UNITED STATES DEPARTMENT OF ENERGY

OAK RIDGE OPERATIONS

PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT

PUBLIC SCOPING MEETINGS

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I N D E X T O A G E N D A

MORNING SESSION:

AFTERNOON SESSION:

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MORNING SESSION

MR. MODERATOR: Our first speaker this morning will be William Vaughan.

WILLIAM VAUGHAN:

My name is William Vaughan. I reside at Redacted -Privacy Act I've been an Environmental Consultant with a specialty in air quality since 1974. I have two degrees in physics, one degree in biophysics, my Ph.D. In the early '70's I conducted post-doctoral research on radiation sensitivity of various biological tissues, and currently I'm president of my own environmental consulting firm in the St. Louis area, Enviromental Solutions, Incorporated.

I'm aware of the programmatic nature of these hearings that concern more than just the St. Louis area. Hence, I will address more generic areas of concern based, in part, on my awareness of conditions that currently exist in St. Louis.

Probably the most general route of population exposure to radioactive material and radiation from all sites that face cleanup will be the atmospheric release of gases and particles. The air will carry these emissions to nearby homes and businesses more rapidly than any ground-water movement or gross dusting of soil. The general risk of exposure to occupants of property immediately adjacent to a

cleanup site will be via the air route.

This is currently the major route of population exposure from many sites and urban areas, even those that are not now being actively disturbed. Population exposure comes from the emission of gasses such as radon from the soil surface at these cites, and from wind-blown dust leaving the sites. That being the case for inactive sites, one can expect even more atmospheric releases from disturbed sites as pockets of accumulated gases are exposed, or gusts of wind carry off dust from loads of dirt that are being excavated or transferred.

In terms of gas releases, for perspective, about five years ago, I reviewed some of the then-available date regarding the Lambert Airport site and the West Lake landfill site in the St. Louis area. My interest was to consider the general impact of documented releases of radon gas to the St. Louis airshed from those sources. A copy of that review is included at the end of this statement.

My general conclusions were that the documented routine emissions of radon gas from the Lambert site are approximately doubling the background radon levels a quarter-of-a-mile west of the facility. It just so happens that a sizable McDonnell-Douglas facility is now located a quarter-mile west of the Lambert site. So there, at this site that is facing cleanup -- and I certainly hope it is not

facing growth -- there is routine impact on neighboring property via the air route.

In addition, that neighboring property is now further developed and has many more people than it did in the 1950's. How much radon might be released to the St. Louis airshed during a cleanup procedure that did not address containing any atmospheric releases of gases during the cleanup activity? For particulates, I must admit that I was aware, during my review of the gas emissions, of the atmospheric transport of dust from this same site.

The Little League baseball fields across the street from the Lambert site have been banned from use for years following the measurement of radioactive dirt on those fields. And for how many years before those radioactive contaminants were found were they increasing the exposure of ballplayers and their families?

In addition to the migration of dust across the road from the Lambert site is also the transport of radioactive material in water leaching from the site. These waters are leaching through groundwater into Coldwater Creek. And as the creek flows, they're carried varying distances down the creek. As the creek periodically dries up, these particles are available to become airborne and blown into backyards that border the creek.

How much more radioactive dust might be

disturbed throughout the community and distributed without adequate consideration of dust suppression and containment during excavation, loading, and hauling activities? How much might this be distributed by the continued leaching from the site into the suburban stream as cleanup is delayed? Hence, no action is not a very viable alternative.

Releases from quarries: Some of the sites around the nation that are contaminated as a result of weapons production are quarries where equipment and building debris have been deposited. Near one such quarry in the St. Louis area, there have been measurements made of radon in the ambient air that have exceeded the EPA's lowest action level for remediation, should that level be in your home.

Plans now call for pumping down the water, flooding this quarry, and carrying it by tanker truck to a cleanup facility several miles away. There, to be processed and remove the transuranic elements, hopefully with no further atmospheric releases on the way there, since there is a functioning high school on the immediate adjacent property.

But what will happen back at the quarry, and other quarries across the nation? The radon gas being slowly released from the surface of the water may well be more rapidly released as the water barrier is removed. The exposed dirt-encrusted machinery and debris will experience further drying in the air. The winds can then carry the gas and

particulate contaminants away from the site and into the St. Louis airshed.

How much planning and precautions are under way to deal with increased massive radioactive releases and wind-borne contamination from drying quarry sites around the country? Will there be independent monitoring of emissions from such operations so that, quote, "the fox isn't watching the chicken coop"? Will the public have credibility in the professionals carrying out such independent monitoring if those professionals cannot blow the whistle on shoddy operations that threaten the public with increased exposure to airborne contaminants?

There's an issue that I would like to finally raise regarding orphan sites. I use this phrase for many sites that are around the country, and certainly some in the St. Louis area, that are not on the official Department of Energy list. For instance, is the West Lake landfill, with its radioactive contamination, going to be considered for cleanup under this PEIS? If such unofficial sites, especially in urban areas, continue to be ignored, will the Department of Energy inform the contaminants that they are not allowed to affect the population?

As far as I know -- and the BEIR reports continue to assert -- there is no threshold of exposure to radiation below which no damage occurs. Hence, even

unofficial sites are having a real impact on encroaching populations in growing suburbs across the country. How will you address these orphan sites? With regard to no action, I just want to urge you that these examples show that increasing population in urban areas, even if the sites are not increasing their emission rate, is increasing the exposure risk to the population. Hence, I wish you would move ahead with the remediation of these sites.

And I thank you for the opportunity to present my views, and urge you to give serious and careful consideration to the technical and human issues that you must face.

THE MODERATOR: Thank you, Dr. Vaughan.

The next speaker is Dr. Herman Blumenthal.

HERMAN BLUMENTHAL:

Thank you. I'm not going to deal in details as the previous testimony did. I want to simply deal in the issue of credibility and powerlessness. I hold a Ph.D and M.D., both from Washington University. By profession, I am a pathologist with a research program which focuses on the origin of diseases in old people. I hold appointments as Research Professor of Gerontology in the aging and development programs of Washington U., and as adjunct professor in the Department of Community Medicine, St. Louis University.

My interest in the biological effects of

radiation dates from the 1950's when I was a member of the St. Louis Committee on Nuclear Information. That's the advantage of being 77 years old. It also has relevance to my research. Since it's documented in the BEIR-3 report on page 157, exposure to radiation cannot only threaten lifespan, but also cause an earlier onset of the same diseases which occur with normal aging. I've contributed a chapter to the biological effects of radioactivity on two editions of a book on environmental health.

The problem of what to do with radioactive waste has been a matter of concern for at least three decades. Attached to this testimony, I'm going to submit a sheet which is from a newsletter of the Committee on Nuclear Information dated December, 1959. This newsletter was widely circulated nationally, with copies going to appropriate government agencies. This particular issue features radioactive waste, an unsvolved problem. Needless to say, for most of the past three decades, this problem has been ignored.

In her book, Multiple Exposures, Catherine Caulfield has written the following, "Mankind's brief experience with ionizing radiation seems almost to have been designed to exacerbate feelings of powerlessness and suspicion. Each new discovery was greeted with wild enthusiasm, which gave way to alarm when unforeseen side-effects appeared. Protective measures were introduced,

and sooner or later, they had to be strengthened and strengthened again.

"The public has also been made cynical by the fact that for various reasons, varying from ignorance to national security, information about nuclear matters is often entangled in a web of secrecy, misinformation, and lies. Those who study the subject more closely are also surprised by the extent to which radiation protection standards are not based on scientific certainty, but on judgment, hunches, and compromise." That's the end of the quotation from Ms. Caulfield's book.

I can appreciate the problem of finding disposal sites for nuclear waste, since given the situation which Ms. Caulfield describes, no one wants the site next door. On the other hand, storing radioactive waste near an airport, streams, and a large city, appears particularly inappropriate. With seepage of radioactivity into groundwater, we can end up with radioactive water in many kitchens and bathrooms. And who can guarantee that an accident at the site will not expose people to radioactivity, as at Hanford in Washington, which was kept secret for many years? Thank you.

THE MODERATOR: Thank you, sir. The next speaker will be Ms. Kathy Collins.

KATHY COLLINS:

My name is Kathy Collins. I'm a worker at Mallincrodt Chemical Company. I'm speaking on behalf of the concerned workers at Mallincrodt.

We see a lot of suspicious things at Mallincrodt. A lot of things disappear, we never know where they go. People wearing suits, telling us not to work in our buildings, not to spend too much time in our buildings because the radiation levels are so high. Mallincrodt contends that there is no adverse health effects from the levels that we're receiving. They get that information from the Department of Energy.

I think that it would be nice, and I think that the Department of Energy has a responsibility to the workers at Mallincrodt, to assure them that during the cleanup that they're not going to lose their jobs. There's a lot of people concerned about that. They need to be told how the cleanup is going to come about, and what the procedures will be.

At Mallincrodt, business is booming. They're building a lot of new buildings, buildings are being torn down, dirt's being removed, a lot of new people are coming in. There's over a thousand people working down there now at the St. Louis plant.

Doesn't the Department of Energy have a responsibility to tell the people what is down there?

Recently, we had a building, the '50's series, which is actually one of the buildings used in the refining of the uranium. Part of that building is closed down, and the rest of it is still used for production. In the 1977 survey, it indicated that these buildings were un-occupyable, yet we have people work in these buildings every day.

Recently, a roof was removed from the '50's series. The shingles were thrown into a dumpster. The people that were removing the roofing got high levels of radiation on their badges and they had to suit up. It had rained that night, and I guess, the radiation leached into the soil. A highlift was brought in and the soil was removed. And the highlift was then covered in plastic and taken out of Mallincrodt.

What we would like to know is: Where is this stuff going? Are there records kept? During a lot of the demolition of the old buildings, operators were allowed to come in with their trucks and take bricks home to build fireplaces and flowerbeds. Will these be collected back up during the cleanup?

This is in an open dump. People are working in this area every day. And I think Mallincrodt should be priority one to be cleaned up. Thank you.

THE MODERATOR: Thank you, Ms. Collins.

The next speaker is Wayne Kristof.

WAYNE KRISTOF:

What I have to say is rather generic in comparison to the folks that spoke before me. I've been going to meetings down at City Hall in reference to the subject being spoken of here this morning for over a year. And we've had people from DOE speak, but they seem to always speak from a personal viewpoint. I'm here as a concerned citizen, representing myself and those who can't be here.

It's amazing to me that when politicians want to be heard -- they should be more accessible than the most expensive hotel available. This creates a negative demeanor for DOE. I would think that Harry Truman, a great, no-nonsense president of this great state of Missouri, would turn over in his grave if he knew that the creation of the A-bomb, and the use of it, would lead to what we have today.

But in his demeanor, I'm sure he would have exhausted all the many possible ways of disposing, and containment of, and the peaceful use of this waste, not to be used under the bureaucratic nonsense that is going on today. I thank you for letting me speak.

THE MODERATOR: Thank you, Mr. Kristof.

The next speaker is State Representative Neil Molloy.

NEIL MOLLOY:

For the record, I'm State Representative Neil Molloy, Redacted - Privacy Act . I

represent the area immediately south and southeast of the proposed bunker site at Lambert. I just want to go on record for myself and for my constituents, and for the many people that live around the airport site, that we are opposed to an urban storage site for radioactive materials, for many of the reasons that were specified by previous witnesses.

We don't think it makes a lot of sense to put, and keep, this material in an active flood plain in the midst of a highly-dense, urban population, and underneath the flight path of one of the busiest airports in St. Louis. I would urge the Department to look to moving this material to a non-urban location. And I think that's within the scoping of this hearing, that you should take a systematic look at that.

Also, I think, in the St. Louis area, since we were one of the first sites that were adversely impacted by the Manhattan Project, that we be moved up on the priority list for federal funding in cleaning this property up. We have had this material in our midst for over 40-some-odd years, and it's about time we did something. I know it's a very difficult problem, and nobody wants this material in their backyard. I think the Department and the national government have an obligation to find a preferable location.

That's all I have to say. Thank you.

MR. MODERATOR: Thank you. The next speaker is Marys Carlin.

MARYS CARLIN:

My name is Marys Carlin. I'm a professional musician, teacher at Washington University. I've always been concerned with the effects of radioactivity on the environment and human health. But recently my concern has been rekindled, by the despair my two children feel when they mention this issue -- them, and their friends. I cannot lie to them. And I am frightened by the legacy we leave them and their descendents.

When we reach the year 1992, the United States will have manufactured nuclear weapons for 50 years. For 50 years, nuclear wastes have accumulated in sites all over our country. And yet there is no serious plan for disposing permanently of this highly-dangerous material. This problem is frightening to anyone, young or old, who thinks about the future of our country's environment, the health of the people, and the legacy to the generations to come. This waste is accumulating and contaminating air, soil, and water.

No nation in the world has found a proper solution to the problem of radioactive waste, be it low-level or high-level. I was born and raised in a country which is now dependent on nuclear power for 70 to 75 percent of its electricity -- France. For an area the size of Texas, France has 45 nuclear power plants, each of them producing some 30 tons of spent fuel per year.

The reason I mention France is that it has been cited by advocates of nuclear power as a model of citizens compliance, advanced technology, and exemplary government responsibility in disposing of wastes. Actually, the real picture is different. As far as citizens compliance is concerned, France has very effective ways to manipulate public opinion. Television and radio stations are government-owned and are closely monitored. French people are presented with an idyllic picture of nuclear power -- cheap, efficient, and above all, clean.

Nevertheless, many people are worried, and have been from the start of the nuclear program. But organized protests have been repressed with a specialized police force -- the same the government used to repress the students' uprising in 1968.

The nuclear plants themselves have been plagued by many faults, including a few near-misses. One of them, a spent-fuel reprocessing plant of Lahaug, could have, had an explosion occurred, showered the entire city of London and surroundings with a cloud of radioactivity. France's super breeder reactor near the city of Beon had to be closed shortly after its opening because of an underground leak.

None of these facts have been much discussed in the daily news in France. And what is more, the government withholds, as a matter of policy, the results of

tests done in soil, water, air, fish, milk, done in the vicinity of the plants, or in the waters after atmospheric bomb tests in the Pacific islands of Polynesia.

France should actually be cited as an example not to follow. It has sacrificed a small peninsula on its northern coast facing the English Channel where it built the reprocessing plant of Lahaug, which treats thousands of tons of highly radioactive wastes from many countries in Europe and Japan each year, reprocesses them and stores them temporarily on the site.

But drums have leaked and will leak again. Glass and cyronic products of the enrichification process are not guaranteed to last the necessary two hundred thousand years or longer. Electricity essential to keep liquid wastes from boiling over and exploding can fail, and has already done so.

No suitable permanent place has been found to store this material. And what place on earth is suitable for such deadly substances? In the vicinity of Lahaug, the cancer mortality varies from 155 to 200 per 1,000. Fish caught, and other marine life, are now inedible, cows produce radioactive milk. And the dump on Lahaug is already reaching saturation. That is, it's almost filled up.

Our problem here in the United States is not different from France's. I would like to urge the DOE to

investigate fully the effects of short-term dumping of the wastes on the environment, such as the contamination of soil, underground water, vegetation, human health. And that you choose sites that are as little threatening as possible to these elements.

And above all, as I believe there is no really safe way to dispose of radioactive material, please stop testing and producing nuclear weapons.

THE MODERATOR: Thank you. The next speaker this morning is Mary Wright.

MARY WRIGHT:

I'm Mary Wright, with the Campaign for Human Development, at 462 North Taylor, St. Louis, 63108.

I think the biggest issue before us today is the will of the people sitting at this table, the will of the Department of Energy, and the will of the United States Government, to do something on behalf of all the people in this country who don't have the power for themselves.

And I want to make this just really brief, so I'll read a very brief statement that I've prepared. And that is that I'm urging you, as representatives of the United States Government, to see that immediate action is taken to remove all the radioactive wastes that are scattered throughout north St. Louis City and County.

We cannot continue ignoring the health and

safety concerns posed by these wastes sitting in the middle of a major metropolitan area. We cannot continue to be such poor stewards of the land. We are a country that can do what it has the will to do. The time is long overdue to say to the people of St. Louis that the United States Government has the will to find a solution to removing this hazardous waste.

It is time to act. It is time to stop talking at us, meeting with us. It is time to do. I want to thank you for coming to St. Louis. Thank you for listening to the concerns of the residents of the St. Louis metropolitan area. And I hope I will be able to thank you in the next few months for starting the process of cleaning up the land on which we live. Thank you.

MR. MODERATOR: Thank you. Margaret Hermes is our next speaker.

MARGARET HERMES:

My name is Margaret Hermes. I'm a writer, and I'm a member of the Coalition for the Environment.

Since becoming actively interested in the disposition at the St. Louis area's nuclear action nine years ago, I've discovered that what determines how a situation is handled is not simply at all how the situation is viewed. In the case of radioactive waste, the shifting viewpoint is reflected in different assessments of how hazardous the materials are, and what threat they pose to the people in the

environment.

The Department of Energy wants citizens to trust its assessment of the hazard involving the cleanup of these wastes. But there are good reasons for us to reject the DOE viewpoint. First of all, there's a history of deceit and mismanagement by the DOE in operating its nuclear weapons plants. The new leadership appears to be earnestly trying to rectify that sorry tradition.

Second, there was a resistance on the part of the Department of Energy to heed either the warnings or the data put out by local environmentalists. Warnings and data that have proven far more accurate than the DOE's public position over the years. Warnings like the contaminants of Coldwater Creek, and about spreading contamination by further test drilling, and like the data on the volume of waste at the airport site. Third, the federal agency's definitions of what constitutes hazard are both arbitrary and subject to change.

Fourth, and last, the Department of Energy, as well as the Nuclear Regulatory Commission, and the Congress, is prepared to tolerate certain risks to achieve certain goals. In this instance, risks to the health and genetic makeup of the workers employed in the nuclear weapons industry, and risks to the health and genetic makeup of the people who are exposed to the radioactive wastes that the nuclear weapons-industry produces.

There are two phrases used to describe the situation; as low as reasonably achievable, and acceptable levels of risks. People who are at risk are never accurately informed of the risks, or polled to determine whether the level is reasonable or acceptable to them.

On November 5th, we received a copy of the latest DOE radiological survey of the downtown Mallincrodt Chemical Works site, with a staggering revelation that there were 288,000 cubic yards of just soil alone that are contaminated above the federally-permissible guidelines. The soil alone. The three-volume report does not include the interior and exterior surfaces of at least 16 buildings found to be contaminated in the earlier 1977 survey. Walls are contaminated, floors are contaminated, roofs are contaminated, paved roadways are contaminated, places in which some Mallincrodt employees presently work are contaminated above federal guidelines.

These places will require an enormously expensive cleanup, involving dismantling and digging. Yet the presense of workers is still permitted. And according to the text in the three-volume report, the health of Mallincrodt employees is not jeopardized. I don't believe it. And I doubt that the workers would believe it either, if they were given the opportunity to study the data.

One of the higher soil readings of

thorium-230 was taken at the surface near Building 82 and the B parking lot. The thorium-230 measured 98,000 picocuries per gram of soil. In nature, thorium-230 measures .2 picocuries per gram. In the earlier survey released in 1977, which did include structures, thorium-230 measured 56,000 picocuries per gram in a drain in Building 700.

The DOE does not dispute the need for cleanup. Its own standards sets 5 picocuries per gram as the permissible level of contamination for thorium-230 at the soil surface. But even with these shockingly-elevated readings, the Department of Energy disputes that there is any danger to workers. It is now widely recognized that any exposure to radiation, including the amount one receives in nature, increases an individual's chance of getting cancer, or being damaged genetically.

These workers face dramatically increased exposure, but their level of risk is acceptable to the Department of Energy, and to the industry that employs them. An industry that did not warn its employees, over a period of eleven years, of the dangers of hauling nuclear bomb waste, here in St. Louis, in open trucks. It is the same Department of Energy that finds the level of risk in locating nuclear bomb waste at the airport site acceptable.

Many of us do not accept that assessment. We're not willing to risk our air quality, or our

drinking-water supply, or our groundwater system. We will not accept an urban radioactive waste dump situated partially in a flood plain, and entirely in an earthquake zone.

We would like the Department of Energy, under the leadership of Admiral Walker, to alter its viewpoint, and regard the individuals affected by the agency's decisions, not as statistics, not as insignificant expendable percentages of the genetic pool, but as we regard ourselves -- as people at risk. Thank you for the opportunity to speak.

THE MODERATOR: Thank you very much.

Marilyn Lanson.

MARILYN LANSON:

My name is Marilyn Lanson, and I'm just a concerned citizen, also a member of the Coalition for the Environment.

I'm cautiously encouraged by reading the Department of Energy's Environmental Restoration and Waste Management second five-year plan, 1992 to 1996. But having participated in several meetings with the Department of Energy concerning the Weldon Spring quarry and pit water, my fears have in no way been allayed.

As there is no benign radiation -- and as over the years the experts have consistently revised downward their recommendation of what is a permissible level of radiation exposure, as knowledge of the degree of hazard has

increased -- we must, as your plan says on page 11, "do what is smart." The bulk waste at the bottom of the Weldon Spring quarry contains not only radioactive wastes, as uranium and radium, hazardous wastes such as manganese and arsenic, but also explosive wastes such as DNT and TNT.

The contaminated quarry water is clearly heading towards the St. Charles County drinking-water wellfields. Immediate treatment of that water, and removal of the solid wastes, is not only smart, but it is essential. Apparently, no laboratory experiments using actual samples of Weldon Spring quarry water have been done to see if, and to what extent, the proposed methods of treating this water will be effective.

It seems reasonable to suggest that samples of the quarry water be taken before designing and building the proposed treatment plant. It would seem prudent to try out the proposed technologies with this specific water in a pilot plant. The water must be cleaned as soon as possible to abate the near-term threat. If one wants to be smart, one would then store the water in lined pits until more reliable and sophisticated monitoring equipment is available to ensure no danger to consumption by living things. And until new technologies are developed to better decontaminate.

We are considering here an enormous quantity of water, an estimated 3 million gallons of quarry

water and an estimated additional 57 million gallons located in 26 acres of pits. There is no question that it looks easier to resolve this problem by diluting the water by dumping it after proposed treatment into the Missouri River. But to treat such contaminated water and then proceed to dump it, partially cleaned, into the river 10 to 12 miles upstream of the St. Louis drinking-water intakes would not only be not smart, it would be irresponsible.

Once you put radioactively contaminated drinking water into our river system you can never retrieve it. As water affects every living thing, dumping it into the river would cause the bio-concentration of toxicants and living things in contact with our water.

I hope that when you prepare the Environmental Impact Statement on wastes, and manage the waste nationwide, created by the production of nuclear weapons, that you will explore every means to prevent contamination of the waterways of our nation. Does it not seem prudent to cease all nuclear production until such time as we discover how to safely and effectively deal with the radioactive waste? Thank you.

THE MODERATOR: Thank you. Rosemary Davison.

ROSEMARY DAVISON:

I am Rosemary Davison, chairperson for the

Commission on Human Rights, of the archdiocese in St. Louis, at 462 North Taylor, St. Louis, 63108. And a resident of the City of Florissant. My home is just a few blocks from Coldwater Creek which carries the contamination of the airport radioactive dump, and a short distance from the Latty Avenue tract.

The Commission on Human Rights has long been concerned over the affects of radioactive waste resulting from the production of nuclear weapons. In 1984 the Missouri Catholic bishops expressed their concern in "Strangers and Guests for a Community in the Heartland." The title came from Leviticus when God said, "Land must not be sold in perpetuity, for the land belongs to me. And to me, you are only strangers and guests."

In their statement, the bishops charged our government with the responsibility of promoting a healthy and safe environment for all. And specifically, to regulate the generation, storage, and disposal of hazardous waste, so as to protect our natural resources and the health and safety of the general public. As of today, that responsibility has not been met.

While demanding the cleanup of hazardous waste sites in the metropolitan area, the Commission also urges that all testing of nuclear weapons cease, and that negotiations be undertaken with all governments to halt

production of nuclear weapons and to reduce existing stockpiles.

When Pope John Paul II visited the mid-west in 1979, he reminded us that we have been entrusted with some of the earth's best land. "With fresh water and unpolluted land all around you, you are stewards of some of the most important resources God has given to the world. Conserve the land well so that your children's children, and generations after them, will inherit and even richer land than was entrusted to you."

Since 1946 we have been contaminating our resources. How long must we live with this threat to our water, our air, our land, our lives? Thank you.

MR. MODERATOR: Thank you, ma'am. I would like to now call Elsa Mutrux.

ELSA MUTRUX:

My address is Redacted - Privacy Act . Elsa Mutrux, M-U-T-R-U-X.

You may not know that Lambert International Airport -- Lambert Forever, some call it -- is not your ordinary, everyday airport. Rather, it is one of the smallest in the country, and you may recall, landing at Lambert is something like coming down in an elevator. It's built in a hole. I asked a lift-off pilot a few years ago, as we arrived from Frankfurt, his opinion of Lambert. "It's a joke. A very

bad joke," he said.

Takeoffs and landings demand the highest skills. No abortions are possible. The size is 2,500 acres -- where 12,000 acres is recommended for an airport, 18,000 optimum, like Kansas City, Kennedy, Atlanta, Dallas. Currently, important groups are urging several billions to be spent to enlarge Lambert to 3,000 acres, another 500 acres. Big deal. It's still an accident waiting to happen.

My concern is this: A few hundred barrels of radioactive waste in a corner of an 18,000 acre airport is not much of a target, but the same barrels in a 2,500 acre airport presents a target, and risk of expediential order in case of a crash. And crashes are happening increasingly. I think it's irresponsible to permit this target to remain in such sensitive surroundings. Thank you.

MR. MODERATOR: Thank you. Mr. Leon Deraps.

LEON DERAPS:

My name is Leon Deraps. I live at Redacted - Privacy Act Redacted - Privacy Act . I'm here today as a concerned citizen.

I understand the Department of Energey hearing today is part of an 18-month study with 23 hearings to follow at nationwide nuclear sites. I also understand the purpose of the hearings is to learn of the concerns of the

residents, and what they think should be done about the situation.

We are told cleanup funding is very limited and we must try to impress you to put St. Louis near the top of your cleanup list. From the mid '40's until recently, the Atomic Energy Commission and the Department of Energy has kept all our records secret for reasons of national security. You are the experts with all the facts, and you are asking us what should be done with the mess that you have made.

While people, near Hanford and other sites, continue to develop radiation-related illnesses, and die from them, you are conducting dog-and-pony shows around the country. We cannot parade scores of dying residents before you and prove that your radiation did it, but Hanford and others can and will. Some reports, like the 40,000 pages from early Hanford, are being released. I hope this is the first of many, and that Secretary Watkins will act from a moral persuasion, rather than being unable to continue denying the actions of the Department.

Past transgressions of the Department continue to surface, most dealing with intentional releases. After ten years pending in a Las Vegas court, Federal Judge Roger Foley stripped the government of its immunity from lawsuits, and ordered a hearing on behalf of 220 former test-site workers. Judge Foley said, "The government felt it

had the right to sacrifice its citizens at the nuclear altar." Sadly, only 18 still survive.

Scientists say that one-millionth of a gram of plutonium is capable of initiating cancer if it lodges in tissue. Two major fires occurred at Rocky Flats. In 1957, 92 pounds of plutonium was consumed in a 12-hour fire. The ADC estimated less than an ounce of plutonium was released into the atmosphere. Another five-and-a-half hour fire in 1969 burned up at least 2,200 pounds of plutonium worth $22 million. The ADC reported that less than one-half ounce of plutonium was released into the atmosphere. Does this sound plausible?

In April of this year, 62 pounds of plutonium was found in Rocky Flats' ventilating ducts. An outside investigator said it was evident the plutonium had escaped into the ducts, because for years, as filters became clogged and automatically closed down operations, workers had been punching holes in them so the air, though contaminated, could pass through. Meanwhile, the facility was being held up as a model of efficiency, and the managers receiving bonuses from the government for their fine work.

It is clear, the victims of the cold war were the hundreds of thousands of nuclear workers and nearby residents, and the reparations paid at Las Vegas and Fernald are but the tip of the iceberg. This is not the time for

study. This is a time for cleanup action, and now. Thank you.

THE MODERATOR: Thank you, Mr. Deraps. The next speaker would be Dr. Robert Morgan.

ROBERT P. MORGAN:

My name is Robert P. Morgan. I'm a professor of Technology and Human Affairs in the school of Engineering and Applied Science at Washington University in St. Louis. From September 1st, 1989 through July 31st, 1990, I was on detail at the Congressional Office of Technology Assessment, the OTA, in Washington, D.C., working on an assessment of prospects for Environmental Restoration and Safe-Waste Management at the DOE nuclear weapons complex. The remarks I make here today are my own and do not necessarily reflect the views of the OTA or Washington University.

First, let me say how important it is that these PEIS meetings be held. They represent an important opportunity for citizens to make their views known. Let me also add that I learned about these hearings through the efforts of citizens groups. I say nothing about them, or received nothing about them, from the Department of Energy.

As I understand it, the purpose of this hearing is to obtain views on the scope or coverage of the PEIS. Although there may be some danger in ranging too widely, I believe it important that the DOE think broadly

about ER and WM, and not feel constrained to justify current approachs such as those spelled out in the five-year plan. In other words, the environmental impact of a broad range of alternative plans should be considered.

The reasons for doing so include the following: First, questions and concerns have arisen about storage, treatment, and disposal, of several categories of wastes -- low-level, mixed, transuranic, high-level. Second, progress toward repository disposal of transuranic and high-level waste continues to be slow and uncertain. And I might add parenthetically, I just read the Intent Notice yesterday, and this idea of not considering WIPP and the high-level repository, I just wonder if that makes sense, given the sort of broad scope of the PEIS.

