a-c scope

magazine of allis-chalmers people

march-april, 1960

Skin-Diver at Allis-Chalmers?

(Yes . . . see Page 12)

COVER PHOTO

A collector of unusual job titles might be interested in "skin-diver at a nuclear laboratory" as portrayed by Mark Healy on this issue's cover. Underwater inspection, manipulation and installation of pool-type reactor fuel elements is just one of the many facets of A-C's research into the fuel of the future at Greendale.

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PHOTO CREDITS

Cover — Mike Durante, West Allis Works; Pages 3-4-5 — Durante; Page 6, upper — Robert Howells, Boston Works; Page 6, lower — Frank Hart, West Allis Works; Page 7, upper left — H. R. Smith, LaCrosse Works; Page 7, upper right — Walter Beaver, Pittsburgh Works; Page 7, lower — Larry Dore, Lachine Works; Pages 8-9-10-11 — From Allis-Chalmers Annual Report and Engineering in Action publications for 1959; Page 12 — Arthur V. Swenson, West Allis Works; Page 13 — Durante; Page 16, top — William Whittaker, Cincinnati, O.; Page 16, center — Cincinnati Enquirer; Page 16, lower — James A. Brammer, West Allis Works; Page 17, top — Cincinnati Enquirer; Page 17, lower — Whittaker; Pages 18-19 — Dave Ward, LaPorte Works; Page 20, top — Oxnard, Calif., Press-Courier, Page 20, lower — LaPorte, Ind., Herald-Argus; Pages 22-23, lower — Brammer; Pages 21-22-23, others — Pilot Productions, Evanston, Ill.; Page 24 — Don Plichta, West Allis Works.

A-C SCOPE

MAGAZINE OF ALLIS-CHALMERS PEOPLE — Arthur V. Swenson, Editor . . . James A. Brammer, Assistant Editor. Published by Information Services, Industrial and Community Relations Division, Allis-Chalmers Mfg. Co., Milwaukee 1, Wisconsin.

Of Mice and Mousetraps

"If you build a better mousetrap, the world will beat a path to your door."

How often we have heard that old chestnut, without stopping to examine what it means in view of today's business world. Wouldn't we be naive if we assumed success comes to the person who merely builds a better mousetrap and waits for the world to beat a path to his door?

Let's face it, just building a better *anything* isn't enough. First you must build the best. Then you must be able to sell it at a competitive price. Then you must tell the world about it through advertising and sales promotion. Then you must establish the proper channels for service, replacement parts, etc., for your customers. Then you must be aware of what others are doing and be sure your product remains the best in quality, in price, in performance.

If you do all of these things and do them well, you have *some* chance of success. For while you're doing all of these things, a good many other people will be doing the same things as well as they can in hopes of achieving or maintaining success.

Allis-Chalmers does not build mousetraps, which may bring some cheer to the rodents of the world. But the same theory applies to A-C in today's competitive markets. It isn't enough to say "We make good stuff and everybody knows it." We need the finest design, the latest manufacturing facilities, the highest standards of quality, the most imaginative sales efforts, the most efficient production methods — in short, the best of everything.

We need maximum effort from every single Allis-Chalmers employe. We need to do our best, individually and as a team.

J. L. Singleton, senior vice president; R. S. Stevenson, president; and Louis Quarles and Joel Hunter, directors, listen to R. A. Hedden, works manager, Industries Group shops, West Allis Works, explain a steam turbine spindle manufacturing operation.

To All Allis-Chalmers People

A Report from President Stevenson

Total sales for our company's operations in the United States and Canada amounted to $539.6 million in 1959, as compared with sales of $532 million in the preceding year. Sales in 1959 were only $8 million short of 1956, the company's all-time high sales year. This was achieved in spite of strikes which shut down the company's major manufacturing plants for about 11 weeks in February, March and April.

Most of our income was recorded in the third and fourth quarters of the year. Sales were $166.6 million in the third quarter and $151.8 million in the fourth. Each of these figures is a record for the particular three-month period of the year.

Our earnings for 1959 were higher than those of the previous year, by more than $3 million, or 16 percent. Earnings amounted to 4¢ on each dollar of sales, an improvement over the 3.7¢ in 1958.

Payrolls for 1959 also set a new record. Even though more than 14,000 people were affected by the strikes, our payrolls amounted to more than $196 million in 1959, or $2 million more than in 1956, the previous high year.

HIGHLIGHTS

	1959	1958
Sales and Other Income	$543,337,852	$535,165,825
Employes		
Number of Employes	36,130	32,364
Payrolls	$196,137,782	$172,093,408
All Taxes	35,395,615	33,189,603
Earnings	22,864,963	19,657,958
Earnings per Share of Common Stock	2.47	2.34
Dividends Paid per Share of Common Stock	1.25	1.25
Number of Share Owners, Common Stock	62,414	58,347

At year's end, 36,130 persons were on the A-C payroll, nearly 4000 more than at the beginning of 1959. This total does not include the 340 employes who retired in 1959, who are now among the 3161 Allis-Chalmers people participating in the company's retirement and pension programs.

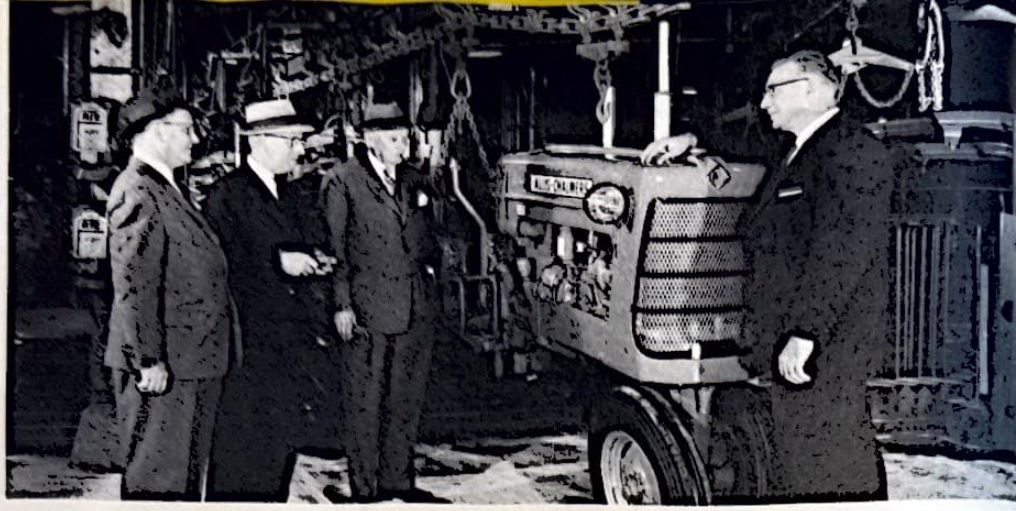
Many of our people — both active and retired employes — are helping the company fulfill its corporate citizenship responsibilities in the communities in which they live. At all locations, from all employment areas, Allis-Chalmers people are showing leadership in church, civic, cultural, political and educational affairs, and reflecting great credit upon themselves and their employer.

Our people are continuing to enjoy an extensive employe benefit program which includes pensions, vacations and holiday pay, health and accident insurance, group life insurance and many other elements. The "package" of employe benefits costs the company an average of more than $1200 per employe per year.

The labor relations picture is somewhat changed from what it was at the beginning of 1959. We now have a number of agreements with labor unions which run through 1961, and some running into 1962. All of these agreements have a firm "no-strike" clause, which safeguards both the company and its employes against work stoppages for the life of the agreements.

Seven labor contracts are open for negotiations in 1960, covering 2000 people. In spite of the strikes in early 1959, which conformed to the pattern set in the automotive and farm equipment industries, we regard our relations with Allis-Chalmers employes as excellent.

Several new programs were prepared in 1959 for company-wide use this year. One is a new employe suggestion plan. Another is a year-long program designed



Watching tractors come off the D-17 production line at West Allis Works are Boyd S. Oberlink, senior vice president; W. E. Buchanan and James D. Cunningham, directors, with Fred Worley, works manager, Tractor Group shops, West Allis Works.

$543,337,852 in Sales to Customers and Other Income in 1959

Here's How This Money Was Put to Work:

THIS IS OPERATING EXPENSE 95.8c

materials and operating costs

were equal to 51.5¢ per dollar of sales, or $279,964,000.

payrolls

amounted to 36.1¢ per dollar of sales or a record high payroll of $196,137,000.

federal, state and local taxes

took 6.5¢ of every dollar in sales, or $35,395,000.

depreciation and amortization

money set aside for this purpose came to 1.7¢ on the sales dollar, or $8,974,000.

THIS IS OUR PROFIT 4.2c

dividends

paid to share owners for the use of their invested money amounted to 2.1¢ per dollar of sales, or $11,520,000.

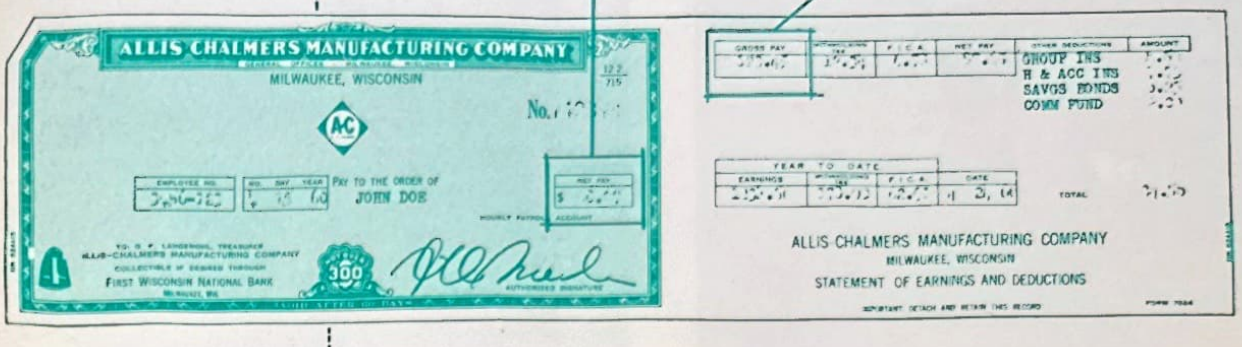
earnings reinvested

in the future growth of our company were 2.1¢ per dollar of sales, or $11,344,000.

