LOCKHEED MARTIN

January 14, 1999

Ridgelines

News from Lockheed Martin Energy Systems and Lockheed Martin Energy Research Corporation

Targeting mercury

SNS's high energies call for a pioneering target source design

Mercury, the liquid metal, will be key to one of the boldest design elements of the Spallation Neutron Source, the state of the art neutron science facility to be built at Oak Ridge. The SNS will be the first accelerator-based neutron source that features mercury as a target material.

Mercury is one of the most fascinating elements. It is the only metal that in pure form is liquid at room temperature. It is a superior conductor of heat and electricity, making it useful for thermometers, switches and a host of other mechanical devices.

In the SNS, protons that have been accelerated to enormous energies will be directed into flowing mercury, knocking away neutrons from the atoms' nuclei for use by researchers for a wealth of analytical tasks.

"It's never been done before," says Tony Gabriel, who is leading the SNS target development effort, which is a responsibility of ORNL in the five-lab SNS collaboration. Despite the fact that designers are turning to mercury as a target for the first time, Gabriel says the element is a natural for the job.

"About three years ago I heard a discussion of target designs for the proposed European Spallation Source," Gabriel says. "The Europeans were pushing for a mercury target. I was a little skeptical, but we gave it a serious look. The more I looked, the more logical it seemed for a high-powered target."

Mercury became attractive largely because the SNS is going to be such a big gun that will likely get even bigger. Conventional targets are solid, usually tantalum or tungsten. In the SNS, each pulse of protons will strike the target with 17 kilojoules of energy. In watts, that represents enough energy to illuminate 17 million homes for a microsecond. Those pulses will arrive 60 times a second. The SNS, in its startup configuration, will operate at an average of one megawatt of power (17K joules × 60 pulses per second = 1M joules per second or 1 MW).

At those energies, a solid target would be subject to destructive thermal shock and radiation damage. If the SNS is eventually upgraded to four megawatts, as planned, there is a risk that a solid target would quickly be reduced to burnt toast.

Gabriel and his colleagues on the design team—John Haines, deputy senior team leader; Tom McManamy, target lead engineer; and Jack Carpenter, a senior consultant from Argonne National Laboratory—point out that mercury, as a circulating liquid, won't encounter the radiation damage that afflicts solids. It will also better conduct away heat from the process and be self-cooling in case of a shutdown. At the same time, mercury has a high atomic number, which means it will yield lots of neutrons.

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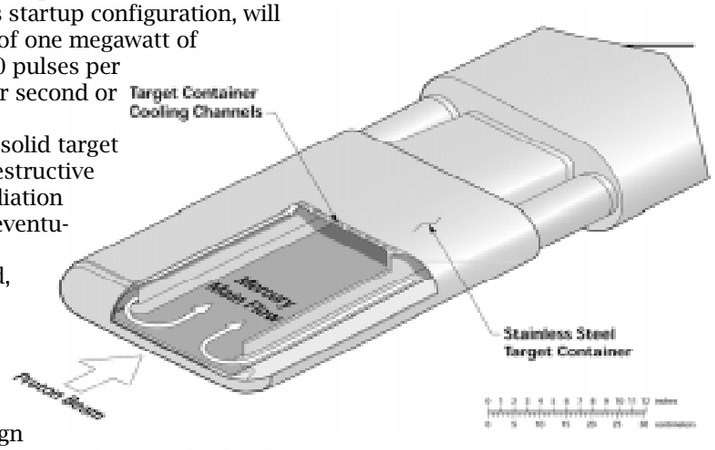

The business end of the Spallation Neutron Source will feature a mercury target, the first for a pulsed neutron source.

SAP/R3: Three months along, looks like a winner

Three months of life with SAP have shown that life does indeed go on, even under a new business system. ORNL and Energy Systems switched on SAP/R3 Oct. 1, and the transition has been declared successful.

"Calls for help have gone from more than 2,000 in October to about a dozen a week," says ORNL Chief Information Officer Becky Verastegui, who co-led the SAP implementation with Energy Systems CIO George Dailey.

"Normal startup glitches have been addressed, three month-end closings of the financial system have occurred on schedule and thousands of staff members have used the new AVID Plus, Smart Services and workflow systems that replaced the requisitioning process and AVID system. Hundreds of organizational changes and training registrations are being made in real-time in SAP, and the results are instantly available."

"The SAP team has been extremely grateful for the user community's patience with and acceptance of the new system and the business-rule changes associated with it," says Energy Systems' Dailey.

Several Lockheed Martin and DOE financial officials joined Al Trivelpiece and Bob Van Hook at a pre-Christmas celebration for the Delta Team staff who spent 18 months up in ORNL's Building 2001 Quonset huts implementing the new software.

The gathering marked the completion of a job some thought could never be done: replacing more than 50 independent business systems at ORNL and Energy Systems with one. Many institutions have tried the same thing and failed because of the complexity of the task. Oak Ridge succeeded, SAP managers say, because it could draw upon an in-house force of support staff and programmers where others would have had to resort to expensive consultants.

Now there are believers: DOE-ORO awarded the SAP implementation effort with an unprecedented perfect score. However, some SAP results seemed too good to be true—because they were.

"Who would have ever thought that the SAP implementation would result in the price of gasoline at Energy Systems Stores dropping to 20 cents a gallon?" Verastegui said. "Gasoline was really a bargain until we realized the low price was due to a price-per-unit error on the purchase order."

