand pump of 20 gallons per minute capacity, which was certainly incapable of extinguishing anything more than the smallest of incipient fires.

6. Water Supply. The water supply in all of the buildings was obtained from the municipal system which produced a pressure ranging from 40 to 70 pounds depending on location in city, which might have been considered adequate for ordinary fires. Static supplies were not plentiful, 33,000 gallons (126,000 liters) being available at the hotel, 2,000 gallons at the office building, and none at the university and the church. Even if there had been adequate water, the equipment would not have been able to make use of it.

7. Training. Training was conducted three times a year at KYOTO University by 18 police and fire officials from the prefectural headquarters. Classes lasted one hour and 20 minutes and consisted of a 20-minute lecture and a one-hour drill and demonstration period. Subjects taught were fire fighting, aircraft recognition, and decontamination. Training of the city fire department unit at the university was infrequent and towards the end of 1944 was discontinued as a waste of time. In the case of the Daiken office building, the prefectural police visited it three times per year and conducted classes of one hour each covering basic fire-fighting techniques. Drills were held twice a year and were supervised by local fire department personnel. Both the Miyako hotel and St. Agnes' Church requested assistance from the prefecture on several occasions, and although they were never refused, no aid was ever forthcoming.

8. Shelters. Shelters for the university were without exception inadequate and in some cases, dangerous. Material

used for the few in existence was wood and earth and, at best, they were no better than vegetable storage cellars. The basements in a few of the buildings were used for shelters, but they could accommodate only 2,000 persons and the remainder of the people were told to flee to the hills in the event of a raid. Shelters in the St. Agnes Church compound were two in number, accommodated 10 persons each, and were constructed like the ones at the university. The basement of the one concrete building in the church accommodated about 200 persons and the remainder of the students were sent home or to the imperial palace grounds. The Daiken office building used two basements as shelters and the hotel used specially prepared rooms which were equipped with wood shutters. In general, shelters were inadequate in number and none was gas-proofed.

9. Air-Raid Warning. Air-raid warning was received by means of the city sirens. This warning was supplemented in the case of the university and the office building by calls from the Central Army headquarters and the prefectural police. The interior alarms were handled by local siren in the case of the university; by an electric bell system in the office building; by telephones and shouting at the hotel; and by messengers at the school. All buildings used the radio to keep informed regarding the progress of the raid after the air alert signal was given. Control centers were informal and lacked special equipment. They were really only headquarters assembly points used for administration purposes. Air-raid warning systems could be considered adequate, and in all cases they included watchers and spotters who checked in at their control centers by telephone or by messengers.

10. Camouflage and Blackout. Camouflage was non-existent at three of the institutions and ineffectual in the case of the Daiken office building, the management of which had toned down the attractive light colored exterior of their building with a dull black paint, a procedure of dubious value. Blackout precautions were practiced and portions of all buildings had adequate blackout curtains.

11. Local Assistance. Arrangements were made with local auxiliary police and fire units (KEIBODAN) and neighborhood groups (TONARI GUMI) for assistance in the case of the office building, but such arrangements were non-existent as far as St. Agnes Church and the Miyoko hotel were concerned. The university expected no assistance but offered to send students to neighboring units, if needed.

12. Comments. The air-raid protection of public buildings in KYOTO was inadequate. Equipment was totally insufficient and training was infrequent to non-existent. Shelters that were sufficient in capacity were make-shift as far as construction was concerned and, in some cases, shelters were so few in number that it became necessary to send personnel to the hills for safety. Apathy was the keynote of most programs and futility was apparent in all organizations. The heavy raids on OSAKA, KOBE, and NAGOYA had had a profound effect on the persons interviewed and the general feeling was that resistance to the inevitable was foolish.

KYOTO FIELD REPORT, C.D.D.

CONFIDENTIAL

**V. PASSIVE DEFENSE INSTALLATIONS
AND PRECAUTIONS**

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V. PASSIVE DEFENSE INSTALLATIONS AND PRECAUTIONS

PROTECTIVE LIGHTING

1. Introduction. The Light Control (TOKA RANSEI) regulations issued in KYOTO were found to be practically the same as the regulations issued in OSAKA and included in that report as Exhibit N. This is understandable as local regulations were all patterned after or copied from the regulations put out by the Ministry of Home Affairs, and any changes made were to cover variations due to local conditions. The principal differences found between the conditions in KYOTO and those of the other two cities studied to date was in the time of the tightening of the regulations, and in the degree of public support of and cooperation with the program. Blackout violations were reported to be frequent in KYOTO, even after the major raids on TOKYO, while such violations were quite rare in the other cities. These differences may be attributed to the conviction of the average person, as well as the officials, that KYOTO would not be bombed.

2. Training of the Public. As in the other cities studied, KYOTO had cooperated in the army's air defense drills as far back as 1928 and at various times during the 1930's. These drills consisted almost solely of turning out the lights for a short period at some designated time. Similar drills using only the light control regulations as put out by the Ministry of Home Affairs (See OSAKA field report, Exhibit N), were held two or three times a year during 1939 to 1941 inclusive. These drills gave the public a chance to practice light control, the details of which were given to them through newspaper articles, posters and pamphlets (See Reference Item No. 19), also by literature, regulations and talks handled through the prefectural police - neighborhood group channels (for organization of these distribution channels see section II of this report). Samples of the material distributed through these channels are submitted as Reference Item No. 21, and the table of contents of this reference together with an abstract of that portion of the material on light control is attached as Exhibit N.

3. Enforcement. As in OSAKA, there was no basic change in the light control regulations after they were released in 1938, only more rigid application and enforcement as time went on. In KYOTO, the first application of these regulations, other than the drills mentioned above, was immediately after Pearl Harbor.

On 8 December 1941, all neon signs, all advertising signs and other lights for advertising purposes and all unnecessary park lights were to be extinguished. This regulation was not rigidly enforced and some advertising lights were burning up to as late as July, 1944. The next important change was not made until 28 February 1943 when orders were given, on the basis of instructions received from the Ministry of Home Affairs, to extinguish all gate lights (the only street lighting in the residential district streets); and all lights between intersections; to reduce the brightness of all others by replacing 60-watt lamps with 20's; or by other means to achieve this degree of brightness reduction; and to extinguish all lights used in show windows. This ruling was followed by a further restriction in April, 1943, to have all indoor lighting units shielded to prevent direct light from striking the window and thereby to lessen sky glow.

4. Street Lighting. There were three systems of street lighting in KYOTO: (a) on those streets having street car lines, the lighting was the responsibility of the street railways department of the city government; (b) on other main streets, the lighting was the responsibility of the street lighting department of the city; and (c) on residential streets the only illumination was from lights located at the gate or entrance to each dwelling and maintained by the resident. The major streets in KYOTO were illuminated with a white glass globe unit, two to a pole, about 10 feet high, spread approximately 120 feet apart on the curb line in a staggered arrangement. Late in the war, these enclosing globe units were extinguished and a blackout unit confining the light within a 140° cone was installed as a replacement at certain essential points, such as intersections. One of these units is shown in Exhibit Q. Lesser important streets were illuminated with a metal reflector unit spaced in the same manner. An illustration of one of these units is also included in Exhibit Q. Table 1 below gives data on the street lighting provided by the street railways department.