What's Your REAL Paycheck?

THIS? What's left after making all deductions?

...THIS? What's there before deductions have been made?



Your REAL Paycheck

. . . includes what you're paid for doing your job, plus the contributions made by the company toward various employe benefit programs. Some deductions are made because they are required by law . . . others are made at your request. In many cases, Allis-Chalmers adds money to the amount deducted from your check, for example, Social Security and insurance plan payments. In other cases, the company makes no monetary contribution, but is responsible for the bookkeeping involved in making payments for you.

...OR THIS? What you started with, PLUS what the company adds in employe benefits?

to gain greater employe cooperation on operation problems. It is called "Teamwork for Progress," and it uses a new theme each month in its presentation.

Another new program "Safety EVERYWHERE . . . all the time!" carries the message of the Allis-Chalmers Total Safety Concept, taking safety beyond the plant to products, customers and off the job accident prevention.

Bookings of orders for electrical and industrial machinery exceeded shipments during the year. On December 31, 1959, the backlog of unfilled orders for this equipment was $245.2 million. This exceeds the backlog of a year earlier by more than 26 percent. Orders for farm equipment, construction machinery and lift trucks are not included in this backlog, since they are not booked until shipped.

During the past year, a large number of skilled, capable employes joined the Allis-Chalmers organization with the several new plants acquired by the company. Acquisitions in 1959 included York Works, Deerfield Works, Wauwatosa Works, Valley Iron Works Corp., and Allis-Chalmers Italiana, Milan, Italy. In addition, a large engineering office was established in Washington, D. C., with a staff of more than 200 persons engaged in advanced nuclear power plant design.

These new A-C people and the products they make are invaluable additions to the Allis-Chalmers family, particularly in veiw of the contribution they have already begun to make in experience and know-how.

Our capital expenditures — largely for modernization, higher efficiency and cost reducing equipment — amounted to nearly $5 million in 1959. This sum, added to the facilities acquired during the year, brought our total capital additions for the year to $13.6 million. Altogether, your company has invested $70.5 million in capital assets in the past five years.

Much of our success in the past has come from innovation and improvement in our products as we have steadfastly maintained our objective of giving the customer more for his money. Now, more than ever before, we are directing our attention to research, development and engineering. At the present time, more than 10 percent of our total employment is engaged in one phase or another of these activities. Approximately 5 percent of our sales income dollar goes into research, development and engineering.

At the same time, additional laboratory facilities have been provided, new computers for solving complex problems have been installed and programs for streamlining the engineering function have been undertaken.

Measured together, results of this total effort are of the greatest magnitude, and their output flows constantly into the stream of products and services marketed by Allis-Chalmers.

The number of share owners of Allis-Chalmers common stock increased in 1959, from 58,347 to 62,414. Dividends of $1.25 per share of common stock were paid in 1959, equal to those paid in the preceding year.

In looking back at 1959, we can be grateful to the entire Allis-Chalmers organization for working together so splendidly during the year — and to our customers, investors and suppliers for their support which was so evident throughout the year.

The economic health of our nation, and of the Free World, appears to be vigorous as we go into 1960. It will be a highly competitive year and there will be problems to face as individuals and as a team. But we can regard the outlook for 1960 as one which presents favorable opportunities for Allis-Chalmers and its people.

Directors D. A. Forward, Howard J. Tobin, Ernst Mahler and Willis Scholl, executive vice president, visit the Central Research laboratories, which are under the direction of Dr. H. K. Ihrig, vice president, right.

TEAMWORK FOR PROGRESS

REPORT ON '59

Among the A-C people taking part in the company's employe tuition refund program are these three Boston Works employes (left to right) Richard Borghi, Charles Kerrigan, Jr., and Francis Jurewich, shown in the library of Northeastern University. Kerrigan is studying traffic management, while Jurewich and Borghi are studying engineering.

For A-C People, Benefit Programs Continued, Many Expanded

Financial figures, such as sal earnings, don't begin to tell the s Allis-Chalmers and its people in For 1959 was a good year for Chalmers people, too, in many w

Continued support of accident tion campaigns, for example, mea working conditions on the job creased awareness of the need fo "know-how" in all situations aw our work.

These extensive safety campa all phases of the company's op added up to a real "plus" fo Chalmers people and their fam 1959. Best safety record for was earned by LaCrosse Works em who had a zero frequency ratin

One of the factors which con to this performance at LaCrosse use of department safety comm to "look after" new employes a

The McEvoy triplets, Roger, Faith and among the members of the A-C family ticipated in the company's health an insurance programs last year. Their fat McEvoy, is an inspector at West Allis

Demonstrating a phase of safety training at LaCrosse Works are (left to right) Ronald Ramsett, a new employe; John Weber, foreman, and Clarence Knutson, safety committeeman. LaCrosse Works had a zero accident frequency rating for 1959.

Activities of Allis-Chalmers retired employes increased in 1959, as the company continued its program of helping provide useful leisure for its 3161 people now participating in retirement and pension programs. Scene above is from one of the meetings of the Pittsburgh Retired Employes Club.

a point of calling their attention to safe practices on their assignments. The practice not only supplemented the supervisors' instructions, but also led to greater understanding and cooperation among supervisors, safety committeemen and new employes.

Employe benefit programs were continued, and in many cases expanded. Vacation and holiday, health and accident and group life insurance plans gave A-C people opportunity to enjoy life and have peace of mind, too.

Other benefit plans, such as the tuition refund program, continued to provide in 1959 real opportunity for self-improvement.

And our retired employes, now more than 3100 strong, enjoyed their association with their former employer, with their fellow retirees and with the communities at large. Probably no group of Allis-Chalmers people expects as little and deserves as much as those currently participating in the company's retirement and pension programs.

Yes, wherever you look, you'll see signs of the good life resulting from the company's expenditure of an average of $1215 per employe per year in benefit programs.

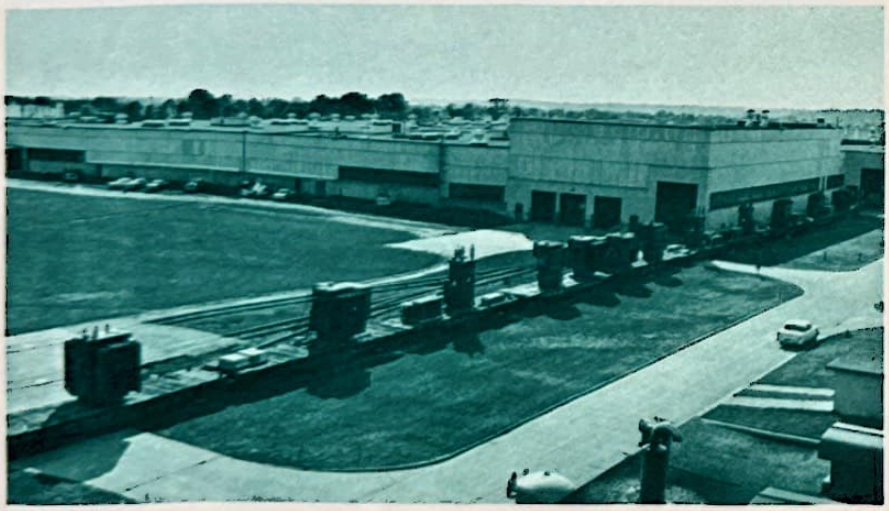
More than 2,000,000 hours of rest and recuperation were enjoyed by Allis-Chalmers people in their vacation and paid holiday time in 1959. Some stayed home, some took trips, like Maureen Walter (above), St. Thomas Works payroll clerk, who used her vacation to fly to England and visit her parents.

TEAMWORK FOR PROGRESS

REPORT ON '59

Many Markets, Many Products

The "hillside" Gleaner-Baldwin combine, built at Independence Works, is one of the new harvesting machines developed and tested by A-C in 1959 for sale this year. The unit was subjected to extensive field testing, with outstanding performance results.



This string of railroad cars provides temporary storage for Terre Haute Works transformers being prepared for shipment to A-C customers. Track is a spur between the Transformer Assembly building (not shown) and Manufacturing Plant No. 2.

Much of the credit for the company's higher sales and earnings for 1959 should be given to "ACAP" and the A-C sales and product departments.

"ACAP," or Allis-Chalmers Achievement Program, helped us regain in the remainder of 1959 the ground lost during the strikes at 10 manufacturing plants. This objective was reached through the all-out efforts of A-C people from the field sales organizations through the office and manufacturing areas.

The momentum of the program pushed our backlog of orders well beyond the total at the beginning of the year.

Power Equipment Division

Orders for steam turbine-generator units ranged up to 375,000-kw in size, with two units slated for operation in nuclear power stations in Michigan and South Dakota. A three-phase auto-transformer with the world's highest nameplate rating was introduced during the year. A new line of power transformers from Pittsburgh Works has its height and weight factors reduced by 30 percent.

