



Weapons to Wildlife

GARCIA, PARKER RE-ELECTED TO MUSEUM BOARD

Officers for the Rocky Flats Cold War Museum for 2010 will be Shirley Garcia, president; Phil Saba, vice-president; Susan Flack, secretary; and Doug Parker, treasurer. Garcia and Parker were re-elected after serving one term.

Garcia worked at the Rocky Flats Nuclear Weapons Plant from 1982-97 and now works for Broomfield's Environmental Services Division. A former board vice-president, she chairs the Education Committee. Phil Saba is a former Rocky Flats worker and president of the Homesteaders, the Rocky Flats retiree group. He joined the board in May.

Susan Flack, a new board member, has over 20 years of experience in environmental exposure and risk analysis, dose reconstruction and risk communication at Rocky Flats and other nuclear facilities. She serves on the Education Committee. Parker retired from Rocky Flats after 23 years and now works part-time for Boulder County's Household Hazardous Waste Unit.



COLD WAR DOCUMENTARY

NHK, a Japanese public television film crew from Tokyo, has been interviewing former Rocky Flats workers Jack Weaver (upper right) and Ken Freiberg (upper left) and Shirley Garcia (not shown) for a Cold War documentary to be aired in Jan. 2010.



2010 OFFICERS: Shirley Garcia (seated) and from left to right Susan Flack, Doug Parker and Phil Saba.

Inside:

- **Museum board presents 5 awards**
- **Atomic DVDs donated**
- **Board member bio: Phil Saba**
- **Oral history excerpt: Burt Kelchner on Rocky Flats site selection, safety & cleanup after the 1969 fire**

5 honored Dec. 9 for helping to develop the museum

Five individuals were honored at the annual meeting of the Rocky Flats Cold War Museum Dec. 9 at the Old Neighborhood Restaurant in Arvada for support of the museum, although two were unable to attend to receive their certificates.



LeRoy Moore, Ph.D. of the Rocky Mountain Peace and Justice Center in Boulder and long-time museum board member, was given a Service Award. He joined the board in 2001 and has developed the resistance part of an upcoming exhibit, describing years of anti-nuclear and environmental activism related to the plant. He also compiled a list of Rocky Flats books and films for the web site. (At left: Shirley Garcia presents Moore with a certificate.)

Doug Parker, retired Rocky Flats worker who works part-time for the Boulder County Household Hazardous Waste Unit, was given a Leadership Award for securing a storage facility for the museum's artifacts and also for creating and maintaining the museum's mailing list. He is treasurer of the board.

Charles McKay of Church Ranch, was given a Support Award for donating the storage site for the museum artifacts from 2001-09 and for providing a crew and heavy equipment to move the contents of

four cargo containers to the warehouse facility in January. McKay, who is an honorary board member, was unable to attend.

Scott Surovchak, U.S. Department of Energy Office of Legacy Management site manager, and **Bob Darr**, public affairs specialist for DOE contractor S.M. Stoller Corporation, were both given Governmental Support Awards for providing meeting space and other help to the board of directors. Surovchak has been with DOE at Rocky Flats since April 1992, and Darr worked at Rocky Flats for Kaiser-Hill since 2000 and joined Stoller on the Legacy Management contract in mid-2005. Surovchak could not attend.

Filmmaker donates 5 atomic DVDs to the museum

Peter Kuran, who started his career at age 17 in 1976 working on special effects for the original *Star Wars* and has worked on many motion pictures, has donated five documentaries to the Rocky Flats Cold War Museum on atomic history, weapons and testing: *Trinity and Beyond*; *Atomic Journeys*, *Nukes in Space*, *Nuclear 911* and *Atomic Filmmakers*.

Beginning in 1995, Peter produced and directed the award-winning film *Trinity and Beyond* (the Atomic Bomb Movie), and has since produced the other four. Although he has worked on many films doing mostly special effects such as the Robocop movies, Beetlejuice, Addams Family movies, he says he really enjoys film restoration. He developed the RCI Color Restoration Process for which he won an Academy Award in the Scientific and Technical Achievement category in 2003.