Third, a cleanup of waste sites is a slow difficult process with much attention still focused on the early characterization stage. It is also uncertain because of the lack of cleanup standards. Fourth, technologies for treating contaminated sites are generally perceived to be costly and inadequate. New improved technologies are needed, but the process for developing them and getting them operational in a timely and effective manner is far from being in place.

Fifth, perhaps most important, there is little public understanding of why Environmental Restoration

and Waste Management practices, particular practices, were chosen. In part, because of inadequate public participation when decisions were made. Without public support, it is likely that what is done now may have to be re-done in the future.

So, let me move ahead and first, outline some dimensions that should be considered in scoping the PEIS. And then, suggest some mechanism for correcting deficiencies in the PEIS process, as I perceive it.

Waste Management: First, amounts and types of waste, along with estimates of upper and lower bounds of the amounts, should be concisely summarized. Along the elements that need to be explicitly considered are scenarios that are based on several different assumed weapons-material production levels for generating future waste, as well as the future role, where applicable, of a vigorous waste-minimization program.

Second, flows of waste within and among complex sites, as well as between sites and surroundings, should be carefully delineated. Third, alternative means of treating, storing, and of disposing of waste, should be laid out for each waste category and each alternative waste management step. The environmental impact, including uncertainty and error bounds should be estimated. The best available information should be used to estimate both

immediate as well as long-term health effects. These effects should be estimated as a function of environmental and occupational health standards now in place, as well as several other values of the standards as they might evolve in the future.

Fourth, the time dimension needs to be considered as well. For example, high-level and transuranic waste storage at the DOE complex sites is likely to be needed for a considerably longer period of time than was originally envisioned. Storage allows some radio-nuclei to decay, but current storage conditions may not be adequate and may deteriorate with time. Plus, the PEIS must consider the consequences of alternative actions at particular points in time.

Concerning this above item, particular attention must be paid to identify unsafe, or potentially unsafe, waste storage practices that could constitute health threats, and doing something about these practices in a timely fashion. Sixth, supporting the above effort is the need for an adequate ongoing R & D program, as well as technical and regulatory oversight that has the perspective of the weapons complex as a whole.

With regard to environmental restoration, from the perspective of the entire complex, an effort should be made to estimate the environmental impact -- that is, the

health effects -- at various points in time, if the DOE Environmental Restoration Program continues on its current track. Alternatives to consider include methods for speeding up health-effects characterization of contaminated sites using health-professional, expert judgments and associated enhanced interim mediation.

Second, single-shell, high-level waste tanks at Hanford present a particularly difficult waste management problem. Methods should be developed for assessing the impacts and alternative treatment strategies, both in treatment as well as exhumation. Third, environmental impacts should be estimated, assuming that currently-available technologies are utilized in the cleanup. In addition, some realistic assumptions might be made about utilizing new technologies that might be more effective than current ones.

Some over-arching needs: In order for the PEIS process to be credible, several approaches should be built in. First, the evaluation of the impacts of various alternatives must be more open to outside participation and scrutiny. There's too much tendency for DOE to present results of its own deliberations as a fait-accompli. Key members of the public and their technical representatives must be involved in the process as full participants.

Furthermore, to the extent possible, without jeopardizing national security, information relevant

to EI and WM activities should be made more readily available through revised orders that facilitate easier access than through the classifications. Second, more DOE resources must be devoted to the kind of integrated synthesis that is needed for the PEIS than is now the case. I suspect that there is too much tendency to rely on putting the pieces of the puzzle together at the end rather than trying to visualize the system as a whole.

Finally, there is need for more health-professional imput to the PEIS process in order to focus more heavily on the health impacts of alternative courses of action. The professional manpower mix needed to perform a PEIS may be very different from that readily available to DOE, given the traditional emphasis on production as opposed to environmental impacts.

Thank you for giving me the opportunity to make my views known.

THE MODERATOR: Thank you, Doctor.

EMILY ULLMAN:

My name is Emily Ullman. I was born and raised in St. Louis and have lived here all my life. My address is Redacted - Privacy Act I am a mother of four and a grandmother of one. He and his parents also live in St. Louis. I believe that because my roots are here I can speak about the past, and as a grandmother, express

my worry about the future.

Forty-four years ago, there were relatively few St. Louis leaders who were predicting that there would be the kind of expansion, both industrial and residentially, that has occurred since World War II. Lambert Field, as it was known then, was far away, just a dinky little airport. Most citizens probably thought that it would always be in an isolated area, and therefore, storage of radioactive materials would not be an environmental hazard.

There were no environmental watchdogs, no environmental groups whose voices were heard back then. I really think that ignorance of the dangers rather than malice of forethought was the basis for the decision to use the airport area for storage. In addition, if there were those who knew about the dangers, they probably felt that somebody would come along with an easy and inexpensive way of solving the problem.

So here we are, forty-five years later, with no solution. However, we have become a lot more informed. More and more information has been gathered alerting us to the increased dangers of radiation. And equally important, the increased amount of the stuff that is present right here in St. Louis. We need a solution to the problem which is not based on politics, but will be the safest in the long-term.

I hope that when you prepare the Environmental Impact Statement on the cleanup of our nation's sites contaminated with nuclear-weapons waste, you will choose cleanup criteria which will be safer, not only for this generation, but for future generations as well. Thank you for giving me the opportunity to speak.

THE MODERATOR: Thank you. The next speaker this morning is the Reverend Ben Martin.

REVEREND BEN MARTIN:

My name is Ben Martin. I am the Associate Executive for the Presbytery of Giddings-Lovejoy, a Presbyterian Church, USA, here in St. Louis and the surrounding territory.

Our denomination recently passed, in June, a statement based on the title, "While the Earth Remains," which expresses, I think, our concern of how we, as stewards of God's creation, are managing our responsibilities in keeping and caring for the earth. We feel that we have a responsibility, not only to the total community of life within the world, but also to our Maker.

The policy, which some 40 years ago created a waste-storage site at Lambert Field, probably was justified by three factors at that time: One, a sense of urgency to complete the task of building the bomb in order to win the war. Secondly, convenience. Lambert was probably the closest

site available where you didn't have to deal with private owners and wage that war. Thirdly, it was aided and abetted by our ignorance of the kind of materials that we were really dealing with, and what they would do to us and to future generations.

I would urge you to consider that, if we confirm that decision made a long time ago -- what I feel is now an indefensible decision -- that we will add our knowing and informed consent, and makes us willing and intentional participants in an unjustifiable decision of locating nuclear-waste materials in the midst of a human community.

One other concern that I would address today is to continue to locate either on a permanent -- and when you speak of "permanent," there's a certain amount of arrogance when we describe any site as being a permanent location. When you think of our nation as being here a little over two hundred years, our sense of timespan is limited to that. But we're talking about impact on generation after generation after generation. But to locate these materials at Lambert places them in a continuing policy of putting such waste materials primarily in poor and racial-ethnic-majority communities. This has been a recognized pattern of such distribution across our nation. And I would ask you to consider that that has an adverse effect on healing and wholeness.

My plea is that you would give careful consideration to our responsibilities, as creatures of God, to keep, care for, and redeem the creation. We urge you to recognize it is irrational and immoral to place such waste materials in the midst of a living human community. There is no good place to put it, but there must be sites less harmful than what is proposed -- and what has been a reality -- in our community. Thank you.

THE MODERATOR: Thank you, Reverend. State Representative Bob Quinn is our next speaker.

ROBERT QUINN:

I am State Representative Robert Quinn, the elected State Representative for the 80th District of Missouri House of Representatives. My constituents work and live in the area around the Lambert-St. Louis International Airport. This issue is, of course, of great concern to them and to myself.

Having been an elected official for many years, I've sat on your side of the table many times through lengthy public hearings, as you are doing here and around the country. I admire you for taking on that task. It's an important part of our democracy to allow the citizens to come and say their piece to their government. It, after all, belongs to them.

The development of the atomic bomb

obviously had a national purpose and a national benefit. After all, we did win the war -- although it's hard sometimes looking at today's headlines to remember that it was us and not the Japanese who won. But we did. And the development of the bomb played a big role in that victory, especially in saving the many -- maybe as many as a million -- American lives, at the end of the war.

But the sharing of the burden of the outfall from the production of the bomb has not been national in scope. My constituents, I think, have done more than their fair share of sharing in the burden of development of the bomb. We have lived with hundreds of thousands of cubic yards of radioactive waste in our backyards for almost 50 years. And having done that part, we now think maybe somebody else can take their turn and have it sit in their backyard for 50 years.

I doubt that if you gentlemen recommend this waste be re-located to one of the nation's ten busiest airports as a logical storage site that that would be taken very seriously, except that, if you leave it where it is, that is, in fact, what is being done. St. Louis International is one of the five or six busiest airports in the country. And it probably doesn't make much sense to leave the waste there, or to leave it in the middle of a metropolitan area that has two-and-a-half million people living in it.

I'm going to differ with some speakers you may have already heard, or will hear later, who recommend that it be moved to Callaway County in the middle of Missouri, since Union Electric has a nuclear power, electric-generating plant there, on the theory that they already have radioactive waste. Fulton, where that plant is located, is only twenty miles from our State Capitol in Callaway County, and is not by any means an unpopulated area. And of course, in separate planning, there are plans to move the spent-fuel rods from that site to a permanent location.

I would suggest that there are places in this country that literally are unpopulated, and it would make as much sense to move the fuel rods there -- which is the plan -- which makes sense. Likewise, to move this low-level radioactive waste to the same, or similar, sites.

Again, the development of the bomb had national benefits, and I'm suggesting that the nation as a whole share in the burden and the damaging aspects of the development of that bomb, and not leave that burden to continue to be in north St. Louis County where it has been for the last fifty years. Thank you.

THE MODERATOR: Thank you, sir. Louise Green, please.

LOUISE GREEN:

I am Louise Green. I live Redacted - Privacy Act

Redacted - Privacy Act

I'd like to draw your attention to a report by physicist/physician John Goffman which was published in October of this year. The 480-page report entitled "Radiation-Induced Cancer From Low-Dose Exposure, An Independent Analysis" was published by a San Francisco citizens organization, the Committee for Nuclear Responsibility. John Goffman has a medical degree and a Doctorate in nuclear physical chemistry, and has been studying the effects of radiation for thirty years.

While working on the Manhattan Project he discovered a way to produce plutonium and helped discover several radioactive isotopes of uranium. He was Associate Director of the Lawrence Livermore National Laboratory during the 1960's and founding Director of its biomedical research division. His latest report is based on the study of a research published in mainstream scientific journals, and is clearly an exhaustive study of the victims of Hiroshima and Nagasaki.

Among his conclusions are: One, there's no such thing as a safe dose of radiation. Even the lowest doses increase the rate of cancer. Two, exposure to low-level radiation over a long period is as dangerous as the same exposure received all at once. For example, one rem per year for ten years would have the same effect as ten rems in one

mother with young children and I'm very concerned about the environment. My husband, a physician, receives numerous medical journals that I often look at. Because we do have three children, I am especially interested in articles concerning the health of children.

A few years ago, we received a copy of the Missouri Epidemologist, with a front-page article entitled "DOH confirms leukemia cluster in St. Charles County. No link found between cluster and Weldon Spring site." The article discussed the concern expressed by several area educators and physicians of what they thought to be an excess of leukemia in children in the St. Charles County. This group was concerned that the radioactive waste left from the uranium-processing plant was the cause for the cluster of leukemia. The Missouri Division of Health concluded that radiation from the Weldon Spring radioactive waste site were not high enough to cause the leukemia cases reported there.

I was not convinced, knowing that the dangers of low-level radiation are often underestimated. The St. Charles study came to mind last winter when I read an article in the Journal of Science on the report about the findings from the National Academy of Sciences on the biological effects of ionizing radiation. The report concluded that the risks from low-level radiation have been underestimated until now.

The findings wrote that the likelihood of getting cancer after being exposed to a low dose of radiation is three to four times higher than than given in the earlier Academy report, which itself was denounced by some old hands at the time as alarmists. Thus, evolving scientific understanding of the health effects has made the alarmists' views of the 1970's appear moderate today.

If the Missouri Division of Health were to go back and study the childhood leukemia cluster in St. Charles County with the scientific information about low-level radiation available today, their report might draw far different conclusions than it did 40 years ago. It has always been an uphill battle to prove the link between exposure to radiation and cancer.

However, recently, a former professor of epidemiology from Brown University took on this challenge. An article from the Boston Globe on October 11, 1990 states, "Sidney Cupp worked and re-worked statistics, was accused of lying, and challenged by the nuclear power industry, and finally concluded that an unsually high incidence of leukemia could be traced to radiation from the Pilgrim Nuclear Power Plant." Finally, The Department of Public Health agreed that the cases of adult leukemia were four times more prevalent in people who lived within a ten-mile radius of the plant.

I hope, and I ask, that when the Department

Department of Energy is interested in getting citizens' responses.

I believe the federal government has to strongly financially commit to source reduction and restoration of major environmental errors of past nuclear production, and learn from their mistakes. Cleanup, I feel, should equally balance and intergrate any plans for new production, as they should go hand in hand. Politics should be second to the location of a truly permanent, geological storage site for both high- and low-level waste.

I would like to ask a question of the Department of Energy and the federal government: If, in fact, they are sincere in their desire to restore the Weldon Spring sites, then why do they not stick to the approved budget of $400 million? Each fiscal year, requests for funding have been severely cut. How can the job be completed properly and timely with these restraints? Where are the priorities?

I believe, once water treatment is started at both sites, continued delays can only increase the total costs, and accelerate migration off-site of contamination in both air, surface, and groundwater transport. Contaminant plumes are known to be migrating toward the cone of depression from various wellfields in St. Charles. And St. Charles County is consistently the fastest growing county in the state, and very high in the nation as well. This can only

increase the wellfield demands. And as the demands increase, the cone of depression will increase, thereby transporting the groundwater.

As the name Weldon Spring implies, the geoology is far from ideal for permanent storage. I think it's important to mention that the Department of Energy originally intended Weldon Spring to be the recipient site for wastes from various states. I believe, if not for the high population density, geologic unsuitability, and space constraints, in addition to nearby wildlife areas, the people of St. Charles County may well have agreed to that plan.

We all agree that storage has to be in someone's backyard, and costs have to be controlled, but I personally only wish that our government and the Department of Energy would listen to our geologists and make decisions of storage sites based solely upon geologic suitability, population density, and climate. Thank you.

THE MODERATOR: Thank you. I'd just like to take a second out here to commend all of you for wonderful presentations. They're very professionally delivered. I know I appreciate it, I'm sure the Department of Energy does as well.

Our next speaker is Mary Dreyer.

MARY DREYER:

I am Mary Dreyer, housewife, and I

THE MODERATOR: Thank you. Speaking next will be Eldora Spiegelberg.

ELDORA SPIEGELBERG:

My name is Eldora Spiegelberg. I'm president of the St. Louis branch of the Women's International League for Peace and Freedom. Thank you for this opportunity to speak. My organization has not dealt particularly with nuclear waste, but with disarmament for 75 years.

My topic's title is taken from a special report printed in the St. Louis Post-Dispatch in February, 1989. It is called "The Legacy of the Bomb, St. Louis Nuclear Waste." I want to submit this series of six articles as an excellent piece of research by three reporters over a period of three years. And by the way, many of the facts in here are taken from the Department of Energy, as you probably know.

Obviously, in the five minutes allotted to me, I cannot summarize these findings, which show that the world's oldest nuclear waste, originating 48 years ago when the Mallincrodt Company of St. Louis agreed to purify uranium and tonnage quantities needed for the first experimental nuclear chain reaction at the University of Chicago, and for the atom bombs dropped on Hiroshima and Nagasaki, eventually contaminated more than 2.3 million cubic yards of soil in St. Louis and Jefferson counties, probably endangering the health of their residents, and certainly the health of the workers

involved in processing the uranium.

I shall limit my remarks, therefore, just to the health hazards which the DOE must contend with in deciding on the most efficient way in which to dispose of our local nuclear waste. It is the low-level radiation emitted by the contaminated soil which St. Louisians insist endangers our health. But since 80 percent of all radiation research done in this country is financed by the Department of Energy, we naturally feel rather mistrustful of its findings to date that radiation levels are too low to be harmful in most of the sites to be cleaned up.

Scientists now believe that exposure to any level of radiation poses a risk of cancer and genetic effect. Most scientists, even those not associated with the DOE, say that the threat to a person's health from sites in the St. Louis area are statistically small, but that we are exposed to radiation from the sun, rocks, x-rays, fallout from nuclear weapons, et cetera. And that the cumulative effects, together with other factors such as age, sex, and physical condition, may, indeed, threaten our health.

Thus, we contend that our area, because it has suffered from owning the oldest nuclear waste in the world, is entitled to the earliest clean up. We also contend that under no condition should the disposal site be anywhere near populated areas. We want all the nuclear waste to be

moved to a rural area. And I would say, preferably to Callaway County near the plant site. We understand the enormous cost and effort that this project will entail, but the longer it is put off, the more difficult and expensive it will become.

Many of us in this hearing audience participated in a similar hearing about the cleanup of the Weldon Spring nuclear dumping site in St. Charles. We understand that this is well under way, but the cleanup of the old uranium processing plant and quarry, which was originally expected to be completed by the year 2010, may take double the time and the $400 million cost.

The parents and students at Francis Howell High School, a half-mile downwind from the old plant's 68 buildings which are being demolished, are apparently quite worried about health hazards. We St. Louisians want to be assured that the cleanup of the downtown Mallincrodt Chemical Company buildings, and of the original airport site known as Lambert Field, of the Latty Avenue, of the Coldwater Creek, and Berkeley playing field sites in north St. Louis, will be accomplished as safely as possible, both during the process of digging up and burying the waste and in the choice of method of containing it for thousands of years.

The DOE must clean up its mess, and stop making more waste. It's time to stop threatening human health

and the environment in the name of national security. Thank you.

THE MODERATOR: Thank you. Gavin Perry.

GAVIN PERRY:

My name is Gavin Perry. I work at Washington University Medical School, St. Louis Missouri.

I'm going to explain why low-level radiation is much more hazardous than previously believed. Dr. Goffman's background and work were previously covered by Louise Green.

A recently-published study in May, 1990 by John Goffman, M.D., Ph.D., entitled "Radiation-Induced Cancer from Low-Dose Exposure, An Independent Analysis" quite clearly refutes the claim that very low doses of ionizing radiation can be safe. If you get nothing else from this hearing, I hope you will at least be moved to read this book upon which much of my testimony is based.

To increase the probability that you or your colleagues will read this study, I'm submitting a copy for your use now, Exhibit One. The back cover contains an executive summary for those that don't have time to read a 300-plus-page report. I would like to illuminate some of the key points in the study at this time. For you doubters, you can read the study wherein Dr. Goffman shows exactly how he arrives at his conclusions.

/ First, some background. Ionizing radiation causes cancer by damaging the DNA of a person's cells. The DNA is the genetic code which determines who you are. It's the molecule that contains the genes which determine the color of your eyes and hair, as well as exactly how each cell in the body is supposed to function.

When the DNA is struck by a ray or particle of radiation, it breaks. Depending on the position of the break, and how the cell repairs the break, damage is done. Often, whole pieces of DNA are knocked right off the chromosome. If there's enough damage, the cell can die or otherwise become inactive. Smaller amounts of damage can modify how a gene functions without killing the cell. That's what's shown in the picture here.

Damage to the part of the DNA that regulates the rate of reproduction of the cell can lead to cancer, where a cell continues to reproduce itself without controls. Although the probability is fortunately small that radiation will hit a spot of DNA that will cause cancer, it only takes a single tract of radiation to lead to cancer. I'm submitting this chart schematically showing the damage to DNA from radiation as Exhibit Two.

Now, some key points from Dr. Goffman's book, "Cancers are caused by the lowest conceivable doses and dose rates. This refutes previously-held claims that there

can be very low doses or rates of exposure that may be safe, the so-called threshold theory. The no-safe-dose assertion has proven beyond any reasonable doubt by a combination of human epidemiological data and radio-biological studies of the effects of ionizing radiation on living tissue.

"The atom bomb survivors study, victims of the U.S. bombing of Hiroshima and Nagasaki, includes people who were exposed to low levels of radiation, such as those who were farther removed from the center, up to six miles away. After more than 40 years of study, the low-dose cancer yields can be determined by several different methods. There's plenty of evidence that very low doses of radiation can and do cause cancer.

The Chernobyl accident is providing another opportunity to study the effects of low doses of radiation in huge numbers of people. Both Dr. Goffman and the Radiation Effects Research Foundation, RERF, analysts estimate that from 140,000 to 475,000 fatal cancers -- excluding leukemias, for these are long-term, solid tumors -- will occur from the very low per-capita doses received by hundreds of millions of people after the Chernobyl accident.

If risk evaluations were to exclude all low-dose exposures, as has been suggested in diminimus proposals based on some non-existent threshold effect, these deaths would not even be included in the risk-benefit

analyses. Those proposals to exclude slow, low-population exposures from risk-benefit analyses, and thus exclude a large share of radioactive waste from any regulation at all, are based on two mistakes: A) The erroneous idea that there may be some safe dose or dose-rate. And B) Large underestimates of the magnitude of the risk from low, slow doses.

A large amount of so-called low-level wastes in the environment, such as we have here in St. Louis, in fact, produces more health effects per unit dose that the occupational exposures of high-level radiation of a small group of radiation workers. The fact that no one can prove that a particular cancer was caused by a particular exposure should not let the government off the hook for having created this mess in the first place.

The hazard per-dose unit is considered higher -- considerably higher -- than the 1988 and 1990 estimates by the quasi-official radiation committees, even though these committees have recently raised some of their estimates by three to ten times. It is proven in this study that it is impossible for low, total doses of ionizing radiation from environmental sources to be less carcinogenic than the same total dose received acutely, which is all at once.

If fact, there's very strong support in the direct human evidence for recognizing the cancer risk is

probably more severe per-dose unit at low doses than at moderate or high dozes. The nature of the mistake is that the dose -- is, and always has been, concaved downward, and not concaved upward, or even a straight line. The radiation industry has been ignoring the evidence and hoping for a concave upcurve for over 50 years.

There's now enough evidence from direct human observations that low doses -- there's no reason to use high-dose data to estimate low-dose risk. The data staring us irrefutably in the face shows the risk factors actually must be provided, if they're used, must provide for a risk increase at low doses, not a decrease.

This chart, submitted as Exhibit Three, figure 14 of Goffman's study, shows graphically what this means. The radiation dose in rems is plotted along the bottom axis. For each dose, he's plotted the number of cancer deaths found per 10 thousand people up the side. The black squares are actual data from the Avon study. The green curve is the hope for linear quadratics they've been pushing, which shows very little increase in the risk at low doses. It also doesn't fit the data very well.

The straight line, blue curve, is the linear dose response fed, which is what a lot of people say the straight line fits better than a threshold curve, which would indicate that as we decrease the dose, there would be

proportionately fewer cancers. The best fit to the actual data points comes from a circular, linear curve which is concave down. This curve indicates that smaller amounts of radiation are actually more effective in producing cancers than higher doses. Thus, exposing large numbers of people to what were once considered insignificant doses of low-level radiation will actually cause more cancer deaths than was previously predicted.

Ionizing radiation may turn out to be the most important single carcinogenic for which huge numbers of humans are actually exposed, causing about one-fourth of all cancer deaths. Near-perfect containment of radioactive inventory from a reactor at 99.9 percent is still not enough. Consider a hundred large nuclear power plants operating in the USA for 25 years each. At 99.9 percent containment through the entire life cycle of each plant -- that's including mining, running the plant, and disposal afterwards -- would result in contamination of the environment of cesium-137 equivalent to, in curies, to four Chernobyl accidents. That's just normal operations with no accidents.

I don't have any figures of contamination from the military's weapons-production program because they've been hiding behind national security. But we have no reason to believe the weapons program has been any more careful with their waste than the commercial reactor program.

Here in St. Louis we still have material from the creation of the first atomic bomb and 15 years of production thereafter flowing in our creeks and rivers. It's absolutely critical to remove all radioactive waste from the St. Louis area, and eliminate this continuing risk of exposure. Even at low-levels of exposure, this material causes significant health risks.

I urge you to consider this new analysis of the effects of very low doses of radiation as you prepare for the Programmatic Environmental Impact Statement for nuclear-weapons waste cleanup. Thank you.

THE MODERATOR: Thank you. Next speaker is David Bohm.

DAVID BOHM:

Good morning. I am David Bohm, Assistant St. Louis City Counsellor, City Hall, St. Louis, Missouri, 63103.

I've been asked to speak to you today on behalf of Mayor Vincent Schoemehl, Mayor of the City of St. Louis. The City's interest in the PEIS process is primarily because the City is the owner of the property which is known as the St. Louis Airport site, or SLAPS. This is a FUSRAP site, Formerly Utilized Site Remedial Action Program site, which is now listed on the national priorities list.

The City, however, is not responsible for

the waste on that site. The waste on that site resulted from early Manhattan bomb production at Mallincrodt. The waste was then transferred to this SLAPS site during the period from 1946 into the 1950's. Most of the remarks I'm going to address to you today concern development portions of the PEIS which are going to address remediation at FUSRAP sites in general, and at the SLAPS site in particular.

However, before addressing these concerns, I'm going to address the City's concerns that it may become a trans-shipment point for radioactive waste if the PEIS recommends a central, or regional, storage proposal. Before DOE selects such a remedy, the City urges that DOE carefully evaluate all health and environmental effects of transportation of radioactive waste, the potential for, and likely effects of, transportation-related accidents, as well as studying alternative transportation means and routes. Hopefully with the result that any trans-shipment would avoid shipping radioactive waste through urban areas, and particularly through the city of St. Louis.

We believe that a properly-conducted study will conclude that the shipment of radioactive waste through urban areas, with the potential for contamination of a large population in the event of an accident, is inappropriate. Based on the City's experience with the shipment of Three Mile Island waste through the city, we have some particular

concerns. We believe that DOE must study the potential for, and the results of, an accident which might involve both radioactive and hazardous waste, either because of mixed trains or accidents in railyards.

I'm now going to direct my comments in the City's regards to the PEIS scoping of FUSRAP sites. First, the City is not sure that it is appropriate to include FUSRAP sites in a PEIS with sites which are involved in ongoing weapons production. We're not convinced that the necessary remedial actions at these two types of sites are logically interrelated. Specifically, we're concerned the FUSRAP sites, some of the oldest radioactive-contaminated sites in the nation, will not get appropriate attention in a PEIS which also includes weapons-production facilities.

As the five-year plan notes, all FUSRAP sites are in urban areas. If the contamination is not controlled, the public could be exposed to radiation by direct exposure, inhalation of suspended radio-nuclei, inhalation of radon isotopes, or ingestion of radio-nuclei.

The SLAPS site is located directly adjacent to Lambert-St. Louis International Airport. At the present time, it must be considered an uncontrolled site. There has been leaching of radioactive material into Coldwater Creek, there has been blowing of radioactive material onto adjacent properties. The Berkeley ballfields are contaminated and

unusable. The area's largest employer is immediately adjacent to this area. Coldwater Creek runs through the dump site, runs next to the Latty Avenue site, and runs through heavily-populated areas. Coldwater Creek dumps into the Missouri River above the drinking-water intakes of both the city and county.

Because of the spread of contamination at the SLAPS site, the City is in agreement with the bias for action which the DOE has stated in its five-year plan. We are concerned, however, that the development of the PEIS conflicts with this bias for action, and may delay cleanup of the SLAPS site and the other sites in the St. Louis area, including the downtown Mallincrodt site.

However, the City is also concerned that any remediation program adequately protect the public from future contamination. Because of evolving knowledge as to the dangers of exposure to radiation, cleanup of contamination at and around FUSRAP sites should be to the lowest, achievable levels. We're also concerned that any cleanup activities not expose the population to further contamination.

One issue which must be addressed by DOE in its PEIS, and particularly with regard to FUSRAP sites, is the issue of urban versus remote storage. DOE has proposed building a permanent storage bunker at the SLAPS site. The City is aware that this is an option that will be studied by

DOE. Again, we believe that it's important that the DOE study all potential health, safety, and environmental impacts of such bunkers in urban areas.

With regard to such studies of issues, the City is particularly concerned that the DOE study the potential impact of natural and man-made disasters on storage bunkers such as that proposed for the SLAPS site. In particular, with regard to the bunker proposed for the SLAPS site, DOE should study potential impacts of airplane crashes, earthquakes, tornadoes, and flood. In fact, the whole issue of building storage facilities in flood plains should be studied. Another concern is the possible leaching of radioactive materials from any storage bunker into Coldwater Creek.

Finally, the City believes the DOE must take into account the psychological impact of locating a storage bunker in an urban area, particularly at the SLAPS site. It is the City's position that if all these issues are carefully studied, a preference for non-urban storage will become evident. In any event, it is the City's position that action cannot be deferred at the St. Louis area FUSRAP sites, because of the current threat to public health and safety from these uncontrolled sites. Which, of course, has been recognized by the DOE in its five-year plan.

We believe the DOE must, in developing

cleanup priorities, focus more heavily on public health and safety concerns than on maintaining weapons-production capability. Finally, the City is most concerned the DOE commit to taking full responsibility for costs of cleanup at all FUSRAP sites, and particularly the SLAPS sites.

DOE's predecessor agency, the Atomic Energy Commission, was responsible for the placement of radioactive waste at the SLAPS site. As stated in the five-year plan, the DOE's environmental problems originated from activities dating as far back as the Manhattan Project of 1942 through 1945. Over the intervening years, practices that were considered safe and prudent have proven to be neither. Practices that have since been determined to cause environmental problems have been carried out for decades. The result has been the creation of large sites requiring remediation.