TABLE NO. 1 *

In city of KYOTO along <u>Street Lights</u> street car lines.		
Year - Month	No. of Lights	Av. Wattage per Outlet.
Oct. 30, 1939	49,589	16.8
Oct. 30, 1940	53,528	16.2
Oct. 30, 1941	45,604	15.7
Oct. 30, 1942	81,909	15.4
Oct. 30, 1943	11,798	15.2
Oct. 30, 1944	5,706	14.4
Jul. 30, 1945	1,007	14.0

* Extracted from original Japanese document which is included with this report as Reference Item No. 22.

Reduction of street lighting on the streets where the lighting was provided by the street railway company was accomplished by a reduction of the voltage on the lighting circuit from the normal 100 volts to 50 volts at the time of the alert. (This is the first use of voltage reduction found on street lighting systems.) This reduction plus the institution of the nightly blackout and the reduction of the number of units accounted for the drastic reduction of power. KYOTO was relatively well lighted even in July, 1945, compared to OSAKA and KOBE. Table 2 below gives data on the gate lights which were the only means of lighting the streets in the residential district.

TABLE No. 2 *

<u>Year - Month</u>	<u>No. of Lights</u>	<u>Av. Wattage per Outlet</u>
October 30, 1939	44,537	20.1
October 30, 1940	51,559	20.0
October 30, 1941	53,815	18.8
October 30, 1942	47,991	16.5

* Extracted from original Japanese document which is included with this report as Reference Item No. 22.

No statistics available after 1942, since gate lights were extinguished on 28 February 1943.

5. Traffic Lights. Lamp sizes in traffic signal units were not reduced, but the units were shielded from view from above and they were extinguished upon the sounding of the alert.

6. Vehicles. Regulations governing vehicular traffic were identical with the regulations reported in the KOBE field report, namely, headlights were reduced in brightness around 1943, and, during the raid period, only those cars equipped with the black cover hoods were to use their lights and move. Street cars had their lighting reduced one level as a dimout measure and to a second level upon the sounding of the alert. All lights were to be extinguished upon the sounding of the raid signal. Data received from the engineers of the street railway department showing the types of street cars and the methods of securing these reduced lighting levels and their values are presented in Reference Item No. 22.

7. Homes. As reported in the KOBE field report, minimum rate customers were not metered but charged on the basis of wattage of the lamp and the number of outlets. Other residential customers were metered, but with the rate charged dependent upon their maximum current demand. Both of these systems enabled the power company to furnish an accurate picture of the home lighting situation in JAPAN and the change in this situation as the war progressed. These data are given in Tables 3 and 4 below.

TABLE No. 3 *

Minimum Rate Residential Customers, Unmetered

KYOTO Prefecture

<u>Year - Month</u>	<u>Av. Wattage per Outlet</u>	<u>Percentage</u>
Oct. 30, 1939	25.8	100
Oct. 30, 1940	25.7	99
Oct. 30, 1941	25.2	98
Oct. 30, 1942	24.0	94
Oct. 30, 1943	24.0	94
Oct. 30, 1944	23.7	92
Oct. 1, 1945	20.5	79

* Extracted from original Japanese document which is included with this report as Reference Item No. 22.

Since the end of the war, it is believed that the average wattage per outlet has decreased even more than shown above.

TABLE No. 4 *

Metered Residential Customers

KYOTO Prefecture

<u>Year - Month</u>	<u>Av. KWH Per Month</u>	<u>Av. KWH Per Six Months</u>	<u>Av. Wattage Per Outlet</u>
Oct. 30, 1939	2.6	16.0	40
Oct. 30, 1940	2.5	15.3	39
Oct. 30, 1941	2.1	12.3	37
Oct. 30, 1942	2.0	12.1	36
Oct. 30, 1943	1.5	9.2	34
Oct. 30, 1944	1.4	8.7	34
Jul. 30, 1945	1.3	7.7	33

* Extracted from original Japanese document which is included in this report as Reference Item No. 22.

The total consumption of electricity at the time the war ended (August, 1945) was 52% lower than at the same period in 1939; and the average wattage per outlet had dropped to 83%. Most homes had blackout curtains installed by 1941; some had secured residential lighting fixtures shields as early as 1941; others got them at the time the drive was put on in April, 1943; and others did not get them until the time of the serious raids on OSAKA and KOBE in the spring of 1945.

8. Factories. Blackout curtains were installed in most factories and used rather religiously. There were no industrial fires in any of the industries around KYOTO so there was no worry over extinguishing that kind of a guiding beacon.

9. General Comments. Because of laxity in the application and enforcement of light control measures, KYOTO could be considered a well lighted city compared to neighboring OSAKA and KOBE. That was true at any period throughout the war and may have helped to buoy up the public and further heighten morale, but it is doubtful whether the laxity would have made the slightest difference, had KYOTO's turn come up on the bombing schedule.

SHELTERS

1. Introduction. The purpose of this report is to describe the shelter policy handed down by the Ministry of Home Affairs, to explain the manner in which KYOTO followed the policy, to emphasize any deviations from it, and to depict the several types of shelters constructed for family and public use in KYOTO. The channel of directives and authority followed the same lines as in OSAKA and KOBE. The general trend was from the uncovered trench type to the covered trench type and then to the tunnel type.

2. Development.

a. The responsibility for planning the shelter program in KYOTO was vested in the planning section of the prefectural government, while the enforcement of the program was vested in the prefectural police department.

b. City officials concerned with the construction of shelters claimed that shelter space was provided for every individual in KYOTO. That conclusion was based on a count of family, public, and factory or business concerns' shelters.

c. With the exception of the six shelters constructed by the city of KYOTO in 1941, very little construction was accomplished until late 1943 and the beginning of 1944 when an effort was made to accelerate the construction of the covered trench and tunnel-type shelters. This tardiness in the construction program was due mainly to the general belief that KYOTO would not undergo any heavy air attack, and that the need for a great number of shelters was therefore negligible.

d. The financial plan for the construction of public shelters was for the city to construct and pay for the shelters and then be reimbursed for two-thirds of the cost by the national government, but up to November, 1945, the national government had not paid any part of the cost of construction.

3. Types of Shelters.

a. Home. The same type of home shelters as described in the OSAKA and KOBE field reports was generally constructed in KYOTO. Each family had a shelter built under the home or in a nearby open space.

b. Semi-Public Shelters. Basements of the more heavily constructed buildings were used as shelters for

employees and the general public during daytime raids. Officials stated that they were not used at night as too few people were away from their homes and sufficient shelter space was available in public shelters.

c. Public.

