The announcement that Nobel Laureate physicist and Lawrence Berkeley National Laboratory Steven Chu has been nominated for the post of DOE Secretary has generated a wave of enthusiasm similar to that caused in wider circles by Obama himself.

The overt public response was positive to the unexpected possibility that a first-rate scientific mind with a strong leaning toward alternative energies would take the job of Energy Secretary.

The normally dyspeptic, widely read science-policy newsletter "What's New," from physicist and former Sandian Bob Park, headlined Chu's nomination: "ENERGY TRANSITION: OBAMA MAKES A PERFECT CALL."

An Associated Press report from China began: "BEIJING — China's media are cheering President-elect Barack Obama's pick of Chinese-American Steven Chu for the post of U.S. energy secretary, saying it bodes well for future cooperation between the two countries."

The unexpected pick — bypassing California Gov. Arnold Schwarzenegger and other more political candidates — has caused elation even in the often-critical blogosphere.

"What a novel concept!" one blogger wrote. "A physicist in charge of the Department of Energy." And another, wrote, "Nuurrrds!!! We're BACK!"

Chu, who shared the 1997 Nobel Prize for using lasers to trap atoms by slowing them in a procedure he referred to as "optical molasses," has turned LBL into a center of research into biofuels and solar energy. He has been eloquent in his belief that them in a procedure he referred to as "optical molasses," has turned LBL into a center of research into biofuels and solar energy. He has been eloquent in his belief that Romanians could use the country's automotive industry to strengthen its European neighbors.


"Sandia continues to demonstrate exceptional leadership across the Nuclear Weapons Complex and to provide high-quality scientific and engineering support to the United States' national security interests," the report said.

The report cites numerous achievements in mission performance over the past year, including performing in an outstanding manner as the lead laboratory for the Yucca Mountain Project; completing within costs all scheduled deliveries of all first production unit components in the W76-1 life extension program and B61 Alt programs for the canned subassembly and spin rocket motor; and receiving numerous prestigious awards and honors for scientific, technological, and engineering advances, including three R&D 100 Awards.

In operations performance, the report cites as evidence Sandia's total recordable case rate of 1.72 injuries per 200,000 workhours, an improvement of 55 percent over the 2003 rate and a nine percent reduction from 2007. In addition, the days-away case rate of 0.68 per 200,000 workhours is a reduction of 51 percent from 2003 to 2008.

The outstanding rating is the highest possible evaluation in both the mission and operations categories and allows the contract for Sandia Corporation to be extended one additional year, until October 2012. The report this year does not assign numerical scores as it has done in past years, but provides strictly the word ratings in order to mirror how the other NNSA labs are rated.

The possible ratings are outstanding, good, satisfactory, and unsatisfactory. This result was only possible through the commitment and hard work of all members of the Sandia workforce and I want to thank all of you for your contribution. This is the third consecutive year that we have reached this level of achievement and that is a testament to your dedication and hard work."

— Labs Director Tom Hunter

By Neal Singer

Sandia counterintuitive simulation: After a certain point, more chip cores mean slower supercomputing

Simulations by Sandia researchers show that the worldwide attempt to increase computer speed on the most complex problems merely by increasing the number of processor cores on individual chips unexpectedly reaches a quick dead end for many applications important to Sandia's missions.

A Sandia simulation graph that modeled algorithms important for network discovery — the ability of a processor to find and be seen by other devices on the network — shows a significant increase in speed going from two to four multicores, but an insignificant increase from four to eight multicores. Exceeding eight multicores causes a decline. Sixteen multicores perform barely as well as two. Deeper dropoffs are registered as more cores are added.

The problem is the lack of memory bandwidth, as well as contention between processors over the memory bus available to each processor. (The memory bus is the set of wires used to carry memory addresses and data to and from the system RAM.)

To use a supermarket analogy, if two clerks at the same checkout counter are processing your food instead of one, the checkout process should go faster.

Or, you could be served by four clerks. Or eight clerks. Or sixteen. And so on.