That's what the SLAPS site is, a large site created by DOE because of practices which we now know are not safe. And it was the Atomic Energy's practices and not those of the City that led to the contamination. In fact, the City of St. Louis had been assured by the Atomic Energy Commission that the SLAPS site was safe at the time that that site was donated to the City.

Further, it's the City of St. Louis' position that the Department of Energy actually still owns the waste at the SLAPS site. The basis for this belief is the

City does not have the necessary license required under the Atomic Energy Act to possess radioactive waste. Therefore, the City respectfully requests that in developing the PEIS, the DOE carefully study the issues of cost. We know the costs of the remediation program are going to be tremendous, but we ask the DOE accept the responsibility for those costs, as the need for cleanup is the result of its predecessor agency's actions -- and its actions.

In conclusion, it's the City's position that the DOE must focus on contamination of radioactive contamination of FUSRAP sites. It's not an issue which can be deferred. Thank you.

THE MODERATOR: Thank you, sir. John Gestrich.

JOHN GESTRICH:

My name is John Gestrich. I live in St. Louis County. I'm here in regards to the radioactive waste in the St. Louis area.

As you already know, we in St. Louis have our share of radioactive waste in the most heavily-populated area of the state. Preventive measurements have been, and are being taken, to slow or stop its migration into waters and rivers that thousands of people must drink from every day. The gases given off by the decaying material at the Latty Avenue site have caused leukemia in people living near the

site.

The people working near the Latty Avenue site are at greater risk of developing cancer than people working anywhere else in the county. Therefore, I must insist that all waste material be removed and permanently stored at federally-approved, above-ground storage sites as far away from cities and wildlife as possible.

Should the people of the United States Department of Energy arrive at a decision that is anything less than removal from urban areas, then I must ask that you do nothing. Just leave it where it is until we have a DOE that will handle and dispose of this waste for the last time. This time, in a safer place, out of flood plains, away from the Mississippi River, away from people.

I know of no one that ever said making these super bombs would be cheap. And we are still paying for them in more ways than money. These bomb by-products must be contained for all time, and at the very best and safest way we can possibly engineer. Anything less would be shortchanging our children's children's children.

I'd like to thank the Department of Energy for holding this hearing today, and I remain respectfully yours.

THE MODERATOR: Thank you. Ms. Clemens.

BEATRICE BUDER CLEMENS:

Good morning. My name is Beatrice Buder Clemens. My address is Redacted - Privacy Act , Redacted - Privacy Act . Thank you for your patient attention, and for finally committing the Department of Energy to being accessible to the public by holding these nationwide hearings. We in St. Louis have been waiting a long time.

Last Sunday marked the 48th anniversary of the birth of the atomic age, with the very first self-sustaining nuclear chain reaction. And where was the uranium for that experiment processed? I'm sure you know now. It was here in St. Louis. And where are those wastes today? Mostly still here, or moved to New York, Ohio, and Colorado. They're never gone. The St. Louis area is the unwilling host to the oldest nuclear waste anywhere in the world.

For 25 years after that first reaction, the United States Government continued to process atom bombs at the two Mallincrodt sites, and later at Weldon Spring, across the river from here. Has our government cleaned up after itself? No. Will you after today's meeting? I can only hope so. But I still worry. I know there are at least 3,600 sites in our country contaminated with radioactive waste. I know this meeting here today is only one of 23 being held nationwide. Other cities have factories that the U.S. Government hopes to re-open. Unfortunately, we do not. Does this mean we will be overlooked when the cleanup dollars are

assigned? Do you consider us less significant?

My mother is here with me this morning and she's holding my son, Nicholas, who will be two next April. I want him to know when he's older that our meeting here today started the ball rolling for removing dangerous radioactive waste from this major metropolitan area that we've chosen to make our home. I want to tell him that as our country stood on the brink of war, our government finally started to allocate the funds necessary to find a way to clean up the radioactive waste from a war his grandfather fought in half-a-century ago.

Why hasn't that happened yet? I ask of you, the representatives of my elected government, quit pretending that you know what to do with radioactive wastes. I feel that all these meetings, these pretty charts, simplistic and deceptive publications, are whitewash and nothing more. It is polluting every state of our beautiful nation.

Tell me that until scientists discover a way to isolate radioactive waste from humans, from animals, from the water, and the plants, earth, and sky, that the United States Government will spend no more money for creating nuclear weapons, nuclear power, and the waste they produce.

In learning to care for my son Nicholas, I've become quite indebted to the writings of Dr. Benjamin

Spock. I'm sure you know of him, a most famous and highly-respected physician. He wrote the introduction to a book by Harvey Wasserman and Norman Solomon called "Killing Our Own." It is subtitled, "The Disaster of America's Experience with Atomic Radiation." I am donating this book to you as part of my testimony.

I quote from Dr. Spock's introduction, "I earnestly believe that as soon as there is definite suspicion from harm as malignant as radiation, it is time to make every effort to eliminate it. I feel particularly strongly about radiation, because children are much more vulnerable than adults. Not only in regards to the likelihood of developing leukemia and cancer, but also of being born with physical or mental defects. And once the mutations have been produced in genes, they will be passed down forever."

I'm still quoting Dr. Spock, "What right do we have to threaten, with deformity or death, those who are too young to protest or those still unborn? What right do we as adult citizens have to allow our government to take this power for evil into its hands?" End of quote.

It's time to clean up the mess and stop making more. It is time to stop threatening human health and the environment in the name of national security. And speaking for those of us living in St. Louis, we were the first to be contaminated by waste from the atomic age. We

don't want to be the last to be cleaned up. Thank you.

THE MODERATOR: Thank you. Ms. Koenig.

DEBBY KOENIG:

My name is Debby Koenig, and I'm on the Board of Directors for the CARE organization, Citizens Against a Radioactive Environment. I come to you not as a scientist, or with an eloquent speech such as those I've heard today. I don't have a lot of facts, I don't have a lot of numbers, I don't have a lot of organizations with a lot of initials in front of them. I just come to you as a citizen of Northe County.

We have chosen to live in Northe County because I like the Northe County. I feel it's a very real hip place to live, the people are very caring, and I feel that it is time that Northe County got a fair shake. I don't think that it's a safe place to store the nuclear energy.

The New Madrid faultline which has received so much publicity in the last few days -- we did make it past Tuesday, so I guess we're safe for a day or so -- is certainly enough of a warning or a threat to us to discourage, I think, the DOE from storing nuclear waste there. The last time we had an earthquake like this predicting, the entire Mississippi River reversed. This is stored right by the creek that runs into the water system that feeds into the city. I don't feel that's practical at all to store nuclear waste, low-level or

not, in our area.

It's also within walking distance of too many thousands of people, where they live and work, to be stored safely. If we do have an earthquake like they're predicting -- which I feel we will someday -- we'll have enough to worry about, barring all of the water that we rely on to be absorbing all this nuclear waste.

A lot has been said about it being low-level radioactivity. Well, our city would not be mentioned in this if it was extremely low and very, very safe. I don't buy that. I just feel the health risks are too great to myself, my children, and to our neighbors, all of St. Louis and St. Charles, to be stored in this area, which I feel is totally out of the question to be an environmentally safe place to be stored. Thank you.

THE MODERATOR: Thank you. At this point, being 12:00, we will take a break until 12:25.

(Whereupon, a brief recess was had.)

THE MODERATOR: I would like now to re-convene on the Programmatic PEIS. In the few minutes that remain before lunch recess, I would like to call Terri Williams.

TERRI WILLIAMS:

Thank you very much. I am Terri, T-E-R-R-I Williams, and I live at Redacted - Privacy Act

concerned suffered serious injury from the peculiar hazards of the enterprise. Medical case histories of persons suffering serious injury or death resulting from radiation were emphatically not wanted."

And last, "Of all material, uranium is not dangerously radioactive. The desired product, plutonium, does not give off penetrating radiation, but the combination of its alpha-ray activity and chemical properties makes it one of the most dangerous substances known, if it once gets into the body.

"However, the really troublesome materials are the fission products, i.e. the major fragments into which uranium is split by fission. Fission products are very radioactive and include some thirty elements. These are released in considerable quantity, slow to dissolve, and must be disposed of with special care. It must be established that the mixing of the radioactive gas with the atmosphere will not endanger the surrounding territory. Most of the other fission products can be retained in solution, but must eventually be disposed of."

Of course, possible pollution of the adjacent river must be considered. As it is common knowledge today, there are many, many cases of disease and death directly attributed to the various nuclear aspects of nuclear production, from the operation of the defense power plants,

Health and Safety is a community organization concerned with environmental issues. In addition to attempting to inform ourselves on these issues, over the past 15 years we have periodically sponsored educational programs in area schools, colleges, and other public facilities. Among the topics we have dealt with is nuclear power and the scientific and technical problems related to its application.

The management of radioactive waste is such a problem. In 1979, in a report to the President by the Interagency Review Group on nuclear waste, it was observed that radioactive wastes have one thing in common; as long as they remain radioactive, they will be potentially hazardous, and may lead to a variety of diseases, including cancer, and may be mutanogenic, transmitting biological change to the future.

The Commission saw then its mission as making recommendations to isolate this waste from the biosphere, to protect the public's health and safety. Paramount in these deliberations were concerns with unstable geologic strata, the migration of radio-nuclei into surface and groundwaters, and the consideration for human populations in the regions of repositories.

As technology struggles with the problem of containing nuclear waste, the scientific community's ongoing studies, represented, as an example, in the annual report on

Biological Effects of Ionizing Radiation, reflect the attempt to more accurately define degrees of biological change resulting from given exposures. There is, however, a common consensus that the damage occurs. There is disagreement over the interpretation and the application of the data.

Our organization is not in favor of a permanent radioactive-waste repository at the Lambert Airport site because of the proximity of the surface waters, the large population, and the possibility that coming generations may experience an increase in leukemia, cancer, and genetic abnormalities, because of the radioactive contamination of our water and water supplies.

It is our fervent hope that this site, and other contaminated areas, will be cleaned up as expeditiously as possible in the interest of public health and safety. Thank you.

THE MODERATOR: Thank you, Doctor. The final speaker at this morning's session will be Deborah Hamilton from the City of Berkeley.

DEBORAH HAMILTON:

I'm Deborah Hamilton, Assistant City Manager for the City of Berkeley, 6140 North Hanley Road. I'm here today as a representative of the City of Berkeley and as a resident of North County. As an employee, I work approximately two miles from the SLAPS site. As a resident of

Northe County, I live approximately one mile from the Hazelwood site.

The effort to convince the Department of Energy to remove all radioactive waste from St. Louis has been long and arduous. We've tried to elicit the support of our elected officials, we've held town meetings and even larger public rallies. Despite all of our biggest and best efforts, we've been unable to convince the Department of Energy to look for alternate sites outside the St. Louis metropolitan area.

The Department of Energy would have us believe that containing waste on-site is in the best interest of all concerned. Those of us who have to live and work near these sites do not agree. We see no benefit to having all of the waste consolidated into one location in the most densely-populated area of the county. Especially when the consolidation of this offers no assurances that the health and safety of those who live and work in Northe County will not continue to be jeopardized.

The recent earthquake scare has again reminded us that even sturdy structures are vulnerable to the mighty forces of nature. Since we live in an area which will likely be affected by an earthquake, we have no reassurances that the bunker would be able to withstand the forces of such a quake.

We're also concerned that the construction

re-convened. Our first speaker this afternoon is Tom Lange.

THOMAS LANGE:

Good afternoon. My name is Thomas Lange, representing the Department of Natural Resources in Missouri, Jefferson City.

I'm pleased to represent the Department of Natural Resources at this scoping meeting on the Department of Energy's national Environmental Restoration and Waste Management Program. Missouri is very pleased to see the federal government make this significant commitment. It's very appropriate that you are holding this hearing in St. Louis, the location of early processing of uranium for the U.S. nuclear weapons program.

Unfortunately, much of the waste from 25 years of uranium processing in St. Louis still remains within a few miles of where we are meeting today. In 1942, the federal government contracted with the Mallincrodt Chemical Works to process uranium ores in order to build the first atomic bombs. This processing continued for 15 years at the Mallincrodt plant near downtown St. Louis.

Beginning in 1946, the processing waste from this plant was stored at a site at the St. Louis Airport. In the 1960's, part of this waste was conveyed to the Cotter Corporation for reprocessing at the uranium-processing plant

in Colorado. Before transportation to Colorado, the waste was hauled to a site on Latty Avenue in Hazelwood for storage and drying. In 1973, the Cotter Corporation, at the time the ADC-licensed owner of the waste, transported 8,700 tons of radioactive waste and contaminated material to the West Lake landfill in Bridgeton, where it remains today.

Also in 1973, the title to the property at the St. Louis Airport transferred to the City of St. Louis. Today, the City of St. Louis continues to own this contaminated property at the airport. Currently, DOE estimates that there are 288,000 cubic yards of waste and contaminated material at the Mallincrodt plant downtown, 250,000 cubic yards at the St. Louis Airport site, 211,000 cubic yards in Hazelwood at the site on Latty Avenue. And there are 194,000 cubic yards estimated to be on 70 properties adjacent to the roads in the area near the airport and the site of Latty Avenue.

This total of over 900,000 cubic yards of waste and other contaminated material all originated at the Mallincrodt plant while producing uranium for the nuclear weapons program. The volume of waste at West Lake is unknown, but there could be 100,000 cubic yards or more of waste and contaminated material which are mixing with other landfill material.

The U.S. Department of Energy, the

predecessor agency to the ADC, has agreed to clean up these sites with the exception of the West Lake landfill site. In 1957, the ADC built a new plant at Weldon Spring in St. Charles County on the site of an old army TNT plant. This new ADC plant, which produced uranium metal, was operated under a contract with the Mallincrodt Chemical Works.

The ADC also acquired an old quarry from the Army about 4 miles south of the production area which had been used for the disposal of both TNT-production and uranium-processing waste. The uranium plant operated from 1957 until 1966. In 1986, the DOE and the U.S. EPA agreed that the DOE would clean up the Weldon Spring site. In 1987, the EPA placed the quarry on the national priorities list, and added the chemical plant and the raffinate pits to the n.p.l. in 1989.

DOE's characterization of the Weldon Spring site -- that is, the investigation and assessment of the scope of the problem -- is now essentially complete. The estimated total volume of waste and contaminated soil and demolition material is approximately 800,000 cubic yards. The estimated cost of the cleanup is $650 million.

Missouri's legacy from this work is the waste and residue from that processing at the raffinate pits, quarry, and chemical plant, all located at Weldon Spring, at the Mallincrodt plant in downtown St. Louis, at the St. Louis

Airport, at the 70 public and private properties between the airport site and the Latty Avenue site, and at the West Lake landfill site. Approximately 2 million cubic yards of waste located at all these sites in the St. Louis area still await decisions on their disposition. All of this waste and contaminated materials was originally produced during the processing of uranium for use in nuclear weapons under contract with the federal government.

The U.S. Department of Energy has now taken responsibility for the cleanup of all this waste except for the West Lake landfill material. The West Lake landfill site should be added to DOE's national Environmental Restoration Program. DOE doesn't own the contaminated property located at the St. Louis Airport, but this site is included in its plan for remediation. DOE should stop avoiding the responsibility for making sure that remediation incurs at the West Lake landfill site.

The state is also extremely concerned about the 70 properties, both public and private, which were contaminated by waste during the hauling process from the airport to the site on Latty Avenue. All of these properties must be addressed by the DOE, and it is the State of Missouri's position that it is the DOE's responsibility to ensure that none of these sites are further disturbed which could lead to even greater contamination of these haul-road

properties.

It is important that the DOE involve the State, and the public, in the ongoing deliberations of these more than 100 sites nationwide. Many of today's problems were the result of the decisions made secretly by the federal government in the past. In the past two years, DOE has communicated well with the public of St. Charles County regarding the Weldon Spring site. But DOE has not communicated well with the public of St. Louis and St. Louis County. The result has been a great deal of confusion about the status of the sites in St. Louis City and County, and about DOE's intention.

Only an open process and an informed public can lead to a successful conclusion. In St. Louis, the DOE office in Hazelwood should be augmented to provide an easily-accessible contact point for the public with DOE officials. DOE officials should be located in St. Louis to facilitate response to the public's concerns.

Another issue of concern to Missourians is that there is no clear cleanup standards for these types of sites. The DOE and the U.S. EPA should accelerate the process of promulgating clear and consistent standards and regulations to guide these cleanups. Missouri believes that the project should be cleaned up to meet a maximum dose of 25 millirems per year for any member of the general public, rather than 100

millirems per year as proposed by DOE.

In addition to this standard, the cleanup levels should be as low as reasonably capable. In recent years, the DOE has made some excellent first steps towards reversing the near 50 years of careless handling of these wastes in Missouri. We encourage you to take full and open responsibility for the cleanup of all the waste from the many years of uranium processing in the St. Louis region.

Thank you for the opportunity to make these comments.

THE MODERATOR: Thank you, sir. Next speaker, Gretchen Felix.

GRETCHEN FELIX:

My name is Gretchen Felix. I live at Redacted - Privacy Act

Redacted - Privacy Act

Others are here to speak primarily on a local issue, the proposed airport radioactive waste dump. I would like to speak about a site which is at the heart of the problem of the nuclear weapons waste, the Nevada test site. I have looked at parts of your Environmental Restoration and Waste Management five-year plan describing the projected cleanup at the Nevada test site, which has been used for at least 700 nuclear tests, and where some 777 individual sites await cleanup.

In the words of the report, and I quote,

"Each test produces a large amount of radioactivity," unquote. I would like to add that approximately 20 percent of the tests release this radioactivity into the atmosphere. Again, quoting the report, "The primary pathways for the migration of contamination at the Nevada test site are through the disturbance of contaminated soils and the flow of contaminated groundwater. No off-site risks to the public health or the environment are believed to be present." End of quote.

Yet, a number of studies have shown a significant occurrance of excess cancers in the downwind population. I would like to know if the pathways of the groundwaters at the Nevada test site have been completely, and competently charted? Where does the groundwater go? Secondly, just what contaminants are in the groundwater? And thirdly, how much tritium, for example, has been released into the ground? I ask this because tritium, as a radioactive isotope of hydrogen, causes the water to become radioactive and cannot be filtered out.

On page 111, the report states that, quote, "The cleanup of large surface areas, 3,000 acres, contaminated with low-level radioactivity requires that new technology be developed. Another area of concern is the constraints on a characterization of the subsurface conditions resulting from each underground test. There are no established protocols for determining the data required, or the techniques necessary to

safely acquire this data. Special provisions may be necessary to characterize these areas to ensure that the Environmental Restoration Program that is implemented resolves, rather than results in, releases to the environment."

If I understand this correctly, it means that you have no idea how to go about cleaning up those 700 test sites without making it worse. On page 328, I found these statements, and I quote, "The total volume of material released, and waste generated, have not been determined." And the other quote, "The health risk associated with known surface and subsurface contamination at the Nevada test site have not be quantified," end of quote.

Since the report estimates a total cost of approximately $400 million -- it seems like a low figure. Maybe I didn't read your figures correctly -- approximately $400 million to clean up the Nevada site alone, it seems to me that in view of the uncertainties as to what is there to clean up, and how to clean it up, and the uncertainty of risks to the work force doing the job, that the DOE, and the administration, should make its number one priority the stopping of all nuclear weapons testing now.

Do we want to go on paying the costs in dollars and health risks for testing and cleanup, and testing and cleanup, indefinitely? We can stop now, or at least next month. The 118-nation signatories to the partial test ban

treaty of 1963, which drove testing underground, will meet in New York at the United Nations January 7th through the 18th to consider a comprehensive test-ban amendment to that treaty. If our administration can be persuaded to not veto the amendment, which it has consistently threatened to do, we can stop all nuclear weapons testing everywhere for all time. Thank you.

THE MODERATOR: Thank you. The next speaker will be John Bell.

JOHN O. BELL:

My name is John O. Bell. My address is Redacted - Privacy Act . I'm an environmental designer, and I have a Master's degree in landscape architecture landscape from the University of Pennsylvania. And I am professionally and personally committed to the notion that the landscape is a living system, subject to thoughtful change. And that I represent those people present and absent who respond to our state motto, "Let the welfare of the people be the supreme law."

That's a very telling remark, because I think that it just indicates how easily one can craft words. And the burden in giving life and physical actions to those kind of mottos is something that we have to assume the responsibility for. I think when Cicero wrote that remark, Let the welfare of the people be the supreme law, he clearly

was talking about social law. And he was not acknowledging what is the burden that we must speak to, and that is natural law.

Whatever decisions are made for the management of the nuclear waste that we have to clean up, we have to be very clear about our public health and public welfare is linked to fertile, uncontaminated soil, pure balanced water, and unobstructed clean air. I don't say that without the fact that I have worked in the Adirondacks on an acid rain study, and I also have been involved in a landscape management plan for time~~speech~~.

I think what I find so disconcerting is that we haven't really broadened the issue to the extent that we're atill playing a very sophisticated shell game. And it's almost as if -- we can all conjure up visions of what Russian Roulette is. Well, I would suggest to you that much of what we're dealing with here could be best described as American Roulette. And I think a venue, whether it be the Department of Energy or someone else, the venue has to be created so that public discussion is encouraged.

And identifying the ban side -- why are we generating this kind of waste? What are the trade-offs? What are the needs that have to be met in implementing economic and resource substitution? Through this whole discussion this morning, there's been a number of points that have never been

really addressed that's an integral part of this culture. And that is dollars, dollars, dollars. And that our national policy for so long has really been predicated on fears instead of confidence. Public institutions and corporate institutions have been really resistant to change. And they haven't been nearly as candid as they should be in informing the consuming public of what these trade-offs are.

And I applaud this opportunity that you've given me and others to come forward and express themselves. I would only want to share with you the reasons why I came forward. I really believe in us as a species. I'd like to thank you on the terms of speaking on behalf of this species. And that I'm very quick to recognize that we are just an experiment. We're an evolutionary experiment. And whatever should come to pass from these public meetings will either represent a positive step forward, or a false step backwards.

And also, I'm not quick to forget an experience that I had on July 4th, 1987 when I was in Philadelphia. And that was the celebration -- the 200th celebration -- for the U.S. Constitution. It was a really touching experience. And yet, I had to ask myself, Where are we as a culture? And I've very quick to recognize that the United States is not immune to any of the forces of other cultures that have come to pass; introduction, growth, maturity, and decline. And I think, when you set aside all

the sophisticated models, and all the numbers, and all the descriptions, I would want you to ask yourselves: Have you solved the problem of what is, in fact, a mature culture? And have we re-invented this culture so that we can sustain ourselves, or are we, in fact, a culture that's in decline?

Thank you very much.

THE MODERATOR: Thank you, sir. Lew Moye.

LEW MOYE, JR.:

Good afternoon. My name is Lew Moye. I live Redacted - Privacy Act , not very far from the Mallincrodt site. I am a member of the United Auto Worker's Union, and I'm also President of the St. Louis Chapter of the Coalition of Black Trade Unionists. I'm here representing the St. Louis Chapter of the Coalition of the Black Trade Unionists.

I also have many friends who also are fellow auto workers who work at the Mallincrodt site. The workers there also are represented by the United Auto Workers' Union. There are many major problems that are confronting our nation. Specifically, our economy. The huge deficit requires us to sell off our banks, factories, forests, our bridges and roads need massive repairs, our youth are under-educated, teachers are underpaid. Race and sex job-discrimination is on the increase. Our citizens cannot afford health care. Our industrial equipment is outmoded. Plants are being closed and

moved to low-wage countries for higher profits. Homelessness and unemployment are rampant.

And yet the Bush administration and Congress continues to appropriate astronomical sums to produce, test, and stockpile nuclear weapons that we do not need, cannot afford, and we must never use. More nuclear weapons mean more nuclear waste. Waste which endangers the health of our citizens by contaminating our soil, our water supply, and polluting the air.

We must stop creating more nuclear weapons. We must declare a moritorium, not just a phase-out of weapon reduction, until we figure out how to clean up and pay for the nuclear bomb messes we have already spread throughout our nation for the past half-century. Radioactive waste sites in the St. Louis area have been ignored far too long. The federal government has appropriated monies to clean up the Weldon Spring site.

I must note, those sites at Latty Avenue, the airport and vicinity, Mallincrodt, located near pre-dominantly African-American communities and schools, have not received the same appropriation, or the same attention, for cleanup. In my opinion, nuclear waste from the above-mentioned sites should be removed, transferred, and stored, further away from heavily-populated areas. This waste should be stored in a location that is less-threatening to

human health.

I have reviewed a 1988 report that estimates the costs of cleaning up these above-mentioned sites to be $280 million. What is not reported is the unknown cost in human health. The National Environmental Policy Act requires the Department of Energy to explore alternatives to its proposed Environmental Restoration and Waste Management Program.

I believe one of the most important alternatives you should examine in your Environmental Impact Statement is the following: How can we most quickly redirect nuclear-weapons production's work force to stop creating more nuclear weapons, and to start restoring our nation's environmental and physical health?

Thank you for allowing me to make this statement on behalf of the Coalition of Black Trade Unionists. I would like to thank you for conducting this hearing in the St. Louis area. Thank you.

THE MODERATOR: Thank you, Mr. Moye. Our next speaker will be Lieutenant Governor Mel Carnahan.

MEL CARNAHAN:

Thank you, and welcome to Missouri. I know you're not Missourians -- I can tell. We're pleased that you're holding these hearings and giving us, as citizens, an

opportunity to speak out on this very serious problem.

For more than 50 years, this nation has invested millions of dollars and many natural resources in keeping totalitarianism at bay. However, one of the costs in developing our nuclear arsenal has been to jeopardize the health of our citizens and workers. That effort is now seeing worldwide results. For the past 18 months, we've witnessed an explosion of liberty and democracy throughout world, in some unlikely places as Berlin, Prague, Peking, Bucharest, and Moscow. Those totalitarian governments have been either shaken or overthrown, and without the direct use of the deadly nuclear weapons in the possession of the super powers.

The attention of the nation must now focus on addressing the problems left by the cold war, including the development and production of nuclear weapons and by-products of the arms race. The citizens of the St. Louis and St. Louis County have shown clearly that they don't want these nuclear waste by-products in this heavily-populated area. They overwhelmingly said no to bunkers and waste sites in the November 6th election. More than 80 percent said they did not want these storage sites here permanently.

No other metropolitan area in the nation has to contend with the radioactive waste problem that's as potentially threatening as the one facing St. Louis. I'm told that 2.5 million cubic yards of radioactive wastes are stored

area, and develop and designate a site for the Missouri waste. Citizens of Missouri have risked their health long enough. With the end of the cold war, our citizens and their health should be a top priority, especially in this area where first atomic-weapons production was carried out. These sites demand attention immediately.

The federal government is the entity that created this potentially-deadly situation, and it must come forward with a solution to protect our citizens and our health, while containing these wastes for the tens of thousands of years it will take until they will no longer be deemed hazardous.

As Lieutenant Governor of Missouri, I'm calling on the federal government to do two things: One, to set a viable timetable to clean up these sites, and designate a consolidated storage area for the hazardous nuclear materials and their by-products. The second thing I would call the government to do is to expedite the cleanup and the consolidation of these nuclear wastes.

St. Louis City and the communities of Berkeley and Bridgeton in St. Louis County, Weldon Spring in St. Charles County, and Hematite in Jefferson County, have provided a vital link in the chain of production of the atomic-weapons industry. The federal government must now live up to a commitment to its citizens to not only win the cold

war, but to clean up the atomic-waste sites that made victory possible. This nuclear waste cleanup cannot be permitted to be a casualty of the already-spent peace dividend.

The citizens of Missouri in these respective communities are working together in speaking with one voice and demonstrating their refusal to bear this burden alone. They're taking a cue from the people and the citizens of eastern Europe: They're taking a role in determining their own destiny.

Without the willingness and dedication of Missouri scientists, and workers who refined the first uranium for the chain reaction under Stagg Field in Chicago, the history of the modern world might be very different. Missouri responded to the needs of the federal government and made a crucial contribution to the survival of democracy. Now we ask you, representing the federal government, to place the health of our citizens in the same high priority. I believe it's unacceptable to continue to jeopardize the health of Missourians, and make us the lasting victims of the cold war. Thank you very much.

THE MODERATOR: Thank you. Anna Grace.

ANNA GRACE:

This is a little scary. I am Anna Grace. I live at Redacted - Privacy Act .

I feel real strongly just on an emotional

level, that things have been hidden from us for many, many years. Many people in this community don't know that there's radioactive waste in downtown St. Louis. And thorium is one of many products of that, of the breakdown of uranium. With a half-life of 14 billion years, or something, it's just indescribable to know that there's this waste here.

My mother took us, for years, to Weldon Spring to play in the creeks, to watch birds, and pick blackberries. I think of myself as being a healthy person, but I wonder now, wandering around in those creeks, and eating all those blackberries, and looking for birds, if my health is strong.

I feel equally angry and upset that we keep looking at this as an option for power, for weapons, when we know the damages that can happen to people. It's equally upsetting to me to think about taking this waste and burying it, even around Callaway. My son and I son went to see Callaway, and it's an incredibly beautiful piece of land in Missouri.

What are we doing here? When are we going to wake up? What do we really need here? Is it money that makes us look for these things to use? I really feel real, real strongly that we ought to look at solar, we ought to look at wind power, water, we ought to look at other alternatives than these things that are going to be toxic for years, and

years, and years, and years -- past generations when we can even think about. That's all I have to say. Thank you.

THE MODERATOR: Thank you. State Representative Jim Murphy.

JIM MURPHY:

Thank you for giving me the opportunity to speak to you today. I am taking the place of my seatmate in the Missouri House, Representative David Hale, whose district includes Latty Avenue.