Present at the Dec. 10 ceremony with more than 100 project participants were Paul Ross, special assistant to the DOE Chief Financial Officer Mike Telson; ORO Chief Financial Officer Judy Penry; and E&ES Chief Financial Officer Jim Goltz.—*B.C.* R

Contracts: Y-12 extended, draft RFP for Lab

ORNL and Y-12 entered the new year with a clearer picture of a contract scenario that was very uncertain coming into the last month of 1998. For Y-12, Lockheed Martin Energy Systems received a 15-month extension on its contract. For ORNL, DOE restated its intention to rebid the contract currently held by Lockheed Martin Energy Research Corporation.

Both the Energy Systems and LMER contracts were to have expired on March 31, 2000. So far that date is unchanged for ORNL. Y-12's extension will carry into June 2001.

The Y-12 extension, said Energy Secretary Bill Richardson, was to give him additional time to consider a plan to consolidate the contracts at DOE's nuclear weapons sites. Richardson indicated as much in a Nov. 30 visit to Oak Ridge, when he was praised by 3rd District Rep. Zach Wamp and Senators Bill Frist and Fred Thompson for taking a "step back" from the "megacontract" proposal.

Richardson said he wanted to review DOE's management structure throughout the entire agency before making a final decision on the megacontract. Other facilities that could be brought in under the plan are the Pantex Plant in Amarillo, Texas, operated by Mason and Hanger Corporation and the Kansas City Plant, operated by Allied Signal Federal Manufacturing and Techonologies.

Richardson's announcement that DOE would proceed with the competition for the ORNL contract came shortly after the Oak Ridge visit. The draft request for proposals was released Dec. 14. Richardson's decision to continue with the competition came despite concerns raised by Lab managers that the disruption that accompanies a contract competition could threaten progress on a number of projects including the proposed Spallation Neutron Source, which is considered a cornerstone project for the Lab's future.

However, in announcing plans to recompete, Richardson said, "In general, competition is healthy for our facilities, for the people who work at them and for the communities in which they are located. It is also good for the American taxpayers, who benefit from competition by getting the greatest value for their tax dollars.

"ORNL is without question one of the crown jewels in our national laboratory system," Richardson said. "I am 100 percent committed to the long-term health and productivity of ORNL."

Readers . . .

Costas Tsouris is a researcher in ORNL's Chemical Technology Divison, where he coordinates the division's Young Scientist's Seminar Series. The soccer enthusiast is a native of Larnaca, Cyprus, which, he says, is also the adopted hometown of the Biblical figure Lazarus. *Photo by Curtis Boles*

Target

Continued from page 1

Approximately 14 tons of mercury—enough to fill a cube about the size of a washing machine—will be pumped continuously through an enclosed, piped system. Protons will strike the target area, which is about the size of a computer keyboard, and a resulting torrent of neutrons will be channeled into beamlines for researchers. Fast, high-energy neutrons will be slowed by cooling—either with water or a liquid-hydrogen cold source, depending on energies desired—to make them more usable for experiments.

As for the mercury target, it barely takes a lick. "Over a long period of time, only a few percent of the mercury atoms are destroyed. The target system will operate for years with the same amount of mercury," Gabriel says.

Gabriel, McManamy and Haines are investigating design issues that could arise. One concern, Gabriel says, is how the system will respond to the thermal shocks resulting from the pulses. That particular issue is being investigated in tests at Brookhaven National Laboratory's AGS facility and Los Alamos National Laboratory's LANSCE facility. How the system will respond to the combined effects of radiation and corrosion also will be investigated.

"The target must be shielded," McManamy says, adding, "The radiation levels also require designing a remote handling system to service the system." A prototype target system, complete with piping and pump, soon will be constructed at Building 7600, home of ORNL's Robotics and Process Systems Division. Another Lab division, Metals and Ceramics, is investigating how mercury will react with the system's materials. The most likely candidate material for the piping, Haines says, is stainless steel.

The system will be built with multiple barriers to contain both radiation and any mercury that might leak out. "We're taking every possible precaution," Haines says.

Interestingly, the shielding around the target area will be made of recycled steel, or steel that has come from other nuclear facilities and is slightly contaminated and unmarketable. It's a much "greener" approach, Haines says. "We're not contaminating new steel."

Argonne's Carpenter, who has advocated pulsed neutron sources for three decades, says the design of SNS will offer more neutrons with less waste heat to deal with. "Pulsed-mode accelerators instantaneously produce large fluxes of neutrons in a fraction of a second. In fission reactors, where 200 million electron-volts of heat are generated for each usable neutron, the SNS will generate only 40 million. It's five times more efficient for the heat-removal buck," Carpenter says.

The SNS is "the way toward higher power," from an initial one megawatt to an eventual upgrade to four megawatts. In comparison, England's ISIS accelerator, currently the "world's brightest pulsed neutron source," runs at 160 kilowatts. "For short-duration pulsed sources, one megawatt is a big jump," Carpenter says.

One by-product of the spallation process, Carpenter adds, is gold, which resides right next to mercury on the periodic chart. Unfortunately, the gold occurs in such minute amounts that its only value will be amusement.

The best deal with the SNS may be the mercury itself. The SNS will obtain its mercury from the Y-12 Plant, which once used it for weapons production, and the supply is virtually unlimited.

Best of all, says Haines, "It's free. They said we could have all we want."—B.C.