Highlights of 1959 included the first A-C power capacitors and the extension of the line of large electric motors with superior resistance to moisture and other contaminants.

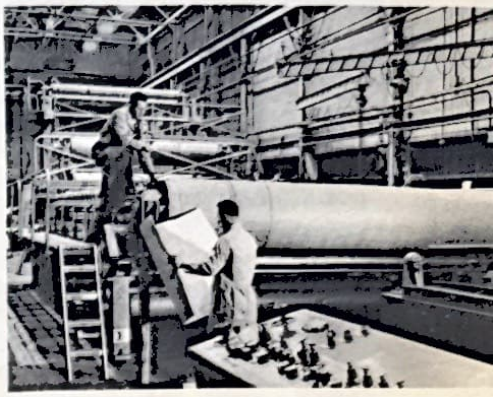
Farm Equipment Division

Two new farm tractors, the Models D-10 and D-12, were introduced with complete lines of implements in 1959. Several other new tillage implements were also brought out, while the harvesting machinery line gained a new series of mowers, forage harvester, power driven side-delivery rake, disc harrow and two-row cotton picker.

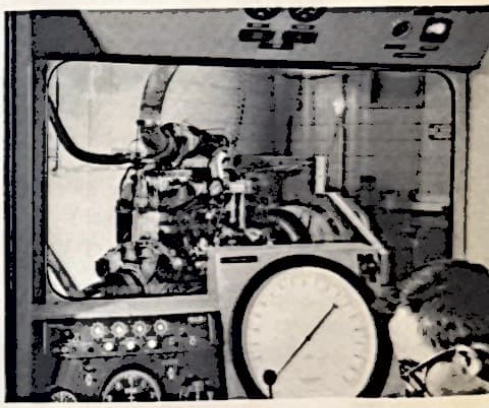
Industrial Equipment Division
(Combined with General Products Division in February, 1960.)

Research and development in pilot plant operation has brought many improvements for the processing and pelletizing of taconite iron ores. The A-C combination of traveling grate and ro-

These Allis-Chalmers compressors and steam turbine driven exhausters are installed at the Willgoos Turbine Engine Test facility powerhouse in East Hartford, Conn. The laboratory, owned by Pratt & Whitney Aircraft division, United Aircraft Corp., is capable of testing turbojet, turboprop and ramjet engines at simulated altitudes up to 80,000 feet and at speeds in excess of Mach 3, or three times the speed of sound.



Paper-making machinery like this Fourdrinier unit are made in Appleton, Wisconsin, by Valley Iron Works Corp., a subsidiary of Allis-Chalmers acquired during 1959. This unit undergoing final inspection is destined for a paper company.



Engine testing is carried on in test cells like this one at the modern engineering development and research laboratory at Harvey Works. A new multi-million dollar manufacturing facility is now under construction at Harvey Works to supply engines for direct sale to customers as well as to provide the power for machines made at West Allis, Springfield, Harvey, LaPorte, Independence, Cedar Rapids and Deerfield Works.

tary kiln moved from pilot plant to commercial operation in the areas of iron ore agglomeration and the production of high calcium lime.

Three of the largest rotary cement kilns in the world were under construction at Allis-Chalmers in 1959, for installation in Argentina, Montreal, Que., and southwestern United States.

A new, multi-stage, high-efficiency centrifugal compressor was developed during the year, to meet a requirement for which there are many applications.

Construction Machinery Division

Highlights of 1959 were the introduction of two new earth-moving machines and the acquisition of Deerfield and Wauwatosa Works — which considerably broadens our competitive range.

The giant TS-360 motor scraper, brought out by Cedar Rapids Works in 1959, has many features which will recommend it to the A-C customer—heaped capacity of 30 cubic yards, an exclusive differential which provides advantages under adverse conditions such as mud or soft ground, a diesel engine built at Harvey Works which develops 340 horsepower at 2000 rpm.

General Products Division
(Combined with Industrial Equipment Division in February, 1960.)

Two new lines of silicon rectifiers were introduced in 1959, one designed for heavy-duty steel mill and industrial applications and the other for general industrial needs. A new line of low voltage general purpose control equipment, coupled with additions to the line of

high voltage motor controls, rounds out a complete line of A-C controls available to industry.

Our vertical turbine pumps are now available in 40 sizes, capable of moving 20 to 8000 gallons of liquid per minute to heights of 400 feet or more.

Engine and Material Handling Division

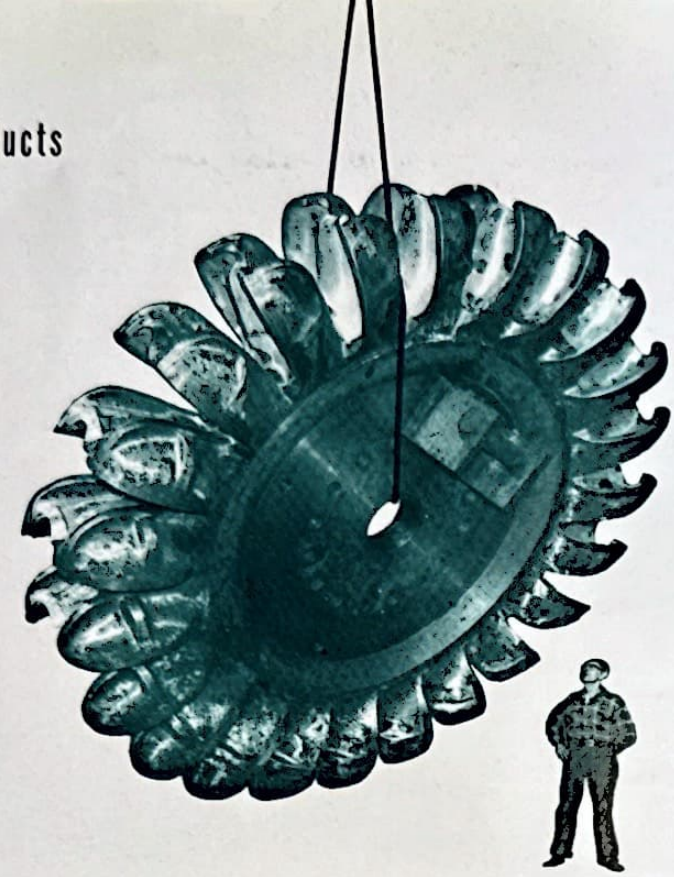
Three fork lift trucks and four new engines were added to the engine-material handling line in 1959. The new trucks are powered by engines using gasoline or liquid petroleum fuel, while the largest of the three is also available with a diesel engine.

Two heavy-duty diesels were developed during the year at Harvey Works, with 230 and 340-horsepower ratings, to provide power for crawler tractors made at Springfield Works. The larger of the two also provides turbo-charged powered for the new giant motor scraper built at Cedar Rapids Works.

Hydraulic Turbine Division

During the year, the most powerful Kaplan-type hydraulic turbines designed to date were built for Ice Lock Harbor and Dam in Washington. Each develops 143,000 horsepower. Seven similar units are now being built for a Columbia River power project.

Twelve turbines are under construction at West Allis and York Works for the Tuscarora storage project in New York. These units will operate as reversible pump-turbines. The generators for Tuscarora are being built at West Allis Works. Allis-Chalmers is the only company which can supply both the hydraulic turbines and the generators for a project of this type.

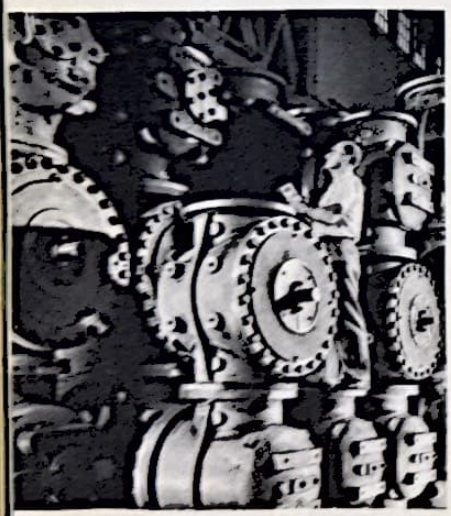


When it comes to big jobs, Lachine Works of Canadian Allis-Chalmers takes a back seat to nobody. This 150,000 horsepower impulse wheel is for a hydraulic turbine being installed at the Kemano power station in British Columbia. It was fabricated of 13 percent chrome steel.

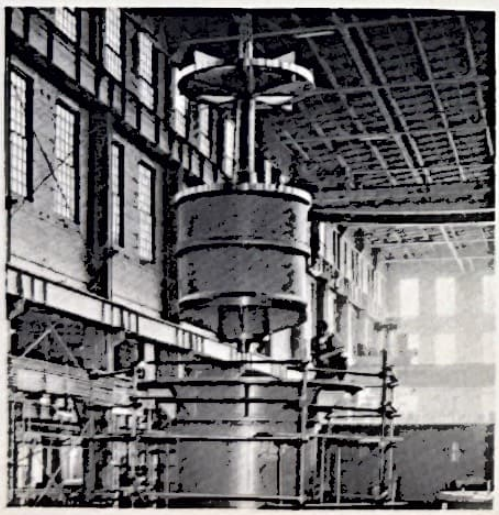
Defense Products Division

The Defense Products division was created during the year to coordinate and better serve the government's defense needs. In addition to coordinating the company's entire facilities on major projects, the division is accelerating sales programs for established products which can be used in the defense programs.

The year's projects included an A-C silicon rectifier unit for a research project into controlled nuclear fusion, a new radio frequency induction heater for high temperature metals research, and the use of a 25,000,000-volt betatron to x-ray solid fuel propellants for missiles.