The problem is, if each clerk doesn't have access to the groceries, he or she doesn't necessarily help the process. Worse, the clerks may get in each other's way.

Similarly, it seems a no-brainer that if one core is fast, two would be faster, four still faster, and so on.

But the lack of immediate access to individualized memory caches — (Continued on page 4)
That's that

As the shape of the next administration begins to become clear, New Mexicans have some occasion to take real pride in the cabinet selections announced so far by President-elect Barack Obama. With our excellent track record in past presidential contests, the way we vote has always had a disproportionately respected and listened-to voice in national affairs. In recent presidential elections, on so-called battleground states, we've also attracted attention from presidential candidates all out of proportion with our paltry five electoral votes.

It should come as no surprise, then, that when the president-elect started making cabinet appointments, two individuals with strong New Mexico connections rose to the fore. Gov. Bill Richardson, of course, has long been a highly visible figure on the national stage and has already served as an education czar, our mother ship — the Department of Energy — in the Clinton administration. Although he's not a native New Mexican, he's made the state his home; he's been a political force of nature ever since winning election to Congress in 1962. Obama wants him as Secretary of Commerce.

And Obama has asked Arizona Gov. Jan Napolitano to take on the sprawling Department of Homeland Security. Though Napolitano built her political career in our neighboring state, she was raised in Albuquerque and graduated in 1975 from Sandia High School. There are probably a number of her classmates employed here today.

And, oh, there is at least one Sandian who knows Gov. Napolitano extremely well: her brother Len, who's director of Computer Sciences and Information Systems Center 8900.

... Speaking of Cabinet nominees, how about Stephen Chu at DOE? Seems to me that having a Nobel laureate at the top of your org chart is something pretty special.

A few days back, I posted a poll question on Sandia's internal-only Lab News Interactive website. With the highly publicized surge of piracy activity on the high seas and the need to look for ways to act against Sandians if they think the labs have a role to play in developing anti-piracy technologies. The topic must have struck a chord, because that question has generated more responses than almost anything we've ever posted. And the various comments that offer what I've called along: Sandians have an opinion — usually a well-informed and thoughtful one — about everything.

The poll results suggest that a substantial majority of us do in fact think Sandia can help in global anti-piracy efforts. Among the comments, a number of folks suggested that Sandia's work in sensors, remote monitoring, access denial, and data analysis would seem to have applications in combating pirates. Other folks were more blunt, arguing that this essentially low tech problem calls for a low-tech solution: fire a warning shot across the bow and then sink 'em.

If all the comments, though, there's that really stands out, one that's smack-yourself-on-the-forehead-obvious: Hire swashbucklers! Of course. See you next time.

— Bill Murphy (505-845-0845, MS0165, wtmurph@sandia.gov)

Executive Diversity Council members announced

The newly reformed Executive Diversity Council (Lab News, Aug. 15, 2008) is designed to advise and engage Sandia's executive management. It will serve as a forum to develop and communicate diversity strategies to achieve maximum impact for the Laboratories. The members of the newly formed Executive Diversity Council are:

- Co-chairs: Les Shephard (6000), Becky Kraus (13000); Standing members: John Slipher (3000), Bill Jones (3030), Mike DeWitte (3600), and Rochelle Lari (3552)
- Rotating team members serving three year terms are: Gil Herrera (1700), Gary Sanders (2100), Lindsy Duffey Beletki (4100), Ron Moya (6400), Jim Miller (1815), Mike's good friend and hunting buddy, says Mike was very good at what he did, and he expected the same of others.
- "What separated Mike from others was his ability to assemble high-performing teams — this was no doubt due to the fact that Mike was unassuming, willing to share credit for success, and accept responsibility for failure — on those rare occasions — so effectively. He had to reduce tension in meetings and deal with difficult personnel and business issues in the workplace, without losing his patience and infectious smile, made him a true delight to work with..."
- "He happened to be checking the Sandia website and caught this post. It was a comment from a Sandian serving an active-duty military stint, particularly caught my attention:"
- "I happened to be checking the Sandia website and caught this post. I am a reservist currently deployed to the Horn of Africa in the US Navy and am involved in solutions for this issue. The region needs a reliable inexpensive solution that local governments could maintain. It is an area that Sandia can definitely assist with and could present a great opportunity for partnering between Sandia and the military, if there is interest, I can help facilitate coordination with the Combined Joint Task Force in the region."
- (to protect his privacy, I'm not mentioning his individual's name, but if you're interested, I can provide you this small address.)
- "If all the comments, though, there's that really stands out, one that's smack-yourself-on-the-forehead-obvious: Hire swashbucklers! Of course. See you next time.