He and I share a deep burden: He has the nuclear bunker, I have Times Beach. And I say both my shoulders are heavily weighted. In fact, I just came from a meeting on Times Beach. But I come to you today not as an expert in nuclear matters, I don't have that perspective. I happen to be a philosophy major and a businessman. And I come to you, from the aspect of government, as a business. The government truly is a business, and the actions that we take as representatives, or you take, as part of the executive branch, have a deep impact on the quality of life.

And we learn that, in government, we must have money. Money is the fuel by which we give people the benefits of the United States. And anything that we do that hurts or hinders the flow of money into a given geographic area, be it a county, a city, or a state, hurts the people. Therefore, most of the decisions we have to make are based

upon two factors: One is, what we will do should be done in an area that has the lowest population density. And two, that whatever we do should have a minimum effect on the economy of the state.

I don't know whether any of you are from Missouri, but Missouri is an unusual state. It's not an homogeneous state. I would say that it's a state that started out with 60,000 people and 5 million failures came in, and we developed a very interesting state. We are a conglomerate of people from Europe, South America, et cetera, and we live our own onclave here.

The metropolitan area is a highly-ethnic area, hard-working area. It represents nine-tenths of one percent of the geography. But out of that nine-tenths of one percent, 630 square miles out of 70,000 comes 40 cents out of every dollar that goes to our state capitol. So, if you were to take St. Louis and St. Louis County out of the state of Missouri, you would have a bankrupt state. In fact, over half of our counties -- there are 114 of them -- are bankrupt. So anything that is done in this area that affects the money flow affects the entire state.

The average density in the state of Missouri is 70 people per square mile. In the City of St. Louis, it's 6,500. In St. Louis County, it's 2,000. But yet, we have counties in the state -- they all average about 600

square miles -- that have less than 4 people per square mile. Half of our counties have less than 70 people per square mile. So anything that would hurt the majority, or hurt the cash flow of this state, has to be considered in the light of where it will affect the least, and not effect our money flow.

So we would ask you, on that basis -- the economic basis, the quality-of-life basis, that we in St. Louis have to produce the money to keep the state going -- that you consider another site for this nuclear waste. This is not simply saying somebody -- NIMBY, this is not a NIMBY situation -- anybody can accuse us of that. But I can tell you that we in St. Louis are paying for the schooling of children throughout the state. We are paying for 40 percent of all the gasoline in sheriff's cars around the state, we are paying for the health of prisoners around the state. And anything that is done negatively in the St. Louis area hurts the entire state of Missouri. And that is 70,000 square miles.

So, you're dealing with a dynamic part of the state, a very sensitive part of this state. And it's a problem I wish you would keep in mind. Whatever you do here affects not the people on Latty Avenue, or that area, it affects 5 million people in the state of Missouri. Because if anything happened to your income, and 40 percent was zipped out, or reduced, some part of your family would be affected.

I hope you will keep those matters in consideration, add that to the list of the environmental and chemical explanations -- which I will not try to give -- but to give it to you from a practical point of view, that we have to dig up dollars to provide services. We will go back in January where we have one item that's at the top of the menu -- a $100 million-dollar shortfall in Medicaid.

Now, to the degree of which we will have people or businesses leave us because of Latty Avenue, or Times Beach, or anyplace like that, to that degree, we'll have less money to service these people. And I can tell you, as a businessman, as a president of the National Trade Association in my younger years, businessmen take this into consideration.

For instance, I offer you a home adjacent to Three Mile Island. Would you take it? Or if I said you could have a rambling bungalow on Love Canal Avenue, would you take it? You wouldn't. You'd leave it. That's the problem we face here. But if we took those incidents and we moved them to an area of the least population density, the least affect on the economy of the state, I think we'd be doing the best we could. I would ask that you factor that into your consideration. And I thank you for your time.

THE MODERATOR: Thank you, sir. Mr. Robert Skrainka.

ROBERT SKRAINKA:

I appreciate this opportunity to make some comments to the Department of Energy officials who are present here, and to the interested citizens who are also in attendance today. My name is Robert Skrainka. I reside at Redacted - Privacy Act .

My great-grandfather founded, in 1850, one of the oldest construction companies in Missouri, which was in business until 1980. We specialized in pavements and surface constructions, including retaining walls. We also used something called impervious membranes to keep water out of surface constructions and for tensile strength.

I would like to address the problems of siting a radioactive waste dump in the heavily-populated St. Louis area -- in particular, in the area near the Lindbergh-St. Louis International Airport. I would also like to address the question of probable dump-leaching into groundwater and into Coldwater Creek, which flows across north St. Louis County. In 1985, a gavion wall was constructed at the airport site along Coldwater Creek to retard erosion. But contaminated water and sediment continued to enter the creek.

I'm not an engineer, or an expert, but our company has had a number of years of field experience. While various methods may contain waste and water in the near-term, chiefly, only reinforced concrete, or condensed quarry stone, are effective in containing large quantities of waste and

water in the long-term. In other words, the life of a proposed nuclear-waste dump. In the spring of 1987, the Department of Energy estimated that the total volume of waste would range up to 674,000 cubic yards. And I believe a larger number was cited by our Lieutenant Governor. And the ultimate volume may prove to be even larger, requiring a much larger area than the existing landfill sites.

If the entire bottom is concreted and the concrete sides are sufficiently high to allow for heavy rains and floods, the cost would seem to be prohibitive. High side-retaining walls are necessary also, because the existing and proposed sites are partly within the flood plain of Coldwater Creek. Existing and proposed dump sites should also be studied to determine the likelihood of shifting and settling, hence, cracking and leaking, due to geology, topography, and hydrology.

Also, according to Memphis State University, the probability of a major Richter scale 6.3 earthquake in the New Madrid fault is 90 percent within 50 years, and 50 percent within 15 years. The effect upon the structural integrity of any dump construction has yet to be determined. Finally, one would have to raise serious questions in regard to siting a large nuclear waste dump near a heavily-populated area where people live, work, and play, and from which drinking water may be drawn.

In conclusion, landfill dumps are not safe sites for retention of hazardous waste. Well over half of the landfills in the United States, including those newly constructed, leak or leach hazardous waste into the environment. The greatest threat to the security of the United States is not the Persian Gulf. The greatest threat to U.S. health and safety is in the waste dumps that leak and leach hazardous radioactive materials which threaten the safe-water sources of United States citizens.

In concluding, I would like to pass on two separate paragraphs from the text "Hazardous Waste in America" by Daniel Epstein, M.D., Brown, and Carl Pope. I quote here from page 339. "The role of secure landfills should be restricted to fixed metals and non-reusable wastes which can undergo complete or near-total degradation under the conditions of burial within a maximum timeframe of one or two decades, during which the site and adjacent surface and groundwaters must be rigorously monitored." Close quote.

Clearly, this reference role of a secure landfill cannot apply to radioactive materials whose half-life extends far beyond two decades. Further quotation from "Hazardous Waste in America" appears on page 365, under the caption "How to Deal with Toxic Waste in the Future." And I don't have a secret formula here for you, gentlemen, I'm sorry. There is a wide range of available technology options,

some still at the prototype stage for dealing with the disposal of hazardous wastes in the future.

But options based on such technological fixes are at best makeshift as they fail to confront the problem. Given the limitations of knowledge, the runaway nature of chemical technology and the, quote, "unforgiving," close quote, nature of hazard substances capable of inflicting great damage in even trace levels many years after they are originally manufactured and disposed of, only one strategy can ensure the long-range protection of man and the environment from hazardous waste. And that is not to generate them, a goal that can only be achieved by eliminating or reducing the production and use of those hazardous substances that generate toxic waste.

Thank you very much for your time and your attention. I appreciate it.

THE MODERATOR: Thank you, Mr. Skrainka.

The next speaker will be Joy Guze.

JOY GUZE:

My name is Joy Guze. I'm a retired schoolteacher, a grandmother, and a concerned citizen. I live at Redacted - Privacy Act .

I think you of the Department of Energy face a terrible problem: How to dispose of nuclear waste. You have dreadful decisions to make which surely trouble your

consciences, when you feel that you have to decide these things that will affect not just our generations, but future generations. The people of the St. Louis area have had too much exposure to abnormal radiation, not just because of the processing of uranium for the production of nuclear weapons in the '40's, '50's, and '60's, but because atomic testing in Nevada dropped heavy strontium-90 to our fields in the '50's, and thus to the milk our children drank.

And that is why, in St. Louis, we founded the Nuclear Information Committee. I don't even know if you remember the Nuclear Information Committee, but it had a profound affect on our thinking, I think, as we got scientists giving us information, not just in St. Louis, but across the country. And that was why the baby-tooth survey was born here in St. Louis.

We are an active and a visual citizenry, and we want you to know we have had enough of nuclear contamination. I have a map here. It's your own Department of Energy map. It shows areas and depths of radioactive contamination in the airport and Hazelwood area. You can see the green part is the contamination that is at a depth of 4 feet. But the yellow goes deeper, to 8 feet, and the pink part, primarily there at the airport, but in some other locations, even along roads, goes down to 18 feet, and actually sometimes more.

Now, right along the route of this, right along here and all the way along, adjacent to all this area, runs Coldwater Creek, picking up and carrying some of this radioactivity to our communities and to our drinking-water supplies. In addition, this map shows how the radioactive debris was scattered from trucks along roads and rail routes as they carried the radioactive debris from the old Mallincrodt plant in town out to these new sites in the '40's. Actually, I think even later, in the '60's and into the '70's. This was careless of our people's health, and may have been in part because of ignorance of how serious this may be, in those days.

And now we're afraid that the Department of Energy may again be taking chances with our health. I'm afraid you will decide to build a bunker at the airport to hold this debris. We have no confidence that today there is enough knowledge to know how to secure such a bunker. So, we want that dirty material taken away from our community. We want you to find a less-populated and safer place to put it.

Now, as I said, you have a dreadful problem, because nationally, there seems to be no place at all, or no way, to store nuclear waste for thousands of years. And I would like you to know that our hope is that you'll face the fact that this just is not possible. There's no known place, there's no method secure enough. We want you to help

the American people decide that this is so, to understand that this is so, and decide that producing such waste is wrong.

And that instead, we must urgently seek other sources of energy. We hope you will recommend that our country invest in that kind of development. And we think that such courageous and farsighted leadership on your part will make future generations celebrate you, and we in St. Louis bless you. Thank you.

THE MODERATOR: Thank you. Michael Burke.

MICHAEL BURKE:

My name is Mike Burke. I live at Redacted - Privacy Act Redacted - Privacy Act about two blocks away from Coldwater Creek.

I understand that the purpose here is to get a national perspective on the issue, not just St. Louis, so I'll try not to talk too much about just our situation, except as it applies to the thousands of similar situations around the country. And I don't feel it's my job to make recommendations to the Department of Energy. DOE employees should be aware of their charge, and they should know how to carry it out, and they should do so.

But I'd like to tell you what's going on here in St. Louis, and I think you will find it's typical of what's happening all around the country. A couple of years ago I got so angry about having a radioactive creek that I

started to work with a citizens group, the Missouri Coalition for the Environment. And I started knocking on doors, a hundred doors a night. I talked to about 50,000 people. And I'm not the only one. Last night we had ten people on the street.

And I tell them about a little boy who lives a couple of blocks from the dump on Latty Avenue. He's 6 years old and he has leukemia. And I tell them that this little boy is dying a long, slow, lingering, painful death because the Department of Energy doesn't give a damn about their health and safety, or their children's health and safety. The thing is, most of the people I talk to really do care about this little 6-year-old boy.

And a funny thing has started to happen: We're starting to elect people who care about the little boy -- councilmen in Florissant, our county executive, our lieutenant governor here, state representatives, senators and members of Congress. And we're voting out the ones that don't care about this little boy, the ones who shrug their shoulders and say you can't prove that the nuclear material on Latty Avenue gave this boy leukemia. And I suggest that this is happening, or it's about to happen, all over the country, wherever you have these sites.

Very soon, the Department of Energy is going to have to take responsibility for its actions, and for

its inaction. So, in formulating your plans, it would behoove you to think of the future, because the future is not going to be like the past. Thank you.

THE MODERATOR: Thank you, Mr. Burke. Our next speaker is Louise Bullock.

LOUISE BULLOCK:

Good afternoon. My name is Louise Kasseling Bullock, Redacted - Privacy Act

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I'm speaking today on behalf of the Interfaith Committee on Latin America. More importantly, however, I come to you as a citizen, believing that, as a consequence of my freedom of speech, I have a responsibility to speak out on critical issues which affect all of our lives.

I believe that the cleanup of radioactive-substance waste is one such critical issue. Why? Let me quote former president of Physicians for Social Responsibility, Dr. Helen Cauldicutt, and I quote, "We live on a planet that is terminally ill." Terminally ill, Dr. Cauldicutt says. Yes, we are quickly destroying our environment due to vast number of pollutants, toxins, and due to the vast number of pollutants, toxins, and waste, which over the years we have permitted to accumulate in our soil, bodies of water, and atmosphere.

Up until recently, we have acted, perhaps

unwittingly and out of ignorance, of the severity of environmental issues. But research and education have made us more aware of the issues and of the impact that our decisions and lifestyles have on the future. This new level of awareness means our future actions now take on a moral dimension, and I pray will motivate us to act. Scientists are warning us that unless we are prepared to act immediately and decisively, we will kill our planet's ability to sustain life as we know it. Life, our first unalienable right by our own Declaration.

So, I express myself today, not only to exercise my responsibility as a citizen, but also to assert my right-to-life as a citizen of the world. Our Declaration of Independence continues by stating, "That to secure these rights, governments are instituted." Therefore, the Department of Energy, as part of that government, is granted the authority to secure our right-to-life. I ask you to use your authority by locating a non-urban site where all of the St. Louis waste can be consolidated.

I also ask you to act out of the sense of responsibility. The cost of cleanup as a result of weapons production by the federal government needs to be seen as part of the cost of creating the weapons in the first place. The monetary cost of cleanup, as with everything else in terms of inflation, will increase the longer it is delayed. With our

tax dollars already being stretched to the limit, in a multitude of directions, it would appear that the sooner the cleanup can begin, the more advantageous it would be from a financial standpoint.

The environmental necessity is equally as urgent. Radioactive dust and radon gas will be released from the St. Louis waste for literally billions of years. It must be consolidated and relocated to a non-urban site. Lastly, I urge you to act out of the sense of leadership. Peoples worldwide look to the United States for an example of how to act in many areas of life. We need to model positive, responsible behavior, and be held accountable for our actions. If we create a problem, we must be honest enough to admit it, and do all in our power to solve it, or rectify the condition as well as possible.

In summary then, I come to you proud to be able to take responsibility by speaking out and asserting my rights as a citizen and as a member of the Interfaith Committee on Latin America. I ask you, likewise, to take responsibility. Speak out and assert your rights as members of the United States Department of Energy. I would like to close with a short quote from poet Christopher Pride. I address his words not only to this committee, but to myself and to all those who have the ability to play a part in the nuclear weapons waste cleanup effort.

And I quote, "Thank God our time is now, when wrong comes up to face us everywhere, never to leave us until we take the longest stride of soul man ever took. But will you wait for pity's sake?" Thank you very much.

THE MODERATOR: Thank you, ma'am.

Marguerite Blanke.

MARGUERITE BLANKE:

My name is Marguerite Blanke. It's Redacted - Privacy Act Redacted - Privacy Act .

The answer to this problem is to stop making nuclear weapons. But meanwhile, I don't want a nuclear weapons 88-acre site seeping into my water. Coldwater Creek runs nearby, and the water from this creek goes into our water supply in St. Louis. I hope the Department of Energy will help us with this problem. Thank you.

THE MODERATOR: Thank you. Trudy Faust Potthoff.

TRUDY FAUST POTTHOFF:

I am Trudy Faust Potthoff. Redacted - Privacy Act. Redacted - Privacy Act

I was one of the founders of the Nuclear Information Committee back in the late '50's, early '60's. Our main concern then was that we didn't know what the cumulative effect of a tiny bit of nuclear waste on the human body would be. And we still don't know, because we haven't

had the lifetime of people. We hear things, we have ideas, and we feel concern that perhaps the nuclear waste is causing this or that. But until we know for certain that it's safe to have nuclear waste buried near heavily-populated areas, I ask you, the Department of Energy, to remove it.

We need more time. There's a great deal of evidence that the leaching of nuclear waste into our water supply is causing serious health problems. We were concerned in the '50's, very concerned, about nuclear waste, because it was new. We didn't know, and we still don't know, really.

So, would you please remove this waste matter from the heavily-populated areas of our cities? Thank you. Thank you for listening.

THE MODERATOR: Thank you. Yvonne Logan.

YVONNE LOGAN:

I am Yvonne Logan, 36 South Gore, 63119. I'm glad to follow our last speaker because my experience goes back to the same time.

The Committee for Nuclear Information started the baby-tooth survey, which was a National Institute of Health study of baby teeth in St. Louis in the middle '60's and late '50's. And I was in charge of collecting those baby teeth and getting them to the Washington University Dental School so they could be studied for the amount of strontium-90 in the teeth. Very little was found, but we were still very

worried about the effects on our children's health, because we knew that a very little could cause leukemia in our children in 15 or 20 years.

Now, we're worrying about, I think, much more nuclear pollution. We're worrying again about our water. And at that time, we thought that the greatest danger to us was to pregnant and nursing mothers. Again, that will be true if this material gets into our water. It will be our mothers who will suffer. And in turn, this material multiplies as it's passed on to their children.

I've been very concerned for many years about nuclear weapons production. I think we should take advantage of the shutdowns that are now currently taking place at Rocky Flats, Hanford, and Savannah River. Rocky Flats, as you know, has been shut down because 62 pounds of plutonium dust has been found in the ducts. We wonder how much has gone out to the heavily-populated nearby area of Denver. This is a terrible situation, and you have hidden it for 50 years of nuclear weapons production.

Also, we are just finding that the tanks that store chemical and radioactive waste at Hanford could explode with catastrophic consequences. We are finding the scientists who say that intentional releases of radioactivity at Hanford have led to higher rates of illness and cancer. Again, in situations where we actually have the facts. And

their nine reactors, of course you know, were shut down. At Savannah River all five reactors have been found to be ailing, and they've been shut since 1988.

I plead with you not to activate the reactors again, but to close those facilities permanently until we know what to do with the waste we already have. We could redirect the forms of resources used for producing weapons to clean up the mess that's been left behind so far.

I'm very concerned about the nuclear regulatory decision to deregulate 30 percent of all the nuclear industry's radioactive waste. It's been labeled BRC, below regulatory concern. I think there's no such thing. It's being treated as simple garbage now. And it is sure, some of it, to cause cancer.

I think the DOE owes it to us to restore confidence in their actions, now that we're in on some of your terrible secrets. We don't need any more weapons. Next week we will be signing -- just a few small things that were taken care of, in the paper this morning -- a treaty to cut 30 percent of our weapons in Europe. This is what our nuclear weapons are all about. Can't we use that plutonium when we destroy these weapons? If we do need more, put that plutonium in some other weapon. We don't need to produce more. The protection of our health should be your top priority, not the production of weapons.

I was shocked to know that 50 percent of the DOE budget is spent producing nuclear weapons. Why don't you work on new sources of energy, something that would help us all? Thank you very much.

THE MODERATOR: Thank you, ma'am. Sandy Dow.

SANDRA DOW:

Hello. Sandra Dow, Redacted - Privacy Act I attend the Academy of Mathematics and Science. I would like to thank vou, first of all, for having this hearing today. I think the subject is of great magnitude and warrants our attention.

We have a problem. There's approximately 943,000 cubic yards of radioactive waste spread throughout the St. Louis area. DOE has confirmed that the levels of contamination exceed federal guidelines. The proposed 82-acre site has several severe drawbacks: It's located in a densely-populated area of north St. Louis County, and next to McDonnell-Douglas, Missouri's largest employer. It's located along Coldwater Creek which flows through Northe County and into the Missouri River above the drinking-water intakes for the city of St. Louis.

Aren't two of the basic guidelines uniformly recognized for choosing a disposal site for having this waste to keep it away from people and to keep it away

from water? Not to mention that the problem is magnified by the extensive commercial development in this area. We're exposing thousands of people daily to the risks of radon, risk of exposure to contaminated drinking water.

An overwhelming amount of scientific evidence has proven that radiation, which is cumulative, is detrimental to human health. There is no safe amount of radiation. It is both carcinogenic and mutanogenic. We can always leave it where is is and let the next generation deal with it. I'm only 16 years old. I am the next generation.

And I've been thinking about alternatives. Callaway County contains over 99 percent of the radioactive wastes in our state. Why not consolidate? There's available land. Union Electric bought 7,230 acres, only 700 acres of which they're using for the plant and sludge lagoons. That leaves 6,230 acres of vacant land which the conservation department manages as a reformed wildlife area for hunting and fishing.

The Callaway nuclear plant and surrounding environment is already contaminanted, and no existing technology can dismantle the 475-ton reactor containment vessel which will remain radioactive for hundreds of thousands of years. There's no place to send the plant's high-level waste. Mr. Cleary, a representative of Union Electric, has repeatedly mentioned that power plant does not have any

permanent on-site storage for its own waste. Yet they store radiation contained in used fuel rods that have been produced since the first refueling.

There is existing precedents for the federally-funded removal of uranium mill tailings to a less-populated site; 2.5 million cubic yards removed 80 miles away from Salt Lake City. There are also precedents for moving wastes to an area of lesser size than Calhood; 940,000 cubic yards from six miles in Lakeview, Oregon.

We've heard it before, no one wants radioactive wastes in their backyard. But how can we continue making more waste when we haven't even figured out what to do with the very first? Thank you.

THE MODERATOR: Thank you. Our next speaker will be Daniel Bender.

DANIEL BENDER:

Hello. My name is Daniel Bender. I'm one of the co-presidents of SMART, Students Making A Real Tomorrow, an ecological society based in University City High School, where I'm currently a senior. I live at Redacted - Privacy Act Redacted - Privacy Act

Let me take you back to 1942 when the Mallincrodt Chemical Company was asked to purity uranium for the Manhattan Project. Within months, the uranium they purified was used in fission experiments at the University of

Chicago. The uranium was purified in downtown St. Louis, unknown to the workers at the Mallincrodt Company and residents in the area.

St. Louis is the oldest city in the United States to be the victim of national security secrecy. It is not the only one. 103 major sites spanning the country are contaminated with similar wastes as the result of testing and purification essential for the making of nuclear bombs. St. Louis, however, is burdened with four such sites.

In 1946, the United States Army condemned a 22-acre tract of land near the airport for the storage of the wastes, which were trucked in in open trucks to the site. Once there, the wastes were left in the open in the middle of the Coldwater Creek flood plain. This creek empties into the Missouri, and eventually into the Mississippi River directly above the St. Louis water-treatment plant.

For 11 to 12 years, residents of not only north St. Louis County, but also all of the St. Louis metropolitan area, were unnecessarily exposed to radiation, and they never had the chance to protest. In the interest of national security, all this information was concealed. The wastes were moved to Latty Avenue in 1966, where they were to be dried and prepared for shipment to Colorado. In 1973, some of the waste was trucked to the West Lake landfill in the Missouri River flood plain, posing obvious dangers to St.

Louis and its inhabitants. Even the roads connecting each site are contaminated, as are several buildings still in use in downtown St. Louis.

If we are looking for victims of the cold war atomic age, we need not look any farther than our own neighborhood. Our futures were put in jeopardy because of a distant threat which never materialized. This threat seemed more important than the lives of the citizens of the St. Louis metropolitan area. Was it truly in the interest of national security to conceal the obvious and real dangers from our citizens?

Yet the government says, "Come forward and trust us." They say that the mistakes of the past half-century can be corrected. The 1 million cubic yards of radioactive mistakes will be contained. Nevertheless, how clean is clean? Is "clean" the site at Latty Avenue? Is "clean" the open site at the Coldwater Creek flood plain?

It is time for the Department of Energy and the government to end the secrecy. The mistakes made in St. Louis, and the nation as a whole, must come out into the open. No possible threat to national security can ever be more important than the tangible threats to the health of our citizens. It is time the government cleaned up their act here in St. Louis. It is time for the United States to move their radioactivity from our citizens. Merely condemning another 60

acres of land will not solve the problem.

We cannot endanger the lives of our citizens any more. We must seek the safest solution to the mistakes that is not cloaked in secrecy. The waste plaguing St. Louis was the first waste produced in the nuclear age. Let us become a first once again. This time in seeking a public, honest attempt at a cleanup.

Thank you. I would like to submit this.

THE MODERATOR: Yes, thank you. Blake Vaughn.

BLAKE VAUGHN:

Good afternoon. My name is Blake Vaughn. I am a senior at the University City High School, and the second of two co-presidents of SMART, Students Making A Real Tomorrow, an environmental group at UC High School.

There are 1 million cubic yards of radioactive waste in the St. Louis metropolitan area. This waste contains particles that have been proven by thousands of scientists to be carcinogenic. The presence of hazardous waste was concealed by the government, risking the lives of workers in purification plants and citizens, because of, quote, "national security." What did they fear? Maybe they feared that if the people of St. Louis found out about the hazards of the waste that they would have to do something about it. Well, we know the truth now. It is time to do

something.

Some people are uninformed about the way radioactive material causes damage in the human body. It is really quite simple: As some substances begin to break down, like uranium, they release radioactive particles. The most hazardous of these is the alpha particle. Alpha particles are very large and energetic compared to other radioactive particles, and thousands of times heavier than an electron.

Substances that release alpha particles can be either ingested or inhaled by humans. When the substance is inside the body it is able to do a lot of damage because of its high LET, which stands for linear energy transfer level. A high LET means the particle is able to release all of its energy upon contact in a very short distance, injuring a cell quickly. An alpha particle hitting a cell can do damage equivalent to a train hitting a human body.

Four things can happen when an alpha particle passes through the body: The particle can pass through without causing any damage, a cell can be killed or made incapable of replication, a piece of DNA could be injured to the point that it is unable to be repaired. Or, a cell could become mutated to the point that it becomes malignant. The result of the final possibility is cancer. And everyone knows that cancer can kill.

Do not be misguided by the possibility that

small quantities of radioactive wastes are less of a hazard. There is no evidence suggesting that a certain minute dosage of radioactivity poses a threat of zero. Examples of the negative effects of radioactivity have been recorded in Hiroshima since 1945. New studies are showing that people exposed to, and affected by, radiation in Japan were actually exposed to lower levels than what scientists thought, implying that there are no safe levels.

If alpha particles had to affect the body by penetrating the skin, then we would have little to worry about. Alpha particles release their energy so fast that they cannot even break through paper. Unfortunately, when a person ingests or inhales a radioactive substance, the radiation is exposed to totally unprotected portions of the body. Bone marrow, where blood cells are produced, can be easily affected because of their constant rate of reproduction. Sperm and ova cells are vulnerable in the testes and ovaries.

As the radioactive substances travel through the digestive system, it has the opportunity to inflict serious damage upon the cells in the intestines. The intestines sheds its lining once every two or three days. This constant replication of cells makes it most susceptible to the effects of radiation. Basal cells are constantly reproducing to produce new skin cells, and are also easily injured by radiation. The results of mutated cells in the

liver can be fatty liver, liver cirrhosis, or hepatitis.

What we are faced with now is the question of what to do with a half-century's mistakes. We've been sold out by the government. We have discovered that the government felt that it was more important to risk the lives of the citizens of St. Louis than to risk national security. It is time to accept their mistake as past, and work for the future. A future where my children's children will be able to live a life unthreatened by contaminants of a dark past.

We need to stop further testing of nuclear weapons energy until a responsible method for the disposal of its deadly by-products is developed. I am young, and I have already grown tired of the excuses made by a self-satisfying past, and to try and justify supposed errors of judgment.

The site at Lambert Airport cannot be the place to simply bury the past. Time and time again it has been proven that promises of keeping a waste site clean have not been upheld. Some these deadly chemicals have a half-life of billions of years. That means that they break down very slowly. I do not want high concentrations of these chemicals to be left for any unfortunate group in the future to uncover.

Let us work together now, to rid ourselves of the problem of hazardous waste. We have been postponing the problem for too long. It is time to get something accomplished. Thank you.

THE MODERATOR: Thank you very much. Mr. Byron Clemens.

MR. CLEMENS: What I have submitted are parts of the documentation I have here, but in lieu of time, I hope it gets submitted into the record.

THE MODERATOR: It certainly will be.

BYRON CLEMENS:

My name is Byron Clemens. I live at Redacted - Privacy Act Redacted - Privacy Act . My zip code is Redacted - Privacy Act I want to thank you for holding these hearings. I think it's important that the DOE reaches out to the public, and I do appreciate that.

I've been requesting a removal of the waste from all six radioactive waste sites in the St. Louis area since 1979 when a police officer friend of mine asked me to comment on a bizarre proposal to put a police driver-training school on top of the site at the airport. I didn't think that was a very smart idea, and helped to try and stop that.

I also took it upon myself to post warning signs around the Latty Avenue site before the federal government fenced and posted the area. Leaving a pile of mill tailings unfenced near a residential area was not very smart. I also suggested, along with many others, that the Berkeley Little League ballfield should not be next to a radioactive waste site. This, again, was not a very smart idea.

My major concern here today is groundwater. And according to a DOE report/S0078P, which you're all familiar with -- it's being handed out outside -- one specific area the document cites is its "What Is Not Smart" section. "Is groundwater well-drilling and other characterization efforts, without a clear rationale for the number and location of samples, necessary and sufficient for cleanup to start? The current emphasis on installing groundwater characterization wells may actually provide potential new pathways for contaminants to migrate through the very groundwater the Department seeks to protect."

