

The WINGFOOT CLAN

Goodyear Atomic Corporation

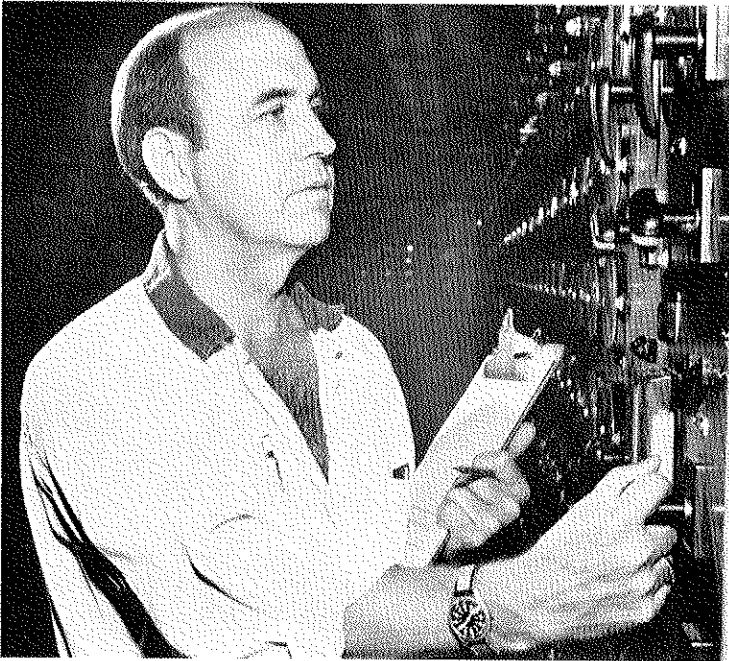
The Goodyear Tire & Rubber Company

A Subsidiary of

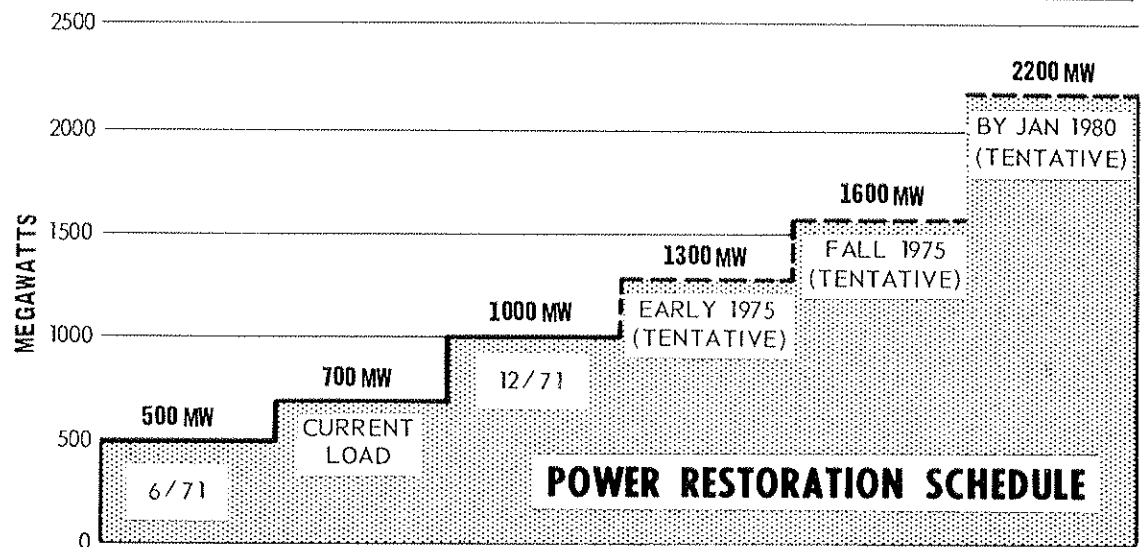
Volume 18

Piketon, Ohio, August, 1971

Number 7



POWER ON Cascade Operator, Charles Keen throws the switch to "pick up" one of seven cells in the 200 megawatt power restoration July 1. The power increase is significant in that it is the first of several scheduled for GAT and the gaseous diffusion industry by the Atomic Energy Commission (see chart). GAT's next load increase will be 300 MW in December.