— Bill Murphy (505-845-0845, MS0165, wtmurph@sandia.gov)

Employee death

Mike Prairie remembered for his passion for science, sincerity in relationships

Mike Prairie (1500) died at home in attendance Nov. 28, following a 13-month struggle with cancer. Mike was 48 years old and was the senior manager for the Thermal, Fluid, and Aero Sciences Group.
National Security Agency Agency honors Navid Jam

for videoconferencing security work

By Patti Koning

(Continued from page 1)

sandia CaliforniaNews

This internal project developed into a full-fledged program with work for others funding from vendors of videoconferencing and embedded communications technology.

“External customers, we approach the problem from two perspectives,” says Navid. “Sanda acts as a consultant for various government agencies, advising them on architecture, setups, and potential vulnerabilities. We also work with vendors to help them analyze their products and systems.”

For external customers, we approach the problem from two perspectives,” says Navid. “Sanda acts as a consultant for various government agencies, advising them on architecture, setups, and potential vulnerabilities. We also work with vendors to help them analyze their products and systems.”

Navid says his key strength is being able to understand how the business works.

Sanda takes the lead in driving broad acceptance of videoconferencing and embedded communications technologies in the defense sector. The NSA Red Team, which has shared the issues Sandia had identified and the tools and techniques to mitigate those issues.

“The NSA Red Team has been a terrific partner. They really championed our cause and helped us gain fairly high visibility throughout the government,” says Navid. Recently the Department of Energy’s National Nuclear Security Administration (DOE) released a Technology Implementation Guide (STIG) for videoconferencing based on Sandia’s work.

Sanda set up the Center for Collaborative Security (CCS) to educate companies and organizations about videoconferencing vulnerabilities and the need for industry-wide fixes. This virtual team comprises a wide swath of computer and security experts, including network operators, vulnerability researchers, IT architects, and systems analysts and spans many directorates across Sandia, including 8900, 8100, and 5600.

The CCS conducts research and development on vulnerabilities related to videoconferencing and embedded communications technologies, including distributed information-sharing applications and instant messaging solutions. It provides basic tools and information on security vulnerabilities that are found in all types of collaboration devices, as well as best practices to enhance the security of collaborative systems.

Navid continues to drive broad acceptance of Sandia’s work, working with standards bodies and meeting with more potential customers.

He’s enjoying his role, which could be described as a spokesman, salesman, interface, or as he jokes, “just a pretty face.” Navid says his key strength is being able to bridge both the technical and business aspects and standing all the time to understand how the business works.

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Sometimes walls aren’t the answer

Sandia group provides delay options for high-value facilities

**By Stephanie Holinka**

When most people think about physical security, they think about building walls to keep outsiders out of an area. Turns out walls aren’t always the answer.

“Solid walls aren’t always a good solution,” says David Swahlan, manager of Active Response and Denial Dept., 6475. “Any kind of solid barrier can provide cover for bad guys,” he says, which can make it harder to distinguish the early stages of an attack in time to mount a response.

In the past four and a half years, Sandia has conducted some 28 vehicle barrier-type tests at the Texas Transportation Institute and Oak Ridge National Laboratory. Sandia tests conduct for the Department of State on systems intended for perimeter security, checkpoints, and other security concerns.

Swahlan has tested many different items and configurations. Some wall configurations include fronting walls, earth berms, sections of walls, jersey barriers in multiple variations, and trucks configured and parked to serve as barriers, lards, sections of walls, Jersey barriers in multiple variations, and trucks configured and parked to serve as barriers.