Ridgelines

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Bill Cabage,ORNL editor, 574-4399 (w7c)
Ellen Barish, LMES editor, 574-1643 (eb8)
Deborah Barnes, associate editor, 576-0470 (arn)

ORNL office: P.O. Box 2008, Oak Ridge, TN 37831, Building 4500-S, Room F-60, MS 6146
Energy Systems office: P.O. Box 2009, Oak Ridge, TN 37831, Building 9704-2, Room 216, MS 8015

ORNL and Energy Systems Helpline (ethics; fraud, waste and abuse; quality; ES&H): **576-9000**
DOE Inspector General Hotline: **1-800-541-1625**

Lab Lines

REDC campaign: Neutrons vs cancer

Researchers have touted the chargeless neutron mostly for its near-magical analytical properties. A development campaign currently under way at the Chemical Technology Division's Radiochemical Engineering Development Center is aimed at providing neutrons for medical purposes as well.

REDC researchers are developing the technology to encapsulate highly radioactive californium-252 into 1 × 5 millimeter "seeds" that can be used in commercially available medical instruments, allowing greater use of the radioisotope for cancer treatment.

ORNL's High Flux Isotope Reactor is one of the world's few sources of Cf-252. The radioisotope, with a 2.7-year half-life, has proven useful in treating some forms of cancer because it is a strong neutron emitter. But its radioactive decay also makes it hard to deal with, says the Chemical Technology Division's Bob Wham.

In fact, the seeds must be fabricated remotely in hot cells. REDC, Chem Tech's pilot-scale radiochemical processing facility located adjacent to HFIR, is one of the few places such intricate remote development work can be performed.

"The medical community believes that the seeds can be adapted to current nuclear medicine technologies to treat a large number of cancer patients," he says. "Californium is an alpha emitter, but the seeds' double encapsulation protects the patient. It's the neutrons that have the therapeutic effect."

Neutrons, he explains, have no charge but do have mass. Neutrons are much more effective at killing cancer cells for comparable doses to the patients than gamma treatments, which leads to a higher survival rate for those patients treated with californium sources.

"In the past several months we have shipped some larger sources to Wayne State University, where clinical trials are being conducted using californium for cancer treatment," Wham says. "Some, but not all, researchers think neutrons are more effective than gamma rays in cancer cell lethality."

Winter finally arrived at ORNL with the holidays. Freezing rain resulted in a half-day head start of the Christmas holiday on Dec. 23 as employees were told to head home ahead of icing conditions. A light snow fell on Jan. 5; the Plant and Equipment Division's Angie Hamby, shown spreading salt on the sidewalks, was among the many who help make it safe to get around the Lab every winter. ***Photo by Curtis Boles***

New west-end labs to serve life sciences

The west end of the Lab will be seeing construction activity this coming spring. A new laboratory has been approved and funded as a general plant project.

According to Tony Medley, who manages the Lab infrastructure, the new building will house 10 laboratories to be used by researchers in the Life Sciences Division, and will be connected to dedicated office space located on the western end of the X-10 site in the Marilyn Lloyd Environmental and Life Sciences Complex. The spot is currently a parking lot west of Building 1061. The new building, 1060, will be connected to Building 1061.

The project is "full speed ahead," says Medley.

Associate Director of Life Sciences and Environmental Technologies Dave Reichle says, "It's the first step to relocating ORNL Life Sciences Division personnel now at Y-12. The next step identified in the DOE Facilities Plan is the proposal in FY 2001 to begin construction of the Laboratory for Comparative and Functional Genomics." That facility would be a new home for ORNL's mutant mouse colony.

Travel: Your upgrade is approved

ORNL staff members tend to spend a lot of time literally up in the air: Nearly $7 million in airline tickets were issued to ORNL staff members in FY 1998. On Jan. 4, American Express Travel Services took on the large task of being the provider for travel management and reservation services for both ORNL and Energy Systems.

Kathie Shearer, ORNL's travel coordinator, says the new arrangement should amount to an upgrade for ORNL customers. "American Express' goal is to get the phones answered," she says. "Travelers won't see a difference in how they arrange their travel except for improved quality and response time."

Travel's number is an easy-to-remember 241-XTRA. Office hours are 7:30 a.m. to 5 p.m. A new feature is a hotline number for off-hours emergencies: 1-800-519-6210. Calls to that number should be limited to emergencies, Shearer said, because ORNL is billed for the cost of handling them.

Shearer adds that the advantages of booking through Travel Services go beyond convenience. It can also save the Lab money because the Lab applies airline commissions on issued tickets toward defraying travel costs. "The more tickets we issue, the better the discounts we can get for you," she says.

It pays to invent

Inventors at ORNL and Y-12 had a banner year in 1998, setting a record for incentive awards for patents and licensing. In FY 1998, more than $400,000 was awarded, including $96,000 given out as incentives for filing patents.

"We had a great year," says Dean Waters, acting director of the Office of Technology Transfer. "In addition to the royalties awarded to inventors and support staff, another $400,000 has been provided to the inventors divisions for R&D related to commercialization of technology."

Lockheed Martin received about $1.6 million in royalty revenue from the private sector during the same period, of which inventors received more than $234,000. Those royalties were in proportion to about $27 million in commercial sales reported by licensees of Lockheed Martin technologies. In 1996, that figure was a little over $18 million.

"These figures illustrate that technologies transferred from ORNL and Y-12 are continuing to make a larger difference in U.S. industry," Waters says.

Technical Support Awards

ORNL: Kimberly Anderson, Dixie Barker, Kenneth Blakely, Charles Chase, Clifford Davisson, David Harper, Edward Hatfield, Charles Howell, Michael Howell, Richard Hutchens, James O. Kiggans, Dominic Lee, Frederick List, Patrick Martin, Tim McKnight, Jeffrey McNabb, Randall Ogle, Mariappan Paranthaman, Philip Sklad, Terry Tiegs, Joseph D. Vaught and Robert Williams

Energy Systems: Jo Ellen Rogers, Victor Upchurch, John Brown, Tim Hickerson and Deborah Davidson.

