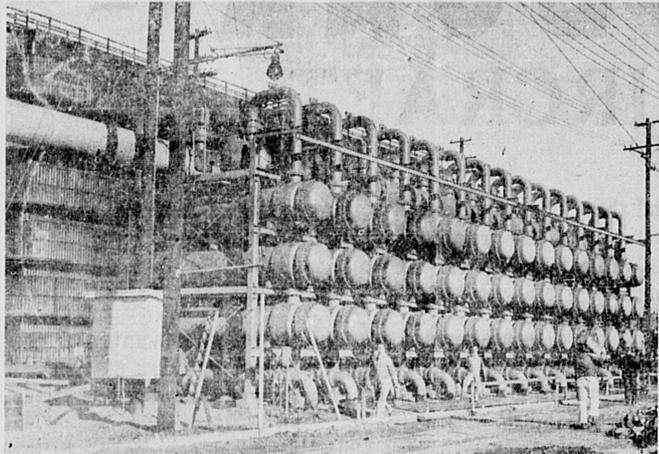
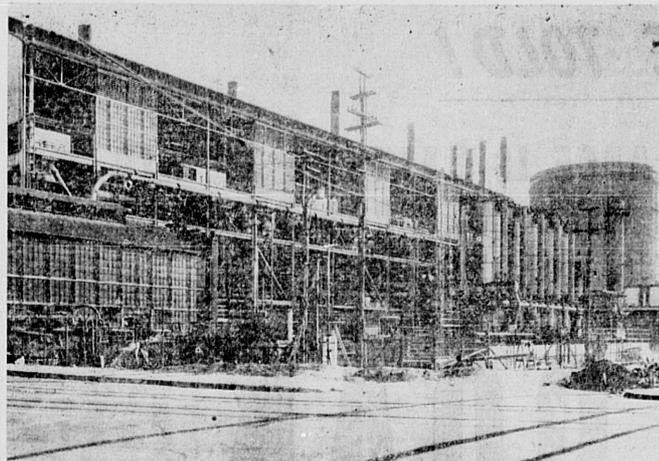
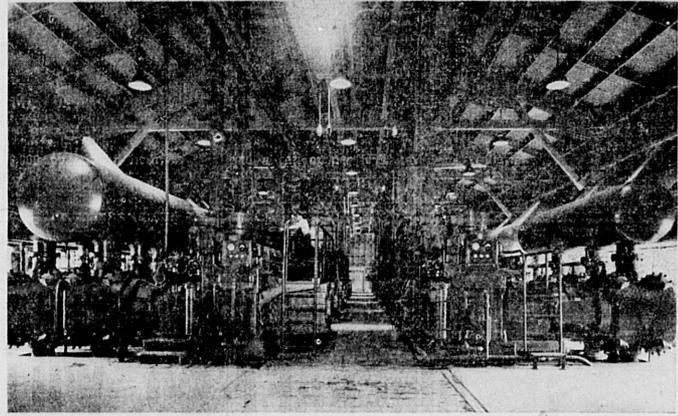
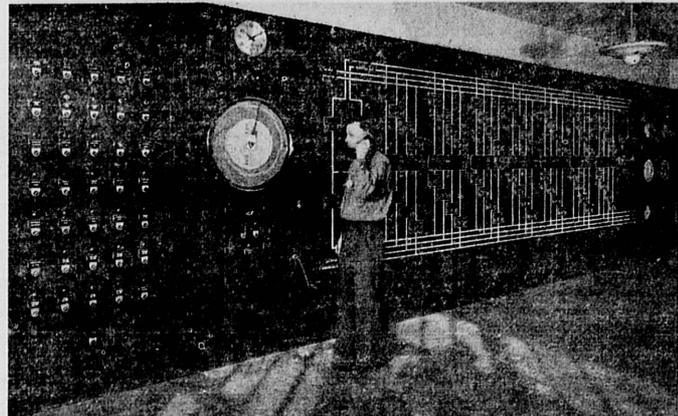
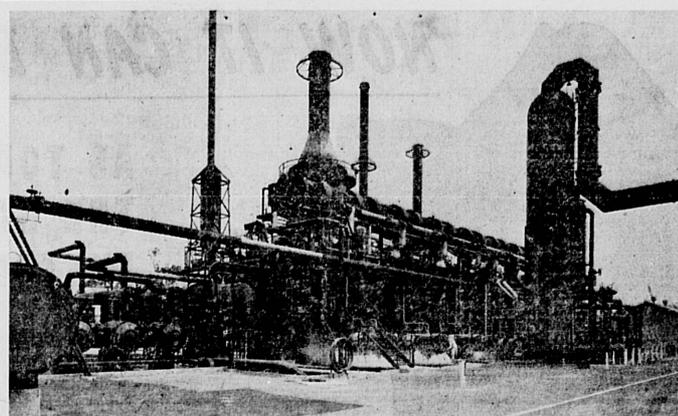