He originally got interested in the atomic bomb when he toured Japan with a YMCA group at age 15. He happened to visit Hiroshima on the anniversary of the bombing. He is now a consultant for the Department of Defense's Defense Threat Reduction Agency related to its film archive and recently put together a short video for the National Day of Remembrance Oct. 30 of the Cold War Patriots.

Kuran is working on a project about the inventor of the neutron bomb. He published a book entitled *How to Photograph an Atomic Bomb* which was made into an exhibit at the Atomic Testing Museum in Las Vegas, NV. He also put together a three-panel video at the museum. Visit his website for the DVDs or other related atomic items at <http://www.atomcentralstore.com> including atomic posters, t-shirts, 3D glasses, atomic gift baskets, etc. He sells to such museums as the Atomic Testing Museum in Las Vegas, the National Atomic Museum in Albuquerque, the Otowi Station Book Store and Science Museum shop at Los Alamos, the Oak Ridge Museum and others.



Museum Meetings/Events

Museum Board meeting: the second Wednesday of the month at 5 p.m. at 11025 Dover St., Suite 1000, Westminster (northeast of 108th Ave. and Wadsworth Blvd.)
Location info: Bob Darr, (303) 377-9672

Education Committee (exhibit planning): fourth Thursday of the month at 3 p.m. in a Conference Room at Broomfield Municipal Center, 1 Des Combes Place, Broomfield.

NOTE: Visitors are always welcome! Please contact 303-388-6978 for specific meeting information.

BOARD MEMBER BIO: Phil Saba

Colorado native and long-time Rocky Flats worker, Phil Saba, joined the Rocky Flats Cold War Museum board in May 2009. He has been active with the Homesteaders, a group of 1,800 Rocky Flats retirees, for the past 12 years and has been president for six years. He's also vice president of the Benefits Committee, representing 4,000 workers. Although his parents are from Lebanon, Phil grew up in east Denver and attended East High School. He got married



and had a son Bill, spent a year at the University of Colorado and then went to the Army for two years, at Ft. Carson in southern Colorado and Ft. Bliss in Texas. He later divorced and in 1980, he married Jody who had a son David. Together they had two sons, Bryan and Todd, and two daughters, Holly and Sherry. Phil worked in a Denver machine shop before going to work at Rocky Flats as a machinist in 1957. He became a salaried employee in research and development, then in remote engineering. He became a master tech engineer, retiring in April 1989. He didn't stay retired long. He worked for Merrick Engineering which had a contract with the U.S. Department of Energy, for a year and a half, and then for NFT for two years, to develop a prototype machine to core out waste drums and identify their contents. A few years later, he became a case worker for the U.S. Department of Labor assisting in the Energy Employee Resource Center on benefits for former Rocky Flats workers with job-related illness. He retired again in 2007, now enjoying golf, gardening, traveling and seven grandkids. That isn't all. He started the Colorado Camaro Club 27 years ago and has three—a 1968 Camaro and two 1969 Camaro convertibles (plus a Corvette).


One 1969 Camaro was an Indy 500 Pace Car. Phil has recruited a number of other Rocky Flats retirees to help with describing the artifacts in the museum for the database.

News Briefs:

- **Dorothy Ciarlo, Ph.D.** of Boulder had an article published in the November 2009 issue of *Peace and Conflict: Journal of Peace Psychology* called "Secrecy and Its Fallout at a Nuclear Weapons Plant: A Study of Rocky Flats Oral Histories." The article can be accessed on the internet (scroll down to the free article) at: www.informaworld.com/smpp/title~db=all~content=g915905074. In 1998, Dorothy initiated oral history interviews of Rocky Flats workers as a volunteer for Boulder Public Library's Carnegie Library for Local History, Maria Rogers Oral History Program. In 2003, she suggested to the museum board that it continue the oral history project, so the board got a grant and has completed more than 100 interviews to date. Ciarlo, a retired clinical psychologist, is a peace advocate, a practicing humanist and an ardent nature lover. She has interviewed 66 Rocky Flats workers and others for the project.
- **Kim Grant**, grants administrator for the City of Arvada, was named Employee of the Month for September. The city has about 650 employees. Nominations for each monthly award come anonymously from fellow city employees. The award includes a \$100 gift card, a certificate, posting of the employee's name on a yearly plaque honoring all the awardees, and a recognition ceremony at City Hall. City Manager Craig Kocian spoke at length about Grant's involvement in the museum project, although that was not the focus of the award. Grant said it was a great honor to be recognized by his fellow employees in this way.