Valuable Invention Awards

ORNL: Paul Becher, Pamela Fleming, Barbara Hoffheins, Robert Lauf, April McMillan, Frank Modine, Arthur Moorhead, Vinod Sikka, Rusi Taleyarkhan, Terry Tiegs and Shirley Waters.

Energy Systems: Russell Hallman, Clyde Calhoun, Marvin Morrow, Donald Schechter and James Truett

While you were working

DOE and Energy Systems take a moment to recognize all the hard work of 1996 and 1997

1996 DOE Awards of Excellence were presented to the following groups and individuals:

Y-12 Plant Environmental Protection Program

Henry L. Fellers, Charles H. Fritts, Enriched Uranium; Jim E. Heiskell ,Waste Management ; Clarence C. Hill, John E. Powell, Jimmy E. Stone and Lenny O. Vaughan, Y-12 Environment, Safety & Health ; Jon A. Kreykes, National Security Program Office; N. George McRae , Field Services; Ed. G. St. Clair; Tom C. Surratt, Facilities Management; Arlin L. Yeager, Analytical Services Organization.

Through the efforts of this group, the Y-12 Plant has made dramatic improvements in the compliance record with environmental requirements, made real environmental improvements, caught up on legacy issues and fully supported plant operations needed to meet mission objectives. Examples include the national Pollutant Discharge Elimination System (NPDES) permit from the state of Tennessee, which allowed the plant to achieve a significant cost savings (over 500k/yr) by reducing monitoring requirements. In addition, improvements in spill prevention capabilities and employee training have resulted in an 80 percent reduction in spills to the environment. Air emissions and toxic chemical releases have also been drastically reduced.

As a result of these outstanding accomplishments, the Y-12 Plant received two Closing-the-Circle awards for outstanding pollution prevention initiatives in 1995 as well as a nomination to EPA as a model environmental program in 1994 under the EPA Environmental Leadership Program.

Support of the Y-12 Plant Quality Evaluation of the Nuclear Weapons Stockpile Mission

Rich W. Vasofsky, Development

Rich Vasofsky's contribution to the nuclear weapons stockpile mission is the development of a predictive tool that reduced DOE concern about stockpile life. His novel and analytical method can review available data from weapons certification to determine units that may have shortened life in the stockpile. An investigation that DOE was preparing would have involved hundreds of weapons and would have placed a large burden on both DOE and the Y-12 Plant QE Program. Rich applied his method to the data on several hundred units and found that very few units needed further investigation. He demonstrated the continued technical leadership in QE at a time when other agencies were attempting to take over that mission.

Significant Cost Savings in the Operations of the Y-12 Steam Plant

V. Lee Anthony, Jim H. Campbell, Dennis A. Cornett, Dennie B. Goodman, Greg I. Griffin, Dave M. Harvey, Harold E. McKamey, John D. Rader, W. Jerry Randolph, Jess E. Salyers, Bill W. Shewbrooks, Jim R. Simpson, Facilities Management; Ken L. Carter; and Larry T. O'Toole.

This project team has been continuously involved in the reduction of costs of operating the Y-12 Steam Plant, not only through improved boiler efficiency, but also through several creative initiatives. These include converting the primary fuel from natural gas to coal in 1993, reducing costs by $5,223,000 per year; leasing the remaining natural gas demand charge, resulting in a savings of $294,424 per year; buying coal in larger quantities, saving $219,000 in 1995; and recycling ash for use in cement, saving $225,000 per year. Through the continuous and cooperative efforts of all shifts at the Steam Plant, a total annual savings of $6,198,000 has been realized.

Flood Recovery

Ted Burger, John Hallquist Steve Larson and Jim Lowery, Engineering; Brenda Brewster and Ray Ortiz, Radiological Control; Arlie Jenkins, Depleted Uranium Operation.

On July 23, 1997, Y-12 experienced one of the most severe rainstorms in the history of the Plant. The Building 9215 Rolling and Forming Third Mill of the Depleted Uranium Operations organization was flooded to depths exceeding eight feet in some areas of the facility. Operations implemented swift and positive actions under duress without any great negative issues. The resulting upgrade ensured the success of the recent Engineering Evaluation within target schedule milestones.

Innovative Approach to Recycling

Stan Fain, Field Services; Eva Irwin, Waste Management; Ron Walton, Y-12 Site Engineering Services; Larry Sparks, DOE.

In cooperation with Dunn Diversified Industries, this team was able to recycle approximately 25,000 books and journals no longer in circulation at Y-12, $130,000 of anti-contamination personal protective clothing, $9M of old hand tools and gauges and five skids of old carbon forms. As a result of these projects, $950,000 has been saved and 60,000 kg of waste will not be placed in the landfill. This tremendous effort has enabled Y-12 to support its mission to minimize the generation of waste through recycling useable materials in a cost-effective partnership with the community and allowed us to contribute to the quality of life for adults at Dunn Diversified Industries.

Laser Workstation Alignment System

Bill Moyer, Development; Michelle Baldwin, Software Engineering; Steven Benson.

This team was recognized for their work with Lawrence Livermore National Laboratory on a project to build a laser system to cut apart components. The Y-12 team provided ultrasonic experience with the component material and developed signal processing necessary for alignment. The team evaluated preliminary LLNL data, developed analysis algorithms and integrated the software into the LLNL alignment system. Their understanding of the test data on real components enabled fine tuning of the alignment system for successful operation.