The barrier system most recently tested used a modified box beam with additional items inside the barrier to provide additional delay. Should an adversary try to breach the barrier by cutting it open, the “food” of each processor—slow the process down instead of speeding it up on the number of cores engaged according to a relationship of heat, power, and procedure. The performance of computer systems, and video applications, and software engineers. The fourth line, labeled “Conventional Free Clocking,” is a Cray XT model, which the shared memory systems did not provide a dramatic improvement over what was available 12 months ago, but the fundamental problem still exists.

In the early days of supercomputing, Seymour Cray produced a superchip that processed information faster than any other chip. Then a movement — led in part by Sandia — produced that ordinary chip, configured to work different parts of a problem at the same time, could solve complex problems faster than the most powerful superchip. Sandia’s Paragon supercomputer, in fact, was the world’s first parallel processing supercomputer.

Today, Sandia has a large investment in message passing programs. Its Institute for Advanced Architecture, operated jointly with Oak Ridge National Laboratory (ORNL) and intended to prepare the way for exascale computing, may help to multiply the super chip dilemma.

The testing group had company for its most recent test. More than 450 pre-college students observed the testing. Mark says the kids wanted to know the purpose for the testing. “They asked many very good questions,” Mark says, “and we talked about the purpose and the logistics of setting up the tests.”

The test was explained to them in advance so students would know what to look for. Mark warns the students to know how the test was being propelled, so they would be assured there was no driver who could be injured. Mark says the most recent barrier test met its design goal, adding that “engineers always hope that a design can be improved.”

Mark says the kids were amazed by the crash of the truck into the barrier, adding that there was a lot of yelling and clapping as the truck plowed into the barrier. After the test, the students yelled, “Cool, we want to see you do it again!’’

### Multicore

(Continued from page 1)

The “food” of each processor slows the process down instead of speeding it up on the number of cores engaged according to a relationship of heat, power, and procedure. The performance of computer systems, and video applications, and software engineers.

A more natural goal of researchers would be to increase the clock speed of single cores, since the vast majority of applications are designed for single-core performance on workstations and personal computers. But power consumption, increased heat, and basic laws of physics involving parasitic currents meant that designers were reaching their limit in improving chip speed for common silicon processors.

“The chip design community didn’t go with multicore because they were without flaw,” says Mike Heroux (1354). “The community couldn’t see a better approach. It was desperate. Currently we are seeing system designs that provide a dramatic improvement over what was available 12 months ago, but the fundamental problem still exists.”

In the early days of supercomputing, Seymour Cray produced a superchip that processed information faster than any other chip. Then a movement — led in part by Sandia — produced that ordinary chip, programmed to work different parts of a problem at the same time, could solve complex problems faster than the most powerful superchip. Sandia’s Paragon supercomputer, in fact, was the world’s first parallel processing supercomputer.

Today, Sandia has a large investment in message passing programs. Its Institute for Advanced Architecture, operated jointly with Oak Ridge National Laboratory (ORNL) and intended to prepare the way for exascale computing, may help to multiply the super chip dilemma.

### Performance vs. number of nodes (1 Gb/sec bandwidth)

**ORNL’s Jaguar supercomputer, currently the world’s fastest for scientific computing, is a Cray XT model based on technology developed by Sandia and Cray for Sandia’s Red Storm supercomputer, whose original and unique design is the most copied of all supercomputer architectures.**
Steven Chu
(Continued from page 1)

the greatest danger faced by humanity is global warm-}

ing. His wide scientific interests have earned him the}

title of professor of physics and molecular and cellular}

biology at the University of California, Berkeley. He was}

selected to speak at Sandia as a Truman Distinguished}

Lecturer. He will bring a strong focus on the}

nomination of Steven Chu for DOE. I have had the}

sibs.

storyline that it appointed someone of Chu's stature —

tiatives (6100) and currently in Washington to provide

Says Sandia President and Labs Director Tom

the introduction, and credits.