News Briefs (Cont.)

- **Shirley Garcia**, president of the board of the Rocky Flats Cold War Museum, gave an update on the progress made in the past two years to the Rocky Flats Stewardship Council Nov. 2.
- **Welcome to Ken Frieberg**, Rocky Flats retiree and consultant, who joined the museum board in June, and to **Susan Flack**, an environmental consultant, who joined the board in December. Jack Swanzy, board vice-president, has resigned, effective Dec. 31.
- **Dorothy Ciarlo, Ph.D.**, and **Hannah Nordhaus** who did most of the Rocky Flats oral history interviews, were asked by historian Patty Limerick, Ph.D., to speak on a bus tour in October for members of the Western History Association who stopped at the former Rocky Flats Plant site. The manager of the Rocky Flats National Wildlife Refuge also spoke to the group.
- **Artifact donations:** LeRoy Moore said two copies of the *Rocky Flats Opera* were donated by its author, Tom Mayer, a University of Colorado sociology professor. Moore said the opera was performed in 1980 and another time as well.
- **Ann Lockhart** gave an overview of the Rocky Flats Cold War Museum Dec. 10 to a chemistry class at the charter school Collegiate Academy in Littleton.
- **Rocky Flats Refuge:** Jessie Lucier and two other environmental graduate students are taking Len Ackland's Nuclear West class at the University of Colorado (Boulder) School of Journalism and Mass Communication. The debate concerning opening up the Rocky Flats National Wildlife Refuge to the public is their final multi-media project, to be on the Web, accessible to the public. They visited the refuge site for the project and interviewed a number of people including several museum board members.
- **National Day of Remembrance:** October 30, 2009 has been designated as a national day of remembrance for the more than half a million nuclear weapons workers who served their country during the Cold War Era. To commemorate the day, former Rocky Flats workers gathered at Colorado State Capital's steps at noon. Events were held at the capitol in Washington D.C. as well. For more details contact Laura Schultz soreloser@earthlink.net or Judy Padilla charlesE8@msn.com.

 <h2 style="text-align: center;">Weapons to Wildlife</h2> <p>The <i>Weapons to Wildlife</i> newsletter is issued periodically by the Rocky Flats Cold War Museum board. In July 2001, the board incorporated as a 501(c) 3 organization to develop the museum to “document the historical, social, environmental and scientific aspects of Rocky Flats.” We want to tell all sides of the Rocky Flats story.</p> <p>Editor: Ann J. Lockhart Address: Rocky Flats Cold War Museum, PO Box 871, Arvada, CO 80001. Phone: 720-898-7125 Web site: www.rockyflatsmuseum.org Rocky Flats Oral Histories: www.boulderlibrary.org/oralhistory/ Click on special collections and click on Rocky Flats. Email: editor@rockyflatscoldwarmuseum.org to be removed from or added to this newsletter distribution list.</p> <p style="text-align: center;">501c3 Copyright 2009</p>	<h3 style="text-align: center;">Rocky Flats Cold War Museum Board</h3> <p>President: Shirley Garcia Vice President: Jack Swanzy Secretary: Ann Lockhart Treasurer: Doug Parker</p> <p>Susan Flack Ken Freiberg Kim Grant LeRoy Moore Phil Saba</p> <p>Charles C. McKay, HONORARY</p>
--	---

Quote...

“The present insanity of the global arms race, if continued, will lead inevitably to a conflagration so great that Auschwitz will seem like a minor rehearsal.”