Implementation of Low-Level Vibration and Air-Bearing Test

Dan Koerner, Product Certification

Dan Koerner of the Y-12 Physical Testing Department was recognized his contribution towards the development of vibration testing the successful implementation of the air bearing test process. He served as principle investigator to develop equipment and test specifications and followed up with the successful implementation of the testing process. In addition, he resolved numerous manufacturing software problems in parallel with equipment fabrication and installation activities, thus avoiding a delay in the commencement of testing. Y-12 received favorable recognition from the Department of Energy, Los Alamos National Laboratory and Lawrence Livermore National Laboratory for the effective startup of this process.

W87 Life Extension Program Process Methods Development Support

Daryl L. Boyer, F. Alan Page and L. Dee Williams, Defense Programs; Roy L. Smith, Gerald Gamble, Tommy Miller, John Stooksbury, E.E. Howard, Willard White, Disassembly and Storage; Lisa Thompson, Development; Rupert Osborn, Engineering; Dan Edwards, General Manufacturing; Ben L. Witt, Product Certification; and Rex Lynch.

As a result of the difficulties and problems encountered with the assembly of the W87 Joint Test Assembly (JTA) 1-3 Flight Test Hardware in April 1997, a mutual decision was made by Lawrence Livermore National Laboratory and the Y-12 Plant that a set of process methods development activities was needed to resolve significant design and assembly problems. An aggressive effort was initiated to resolve these issues and on October 8, 1997, this team successfully completed the taskings.

B61-1 Program

Sr. Vice President Gus Gustavson, Executive Offices

The Y-12 Plant shipped the final war reserve assemblies for the B61-11 Program. This constitutes a major milestone accomplishment of the Y-12 facility. Significant program goals were met or exceeded during this program. The B61-11 Program was the first war reserve program following standdown. The accelerated schedule was mandated by DOE and significant technical issues were resolved during the 11 months leading to the first delivery unit. FDU was shipped early and the final war reserve shipment was accomplished a month early. The B61-11 success was clearly an overall Y-12 Plant accomplishment with many individuals and organizations making significant contributions.

Accelerated Dismantlement of B-28 Units

Randy Bradford, Sean Campbell, Jim Moretz, Dennis Nabors, Gina Nelson, Jim Radle and Charlie Turnpin, Disassembly and Storage; Ron Thompson, Defense Programs.

During FY 1997, 130 percent of the initial disassemblies were completed in an effort to accelerate this important dismantlement activity. The tear-down was completed without incident and it provided additional storage capability for weapons returns from Pantex. In addition , productivity was increased by 25 percent through the use of cycle-time reduction efforts by the line organization.

Resumption of Quality Evaluation Operations

Anne W. Backus, Carl E. Cardwell, Defense Programs; Robert B. Bonner, Resumption Operations; Kelvin J. Carroll, Criticality Safety; Janet S.

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A billion-dollar Lab

Gary Coxon's goal is more business, in bigger chunks, for ORNL

Gary Coxon likes the word leverage. He envisions ORNL leveraging a select set of its capabilities into a growth spurt during the next decade.

"What could we be in 10 years?" he asks. "Why shouldn't we have a vision of being a billion-dollar laboratory in the next 10 years, with at least half those programs funded by non-DOE sources? How can we bring new programs that leverage our DOE missions to the Laboratory and this area? How do we get there?"

Coxon crossed the ridge from Energy Systems to ORNL last August with a pretty specific set of marching orders: Find ways to bring more money into the Lab.

As the vice president of ORNL Partnerships and Program Development, Coxon is responsible for developing new programs that provide new and expanded revenue for the Lab and for managing affairs dealing with intellectual property and partnerships. Simply stated, his job is to help the Lab's researchers bring in new, and more, business in bigger chunks.

"The 'retail side' of our business is going very well," Coxon says. "We have about 1,500 researchers who are out selling work very successfully. These projects, however, typically fund only a handful of people. Then, every 10 or 15 years, a mega-project like the Spallation Neutron Source comes along.

"Both the director and deputy director see a void in the mid-sized projects—those that are from

You can succeed only if you push a limited number of target areas and focus on them.

$5 million to $10 million to $20 million in annual funding and are multiyear, sustainable programs."

Coxon is correct about that gap. ORNL's field work proposals and activity data sheet figures for 1998 show that projects of funding of less than $1 million numbered around 600. There were about 20 projects of $5 million or more. Projects of $1 million to $5 million, however, numbered only at around 75. That mid-range represents a thin slice on the ORNL program pie chart.

"Each division does most of its own program development," Coxon says. "Principal investigators go out and get work, and they're good at it. It's led to our being a $500 to $600 million Lab."

Gary Coxon, ORNL's vice president of Partnerships and Program Development. *Photo by Curtis Boles*

Coxon says that changes in how research is funded and the departure of many veteran researchers seasoned in the proposal game have put added pressure on the scientists who now have to land the work.

"What we expect of our PIs has changed. I believe that people fund people. A funding agency often is individualized, in that the funder is funding his or her belief in the researcher. PIs have to be good at program development—good salesmen—while chasing new money in smaller pieces.

"My organization isn't intended to replace what the PIs do in the funding arena, but we will supplement their efforts. We want to utilize them in team selling and we want to do more multiple-division selling. They are what we have to sell."

Coxon's organization comprises the offices of Technology Transfer and Science and Technology Partnerships and Work for Others. It also includes the program development section formerly of the Office of Planning and Special Projects, the deputy director of the National Security Program Office and the co-director of the Oak Ridge Centers for Manufacturing Technology at Y-12.