- (1) Uncovered Trench. This type of shelter was about 12 feet long, five to six feet deep, and three to four feet wide. They were constructed along the pavements, in the areas which had been made into fire breaks, and in any other available open spaces. Most of this type were reinforced with wooden beams. The capacity was from 10 to 15 persons and there were approximately 11,000 in KYOTO. The shelter planning section had drawn up plans to place roof coverings on these shelters but construction was never carried out.
- (2) Covered Trench. These were the same general type of construction and capacity as described in the OSAKA and KOBE field reports. The city had built 6,600 of these shelters.
- (3) Stations of Subway Railroad. The stations of the subway railroad were not permitted to be used as shelters because the depth covering over the subway structure was not considered to afford ample protection, inasmuch as it was not heavily reinforced.
- (4) Underground Reinforced Concrete Pipe. This shelter was constructed of reinforced concrete pipe, four inches thick, with a diameter of five feet. It was placed on a concrete base of four inches and was buried so that the top of the pipe was at least five feet below the surface of the ground. In addition, two feet of earth were placed on top, making a total roof coverage of seven feet of earth. Four sections of pipe were joined to give the shelter an over-all length of approximately 50 feet. A wooden floor was installed, and benches were placed along each side, which provided seating capacity for 50 to 60 persons. Entrance

was provided by a concrete stairway leading from the surface of the ground, all of which was enclosed by a concrete structure eight inches thick. At the bottom of the stairway was an arrangement of double wooden doors, six inches thick and heavily reinforced, which led into the pipe section of the shelter. At the other end of the shelter was a vertical escape shaft, four feet by four feet, of 12 inch concrete walls, equipped with an escape ladder. This vertical escape shaft also served as a means of ventilation. The shelter was equipped with electric lights and sanitary facilities. The city of KYOTO financed and constructed six of these shelters in 1941. They afforded excellent protection against incendiary bombs. (See page 84 and Reference Item No. 23, Plans and Specifications of Reinforced Concrete Pipe Shelter.)

- (5) Tunnel. In late 1944 and early 1945, two tunnel-type shelters were constructed by the prefecture for KYOTO City in two hills located within the boundaries of the city. These tunnels were approximately eight feet wide, six and a half feet high, with the length varying according to the location. The main tunnels were excavated from one side of the hill to the other with branch tunnels constructed at right angles and so extended as to provide entrances on all sides of the hills. In addition, other branches were built off the main and branch tunnels to a distance of about 25 feet. Heavy timbers reinforced the structures, the capacity of each being about 2000 persons. The roof coverage of each was from 60 to 75 feet of earth. The shelters had electric lights but were not provided with seating or sanitary facilities. Page 86 shows an entrance to this type shelter. (See Reference Item No. 24, entitled "Specifications of Tunnel Type Air Raid Shelter.")
- (6) Special Shelters. The prefectural government constructed shelters on the grounds

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Concrete pipe buried in open lot.
Built for the public by KYOTO City.

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occupied by its buildings to provide protection only for prefectural officials, while the clerical workers were compelled to seek protection in nearby public shelters of the covered trench type. The most common of these shelters was rectangular in shape, constructed of concrete approximately eight inches thick, placed below the ground surface and covered with three to four feet of earth. The inside dimensions were 15 feet long, 8 feet wide, and 6 feet high, with a capacity of about 35 persons. The shelter was equipped with electric lights and two small ventilating shafts. However, it had only one entrance and no seating or sanitary facilities. (See page 86)

4. Comments.

a. The outstanding fact, as in OSAKA and KOBE, was the lateness in starting to construct sufficient and adequate shelter protection for the general public. This delay was again due to the propaganda of the national government that air attacks would never be made upon the Japanese homeland. Even after air raids had been made upon the KYUSHU Islands, no concentrated efforts were made to construct shelters as, in addition to the reason stated above, high civilian defense officials firmly believed that KYOTO would not be bombed because of its historical and cultural background.

b. Statements obtained from investigations gave conclusive evidence that, with the exception of the six reinforced concrete pipe and the two tunnel shelters, the shelters afforded no protection against high explosive bombs and very little or no protection against the heavier incendiary bombs.

Concrete box type shelter dug in the front yard of the
prefecture building. Built for officials of KYOTO City.

Tunnel-type public shelter dug into the side of a mountain.
Built by KYOTO prefecture. (KYOTO City)

GAS PROTECTION SERVICE

1. Introduction. Preparations in KYOTO for gas defense began in 1934, three years after the beginning of the "Manchurian Incident." After several years of war with the Allied forces, when there was no indication that the use of gas was intended, interest waned to such an extent that even paper plans for defense were not worked out in any comprehensive detail. In fact, the impression was gained that no defensive measures of any kind were seriously considered up to the time the outer perimeter of Japanese defenses was cracked at SAIPAN. At KYOTO even the devastating raids upon OSAKA, KOBE and TOKYO did not seem to stir the authorities to a broad scale defensive program. Although these raids inspired some interest in protection against incendiary bombs, the interest in protection against gas was overshadowed by the more imminent menace.

2. Organization and Personnel. Plans for gas defense were vested in the sanitation section which was originally in the police department but was later transferred to the health department. (See page 98) It was the plan, however, for the leader of gas-defense activities to work in close liaison with the police department. The entire gas-defense organization consisted of the administrative director and two assistants, all of whom were pharmacists. One assistant was in charge of a section on gas detection, and the other of a section on gas decontamination. The organization had no branches below the prefectural level, and consequently no personnel either actual or contemplated. In case of a gas attack, it appeared that any definitive measures would have been carried out by the auxiliary police and fire units (KEIBODAN) in the district police offices. Much confusion developed from the fact that the sanitation section was transferred from the police department to the health department but the police still continued to exercise some measure of control, either officially or unofficially, and the gas defense service consequently received orders from both sources.