Billy Graham, Sermon, Auschwitz, Poland, 1978

Oral history excerpt: Burt Kelchner

Retiree describes site selection, cleanup after '69 fire

Burt Kelchner, who worked at Rocky Flats from 1951-1983? was interviewed by Hannah Nordhaus Aug. 31, 2005 for the Maria Rogers Oral History Program and the Rocky Flats Cold War Museum; it was transcribed by Sandy Adler.

(Burt...tell me a little bit about your history...) I was born in Bethlehem, Pennsylvania, in 1921, in November, so I'm approaching my 84th birthday....I grew up in the Great Depression. My father lost his house. He was out of work...a carpenter...my mother died when I was only 12, so...I learned to cook, wash, and iron...I was...a good student...There are two very fine schools in Bethlehem...Lehigh University...and... Moravian College, where I ultimately attended...I was lucky enough to get a half scholastic scholarship ...with my working on the side, I finally got...a B.S. in chemistry...The war was going on...I got in the Army Reserve Corps as soon as I graduated ...assigned to the army's chemical warfare service in Camp Sibert, Alabama...That's where I met my wife Ann...at a USO dance...



...I was almost finished with my basic training when...The government ...decided ...we were going to lose a generation of trained scientists, engineers, etc., if they didn't do something...So the Army Specialized Training Program was set up to take select personnel...and assign them to...academic programs...I was sent to the University of Alabama...I took a battery of tests...I was...given a choice to either continue...in chemistry on the graduate level at Carnegie Tech in Pittsburgh, or go to Virginia Tech...I chose Virginia Tech...So I took nothing but engineering subjects...Just before...my final exam...I was interviewed by the Dean of Brown University to see if I wanted to go to a special project....

So I was chosen to go out to Los Alamos...we eventually had...over 1,000 young scientists...at Los Alamos that came out via the Army Specialized Training Program from various universities. ...being so secret, we were broken up in very small groups to go out to Los Alamos because they didn't want any foreign powers to know what was going on out there. The fact that fission was possible had already been established at the University of Chicago...They were already ...beginning to build Los Alamos and...Oak Ridge and Hanford

We arrived very early... in downtown Santa Fe....we received our temporary badge, were photographed, fingerprinted...given a preliminary lecture again on security...to say nothing to anybody—and then...placed on a bus...an hour and a half on the roads of that day...We...were given the full indoctrination, not told yet what was going on... assigned a bunk...and then given...a P-badge, for preliminary clearance, and had to fill out...paperwork.

Finally we were taken to the...the chemistry research building. They housed both the uranium research...enriched uranium, as well as normal uranium, and the beginnings of some plutonium work, because plutonium had not yet been produced in enough quantity from Hanford...in March of 1944. I was assigned to a nice laboratory...with another GI...

...I'll give you some documents...a letter that I received from Dr. Oppenheimer himself...a letter of appreciation to all the GIs that served there as Los Alamos up to that point...it was in the processing of enriched uranium that I started my expertise in ... nuclear weapons...developed some processes under Dr. Wickers that should have been patentable, but could not be patented at the time because of national security.....we were in...the Special Engineering Detachment ...They had all the famous scientists there for the theoretical part of it....We had five Nobel winners there at one...time...we learned a great deal under those people...

...They didn't allow us to have our wives any closer than 100 miles. There was no housing...And because of security, they just didn't want them around. So I was fortunate to get a little apartment down in Albuquerque....we got married shortly after I got to Los Alamos.....then I became a civilian...many...Special Engineering Detachment GIs opted to stay, because here was a building career. And...We fell in love with the West...they offered me a very good job there... Ann got a job as a government employee in one of the offices there...

...how did I first learn about Rocky Flats? ...it was 1951. I'd been working...nearly six years at Los Alamos...there was a lot of talk...that the government, because of the Cold War...and the Korean War...that we had best have a stockpile of nuclear weapons because they feared Russia. Russia had already gotten secrets, had already made and tested some nuclear weapons. We...heard that...they wanted to build a national stockpile of weapons...by this time we had the Atomic Energy Commission...formed after the war...to handle nuclear affairs in the US. ...I was employed then by the University of California...they informed the AEC that they did not have the expertise to handle production... So the AEC agreed..."We will search for a site to begin production of these weapons."