"A good working relationship between ORNL and Y-12 is essential," Coxon says. "Both ORCMT and NSPO bring in a lot of work for ORNL. They are an important extension of our own program development. The synergies between our two companies are key. We are stronger and more competitive together than we are apart. We need to continue to work together to our mutual advantage."

Being new to ORNL, Coxon currently is ascending a steep learning curve as he familiarizes himself with the Lab's many multidisciplinary capabilities. The first few months of his job have seen his schedule crammed tight with meetings and visits to research areas.

But to pull more money into ORNL, Coxon sees success largely depending on being able to discern which of ORNL's capabilities will best serve potential customers outside the shrinking DOE arena. In other words, ORNL needs to go where the money is, in areas that support the DOE mission.

"DOE dollars are getting smaller. I'll be focusing on the work-for-others, non-DOE work and on multidivisional activities," he says. "I'm working with associate and division directors and management team to define growth areas.

"I stress the word *focus* because my belief is that you can succeed only if you push a limited number of target areas and focus on them. I'd like to pick a handful of growth areas—core competencies—and push those. I see areas like energy and materials and ask how we can take the maximum advantage of these capabilities to build a stronger economy in East Tennessee.

"I'm having a ball learning about this institution. We're so many things, and good at so many things. But it's a competitive world and you have to be excellent to succeed."

"We'll have to look for those growing programs and focus on them."—*B.C.*

Deadline for Year 2000 LM scholarships Feb. 1

The application deadline for Year 2000 Lockheed Martin Foundation Scholarships for students graduating from high school in 2000 is Feb. 1, 1999. One hundred college undergraduate scholarships are offered annually for children of employees. Each scholarship award totals $12,000—that's $3,000 per year for up to four years of undergraduate study.

Applications for the scholarship program are available through the Educational Assistance Office, 241-4469. For more information on the scholarship program, see the Scholarship Web site (www - internal.ornl.gov/es_training/CCE2/scholarship.html) or contact Chris Krinock at corporate headquarters, (301)897-6220.

Flexible Spending Account administrator changes

Effective Jan. 1, 1999, Buck Consultants is no longer the claims administrator for the Health Care or Dependent Care Flexible Spending Accounts, reports Benefit Plans Delivery Manager Jill Freeman. The new claims administrator is ABR Benefits Services.

To file for reimbursements for 1998 expenses, be sure to submit claims on an ABR claim form, which is available on the Web by accessing the Benefit Plans Home Page. The forms are also available at the site benefits offices. If you have any questions, please call Benefit Plans' helpline at 574-1500 or e-mail emerykm@ornl.gov.

Need tax help?

VITA—the Internal Revenue Service Volunteer Income Tax Assistance program—starts Monday, Jan. 25, at the Oak Ridge Mall. IRS-trained volunteers will be available to provide free tax assistance 3–8 p.m. Monday through Friday and Saturdays 10 a.m.–12:30 p.m. Free electronic filing is available. No appointment is necessary.

Those seeking the help in preparing their income tax returns should bring their tax package and their W-2 forms, their 1099 statements and other tax records, including last year's return.

A toy story

IMS Director Donna Griffith (left) and Lynn Beck, IMS representative to the Values Council, unload some 125 toys Griffith bought to match her division's contribution to the company's Christmas for the Children toy collection drive. *Photo by Tommy Maxwell*

At the beginning of the company's Christmas for the Children toy collection drive, sponsored by the Values Council and the Y-12 Fire Department, Information Management Services Director Donna Griffith issued a "Director's Challenge" to the entire organization that she would personally match the division's toy collection toy for toy.

"It really created some excitement and teamwork in the organization and gained momentum each day," said Lynn Beck, Values Council representative for the IMS organization. "Our small division collected more than 125 (new) toys for the drive. We gave Donna the total toy count, and she purchased toys to match our collection."

Beck said she is proud of the response from the IMS division and for their participation in this worthwhile cause and especially touched by Donna's attitude and support of the toy collection. "She definitely exhibits what the Values Council thinks are true values of the organization and the company," she said.

Larry Edmunds of Fire Protection, one of the drive's coordinators, said four truckloads of new and used toys were taken from Energy Systems for local distribution through the Christmas for Children program. It was "one of the best years" yet for the toy program, said Dave Medovich, a Communications Center employee and member of the Values Council.

From SAP to PPM

Schaad

Beth Schaad has been named director of the Procurement, Property and Materials Division at Energy Systems. The organization is responsible for the procurement, receipt and delivery of materials and services and management of company-owned property.

A twenty-one-year veteran of the company, Schaad received her bachelor's and master's degrees in Business Administration from the University of Tennessee and is a graduate of the UT Executive Development Program. She has served as a management systems specialist, computing organization section head, production scheduling department manager and business development program manager.

Schaad recently served as a subteam leader for the SAP Business Management Reengineering Team.

Awards

continued from page 4

Murrill, S. Randy Treece and Paul R. Wasilko, Disassembly and Storage; Roger K. Roosa, Resumption Operations; R. Jean Shelton, Enriched Uranium Operations; Ron S. Smith, Office of Safety and Health Protection; Daniel C. Wilkins, Nuclear Operations Administration; and Chuck Ray.

During FY 1997 all Quality Evaluations activities were restarted following the successful completion of the Disassembly and Storage Organization Management Self-Assessment and the Energy systems Readiness Assessment. A total of 18 units were completed through glove box disassembly providing critical information on the safety of the nation's nuclear stockpile to both the Lawrence Livermore National Laboratory and the Los Alamos National laboratory.