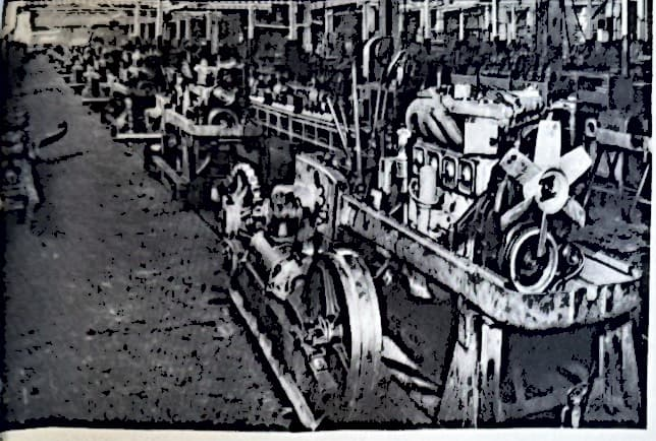


Valves stacked high at York Works are ready for movement to the assembly floor. The basic valve is machine finished, assembled and equipped with the necessary operating mechanism. After operational and leak testing, the valves are ready for shipment upon receipt of order.



The rotating element of a circulating water pump is lowered into place at West Allis Works. Now in service at a midwestern power plant, this unit performs at the rate of 198,000 gallons per minute.

Resistance of *Super-Seal* motors to moisture and other contaminants is graphically shown by this partially disassembled view taken at Norwood Works. Promotion of Allis-Chalmers insulation materials included mud and clay baths, motors operating under water, coated with ice, and other effective demonstrations.



Here is the assembly line of one of the facilities acquired by Allis-Chalmers in 1959 — A-C Italiana, S.p.A., located near Milan, Italy. The majority-owned subsidiary was established through purchase of the assets of Vender, S. p. A. It provides the company with a line of crawler tractors for sale in the European common market area.

TL-20, largest unit made at Deerfield Works, typifies all-around ability of rubber tired wheel loader in municipal service. These units remove snow in winter, also work in park and street service.

Atomic Energy Division

The company's activities in the field on atomic energy continued to expand in 1959. Acquisition of the ACF nuclear reactor engineering group — now Nuclear Power Department, Washington — greatly enlarged the division's staff of scientists and engineers and current contracts for the design and construction of various reactors.

Now in design and construction are the Elk River and Pathfinder power reactors, and the AEC experimental gas-cooled reactor. Research and test reactors include those for Wright-Patterson Air Force Base, the Netherlands, Sweden and the University of Maryland.

Valley Iron Works Corporation

The Valley Iron Works facility of Appleton, Wisconsin — well known in the paper industry as a builder of pulp and paper machinery — was acquired in October. It will operate as a wholly-owned subsidiary and continue to manufacture pulp and paper making machinery.

Allis-Chalmers International

Construction Machinery division products played an important part in the company's overseas shipments in 1959, due to the construction and development programs under way in most part of the world.

Cement plants and hydroelectric installations made news during the year, while processing machinery, pumps and motors also figured in large overseas orders.

Manufacturing operations abroad were expanded by the acquisition of a crawler tractor plant in Italy. Our plant in Mexico, which has been making distribution transformers, added circuit breakers to its line in 1959.

Research

Use of a revolutionary new source of power — fuel cells — to operate a farm tractor attracted world-wide attention to Allis-Chalmers in 1959. The development gives greater promise that fuel cells will soon furnish power for commercial operations.

Allis-Chalmers research also moved forward in other fields, including: A new, simple silver-plating process for aluminum; a family of high temperature resistant materials, harder than glass, capable of being shaped by standard machining before final heat treating; two unique machines to compact animal feed — a high density rotary baler and a hay wafering machine that produces a four-inch cake of compressed livestock feed; a pilot model direct reduction kiln that successfully produces pellets of metallic iron from finely ground iron oxide; a hot-blast water-cooled cupola that produces experimental heats of gray iron directly from the pellets produced by the reduction kiln.

HD-21 crawler tractor, built at Springfield Works, is shown skidding a load of logs out of a Washington forest amid majestic scenery. Helicopter in scene is engaged in aerial seeding of a tree farm, simultaneously with the logging operation.

Atomic Age is Reality for A-C Division...

at Greendale

(NOTE: In the November-December, 1959, issue, A-C Scope took a look at the Allis-Chalmers people on the job on the C Stellarator Associates project at Princeton, N. J. Because of the previous coverage of that operation, this article deals primarily with the Atomic Energy Division's Washington, D. C., and Greendale, Wis., installations.)

Since the first awesome revelations of nuclear energy, nearly 15 years ago, the general public has looked for the day this energy would be harnessed for peaceful purposes.

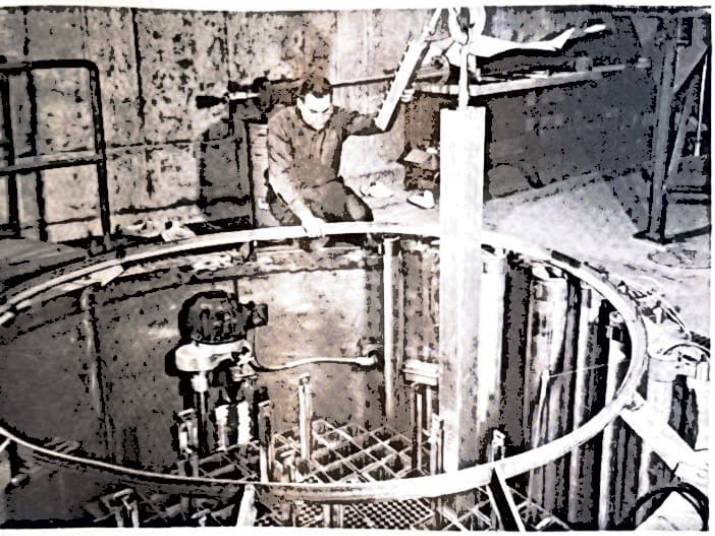
So far as the company's Atomic Energy Division is concerned, that day has arrived. Electric power *can* be produced safely with nuclear reactors, and Allis-Chalmers can point to several installations to prove it.

Today, the Atomic Energy Division can show the customer an impressive array of reactors operating or being built in the United States or overseas.

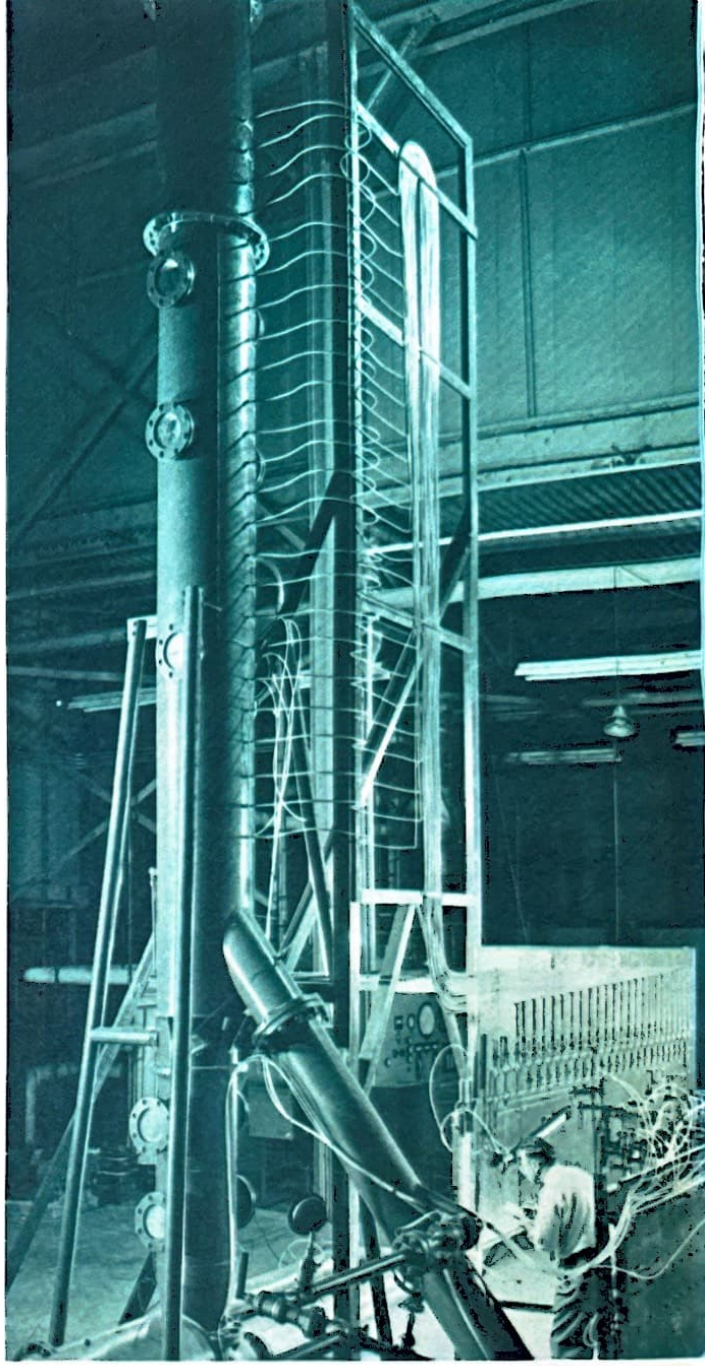
Use of a geiger counter probe to detect radiation in a fuel rod element is part of this classroom demonstration at Greendale laboratory.

