

ARMY SERVICE FORCES
SIGNAL CORPS ENGINEERING LABORATORIES
HISTORICAL REPORT ON SHOPS 1918 - 1943

Shop space, personnel and equipment have expanded from the initial set up and installed during the emergency program of 1918 - 1919. The Radio Laboratories were formed at Camp Vail consisting of commissioned officers and enlisted personnel with the necessary talents and qualifications for the assignments. The primary function being radio development and field testing, this activity was carried on and enhanced by application of funds available until about 1929. At this time a consolidation of activities was made bringing Wire Branch from Washington and Sound and Light from Wright Field to Camp Vail. The Laboratories were then renamed Signal Corps Laboratories.

During the period between 1929 and 1930 the shop consisted of a representative group of artisans, namely: Machinists, Instrument Makers, Sheetmetal Workers, Welders, Electricians, Cabinet Makers, Carpenters and Painters. The personnel, numbering about 20 people, were divided into three groups, all operating under the supervision of a foreman and three assistants. The Instrument Shop Group handling assignments of a lighter nature than those accomplished in the main Machine Shop, the Carpenter and Paint Shop Groups accomplished any assignment not associated with Machine Shop practices.

About 1930 a plating room was set up, limited in capacity to tank sizes and work requirements. This equipment was supplemented from time to time as demands were made on it until about 1941 when a complete setup was installed of sufficient size and elaborate enough

to handle all phases of the plating art.

During the period of 1935 - 1937 changes were made in shop personnel and equipment to compensate for the expansion of laboratory activity. At this time the personnel and equipment were segregated and definite groups were set up for Sheetmetal, Welding and Electrical work. Equipment was obtained from time to time from limited funds available. As greater demands were made on the shops, to keep pace with the tempo of the developmental program, personnel were obtained until 48 people were employed encompassing all types of craftsmen.

It was at a conference held in 1940 covering the expansion of the laboratories in the present emergency that a careful analysis of the over-all laboratory requirements was made, and, in the interest of acceleration of the war effort, it was decided that additional laboratories would be built at Fort Hancock, Sandy Hook, N. J., Camp Coles, Red Bank, N. J., Eatontown Signal Laboratory, Eatontown, N. J., Camp Evans, Belmar, N. J., and the Training Shop at the Civilian Training School, North Long Branch, N. J., which was to be used exclusively for the training of female machine operators to replace male trainees enlisting in the armed forces, and Squier Laboratory Shop at Fort Monmouth, N. J., to remain intact to absorb the overflow of work from the other laboratory shops. Radio position finding activities were given No. 1 priority.

It was imperative in this conversion to maintain high standards of production, to proceed with caution in using the

established system of routing work orders through the shop, fabrication of material, cost-accounting, coordination of all activities, and to pool the knowledge and experience of all craftsmen toward efficient and economical plant operation. This objective was achieved, and with the ending of the war, we shall achieve the same objective through the democratic methods of peace.

Fortunately, in this abnormal shop expansion, high priorities were obtained for the purchase of machine tools, and associated equipment, and, consequently, provided equitable distribution as needed for all shops. A recent survey of all the shops in the SCGSA definitely proved the efficient manner in which all shops were operating. Morale was high and cooperative responsibility was reflected throughout the entire organization.

All shops of the Signal Corps Ground Signal Agency operated under one flexible system (Shop work-orders) originated by the Section Chief and approved by the Officer in Charge of Projects. To avoid duplicating purchase requests, a minimum and maximum raw material supply is retained whenever practicable. Time and cost records are kept on each project for future reference. Shops are responsible for the fabrication of all models and experimental devices, checking drawings going through the shops for errors, and to see that the drawing conforms with good commercial shop practices.

In the fall of 1941, all activities of RPF Section were transferred from Fort Monmouth, N. J., to the testing grounds at Fort Hancock, Sandy Hook, N. J., where considerably more accommodations were

available than at Fort Monmouth for semi-permanent installations and tests. RPF Section changed to Radar Laboratories. Included in this move was a Shop Section consisting of engine lathes, milling machines, circular saws, planers, etc., and personnel were assigned from the Fort Monmouth Shops to work on Radar projects.

In January 1942, Radar was separated from the Signal Corps Laboratories. Supervision remained under the Shop Section of the Signal Corps Laboratories and consisted of a Machine Shop with 26 men, Carpenter Shop with 14 men, Electric Shop with 61 men, and a Radio Shop with 48 men, making a total of 149 men. The area at Belmar, N. J., was being organized for the eventual moving from Fort Hancock, N. J., and, on 26 January 1942, a directive, transferring all Shop personnel and equipment from the Signal Corps Laboratories to Radar Section was issued. The Machine and Carpenter Shops were moved from Fort Hancock to new quarters in Building 1A, Belmar, N. J. The Electric and Radio Shops were moved to Building 6, Belmar, N. J. A total area of 15,900 square feet was allotted for Shop Sections, and officers placed in charge.

CAMP EVANS SHOP, BELMAR, NEW JERSEY

On 19 March 1942, the Belmar Area was named Signal Corps Radar Laboratory, Camp Evans, Belmar, N. J., in honor of the late Lt. Col. Paul W. Evans. The main building was being modernized and the erection of H Building started. Rooms 1300 and 1400 were laid out and assigned to the Machine Shop and Carpenter Shop. Machine tools and shop equipment were being purchased and operation of the shops

was scheduled to start 15 July 1942, but, due to the Navy Department having higher priority on heavy cable and transformers, power was not turned on and operation started until 15 October 1942.

On 13 July 1942, the Shop Section and Quality Control joined to be known as Shop and Quality Section, and additional officers were assigned to assume their respective duties.