First Increase Since 50's

Up 200 Megawatts - - - - - - - - Just The Beginning

A power switch is thrown — in ACR 1, Cascade machinery begins to roll and production equipment that has been silent for many months begins to pick up speed. On July 1, Goodyear Atomic took its initial step toward a long awaited power build-up and for the first time since the late 1950's, a scheduled production increase was in effect.

Although the July increase from 500 to 700 megawatts was relatively small — it was significant, since it represented GAT's first step in the Atomic Energy Commission's long range plans to meet the world's rising demand for enriched uranium.

The plant will continue to operate at the current 700 MW level until December of this year when 300 more megawatts are scheduled to be restored. This increase will bring the plant operating level to

some 1000 megawatts or roughly 53 per cent of our total power load capacity.

In 1970, the three AEC gaseous diffusion facilities temporarily reduced their power usage to help alleviate emergency shortages of power in the east and mid west. The Atomic Energy Commission has once again agreed to reduce its power usage if a national emergency power shortage arises. This means temporary reductions below the 700 MW level could

occur.

GAT will remain at the 1000 megawatt level until 1975 when tentative plans call for a pickup of 600 additional megawatts in two 300-megawatt increments. Contracts have not yet been signed for these two blocks of power. Increasing demands for nuclear fuel is expected to push our power requirements to the 2200 megawatt level by 1980. (See Power Chart.)

A similar power build-up is also planned for the Oak Ridge and Paducah gaseous diffusion plants. Future plans at GAT call for incremental increases beginning in 1976 and continuing until the early 1980's when the total load of the three plant complex will approach 6100 MW.

Power restoration is one of four possible methods of increasing the capacity of the diffusion plants to produce enriched uranium for the nuclear power industry.

A second method, also under way, is improvement of existing equipment to incorporate advancements in technology which improve power utilization efficiency. This method has been termed the Cascade Improvement Program (CIP) and it involves the installation of high performance barrier in the separating stages, improvements in the aerodynamic characteristics of the compressors and modifications to the process gas piping and cooling systems. Approximately \$21 million is currently available for starting the program — the overall cost of which is estimated at \$525 million.

(Continued on page 4)

(Continued on page 4)



Clan Chowder, a new feature in your *Clan*, invites you to submit letters to the editor and items of interest. Please limit your letters to 150 words.

Guest editorial for August *Clan Chowder* was written by N. H. (Nate) Hurt, Manager Engineering and Maintenance and Deputy General Manager. Nate has served Goodyear as a member of top management for 24 years in four different Goodyear plants. This background and experience well qualifies him as spokesman for his chosen subject "Canons of Good Company Citizenship."

Today there are those who believe the "in" thing is to be unpatriotic, to be disrespectful, to scorn convention, institution — the establishment.

Well, if these are the "in things", then I'm a square. I personally detest this current trend toward the worship of mediocrity in the name of equality.

I still like to consider myself a company man even though to the "mod" the term has a negative meaning.

So at this risk of being considered corny, I'd like to pass on to you my "Canons of Good Company Citizenship."

- Believe in your company and uphold its policies.
- Maintain pride in your company and encourage respect for it.
- Support your management, and assist them in their administration of company affairs.
- Respect the rights and opinions of others. Seek solutions to differences through provided routes and procedures.
- Hold prejudices against no one because of his race, religion, or national origin.
- Recognize that "responsibilities" are as important as "rights" in the preservation of company relationships.
- Believe in your country. Participate in community affairs whether civic, religious, educational or charitable.
- Believe in yourself. Recognize your limitations and do what you can do to improve yourself.

By being good company citizens, we all assure perpetuation of our company, the continuation of our jobs, and progress for all.

Nate Hurt

With An Eye Toward The Future

CIP "Countdown" Under Way

Editor's Note: A great deal of interest and activity is being directed toward the three-plant Cascade Improvement Program or CIP. With the recent "shot in the arm" by additional government funding, it is felt a description of the CIP Program and its objectives could help enlighten those employees and their families not familiar with the program.