In photo at left, Nuclear Power Department-Greendale (NPD-W) supervisors watch as R. W. Klecker (standing), project engineer, points out a design feature. Around the table (clockwise from left foreground) are K. H. Gruenwald, supervisor, Systems Engineering; C. B. Graham, chief engineer; C. R. Braun, manager, NPD-W; T. R. Gaulke, supervisor, Materials and Chemistry; R. G. Michel, supervisor, Mechanical Engineering; R. J. Hall, supervisor, Reactor Physics, and C. E. Klotz, supervisor, Core Engineering.

Fuel storage vault in the critical facility building at Greendale houses nuclear fuel elements used to make up the "working" portion of larger fuel control rods.



Overhead crane is used to lower nuclear fuel element into core of critical test facility at Greendale nuclear research facility.



Reactor steam separator test loop is one of the assemblies set up at Greendale laboratory for research into various scientific and engineering problems posed by power and research reactor projects now under way.

The division has tremendous depth of experience and manpower — in nuclear work going back to the original bomb projects and extending through the Pacific bomb tests, the first nuclear submarines and the early generation of electricity through use of nuclear power.

In experience, too, the division's manpower pool was "on the ground floor" in the development of pumps, steam turbines and complete systems for operations of this type.

Behind this experience and know-how in the nuclear field are research and engineering facilities, such as Greendale laboratories, and experimental projects areas of West Allis Works — facilities which pre-test the drawing board's output long before its installation at the customer's site.

All of this is coupled with production and manufacturing facilities second to none in achieving what is sometimes called "massive precision," the careful fabrication of huge components required in this field.

Yes, nuclear power is coming of age, and the company's Atomic Energy division is playing a large role in this development. Heading up this operation is R. M. Casper general manager, Atomic Energy division, and a vice president. Casper's experience with Allis-Chalmers has been concentrated in power — the kind of power produced by huge Allis-Chalmers machinery. H. A. Bartling, assistant to Casper, is another veteran of years of experience with power and power systems.

The Atomic Energy division's operations are divided into three main areas. One, Nuclear Power Department-Greendale, is headed by C. R. Braun, manager, a veteran of the company's original Nuclear Power department who has seen service (on a loan basis) with the Argonne Laboratory experimental boiling water reactor plant operated by the

Atomic Age is Reality for A-C Division...

at Washington

Staff meeting at Nuclear Power Department-Washington involves Harold Etherington (second from left), manager, and (left to right) Henry C. Nickel, assistant manager; Harold C. Tellock, manager of administration; William M. Hawkins, Jr., manager of research and development; William S. Farmer, Jr., manager of planning; William F. Banks, manager of Experimental Gas-Cooled reactor project.

Atomic Energy Commission at Lemont, Ill.

Another of the division's main areas of operations is Nuclear Power Department-Washington, (NPD-W) headed by Harold Etherington, manager. This office, with more than 200 employes, includes the personnel and facilities acquired by Allis-Chalmers from ACF Industries in 1959.

The third area of operation for the division is C Stellarator Associates, located at Princeton, N. J., and headed by Leonard J. Linde, manager, and former director of electrical engineering, Industries Group.

The integration of these operations gives Allis-Chalmers its complete coverage of the atomic energy field.

At Greendale, for example, a critical reactor is operated as part of the research and development program. In addition, the laboratory has the size and facilities to erect and test full-size steam and water components for reactor plants under construction.

Radiation security and precautions are part of the way of life at Greendale, and extensive training sessions are conducted to acquaint company and customer personnel with the correct procedures for handling, storing and working with radioactive fuel elements and systems. A "mock-up" of a pool-type reactor occupies a large tank on the lab floor, and this, too, is used to train per-

A 20,000-kw reactor for test and research purposes, is being built by A-C for the Netherlands. The company will start up the unit as well as train the operators.

Talking over the 5000-kw research reactor sold for installation at Ispra, Italy, are (left to right) Otto Drollshagen, project engineer; J. J. Dickson, assistant manager of reactor engineering, and Dr. Gianfranco, Italian nuclear engineer.

Joseph H. Tillou, chief inspector, and George Davies, field inspector, are shown here with a fuel element control rod from the reactor being built by A-C for Wright-Patterson Air Force Base.

sonnel in underwater inspection and manipulation of fuel element and control rods. This issue's striking cover photo was taken as a Greendale scientist was working on the mock-up, which is equivalent to one-eighth of a full-size pool type reactor.

Incidentally, none of the division's operations — at Greendale, Washington or C Stellarator Associates — do any manufacturing. A casual visitor's impression of the Washington office, for example, might be that it's unusual for the company to have 200 people working somewhere and not ship a product out the door at the end of the day.

Actually, Washington's product is engineering and design, and it's being shipped to customers and prospective customers every day. The Atomic Energy Division has the ability to take a customer from the "talk about" stage to the actual startup of a reactor power plant. Right now, for example, while work is being done on the erection of a reactor power station at Elk River, Minn., NPD-W is training the utility's personnel who will eventually operate the station.

Nuclear reactor design, whether for power or research test facility, still follows many forms. The company is able to explain to the customer the fine points of various types of reactors and able to tell the customer which type of reactor will suit his needs best. The customer has no backlog of experience here. Even though he may have ordered a nuclear power generating plant, he's not ready to say "Give me another of the same," or "I'd like to try another type this time," the way he conceivably might in the case of conventional power-production equipment.

Always foremost in the customer's mind are two things — the dollar sign and the convenience of working with conventional fuels such as coal, oil or gas. While initial cost is high, Allis-Chalmers engineers and scientists are confident that nuclear power generation will soon be competitive with the older fuels in the areas of high-cost fuel. At the present time, costs are being pushed down as experience shows what can and can not be done to save the customer money.

There's no chance, yet, to do much standardizing of nuclear plants. "In this country, nobody wants the same as somebody else," Etherington points out. "We're where horseless carriages once stood, with various types of reactor to offer. Eventually, we'll be able to show the customer which type of reactor is the best," he adds.

We can expect to see reactor power plants going bigger and bigger in capacity, and higher and higher in efficiency. The containment (the dome-like structure encasing the nuclear portions of the plant) may some day be eliminated entirely.

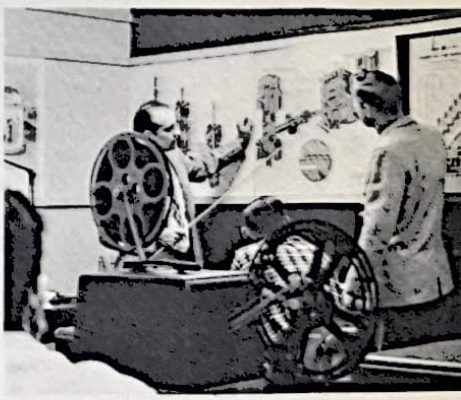
Where is the future of nuclear power? Right here, with us today, with test and research reactors for colleges and laboratories, with power reactors for the electric power companies.

As the United States and the free world continue to increase their requirement for electric power, it's safe to expect that Allis-Chalmers will help generate this power — through nuclear, steam and hydraulic sources.

Scheduled to go into operation soon is this 22,000-kw reactor built by A-C for the Rural Cooperative Power association, Elk River, Minn. The unit operates with existing plant facilities and will produce steam at same temperatures and pressures as that from the existing boilers.

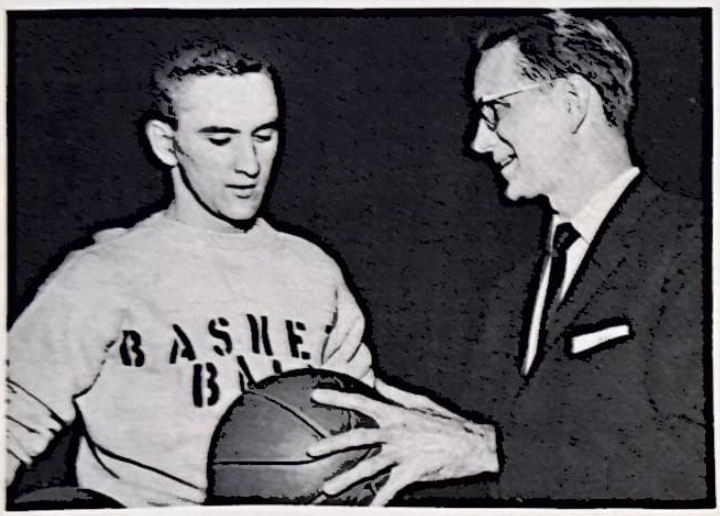
Left to right at Nuclear Power Department — Washington are Francis J. Nolan, nuclear engineer; Lewis E. Malcolm, Jr., senior project engineer, and Charles H. McDonnell, senior engineer.

Joseph H. Blachley, project manager, Elk River project, confers with Lesley L. Seyler, construction and material control supervisor, at NPD-W.



Training of customers' operating personnel is included in delivering the "package" of a nuclear power station. Here is Samuel D. MacKay, nuclear engineer, conducting a class for men who will operate the Elk River reactor station.

On the bench, Carl Bouldin (left) gets instructions from Coach George Smith before returning to action for the University of Cincinnati.



John Bouldin, Norwood Works material control, shows his son Carl the light touch he used in his playing days as a member of works basketball teams in Norwood industrial league play.