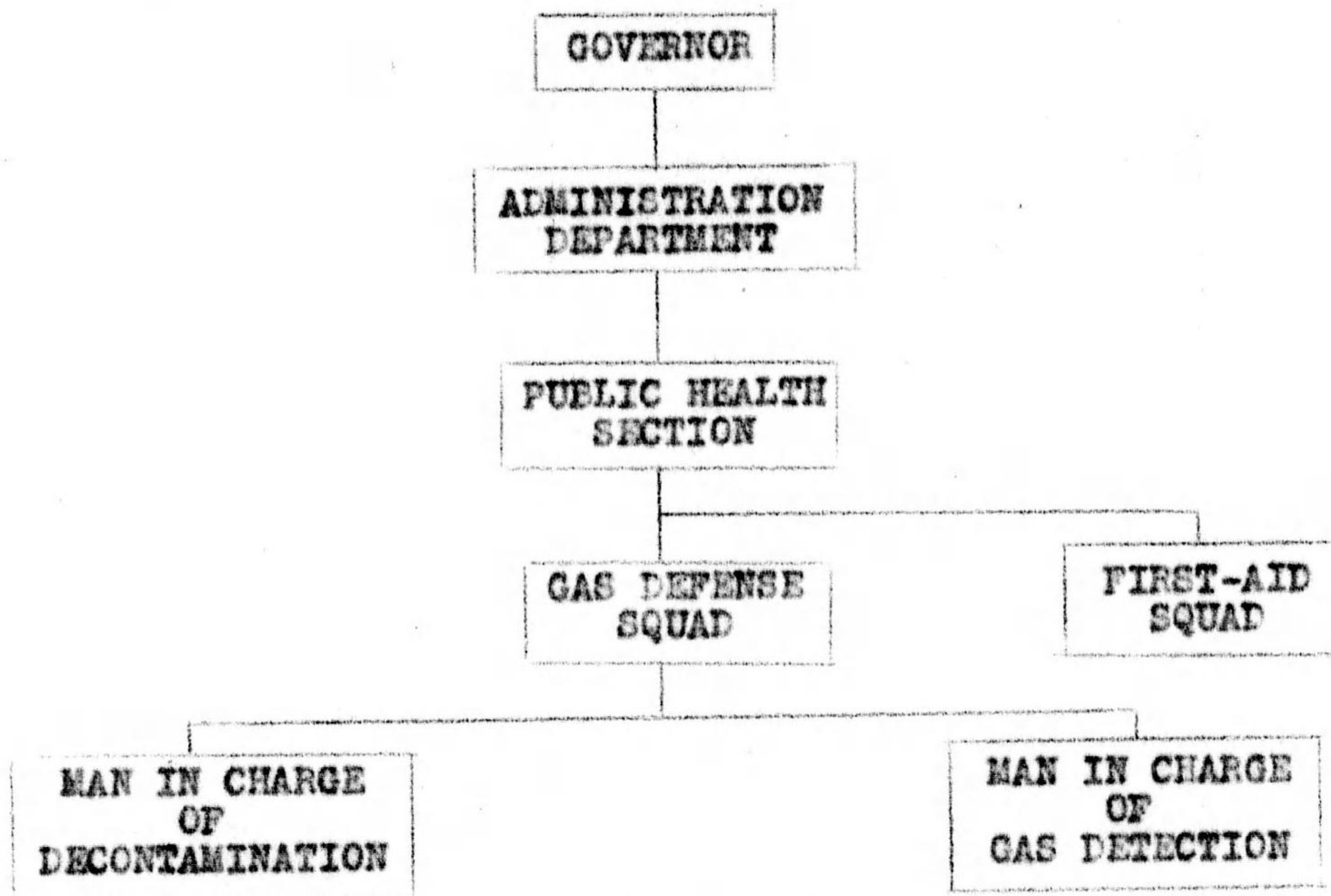
3. Equipment and Training. Except for gas masks, the report on this subject is almost wholly negative. It was said that there was some protective clothing but that it was used for demonstration only by members of first-aid squads within the auxiliary police and fire units. There were no gas detection kits and no decontamination equipment. It was stated that 60% of the population provided themselves at their own expense with gas masks. The gas defense section, however, gave no instructions to the public in the proper use of gas masks. Such instructions as were given came from the district

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police headquarters, although the informant was not clear as to how this was done. The result was that a large portion of those who owned gas masks did not know how to use them. No gas masks were available for children, so that in case of attack they would have had to rely upon damp towels over the face.

GAS DEFENSE ORGANIZATION
FOR
KYOTO PREFECTURE



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CAMOUFLAGE

1. Introduction. Local regulations on camouflage (GISO) were first released on 19 August 1941, which were reprints of the pertinent sections of the national regulations released at the same time by the Ministry of Home Affairs. As in OSAKA, these regulations were classified "secret" and were distributed only to chiefs of the local police, managers of factories, and owners of principal buildings. A copy of these regulations freely translated, are included in the OSAKA field report as Exhibit 8.

2. Local Situation. Theoretically, the decision as to which buildings, factories or localities should be camouflaged was the responsibility of the prefectural governor. Actually, his responsibility was delegated in KYOTO to the auxiliary police and fire section (KEIBOKA) and the technical help on camouflage was obtained by borrowing engineers from the building and construction section (KENCHIKUKA) of the prefectural government. These engineers actually made the decision as to which factories, buildings and other points were to be camouflaged and their decisions were based solely on the one pamphlet issued by the Ministry of Home Affairs and on their own engineering "good common sense." None of these "experts" had had any special training, none had any information on camouflage tactics or technique worked out in Europe or elsewhere, other than what he picked up from an occasional item or picture appearing in the newspapers. None had ever flown over the locality to study the city and the surrounding terrain or had had access to aerial photographs to make this study. The Ministry of Home Affairs had one camouflage expert who did fly over KYOTO once to study it from the air and on the basis of his flight suggested the darkening of one or two additional buildings.

3. Types of Camouflage. Only three types of camouflage were found in KYOTO and vicinity: (a) the use of paint to darken buildings and blend them into the background; (b) the use of nets to screen a possible target; and (c) the use of trees and shrubs to form a natural camouflage. Painting was the means most extensively used and there was a great variety of types of patterns used, ranging from huge solid blocks of one or two colors to checker-board and spiral or striped patterns. There was only one use of nets and that was to hide the characteristic rectangular pattern of the filtration ponds at the waterworks. Plantings of shrubs were used as far as practicable at factories to help break up the straight lines of the edges of the buildings and their shadows. The Ministry

of Home Affairs' publication did not mention possible use of artificial fogs or smoke to achieve a camouflage and such possibilities had never occurred to local officials. They had conceived the idea of using a light pattern a few miles down the valley to attempt to fake the location of the town, but it was never carried to the planning stage.

4. Local Topography and Features. KYOTO was located on a flat valley floor, almost at the head of the valley, a few miles above the point where the Ugi, Kamo, and Katsura rivers unite to form the Yodo river. It was only a few miles north of a small lake and a few miles west of the end of Biwa Lake. It was surrounded on the northeast and west by hills covered with verdant growth and the valley floor below KYOTO was patterned with typical rice paddies. A large race track and fair grounds just above the river junctions, the emperor's palace and grounds occupying several blocks almost in the center of the city, the several shrines and the "Y" shaped railroad yards were all distinctive features marking KYOTO. No attempt was made to camouflage any of them except the race track where the grandstands were darkened but, characteristically, nothing was done to change the appearance of the oval track.

5. Factory Camouflage. Sixty out of approximately two hundred factories were camouflaged in varying degrees, mostly by painting in a pattern effect and with attempts made to hide the straight lines of the edges of the buildings and building shadows by plantings of shrubs and trees. The plants located at some distance outside the city in an area where rice paddies might be expected had the paint applied in block patterns to imitate the geometric patterns of the rice paddies, while others within the city used the block pattern to imitate the appearance of the surrounding slum area roof tops. Many factories located on the outskirts of the town used checkerboard and other types of patterns, some vividly contrasting in a manner which the "experts" thought would be effective.

6. Other Camouflage. Outside of factories there was very little additional camouflage used except on the water works, observatory and race track already mentioned. Only two of the fifteen larger office buildings were camouflaged. Block patterns of dark green, dark brown and black to hide the whiteness of their ceramic tile finish were used. No camouflaging was attempted on the three hospitals, fifty-five schools or eight major shrines within the city.