I think the airport's a good example of that. A November article in science entitled "Inefficient Remediation of Groundwater Pollution" finds that the principal threat to human health from old waste dumps arises from ingesting drinking water. Not suprisingly, according to the article, leaching enters aqua first. A ten-year study finds that massive removal of contaminants still doesn't bring concentrations down to target levels.

The study also says that contaminants at any particular site may be found in different concentrations throughout a subsurface region. The contaminants are absorbed in varying degrees. Some move almost as fast as groundwater, others don't travel as fast, some are almost immobile. It is not possible to predict movement or changes that may occur,

especially over the course of thousands of years.

A July, 1979 Oak Ridge assessment of the airport site called "Environmental Airport Storage Site of the Atomic Energy Commission" prepared by Weston, details in various impact the site has had on groundwater. Page 3.9 of the report states, "The average daily groundwater discharged into Coldwater Creek from the site is 450 gallons per day. Runoff leaves the site by evaporation, seepage into the groundwater system, and through overland drainage to Coldwater Creek. Coldwater Creek empties into the Missouri, and then to the Mississippi, only three miles upstream from the Chain of Rocks drinking-water intake."

The same document cites significant off-site migration. U-238 was found in all but one well drilled, in levels as high as 1,200 picocuries per liter. That's 120,000 times background. At the time of the report, with more than 30 wellholes already drilled, then a program and plan for well installation was designed. Sort of putting the cart before the horse. The occurrence of radioactivity in public water supplies in the United States and health physics states the natural background uranium concentration in picocuries per liter for groundwater in Missouri is .01.

In DOE/OR 20722-262, the St. Louis Airport Site Environmental Report for calendar year of 1989, we find readings as high as 6,161 picocuries per liter of uranium at

Well B, and figures of 5,281 at Well 11-9, and 2,302 at Well A -- 616,000 times higher than background.

And Bechtel Radiological Characterization Report for FUSRAP properties in the St. Louis, Missouri area, DOE/OR 2722-203, in volume 3, table 7-4, we find readings as high as 15,000 picocuries per gram of thorium-230 in soil at ditches outside the site. And a level of 5,100 picocuries per gram in soil at Coldwater Creek. According to DOE, a value of approximately 2 picocuries per gram would be background. The airport values are, therefore, 7,500 times background radiation. This is after these areas were cleaned up.

To scoop up this contaminated soil once more, put it back in the site, and watch it migrate again, is not smart. And it should be put in that same category, "What is Not Smart." The history of poor management regarding all six sites in St. Louis indicate that we have seen enough. Move it away from here. Get it away from our groundwater, and out of a populated area. Anything else would be irresponsible. Thank you.

THE MODERATOR: Thank you, sir. Paul Kranzberg.

PAUL KRANZBERG:

My name is Paul Kranzberg. I live at Redacted - Privacy Act Redacted - Privacy Act . I want to add my thanks to the others for scheduling one of your meetings here in St. Louis.

I was born here more than 90 years ago. I have lived here all my life. I've worked here all my life. My wife was born in St. Louis in 1905, and she has lived here all of her life. All of our children and grandchildren were born here.

We think it's high time that whatever it takes, and at whatever cost, the dangerous radioactive waste in the city of St. Louis and St. Louis County should be cleaned up.

THE MODERATOR: Thank you, sir, very much. Mr. Richard Foor.

RICHARD FOOR:

How do you do, gentleman. My name is Richard Foor. I live at Redacted - Privacy Act Redacted - Privacy Act. I just came here to be an observer today, but after hearing all these other speakers talk about what a terrible thing uranium was, I just figured I should get up and say my little speech.

I worked in the uranium business for 20 years, and I've been subject to all this low-level radiation. And I'm surprised that I can even stand up, that I'm still alive after all I've listened to from these talks. But I'm 80 years old, I don't take any medicine, and I feel great. I'm still doing a lot of things.

So, let me say to these people here with

all these horror stories: You can take a million tons, or 10 million tons of this stuff -- name the biggest number you can think of -- but unless you eat it, unless you breathe it, you'll be able to survive, as I have. And I feel great.

I have a lot of confidence that the people in science that know what they're doing will find a solution to this. And just like -- well, for example, our nuclear energy has just almost fallen on its face. I mean, there have been no new plants even designed in the last few years. But in other countries, in France and other countries, they found out how to get along with this, and the whole thing resolved out on politics. It isn't that we don't have the science to do it, the politics won't permit it.

Now, one thing that I dislike -- and I'm not saying what should be done with this material around here, because like I say, I'll leave it up to the scientists to some clear-thinking scientists to decide, and then do it -- there's too many of these things that resolve down to being a political whipping ploy. It may mean votes for politicians because they're against it. Thank you.

THE MODERATOR: Thank you, sir. Phyllis Young.

PHYLLIS YOUNG:

My name is Phyllis Young. And unfortunately, following the other man, I'm a politician for

the City of St. Louis. My address is Room 230, City Hall, 1200 Market Street.

I suppose I'm speaking on behalf of some of my constituents who have worked at Mallincrodt and died a horrible death last year with cancer, after, I think, being involved in materials that we're storing, the waste, at the airport site. I have been opposed to the site being utilized for further storage from day one, prior to my political experince and political career. I will be opposed to it after my political career ends -- which could be any day.

But I think that this is an environmental problem that we will live with until the scientists -- that this man has hope and faith in -- finds a solution. And I think that that problem is only going to become more and more prevalent as more and more of these sites are uncovered -- not only nuclear sites, but others -- and we try to deal with the waste that's been left in these populated areas.

I would urge you to consider moving this. Because, as other speakers have indicated to you, the groundwater contamination is a real problem. And I don't think that we know the extent of the contamination, the dangers that the groundwater has for those of us who are drinking from the systems. And I urge you to reconsider, or consider, at least moving it.

From my experience, and the history that

you have here in St. Louis, in this particular area, you've told us when we bought the site from you, or exchanged it, that it would be safe if we'd put a little bit of dirt over the top of it. Well, that wasn't safe, and that was proved soon after. So you came back a few years later and you dug around it, and you put gavions around it to contain it. That hasn't worked either.

So now you're telling us to continue to have faith in you, that you will solve this problem. Well, unlike the other gentleman, I don't think we have a lot of time to deal with this. Perhaps though, it will be eternity. And I would prefer that you move it elsewhere so that it wasn't in a populated area and wouldn't have an effect on mass numbers of people. Thank you.

THE MODERATOR: Thank you. Susan Jordan.

SUSAN JORDAN:

I am Sister Susan Jordan. I'm a school Sister of Notre Dame, and I'm a coordinator of the local corporate-responsibility coalition called the Midwest Coalition for Responsible Investment. I live at Redacted - Privacy Act Redacted - Privacy Act , and I am a life-long resident of St. Louis.

I believe there is great need to clean up the 45 year accumulation of nuclear waste in our area. I believe it need be moved as quickly as possible. I believe

the waste that is stored in the St. Louis area significantly affects the quality of our urban, human environment. No metropolitan area should be storing radioactive waste. I believe that the sites at Mallincrodt, the airport, Latty Avenue, et cetera, are detrimental and able to cause genetic and other health hazards. The waste should be moved from our metropolitan area.

I would like to talk a little bit about permissible standards and radiation risks. Research continues to show that radiation risks have been underestimated in the past. Re-evaluation of the risks of health effects experienced by the survivors of the 1945 Hiroshima and Nagasaki atomic bombings brought the U.S. Scientific Committee on the Effects of Atomic Radiation to conclude in 1988 that the risk from radiation exposure is three times what it was believed to be in 1977. This is from a December, '88 report of the U.N. General Assembly.

The International Committee for Radiological Protection, the radiological standard-setting body whose recommendations are followed by virtually every government in the world, is in the process of revising downward its allowable limits for radiation exposure. Perhaps the most important is that recent scientific studies supports the statement that there is no safe level of exposure.

The National Academy of Science's fifth

report on the biological effects of ionizing radiation issued in December, 1989, also called the BEIR-5, affirmed the fact that a threshold level below which radiation exposure is safe has not been found. The study is an update of the risk estimates issued by the same group in 1980. That group, the National Research Council, is the research arm of the National Academy of Sciences, a federally-charted but independent organization that studies technical issues for our government.

Risk estimates are used to set standards for so-called allowable radiation exposure around the world. For workers in nuclear and related industries, as well as the amount to which the public may be exposed. The estimates of the cancer effects of radiation in this report are three-and-a-half to five times higher than those in the last report from the same group.

Still talking about these standards, we believe that internationally-accepted government limits may mean different things to a lay person than they do to a scientist or an engineer. In an excellent book by Catherine Caulfield entitled "Multiple Exposures, Chronicles of the Radiation Age," I believe the following more-accurate statement is suggested. Quote, "Due to technical and financial restrictions, we have not actually measured radiation levels in the area, but our computer programs indicate that radiation levels will be within the

international safety limits." End of quote.

I would also like to talk about declaring radioactive waste below regulatory concern. It seems that the only solution that the NRC has finally come up with is to re-define the waste. Considering a new category of wastes, what I just said, below regulatory concern. This change would permit as much as 40 percent of low-level radioactive waste generated in the U.S. to be disposed of as ordinary trash, or be recycled in consumer products.

The NRC is saying it would not, however, be allowed to be made into toys. They say this would save money. I ask: Would it really? What real savings would there be in spreading radioactive waste into unknown and unmonitored locations such as nearby landfills, and even into homes? How can the materials, now known to be so hazardous that they must be isolated from the environment for thousands of years, be made safe by a decree, by changing the definition to "below regulatory concern"?

And my last comment is simply that the technology that gave us this waste is another example of the technology begun and used before thought was given as to how to dispose of this waste. Once more I would ask: Please remove this waste from our metropolitan area. Thank you.

THE MODERATOR: Thank you. Ralph Wafer.

RALPH WAFER:

My name is Ralph Edwin Wafer. Good afternoon, gentlemen. I am a practicing architect in St. Louis, licensed to practice in the state of Missouri, and have operated my own firm for nine years. I also serve on the Board of Director of the St. Louis Chapter of the Coalition for the Environment.

I appreciate the opportunity to speak to you today on the subject of cleanup, storage, and management of the radioactive wastes generated in 50 years of nuclear-weapons development. That's a subject in which many of us in St. Louis have a keen interest, as you no doubt have learned in previous testimony. I hope I do not go over previously-plowed ground. If I do, please forgive me.

The design professions in this country -- and I'm speaking of architectural and engineering designs disciplines -- pride themselves on being able to design solutions for every imaginable need. Collectively, these professions constantly promote the notion that no problem is so difficult that some creative thought and intense design effort by properly-gifted members of our professions cannot solve it.

Engineers and architects have a tremendous amount of self-interest to protect, hence, the promotions of our disciplines with the we-can-solve-your-problem approach. I don't need to tell you that engineers and architects

sincerely believe in themselves and their ability. One has to in these professions. I fiercely believe in my own. But I have a tremendous respect for my own limitations. Many of my colleagues do not recognize they too have limitations.

There is some basis for this view, that our design ability is invincible, that we can continually push the horizons further and further. There are examples all around us that represent high, technical art, in buildings, building systems, bridges, tunnels, vehicles, schools, and anything else we design and build. If we do not experiment and innovate, we do not achieve progress. That's an accepted dictum.

There's always a cost to such innovation. In my own profession, it's usually a leak. But in others, the costs can be far greater -- human lives, for example. I have read some of the technical literature regarding how to best store and manage radioactive waste. And I am of the opinion it is one of the most challenging problems facing us as a nation.

How can the design disciplines help solve it? The technical challenges are incredible. This is no work for the faint-of-heart. The spoken and unspoken way to discovering the solution is, quote, "Bring on our best and brightest engineering talent, and put them to the test."

The design solution for storing waste at

the airport site at St. Louis, they've called for an earthen bunker. The fact that the site in adjacent to a creek, in a flood plain, in seismic zone two and pretty close to seismic zone three, and is in the midst of a large metropolitan area calls this solution into severe question.

Responsible engineering, such a solution absolutely is not. Administratively expedient, it is. Is the deficiency of this solution the fault of the engineer? Perhaps not. I defy anyone to design an acceptable storage solution at the St. Louis Airport site. A May, 1975 report prepared for the Oak Ridge National Laboratory evaluated techniques for storing uranium mill tailings. The report stated that the conventional 6-inch earth covering used to cover such tailings did nothing to diffuse emanation of radon-222 gas.

To reduce emanation by a factor of 100 would require a 20-foot earth cover for a New Mexico site, and a 10-foot cover for a Wyoming site. The higher moisture content in Wyoming contributes to the need for less cover. The addition of a layer of asphalt would reduce the amount of earth cover necessary.

In 1979, four years later, an engineering study for the airport site in St. Louis called for a significant re-grading of the contaminated soil, coverage of the contaminated soil by several feet of clean earth cover,

and finally, construction of a police driver-training center above it all. Who signed his name to such a proposal? Whoever it was must not have read the literature very carefully. Or if he did, he must have thought that high-moisture Missouri soil and an asphalt cover would be just the ticket for trapping radon-222 gas.

But to use the site for high-speed driver training? In Missouri, even the best asphalt paving deteriorates. The authors of the 1975 report at least called for the asphalt below the earth cover, where, though it might be protected from external weather forces, it would be hidden from view, so that monitoring would be difficult at best. Fortunately, the 1979 proposal was quickly condemned by interested citizens who had read the literature and recognized bad engineering when they saw it.

The upshot of my statement, gentlemen, is that just as war is too important to be left to generals -- and parenthetically, I would add certain commanders-in-chief -- suitable storage solutions for radioactive waste are too important to be left to engineers and architects. This is not a subject properly left in the hands of persons whose self-confidence too often exceeds their competence.

Few, if any, structures designed and built by man have withstood the centuries intact. Stone Henge and the Indian mounds of Ohio come to mind as exceptions. The

Great Wall of China is still there, but an army of people are gainfully employed maintaining it. The great Pyramids still exist, but like the Great Wall, are only as strong as the sum of their many parts, some of which are badly deteriorated.

What the examples I've cited tell me is that natural materials in large quantities with a minimum of change wrought by humankind are our best bet to last the future millennia, which will be needed to house our waste. Unlike human beings -- that we have enough trouble housing adequately for their short term on earth -- we're challenged to house radioactive elements with active lives that number in the millions of years.

Asphalt covers, or synthetic fabric liners, simply are not up to the job. We should look for those sites that meet the following criteria: One, away from population centers. Two, geologically stable. And three, not near water sources. Once such a site is determined, the engineering of the site is not as daunting as it is for unsuitable sites like the one at the St. Louis Airport. Instead of asking designers to achieve the impossible, we present them with the task that at least has a chance of succeeding.

Such a site marked on all maps also has the best chance of being known as a site dangerous to life in the succeeding centuries, when we're not here to remember where materials were buried, and constantly learning new locations

to where it has migrated.

I appreciate this opportunity to speak to you this afternoon. Thank you.

THE MODERATOR: Thank you. Given that I do not have anybody else on my list who is here currently, I suggest we take a brief recess and re-convene at 4:10.

(Whereupon, a brief recess was had.)

THE MODERATOR: I would like to re-convene this afternoon's session. Our next speaker is Wendy Katz.

WENDY KATZ:

My name is Wendy Katz. I live at Redacted - Privacy Act

Redacted - Privacy Act

As an artist working in new technology and scientific research, I am extremely curious regarding the situation we have before us in this room today. You see, most of my life has been lived in St. Louis. I was born here in 1950, almost a decade after the material we are discussing HERE today was manufactured HERE, hauled around through the city and the county HERE, and dumped HERE. Yes, and a few years later, this community, and particularly children, who are exposed to fallout from underground testing HERE in St. Louis.

So, HERE is my beginning, my home, my

community. HERE is also a beginning -- a home for radioactive waste that was not part of a community. Private enterprise and government made HERE a place, and still is unprotected from all the unknowns regarding nuclear waste and low-level radiation. We are being asked to consider -- and very possibly told -- to accept a long-term storage facility HERE, simply because we already have a contaminated site HERE.

I believe the time has come to change what has become the status quo of radioactive waste handling HERE. I believe it is necessary to challenge the airport site in St. Louis as the bunker site for this proposed cleanup. It is time for a site that is non-urban and not near water, to be proposed, investigated, and developed. It is time for St. Louis, for HERE, to be cleaned up of its radon and radioactive dust.

We are entering into our sixth decade of co-existing with unwanted cubic yards of throium-230 and titanium-227. And why should we be asked to add more decadence to this co-existence? Let us look at a few reasons for asking such a question. In the summer of 1989, the National Academy of Scientists in its BEIR-5 report explains that low levels of radiation may be more dangerous than previously acknowledged. Quote, "Young people, especially those under 25, are at the greatest risk of getting cancer from low-level radiation exposure. And fetuses exposed to low

levels of radiation are at higher risk of mental retardation than was previously recognized."

Quote, "Recent evaluation of Hiroshima and Nagasaki bomb survivors lead the BEIR-5 committee to conclude that the cancer risk-benefit is strictly a model in which risks at low dosage are proportionately just as great as risks at high doses." And therefore, change had occurred in the thinking of the National Academy of Sciences and scientists in understanding and developing the proportionate analysis.

From a DOE report of 1988-89, I quote, "The U.S. has not previously targeted advanced waste technology as a high priority. The nation does not know all it needs to know about the best methods for treating and disposing the radioactive and hazardous waste it generates."

On November 9th, 1989 the Secretary issued a five-year plan, and the new office of Environmental Restoration and Waste Management was made. And I quote from his report, "The five-year plan was developed from data and information submitted from each DOE facility to confine and correct immediate problems that posed the greatest threat to public health and safety. To ensure that long-range cleanup plans are based on credible science and technology, and to ensure that the DOE will comply with all environmental requirements."

And it went on to say, "This is a new

culture based on openness and responsiveness." And it went on further to say, "Under new leadership, additional emphasis has been place to protect the public and the environment." I would say that the Statements on Intent sound very pro-environment, but the questions remain: How is this to be accomplished? What controls and guidelines are used to correct immediate problems? What are the specifies to let us know what is a credible scientific and technological source? Who comprises the new leadership?

Going on. So what can happen when one is exposed repeatedly to low-level radiation? Low-level ionizing radiation is dangerous to humans because of damage to genetic material or DNA. Dr. Rotier of the Washington University School of Medicine discusses the repair capability of DNA. He says that, yes, repair can take place from damage inflicted by low-level radiation.

But repair is a two-edged sword. What can happen? The more fractured the DNA becomes, the harder it becomes for cells to put it back together again without making a mistake. I guess you could say this is a sort of a Humpty Dumpty syndrome. Pieces get misplaced or are put in incorrectly to other parts. So normal cells can become a cancer cell. Quote, "Just because a cell repairs itself doesn't mean that it hasn't changed somehow. A dead cell won't give you cancer, but a loosely-repaired cell might."

End of quote.

There are several cases of communities who have faced problems of protection both public and private around the country, but particularly here in the mid-west. In west Chicago with Kerr-McGee in relation to the chemical dumping, it is still to be determined if Kerr-McGee will be given a license to permanently dispose of waste that's been in this area since the 1930's.

In St. Louis, I'm sure you've heard already testimony about cancer clusters in the area wedged between Interstate 270 and 170. We have storage problems all around, in Kansas, in Missouri, and so forth. The Three Mile Island study by the National Audubon Society also indicates that very low levels of radiation have increased the possibilities of children having cancer by two-to-one, from areas that were in those zones. There are also studies in Massachusetts near the Pilgrim reactor. They feel that background radiation can increase cancer possibilities by four times.

So, may I end with: We are being asked to engage in a trust, a very tender trust. Fanaticism on both sides of the issue does not help us to uncover the truth. However, it is important for the government, such as the DOE, to represent the people, and to remember that we live in a democracy. And that communities in America have a right to domestic tranquility, including protection from known and

unknown effects from storage of low-level radiation generated by government projects years ago, as a project that was in the national interest, done as it should be now.

We have seen from other communities, as well as our own, there's a reason to be skeptical of decisions that ignore a community's concerns and documentation of health hazards and disease. So, yes, we must protect this tender trust, and make HERE a much safer HERE than it has been for almost half-a-century. Thank you.

THE MODERATOR: Thank you. Karen Safe.

KAREN SAFE:

My name is Karen Safe. I live at 6921 Waterman Avenue. Zip code is 63130.

I don't have prepared remarks. I didn't plan on speaking, but I just wanted to express to you my concern about the storage facility proposal here in this populated area. I agree with the previous speaker's final comments about this trust that you have, and that the government has, and you all represent. I hope you will hold that trust in your hands and look at all of the possibilities, and keep in mind that these are people, these are children, and this is a large populated area.

I just wanted to express my concerns about that. Thank you.

THE MODERATOR: Thank you. At this point,

we will have a short recess, to re-convene at 4:50.

(Whereupon, a brief recess was had.)

THE MODERATOR: Our next speaker is Tim Dunn.

TIM DUNN:

My name is Tim Dunn. I live at 2407 Bellevue, St. Louis, Missouri, 63143.

I want to start by reading a small brief from Post-Dispatch November 29th. It's not about radioactive material, but it is about Lambert. "The Missouri Air National Guard officials in St. Louis are studying three cases of apparent contamination from underground fuel tanks at Air Guard facilities, two at Lambert Field, one at Jefferson barracks.

"Although contamination appears to be limited to soil in the immediate area of the two tanks, an unknown level of groundwater contamination exists near a fuel-storage area at Lambert Field. Guard officials are asking residents that use well water in this area to call the base Civil Engineers office to determine whether testing is needed. A cleanup plan will be developed."

I've come here today to voice my strong option to the plan for using Lambert Field as a deposit site for 1 million cubic yards of contaminated dirt containing radioactive waste from the first nuclear weapons program. I

make my living as a general contractor. For ten years I've been digging and building, tearing old buildings apart, and tearing parts of homes down in order to remodel and rebuild.

My understanding is that an earth-encased bunker is planned at the airport to store the dirt in. As a builder, I have grave concerns about the presence of a vast amount of radon gas in this area. St. Louis' underground soil composition and the large concentration of population in this area indicate to me that building a storage site here is an idea which is questionable at best, and may be thoroughly irresponsible.

Radon, a daughter-product of thorium, is known in this area to actually leach through basement walls. Homes in this area are tested for radon because of its deadly effects. Now, the earth around this area moves. You can look at my house and my neighbor's houses and see cracks in the concrete front porches caused by earth shifts. No earthen bunker will hold gases in this area. The earth will crack leaving gas pathways to groundwater and open air. And then there are the pathways caused by moles, insects, et cetera, digging underground. We cannot put Keep Out signs underground to keep their normal activities away.

To dump radioactive waste at Lambert Field will some day demand that we fly to the airport to catch a plane because no one will be able to live close enough to

drive. But unfortunately, the way we will realize we need to move is that our children will begin to get sick and die, because children are always the most vulnerable in our population.

By now, as citizens, we have learned that it is standard operating procedure for every level of government to offer automatic reassurances to the general population. Even before the assessment of a critical situation is completed, we hear from local authorities that there is no need for concern, and no need to worry. We have come to distrust this reassurance, and see it for what it is -- a meaningless public-relations statement.

Let us not kid ourselves. In every situation of this kind there are risks, and those in power must decide whether the risks are acceptable to accomplish the task. But the question I have for you is this: If the risks are acceptable, to whom are they acceptable? I have two beautiful granddaughters, one here, and I'm here to tell you that the risks are not acceptable. Not to me, not to them, and not to the citizens of this area. Thank you.

THE MODERATOR: Thank you, Mr. Dunn.

Reverend Deborah Fortel.

DEBORAH FORTEL:

I am Reverend Deborah Fortel. I live at 3668 Shenandoah in the City of St. Louis, 63110. I am here as

a concerned citizen, and I was also on the petition committee seeking to repeal the decision to have nuclear waste stored at the airport.

I'm concerned for a number of reasons about this decision. I am aware that we have the oldest nuclear waste in the world, here in St. Louis. It was first produced on December 2nd, 1942 at Mallincrodt, and it's still here causing us problems.

We don't know what to do with nuclear waste, where to put it, how to management it. Either low-level or high-level waste is a problem. I'm aware that there is a ruling against discussing the disposal of high-level waste. However, I would like to enter into the record an article concerning the high-level waste at Yucca Mountain, which was the cover article in the New York Times magazine on November 18th of this year.

I have concerns that there is a continuing lack of absolute candor with the public on part of the Department of Energy and those responsible for dealing with the disposal of nuclear waste. The fact remains that it is still a problem to us internationally. We don't know how to deal with it safely.

As a minister and a director of a social service agency which serves the needs of the poor, my concern is for human beings to be developed as fully as possible in

order to live in accordance with God's hope and will for humanity. When we spend our energies, and our money, and our best minds, finding ways to create new weapons, we are creating more problems for ourselves. And we are funneling our energies away from the direction that they should be spent.

We continue to produce this nuclear waste, both in weapons and in nuclear power plants, at a terrible cost. It's dangerous work, the by-products are dangerous to the health of those who near their storage sites, and they are a problem for us here in St. Louis, as you well know.

I urge you to find other sites less populated and less dangerous for the storage of this nuclear waste. And long-term, I urge this nation to spend its energies in better directions. Thank you.

THE MODERATOR: Thank you, Reverend. Our next speaker will be Mal Donahue.

MAL DONAHUE:

Hi. My name is Mal Donahue. I live at Redacted - Privacy Act

I don't have a prepared statement, but I did want to come up and say that I came over here today on my lunch hour and I came back tonight. I didn't get to hear everybody today, but most of the people that I heard, they were pretty afraid, almost to the point of, I guess,

exasperated with some of the things that are going on as far as nuclear waste is concerned.

I guess the reason I came up to say something was because I just don't like this not-in-my-backyard syndrome all the time. I think this nuclear waste is something we have to deal with. It's our problem, not only the Department of Energy's problem, but everybody's problem in this country. I can't see us trying to pass our problems along. I do understand everybody's concern.

It bothers me when I look at this map out here and see the areas of nuclear contamination, surface and subsurface, all the way down to 18 feet where it was recorded. I live very close to the airport, and that's something that concerns me. I'm a dumpster hygienist and we've had calls to go out to Coldwater Creek for jet-fuel contamination in the creek. I've gone throughout the country to different sites and seen that there's nothing new about St. Louis, as there is about other places across the country.

What concerns me is the fact that we're outpacing our technological development with our resources. And I think our human resources are probably our greatest resource in this county. It doesn't surprise me to see everybody here today, because it concerns me -- I know it concerns everybody else here -- the fact that people are brought into contact with hazardous materials. However, I

believe that hazardous materials are something that we have to deal with. We can't just keep passing it on to our next generation.

I listened to David Brower and he said that our environment isn't something that we inherit from our parents. It's something that we borrow from our children. And I see that this contaminated site at Lambert has to be cleaned up. It has to be cleaned up in north St. Louis. There's a lot of contamination at Weldon Spring. It has to be cleaned up. And I think it's something that we have to deal with. And I think the more we try to pass it on, the more landfills we try and site -- that are technologically sound that we vote against because it's too close to us, or too close to somebody we know -- the further and further away we keep putting these problems, the greater they're going to be.

And I really would like to see us address these problems. I would like to see that we make a real concern and a real effort to mollify people -- maybe not to mollify, bad choice of words -- but to educate our people and let them know that there is a safe means to deal with these types of contaminated wastes. And that people could be living in close proximity to these wastes and still feel safe and secure about what's going on. Because the more we pass the buck, the less that's ever going to get accomplished. Thank you.

THE MODERATOR: Thank you. Our last speaker for this afternoon will be Ms. Saundra Lowes.

SAUNDRA LOWES:

Good evening. I'm Saundra Lowes, L-O-W-E-S, Redacted - Privacy Act I'm a full-time homemaker, a mother of three small children, part-time English instructor at a local college.

First, I want to say unequivocally that I do not want radioactive waste stored in the city in which my family lives. Its presence here now disturbs me deeply. The possibility of its storage here in the future frightens me. And the continuing production of it for an indefinite time period shocks me.

Why are we doing this to ourselves, I ask. What magic do we think will make all this radioactive waste null and void some day? Second, I want to bring up a dirty word, "containment integrity." In other words, what package can we fill with radioactive waste and expect it to last millions of years? Uranium-238, a predominant substance in our waste here, has a half-life of 14.5 billion years. Thorium-232, also here, has a half-life of 14.1 billion years.

In a report on geo-chemical behavior of long-lived radioactive waste, document number ORNL-4481, prepared in 1975 by the Oak Ridge National Laboratory for one of the DOE's predecessors, Energy Research and Development

Administration, scientists attempted to calculate the hazard potential of such waste, up to, I quote, "10 million years after generations." On page 3 of that report, this conclusion was drawn: "The most likely mechanism leading to transfer of activity to the biosphere is failure of isolation from groundwater."

Sirs, I urge you to spare our city 10 million years of exposure to radioactive materials. In this geologic area, no container will possess that illusive integrity. Please, take this health hazard away from us. You have the power, and I hope the honor, to do so. Thank you.

THE MODERATOR: Thank you. With that, that concludes this afternoon's session of this scoping meeting for the PEIS. We will re-convene at 6 o'clock, one short hour from now. At which time there will be a repeat of the opening remarks made this morning. Beginning at 6:30 and running until 9:30, we will once again receive comments.

To close, I would just like to thank all of you for not only taking the time to come and speak before the group today, but also for the time and effort that you have put into preparing your comments. They're very appreciated. Your oral and written comments will be given equal treatment in consideration by the Department as it prepares its

PEIS. Thank you.

(Whereupon, a dinner break was had.)

EVENING SESSION

THE MODERATOR: It looks to me to have a full evening. As announced before, I will introduce the speaker, and then name the person who is on deck. The first speaker this evening is Lewis Green.