The Cascade Improvement Program is a major, long-term program involving the AEC's three gaseous diffusion plants. Its purpose is to enable the AEC to meet the projected heavy demands for nuclear fuel for electric power generation.

The program is expected to yield a 28% increase in separative capacity with no increase in power or other operating costs. The entire program for the three-plant complex is presently estimated at \$525 million. The recently allotted government funds to cover work in FY-1972 and FY-1973 will be used to continue engineering design, to be-

gin modification of certain plant facilities so that the remodeling of process equipment can begin, and to modify 16 stages of X-333-size equipment. Funding for the remainder of the program will be on an annual basis.

The overall CIP program will include: (1) the installation of improved barrier in most of GAT's process equipment (barrier is the material through which uranium atoms pass during the enrichment process); (2) modifications to the compressors used to pump the process gas; and (3) changes in the process gas piping and in the cool-

ing system. Similar work will be going on at the AEC's other gaseous diffusion plants at Oak Ridge and Paducah.

The CIP work is divided into two phases: In the first, called the Plant Support Facilities Program (PSF), a variety of plantsite service facilities will be enlarged or modified in preparation for the second phase. This phase, called the Process Equipment Modification Program (PEM), calls for the barrier changes and other modifications of major process facilities.

Baumgardner To Head

Plant U. S. Savings Bond Drive Set For August 8-21

Goodyearites traditionally have been among the leaders in signing up for U. S. Savings Bonds. Currently 385, or 28 per cent of our employees are purchasing bonds.

In a campaign that begins August 8 and extends to August 21, the company hopes to increase the percentage of participation. During the campaign, employees will receive envelopes containing full information and forms to sign up or increase their deductions.

Why do Goodyear Atomic employees buy bonds?

"It's an easy way to save; it comes out of the pay check

and I never miss it", or "I'm putting it away for the children's education. I want them to be able to go to college," or "It's a good investment for my retirement plans."

Now because of new higher interest rates and tax advantages, bonds are more than ever worthy of consideration according to H. D. Baumgardner, Supervisor, Cashiers, and U. S. Savings Bond Drive Chairman of

Goodyear Atomic.

Series E Bonds now pay 5½ per cent interest if held to their maturity—five years, 10 months. Savings Bonds also enjoy certain tax advantages which, in effect, increase the net yield. Interest on bonds is exempt from all state or local income or personal property taxes. Federal income tax is not incurred on Series E Bonds until they are cashed or reach maturity.



ALL THE INGREDIENTS. No campaign would be complete without a chairman, a poster and a good lookin' gal — GAT's "BUY A BOND" drive is no exception. Campaign chairman, Harry Baumgardner asked pretty Teresa Hurley to pose as his poster girl for the August 8-21 campaign. Obviously both Harry and Teresa think it's wise to invest in the future by buying U. S. Savings Bonds through the company's payroll savings plan.

Editorial Comment

You have an opportunity to fight inflation.

How? Sometime between August 8th and 21st you will receive literature explaining the benefits and urging you to sign up in the U. S. Savings Bond payroll deduction program. Your enrollment, or your increased participation, in the program is a good defense against the causes of inflation. Regular purchases contribute to the financial security of the individual and the family, as well as to the fiscal strength of the nation.

Here are some other key points:

The foundation of the American free enterprise system is built on the stability of the dollar. The U. S. Savings Bond program helps strengthen that dollar.

Payroll savings plan participants build financial stability and security for themselves through regular, automatic savings.

The widespread sale of U. S. Savings Bonds is important in the management of our public debt. By enrolling in the payroll savings plan, you help reduce the need for federal borrowing from the banking system on which business and industry rely for funds for expansion and modernization.

You demonstrate your patriotic interest in the well-being of the nation by joining the payroll savings plan.

By putting away part of your savings to work for America, you can provide some of the economic strength that it takes to run this country.

And, of course, you'll be helping yourself at the same time. Bonds bring interest and security . . . and a little old-fashioned pride.

And you can add a little old-fashioned Goodyear pride to that, too.

Traditionally, Goodyear has a reputation of being a leader in everything it undertakes. Why not in this Savings Bond drive?

Lost, Strayed Or Stolen



Maybe you've never lost a U. S. Savings Bond. Or had one stolen. Or somehow torn one up.