...they were concerned enough about possible terrorism—even back then...that a single plant might be somehow destroyed, and since they take so long to build and get running, that we would be again without a stockpile. So they opted to have...their "duality program." They wanted two places in the U.S. where all the components of a nuclear weapon could be made. The enriched uranium parts could be made at Oak Ridge...They assigned Hanford plant ...the task of building some plutonium parts...And so it went...There were about 12 plants involved...

...they appointed a committee...They looked at...35 different sites around the country, five...here in Colorado. One...near the present Martin plant in south Jefferson County, one...east of Buckley Field...one on the Diagonal between Boulder and Longmont, near Niwot...and one at Rocky Flats...and the fifth one was Colorado Springs...the final selection was the Rocky Flats site.

...now they need somebody to run it...Hanford was...run by General Electric, Oak Ridge was ... run by Union Carbide ...they...found that Dow Chemical Company from Midland, Michigan...the third largest chemical company in the United States...would be willing to take on the job of running Rocky Flats. Dow...had no knowledge of this work...they needed a cadre of experienced people to...help...run Rocky Flats. The majority of that cadre came from Los Alamos ...about five were civilians and about 20 were ex-GIs like myself... many... became the department heads in later years...So we were a very important component of the first personnel of Rocky Flats.

They looked at...35 different sites around the country, five...in Colorado.

...one or two went up almost immediately...January or February of 1951...about May of 1951, I was hired...They started breaking ground...They had the criteria for the major buildings of the system. The original major buildings were ...444 building...for... "normal" uranium...; 881 building, which housed the enriched uranium operations; 771 building, which housed the plutonium operations; and 991 building, which housed the assembly...and... storage ...before shipping...Then... the support buildings, the head office building ...maintenance...the firehouse, the laboratories, the analytical laboratories, the health physics building...all that...was beginning.

...Dow...brought out one of its own experienced supervisors to head up the enriched uranium plant...I had the chemical side of the plant along with another man, and Glen Andrews had the metallurgical side...and the machining...our building was the last...scheduled for completion... We finally started operation in...1954 I think...

(What was your exact job title and position...?) ...at Rocky Flats...I had...some 15 major assignments...operated out of eight major buildings, changing offices 22 times and did things that really nobody else did...For example...I did a management school...to increase efficiency in the plant...I had to put all supervisory personnel through my six-week program... some 400 people....After that...I went back to production...as general superintendent of metal production, which included the chemical processes, the making of the metal, the casting...for processing into parts...I ran at one time a department called Manufacturing Engineering...Flats to assist all the production supervisors with problems...I had about 80 engineers and technicians under me...Finally I got into...what's going to happen to Rocky Flats after it became obvious that the Cold War was over and the plant was going to be either abandoned or torn down or moved off to other locations...

I haven't talked about the...big fire, not the first one. But I'll get to that later. The long-range Rocky Flats utilization study was decided on by the Department of Energy to see what they would like to do with Rocky Flats... Dow started the study, and...I was appointed project manager ...spent three years... 12 major contracts...each major contractor...studied the suitability of the site in regard to earthquake, wind, rain, flooding, tornados. They studied safety in regard to possible terrorism attacks on the plant, breaking fence barriers...crashing into the buildings, airplane crashes into the buildings...the economic impact on the metropolitan area if we pulled Rocky Flats out...it was a major producer of jobs in the Boulder-Longmont-Denver area...

...we got into the technical parts...could we put some of the operations at Oak Ridge or some other plants?...We talked to the managers of those plants...Then we had Los Alamos Technical Associates...do studies about how we would move the plant if Oak Ridge or other facilities said, "Yes, we have room"...