LEWIS GREEN:

My name is Lewis Green. I am a lawyer here in St. Louis. My office is at 314 North Broadway, Suite 1830, downtown St. Louis, 63102.

I'm a lawyer who has represented the Missouri Coalition for the Environment for a number of years. I have litigated a number of cases, and I have a considerable interest in this process of a Programmatic EIS. My principal concern is that we'll keep the eye on the ball here, and we don't wrap up every location in the same systematic approach.

A Programmatic EIS is a good thing to do and I'm glad you're doing it, as long as we don't lose sight of what is very important here. There are some major national concerns which can be properly addressed in a Programmatic EIS, as Mr. Baublitz just pointed out a number of them. It certainly would be appropriate, for example, to consider the impacts associated with the possibility of finding one, or perhaps two or three, more or less centrally-located

repositories to which to transport all of the wastes of these various sites.

That's something that can really only be addressed on a Programmatic basis, not on an individual site-specific basis. That's the kind of thing that makes it desirable that you proceed with the Programmatic EIS. There are other factors that could well be considered in a Programmatic EIS. You could very well deal with the overall national problem, should the government continue to generate more of this waste while we still haven't solved the problem of what to do with the waste we've got now. Or should the government simply call a halt and stop producing anymore until we have found an adequate disposition for these wastes?

You could draw other rather general conclusions that would be valuable in dealing with a Programmatic EIS. For example, it seems fairly obvious to me, and should be obvious, I should think, to anybody, that one dominant concern that should run through your consideration of all these sites throughout the nation is that we don't want to keep this waste permanently in a highly-populated urban area. Whatever the risks are from exposure to any of this contamination which may escape -- and while we can argue about what they are, we can't very well argue about the proposition that the risks are increased with the number of people exposed to it.

It's essential, and a Programmtic EIS could easily lead to the conclusion, that there's one thing for sure we have to do here, and that's to get this stuff out of these urban areas. At the very least, we have to do that much. My concern, however, is that in a Programmtic EIS, we lose sight of the site-specific problems. After you've dealt with these huge problems, the tremendous problems at many sites nationally, you generate 20, 30, 40, 50 volumes -- more than anybody can read, or that anybody can carry to a meeting -- and you still haven't gotten down to the site-specific problem. You figure you've done enough, and you're not going to do that.

That is where we lose out locally. And that is the danger with the Programmatic EIS. I heard Mr. Baublitz mention a few minutes ago that the intergrated management program -- I'm not sure exactly how he put it -- but that was one of the concerns which may be assumed to be desirable. I'm not sure that is desirable. Maybe it shouldn't be. Different sites have different problems.

And I don't know what you mean by a management program, but the important thing is not to lose sight of the local problems when you're dealing with the national problems. Here in St. Louis we will be watching very closely what you do, and we will be respectfully demanding a full analysis, eventually, of the impacts associated with the

St. Louis radioactive waste sites.

And when you do that, is something DOE decides as part of its hearing process. But that is something that has to be done, unless you decide on a national basis to pick it all up and move it to one or two locations. Even then there will be local problems of how do you pick it up, and what safeguards, and how do you transport it, and where, and so forth.

That will, then, serve as a close to my comments. I urge that you keep the local problems in your thinking, and realize that you're going to have to deal with them fully at some point in this process. Thank you.

THE MODERATOR: Thank you, sir. The next speaker this evening is Alice Sanvito.

ALICE SANVITO:

Good evening. My name is Alice Sanvito. My address is Redacted - Privacy Act I'm speaking tonight as a concerned citizen.

I'm here tonight to ask the Department of Energy to seriously consider, as an alternative, whether we should halt the mining of uranium altogether, given the fact that we don't yet know how to safely dispose of the wastes that have already been generated. In nature, uranium is predominantly located deep within the earth where it can't do us any harm. Small amounts of it exist in the soil and seep

into the water. The small amounts of background radiation contribute to the aging process and can cause cancer.

We can't isolate ourselves from the background radiation, but we can avoid adding to it. When we mine uranium, we bring huge amounts of this material from deep within the earth to the surface. These materials would not otherwise be in our biosphere if we didn't bring them up. When we bring them up, we pulverize them into tiny particles that can easily be dispersed into the air, and into the water which we can take into our bodies.

Right now in St. Louis, there's an estimated 1 million cubic yards of waste from the Mallincrodt Chemical Works left over from the first 15 years of the making of the first atomic bomb. A predominant substance of the Mallincrodt site is uranium-238. I would like to present a chart of the daughter-products of uranium-238, their half-lives, and the principal types of radiation emitted. Uranium-238 breaks down into a number of isotopes before it finally becomes stable and no longer radioactive. Some of these isotopes are rather short-lived and are not of much concern to us.

But some of them are long-lived and emit large amounts of radiation and can be very harmful to us. It is conservatively estimated that it takes 10 half-lives for a given amount of a radioactive material to break down into a

harmless state. Many of these isotopes emit alpha particles. Now, alpha particles can't penetrate the skin, but they can easily penetrate soft tissues.

If materials that emit alpha particles are taken into our bodies, either by swallowing or inhaling, they can do great harm to us by destroying cells, by causing cancer, by causing mutations by damaging our immune system, this making us more susceptible to any disease that we're exposed to.

Uranium-238, the predominant substance of the Mallincrodt sites, has a half-life of 4-and-a-half billion years. That means it will take 45 billion years for the uranium at the Mallincrodt site, and all the other uranium that we have mined, and continue to mine, to break down to a stable lead. While it's breaking down, it will be emitting alpha particles at the rate of 12,400 particles per second per gram.

I don't know if there's anyone who's convinced that we can really isolate this material for 45 billion years. Uranium-238 breaks down into other isotopes, and all of them are present at these sites. Uranium-234, for example, on the chart, has a half-life of 247,000 years. Thorium-230 is considered very hazardous, and has a half-life of 80,000 years. Radium-226 is also very hazardous, and has a half-life of 1,602 years.

Radon-222 is the same radon gas that collects in our basements and can cause lung cancer. It has a half-life of only 3.8 days, but exposure to it can still cause lung cancer. Lead-210 is also present. We know that lead is hazardous, and radioactive lead is even more so. Lead-210 has a half-life of 20 years and can be a very hazardous element. Polonium-210 only has a half-life of 138 days, but it is a very hazardous element also. It gives off 5,000 more times radioactivity than radium, approximately 185 trillion alpha particles per second per gram. I would like to repeat that figure -- 185 trillion alpha particles per second per gram.

Exposure to any of these radioactive isotopes increases the risk of cancer, mutations, and immune-system defects. These wastes will be with us, in essence, forever. We have no idea how we will isolate them for the unbelievable length of time that it will take. And we have no way of testing any methods that we propose, whether they'll be effective for thousands and millions and billions of years.

I would like to ask the Department of Energy, in the preparation of your Programmatic Environmental Impact Statement, that you study carefully the alternative of stopping altogether the mining of uranium. I want to thank you for giving me this opportunity to testify here today, and I would like to enclose a copy of the uranium decay chain for

the record. Thank you.

THE MODERATOR: Thank you. Ms. Mary Halliday.

MARY HALLIDAY:

My name is Mary Halliday, and my address is Redacted - Privacy Act .

I live 3-and-a-half miles west of the Weldon Spring site remedial action project in St. Charles County, Missouri. For the past eight years, I have watched this site go from a DOE embarrassment to the cleanup stage which it is in right now. And it allows me to rest much easier.

During the past years, while monitoring this site, it became very apparent that in the past 30, 40, 50 years, the Department of Energy has generally seen the good earth as a resource to be used, spoiled, and discarded. Those days have ended, hopefully.

The preparation of the Programmatic Environmental Impact Statement should take into consideration these facts. The nation's people have absolutly no need for nuclear weapons production, now or in the future. These were a product of mankind's greed. The nation's people and the Department of Energy should have, as their primary goal in the next 50 years, the cleaning up, the restoration, and the protection from the abuse heaped upon the land in the past 50

years.

The list of contaminated sites in our country is appalling. The secondary goal is to educate the nation, its leaders, and the Department of Energy, on the positive ethics of peace and how it works. There are always plenty of little to medium-sized wars going on daily in every town across the nation. Focus on these, avoid the big wars like the black plague, because the contamination we have been left with today gives us our own inherent black plague.

The other two comments that I have were site-specific, and I should not conclude those; right?

THE MODERATOR: You can speak as you like for five minutes.

Okay. The St. Louis Airport storage site must be considered as Department of Energy misplaced waste. It should be permanently removed from its present location in St. Louis County and stored on a site which is far removed from a million people, and not in St. Charles County.

The Weldon Spring remedial action project in St. Charles County must be acknowledged as sitting atop a crust geology formation. Therefore, it is subject to catastrophic collapse. The permanent on-site disposal of the Weldon Spring wastes need to be seen as a pond in a possible catastrophic collapse in this area. No insurance is available to cover the cost of this collapse should it happen a 100

years from now. The only thing that would prevent that would be a wise judgment, and a decision next year on the final resting place for these radioactive wastes at Weldon Spring.

And my last request is: In your PEIS, may all your site cleanups nationwide be done with the same integrity and fastidious care that have been shown in recent years at the Weldon Spring site. Thank you.

THE MODERATOR: Thank you. Our next speaker will be Rachel Locke.

RACHEL LOCKE:

Hi. My name is Rachel Locke. I live at Redacted - Privacy Act . I'm a graduate student in neuro-sciences working on my Ph.D. at Washington University. And I study fish and vegetable physiology.

I'm here to talk about bio-cumulation. You may ask, well, why am I talking about bio-cumulation? What is that anyway? That's why I'm talking about it, because I think people don't know what bio-cumulation is. And if we don't know what it is, we can't be informed about it, and we can't hold people -- such as our friends up here, and our legislators -- responsible for it.

So, the process of bio-cumulation, I think I've illustrated fairly well with this poster, which I'll share with you guys out there, and then you folks back here. They're first, there's more of them. It's a process by which

a small organism at the bottom of the food chain eats or ingests a radioactive particle. Then this smaller organism is eaten by a larger organism, which ingests a couple of these, so now it's got an accumulated amount of these radioactive particles.

Then a couple of these little fish are eaten by a larger fish, so now it's got even more. And then a larger fish eats a number of these littler fish, and it's got even more. Now, by the time it gets to this size, when I go out fishing and I catch this fish, they'll let me keep it. So, I catch this fish, I pull it home, and take it and eat it for dinner. And a little while later, BANG!

So, you say, well, where is this going on? Is this going on? Yes, it's going on. It's going on as we're talking here this evening. It's going on in at least a couple of the lakes in the Busch Wildlife Preserve. We know that they're contaminated with radioactive waste. And it's also going on in the Osage Sluice. We know that there's a hydraulic connection between the sluice and the quarry at Weldon Spring.

So, what I'd like to know -- which you'll have to answer for us at some point -- is why people there aren't being either prohibited from fishing in those areas, or at least being informed that there could be, or that there is, contaminated fish -- or are, plural -- in those areas. And

I'd like to know if you would make a recommendation at least that some signs be posted there so people can at least fish based on an informed judgment?

THE MODERATOR: This is not a question and answer session, so we will take that as a rhetorical question which will be addressed.

MS. LOCKE: Thank you.

THE MODERATOR: Thank you very much. The next speaker will be Buzz Westfall.

BUZZ WESTFALL:

I'm here, really, to address the same issue, and you're going to hear a lot of repetition tonight, as I'm sure the DOE does across the nation. Even though you're used to that, it's important. Because the same people feel the same way, repetition is almost inevitable.

I'm Buzz Westfall, the current prosecuting attorney. I've been elected three times in this county, county-wide, so I've served twelve years as a prosecutor. I was just recently elected as the county executive, so on January 1st, I'll be sworn in in a new capacity. So, I'm really speaking here not only as a citizen, but bringing the impact, hopefully, of the office.

I won by a considerable margin, 55 percent, in November, three weeks ago. And this was one of the major issues of my campaign, quite frankly. My opponent, the

incumbent, really did not address the issue at all. If he did, it wasn't very forcefully. I addressed it very forcefully, that I would try to do whatever I could as county executive, to see to it that this site was moved from the St. Louis area, in general. Not just St. Louis County, but St. Louis City and the surrounding areas, Franklin, St. Charles, and Jefferson County. Because they're all part of one big neighborhood, and it's about a two-and-a-half million-person population area.

But even by a bigger margin than I was elected -- by a far bigger margin -- the people spoke out on the issue, the non-binding referendum. It was about 85 percent county-wide, perhaps 90 percent in some of the areas of the county. I think it was over 80 percent in the city. So, the people have spoken out very emphatically that they don't want this in the St. Louis area, they don't want it in the metropolitan area.

And it's for obvious reasons. They consider it dangerous, I consider it dangerous. And I think most studies would say that it's dangerous. It depends on the level that people would agree on, but no one would agree that it is not potentially harmful, or we wouldn't be having these hearings, and we wouldn't be talking about spending the money we are to clean it up at all. It just makes no sense to me. It seems insane to have to put it in an area like this.

And when the people have spoken out so clearly and emphatically, I would hope that the federal government would take it into account and give it due consideration. And in fact, I would hope that it would be persuaded. It's here as a result of the federal effort. There are several other sites in the country for the same reason -- the national effort. St. Louis cooperated in the national effort. It's been here for a long time, but we're finally addressing, I think in somewhat of a media fashion, the opportunity to move it.

And it ought to be moved. We're on a fault in this area. We didn't have an earthquake this week, thank God, although some people thought we might. But most experts agree that some time in the not-too-distant-future, Missouri could very well be subject to an earthquake, a natural disaster that could cause real chaos, especially if there were a radioactive waste bunker. In addition, Coldwater Creek is right near that site that feeds one of our major rivers.

It just makes no sense. I know the numbers are huge, and the effort is huge, but obviously this is the purpose of this fact-finding mission, to look at other sites and determine whether or not it should be moved from where it presently is.

So, speaking on behalf of the county, specifically, and the entire region -- I know Mary Ross is

here and will address it from the City's point of view -- it shouldn't be here. It's dangerous to our citizens. No one wants it anywhere, but certainly it ought to be at least in a sparsely-populated area of the country as opposed to a densely-populated area.

Whether that's going to be in Missouri -- and there are some sites here in Missouri that I think would be far more appropriate than here in St. Louis. I've spoken out publicly about those sites, we don't need to do it tonight -- but we already have an area in Callaway County that has about 95 percent of the radioactive waste. Whether they would be satisfied to have it or not one doesn't know because it hasn't been pursued.

But wherever it goes, it should not be in a population center area. That's where it is now, and I would hope that you would remove it. Thank you very much.

THE MODERATOR: Thank you, sir. Ms. Peggy Meyer is our next speaker this evening.

PEGGY MEYER:

My name is Peggy Meyer. I live at Redacted - Privacy Act. Redacted - Privacy Act . I'm here in the capacity as a councilwoman for the City of Bridgeton. I might also add that I'm an earth-science teacher for the Francis Hale school district which is where Weldon Spring is located. So, this whole thing is very near and dear to me, in a manner

of speaking.

As a matter of public record, I would like to present you with seven resolutions that the City of Bridgeton has passed in the last 11 years. They all deal with the radioactive waste issue. This has been something that we've been concerned about for a long, long time. We're pleased to get a chance to bend some ears on this. So, may I please give this to you?

THE MODERATOR: Sure.

MS. MEYERS: It deals not only with the airport site and the rest of the Manhattan Project waste sites, but it also deals with West Lake. When I looked at some of the criteria that I received, I saw that West Lake was suspiciously absent. This is actually a landfill area that has the same origin of radioactive waste as the rest of the sites that you are addressing. It sits on one of the major flood plains in the state of Missouri. It's less than one-and-a-half miles away from the Missouri river.

We know for a fact, just like all the other sites, that this material is migrating. Each time that we look at a study, there's more material to be cleaned up. This concerns me very much. The longer we wait for this, the more expensive it's going to be. Not only in money, but also possibly in lives. U-238 has a half-life of 4.5 billion years. We're talking about the time, possibly, the sun will

be out and we will cease to exist as a human race on this earth.

We need to consolidate this somewhere so it will have a minimal impact on everyone concerned. We've got to think about the future in this particular thing. As far as the airport site, I can't imagine landing planes next to containment cells 40 feet tall that have taken 10 years or so to move the dirt around. I find that just -- totally unacceptable.

I know you've heard all these things all day long, but we're very serious about this. This is just not an acceptable place to store radioactive waste at all -- now, or in the future. Thank you.

THE MODERATOR: Thank you. Next speaker is John Shear.

JOHN SHEAR:

Good evening. My name is John Shear. I live at Redacted - Privacy Act . This evening I'm here representing the St. Louis County Council. I am the councilman from the first district, and I have the distinction of having all three of the radioactive sites in St. Louis County in my district -- the St. Louis Airport site, the Berkeley ballfield, and the Latty Avenue site.

I've been involved in this issue for about three years, and there have certainly been people in the St.

Louis area who have been involved in this issue for a lot longer than I have. But several months ago, I authored a piece of legislation calling for a non-binding referendum to be voted on November 6th of this year by the residents of St. Louis County.

Alderman Mary Ross from the City of St. Louis also sponsored legislation in the city. I'm sure she'll address that issue when she speaks. One month ago today that issue was on the ballot, and the issue came out overwhelmingly -- the people of St. Louis County came out overwhelmingly -- against a permanent storage bunker being built at the airport site.

So that you can become a little bit familiar with St. Louis County -- I don't think you're from the area -- that's a map showing St. Louis County. This is St. Louis County surrounding the City of St. Louis. The map is broken down into townships. This is where the site is located, the three airport sites. The bars on here demonstrate the percentage of voter turnout by township. In the areas where there are black lines right next to the site, overwhelmingly the voters came out in 85 percent and higher, some in 90 percent, and voted against this referendum which called for the permanent building bunker. They were saying no in overwhelming numbers.

And then, as you get into these areas, the

people came out and also said no, not in quite as high numbers, between 80 and 85 percent. Out of the entire St. Louis County area, there was only one township where there wasn't at least an 80 percent no-vote on this issue, and that was the Clayton township. And the Clayton township number was 79.8 percent, so it was pretty close to 80 percent. In the City of St. Louis, as you heard earlier, it was an 80 percent no-vote on that.

Sometimes politicians take a position, or a stand on an issue, and sometimes you wonder if it's just you feeling this way, or believing this way, and you wonder if whether or not you have public support. Well, let me tell you something: After November the 6th, I was asked by the press and many other people what I thought a good no-vote would be. I said I would be pleased with a two-thirds, a 66-percent no-vote.

But to have 250,000 people, a quarter-of-a-million people in St. Louis County, come out and tell its elected officials, and hopefully tell the federal government, that they do not want a permanent bunker storing radioactive waste built in the St. Louis area, I think that's a message which tells all of us that what we've been saying for many, many years is the direction the people want us to take.

I've used an illustration, and I'll use it

in closing. We have been dealing with this issue for a long time. Several people have been involved in it for many, many years at all levels. I compare it to an automobile that's run out of gas. You can get 20 people to surround that automobile, and everybody could push in different directions. We know that that automobile will never be moved from where it is.

And I think that's what's happened over the years in St. Louis and St. Louis County. A lot of well-meaning people have been wanting to do something about this problem, but they've all been pushing in different directions. What happens when you get everybody at the same part of the car pushing in the same direction? You will get that car moved from where it is to where you want it to go.

That is now what is happening in the St. Louis area. People are beginning to unify, to come together in the same direction, to deal with this problem. Overwhelmingly, the voters in St. Louis County told us that they want this stuff out of the area. Overwhelmingly, in the City of St. Louis the voters told us that. We are now going to continue to unify our efforts, and we bring all of this information to you this evening as you consider this site along with all the many thousands across the country.

Know that the people in St. Louis City and County have spoken overwhelmingly. I have a breakdown by

townships of the percentages, and I'll give you a copy for the record. Thank you very much.

THE MODERATOR: Thank you. The next speaker this evening is Dan Romano.

DANIEL ROMANO:

My name is Daniel Romano, Redacted - Privacy Act, Redacted - Privacy Act .

I want to speak about a policy that was adopted this year by the Nuclear Regulatory Commission called "below regulatory concern." You're all familiar with this, I'm sure. I'm not exactly sure what level of radiation was adopted as the diminutive exposure level. Do any of you know?

THE MODERATOR: I'm sorry, sir. This is not a question and answer period. If you'd like to raise that issue, you may. And perhaps at a break, someone with that information could provide it to you.

MR. ROMANO: To the best of my information, 10 millirems a year is what was proposed as the diminutive exposure level. That's 10 millirems per person per year. By the NRC's own figures, .1 millirems per person per year equals one cancer death, or birth defect, per million persons. And it looks like they've adopted 10 millirems per year. This means that approximately 30 percent or more of radioactive materials from nuclear power plants, weapons-making

facilities, will be just released into various -- into consumer products, into landfills.

I just really feel that this policy -- I'm really concerned about it. First of all, the BRC, below regulatory concern level, is based on background radiation levels. And because of the releases from nuclear weapons-making facilities, nuclear power plants, mining, nuclear-weapons testing, and waste storage, the background radiation level has been rising -- a lot.

I'm really concerned that the amount of cancers caused from the BRC policy will be increasing, especially among the most vulnerable. That's children and fetuses. There was a study done in England in 1986 by Dr. Alice Stewart involving 15 million children. And she found that a large percentage of childhood cancers and birth defects were caused by exposure to radiation. And now, with this BRC policy, we're talking about releasing even more radiation into the environment.

There's absolutely no accountability for what happens to these materials once they're released. The industries that released them, or the weapons-making facilities, there's no way of keeping track of them at all. This also -- BRC only talks about deaths caused by cancer from this material released and birth defects through two generations.

However, there are a lot more health problems, including birth defects, obviously, that go beyond two generations -- cancers that don't cause death, reduced immunity to disease, and earlier onset of diseases, low birth weight of babies. These are all things that can be directly traced to exposure to radiation. As I mentioned, Dr. Stewart's study is one of many studies that indicate that a lot of this is caused by exposure to radiation.

I guess the thing that really concerns me most -- or one of the things that concerns me most -- is that, in making this policy, the NRC, no environmental impact statement was made at all, or prepared. So, I guess what I'm saying is that no one knows exactly what the impact of releasing all this waste, this so-called low-level nuclear waste, into the environment will be. And I'm concerned that the DOE wants to take the so-called low-level wastes that fall under the BRC and dump it into the public, and expose the public to it.

I think it's really irresponsible, and I feel people have a right to choose not to be exposed to this kind of material. I hope that the DOE will choose not to release any of the materials that fall under the BRC policy. That's all.

THE MODERATOR: Thank you, Mr. Romano. The next speaker is Maria Massey.

MARIA MASSEY:

My name is Maria Massey. I live at Redacted - Privacy Act

Redacted - Privacy Act

The airport and Latty Avenue sites are located, in part, in the flood plain of Coldwater Creek, which flows into the Missouri River, upstream from where St. Louis City gets its drinking water. Man depends on water. Please think about water in making your decision.

We have a finite amount of water to drink. Please don't think that by treating it and dumping it into our water sources, that the radioactive contamination will be magically diluted. In reality, there's on earth a very small, finite, precious, and vulnerable water reserve.

Jacques Cousteau described our water sources this way: If the earth were reduced to the size of one egg, all the water there is would be reduced to the size of a droplet. The volume of all the water on the planet, including the ocean, is only one in 780 parts, compared with the volume of the earth. Now, in this total water system, salt water represents 97.4 percent and fresh water only 2.6 percent. Out of this 2.6 percent, the immense majority is in the polar icecaps, icebergs, glaciers, and the underground water table.

The soil moisture, the lakes, the rivers, the plants, the animals, and humans, and the atmosphere,

represent only .6 percent, which is only .016 percent. That's all there is for lakes, rivers, plants, animals, et cetera. That's all there is. Thank you.

THE MODERATOR: Thank you. Ms. Joan Wilder.

JOAN WILDER:

I am Joan Wilder, Redacted - Privacy Act Redacted - Privacy Act

I come to you tonight as a concerned citizen with plans to live in this area for the rest of my life. I'm specifically concerned about the proposed treatment and release of water from the Weldon Spring quarry and the four pits in the Weldon Spring Area, into the Missouri River.

From the experiences of Hanford Engineer Works in the state of Washington, scientists learned that the fish tissue contains a much higher concentration of radioactive materials than the river itself, indicating that living organisms concentrate those materials. And studies show that younger fish, because of their higher metabolic rates, accumulated even more radioactivity than adult fish did.

I find the parallel to the human population especially frightening for the children of our world. We also learned from Hanford about problems created when radioactive material settled on land, and when chemicals and such were

carried into the atmosphere and settled on the grass, which the cows ate, and produced milk, and then we drank their milk. The concentration of iodine in the body causes damage to the thyroid. And it can also cause -- other chemicals can cause damage to other organs in our body, as well. I have attached an article for the record regarding this, from the Natural History magazine.

I fear, that by dumping the waste from the Weldon Spring area into the Missouri river, which is the main source for drinking water for the St. Louis area -- I wouldn't think the city, but this also applies to the county and areas of St. Charles County -- we are dangerously increasing our exposure to radioactive chemicals which we cannot dilute in our bodies. Rather, those radio-nuclei accumulate in our body tissue. And I'm convinced that we've had enough exposure to these chemicals, through seepage into the groundwater, and through what is transmitted into the air and falls onto the crops that we then eat.

I would advocate, then, that the Department of Energy clean up the Weldon Spring area to the best of its ability. Specifically, the quarry and the pits where waste from Mallincrodt Chemical Company and Ordinance Works were dumped. Then I would like to see -- I would hope that they would store the waste in some type of sealed facility until -- and hopefully there will be -- a time when we can deal with

the waste and not have it exposed to our air and water.

I appreciate your time. Thank you.

THE MODERATOR: Thank you. We appreciate yours. The next speaker is Arlene Sandler.

ARLENE SANDLER:

My name is Arlene Sandler. I live at Redacted - Privacy Act Redacted - Privacy Act I'm a member of Coalition for the Environment, but I'm speaking as a concerned citizen tonight.

There's a new popular book out entitled "If You Haven't Got The Time To Do It Right, When Will You Find The Time To Do It Over?" Add the word "money" and this title reflects my feelings about the DOE's forthcoming remediation plan for some 3,600 nuclear-weapons-production sites around the country.

In the almost 50 years that the St. Louis metropolitan area has been burdened with nuclear-weapons waste, bandaid approaches to cleanup have made a complex problem even more complex. Because of the need to extract valuable recoverable ores, or equipment to increase production of processed uranium, or to decontaminate buildings and land, the St. Louis area wastes were moved at various times to or from locations in the City of St. Louis, north St. Louis County, St. Charles County, Fernald, Ohio, Canyon City, Colorado, Knoxville, Tennessee, and Niagara Falls, New York.

Each trip exposed workers and the general public to the dangers of radioactivity. Transport routes and transport vehicles became contaminated from contact with radioactive materials, creating even more waste problems. Sometimes waste was simply buried on-site. In 1973, for example, 233,000 pounds of ore containing 4,814 pounds of thorium were buried under Building 101 at the Mallincrodt plant in downtown St. Louis.

Today there are nuclear-weapons waste at the St. Louis Airport and adjacent properties, at Latty Avenue, Hazelwood and nearby transport routes, at West Lake landfill in Bridgeton, at the Mallincrodt plant at Broadway and Destrehan in the City of St. Louis, and at Weldon Spring in St. Charles County. Migrating contamination has been detected in the sediment of Coldwater Creek, in the wellfields that supply thousands of St. Charles area residents' drinking water, and in several lakes in the Busch Wildlife area. In 1988, the ballfields were closed to the public because of this contamination.

It's obvious we're faced with serious problems that need quick solutions. The area's remediation projects have been proposed but unfortunately have not been acted upon. Years ago, there was a tentative plan to truck contaminated material from Latty Avenue in Hazelwood to the St. Louis Airport site, pave the mound over with asphalt and

turn it into a driver-training course for local police departments.

In 1980, the DOE wanted to release what was then believed to be 20 million gallons of untreated radioactive water from the raffinate pits at Weldon Spring into the Missouri River -- untreated. We now know there are over 50 million gallons in the pits. The project was canceled because of pressure from the governor and congressmen. Also during the '80's, there was a proposal to consolidate radioactive waste from five states and store it at Weldon Spring. But public opposition prevented this from happening.

A recent proposal for cleaning up contaminated water in the raffinate pits at Weldon Spring ought to be prevented. Treated water would be released into the southwest drainage creek before being deposited into the Missouri River. This southeast drainage creeek is known to be very contaminated. It carried waters from chemical processes during weapons production. So-called clean water passing through the southeast drainage would obviously become re-contaminated.

Since final remediation is many years away, maintenance at nuclear-weapons-waste sites may be necessary at times, and would certainly be expensive. In 1985, severe erosion was discovered in Coldwater Creek at the western end of the Lambert Field storage site. To prevent the spread of

radioactivity during the spring rains, a plan that cost $385,000 was devised to stabilize the erosion. Workers with boots and gloves only, as protection, installed gavions -- wire enclosures with bundles of rocks -- along the creek bank. Over time, the gavions themselves will become contaminated and will become part of the waste-disposal problem.

I'm making a plea to the Department of Energy for an end to interim solutions. I'd like to see a firm commitment to the speedy effort to develop a comprehensive, sensible, and adequately-funded plan that will move the wastes only once, and that will use proven technology, and that will locate the wastes away from water and large population centers.

Each time radioactive waste is disturbed, contamination spreads through the air and water, or by contact. Each time radioactive waste is transported, the risks of spills and transportation accidents increases. Each time there is processing, the water and chemicals and equipment used become part of the waste stream, adding to the volume and the cost of cleanup.