# Gas Company Called on to Convert Plant



**GAS PLANT CONVERTED . . .** Southern California Gas Company plant in Los Angeles, converted to the manufacture of butadiene last year, is capable of producing around 35,000 tons annually of this essential ingredient of synthetic rubber. Ten generators, operating in units of two, break down naphtha stock into its various chemical constituents, including butadiene, residual gas and other by-products which are recovered and utilized for the war effort. The butadiene is piped to the Shell Purification plant at Torrance.

**(Below) HEAT EXCHANGERS . . .** These were installed last year at the Southern California Gas Company's Los Angeles butadiene plant to prevent the escape of offensive fumes, cause of considerable local comment during the late summer. These units serve to cool the water which in turn cools the butadiene-bearing gas as it emerges from the generators.



**BUTADIENE PLANT . . .** Pictured above are three views at Standard of California's plant at El Segundo, which makes butadiene for shipment to the rubber-making units at Torrance. (Top) Reactors, Quench Column and Furnaces; (Center) Timer Panel in Control Room, which is typical of elaborate automatic control system used in all six synthetic rubber plants; (Below) Interior of Compressor House.



**GEORGE H. MOORE**, 15th district Councilman, learns about new synthetic truck tire construction which adds up to 40% to the life of heavy duty tires. Eric Smith, sponsor of a tire conservation meeting held last night at Wilmington, explains the new tire which is in production at the United States Rubber Company Los Angeles plant. While rubber men thus are making strides towards meeting the critical tire shortage, officials appealed to the public to do its part to keep vital transportation rolling.

## New Synthetic Rubber Product Found Essential to War Effort

A new synthetic rubber composition that acts as an electricity conductor instead of an insulant, has proven one of the most versatile materials of the war effort.

Impregnated into cotton fabric, it becomes an efficient heating pad when attached to electric currents. These units are installed on machine guns and aerial cannons to prevent jamming in extremely cold temperatures. The pad is covered with a synthetic rubber which insulates against outside short circuits. The total weight is less than three ounces. Tests have proved the new heating device of such efficiency that it will become standard equipment on all guns for fighter and bomber planes.

This new material, developed by the United States Rubber Company, has solved another serious problem in flying. A strip of the material is attached to the leading edge of each propeller blade. The passage of electricity through the material heats the leading edge sufficiently to keep ice from forming, an obvious advantage over methods of de-icing which function after the ice has already formed.

Airplane tailwheel tires made with this new rubber material are standard equipment on all U. S. planes. It acts in the same way as a drag chain behind gasoline tanks, dissipating

the dangerous static accumulations.

The conductive rubber was first devised in the course of a search for a way to eliminate sparks and static electricity in munition and powder plants where explosions of the volatile products have in the past been a constant danger. The use of the new type of rubber as soles for workers shoes and containers in these plants has reduced fires and explosions to a minimum.

In the post-war this miracle rubber is envisioned as a novel heating unit for homes in the form of decorative wall panels, according to Virgil Bodie, development engineer of the company's Los Angeles plant.

### KEEP FLOOR CLEAN

Oil is a natural enemy of rubber. The service department of the National Automobile Club reminds you to keep your garage floor clean if you would prolong the life of your tires.

## PIPELINES BRING CRUDE VAPORS FROM L. A.

June 26, 1942, Defense Plant Corporation requested Southern California Gas Company to convert its Aliso Street gas works to the manufacture of butadiene. This plant had a capacity of 50 million cubic feet of gas per day derived from diesel oil.

The company immediately undertook an exhaustive program of necessary research in the processes involved and actual construction began in September. At the peak of construction 500 men were employed at the project and actual production began on June 18, 1943.

Briefly stated, the process consists of cracking naphtha, or low grade gasoline, and obtaining a petroleum fraction composed of various hydrocarbon chains containing four carbon atoms. In the industry this is called a "C4 cut." The constituent gases include butane, butylenes and butadiene.