Basketball a Family Affair for Norwood's Bouldins

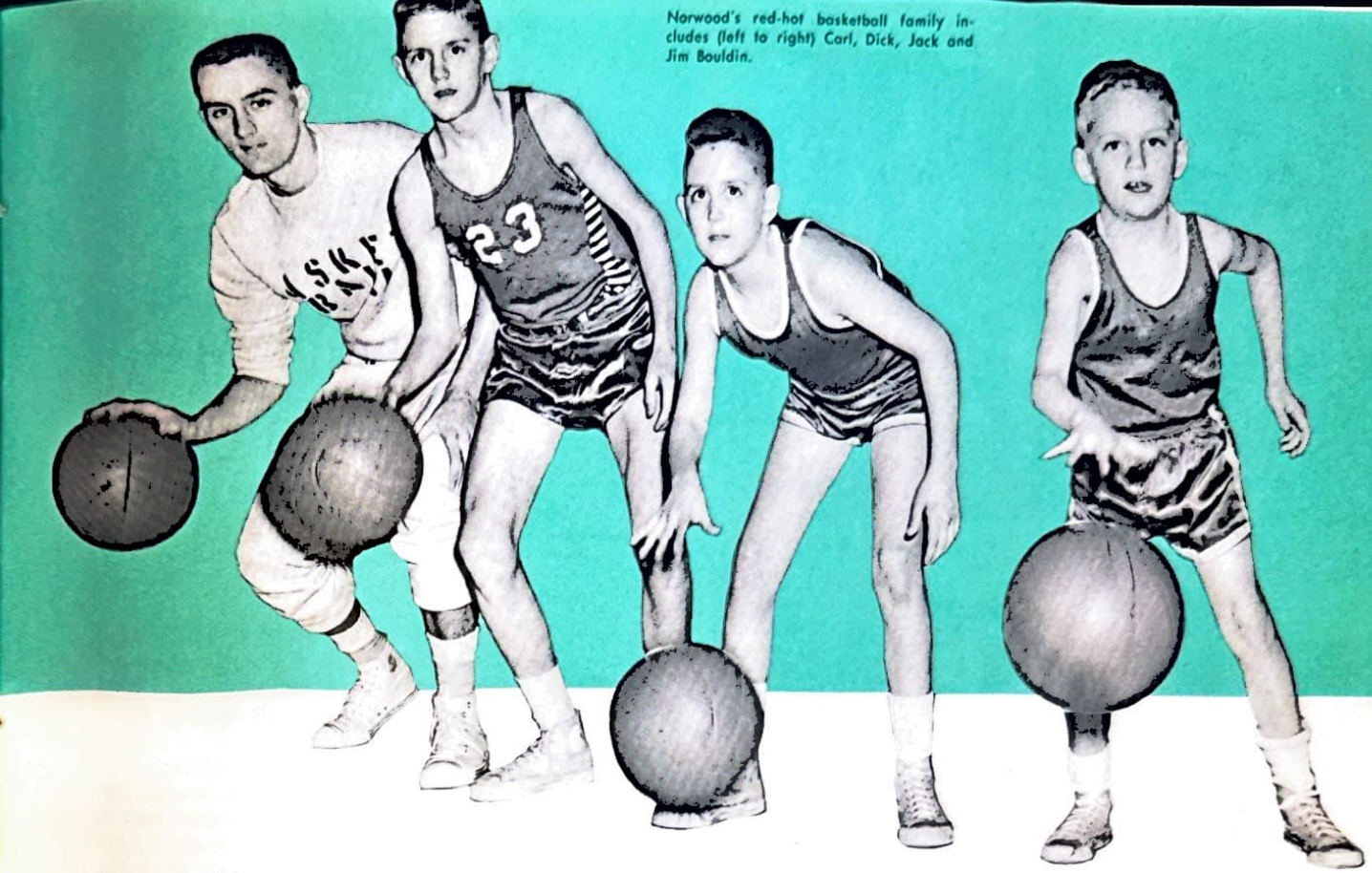
John Bouldin, Norwood Works, shoved a basketball into the hands of his oldest son at the age of two. Today, the son, Carl, is a starting guard on the nation's number one basketball team, the University of Cincinnati.

Teamed with such players as All-American Oscar Robertson, Ralph Davis, Larry Willey and Paul Hogue, Carl has earned a position on one of the finest basketball clubs in the last decade.

As World War II was making history with the attack on Pearl Harbor, the Bouldin family lived in Germantown, Ky. Carl, possibly the quietest man on the UC squad, explains "Dad got me a hoop with a bell on it and as I grew taller he kept raising the basket." Not long after Carl was given his first basketball, the family moved to Norwood.

Ever since he started playing organized basketball at Williams Avenue Elementary School in Norwood and later, when he was captain of the Norwood High five, Carl has wanted to play for Cincinnati. As Carl was starring (20 points per game at Norwood High) on

Three reasons for the University of Cincinnati's phenomenal basketball success this season are (left to right) Coach George Smith, Oscar Robertson — rated the nation's best college basketball player — and Carl Bouldin, a dependable regular on the Bearcat team.



Norwood's red-hot basketball family includes (left to right) Carl, Dick, Jack and Jim Bouldin.

the hardwood, the Bouldin family grew and now there are Connie, 18; Dick 14; Peggy 13; Jack 9; and Jim 7.

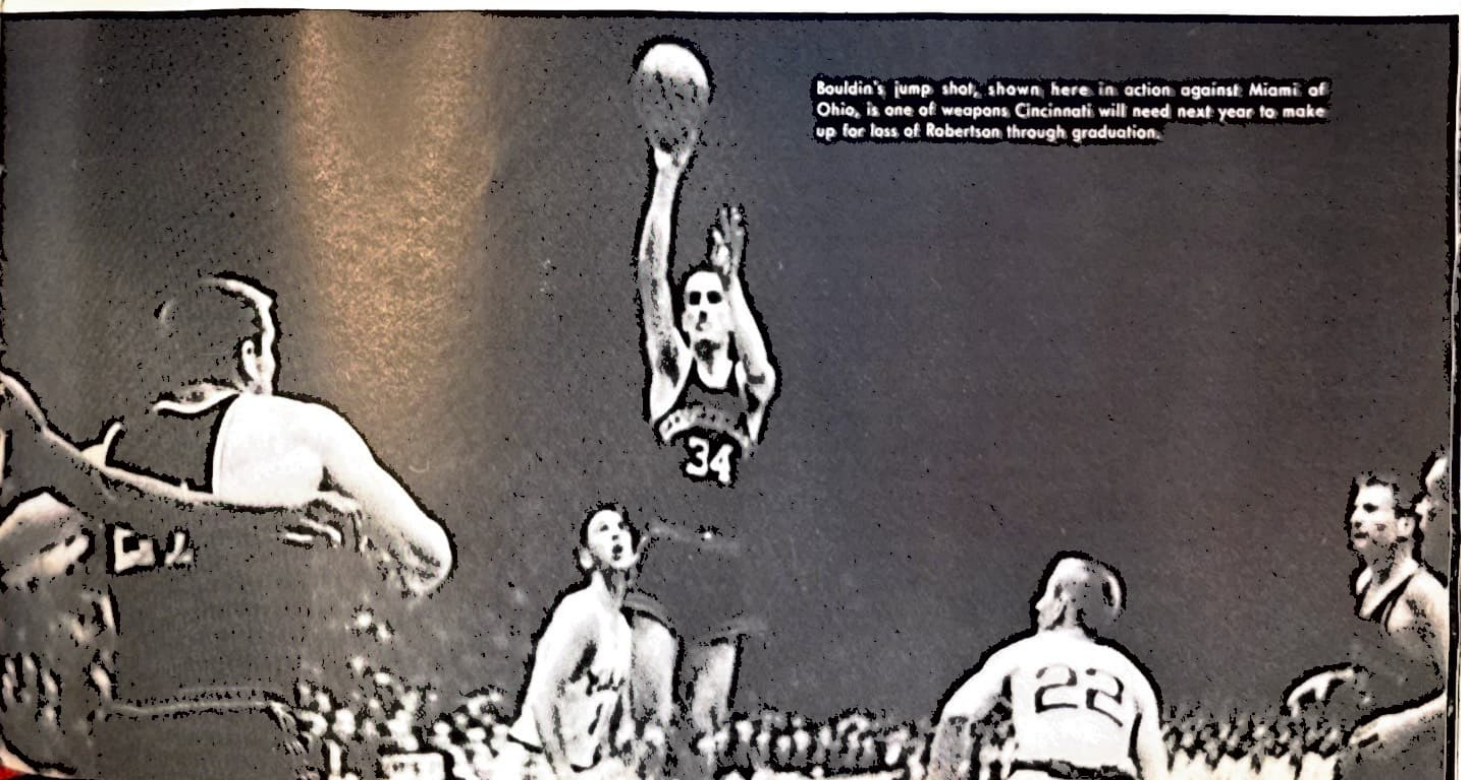
Carl's brothers all play on school or church teams and give demonstrations at halftime of fancy passing and dribbling. This is a direct tribute to John Bouldin, who led several Norwood Works teams to championships in industrial play. He has worked with all of his sons to develop their abilities.

Carl is by no means a one-sport athlete. He is an outstanding member of the Bearcat baseball team. A pitcher, Bouldin racked up a 6-0 record along with a glittering 1.41 earned-run average, the best in the Missouri Valley conference. Carl admits to having a desire to enter the ranks of professional baseball.

The Bearcats closed the current basketball campaign as strong contenders for the National Collegiate Athletic association title. They lost a tough one to California in the semi-finals, but recovered to defeat New York University the next night to finish third behind Ohio State and California.

Carl thinks the 1960-61 season will be all right. The Bearcats will lose their all-time college scoring marvel, "the Big O", and Davis and Willey, but "We'll still have the height and experience — both count plenty," says Bouldin.