...the last of the contracts was, how do you tear the plant down and put it back to green field... that...was done by... DOE to satisfy people in this area who were...very upset about Rocky Flats ...the Governor and Representative Tim Wirth appointed a blue-ribbon committee to follow our progress...studying our study...a very interesting interface... sometimes a little testy. We had demonstrations around the plant, occasionally...some people associated with that committee that were very hard to convince that...we were doing...honest work, it wasn't just whitewashing. Anyway, they hired...consultants...about 30, to review our technical data. In the final analysis... They agreed that it was a decent study...It got published...I had to take it...to the local libraries...

After that...I decided to take early retirement...1983...Although I was asked by Los Alamos Technical Associates to work...on special projects...I worked part-time for them for about ten years on...DOE projects dealing with plutonium and enriched uranium. Finally, at age 75...I was up for my clearance again...every five years, they renew your clearance. I had top secret clearance through the years...word came back...that "We think Mr. Kelchner doesn't really need a clearance any more"...so...that was my second retirement.

(...now a lot of production work is going from Rocky Flats to Los Alamos.) Yeah, but not on the scale that we did at Rocky Flats. What they're doing at Los Alamos... is..."maintenance" of the weapons...the weapons have a shelf life...and they have to be examined every so many years and some refurbishment done...I think they're still taking some of the weapons apart to meet the treaties in effect as of today....

(...tell me how coming to work at Rocky Flats was different from Los Alamos...) ...At Los Alamos...they were ...going back into more pure research...At Rocky Flats...The atmosphere was that of an industrial concern rather than...academic...Los Alamos ran almost exclusively as a big, big part of the University of California at Berkeley....All the top guys...were still...academics...whereas Rocky Flats had the expertise of production methods from Dow Chemical and then later on from Rockwell...The cadre of us that started things...and...the people that we hired... became very experienced...and many...worked there for 20, 25, 30 years also and became well known. A lot of them wrote research papers...

(...tell me...what you were doing and why you liked it. You said you liked being a practical engineer.) ...Rocky Flats, to my knowledge, had the largest production facility in the then-AEC system, now DOE. It was the largest place for producing the nuclear components of the weapons...The chief problem with working at our size was criticality...the biggest fear within the DOE circles all the years of our production...we never had a critical incident. All the other major plants had. Oak Ridge had one. Los Alamos had several. Hanford had one. But Rocky Flats never had one. We were very, very, very exacting about our operating people following the criticality regulations that were devised for our plant.

...we had only the second nuclear research facility for criticality in the United States at Rocky Flats, the first one being at Los Alamos...Ours was first operated by a man named Clarence Schuske [?]....Bob [Rothe]...as a young man with a Ph.D., worked under Schuske, and then he became the later manager of the facility there...

Schuske and I did...experiments, to increase the safety of our enriched uranium plant...We would use...instruments for the radioactivity to determine roughly how many grams of uranium were in the tank. We were not allowed to exceed a certain limit...the radiation, the criticality point, might have been two-and-a-half to three times more than we were allowed to process on a batch basis. Finally, when we got operating on big scale and my plant was running three shifts a day, people began to tell me, "Burt, you've got to do something...You are going to have a criticality incident..."

(So even though one batch might not have that much radioactive material, there might be another one nearby?) That's right...you had to have criticality spacing...Schuske...found out...at Oak Ridge they were experimenting with Pyrex glass because...the boron content in there to absorb the neutrons...help avoid a criticality incident... In Pyrex glass, naturally-occurring boron has two isotopes...one of them does absorb neutrons...they decided if you could put glass pipe in your tanks, that will save you from a criticality incident. There's no way we could retrofit our existing stuff with glass pipe...

...I came up with the idea of...cutting...boron glass pipe into two-inch-long pieces to form a Raschig ring...These things...we could pour into...tanks...very carefully to assure no breakage. So we retrofitted my...tanks... hundreds ...with Raschig rings and operated that until that plant was closed down...and they quit doing enriched uranium at

Rocky Flats. In 1964 they closed that plant...That's when I started getting involved in plutonium....The Raschig rings were then taken up in...plutonium processing areas...it's a standard today in the industry...an ANSI standard, American National Standards Institute...that's how I got by...without any criticality incidents...