Y-12 Enhanced Surveillance and Quality Evaluation Program

Carl E. Cardwell, Defense Programs; Cheryl Cecala, Charles Kee and Ken Simon, Development; Roy L. Goodwin, Facilities Management; Tony Vermillion, Disassembly and Storage.

The Y-12 Quality Evaluation team successfully completed the first prototype, fully digital (CD-ROM) Quality Evaluation Report. This effort, using hypertext programming, will enable almost instant access to each units manufacturing and dimensional data, photographs and the full quality evaluation test data profile. Both design agencies and the Department of Energy have expressed appreciation and acknowledgement of a superior job by this team in support of the weapons surveillance program.

Resumption of Receipt, Storage and Shipment Operations

J. David Bullen, Frank E. Dotson, Patricia S. Fortune, M. Jane Hatfield, Jerry D. Johnson, Gary L. Lovelace, C. Edward Tilley, C. Eugene Walker and Paul R. Wasilko, Disassembly and Storage; Kevin J. Carroll, Criticality Safety; G. Darrell Coppenger, Facilities Management; Donald D. Grandage, Enriched Uranium Operations; H. S. Hackler, Fire Protection Operations; Roger K. Roosa, Resumption Operations; Richard L. Sampsel, Y-12 Site Engineering Services; Tim R. Thaxton, Defense Programs.

Resumption of Depleted Uranium Operations

David P. Bryant, Lynn Eason, J. R. Frost Jr., P. S. Greene, J. T. Lowery, W. K. McElmurray, T. R. Shope, T. C. Tindell, D. E. Thomason, D. R. Walker and N. D. Woodall, Depleted Uranium Operations; D. L. Daniels, Enriched Uranium Operations; H. E. Harper, Waste Management; Roger K. Roosa, Resumption Operations; Frank Scott, Facilities Management; J. P. Stanley, Product Certification; C. Edward Tilley, Disassembly and Storage; Andrea K. Zava, Product Certification; Bob L. Arden; R. J. Graham; Carol Johnson.

Resumption of Quality Evaluation Operations

Anne W. Backus and Carol E. Cardwell, Defense Programs; Robert B. Bonner and Roger K. Roosa, Resumption Operations; Kevin J. Carroll, Criticality Safety; Janet S. Murrill, Ron S. Smith, S. Randy Treece and Paul R. Wasilko, Disassembly and Storage; R. Jean Shelton, Enriched Uranium Operations; Daniel C. Wilkins, Nuclear Operations Administration; Chuck Ray.

Resumption of Disassembly and Assembly Operations

Randy Bradford, J. Thomas Fisher, Dennis M. Nabors, James E. Radle, Charlie C. Turpin, Deonna Turner and Paul R. Wasilko, Disassembly and Storage; Kevin J. Carroll, Criticality Safety; Gail F. Carter, Enriched Uranium Operations; Vaughan E. Chase and Jerry L. Harris and Andrea K. Zava, Product Certification; G. Darrell Coppenger, Facilities Management; H. S. Hackler, Fire Protection Operations; Larry E. Pender, Quality Services; Roger K. Roosa, Resumption Operations; Richard L. Sampsel, Y-12 Site Engineering Services.

1998 DOE Award of EXcellence

Retirees' Roundup

by Virginia Donahoe, Retirees' Association president, 576-1786

Y-12 Development Division

The next gathering of the Y-12 Development division retirees will be held at noon Thursday, February 11, at Luby's Cafeteria. Spouses are invited as well as people who were working closely with the division when they retired. Call Don Scott (483-6555) or John Naper (483-3891) by February 8 if you plan to attend.

Y-12 Maintenance Division

Retirees of the Y-12 Maintenance Division will meet for breakfast Monday, January 25, at 8:30 a.m. at Shoney's on Oak Ridge Highway. Come and bring a friend. Call J. D. Franklin (483-8824) or C. T. Haun (947-7144) if you have any questions.

1999 memberships

Although quite a large number of you already have renewed your membership for 1999 (or joined for the first time), for the benefit of those who have not yet done so, we are again including the 1999 Application form with this column. If you have any suggestions for new activities, we shall be delighted to hear from you.

20th anniversary

The original group of people who were appointed by each plant manager (then Union Carbide managers) to organize our Retirees Association are pictured at left. They included, from left, Martin Gardner of Y-12, membership; Stanley Ashton of ORNL, Larry Studinger of K-25 and Ken Bahler, communications; Ray Hill of ORNL; Marv Schwenn of K-25, treasurer; C. H. McIntyre of K-25, recreation; Virginia Donahoe of K-25, chairman; and Al Bissell of Y-12. Not pictured are John Clarke of Paducah, vice chairman; Don Matlock and Charlie Harrill, alternates. Besides your president, Clarke, Gardner and Matlock are the other remaining living members of the group. We reached our 20th anniversary January 1, so Happy Anniversary and Happy New Year to all retirees!

The original Retirees' Association officers

LOCKHEED MARTIN ENERGY SYSTEMS RETIREES' ASSOCIATION

1999 Membership application

Fee: $2 for retiree $4 for retiree and spouse

Check: ☐ New Member ☐ Membership renewal

Name _____

Spouse _____

Address _____

City _____ State _____ Zip _____

Phone: Area code _____ Number _____

(Please note: If you are not a retired employee but are a widow/widower of a retiree, write your name on the first line and the deceased retiree on the spouse line, and the plant where the deceased worked.)