Point presentation to a video file and used Windows Movie Maker to add some music,

working with him as Secretary.”

said Sandia Executive VP Joan Woodard. “With his}

experience as a DOE lab director, Dr. Chu will bring

an extremely important perspective to the DOE posi-

tion. National priorities will change, and the labs will

be challenged to provide leadership to sustain the health

of the laboratories”

Says Deputy Labs Director Al Romig, “I applaud Pres-

ident-elect Obama's choice of Dr. Steven Chu as his Sec-

retary of Energy—designate. We have known Dr. Chu for

many years, beginning with his early tenure in Bell La-

boratories and continuing to the present day with our

recent successful partnership with him and Lawrence

Berkeley Lab on our joint Bioenergy Institute endeavor

with the DOE’s Office of Science. Dr. Chu is an extran-

ordinary scientist and an outstanding science admin-

istrator. His passion for advancing energy science is par-

ticularly notable because of the significant and complex

energy challenges that we face as a nation.”

A few concerns

Other Sandians were generally positive to the

appointment, but expressed reservations about a possi-

ble negative effect on Sandia.

Julia Phillips, director of Physical, Chemical, and

Nanosciences Center 1100, who worked at Bell Labs at

the same time Chu did, described him as intense, ex-

tremely focused, and an eloquent spokesperson for

energy, probably the best to (Nobel laureate and nano-

technologist) Richard Smalley, who tried to get energy

on the map.

“I think someone like that is absolutely the right person for the DOE position. He has the chemical

background and the Nobel Prize, so he’ll be listened to. He is also clearly passionate about making

the change. We will need to make sure that he also de-

velops appreciation for DOE’s other mission areas.”

Says Dan Barton (1223), “I am concerned if it derails our DoD-related business relation. Our growth

areas are defense system and applications. But if we have it so we can support both areas, then it’s all for

the better.”

Says senior scientist John Emerson (2453), who worked for years at Bell Labs and the Argonne and

Oak Ridge National Laboratories, “We all worry about people who weren’t formerly nuclear-

weighted or nuclear energy oriented and how much they could hurt nuclear defense work. When he was a

great technical person. When he went to LBL he did a fantastic job of marshalling a very strong lab.

He’s been in three environments: the industrial, acade-

mic, and government. People talk very favorably about him. I see Obama picking a very strong candidate

for increased energy funding. It’s good to have a person who’ll have a voice in Washington.”

‘An incredibly strong science person’

Terry Michalske, director of Energy Innovation Ini-

tiatives (6100) and currently in Washington to provide
tech exposes, with the new admin-

istration that it appointed someone of Chu’s stature —

an incredibly strong science person — to lead DOE,

says Terry. “It suggests they are looking to DOE to lead.

He’ll be the highest science-credentialed person in the

Cabinet.”

An energetic, highly respected DOE leader may be

especially helpful if the White House chooses to spur

energy innovation and put additional dollars into federal

departments like Commerce and Defense, as seems

likely, says Terry.

Probably Chu’s strongest support came from a

man who has known him the longest: Chuck Shank,

former director of LBL, now retired and leading a

research group at Sandia. “I’m one of the (part of Howard
Hughes Medical Institute), who knew Chu when he was a

graduate student.”

“I was thrilled when he took over my job at LBL when I retired,” Shank said. “He understands more

about energy than anyone on the planet and I think he’ll do a great job. He’s a quick learner with an extraor-

dinary intellect. He’ll be well aware of the science going on

all the [DOE] labs. I don’t think he’ll be offended by

full measure of responsibility.”

Heather Wilson, R-N.M., Sandia Site office acting

Manager Kim Davis, Deputy Administrator Smolen,

Sandia Executive VP Joan Woodard, Radiation-Solid

Interactions Dept., 1111 Manager Barney Doyle, and,

Sandia Executive VP Joan Woodard, Radiation-Solid

Manager Kim Davis, Deputy Administrator Smolen,

representing US Sen. Jeff Bingaman, D-N.M., Jill

Holmerson.