(You said that criticality was the nuclear industry's biggest fear...) Absolutely. We didn't fear the radiation at all, because we had enough shielding...If a person followed all the regulations about wearing his respirator when necessary...people were not concerned about ingesting radioactive materials...or being exposed to too much radiation....a few people...got over-the-dose limits through minor accidents...when I left...I had maybe .3 of a body burden of plutonium, but nothing to be concerned about at all...And I'm part of the program...at Washington State University where as people in this industry die, we donate ...parts of our body they would like to study for radioactivity, to study the effects and see if we had any cancer from it...everybody feared the...criticality accident much more than the radiation.

(What about other non-radioactive events?) ...being an industrial plant, there's always the possibility of chemical explosions. We had a few... through the years. Fires from various chemical sources...not talking about the big fire ...from plutonium, but normal fires. You always had those concerns. But we had an exceptionally good fire department, exceptionally good alarm systems. Everything was state of the art...

(Do you want to talk about the [1969] fire now?) ...When that fire occurred, I happened to be coming home from a nice vacation...driving home... to Denver, we heard about the fire at Rocky Flats...On the radio...When we got home ...there were messages for us to contact our management ...the next day...The plant...was in disarray ...The fire department was thoroughly exhausted. They had dragged some radiation outside on their suits out through the doors on driveways, just a few feet outside the building. There had been some leakage through the filter system on top of the building, but it was pretty much retained on the roof, didn't go anywhere. The particles are heavy and tend to come out quickly.

...it was several days before...They started to organize the crew that would go in to take out these large quantities of plutonium...each part burned up to oxide and you had a pile of black oxide there, a pile here. These were in the long lines that ran through the gloveboxes. That all had to get taken out...into individual containers for safe storage. The first thing...was...to set up emergency lighting. It was so black in there...you couldn't see anything... Leo Grill was...in charge...There were about 15 to 20... experienced people...mostly management ...that went in to get this plutonium out...in pressure suits...before they got the good airlock station set up...we went in with air bottles like the firemen carried...I think the bottle was good for 30 minutes...One time I stretched it...too much and...Was huffing and puffing to get out of there before I ran out of oxygen and they could get me out of the suit...for the most part, that went smoothly.

Then they...set up air pumps and put a hose line under your suit, and ...you could go in farther ...making sure you didn't get your airline tangled up...dragging hoses around corners, over broken-down equipment that had collapsed from the fire. It was pretty scary.

I got a special assignment...nobody else wanted to do it. They were extremely worried about... ..a carrier line...on a chain inside the gloveboxes....You'd...punch a button, much like clothing racks in a cleaner's...These things impeded your progress...walking from one side of the plant to the other...So they had underpasses about five steps down...you'd...go under the glovebox line and come up...other side. There were several of these, and several pits underneath big machinery...they filled up with water, which the firemen were using for fighting the fire.

...no one knew how much plutonium might have been swept into the pits. Being covered with water, if you stirred that up, you'd have a criticality....I got the assignment of going in because I was a chemical person...We had small hoses ...that came to our small pump and from the pump to big tanks outside the building...Schuske rigged me a special instrument. He said, "If the count starts going up, that means that the stuff is starting to get stirred around. Quit immediately and get out of there!"...We'd...sit maybe ten yards from it, some place convenient to get away from it.

(Out of criticality distance?) ...yeah...We started pumping the water out of the pits...spent two weeks at that...The other time I spent helping carry plutonium oxide out. We finally got...down to the bottom and discovered, Hooray! There was no plutonium down there....as we pumped water out, they kept monitoring through the analytical laboratory the concentration of any plutonium that might be in the water...it was very, very small. Finally they realized that it was no hazard any longer, but they were really worried about that....I spent six weeks doing that work...

(What was it like to go into that building and see the destruction?) ...like seeing the destruction of any fire... where everything is blackened and charred...metal parts...twisted. The heat was so intense that many of the metal...lines started to collapse...