The Shop Section consisted of both the Camp Evans and Fort Hancock Areas until 1 April 1943, at which time the Fort Hancock building, machine tools, and personnel were transferred to Florida Field Station. The Section Chief of this new station as well as foremen and mechanics of the Machine and Carpenter Shops were Shop Section personnel. Groups of Camp Evans shop personnel were sent to this station to assist in emergencies from time to time.

On 15 December 1942, Shop Section was transferred from Engineering Branch to Service Branch and prior to the reduction in force in August 1943 there were two shifts operating, endeavoring to keep up with demands. At this time 224 persons were employed. In January 1944, the Section consisted of Machine Shop, Metal Shop, Arc and Gas Welding Shop, Blacksmith Shop, 46 mechanics located in Building 13 and part of 17, with a floor space of 14,500 square feet, Carpenter Shop and Paint Shop with 40 mechanics located in Building 14 and part of 17, with a floor space of 14,200 square feet, the Electric Shop located in Building 5 with 25 mechanics and floor space of 1,586 square feet plus a balcony, the Plating Room, also in Building 5 with four mechanics and floor space of 792 square feet, plus a balcony, and the Instrument Shop located in

Building 32 with five mechanics and 912 square feet of floor space.

Since 1 July 1943, 1711 work orders have been completed, the time on each ranging from one hour to six months, and in instances where it was not practical to have equipment made commercially, the shop manufactured large quantities of sets which were shipped to our Armed Forces.

EATONTOWN SIGNAL LABORATORY SHOP
EATONTOWN, NEW JERSEY

The Eatontown Signal Laboratory consisted of five branches as follows: (1) Meteorological, (2) Radio Direction Finding, (3) Sound, Light and Heat, (4) Wire, and (5) Service Shop.

On 22 October 1941, there were assigned one Machine Shop foreman, one Carpenter Shop foreman, three machinists, three machinist helpers, and five carpenters to Eatontown Signal Laboratory to set up machine tools in Building 2531 and Building 2529 pending the completion of the main structure, Building 3.

On 6 November 1941, projects were transferred from the Laboratory Shop at Fort Monmouth to Eatontown Signal Laboratory. The number of personnel and equipment assigned this area was insufficient in comparison to the demands, and on 1 February 1942, the Machine and Carpenter Shops were moved to the main Building 3. Additional equipment and personnel were transferred from Fort Monmouth, bringing the total up to 34 mechanics.

Considerable pressure was brought on the Shop during the month of March 1942 for much needed work by the RDF, Meteorological, Sound and Light, Wire, Auto and Chemical Sections. To eliminate any

possibility of holding up high priority developments, the complete Instrument Shop, including personnel and equipment, was transferred to the Eatontown Laboratories from Fort Monmouth increasing the personnel of this section to 128.

This Section grew from 1,648 square feet in 1942 to 11,882 square feet in January 1944, and a minimum of 350 work orders per month were completed.

CAMP COLES SHOP, RED BANK, NEW JERSEY

Camp Coles, Red Bank, N. J., consists of five branches: Crystal Branch, Communications Engineering Branch, Radio Communications Branch, Test and Maintenance Equipment Branch, and Service Branch.

In August 1942, seven carpenters were transferred from Fort Monmouth, N. J., to Camp Coles, Red Bank, N. J., to install wood-working machinery that had been purchased for this area. These machines were not put into operation until December 1942 when electric current from a temporary switchboard was made available.

In September 1942, one foreman machinist along with four graduates from Civilian Training School were assigned to this area to install milling machines, engine lathes, etc. Temporary electrical current was supplied as soon as machines were set up, and twenty-one additional mechanics transferred from Fort Monmouth Shop to Camp Coles for permanent duty.

In January 1943, upon completion of the consolidation of Machine Shop, Carpenter Shop, Electrical Shop, Paint Shop, etc., under single supervision, all activities of the Service Branch were concentrated

toward the fabrication of component parts and assemblies urgently needed by the Armed Forces.

The Shops occupy a total of 10,886 square feet, and the number of personnel employed at this time totals 100.

SQUIER LABORATORY SHOP, FORT MONMOUTH, NEW JERSEY

Previous to 6 April 1942, plans were formulated covering in detail the requirements of each individual laboratory, and in order to keep the Signal Corps Laboratories organization in balance, the Squier Laboratory Shop remained intact, and comprised 217 unclassified civilian employees. Plans called for the Squier Laboratory Shop to assume full responsibility to coordinate and purchase machine tools, to transfer personnel, raw material, etc., when installations were ready to operate in other areas.

Restrictions were placed on the size of machine tools being purchased for other areas so that advantage could be taken of the larger tools already in operation in the Squier Laboratory Shops, thereby permitting maximum tool-operating efficiency and a considerable saving of funds to the government.

The Electro-plating Plant was set up to handle plating for all Shops, and the larger experimental fabrication is accomplished at the Squier Laboratory Shops. The amount of experimental fabrication increased with the demands from the Office of the Chief Signal Officer so that the total personnel in the Shop Section increased to 456 by the end of August 1942. The greatest part of this increase was due to the fact that a considerable amount of construction on various leased

or purchased properties which necessitated the employment of large groups of carpenters, plumbers, electricians, and sheet-metal workers was assigned to the laboratory for completion. While this construction was a function of the Post Engineers, high priorities called for immediate action.

In January 1943, the various field laboratories became independent from Squier Laboratory, and the individual shop sections became part of the Service Branches of these respective laboratories. Sixteen thousand square feet of floor space is allotted for the shop with 273 the total in personnel.

In August 1943, all personnel were changed from Unclassified to an Ungraded series, and from a per annum salary to an hourly rate based upon prevailing industrial rates in this locality.

At the time of this writing, the quota permitted by the table of organization is complete, and no further expansion in activities is anticipated.