Labs breaks ground on new Ion Beam Laboratory

The day was gray, but par-

ticipants were buoyed by the

groundbreaking for Sandia’s new Ion Beam Laboratory

were all smiles at the

thought of retailing that

53-year-old “temporary”

structure it will replace. The

building will vary with him on several occasions as a

fellow lab director. He will bring a strong focus on the

role of energy efficiency in our future and will be ex-

pession will look at the structure, and he credits

Kim Davis. “Our growth is

Based on a design by

To	

Robert Smolen, “This build-

the MESA complex. Said Deputy

Administrator for NNSA’s

Office of Defense

Sciences.

at

SANDIA LAB NEWS   December 19, 2008   Page 5
Sandia improves work planning & control process

Over the next year Sandians will see changes in the area of work planning & control (WP&C). WP&C is a uniform method to keep employees safe while accomplishing the Labs' mission. Personnel use work controls to understand and control hazards associated with their jobs, and managers use them to provide a safe work environment.

Bob Brandhuber, ES&H Emergency Management Center 4100 senior manager, says WP&C is Sandia’s way of implementing the five core functions of the Integrated Safety Management System (ISMS) at the activity level — plan work, evaluate risk, implement controls, perform work, and improve process.

“Our goal is full and effective WP&C implementation by the end of 2009 for all members of the workforce performing activity-level work,” Bob says.

As part of an ongoing effort to enhance WP&C at Sandia, a WP&C team was formed during the summer to lead improvement activities. The team, together with members of line organizations, revised the WP&C process that provides requirements, guidance, tools, and templates essential for the safe and effective performance of mission work.

Realizing that effective communication is essential to the success of WP&C, the team is engaged in ongoing dialogue with the line organizations to let them know about the new process, help them implement it, and solicit feedback to improve, simplify, and streamline it.

The WP&C team is deploying Implementation Assistance Teams (IAT) to assist organizations by reviewing their current WP&C process and documentation, performing a gap analysis against the revised WP&C process, and helping develop the tailored organization-specific procedure. The IATs will also collect feedback and suggest improvements during their visits. The WP&C team will be in contact with centers and departments to assist in the implementation of the revised WP&C process.

This approach ensures that WP&C implementation is effective, efficient, and as simple as possible, while assuring individual safety while working.

“We urge everyone to work with the IATs over the next six months to improve our activity-level WP&C execution,” Bob says. “The ultimate goal is to increase worker safety and efficient product delivery at Sandia.”

Anyone with questions or comments can contact Bob at 505-845-1237 or rbrandh@sandia.gov or Brad Elkin, ISM manager, at 505-844-0418 or bselkin@sandia.gov. More information will be provided over the next few months, including a new WP&C site in ILMS, informational posters, and additional articles.
ONE HOUR FOR FISHING, ONE FOR HUNTING

With a little help from his friends in Preventive Health, Art Lucero makes lifestyle change

Meet Art Lucero (10263), a Sandia mail carrier. Those who know him might have noticed his transition from a burly, slightly bent-over mailman into a taller, statuesque, silver-haired Energizer Bunny®.

His transition just sort of evolved. It wasn’t exactly planned. Because of his ankylosing spondylitis arthritis (inflammation of the spine and large joints resulting in stiffness and pain), he had one hip replaced, then the other. “It had become painful to do even the slightest walking,” says Art. “Sleeping was hard. Everything we take for granted caused me pain.” The hip replacements took care of his walking and stature, but he was still not feeling exactly top-notch, so he went to Sandia Medical.

His blood test indicated the possibility of diabetes, which, he says, stunned him. His doctor suggested he work on his diet and lose weight. He followed the doctor’s suggestion. With the help of Ana Barreras, an exercise physiologist (3334), Art has lost 105 pounds over the past year and a half. “I think that is what my grandfather had in mind when he said that each hour fishing or hunting added an hour to your life.” Art says. “I understand the television ads that describe the ideal plan and the cost it takes for certain things. Then there are some things they label as priceless time with my grandchildren — priceless.”