If you ever do, you'll quickly find out how indestructible bonds really are. Because the Treasury Department will replace them. All you have to do is report them missing.

It's another reason why bonds are one of the wisest ways to save.

GAT's Savings Bond campaign gets underway August 8, so see your supervisor and join the payroll savings plan.

Once you've got 'em, there's no way you can lose 'em.

5½% Savings Bond Interest Is Worth Considering Today

By SYLVIA PORTER

The central, even overwhelming, advantage of these bonds is that you can buy them via periodic, small deductions from your paycheck. The saving is painless, automatic, done before you even touch your pay. This discipline is the secret of creating a nest egg. And even if 5½ per cent over almost six years turns out low, 5½ per cent on something is a lot better than twice 5½ per cent on nothing.

Here's how the Savings Bond rate compares with maximum rates on similar forms of savings:

- 6 per cent on two-year deposits in savings banks and savings associations;
- 5 per cent on passbook accounts in savings institutions;
- 4.5 per cent on regular savings accounts in commercial banks;
- 5.5 per cent on one- to two-year deposits in commercial banks;
- 5.75 per cent on two-year deposits in commercial banks; and
- 5.5 per cent on Series E Savings Bonds you hold to maturity in 5 years, 10 months.

Other advantages of Savings Bonds are: You can defer paying any federal income tax on the bonds until you redeem them—a real plus if you'll be retired and in a lower tax bracket when you cash them in. The bonds are exempt from state and local income and personal property taxes, too. They are free from probate proceedings. And the Treasury will replace any bond lost, stolen or destroyed as of your original issue date.

This is the first time in years I've been able to write about U. S. Savings Bonds in a favorable way. But 5½ per cent is worth considering today, particularly if you earn it on a nest egg built up for you via automatic payroll deductions, and you realize you wouldn't even have the nest egg otherwise.

The Treasury now is in the midst of its most aggressive, hard-hitting drive in 15 years to coax you into starting to buy or increasing your buying of its old, familiar U. S. Savings Bond.

With interest rates across the board way down from their historic mid-1960 peaks, but with the interest rate on Savings Bonds sticking at an all-time high, the Treasury has a fighting chance to reach its ambitious though attainable goals for 1971.

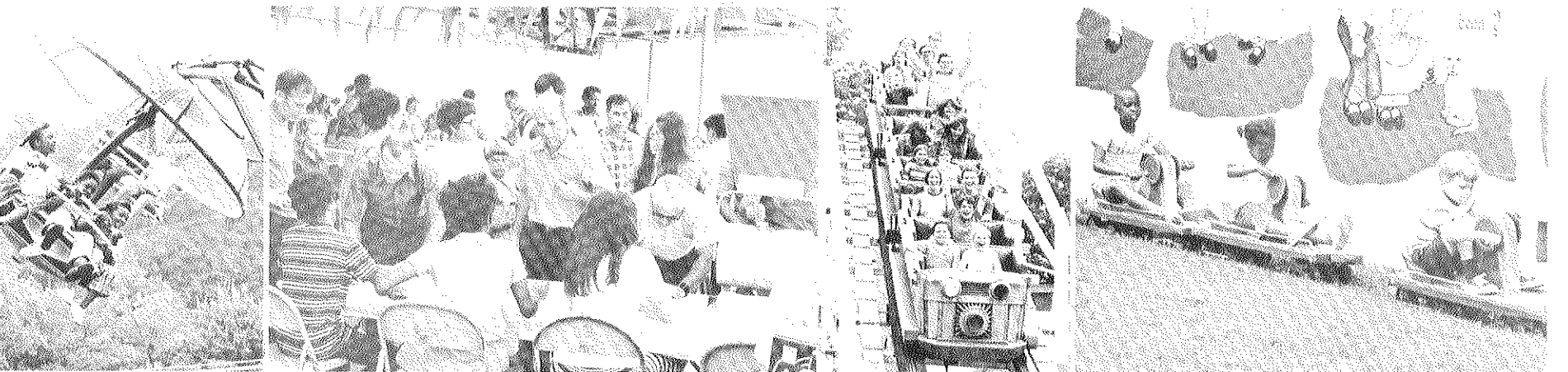
And with the 5½ per cent return to maturity you can earn on the bond now comparatively fair, you again can consider whether the bond's other advantages warrant an investment of at least part of your nest egg in this absolutely safe savings security.