Retired from:

☐ K-25 Site ☐ ORNL ☐ Y-12 ☐ Staff

Indicate participation interest:

Golf _____ Travel _____

Bowling _____ Christmas Party _____

Bridge _____ Reunions _____

Volunteer Work _____

Exercise (Tai Chi) _____

Make check payable to:
Retiree Association

Mail to:
P. O. Box 6254
Oak Ridge, Tennessee 37830

Service Anniversaries

Y-12

45 years: Clarence F. Needham Jr., Enriched Uranium Operations

35 years: Jerry L. Howard, Facilities Management

30 years: Carl H. Linginfelter, Donald L. Archer, Danny H. Lowry and Bobby W. Lemarr, General Manufacturing; George F. Dorsey, Development; Donald R. Melhorn and Richard L. Palmer, Depleted Uranium Operations; Russell A. Smith and Betty J. Roberson, Materials Management; Robert J. Roberson, Facilities Management; James E. Kincaid and James E. Heiskell Jr, Waste Management; Robert L. Beeler, Product Certification

25 years: Nancy L. Forbes, Special Materials; JoAnn C. Mathis, Facilities Management; Kenneth K. Chipley, Michael J. Cole and Robert A. Just, Engineering; Pamela L. Williamson, Human Resources

20 years: Brenda D. Jones, Emmett W. Wade and Dale A. Conatser, Disassembly and Storage; Dirk O. Gardner, Special Materials; Donna C. Naney, Personnel; Johnnie R. Frost Jr., Steven R. Ellis and Deborah J. Renfro, Depleted Uranium Operations; Diann T. Johnson, Materials Management; Lillie M. Chancey and John K. Mitchell, Facilities Management; Roger K. Phillips Sr, Ralph L. Wilson III and Willard L. Lawson, Protective Services; Zeni B. Schleter, Information Technology Services; David M. Williams, Analytical Services; Jerry W. Stapleton, Engineering; Carol A. Trentham, Information Management Services; Candance G. Slagle, Information Management Services

ORNL

48 years: Sheldon Datz, Physics

30 years: Gregory S. McNeilly, Computational Physics & Engineering; Ashley L. Dutton, Plant and Equipment

25 years: Billy W. Starnes and James E. Rushton, Chemical Technology; Christopher O. Stevens, Metals and Ceramics; Joe D. McAmis and Jerry W. Ausmus, Plant and Equipment; Max E. Boren, Instrumentation & Controls; Sandra C. Lyttle, Computing, Information & Networking

20 years: Robert M. Wham and Lynn D. Duncan, Chemical Technology; Thomas J. McManamy, Spallation Neutron Source; Roger K. Richards, Instrumentation & Controls; Eddie P. Tinnel, Computational Physics & Engineering; Tony A. Wilson, Paul W. Tennyson and Carl J. Skidmore, Plant and Equipment; Douglas J. Peterson and David D. Drake, Waste Management Operations; John M. Ramsey, Chemical and Analytical Sciences

ETTP

25 years: James W. Curtis, Information Technology Services; Sharon S. Eason, Procurement

20 years: Carolyn F. Lamb, Information Technology Services

First milestone

Y-12 meets first production goal for DOE's Stockpile Life Extension Program series

Y-12 has met its first production milestone after full restart of facilities affected by the four-year stand-down.

"The plant has restarted production lines, qualified production processes, improved safety processes, instituted new technologies in concert with design laboratory personnel—all that in addition to producing the components and assemblies required for the first delivery units of this milestone and subsequent shipments," said Lew Felton, Energy Systems vice president for Defense Programs.

The production is part of DOE's planned series of Stockpile Life Extension Programs. Y-12's completion of the initial production ushers in a new era of stockpile stewardship. "This is an era of programs that extend the useful life of the existing stockpile rather than relying upon production of new weapons that would require underground testing to certify a safe and reliable nuclear deterrent," Felton said.

To recognize the accomplishment of meeting this milestone, Y-12 hosted visitors from DOE Headquarters and from the Department of Defense and the Defense Nuclear Facilities Safety Board.

DOE presented the plant with two awards for accomplishments in the program, and the visitors toured the plant's production areas.

DOE visitors included Jim Hall, manager of the Oak Ridge Operations Office, Gene Ives, DOE's deputy assistant secretary for military applications and stockplile management, and Kathy Carlson of the Albuquerque Operations Office.

DOD visitors included Maj. Gen. Charles R. Henderson, and Brig. Gen. Timothy J. McMahon of the U.S. Air Force.

LM's holiday giving totals $55,000

Lockheed Martin's holiday contributions to local holiday charities totaled $55,000, including a $10,000 contribution to the Holiday Bureau of Anderson County. ORNL Director Al Trivelpiece and Energy Systems President Bob Van Hook presented checks earlier this month. Other recipients were

- The Knoxville *News-Sentinel* Empty Stocking Fund, $10,000;
- The Empty Pantry Fund, managed by *The Daily Times*, Blount County, $7,000;
- Knox Area Rescue Ministries, $7,000;
- REACH (Roane Enriches Another Child's Holiday) of Roane County, $7,000;
- Toys for Tots, managed by the Loudon County Sheriff's Office, $7,000; and
- Holiday Hope for Morgan Countians, $7,000.

Lockheed Martin annually reinvests approximately 10 percent of its fee from DOE in the East Tennessee community.

Al Trivelpiece and Bob Van Hook join *Daily Times* Publisher Max Crotser (second from left) and Blount County Empty Pantry Fund Chairman Paul Bales in demonstrating the contents of a typical food basket. Lockheed Martin donated $55,000 to area holiday charities in December. *Photo by Brett Pate*

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