The crude butadiene and butylenes or C4 fraction are recovered by conventional gas absorption methods, from the gases produced from the petroleum vapors and are sent by pipeline to the Shell Chemical Company at Torrance for purification.

The other ingredients obtained as by-products are used in the manufacture of fuel gas, fuel oil and aviation gas. The raw materials for the process are obtained from refineries of Shell, Associated, Wilshire, Texas, Union Oil, General Petroleum and Standard Oil Company of California.

### Local Young People At Weekend Retreat

Five young people of Central Evangelical Church attended a weekend retreat held at the J.O.C. Lodge in Temescal Canyon, near Pacific Palisades. Those attending from Torrance, accompanied by the pastor, Rev. H. Wesley Roloff, were: Genevieve Pisel, Burna Morris, Loraine Turner, Jean Lovelady and Bud Helge.

The retreat, sponsored by the Southern District Young People's Union, was held over Saturday and Sunday. Leaders of the group included Rev. Roloff of Torrance, Rev. Carl Sterle of Glendale and Rev. Ed Wright of Burbank.

Recreation at the retreat included hiking, baseball and a trip to the beach by several of those attending.

## Standard Oil Has Huge Output at El Segundo

Enough butadiene for the manufacture of 3,300,000 automobile tires a year. That's the estimated annual production of a brand new plant, just recently completed at Standard of California's El Segundo refinery.

With research work begun as early as July, 1942, in Standard's laboratories at Richmond, Calif., construction was started in March, 1943, and the plant went into production in January of this year. It was built for the Defense Plant Corporation and is being operated by Standard for the Rubber Reserve Company.

### Complicated Process

The manufacture of butadiene, principal ingredient of synthetic rubber, starts with butane gas, a petroleum product. Butane is first dehydrogenated by the removal of four atoms of hydrogen from each molecule. Extremely high temperature is required for one phase of the process, after which the gases are compressed to liquid form.

The butadiene, a gas at atmospheric pressure but liquid at high pressure is extracted from this fluid. To cool the butadiene mixture from its high temperature, the plant pumps large volumes of water from the Pacific Ocean, a mile away.

At another stage of the job hot air, at high temperature, is blown through the reactors, where the conversion to butadiene takes place, at a rate of 80,000 cubic feet a minute, or 360,000 pounds an hour.

This air must previously be purified by electrostatic filters which remove any dust that might affect the action of the catalyst used to bring about the conversion. Heat from this air is then recovered in high pressure boilers, where it generates 55,000 pounds of steam hourly for operation of the many pumps and for process heating.

The compressor installation handling the various hydrocarbon gas streams in the process totals 7,500 horsepower. It is the largest compressor installation in the west.

### UCLA Will Start Classes In Testing Petroleum Products

Under supervision of the University of California at Los Angeles, a complete course in inspection and testing of petroleum products will open May 1 at the Phineas Banning High school in Wilmington.

Designed especially to train men and women to fill positions in the various testing laboratories of local oil companies, the course requires only high school graduation for admission. Classes meet in room 315 from 6:30 to 9:30 p.m. on Mondays, Tuesdays, Wednesdays and Thursdays for eight weeks.

Detailed information will be given through the University of California war training office in Long Beach, 6-6735, and supplemental gasoline to attend classes may be obtained under O.P.A. regulations.

### English Words Are Hurdle of Yanks, Lieutenant Writes

Mrs. D. A. Murphy of 2317 Sonoma st., Torrance, is on a "mailing list" of relatives to whom Lt. Al L. Smith, her brother, now with the U. S. Army in England, regularly writes "chain" letters. The officer writes alternately to several members of his family and each in turn passes along his letters.

On several occasions he has spoken highly of the activities of the Red Cross abroad. In one letter he wrote: "The American Red Cross has been most generous with our enlisted men and has given them gifts, cigarettes, etc., to make their journey comfortable."

Some English expressions and wordage sound strange to an American's ears and Lt. Smith in one letter, gave some examples:

A railroad ticket is a book; a hardware dealer is an ironmonger; a bartender (usually a woman) is a potman; an automobile battery is an accumulator; a bowling alley is a skittle alley; hard candy is boiled sweets; a railroad tie is a sleeper; a freight car a goods wagon; a street car is a tram; and a can opener is a key.

—as Torrance Is the Rubber Center of the West . . .

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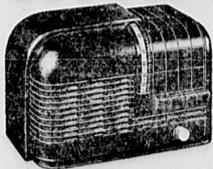
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