If you don't find the time and the money to do it right, it may be too late to do it over. Thank you.

THE MODERATOR: Thank you. David Maconochie.

DAVID MACONOCHIE:

Good evening. I'm David Maconochie, from

Redacted - Privacy Act

I'd like to address two principal points; levels of radioactive contamination of the Mallincrodt Chemical Works, and the internal consistency -- or otherwise, the radiological chemical and hydrological characterization report for the St. Louis downtown site in St. Louis, Missouri. This was a survey which reviewed the current levels of radioactive contamination at the Chemical Works. In addition, I'd like to comment on the medical causes for concern, limited to the effects of uranium and radium. And finally, make some recommendations.

From a cursory glance through the tables of the report, I picked out three measurements of radioactive contamination. These are some of the highest measurements, but by no means atypical for this site. For example, a bore hole outside Building 20 yielded the following level of radium contamination. This is in table 6.4. It was 5,400 picocuries per gram. This measurement was taken from a sample at a depth of naught to naught point 5 feet. That's in the table. That is to say, it was on the surface.

Now, guidelines of surface contamination state they should be no more than 5 picocuries per gram in the first 15 centimeters of the soil. Furthermore, I quote from the report, "Every reasonable effort should be made to remove

any source of radium nuclei that exceed 30 times the appropriate soil limit, regardless of the average concentration of the soil."

In many cases, comparable levels of radium were found in levels up to 12 feet deep. In another example, Building 82 is described as having contaminated surface deposits. That is to say, dust, grime, and flaking paint, on walls, ceilings, and floors, with -- and again I quote, "Residual materials with radium nuclei concentrations well in excess of DOE guidelines."

The actual measurements of uranium-238 and radium-226 are given in table 6.10. For uranium, they range from 24 to 160 picocuries per gram, and for radium, they range from 3.5 to 5 picocuries per gram. Also in table 6.10, measurements of considerable contamination of uranium and radium were taken from Building 116. Uranium here was much higher, in the range of 8.9 to 13,000 picocuries per gram, and radium in the range of 1.6 to 560 picocuries per gram.

In addition, measurements of ionizing radiation levels for various surfaces in this room are given as an average of 19,000, with a maximum of 929,000 disintegrations per 100 centimeters square. The maximum allowable level is 300.

To indicate just how far these measurements exceed safe levels, I quote from the Washington University

Medical Center's guidelines for uses of radio-isotopes, "If there is a room of more than 100 picocuries of radium, a sign must be displayed saying "Caution, Radiation Area." This indicates that radiation can occur at a level of 5 millirems per hour or more. That measure is approximately equivalent to 2,000 microrads per hour.

But the report gives no authoritative indication of the magnitude of the radio-nuclei contamination, merely pointing that several alpha gamma measurements in these buildings -- that's Building 119 -- exceed the DOE guidelines. This is in contrast to the statement regarding Building 82 as having residual materials well in excess of DOE guidelines.

A more serious inconsistentcy is in the average level of radiation which is quoted for Building 116 as being 7 microrads per hour. Note that this represents a natural background. That's the level you'd have in this room, for example. And it's inconceivable, when you consider each gram of dirt in the building contains between 1.6 and 560 picocuries of radium, and each 100 picocuries of radium can give a dose of around 2,250 microrads per hour.

It's quite difficult to estimate exactly what sort of level of ionizing radiation to expect. But some estimates are being made in the U.S. geological survey, circular 814, which estimates the radiation level measurable at the surface of an exposed tailings pile containing 560 --

coincidentally -- picocuries per gram of radium-226. And it gives the figure of 1,340 microrads per hour.

These two estimates of radiation doses from radium sources and the survey's own measurement of surface radiation levels are greatly at odds with the description in the text of an average radiation exposure of 7 microrads per hour.

So, from just these few measurements, it is obvious that the impression given in the summary of the report is entirely misleading. I quote, "Although a few limited areas of radioactivity in soil were found to be several times the applicable DOE guidelines, there appeared to be no immediate health risk to workers at the facility."

Right now I come to medical consequences, "The health risks from uranium-238 and radium-226, as described in the National Research Council document --" that's otherwise known as BEIR-4, "-- both radium and uranium are toxic if taken internally either by ingestion or breathing. Radium-226 is deposited preferentially in bone, and is responsible for the bone sarcomas seen in watch-dial painters.

"The exact dose at which the risk of cancer becomes significant is a little difficult to define, but the indications are that the ingestion of 500 picocuries of radium per day will approximately double the risk of contracting a bone sarcoma. But all the models depicting the available data

show an expediential dose dependence." That is, the risk goes up much more quickly with increase in dose. "Uranium is also nephra-toxic. It poisons the kidneys. A fatal dose from this mode is around 50 to 100 milligrams. Bone sarcomas are also associated with the ingestion of radium. And the dose required is similar to the uranium dose, mainly 500 picocuries per day."

In addition, I would like to say that the true risk of disease from radioactive contamination isn't shown by these models entirely, but contamination isn't just one type. It's many types, and you have to add up all those risks. And I'd like to recommend that precautions should be taken by workers in a number of the buildings where the contamination is high. I believe that, at the moment, precautions are not being taken, and that the level of contamination and the degree to which the contamination should be removed should be assessed by an independent body.

And lastly, I'd like to recommend, in the processing of hazardous materials, whether or not they're radioactive, should be transferred away from the densely-populated areas. Thank you.

THE MODERATOR: Thank you. Our next speaker this evening is Tammy Shea.

TAMMY SHEA:

My name is Tammy Shea. I live at Redacted - Privacy Act

Redacted - Privacy Act . I'm about one mile away from Coldwater Creek and I do drink my water from a well.

I'd like to bring to this discussion the following issues; the risks of exposure, specific guidelines for what is considered clean, the, quote, "normal background" radiation for the St. Louis area, and what occurs naturally.

To start, the area of Hazelwood interim storage sites, the transportation routes used to get to these areas, and the vicinity of these, have all been tested and show high levels of contamination of uranium-238, radium-226, and thorium-230. The transportation routes include Hazelwood Boulevard, McDonnell Boulevard, Pershall Road, and Latty Avenue, with properties in the vicinity of Latty Avenue, and portions of Coldwater Creek and its vicinity properties.

Soil samples taken along the roadways of Hazelwood, Latty, and Pershall, indicate concentrations of contaminants above the stated guidelines of 5 picocuries per gram of soil for surface soil, and not more than 15 picocuries per gram below surface levels, which is 6 inches. These areas also indicate higher-than-normal gamma radiation levels with normal background levels occurring at 8 microrads per hour. Some levels have been indicated at 20 to 92 microrads per hour. And these are along the roadways of heavily-traveled roads.

Concentrations of thorium-230 at levels of

5,700 picocuries per gram were found in the Latty site number two, with uranium-238 levels as high as 100 picocuries, both taken at surface-soil levels. Along the railroad at the Latty site, high levels of uranium were found at 309 picocuries, radium at 1,100, and thorium at 26,000 picocuries per gram of soil, all at surface-soil levels.

On the Hazelwood Avenue, extremely contaminated soil samples show thorium at 4,800 picocuries. And on the west side of Hazelwood, across from a perishable-food-storage warehouse, samples show a level of 3,500 picocuries per gram of soil of thorium, a level that is 17,500 times above that which occurs in nature, and 700 times that which the DOE guidelines state is safe.

These elements of contamination have the potential of a long existence, the half-lives of these elements being in the thousands of years, conservatively. During the disintegration stages, the emission of radioactive particles pose a significant risk of exposure to individuals that may come in contact with the soil. And there's a definite risk of exposure if one were to inhale or ingest radioactive particles through dust circulation or ingestion of contaminated water.

I would like to interject here, too, that my husband works at a company that is located on Pershall, and for years has been complaining of the dust out there, which

doesn't make either of us sleep very well at night.

In a report by the Oak Ridge Laboratories, conducted for the Department of Energy, it is stated there is, quote, "No radiological hazard for external exposure, given the current use of the properties." I would assume that this statement refers to the fact that the properties in question are largely industrial and/or commercial uses, rather than neighborhoods or schools.

The report goes on to state that the guidelines were derived to, quote, "protect members of the general public, even if an individual built a house over the contamination, lived there for 50 years, grew all his own food, ate the meat from cows grazing in the area, drank milk from the cows, drank water from the contaminated area. Because none of these pathways of exposure applies to these properties, the contamination poses virtually no risk."

While it is true that the pathways of exposure may be limited for external exposure to an individual, the indirect exposure and long-term small doses do pose a significant hazard to those that work in the area or live nearby. The Hazelwood storage sites are located on what is called the Florissant Basin, which erodes easily, and has a poor load-bearing capacity. Coldwater Creek is the main receiving body for site runoff, and portions of the site lie in a 100-year flood plain. Our residential area is just east

of the sites in Hazelwood, less than one-half mile away.

Now, given these facts, and the existence of extremely high levels of radioactive contamination, a few questions come to mind: One, what are the true risks of exposure to the population? When considering the further contamination of groundwater, the run-off that finds its way to Coldwater Creek, and the contaminants, are they really confined to the storage sites? Two, if the DOE guidelines are applied to these sites, then the Hazelwood storage sites are far from being clean.

Are the locations of the sites compatible with the heavily-traveled roadways in the nearby residential areas, and the major commercial facility that handles food storage, as well as large manufacturing companies that employ thousands of people that must travel and work in these contaminated areas on a daily basis? It is known that the prolonged exposure of low-dose radiation can do more damage to some membranes than short flashes of intense doses.

Finally, I would like to state the objectives of this discussion: Number one, to see the areas of extreme radioactive contamination cleaned up, and these areas not be considered for additional waste storage. Number two, the cleanup should at least meet DOE guidelines, or meet levels of that which occur in nature. Three, in the best interest of the environment and the people who depend on it,

agreements should be reached to end the production of radioctive materials for nuclear weapons.

The problem of waste has not been dealt with in a responsible and effective manner. And until it is, I support the end of nuclear testing, an end to testing nuclear weapons at sea, and to cease funding for any weapons-production facility. And I'd also like to add, if we had this opportunity to discuss these issues 50 years ago, we might not be here today. Thank you.

THE MODERATOR: Thank you. The next speaker is Kathy Lewis.

KATHY LEWIS:

My name is Kathy Lewis. My address is Redacted - Privacy Act Redacted - Privacy Act My primary concern is with the airborne radioactive particulate material.

One of my concerns of the radioactive waste in the St. Louis community is the airborne dust of radioactive particles which may be released in the process of relocating the waste. It seems inevitable that each time radioactive waste is moved, contamination occurs through the suspension of surface dust by air currents. Both when radioactive dust particles are airborne as well as when they settle, they create pathways to the public and become a threat to the health of people, other animals, and the plant life of a community.

The airborne dust particles present a health hazard when they are inhaled. The risk of respiratory problems, cancer, birth defects, and immune-system disorders are increased. When the airborne dust eventually settles, it poses further health risks as it settles on the soil in the surface water or sediment of creeks such as Coldwater Creek, or our homes and offices, which is through the circulation of air which is pulled from outside.

When radioactive dust particles settle on the soil, they can be drawn up by edible plants, by dwelling in aquatic species such as fish, and children as well as adults as they work, garden, and play outdoors. After playing outside, children may eat food with soiled hands, and in other ways ingest and inhale significant amounts of radioactive dust particles. In gardening, when the earth is dug up and turned over, re-suspension of radioactive dust particles may occur.

Contaminated dust can also be ingested when office workers, students, teachers, and anyone for that matter, does something as simple as licking a pen after the dust has settled on it. And coffee cups -- there just seems to be so many different ways we can ingest the waste from the settling process.

In considering airborne radioactive dust particles, I feel that it is imperative that the air be monitored during the removal, transport, and relocation of the

radioactive waste so that the extent of exposure through inhalation can be estimated. I question the methods of transport of radioactive waste from one site to another, and would like to know the Department of Energy's proposed method of transport.

I would suggest that since the plan seems to be to consolidate the multiple sites of low-level radioactive waste in the St. Louis community to one large site, that that site be changed from the airport site to the Callaway nuclear plant where we have already created what will eventually become a nuclear wasteland. And create a monument that will be a reminder to present and future generations of the threat and longevity of nuclear waste. Thank you.

THE MODERATOR: Thank you very much. Mary Ross.

MARY ROSS:

Good evening, and thank you, the Department of Energy for finally coming to St. Louis. We appreciate your presence. I am Mary Ross, whom you've heard mentioned earlier today.

We, the City of St. Louis, had a vote on August 6th, with 81 percent of the people in the City of St. Louis who went to the polls requested the Department of Energy clean up all sites concerned. It has been earlier mentioned that the Mallincrodt site has been estimated that there are 17

contaminated buildings there. People continue to work in some. However, some areas have been roped off.

The decision to produce nuclear-weapons waste is exclusively the federal government. The responsibility to clean up waste from that production is also federal. The responsibility to see that a safe solution is chosen rests with all of us. The federal government brought uranium and thorium into the city of St. Louis to be processed for nuclear weapons purposes, from 1942 to 1957.

We believe that the federal government is the only party responsible for legal and moral -- digging up and removing this waste. It is also the only party responsible financially, and technically capable of doing so in a safe and expeditious manner. It was the federal government, the war department, that took over the 21-acre airport site in 1946 through condemnation proceedings for the storage of residue materials.

It was the federal government that directed the Mallincrodt Chemical Works, as its contractor, to store the materials there. The site was initially under the jurisdiction of the Army Manhattan's engineer district. And then, its successor agency, the United States Atomic Energy Commission.

Throughout the remainder of the dumping program process, which continued through 1957 and until 1973,

where the City of St. Louis assumed ownership of the land, even after the City took title to the land, however, the AEC maintained control of the earth more than 12 inches below the surface. That is, below the clean fill dirt the City had added.

According to a provision of the articles and deed, paragraph 7, subparagraph P, "In the years of the nation's nuclear weapons program, as the federal government terminated its contracts, the contractor sites were to be decontaminated according to Health Department regulations. However, it was found later that no cleanup had been done. As a matter of fact, the contamination had spread."

As a result, the Department of Energy came to us in 1987 requesting 21.7 acres to build a radioactive bunker out of whatever kind of material -- which we were never told -- that would contain radioactive material for 4.5 billion years. We were unable to grant you that wish, simply because we knew, at the time, that you had not cleaned up -- looked at all of the sites.

At the time, the Board of Aldermen passed a resolution requesting the DOE to do another study. I was the sponsor of that resolution. The Department of Energy subsequently went away, and came back 14 months later and declared that they needed 60 more acres. Subsequent to that, we had adopted a committee report, of which I'd like to leave

a copy with you. And I'm sure you have about 50 of them.

We subsequently introduced a resolution asking for the Department of Energy to please clean up all of the waste sites -- the Mallincrodt site in particular, which is right downtown St. Louis, the SLAPS site, the Weldon Spring site, the Hazelwood site, to no avail. We literally then went to the Board of Aldermen and asked the Board to adopt this report. They adopted it in 1988, July.

In February of 1989, the Board of Aldermen passed legislature granting 82 acres to the DOE to build a radioactive bunker. We subsequently went to the petition route. We circulated petitions to overrule that ordinance, and subsequently had to go to court because it had an emergency clause attached. Again, I was a sponsor of the legislation to get it on the ballot.

The ballot strongly spoke that the City of St. Louis, as well as the county, wanted the Department of Energy to encourage the federal government, through its powers -- and you are a powerful organization, or sometimes you're called a bureaucracy -- to encourage our congressmen and state senators, and United States congressmen, to remove. Not only remove the toxic hazardous waste, but appropriate the necessary funds.

Enclosed in this document is a letter that the Department of Energy specifically stated that, "If we

cannot dispose of the waste in a manner satisfactory to the City of St. Louis, we will return to the Missouri congressional delegation." At the time we negotiated with the Department of Energy in City Hall, my first question was: You cannot build the bunker considering all the waste that you have in the City of St. Louis, and the county, on a 21.7 acres. When did you intend to return to the Missouri congressional delegation?

I was told at the time, you do not intend to do so. That is an unfortunate decision made by the Department of Energy, considering the life and health and safety of the people that we should be concerned with at this time.

May I just say this to you in leaving: Your consideration in helping us, the citizens of St. Louis, and the people in the St. Louis County, helping us find a way by which to get all radioactive material moved out of urban areas into a non-urban area -- similar to what you did in Salt Lake City. It is my understanding that with all parties concerned, you removed, from Salt Lake City, 80 miles away, radioactive materials similar to the one that we have here. And you did it at no cost.

The City of St. Louis passed the legislature simply because they thought they were going to be responsible for the cleanup. I would say to you today, we are

not responsible for building bombs, nor can we be responsible for cleaning up the waste thereafter.

Your consideration in this matter, should you move towards our Missouri congressional delegation, will be greatly appreciated and graciously accepted. Thank you.

THE MODERATOR: Thank you. Our next speaker will be Anna Ginsberg.

ANNA GINSBERG:

My name is Anna Ginsberg. I live at Redacted - Privacy Act Redacted - Privacy Act, which is unfortunately not represented by Alderman Mary Ross.

I want to start out by asking the Department of Energy to get rid of your brochure and display that contains the radiation quiz. I know this request was made of you at the hearing in South Carolina. I think it's designed to minimize the problem, and to give us a false sense of security.

Having said that, I want to move on to some fundamentals. I'd like to request that the Department of Energy stop making nuclear weapons. We have 12,000 nuclear weapons aimed at the Soviet Union. This is the country that Dick Gephardt told us we should be giving aid to in yesterday's Post-Dispatch.

The polls show that at least 70 percent of the American people support bilateral nuclear disarmament as

long as it happens by both the U.S. and the U.S.S.R. The Soviets are ready to stop nuclear testing, they're ready to stop making nuclear weapons materials. It's time that we followed suit.

I know that the focus of this hearing is the environmental issues. I'd like to address those for a minute. It's my understanding that we don't know how to clean up the radioactive waste that we have made. The wastes in St. Louis are the oldest wastes in the country, and they're still here. The best that we can do is to move them to a place where hopefully they won't get out into the environment, and where there are as few people as possible to impact it.

And it's not just St. Louis. It's Rocky Flats, it's Fernald, it's Savannah River, it's Hanford, all of which have been closed down because of the environmental contamination. The bottom line for me is that it's unacceptable for us to be creating national sacrifice zones to build weapons that we don't need.

So I'm asking you again, the Department of Energy, to stop making nuclear weapons. And please include, in the environmental statement -- please address this issue in the Environmental Impact Statement. Thank you.

THE MODERATOR: Thank you. Next is Bill Ramsey.

BILL RAMSEY:

My name is Bill Ramsey, and I'm the program facilitator for the American Friends' Service Committee here in St. Louis. The American Friends' Service Committee is a Quaker organization which has initiated citizen-action projects to research and challenge the detrimental effects of nuclear-weapons production.

As a pacifist organization, the AFSC has always opposed the production, stockpiling, and use of nuclear weapons. However, beginning in 1975, with a project out of our Denver office to research the community impact of the Rocky Flats nuclear facility, we began to understand that nuclear weapons were not only a potential threat to all human life, but that the routine testing and production of nuclear weapons, in fact, harmed life daily, and still harms life daily.

From 1978 to 1980, I worked out of our office in the southeast region on research and citizens-action projects related to the Oak Ridge facility, the Y-12 facility in Tennessee, the Savannah River plant in South Carolina, and the Penellis plant in Florida. In 1978, we initiated a nuclear-cargo-transportation project out of our offices in the southeast.

In brief, I can say that in each of these plants, we discovered evidence of, and community concern over, the safety of workers in the plant, the environmental impact

of the plants, the health effects of the plants on the residents in the communities, and concern over the dangers posed by the transportation of nuclear materials and wastes between the plants. Citizen groups have continued to work in those communities, and I'm sure that they will be presenting you with the results of their research and their concerns as you hold hearings in their cities.

Now I live in St. Louis, which has been a storage site of nuclear-weapons waste for over 40 years. The federal government never consulted the people of St. Louis before storing waste here. Perhaps if citizens of St. Louis had been advised that the waste would be stored here, there would have been public discussion and public debate early on in the nuclear-weapons program.

Would the people of this city, or this country, have consented to the testing, production, and deployment, of nuclear weapons if we had known in the 1940's what we know now? The workers in the plants, and the residents of those communities were told that the risks were all acceptable. But the risks were accepted for them by the government, a government determined to build nuclear weapons no matter what the costs. And now we're only beginning to understand the consequences of those risks that our government took upon our behalf.

The American Friends' Service Committee

sees no easy solutions to the cleanup, and to making the communities safe again, those communities that were damaged by the nuclear arms race. However, we believe it is the responsibility of the U.S. government, which has spent hundreds of billions of dollars building thousands of nuclear weapons over the last four decades, to provide the funds necessary to clean up our communities and to store the waste safely.

We face difficult questions about what to do with nuclear waste, and how to clean up in the aftermath of the production of thousands of nuclear weapons. But there is one immediate action which we can take to ensure that 40 years from now citizens of this country are not still dealing with these same questions. We should take advantage of the end of the cold war and agree with the Soviets to halt production, deployment, and testing of nuclear weapons. We should take the money saved by this action and use it clean up our communities, to solve the nuclear-waste disposal problem, and meet the long-neglected needs of our community. Thank you.

THE MODERATOR: Thank you. Larry Felknor.

LARRY FELKNOR:

Good evening, and thank you for letting me speak to you this evening.

I'm a practicing dentist who works on a daily basis with dental x-rays. We take inordinate

precautions to protect ourselves and our patients from radiation damage. I have developed a healthy respect for x-ray radiation, primarily because of those precautions. Now I find myself speaking at a hearing in order to respectfully request that the precautions I take for granted in my dental office be granted to my fellow citizens who live and work here in St. Louis.

It just doesn't make any sense to me why any individual or government agency would ever consider locating a radioactive waste bunker in a highly-populated area. If there is anything that reasonable people can agree upon, it is that. We have always known since before Hiroshima that radioactive materials are a health hazard.

In my profession, we deal solely with ionizing radiation. This fall, the BEIR Commission, which stands for the Biological Effects of Ionizing Radiation, published a report based on current research. It indicates that we have long overestimated the radioactive damage due to alpha and beta particles, a solid, visible radioactive material, and underestimated the effects of the non-particulate materials such as gamma rays and x-rays. This new information has forced my profession to establish even more stringent standards.

So I plea for plain common sense. Ionizing radiation is invisible, insidious, and even more hazardous

than we ever suspected. The French -- so I have heard -- put their waste in glass, and then concrete, and then into mines deep into the earth. Let's find some isolated spot far away from St. Louis, and far away from any small, or large, city or town. St. Louis citizens deserve at least that much. Thank you.

THE MODERATOR: Thank you, sir. Ms. Kay Drey.

KAY DREY:

My name is Kay Drey. My address is Redacted - Privacy Act

Redacted - Privacy Act

I would like to make a few brief comments before I begin to read my prepared testimony. I have been present throughout the hearing today, and I think the record should be corrected in the following respect: At the recess before the dinner recess, I spoke with the gentleman who testified that he, quote, "worked in uranium for 20 years," unquote, and that he is 80 years old and suffering no ill health effects.

In fact, however, he indicated to me when I asked him, that during his employment as a security official for the United States Atomic Energy Commission, he had worked in an office setting in which he actually had only insignificant exposure to uranium. That is, he did not work in a plant surrounded by uranium dust. Therefore, I do not

believe that any conclusion with respect to possible health effects from his employment is warranted.

And another comment: To reiterate what Bridgeton Council member Peggy Meyer said earlier this evening, I would like to urge you to add the nuclear-weapons waste at the West Lake landfill in Bridgeton to the waste you are committed to cleaning up. These wastes were also generated at Mallincrodt Chemical Works downtown, were initially dumped at the airport site, and then illegally dumped at the West Lake landfill.

And finally, in these few brief comments, I would also like to request the Department of Energy to evaluate the radioactive waste that has accumulated at the Hematite uranium-fuel-fabrication plant in Jefferson County, about 30 miles south of here. Mallincrodt built the Hematite plant in 1956, and it has been operating ever since, for 44 years. Would you please find out whether or not the fuel that was fabricated in the first 10 years of the plant's operation was used for nuclear-weapons purposes? And if so, would you please add these wastes to those you are mandated to remediate?

And now, for my prepared testimony: On December 2nd, 1942, 48 years ago this past Sunday, scientists celebrated the beginning of the atomic age below Stagg Field at the University of Chicago. To quote a plaque that used to

be attached to Building 51 downtown at the Mallincrodt Chemical Works, quote, "In this building was refined all the uranium used in the world's first self-sustaining nuclear reaction." End quote. The building is still there, and in use. The plaque is not.

On July 16, 1945, the world's first atomic bomb was exploded in New Mexico, followed three weeks later by the bombs dropped on Hiroshima and Nagasaki. The first submarine powered by a nuclear reactor was launched in 1954. And in 1957, America's first Atoms For Peace began generating electricity for the public at Shippingport, Pennsylvania. And in the meantime, radioactive waste from all of those successful experiments have been stockpiled.

The brilliant scientists who carried us into the nuclear age 48 years ago were never asked if they could get us out. Nuclear-weapons- and nuclear-power proponents like to say that radioactive wastes are no problem. The technology exists, they say, to store the wastes safely. It's just a political problem, they say. However, according to the documents and reports I've been studying, I cannot agree. Apparently, a technology has not been found that can keep these wastes away from human beings and other living things for the necessary tens, thousands, even millions of years that they will remain poisonous.

And even if the technology were to be

found, the political choices are, indeed, all unacceptable. There is no safe technology, there is no safe location. Just as people have rebelled against the construction of new hazardous-waste dumps throughout the United States, and even against sanitary-waste landfills, most people also do not want radioactive wastes near their hometown, their county, or even their state.

Landfills have been shown to leak, clay-capped bunkers, and even concrete structures can crack. Transportation accidents occur throughout the nation. And the health risks from exposure to radiation, even to low-levels of radiation, are increasingly undeniable.

I have been studying nuclear power and radioactive-waste issues for 16 years as a concerned citizen. The introduction I have just read is almost the same as the introduction I wrote for testimony before a Missouri committee in Jefferson City in October of 1983, 7 years ago. Scientists still do not know how to neutralize radioactive waste.

Citizens still do not want it near their homes or on their roads. And yet, our federal government, our Congress, our Nuclear Regulatory Commission, and you, our Department of Energy, continue to allow naturally-radioactive uranium and thorium to be mined up from the depths of the earth, and to be brought into our biosphere. And to continue to allow even more treacherously-dangerous man-made -- I

repeat, man-made -- fission and other products to be created at nuclear-bomb factories and at nuclear-power facilities.

In fact, our federal government continues to encourage and subsidize the mining and milling of these substances, and to promote the creation of lethal, radioactive isotopes and elements in the name of national security. And I might add, in the name of supposedly cheaper electricity.

As my testimony this evening, I had wanted merely to read one of the wonderful stories written by the Dane Hans Christian Anderson, the "Emperor's New Clothes." As you may remember, the Emperor's weavers said that anyone who could not see their magic cloth was either a fool or unfit for his job. To me, the cloth is like the solution to the radioactive waste problem that we've been promised for 48 years. I believe the Hans Anderson tale is the anthem of this national series of 23 hearings.

It is appropriate that you should be holding one of the first hearings here in St. Louis. At the Mallincrodt Chemical Works, if scientists had not agreed in April of 1942, to take on the dangerous, difficult challenge of discovering how to purify uranium in tonnage quantities, maybe there never would have been an atom bomb or an atomic age.

I believe St. Louis is, indeed, entitled the dubious distinction of harboring the oldest radioactive

waste of the atomic age. Your Department of Energy contractors currently estimate that we have at least two-and-a-half million yards of radioactive waste here in metropolitan St. Louis that resulted from the first 25 years of the atomic age. Two-and-a-half-million cubic yards, and no one knows what to do with the first cupful.

As any child might comment when a naked Emperor parades by, there is no safe solution to radioactive waste in sight. I urge our Congress and our scientists and our silent physicians to observe the first half-century of the atomic age in 1992 by declaring a moritorium on the creation of more atomic waste until we figure out how, or even if, we can protect our planet from the messes we already have. Good luck.

THE MODERATOR: Thank you, Ms. Ross. John Brill.

JOHN BRILL:

My name is John Brill. I live at Redacted - Privacy Act

Redacted - Privacy Act . I'm speaking on behalf of the Organization for Black Struggle, which is at P.O. Box 5277, St. Louis, Missouri, 63115. And obviously, as a concerned citizen myself.

I see this as a combination of a global and a local issue. We, of course, here, are concerned in St. Louis. I'm also concerned about the issue at the global

level. I think the priorities of the PEIS five-year plan should be, first of all, to clean up the waste that is now constantly polluting our environment, with the least amount of harm possible during that cleanup, as soon as possible. Because accidents will happen. And if we leave it sitting around in places such as near the airport, there will be accidents.

Second priority, I think, should be to stop production as quickly as possible on nuclear energy and weaponry until some means of either managing radioactive waste, or cleanly producing nuclear power without waste, is found. And thirdly, I think we should seriously research and pursue alternative energy methods, sources such as bio-mass energy, or solar energy, water power, geothermal power, et cetera.

One goal of the PEIS five-year plan as proposed is to clean up the environment at DOE sites by the year 2019. That's 29 years from now. It will not take that long to clean it up. It doesn't take 29 years to clean up these sites. I think one of the major points is that it could be quicker than that. That should be as short as possible.

Another important goal should be to push much more strongly for public awareness and participation. This is stated as a goal in the PEIS plan presently, but there were no front-page articles in St. Louis newspapers, or any

major stories on the TV or radio news, even though this is probably the most important issue of our time.