(Did it give you second thoughts about the safety of the plant?) Not me....old-timers like us, this was our life and our business. We never thought it unsafe.... Because the way we worked, it was safe....We would go through this with people..."You look at the industrial safety records of coal mining, of the transportation industry, of the airline industry, of this kind of chemical industry..."

For the millions and millions of man-hours that we had throughout the whole complex of the DOE, there was only ever...five deaths. Two at Hanford. When they were taking the lid off a reactor...one of the core units was stuck, and it dropped into place and made the reactor go critical while they had the top off. It blew up, and the two bodies were blown up in the superstructure. They were dead, dead, dead. They had one accident at Oak Ridge where a man was killed because something exceeded a batch limit... There were the two famous ones at Los Alamos, the first...a young scientist...went in by himself one night because he was fascinated, and it went critical on him...he died later on....And then ...one at Los Alamos during...assembly. In...these cases, when it goes critical, it doesn't go critical fast enough to have a huge explosion, but enough explosion with force to blow things around. And this big burst of radiation with the big blue light...One died...and a couple... fairly severely injured. Other than that, all other accidents in the whole system were nothing but industrial accidents. Maybe a broken leg or arm from a fall, a bad cut, you name it....Or maybe some minor injury from a chemical explosion. No, it was a safe industry. Very safe.

(Why do you think the public was so afraid?) Because they knew nothing about it. Because we were so highly secretive that they never learned anything about it. Anything secret that the public doesn't know, they fear. The public fears the unknown...The people that worked in the business were taught about radiation. "You won't feel if you're getting any. If you get enough, you'll eventually get sick. Too much, you'll eventually die....You don't feel it, you don't see it, you don't smell it, you don't taste it.

(...you were...familiar with a lot of the buildings. Did you have a favorite one?) My favorite...would have been 881 because I helped design the processes...and trained the people to run it and ran it for ten years...

(What were some features of 881 that were especially...novel, cutting edge or new?) ...the huge ventilation system, which we also had in the plutonium building....very cutting edge...in my operation, one thing...very cutting edge was my floors. I had a plant that covered four floors...All...covered with stainless steel and...welded seamlessly...tested so that there was no leakage...The first time it was ever done in the history of any kind of processing ...very expensive...all my equipment was stainless steel...we handled large quantities of nitric acid. I got my nitric acid...from the Louviers plant down...south, Santa Fe [Drive]...a Dupont explosives plant...built...around World War I...A byproduct...is nitric acid...very pure. I needed very pure nitric acid...in tank-car quantities...That's why we had to have the stainless floors. We did have a big spill...quite a few gallons of nitric acid on the floor...I got called out in the middle of the night...

(Any other architectural wonders in that building or others that you worked in?) ...Our building and the plutonium building had—even 444—all had radiography vaults, which were unusual...to determine various conditions about the parts that were made in the assembly ...they had to be x-rayed...with very high radiation, cobalt-60...Those were very specially builtCould they ever have gotten through those five feet of concrete walls and steel doors this thick, when they put that stuff in the vault to be radiographed, you'd die...instantly...if you were in there...But it was very carefully controlled, interlocks, two people having the control switches...

(...how do you feel about having worked in the nuclear weapons industry?) ...the...weapons built by the US... the majority...at Rocky Flats, won the Cold War. We bankrupted Russia by staying ahead of them....that's what won the Cold War...I hope...we never ...give up that stockpile...12 nations now...can make bombs...You've got to keep that as a deterrent...I'm a hawk in that respect. I don't want to see any more wars. I don't want to use atomic weapons....

(...were there any personal debates in your life about your work?) No, if I sensed a person was on the other side, I just wouldn't talk about it...Those of us in World War II...knew that the Japanese would not give up and that it was going to cost millions of lives to win that war, but when we put those two bombs down, they quit now, like that....that probably saved several million lives, by dropping those bombs. However...I don't want to use any of them any more.

READ MORE! See www.boulderlibrary.org/oralhistory/ to read the complete Kelchner interview or any of the 100+ Rocky Flats interviews. Click on special collections and click on Rock Flats.