7. General Comments. Camouflage as worked out by the Ministry of Home Affairs was designed for the type of raids

the Japanese expected, namely, the sporadic type, typified by the Doolittle attack. No attempt was made or contemplated to hide the city or any of the very distinctive landmarks mentioned above or even to study the problem of camouflaging the city as a whole. They studied only the treatment of parts of it, individually, hoping to prevent those parts from being singled out for attack. It was apparent that no one in authority had visualized mass attacks over JAPAN, despite the English and German experience, until shortly before they actually happened, and by then it was too late. Local authorities recognized the inadequacy of their camouflage protection after hearing about the size and scope of the attacks on TOKYO in the fall of 1944, and felt it acutely after the raids on OSAKA and KOBE in the spring of 1945, but owing to shortages of manpower and materials, plus the magnitude of the job of achieving real camouflage for the entire town, they were unable to do anything.

CONDUCT OF THE PUBLIC DURING AN AIR RAID

1. Introduction. Since KYOTO was not bombed in the sense that TOKYO, OSAKA, KOBE and other cities were bombed, little information on this subject was obtainable. KYOTO had but two raids causing relatively minor damage, but had innumerable alerts which were caused by planes headed for other destinations.

2. Local Regulations. Local regulations as to how the public should conduct itself were patterned after the regulations issued by the Ministry of Home Affairs, and described rather fully in the OSAKA and KOBE field reports, that is, upon the sounding of the alert normal activities were to be continued as far as practicable, only those unengaged, the smaller children, sick and aged were to start to move towards shelters; factories, offices and stores were to continue as usual. Upon the sounding of the raid alarm people were to move to shelters, and schools, offices and stores were to close, but factories were to continue working until the last possible moment. It was not mandatory that people enter the shelters at any time, even when the planes were overhead.

3. Traffic. Traffic rules also were similar to those reported in the OSAKA field report except that in KYOTO street cars were permitted to run through the alert period and even through part of the raid period, being required to stop only when the planes were actually overhead. Traffic generally increased shortly after the alert and raid signals were sounded due to people starting to move to shelters or to their homes, and civilian defense workers to their posts, but it thinned out rather soon and ceased by the time planes were overhead.

4. Guiding the Public to Shelters. Public shelters were all marked with signs prepared by the city government. These signs were flat boards measuring around six inches by 14 inches and were hand-lettered "Public Shelter Capacity -- People," with black paint on the raw wood. The only markers to guide people at night were the occasional use of several daubs of white paint on each side of the entrance at door-knob height. No one guided strangers to the shelters except watchmen of public buildings open at night, who generally remained near the entrance of the building to indicate the location of the shelter. No one was required to seek shelter and few actually did except at times when there was a mass fear of raids.

5. General Comments. The people of KYOTO were very lax in their air-defense discipline compared to the other cities studied to date. Alerts were frequent, particularly late in the war due to planes headed for other destinations, and, when raids did not develop people became convinced that KYOTO, due to its cultural reputation, would not be bombed. Violations of blackout were frequent, people did not enter shelters, and traffic frequently continued to move even though the raid alarm had sounded.

VI. EVACUATION AND WELFARE

VI. EVACUATION AND WELFARE

EVACUATION

1. Introduction.

a. Prior to 11 August 1945 the city of KYOTO had no plan for the evacuation of civilians, but on that date a plan (see Exhibit P and Reference Item No. 25) was agreed upon and the effective date was set at 25 August 1945. It was never used inasmuch as the cessation of hostilities came on 15 August 1945 and all preparations stopped, even the printing of the instructions which were to have been used. Although evacuation of civilians was not contemplated prior to this time, provisions (see Exhibit Q and Reference Item No. 26) had been made for emergency welfare treatment of air-raid sufferers in accordance with the provisions of the national law for the "Relief of War-time Sufferers" passed on 24 February 1942 and amended from time to time. Another precautionary measure taken was the group evacuation of school children in March, 1945, following the heavy air raids on OSAKA and KOBE.

b. Definition of Terms. In discussing evacuation and welfare in this field report the term "evacuee" is taken to mean that person who as a precautionary measure left or moved from the city at his own convenience to some other destination; whereas refugee, or sufferer as the Japanese use the term, was one who had become an air-raid victim or sufferer by reason of damage to his home by bombs or fire or destruction of his home to create a fire break.

Evacuation of Civilians2. Policy.

a. KYOTO was not one of the large cities designated by the Ministry of Home Affairs to carry out a plan for the dispersal of its non-essential citizens, and, lacking any such instructions both the prefectural and municipal officials felt that this area was relatively safe from air attack. As long as the national government had not ordered dispersal, they had not made any plans for it. One other element, the municipal officials admitted, influenced them in their decision not to initiate a plan for the dispersal of civilians and that was the question of expense. Unless such a move was ordered by the government, the prefecture and municipality would be

obliged to bear the expenses for such an evacuation, and this they were reluctant to do without specific instructions from TOKYO. The opinion was freely expressed also, that inasmuch as KYOTO was a Japanese religious and cultural center they did not believe that the UNITED STATES would bomb it, and, therefore, it would be unnecessary to make elaborate plans for the dispersal of civilians.

b. Change of Policy. As early as February, 1945, at the time of the bombings on TOKYO many civilians voluntarily left the city. In fact the numbers were sufficiently large to attract the attention of the officials and they, in turn, attempted to dissuade further dispersal, fearing that, if the voluntary evacuation continued, there would not be sufficient persons left to fight fires in the event there was an incendiary raid on their city. After the heavy raid on OSAKA in March, 1945, there was considerable talk again about leaving the city and once more efforts were made by the city officials to discourage such action. However, after the dropping of the atomic bomb (6 August 1945) on HIROSHIMA the prefectural and municipal officials conferred on 11 August 1945 and decided to carry out a plan (see Exhibit P and Reference Item No. 25) for dispersal of the non-essential persons as of 25 August 1945, which plan, however, was never carried out.

3. The Proposed Plan Discussed 11 August 1945.

a. On the orders of the governor the municipal officials had made an inventory of the persons who would be evacuated, and of where they planned to go (see Exhibit R and Reference Item No. 27). Following the decision on 11 August 1945 to inaugurate a plan for dispersal, the municipality started printing the plan and necessary certificates for changing districts. It was planned that instruction pamphlets were to be distributed to the ward offices, and civilians were expected to come and get them. The essentials of the plan for evacuation of civilians which was proposed to be put into effect were:

- (1) Evacuation was to be voluntary but strongly recommended.
- (2) Evacuation was to be made to relatives in the prefecture or nearby prefectures.
- (3) If no relatives, the city was to make a plan to provide housing within the prefecture.

- (4) Priority was to be given to the non-essential people in the city (same groups as in OSAKA and KOBE).
- (5) For those who were not needed in the city, removal to agricultural districts in groups was to be carried out as quickly as possible.
- (6) For those who were required to remain in the city, accommodation for group housing was to be set up by the city.
- (7) The designated evacuation areas were KYOTO City and MAIZURU City (site of a naval base in the prefecture).
- (8) The city was to establish an evacuation headquarters which was to issue evacuation certificates, advise on policies and attend to all other business in connection with evacuation.
- (9) Removal evacuation certificates were to be distributed by the ward leaders.
- (10) Free transportation was to be given to persons and baggage.
- (11) Receiving center councils were to be set up, giving guidance on the matter of securing houses and rooms and urging a positive back-to-the-farm policy for those who had relatives on farms.
- (12) Expenses were to be met from the prefectural budget.