You can be sure that the Bearcats will be gunning for the National Championship next season. If they can grab it, it'll be a dream come true for all of the University of Cincinnati backers and for the John Bouldin family of Norwood — all eight of them.



Bouldin's jump shot, shown here in action against Miami of Ohio, is one of weapons Cincinnati will need next year to make up for loss of Robertson through graduation.

Margi Hoy, Norwegian exchange student, enjoys her role as a LaPorte, Ind., high school pupil.

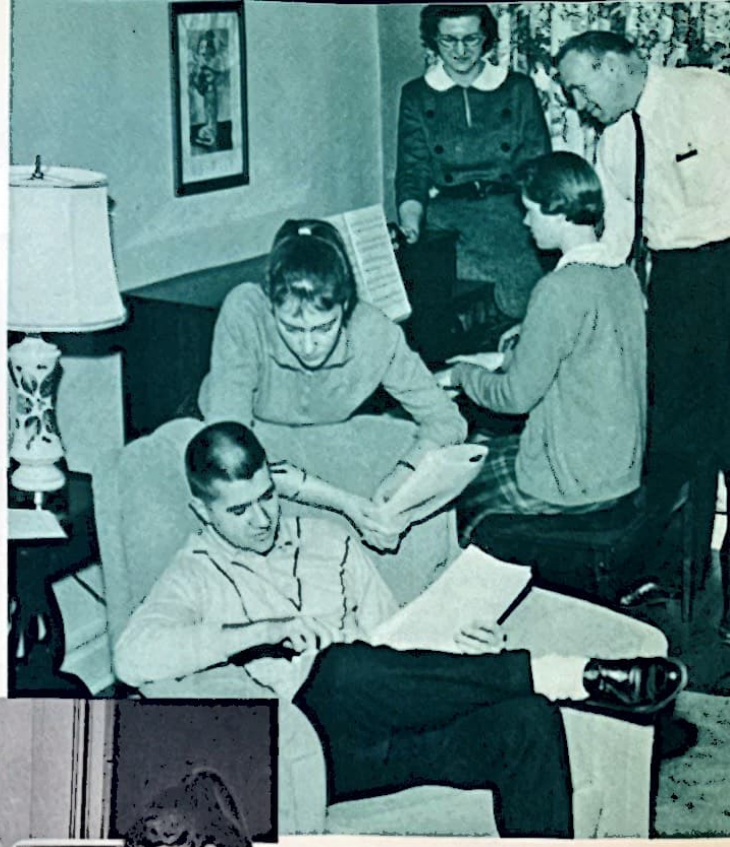
Teenage "Ambassador with Pony-Tail"

Anne Margrethe Hoy, Norwegian citizen, native of Oslo, fingered her pony-tail hair style and answered "Sure, I like LaPorte and I sure do like going to school here."

Margi, as she has been nicknamed, is part of the American Field Service Student exchange program. She arrived in the United States during August 1959 in time to make her home with the W. Dale Guyer family and start school at LaPorte High School. Dale is superintendent of industrial engineering at the LaPorte Works.

The purpose of her year in the U. S. is to acquaint her with American life and the different ideals, customs and people to be found here. She is an ambassador from her country and has something to offer Americans in giving us an understanding of Norway's life.

As a teen-ager, Margi Hoy of Norway enjoys the companionship of Anne Guyer (left) daughter of Dale Guyer, LaPorte Works.



How has she been able to make the transition? Just fine — and perhaps that is an understatement. Margi speaks flawless English, although not always American as do some of her "Kookie" talking classmates. She is very much a part of her school's extra-curricular activities.

Mrs. Guyer, who teaches French and Physical Education at the high school, says that Margi's grades (three A's two B's and a C) would lead one to believe that she was a grind. This is anything but the case, for with all of her school activities, Margi has been very busy with her speaking engagements to the Rotary, WSCS of the Methodist Church, Scout groups, P.T.A. groups and others.

In her daily life with the Guyer's, Margi helps with the house work, cooking and in general the things that occupy the typical American teen-ager. She is interested in television but remains very selective in her choice of programs. The radio, which is on the biggest part of the time when Margi and Ann Guyer, a sophomore, are home, is a high point of American life. "In Norway," Margi says, "We don't have as much radio programming. I think that I will miss the radio very much when I return to Oslo, especially the disc jockey programs."

Margi misses the winter sports of her native land but in a recent letter from her Mother, Mrs. Hoy told of rain and "we never have rain in the winter time", said Margi. "I guess that everyone is having goofy weather all over the world."

Margi, as well as her friends of LaPorte, Indiana, a representative American town, feels that people the world over really aren't so different at all once you get to know them. With the American Field Service program, that is just exactly what fellows and girls are doing — getting to know one another.

Mr. and Mrs. Dale Guyer watch their daughter, Anne, play the piano as Norwegian student Margi Hoy quizzes Dale, Jr., about the courses he's taking as a freshman at Purdue university.

Margi Hoy (right) is enthusiastic about some American customs, for example, raiding the refrigerator with Anne Guyer.

Scholarship information is the subject of this discussion between Margi Hoy and her LaPorte high school counsellor, Mrs. Robert Coffeen, and principal, J. Robert Miller.

Cited for Community Service

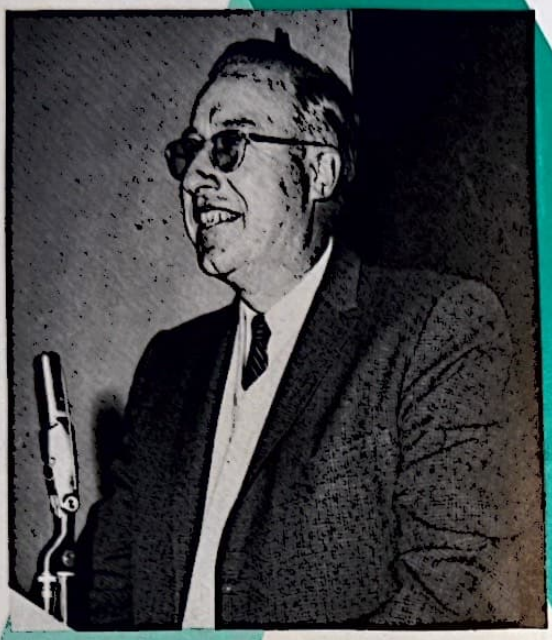
The two Allis-Chalmers men shown in the photos on this page might be said to be "lucky." Each won an award he didn't expect, for doing something he enjoyed doing.

Each of these men is a general manager of an Allis-Chalmers works — E. E. Houston at Oxnard, Calif., and J. B. Klassen at LaPorte, Ind. Each has a heavy enough work load to justify any tendency toward civic inactivity.

But these men did not choose to be inactive. Each took part in the life of his community, not as a joiner, but as an active planner and doer.

Houston and Klassen were not the only Allis-Chalmers people who worked for community betterment in 1959, nor are they the only A-C employes who received awards for the many hours of selfless service they gave. But they are typical of many of our fellow-employes who try to do as much as they can for the benefit of the community in which they live.

A-C Scope congratulates these two men for the recognition given them by their communities. And let's make it a sincere "keep up the good work" to A-C people engaged in volunteer community service, everywhere.



"This is the greatest moment of my life..." is the reaction of E. E. Houston (above) upon being named Distinguished Citizen of the Year in Oxnard, Calif. Houston, general manager of the Allis-Chalmers Works at Oxnard, has lived in the west coast city 22 years. The citation which accompanied his award said, in part..."had given of himself during the past year in time, effort and interest. He has worked consistently with children of all ages, training them for competitive swimming if they so desired to participate (This was not a prerequisite, however, in attending the swimming classes). He has given at least 10 hours a week to this program, throughout the entire year."

Houston helped organize both the Boys Club and the YMCA in Oxnard, is chairman of the Oxnard district and vice president of the Ventura County Council of the Boy Scouts. He has worked for the Community Chest, is a past vice president of the Chamber of Commerce and a member of the Rotary Club.

J. B. Klassen (center), LaPorte Works general manager, is shown receiving the 1959 "Good Citizenship Award" from Glen Heatherston (left) president of the LaPorte Junior Chamber of Commerce, and Robert Carman, chairman of the annual Distinguished Service Award banquet. Klassen was cited by the Jaycees for his outstanding service to the community and particularly for his leadership in the United Fund campaign in his community. In addition to his work on the United Fund, Klassen is a member of the YMCA and American Red Cross boards of directors; chairman of the Community Growth and Planning committee of the LaPorte Chamber of Commerce; treasurer of the LaPorte Manufacturer's association; trustee of St. Joseph's Catholic Church; member of the board of directors, Pottawattomie, Boy Scouts of America, and a member of the LaPorte Rotary Club.

SAFETY EVERYWHERE... all the time

Safety round the clock is the watch word for the spanking new Allis-Chalmers "Everywhere... All The Time" campaign.

This completely new safety program is built around the company's Total Safety Concept, which is based upon the idea that all accident prevention activities are related to one another. The concept points out that all phases of safety, on and off the job, are necessary in attaining a fundamental objective — the well-being of Allis-Chalmers people and their associates.

Actor Barry Hopkins waits in the boat as scene is set for opening sequence in Allis-Chalmers safety motion picture, "EVERYWHERE... All The Time."

To reach this goal, plans have been made for an extensive year-long program. The safety theme is being carried into the home as well as the plant through a company-produced movie, posters, banners, handouts, and publications.