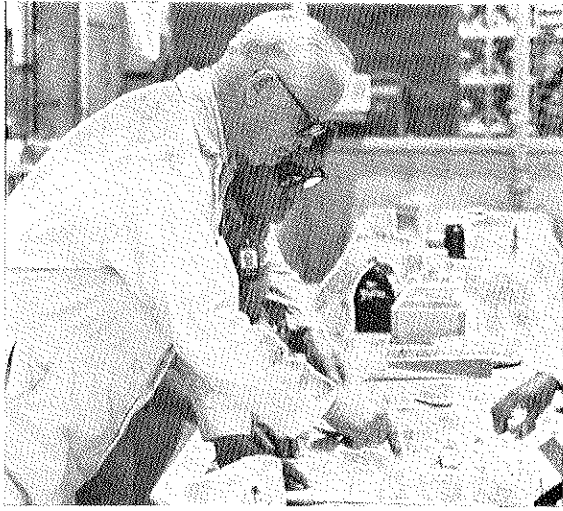
The success of this little nonmarketable bond is truly astounding, and its staying power is even more so — for on May 1 of this year, the "E" Bond was 30 years old. In this span, the bond has taught a whole generation the discipline of regular savings. In this period, Americans have voluntarily purchased vast numbers of the bonds worth \$182 billion. In these years, the Treasury has built up a "staff" of 40,000 corporations and 30,000 financial institutions to market the bonds as a public service.

Even more specifically, despite the fact that the return you could earn on the bond fell abysmally out of line during the 1967-70 upsurge in interest rates, the small saver held on. The turnover rate since 1945 has averaged a mere 11.20 per cent annually, less than half that of any other savings medium. A record \$52 billion of the bonds now are outstanding, representing 23 per cent of the privately held portion of the public debt.

A fantastic 10,000,000 regularly buy the bonds through payroll savings plans. Therefore, the Treasury's goal of signing up 2,200,000 employees as new or bigger savers in '71 is not unreasonable.

How then should you respond to the Treasury's campaign?





LAST OFFICIAL ACT of carpentry for Earnest Leeth was to "nail down" a piece of cake at his retirement party. (Assisting in the operation is Ken Hatfield.) Co-workers bid Ernie farewell with the presentation of several gifts to enjoy at his leisure. Ernie has been a valuable member of the Carpenter Shop since 1953 — future plans include an extended western tour.

CIP To Yield 28% Increase

(Continued from page 1)

Once engineering and design are complete, construction work will begin on the Plant Support Facilities (PSF). Construction is scheduled to begin in certain areas during fiscal year 1973.

Major changes under the PSF program are:

1. A 14,000-square-foot addition will be made to the X-700 Cleaning Building to provide space for stabilizing and testing of the new barrier after installation in the converters.
2. A 2700-square-foot addition will be made to the X-720 Maintenance and Stores Building for assembly and inspection of the modified compressors.
3. The X-710 Technical Services Building will be enlarged by a 29,000-square-foot addition to house the computer facility and to consolidate personnel now located in several isolated areas.
4. Facilities in the X-705 Decontamination Building will be rearranged, revised, and enlarged to provide for the increased rate of diffuser and compressor disassembly that will be required under the equipment modification schedule.

5. The X-330 and X-333 Process Buildings will be modified by enlarging equipment hatches, increasing the capacity of the cranes used to handle process equipment, and reinforcing the building structure to support the modified process equipment, which will be both heavier and larger.

Similar PSF work will be going on at the other two diffusion plants and, in addition, the barrier plant at Oak Ridge will be enlarged since it produces all of the barrier material for the three gaseous diffusion plants.

After the plant support facilities work is completed, process equipment modification (PEM) will begin on a full-scale basis. As previously mentioned, this work includes barrier changes and modifications to compressors, process piping, and the cooling system.