4. Refugees. There were two small air raids during 1945 but no figures were available as to the number of sufferers who left the city, it being the belief of the municipal officials that all found places within the city. However, there was a plan carried out for demolishing houses to create fire breaks which made it necessary for those homeless persons to seek other quarters. The number of certificates permitting removal and destinations selected were reported as follows:

<u>Destination</u>	<u>Number of Persons</u>
Elsewhere in KYOTO City	52,610
In KYOTO prefecture but outside of KYOTO City	4,389
In other prefectures	<u>12,321</u>
	69,320

The 16,710 who moved away from KYOTO City represented about one and one-half per cent of the population of the city (1,089,736 in 1940).

5. Statistics. KYOTO, particularly the rural areas outside of the city, really became a reception center for evacuees and refugees from other prefectures. It was reported that approximately 111,000 persons came into the prefecture of which 29,000 were evacuees from KYOTO City. Other areas contributing evacuees to this number were:

From OSAKA prefecture	45,000
From HYOGO prefecture	12,000
From TOKYO	5,500
From other prefectures	<u>12,500</u>
	75,000
From KYOTO prefecture	
KYOTO City	29,000
MAIZURU City	<u>7,000</u>
	111,000

This figure of 29,000 represents those who voluntarily evacuated the city, beginning in February, 1945, following the raids on TOKYO, with surges of movement in March and June following the heavy raids on OSAKA, only 33 miles away. These figures are based upon the requests for transfer of food ration coupons and may include some duplication of those (4,389) who left the city for other parts of the prefecture because of being made homeless when fire breaks were created. All in all it is estimated that approximately 46,000 persons or four per cent of the 1940 population, exclusive of school children, left the city because of the impending presence of air raids. That figure includes the 17,000 persons who were made homeless due to the creation of fire breaks and the 29,000 who left voluntarily, for other parts of the prefecture.

Evacuation of School Children6. Authority.

a. In March 1945 the Educational Ministry designated KYOTO and MAIZURU as class "B" cities in so far as school evacuation planning was concerned. Following that the educational section of the KYOTO prefectural office publicized a compendium of regulations relating to school children group evacuation (see Exhibit S and Reference Item No. 28). Its instructions to these cities pertained to pupils of the third to sixth grades, inclusive. At no time were these modified to include the pupils of the first and second grades as was done in KOBE and OSAKA. The KYOTO plan was carried out in two stages: the first and the larger of the two was completed on 26 March 1945; and the second stage completed on 8 August 1945. It should not be overlooked that the first big raid on OSAKA was 13 March, the first raid of major consequence on KOBE was 17 March, and the atomic bomb was dropped on HIROSHIMA on 6 August 1945, in order to appreciate the significance of the dates of school group dispersion. Prior to those dates, it was estimated by the school authorities of the prefecture that about 2000 pupils, accompanied by their parents or relatives had left the city. All pupils so dispersed had returned home on 11 October 1945.

7. Reception Areas. Due to the fact that the plan for dispersal of KYOTO school children was not initiated until March, 1945, approximately six months after the completion of similar plans for OSAKA and KOBE in neighboring prefectures, all available areas outside of KYOTO prefecture had been filled. It became necessary therefore to confine the reception areas for KYOTO school children to KYOTO prefecture. Temples, hotels, public halls, and school buildings were used in 144 villages throughout the prefecture to house the pupils, all living a group life rather than dispersed to individual homes and integrated into the community as individuals.

8. Statistics. The counties to which the third to sixth grade pupils in groups from KYOTO City and MAIZURU were sent and the number in each are shown on the following page. (See map, Reference Item No. 30.) No data are available separating the figures between KYOTO City and MAIZURU, but there are data giving the total number of third to sixth grade pupils evacuated not only by groups but also those who left the city with their parents or relatives. These figures follow those referred to above, on page 100.

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<u>County</u>	<u>26 March 1945</u>	<u>8 August 1945</u>	<u>Total</u>
OTAGI	371	29	400
KADONO	47	7	54
OTOKUNI	830	26	856
TUZUKI	289	501	790
SORAKU	256	452	708
MINAMI KUWADA	1,643	163	1,806
KITA KUWADA	1,210	360	1,570
FUNAI	2,838	670	3,508
IKARUGA	1,983	320	2,303
AMADA	150	128	278
KASHA	584	271	855
YOSA	2,270	377	2,647
NAKA	665	32	697
TAKENO	1,093	298	1,391
KUMANO	<u>935</u>	<u>115</u>	<u>1,050</u>
	15,164	3,749	18,913

Pupils, 3rd - 6th Grades

	<u>KYOTO City</u>	<u>MAIZURU City</u>	<u>Total</u>
Dispersed in groups	17,510	1,403	18,913
With relatives	<u>23,379</u>	<u>3,799</u>	<u>27,178</u>
Sub-total	40,889	5,202	46,091
Remaining	<u>30,551</u>	<u>1,124</u>	<u>31,675</u>
School Population	71,440	6,326	77,766
Per cent evacuated	57%	82%	

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9. School Children Welfare.

a. Unlike the situation found in the dispersal of OSAKA and KOBE children, those from KYOTO were superimposed and integrated with the pupils of the receiving community. That was possible because the school system of the receiving areas and that of the two cities from which the pupils were being sent, were all under the direction and supervision of the KYOTO prefectural education office. It was a new experience for those from the cities but it was reported that they soon learned to enjoy their new surroundings and the rural life. The additional school load on the community did create some large classes but inasmuch as the supervisory direction was from the one source, new classes were established when the teacher load became too heavy. Their instruction included, in addition to the usual lessons, a certain amount of agricultural work such as the collection of edible herbs in order to produce as much food as possible and to make them self-sufficient in the new community. The receiving community, however, was granted an additional allotment of food, in order to provide for the increased food requirements due to the new school pupils. The costs of maintaining these dispersed pupils in the receiving community was borne by the city authorities of KYOTO. Parents were permitted to visit their children at least once in the seven months they were away from KYOTO. This limitation was imposed because of the lack of transportation facilities. The original movement from KYOTO to the receiving areas was made by train and in some cases by trucks.

b. Inspection. All pupils had returned by 11 October and therefore it was not possible to visit a typical reception area.

10. Re-evacuation. The Japanese naval base at MAIZURU was bombed several times during the period 27 to 31 July 1945 and the KOBE children who were in the areas adjacent to that city were re-evacuated to other parts of the prefecture. An interesting point in this movement is that it was only the KOBE children and not the local children in the community who were re-evacuated. No reason was given for this.

POST RAID EMERGENCY WELFARE

1. Responsibility. It was not until 18 March 1945 that the prefecture published its war-time damage rescue regulations which included sections relating to emergency housing, subsistence and welfare of air-raid sufferers. The city of KYOTO which had the responsibility of operating the welfare stations, published, for the use of ward leaders and other department heads having any responsibility for welfare work, a compendium (see Exhibit Q and Reference Item No. 26) of all matters pertaining to the war-time damage protection law No. 71, promulgated 24 February 1942. These instructions were disseminated through the newspapers, and verbally through the block associations to those who might become air-raid sufferers.