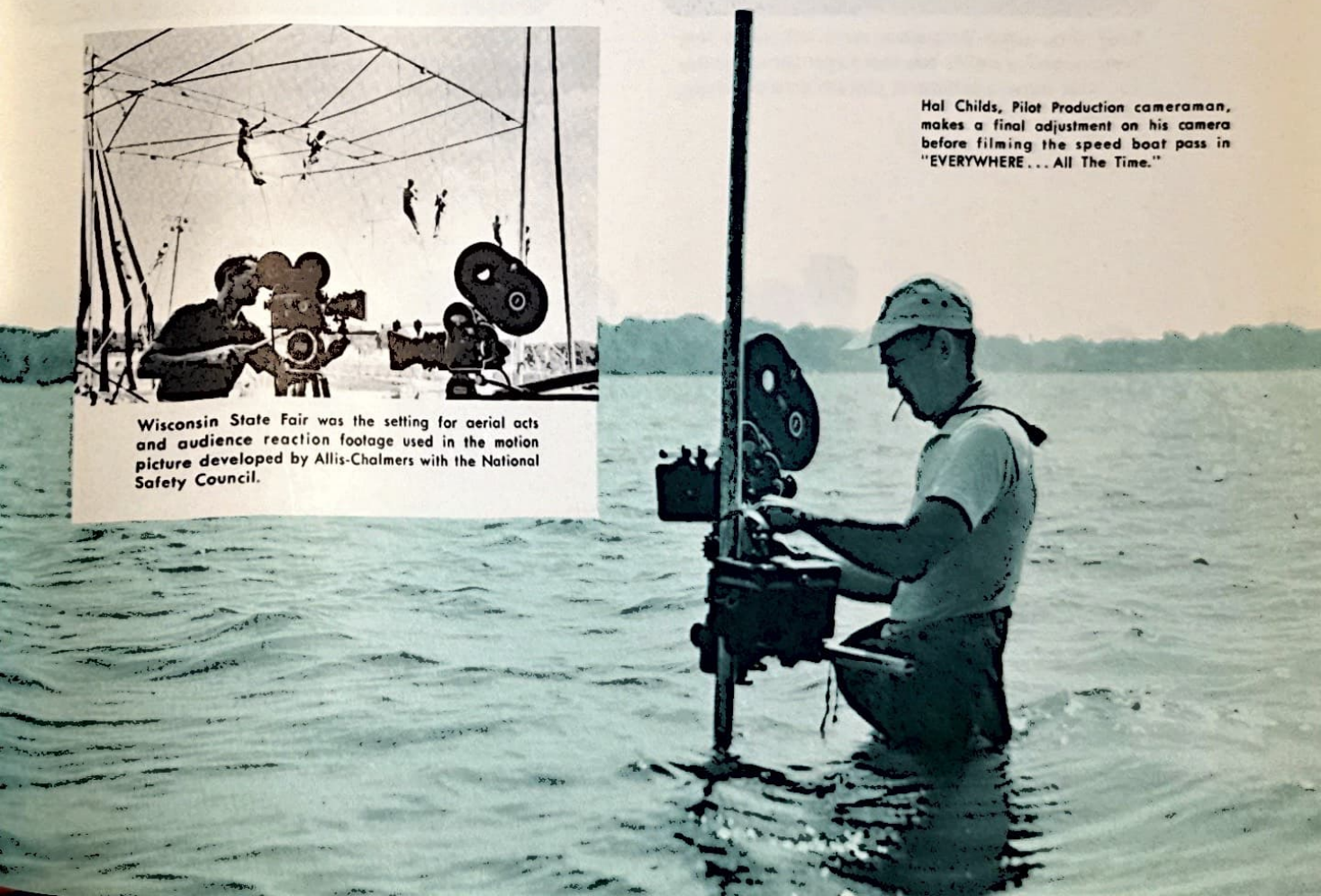
The symbol that is to be carried all during the year is the sign of caution and danger internationally used on the highway — a yellow diamond. It has been combined with a bullseye indicating that people should shoot for safety at all times.

The film, designed to kick off the program, tells the story of an industrial worker, his wife and teen-age daughter and son. A near tragedy happens involving the boy, a borrowed boat and a pretty girl on water skis. Through this incident, the family learns that safety is a family affair — something to be practiced everywhere, all the time.

National Safety Council files point out that more than 70 per cent of disabling injuries and fatalities are non-industrial in origin. Therefore, "Everywhere ... All The Time" is directed toward off-the-job as well as on-the-job safety. To prevent off-the-job accidents the film and recall material urges the family to: Check for hazards, Discuss any problems — Plan corrective action, and teach safety in the home.

Each monthly theme of "Everywhere... All The Time" can help insure a safe and accident-free future for you and your family.

Wisconsin State Fair was the setting for aerial acts and audience reaction footage used in the motion picture developed by Allis-Chalmers with the National Safety Council.



Hal Childs, Pilot Production cameraman, makes a final adjustment on his camera before filming the speed boat pass in "EVERYWHERE... All The Time."

1. *A quiet day . . . fishing and relaxing that is suddenly interrupted by the onrushing outboard . . . quick, get out of the boat before that kid hits you . . .*

2. *"I think that the safest place you can be is right here in this plant," says the hapless fisherman (center). Mike Walsh agrees and Fred Cook disagrees. Fred accuses the group of being "old fashioned" . . .*

5. *If these safety precautions were stressed in the home as well as on the job, they might spare a severe burn that leaves a permanent scar and costs a fortune to heal.*

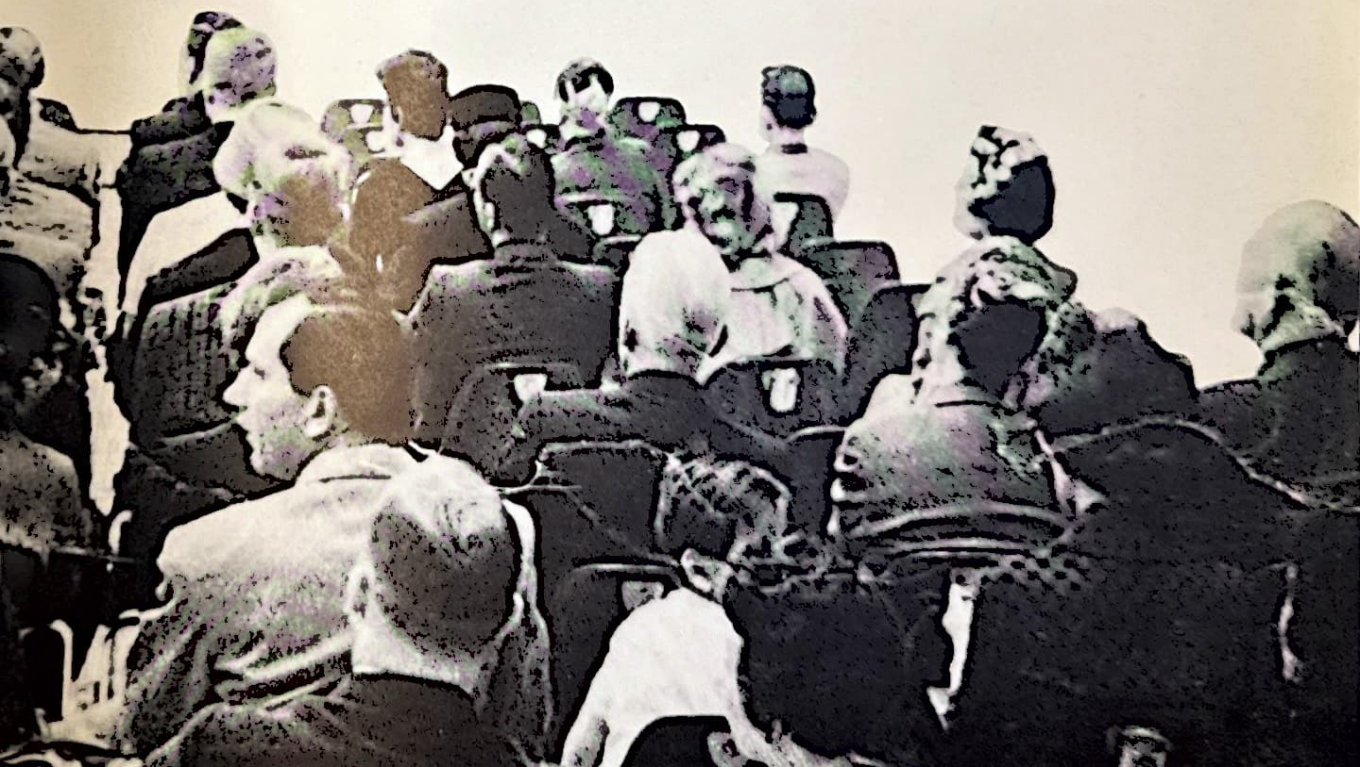
6. *"Sure, I'd like to use Fred's boat," says Danny thinking of the 10 days ahead. If he had been thinking . . . this smash-up wouldn't have happened and Danny . . .*

3. *" . . . Come off it, that's silly, I didn't almost kill anyone," Danny retorts to his father's accusation of being responsible for the near accident. "Listen, young man, until you learn better . . . no boat for 10 days."*

4. *. . . Sometimes the skill and grace of these aerialists masks the training, practice and safety precautions that many people fail to see. Family teamwork makes safety a family effort.*

7. *. . . . wouldn't be seated in a hospital. He has seen what his father meant and now says, "I think maybe I'm a little smarter. I'm beginning to understand that safety has to be a family effort." . . .*

8. *"Maybe I'm no artist but I think that all of you will agree that this chart will help us to remember safety EVERYWHERE . . . All The Time."*



a-c scope

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