The CIP Program is a cooperative effort involving several of Goodyear's divisions. For example: Coordinator for the program is Technical Division Manager R. W. Brown. The Technical Division has for several years been engaged in developing improved technology through the Plant Test Program (May 1970 Clan). Administration of the CIP comes under the responsibilities of

a group within the Plant Engineering Subdivision, called the CIP Support Center. The group is headed by J. M. Duncan, Principal Engineer for the CIP at Goodyear. The three-plant effort is coordinated by the Capacity Expansion Management Team, or CEMT, which is composed of members from the three diffusion plants and is located at Oak Ridge. Goodyear's members on the team are H. E. McComb and M. J. Rafferty.

The release of allotted funds by the government has made it possible to proceed with the early phases of the program. To date, preliminary engineering on the PSF phase of the work is completed with final, definitive engineering now in progress, and engineering on the PEM is getting under way.

GAT employees can plan on busier days ahead as the Cascade Improvement Program progresses and power increases take effect.

CALENDAR OF --:-- EVENTS --:--

FLIGHT AND COMPANY
GOLF CHAMPIONSHIP

August 7

JC Golf Course—Chillicothe, O.

In Sympathy

Mr. William L. Kouns died June 14 at Kings Daughter Hospital in Ashland, Kentucky. He was the father of W. L. Kouns, D-103.

Mr. M. R. Gossett died July 4 in Cynthia, Kentucky. He was the father of Marie Dillon, AEC.

The WINGFOOT CLAN

GOODYEAR ATOMIC CORPORATION
A DIVISION OF THE GOODYEAR FIRE & RUBBER COMPANY
A TOLL FREE SERVICE THROUGHOUT THE UNITED STATES

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Power "Pick-Up" To Continue As Production Demands Grow

(Continued from page 1)

Following CIP, a third method for increasing separative capacity is the Cascade Upgrading Program (CUP) which involves, basically, the modification of the electrical and cooling systems, allowing for the increase in the flow rate of the process gas. This would entail an additional 1300 MW in the 3-plant complex, bringing the total load to 7400.

The fourth source of expanding capacity is new plant construction through additions to existing plants or construction of independent diffusion plants in the late 1970's or early 1980's.

Era of Reduction

In the late 1950's the gaseous diffusion complex was using in excess of 6,000 megawatts of electric power, which at that time represented almost 10 per cent of all the electric energy used in the United States. (GAT's highest demand of 2141.8 MW occurred December 12, 1956.)

In the early 1960's, however, when it became apparent that the defense requirements for additional enriched uranium would start to decline, steps were taken to reduce the level of operation by a gradual re-

duction in the schedule for the delivery of electric power.

From a level of approximately 1,800 megawatts consumption during the early 1960's, GAT's power level was reduced in increments to a scheduled low of some 500 megawatts in July, 1968. Similar reductions occurred at the Oak Ridge and Paducah gaseous diffusion plants until a scheduled three-plant low level of approximately 2,000 megawatts was reached during 1970.

Our power level dipped briefly to an all-time low of 350 megawatts between July and September of 1970 when the AEC agreed to reduce power consumption at its gaseous diffusion plants to help alleviate national power shortages.

In anticipation of the increased requirement for enriched uranium to fuel nuclear power plants around the world, contracts to restore power were negotiated as early as 1967 with the three power suppliers — Ohio Valley Electric Corp., Electric Energy, Incorporated, and the Tennessee Valley Authority. The 200 megawatt increase represented the first step in the climb back to essentially full power operation at the three plants by the late 1970's.



INITIAL STAGES OF CIP require many hours of engineering and design work. Above, Paul Harris (D-761), is engrossed in the structural drawing of the 2700 sq. ft. addition planned for the X-720 building. The CIP article on pages 1 and 4 lists many other major changes planned under the program.

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BULK RATE

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Isaac Diggs

CO-OP STUDENT Isaac Diggs was awarded a Presidential Scholarship by the Electron Microscopy Society of America based upon a manuscript submitted covering his 1970 co-op assignment in the Lab's Physical Measurements Department. Diggs was invited to present his paper, "Determination Of Cubic Crystal Orientation By Reflection Electron Diffraction," at the EMSA annual meeting this August. Isaac completed his final co-op work assignment and expects to receive his degree in Physics from Virginia State College in December.