2. Classes of Sufferers. The air-raid sufferers in these instructions were divided into the following three classes:

- a. Persons with relatives to go to.
- b. Persons without relatives to go to.
- c. Persons whose work compelled them to remain in the city.

After a raid, sufferers who had taken refuge in the welfare stations which were set up in schools, temples and other prominent public places, were to be immediately screened and (1) those with relatives were to be sent to them as quickly as possible; (2) those without relatives were to be furnished housing after those who were to remain in the city because of essential work had been taken care of; (3) and those who were to remain in the city because of essential work were to go to relatives, if they had any and if they were within easy travel distance, or, if they had no relatives, they were to be put into temporary buildings.

3. Welfare Stations. In all, 141 emergency welfare stations were established throughout the city with most of them located in school buildings. These were to be the places to which air-raid sufferers were to be brought, processed, given emergency first-aid, food and shelter. However, each sufferer was expected to present his sufferer's certificate and ration card for sufferers (see Exhibit T and Reference Item No. 29), to secure food and temporary shelter. These certificates were distributed in advance through the

medium of the block associations and neighborhood groups in anticipation of air raids. Air-raid sufferers could receive emergency food and shelter for a short period ranging from three to five days and during that period they were expected to complete more permanent arrangements for their own welfare. The food was supplied by the prefectural police from their stores of previously prepared packages and consisted of dried bread and rice balls. Members of the women's patriotic societies and other women's associations, all volunteers, assisted in preparing and serving food to sufferers from the kitchens set up in the schools which were serving as welfare stations. After this temporary relief period the sufferers who had no place to go were to be assigned by the police to group housing which the city was planning to build for the purpose. Funds not only for the construction of these group dwellings but also for the supply of emergency food were to be provided by the national treasury to the prefecture. The police maintained a two-day emergency ration at all times and the agricultural section of the prefecture had a five-day supply. If more were needed, the police and the agriculture section had the authority to order extra supplies from the storage depots maintained by the agricultural and forestry ministry. The city had no funds of its own for food or clothing, but, inasmuch as there was very close cooperation between the prefectural office and the municipal office, they did not anticipate any difficulty in securing these items when needed.

4. Statistics. Only four of the welfare stations were actually set up for operation. At these four stations it was reported 729 sufferers were taken care of following a raid on 16 January 1945 and an additional 1500 after a small raid on 26 June 1945.

5. Comfort Stations. At the time of the heavy raids on OSAKA and KOBE in March, 1945, the number of persons leaving those communities and passing through KYOTO was so large that the city of KYOTO set up at the railroad stations a guidance agency and comfort station to provide advice, a place to rest, immediate first aid if needed, and for other needs of travellers. There were three such places in KYOTO, manned by a corps of 20 to 30 volunteers from the police, city officials and women's associations. These places were very temporary and disbanded after each major movement. No food was available at them.

WAR DAMAGE CLAIMS

1. Introduction. The legislation and decrees establishing all national wartime compensation for Japanese nationals in connection with death, injury, or loss of property due to war causes were such that no variation from place to place throughout the homeland should be expected in any aspect of their operation, except for statistics on number of policies issued (in the case of casualty and property insurance), number of claims paid on war insurance policies and on straight liability compensations provided by imperial decree. The insurance companies of KYOTO handled the issuance of policies and payment of claims in exactly the same way as in OSAKA and KOBE. The sole differences were to be found in the response of the KYOTO people to the insurance and compensation opportunities furnished by the national government. The current report will describe a compensation law not mentioned in the earlier reports, and an account of compensation to persons dispossessed by the fire-break program.

2. War Damage Claims.

a. War Casualty Insurance (SENSO SHIBO SHOGAI HOKEN). There were 34 companies issuing this insurance in KYOTO. The life insurance companies made a determined effort to induce the people to take out war casualty policies, although the fire and marine companies, which also handled the war casualty policies made little effort in that respect. As a publicity stunt the mayor "took out" a policy for the entire city, although of course that was no more than a gesture since the insurance required an individual application and payment of premium. There was considerably less interest in insurance for life and injury than there was in property damage insurance. Increased interest in war casualty insurance as the war progressed followed the same general course as that for war damage insurance and will be discussed in (b) below, but the fear of death and personal injury did not increase proportionately with apprehension over property as the news from other cities arrived in KYOTO and incendiaries came to be regarded as the weapon that would be used against the city if it were attacked. That attitude prevailed despite the fact that the only raids made on KYOTO were with high explosive bombs. Regarding the enforcement of the national law restricting to 5,000 yen the amount of war casualty insurance issuable to one person, officials said that there were instances in other cities of a person's having taken out policies with several companies for a total amount in excess of the 5,000 yen limit but there was no known case in KYOTO. Such practice, however, was eliminated by a law of 1 July 1945 which directed that all national war

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insurance taken out by any individual should be issued by a single company.

b. War Damage Insurance (SENSO HOKEN RINJI SOCHI). Only the fire and marine companies issued this insurance, and there were 16 such companies in KYOTO. From the time the war damage insurance act took effect in January, 1942, until April, 1944, there was negligible interest on the part of the public in spite of the fact that the public was informed about the provisions of the law by the wide distribution of a descriptive leaflet (see Exhibit U). No appreciable increase in interest resulted from the Doclittle raid on TOKYO in April, 1942. There was a large increase in April and May of 1944, when the war damage law was revised to cover earthquake in addition to war-caused fire damage, and was reduced in cost. One reason for the increase was the fact that the law required all new applicants for private fire insurance policies to take out war damage insurance also, even though the private companies were protected from disastrous loss by provisions in their policies specifically excluding fire from air raids as a damage cause for which they would make payments. The law was not binding on holders of fire policies already in force, but applied to all renewals. KYOTO insurance officials felt that the April, 1944, increase could not be accounted for by the new linkage between the private fire and national war damage insurance policies, but that there was a growing feeling of apprehension over American ability to bomb JAPAN. The 13 March 1945 raid on OSAKA produced an avalanche of applications for war damage insurance in KYOTO. The people tended to insure their houses, but not the contents, for many household effects were removed from the city after the great raid on OSAKA. In spite of the fate of its neighboring cities, the percentage of persons in KYOTO taking out war damage insurance was less than that for either OSAKA or KOBE. Two reasons were given by insurance officials for this fact: the first was that KYOTO was not subject to the strong winds typical of the two seaside cities; and the second, that the people figured their city "would not be bombed inasmuch as it was not a military target." All claims from the three small raids on the city had been paid as of the time of this report, with no cases requiring the referee services of the control association, closest branch of which was in OSAKA.

c. Air Defense Service Allowance (BOKU FUJISEA FUJOREI). Despite the fact that there were nearly two hundred casualties from the three minor raids on KYOTO, the finance section in the prefectural office, responsible for paying claims under the air defense service allowance law covering air watchmen and auxiliary police and fire units, had paid

only one claim as of 6 November 1945. This was in the case of a 35-year-old man in the air defense observation corps (BOKU KANSHITAI) who died of heart failure while running to man his lookout post upon hearing the air raid warning. His family was compensated in the amount of 1,000 yen. About ten days elapsed between the date of filing the claim and the date of payment. It was stated that most of the casualties from the small raids on KYOTO occurred among members of the neighborhood groups (TONARI GUMI).

d. Wartime Disaster Protection (SENJI SAIGAI HOGO).