Art’s grandfather was about 6 feet 4 inches tall and weighed about 200 pounds. “As he got older he shrank a little,” says Art. “I became more determined. I will not go back to that old lifestyle.” Finally, it was Art’s hard work and motivation to make changes that were sustainable long term and realistic based on his lifestyle. After two or three one-on-one appointments Art had made significant changes to his eating habits and was beginning to see results.

In 2006, Art Lucero came in to Preventive Health for a nutrition assessment to learn about eating healthful. “In 2006, Art Lucero came in to Preventive Health for a nutrition assessment to learn about eating healthful.” He says. “I have six grandchildren. I want to be a part of their lives. The only way that is going to happen is if I am healthy. My dream is to someday live next to my grandchildren, just like my grandfather did. It was such a joy for me. I think maybe with a lot of praying my hopes and dreams could come true.”

Nutritional assessment

“‘In 2006, Art Lucero came in to Preventive Health for a nutrition assessment to learn about eating healthful.” He says. “I have six grandchildren. I want to be a part of their lives. The only way that is going to happen is if I am healthy. My dream is to someday live next to my grandchildren, just like my grandfather did. It was such a joy for me. I think maybe with a lot of praying my hopes and dreams could come true.’”

Art had a routine. He would change his clothes and bring in fresh water from the well and chop wood for cooking and heating. “We did not have indoor plumbing or gas heating,” he says. “After I finished those chores, I would go help my grandfather and uncle milk the cows and goats. My grandmother and mother would make butter and cheese almost every day,”

His grandmother was a very short woman with long hair. She was a curandera (healer) who was born in Cochiti pueblo. “Her hair went past her waist and her eyes were dark and penetrating,” says Art. “She loved to laugh and enjoyed going to pick her remedies (herbs) to make her medicine. People would come from Las Vegas, Santa Fe, Bernalillo, and even to seek her healing. They came from as far away as Los Angeles. She learned how to be a healer from her mother, who learned it from her mother, and so on.”

Art’s grandfather was about 6 feet 4 inches tall and weighed about 200 pounds. “As he got older he shrank a little,” says Art. “I became more determined. I will not go back to that old lifestyle.” Finally, it was Art’s hard work and motivation to make changes that were sustainable long term and realistic based on his lifestyle. After two or three one-on-one appointments Art had made significant changes to his eating habits and was beginning to see results.

Ultimately, it was Art’s hard work and motivation to make changes to both his diet and exercise regimen that led to his successful weight loss.

If you are interested in meeting with a registered dietitian or an exercise physiologist to learn about how you can make lifestyle changes to meet your health goals, contact HBE at 844-HBES (4237) to get scheduled for a nutrition assessment and fitness consultation.

The first month-and-a-half after working with dietitian Ana Barreras’ suggestions, Art did not lose any weight, “It took me that long to get the concept,” he says. “I have six grandchildren. I want to be a part of their lives. The only way that is going to happen is if I am healthy. My dream is to someday live next to my grandchildren, just like my grandfather did. It was such a joy for me. I think maybe with a lot of praying my hopes and dreams could come true.”

“Hungry out” is not exactly right,” says Art. “Hungry was hard work. I helped my grandfather and uncle with the ranch. They had cows, horses, sheep, goats, chickens, and turkeys. The winters were harsher. It didn’t matter how cold it was or how much snow had fallen, the animals still needed to be fed.”

During the school year, Art had a routine. He would change his clothes and bring in fresh water from the well and chop wood for cooking and heating. “We did not have indoor plumbing or gas heating,” he says. “After I finished those chores, I would go help my grandfather and uncle milk the cows and goats. My grandmother and mother would make butter and cheese almost every day.”

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By Iris Aboytes

MARTIN LUCERO pauses from his busy schedule in the mailroom for a photo. (Photo by Randy Montoya)

ON TOP OF THE WORLD — Art Lucero and his grandson Adam take a break during their elk hunting trip this fall. (Photos above and at right courtesy of Art Lucero)

CAN YOU SEE ME NOW? — Art and Adam test out their camouflage during their recent hunting trip.