- (1) Purpose. On 24 February 1942 there was enacted a national wartime protection law providing relief and financial indemnity to victims of wartime disasters. The law took effect on 30 April 1942. "Wartime disasters" were defined as disasters caused by enemy action, as well as disasters resulting from such.
- (2) Provisions. Three types of compensation were named in the law: relief, pension and allowance. In so far as the act provided for relief by means of food, clothing, housing, medical attention, school supplies and other services this report will not be concerned. But its provisions for money to pay medical and funeral expenses, for homes destroyed, for death and injury, and for sickness and disability come within the scope of the war damage claims study. The act indemnified and protected from undue financial suffering those persons whose buildings were commandeered for relief purposes or whose commodities were expropriated by the government to distribute to air-raid victims. It also covered persons killed, injured or hospitalized in connection with carrying out relief duties, as well as providing compensation to the dependents of persons victimized in any lawful manner as a result of wartime disaster. The sums of money allowed under the law appear below. Special interpretations on the disbursement of these sums will be found in Exhibit V.

Table 1. Compensation Payments
(refers to Art. 12, Exhibit V)

<u>Description of payment</u>	<u>Amount of payment</u>
1. Medical attention expenses	Actual expenses
2. Injury compensation	
a. Permanent disability	¥ 1,500
b. Loss of means of sustenance	1,000
c. Serious bodily injuries and female facial scars	700
3. Terminal lump sum	1,500
4. Beneficiary compensation	1,000
5. Funeral expenses	100

Table 2. Compensation Payments
(refers to Art. 22, Exhibit V)

1. Injury compensation	
a. Permanent disability	¥ 700
b. Loss of means of sustenance	500
c. Serious bodily injuries and female facial scars	350
2. Beneficiary compensation	500

Table 3. Compensation Payments
(refers to Art. 6, Sec. 1-5 and Art. 24)

<u>Description of payment</u>	<u>Amount of payment</u>
1. Medical attention expenses	Actual expenses
2. Injury compensation	
a. Permanent disability	¥ 1,000
b. Loss of means of sustenance	700
c. Serious bodily injury and female facial scars	500
3. Terminal lump sum	1,000
4. Beneficiary compensation	700
5. Funeral expenses	70

3. Compensation under the Fire-Break Program.

a. Assessment and Payment. As in other cities, the prefectural city planning section in KYOTO was responsible for assessing the value of houses and other buildings condemned for demolition to make fire-breaks. The municipal government assessed the land which was either bought or leased by the city. The same scale for evaluating buildings was used by KYOTO prefecture for the 19,351 houses involved in the program as was used in KOBE. The last of the fire-break operations was but one-third complete when the war ended in August, 1945, so that of the 7,672 houses assessed only about 2,000 had been torn down at that time. Since the program was integrated with post-war plans for the city, it was contemplated that it would be eventually completed. The assessment of land followed a fixed rule of compensation on the basis of 120 yen per 36 square feet (TSUBO) regardless of the location of the land, provided the city bought the land. But if the city only rented the land, the annual rent paid was 5 yen per 36 square feet. For the first two of the four fire-break operations, all claimants had been paid in full, and, as of 6 November, 1945, the prefecture and city were paying on the third. The same arrangement as to national government, prefecture and city financial responsibility for indemnity on buildings and land obtained in KYOTO as reported for KOBE.

b. Loss of Business and Transportation Compensation. Although no different in its provisions, additional details of the compensation law were secured from the KYOTO study. In the case of indemnity for loss of business, as when an individual's store was demolished, two bases for payment were found. The first covered entrepreneurs who did not expect to continue in business. For certain categories of that classification of business establishments, the national department of commerce and industry laid down the amounts which the proprietor could collect, and furnished the funds to pay him. Those businesses not included above could collect from the prefecture. The second provided a different scale for those who wished to continue in business, and the compensation was designed merely to carry them over until they could get re-established in another location. There were three classifications for such businesses, based upon amounts received: (1) a manufacturing concern, public bathhouse or other establishment having equipment difficult to move was allowed an amount equal to six times its net profit for one month; (2) more easily transferable businesses such as barber shops, shoe repair shops, grocery stores or home industries were allowed three times their net profit for one month; (3) informal

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businesses such as those of peddlers were allowed an amount equal to one month's profit. Compensation for these dispossessed business operators was made in the form of a flat sum, paid once, and was the financial responsibility of the prefecture. Payment for transportation expenses has been described in the KOBE report on war damage claims.

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VII. TRAINING

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VII. TRAINING

CIVILIAN DEFENSE PERSONNEL

1. Introduction. The purpose of this section is to describe the civilian defense schools, the selection of civilian defense personnel and the methods used to train them. All directives on training emanated from the Ministry of Home Affairs and were distributed through the prefectures down to the several political sub-divisions. The first directive on training was received from the Ministry of Home Affairs in October, 1938, but a regular training program was not developed in KYOTO until late in 1942. KYOTO officials stated that the slow progress in training was the result of the attitude of civilian defense officials who believed that KYOTO would not be bombed.

2. Training Schools.

a. Air-Defense School (BOKU GAKKO). This school was established in March of 1943, by a directive from the Ministry of Home Affairs. Here, as in KOBE, the school was the main training center for KYOTO prefecture. The expenses of the school were met by the Great Japan Air Defense Association granting a subsidy to cover 50% of the expenses, with the prefecture paying the balance. In addition, the Great Japan Air Defense Association furnished most of the printed material on civilian defense, which was used as the basis for the training program.

- (1) Instructors. The faculty was composed of police, fire, and organizational leaders who had been sent to the air-defense school in TOKYO to undergo a 10-day period of training in civilian defense services. In addition, certain persons with specialized training were added to the staff to aid in the instruction of subjects such as first aid and emergency relief. At various times the army furnished instructors who had undergone field experience in connection with large fires and different types of bombs.
- (2) Trainees. The selection of personnel for attendance at this school followed the same principles as explained in the OSAKA and KOBE field reports.

(3) Curriculum. Courses of training offered in this school covered the fields of first-aid, construction of shelters, emergency relief for bombed-out victims, and fire extinguishment, with particular emphasis on the last. In addition, a special course was provided to train leaders in methods of maintaining high morale among the members of their own organizations. Of particular interest is the statement that no training in rescue services was given at this school until after the middle of 1944 when information reached KYOTO from the cities which had been bombed on KYUSHU Island.

b. Prefectural Police and Fire Schools. Schools for the training of minor leaders of police, fire and other organizations were conducted in the same manner as described in the OSAKA and KOBE field reports.

c. Auxiliary Schools. The number and type of these schools did not reach the proportions found in OSAKA and KOBE and that fact was principally due to the belief among the leaders of the organizations responsible for these schools that KYOTO was in little or no danger of being bombed.