The plan must also emphasize, as I said before, alternatives to nuclear energy, increasing R and D efforts in renewable resources. And must be simplified as much as possible. It should focus on four to six major issues, as opposed to having -- I was looking at the plan last night and in each of the major areas it has about 10 or 12 goals. I think it should be simplified if it's going to be a large national plan.

I do commend the release of the health records of workers who were, and will be, in close contact with radioactive material. I also commend the change of policy from one of attempted secrecy to one of openness, which is stated that way in the PEIS. This must be upheld though. It's easy to say, but very difficult to do it. I think that what is considered safe nuclear levels should be defined more precisely, more accurately, in terms of how much danger each level can do over various periods of time of exposure.

Finally, I would like to conclude by stating again the importance of, first, stopping production of radioactive material altogether. Secondly, the cleanup must begin as soon as can be safely done. Bring waste to centralized locations, in strategic areas of already-high concentrations of radiation, where there are minimum numbers

of people nearby.

Finally, research and development of alternative energy sources must be stepped up immediately. We're not playing games here. We're determining our own, and our children's, future. I would like to add a note to the people who are writing this PEIS to consider, while preparing the PEIS, what you would want if you lived nearby a radioactive dump.

THE MODERATOR: Thank you. Gilda Evans.

Redacted - Privacy Act:

Hi, I'm Redacted - Privacy Act. I live at Redacted - Privacy Act Redacted - Privacy Act. This is Redacted - Privacy Act

Redacted - Privacy Act: Hi.

Redacted - Privacy Act: He's got to break the ice. Okay. I live on Cancer Alley. I live within a half-block from the Latty plant, the ballfield is probably a block from me, and the airport is right there. So I'm related to all the radiation areas right around me. Within a half-a-block, we have 13 cases of cancer. My son is one, I'm another one, if my father-in-law could be here, he would be here. He passed away in June with two types of cancer. Then I was diagnosed with my cancer.

Redacted - Privacy Act has a type of leukemia that has been caused by, as they say, his doctor, radiation. His cancer has been airborne. They also said -- when I was

pregnant, I used to walk five miles a night at Hazelwood Avenue, Pershall Road, which is contaminated, which I did not know this. And this, they said that Matthew, being Downs-Syndrome, could have triggered his deformity.

Okay. A couple of meetings I went to a while back, there was a question brought to me, and I had it brought to me here when I was walking in the door: Why don't I move? Okay. My answer in rely to them is: When you buy a house, you buy a house. When you go and buy a home, that's your home. Your going to live there for years. You didn't expect to have cancer and all these pesky little things to happen. This is my home.

Who would buy my house? Who would give my husband and I, or any of our neighbors -- which I have a neighbor that lives right on Hazelwood Avenue that tried to sell his land. Hazelwood said, No way. Nobody is going to buy nowhere around us. We're known as Cancer Alley. The thing of it is, I would reply to them, Would they buy my house? Would they pay my husband and I what we have put into our house? And grant me that they would live there and see if none of their children, grandchildren, whatever, would come down with cancer.

Then, at another meeting, there was a statement made where they felt it was so safe that they would put it in their backyard. My husband has said -- he has a

truck, we have a bunch of friends that have trucks -- we would be willing to load all of this soil and take it to anybody's backyard, front yard, wherever. If it's that safe, let them have it, let their children play with it, let them breathe it, let them find out -- (Applause) -- let them find out if their children get cancer.

The cancer [Redacted - Privacy Act] has will come back. He has AML, which is a leukemia of blood and bones, which an adult person cannot handle the chemo. My son was on three years of chemo -- hard chemo. I had to take off work -- which I have a good work that works with me -- two to three times a week. For two-and-a-half to three years I had to do this in order to save my son's life. And I have to pray that it don't come back, which the doctor says the cancer he has will come back. So I have to hope and pray that it's years from now.

Okay. One of my things, people say, Why do I have a garden? I have to tell you what: I have the biggest tomatoes, and I don't have to do nothing to my garden. Everybody says, Does it glow? No, it don't glow, but I have nice, juicy, big vegetables, and I do nothing to my garden. Nothing.

I planted some mums two weeks ago. One week they turned purple. The next week, this week now, they're brown. So my husband is trying to find out why did they do that -- because these were white mums. What are we

breathing? If these mums are turning brown, that's telling us -- what are we breathing? What is this soil?

If it is going to be cleaned up, it should be cleaned up where all those poor persons that had to haul that stuff, innocent men that had to load all that contamination stuff -- which, if there was a survey done, probably almost all them drivers are probably not even here, or probably have some kind of cancer, some kind of breathing -- something is probably physically wrong with them today, because of hauling that, knowing that "It's not going to hurt you." "It's not going to hurt you."

Every route them trucks took, make sure that that contamination can be sealed. Which, at another meeting, a man come up, he had his facts together, and he said it cannot be sealed. There is no container that can actually seal that. So it's going to seep out.

All these people that let their children play in Coldwater Creek, it's contaminated. They let their children play in there. Well, when their children come up with cancer, well, "I didn't know." "I didn't know." Then we're going to worry about it then. That should all be cleaned up.

We drink the water. It's scary. It really is scary. I go day-to-day wondering how long am I going to be here? How long are any of us going to be here with that stuff

there? It should be sealed and put somewhere where there's no living animals even, because why should even an animal have to suffer? And be sealed good enough, and signs posted. It should be sealed, signs put up, and have it all tested. Have the places where it's moved tested.

The people that move it, make sure they've got safe equipment on them. The people that live where all this is being moved should be told when it's going to be moved, and be evacuated until it is moved. This is my feeling. Because, if it gets stirred up, like somebody mentioned, if they stir it up, it's gonna get in the air again.

Am I gonna get another type of cancer? Is my son gonna get another type of cancer? Is my other son gonna get cancer? I don't want no more cancer. I'm fed up to here with all the cancer. That's why -- I love my home. I'm fighting for my home. I'm not giving up my home. I want it moved. I thank you.

THE MODERATOR: Thank you. Judy Medoff.

JUDY MEDOFF:

Hi. I'm Judy Medoff. I'm a professor of biology at St. Louis University. However, I'm here as a concerned citizen and a member of the Coalition for the Environment.

I feel silly standing up here and saying

what I was going to say after that previous testimony. I think it's clear the people of St. Louis are very frightened of all the nuclear waste and hazardous material in our midst. It will have to be removed for us to feel safe, and to feel like we can enjoy our city and the place that we live.

Basically, I wanted to discuss the issue of the cleanup at Weldon Spring, the pits, and the plan to dump the material into the Missouri River. I've been involved in that issue for a while, and I went to the site of Weldon Spring and examined the plant life at the effluent site with another colleague of mine. We looked to see whether there was enough material for assaying on a regular basis, once the cleaned-up Weldon Spring material was dumped into the Missouri River.

We did find a large amount of plant material that could go assayed routinely at maybe two times a year, which we would like to suggest is done, if you go ahead with the plan to dump the cleaned-up waste into the river, which is the source, of course, of our drinking water. The material that is supposed to be dumped into the river is supposed to be free of any contamination. It's supposed to be clean.

However, as a scientist, I would like to say that one of the things that constantly amazes me is how little we know about the interactions between organic

compounds and interactions between material that we treat. And we think there will be absolutely no problem once we treat it. There are reports every day of new information that is discovered, things that we thought were perfectly safe which turn out not to be safe.

And I would like to suggest that if the water is dumped into the river, that the appropriate effluent be assayed to be sure there is no accumulation -- no bio-accumulation. That issue was discussed by many other people here. However, my proposal is one that I had heard earlier. Someone else suggested this, and I feel most comfortable with this idea. I, of course, think the site has to be cleaned up.

However, I would suggest that the water that is cleaned up, and tested as cleaned, be stored rather than dumped into our drinking-water supply. As I said, I really think there are many things that we don't know about nuclear materials, about the other organic, toxic wastes that they're dumping in there. I would feel much safer if that material were stored -- especially the highly-contaminated material that we're going to clean up rather than dumping it into the river.

If that's at all possible, if there's any way to contain it, and efforts at being cleaned up, I think that would be the safest thing to do with it, rather than to

put it into our water supply, and possibly have some effects that we're simply unaware of at this time. I would like to submit this report.

THE MODERATOR: Thank you. Audrae Stevens.

AUDRAE STEVENS:

My name is Audrae Stevens. I live at 9110 Pueblo Drive in St. Louis County. I've lived in the St. Louis area all my life, which was before the first A-bomb.

My freshman class was the last one to be welcomed to Washington University by the then Chancellor Arthur Compton, Nobel-Prize laureate, physicist who had worked on the Manhattan Project. Dr. and Mrs. Compton's warm reception to in-coming freshman, with a warm handshake, into their home, helped me realize that scientists the world over are flesh-and-blood people just like the rest of us.

My main point I suppose is that when people are looking at numbers and setting, quote, "acceptable risk levels," they should also remember that those numbers are individuals with families such as we've seen here this evening. Dr. Compton's influence at Washington University helped stress the need for the utmost caution in any use of radioactive materials. And a very high regard for the potentials they have to damage us, our health, and more importantly, our genetic legacy.

Professionally, for two decades I was part

of the diagnostic team evaluating thousands of children with hearing, language, and intellectual disabilities. We describe them in numerical terms for threshold-levels that categorize them, but they were not statistics -- not to their families, their teachers, their caretakers, or their community. And in considering cost-analyses, figure the cost for caring for someone who is never going to be able to be a self-sufficient individual. Include that in the cost factors of any cleanups.

In most instances, we were unable to determine the cause of the deficiencies in these children. Many we were, especially those that had lead poisoning, and especially now, when you're looking back over it. And the threshold-levels that were safe for children to have blood levels in their system, have now been decided, "Well, somebody made a mistake. That does cause permanent neurological damage."

Medicos indices, for 20 years now, has had a subject heading, "Abnormalities, Radiation Induced." I won't go through very many of them, but in February, 1990, a metabolism study determined that prenatal, low-dose gamma radiation during the critical periods of gestation induces malformation of offspring. Early, during the inner-ear development, it causes hearing loss, sensitizes the system, and creates premature aging.

And one of the main things we have to

determine is how safe is safe? Since Madame Curie's discoveries, what has been considered acceptable threshold safety have constantly been changing, due to illnesses and deaths that were later proved to have been caused by the exposures that were more dangerous than previously believed.

In April, 1990, a Swedish study evaluated radiation risks and concluded, quote, "There is no totally harmless level." Since efforts to manage the waste and mitigate impacts will take decades, from one of your quotes, it is paramount that a continuing review of technological advances for monitoring and cleanup abilities, and bio-medical research as to the effects of radiation, be constantly monitored to use in continuing re-assessment as we learn more of the potential impact on health.

Professor Ruth Macklin, professor of bio-ethics at Albert Einstein College of Medicine in New York, a medical ethicist in a discussion of fetal ethics concluded, "That we are morally obligated to do everything possible so that the fetus will develop into a normal, healthy child."

Thank you. I would like to submit my written letter later, with expanded comments.

THE MODERATOR: Sure. Thank you. Mark Stroker.

MARK STROKER:

Good evening, and thank you for coming to

St. Louis. My name is Mark Stroker and I'm here on behalf of Congressman-elect Joan Kelly Horne. Joan can't be here this evening because she's attending a conference at Harvard University for new members of the House.

I would like to let you know that the environmental bunker in Hazelwood, north of the airport, is an issue in this campaign, and its removal will be a top priority for Joan, as a member of Congress. She looks forward to working with you. Speaking personally, as a resident of Hazelwood, and as one of those kids that used to play in Coldwater Creek, I can tell you that it certainly should be a priority for the Department of Energy as well.

And again, we look forward to working with you, as does Congresswoman Joan Horne. Thank you for your time.

THE MODERATOR: Thank you, Mark. William Powers.

WILLIAM POWERS:

I am William Powers, City Manager of the City of Berkeley. I live at 9017 Harold, Berkeley.

The citizens of Berkeley, Missouri want this material removed. We do not want it encapsulated, and we don't want additional material at this site. This radioactive waste is a product that was generated not by the Berkeley residents, or the St. Louis residents, or any of the people in

this immediate area. This material was not generated at this site either. The federal government produced this material, and only the federal government has the resources to remove and relocate this material.

It was stated earlier that the City of Berkeley ballfields, this was our major ballfield-recreational area. We had several softball leagues there. These are no longer in existence. The City of Berkeley's land mass is built out. We don't have vast acreages left to develop new ballfields in. We would like to see this area cleaned up and returned back to a recreational facility for the citizens of that area.

The lastest concern brought to the citizens of the St. Louis area by Dr. Browning's forecast indicate that we are in an earthquake-prone area. We do have several flood plains along there. We have several alluvial plains, and one of the results of an earthquake of any real magnitude can generate what is called liquifaction, where the soil and water mix.

If this site were to be retained here, or added to, the potential for the erosion into Coldwater Creek and spreading of the contamination into the major waterways of this state are of concern, and should be considered by the Department of Energy. The citizens have been impacted, not to a degree that some of the residents have in that area, but

from the loss of their recreational standpoint, this is an area that I hear continual requests for. When are we going to build new ballfields? We don't have the land area for the new ballfields.

Therefore, our only hope for that type of continued recreation in this area would be the relocation by the Department of Energy report recommending that this area be cleaned up and restored back to use for the populace. Thank you.

THE MODERATOR: Thank you, sir. Our next speaker is Myra Mullins.

MYRA MULLINS:

My name is Myra Mullins, and I'm with ACORN, on the Board of Directors. ACORN is the Association of Community Organizations for Reform Now. We are a grassroots, activist organization for low-to-moderate income people.

We devised The People's Platform in July, and one of the Platform's planks is on the environment, among many others that we have. It also contains a preamble. If I have time after reading the plank on environment, I'll read that.

The effects of irresponsible environment policies are felt most directly by low-and-moderate income people who also live near government and industrial waste sites. These communities suffer high rates of birth defects,

cancer, and other diseases. ACORN says stop the poisoning of our neighborhoods, number one, by establishing procedures to ensure that government and industry cleanup of 30,000 existing hazardous waste sites, of which they are responsible, in the United States. And that accident sites are monitored by community-based boards.

Require producers of toxic wastes to sign binding agreements with community groups and local governments to reduce or eliminate the toxic wastes they put in our air, water, food, and soil. Hold major shareholders responsible for the actions of polluting corporations. Establish a system of heavy fines for waste-disposal companies that break the law, and bar repeat offenders from doing business. Establish community control over setting safety standards. Permit and approval of emergency evacuation plans.

ACORN also feels we should have a reform and expand the right-to-know. Make the right-to-know the legislation that establishes the public's right to be informed about hazard chemicals used and released in local communities more accessible to the public by using community-based organizations as clearing houses.

Require that the presence of hazardous waste in a community be announced by periodic flyers. Make public the routes of all hazardous-materials transport. Include the government and the military on their right-to-know

restrictions and stipulations, in order to allow the residents of communities near such government and military installations to act on dangers imposed on their health and safety by hazardous waste.

I would like to read portions of our preamble so you might understand some of the things we are about. "We stand for a people's platform as old as our country and as young as our dreams. We come before our nation not to petition with head-in-hand, but to rise as one people in the end. We have waited and watched, we have hoped and helped, we have sweated and suffered, we have often believed, we have frequently followed.

"But we have nothing to show for the work of our hands, the tasks of our labor. Our patience has been abused, our experiences misused. Our silence has been seen as support, our stuggle has been ignored. Enough is enough. We will wait no longer for the crumbs at America's door. We will not be meek, but mighty. We will not starve on past promises, but feast on future dreams.

"We are an uncommon common people. We are the majority forged from all minorities. We are the masses of many, not the forces of few. We will continue our fight until the American way is just one way, until we have shared the wealth, until we have won our freedom. This is not a simple vision, but a detailed plan. Our plan is to build an American

reality from the American rhetoric, to deliver a piece of the present and a piece of the future to every man, to every woman, to every family.

"We demand our birthright, the chance to be rich, the right to be free. Our riches shall be the blooming of our communities, the bounty of assured livelihood, the greeting of homes with families, with sickness driven from the door. The benefit of our taxes, not their burden, and the best of our energies, land, and natural resources for all people. Our freedom shall be based on the authority of the many, not the income of the few.

"Our freedom is the force of democracy, not the federal fat of personal profit. And our freedom, only the people shall rule. Corporations shall have their roles producing jobs and providing products and taxes. No more, no less. They shall obey our wishes, respond to our needs, serve our communities. Our country shall be the citizen's wealth, our wealth shall build our country. Government shall have its role, public servants to our good. Fast forward to our sure steps, no more no less.

"Our government shall shout with a public voice, and no longer jump to a private whisper. And our government shall be a collective cause. We present a People's Platform, not a politician's promises. We demand the changes outlined in our platform and plan. We will work to win, we

will have our birthright. We will live in richness and freedom, we will live in one country as one people. We will dream of more, we will not settle for less."

We at ACORN are putting the Department of Energy on notice that they must take this waste and dispose of it properly within one year, within the next year. The people of St. Louis will stand for nothing less. Thank you.

THE MODERATOR: This is an appropriate time to let you know where we stand in terms of speakers. I also remind you that the written word is as powerful as the spoken word. And if you have written comments that you would like to submit, they will be given equal consideration. These may be submitted by February 19th. Ms. Braxton.

BARBARA BRAXTON:

Good evening. I'm Barbara Braxton. And I'm also a member of ACORN. We're located at 1425 Tower Grove, St. Louis, Missouri, 63110.

ACORN has 3,500 low-to-moderate income families, making us one of the largest citizen groups in St. Louis. We're also concerned when we believe that a safe and pollutant-free environment is the right of every man, woman, and child. St. Louis is knowing the history of the atomic age and its waste for a long time. The corporate America and the government has acted irresponsibly, as in the act of this

waste matter.

St. Louis has been victimized by the corporate America and the government's insensitivity to our need of a safe environment for the last twenty years. It appears the government has let the nuclear waste pollute our environment in the most negligent manner possible. Little children have played in the waste as it was being transported to its present site. And I'm talking about at the airport. It is improperly contained there. In addition, it is leaking into our groundwater, polluting land and air.

However, the Department of Energy must clean our city. We will not sit by quietly anymore and watch as the various branches of government trample on the rights of people. They have been hesitating, prevaricating, lying, and just plain wasting time. Therefore, it would be much easier if the government would do their job and clean up this waste and stop wasting our tax dollars. We're getting pretty tired of it.

It looks as if you're running out of land to bury this waste. Why not put it in Nevada somewhere? In closing, I just want to say the opportunity for me to speak here tonight, that it is time for the Department of Energy to settle down, do its job, and live up to its mission to protect its citizens. Thank you.

THE MODERATOR: Thank you. The next

speaker will be Vera Falk.

VERA FALK, for VIRGINIA HARRIS:

I am speaking for Virginia Harris. I live at Redacted - Privacy Act .

I would only say that the testimony of the young woman and her son spoke very vividly to why this waste should be moved to a non-urban area. I also understood that there were some conferences with local officials of agencies before this meeting, and I called two of them today. One was the Corps of Engineers. And their main concern -- I don't mean to be speaking for them -- but as I understood, their main concern was the cost factor.

I wondered if the health risk, economic cost factor of that had been considered. The other agency -- I wonder if any of those people are here tonight to hear some of this testimony. The only thing that either of them said, that they were only taking orders from the Department of Energy, not to disturb the ground in Coldwater Creek below where the waste material is formed.

With your permission, I would like to read Virginia Harris' statement. She was not able to stay.

"Since the first production of nuclear fuel in St. Louis 48 years ago, a million cubic yards of radioactive waste has accumulated on the St. Louis site at the Missouri River, while an equal amount has accumulated on the

St. Charles side of the river. During this entire time, representatives of the United States Government, including the Department of Energy, have tried to downplay the dangers associated with these radioactive materials.

"The citizens of this country have had to do their own private research in order to discover the truth about the dangers of radioactive materials. As the citizens slowly discovered the truth, government agencies have had to publicly revise their estimates of disease caused by various levels of radiation. However, these changes in estimates have come very slowly, and it would appear, begrudgingly. Most importantly, these changes have come long after the fact, after a great deal of damage has already been done.

"Therefore, I am asking on behalf of myself, my family, my friends, and future generations, that the Department of Energy immediately stop generating nuclear weapons fuel, and immediately reallocate its budget toward the cleanup of the waste that it has already produced, beginning with the oldest wastes which are in the St. Louis area.

"I understand that the DOE still does not know exactly where, or how, to dispose of the waste that it has already produced. This is another good reason to immediately stop producing more waste. Additionally, given the number of nuclear weapons that each side in the cold war has stockpiled, there is no reason to produce more. Since

these weapons can be tested by testing the triggers, not the fuel, there is no need to produce fuel for replacement weapons. And the nuclear-testing program should, therefore, also be terminated immediately.

"Finally, with the ending of the cold war, there is no reason to continue to produce fuel for new, quote, "improved" weapons. If you are in a quandary as to what to do with the St. Louis and St. Charles waste, until you can figure out and implement a longer-term solution, no solution is, quote, "permanent," since human institutions and geologic formations do not outlive radioactive half-lives.

"I suggest you store the wastes, as safely as possible, at the Callaway nuclear power plant. This is the nearest atomic power plant. It is located some distance from heavily-populated areas. It contains a large amount of land, and it continues to generate nuclear wastes itself. Until a longer-term solution is ready for implementation, perhaps the same solution can be applied to the nuclear-power-plant waste as to the nuclear-weapons waste.

"I appreciate the opportunity to testify at this hearing. Thank you, Virginia Harris." Thank you.

THE MODERATOR: Thank you very much. Next speaker is Debra Wilson.

DEBRA WILSON:

My name is Debra Wilson. I live at Redacted - Privacy Act

Redacted - Privacy Act

Last spring, I worked as a petitioner in St. Louis City collecting signatures against building a radioactive waste bunker near our airport. I worked in both north and south St. Louis, and found that the overwhelming majority of citizens I talked to were against the Department of Energy building this bunker, and eager to sign a petition stating that view.

While working on the petition during last spring's election, at a south St. Louis polling place, I had a memorable encounter with one of St. Louis City's aldermen. He was rude and overbearing, both to me and to citizens wanting to sign my petition. His obvious tactic was to use the old clique, "might makes right." Thrusting his finger in my face, he shouted, "I don't want this stuff in my backyard, and you don't want it in yours, and it's got to go someplace."

Well, of course, for the most part, the backyards that would be exposed to the radioactive weapons waste stored at this proposed bunker did not belong to the powerful alderman who voted in favor of this bunker, and not to people who have the extensive time, money, and resident lawyers it takes to fight such a proposal. Instead, this dangerous weapons waste will end up in the backyards of hard-working people who are fighting enough battles just trying to see that their families survive from day-to-day.

It has been my experience in working with the Department of Energy that their message to the citizens is that power equates with righteousness. And they are powerful. But as usual, the Department of Energy has completely overlooked the rights of the people living near the proposed radioactive weapons-waste-storage site.

For those of us who are searching for some hint of justice at this hearing, I would like to tell you that the first name on my petition that day last spring belonged to that alderman's wife. It must be true that there's always cause for hope. Thank you.

THE MODERATOR: It's about that time of evening where we need comments like that. Thank you. The next speaker will be Jean Ruggeri.

JEAN RUGGERI:

My name is Jean Ruggeri. I live at Redacted - Privacy Act

Redacted - Privacy Act I am an organizer of a group called CARE, Citizens Against a Radioactive Environment. Tonight, I come to you as a concerned parent of one child, and a teacher of elementary children.

I recently read an article about lead poisoning in St. Louis and how it can cause brain damage. I felt myself getting really angry when I asked myself this question: What in the world do we think this kind of

contamination does to the minds of our children? I could give you lots of my suggestions, but I only have five minutes.

By the time we prove what it does with a study, there will be irreparable damage. Even one mind is a terrible thing to waste, in my opinion. In fact, I think it is a crime, especially when it could be prevented.

I live in Northe County near the Coldwater Creek that flows just a few feet away from the two major piles of toxic waste. I became involved in this issue last year when I read about the St. Louis City Board of Aldermen going to, quote, "Turn over the land to the Department of Energy to build the permanent dump."

I came tonight to protest, and to express my disapproval of that plan. And I speak on behalf of thousands of people who, though they're not here tonight, signed petitions, informal petitions, against that plan. These petitions were presented to Congressman Jack Beakner who took them to Washington, to hopefully present, or introduce legislation, against that proposal.

I read that tonight's meeting was to focus on the overall policy of the DOE and not the specific area of St. Louis, in what to do about this serious problem of waste. I urge this Department to use all the common sense you have among you to see that a permanent waste dump in the middle of a suburban neighborhood is not the right thing do.

You just don't need to waste anymore money, and especially time, trying to decide the feasibility of a dump at the airport. Please redirect your energies to a non-urban site. When I was collecting signatures to fight this plan, the very few people who did disagree with me, referred to the phrase, "not in my backyard." I agree. I don't think it should be in anybody's backyard. Not where people live, work, or where children play.

St. Louis, especially Northe County, has already had their turn at hosting this dump for nearly 40 years, when it wasn't in a so-called protective bunker. I just don't think we should be stuck with it permanently. Thank you.

THE MODERATOR: Thank you, ma'am. Dan Reed.

DAN REED:

Good evening. My name is Dan Reed. I live at Redacted - Privacy Act

I came here originally not to speak but just to listen, but I felt compelled to say something. I am a degree chemist, I've had graduate work in toxicology and hazardous waste management. And for the last 13 years, on a day-to-day basis I've handled radioactive material. I handle medical pharmaceuticals that are used for diagnosing and therapeutic use. Nothing like the bomb-grade uranium that

seems to be buried all throughout St. Louis.

The reason I came up here was to say that I don't condemn anybody in the past for what they did. They spoke to the best knowledge they had. Unfortunately, the best knowledge we have today may be a travesty 20 years from now. We cannot place large quantities of radioactive material -- any type of radioactive material -- in a high-density, populated area.

I first became involved with this situation in a sideline. I belong to a group called the Bridgeton Air Defense. We're trying to stop the airport expansion. And of course, when the bunker ended up right near our airport, was cause for us to split off some of our people and our efforts to stop the bunker from being built. I also am a NIMBY, I guess you'd say, "not in my backyard." And I, too, joined some of the people here in the petition drives in the cold spring.

When people say "not in my backyard" to me, I say, "Well, if it's not in your backyard, it'll be in your drinking water tomorrow." Nothing is perfect. My course works in hazardous waste management tell me that there's no way to absolutely solve this problem. The best thing you can do is eliminate all the variables. One of the variables that I see is the high density of population where you want the bunker to be built.

I don't even want to say that Callaway County is too far away from population areas, to put such a hazardous-waste bunker as we're talking about tonight. The moon would probably be best. But please listen to all of us. I think we're speaking in different voices, but have one common element: We don't want this in the St. Louis area. Most of us don't even want it in Missouri. Most of us don't want it on the earth. Thank you very much.

THE MODERATOR: Thank you. The next speaker will be Mr. Ted Hoskins.

TED HOSKINS:

Good evening. My name is Ted Hoskins. My address is Redacted - Privacy Act. I'm here representing the City of Berkeley as a councilman. But before I make my statement, I'd like to say something, because this about my fourth or fifth time coming to a public hearing in reference to the area.

The area of Berkeley has the SLAPS site, and also it has the BAC. Adjacent to that is Latty Avenue. What is my major concern, as an elected official, and what has occurred with the DOE, is, no matter what the people say, they have already made up their mind. I don't know if the public hearing tonight is to support where you're going to build the site, or are you gathering information?

Taking the people's position, for what was echoed on November 6th of this year, overwhelmingly -- 80-plus

percent in the city, and 85-plus percent in the county, indicating that in a populated area such as the metropolitan area of St. Louis -- it is not sound judgment, politically, economically, health-wise, to build this type of bunker in this particular area.

I take the position that, if the people speak, that all of the rhetoric and all the processes that you go through, you eliminate. Not one month ago, we were not aware of the position of the residents of this metropolitan area. I've been, as I indicated earlier, to four or five of these public hearings where the DOE took the position that the residents have not spoken. The residents did not come out to the public hearings.

Well, November the 6th, the residents spoke very loud and clear. Hopefully, you understood the residents. If we, and I'm talking about the residents, cannot come together with DOE and just come to one solution of the original charge of the DOE, and that original charge was to build this bunker on 21.7 acres, we all come to the agreement that that cannot be done.

And I suggest to you tonight, you go back to the Congress and get a different charge, and that charge would be to remove all the radioactive waste in our area to an unpopulated area. Thank you.

THE MODERATOR: Thank you, sir. Mollie

Rickey.

MOLLIE RICKEY:

Good evening. I'm sure you're tired. My name is Mollie Rickey, Redacted - Privacy Act . I'm a member of the City Council of Hazelwood. In fact, most of the council is still in Houston at the National League of Cities. I just got in this afternoon.

I don't have a prepared statement. I represent the City Council with a plea. That plea is to please remove the radioactive waste to a non-urban area. I live two blocks from Ms. Evans and Matthew. I know where of she speaks. It's a sad situation on Nyflot, two blocks from where I live. There are some situations in the area that I live.

It's hard to believe that we are permitting the amount of radioactive waste to remain on the streets. The truck routes, I think it's termed in your reports. Just a few weeks ago, there was an article in the Post-Dispatch giving the amounts of radioactive wastes at the various locations, at the airport, Latty Avenue, and Mallincrodt.

And they added a fourth one. And that fourth were the streets and the roadways where the trucks had gone to bring out the radioactive wastes to the locations in Hazelwood, and the airport. And how it was dropped along the way. It remains there, and that's why there is an urgency to

get this moved, and get it moved to a non-urban area.

And I am representing the Hazelwood City Council tonight to ask you to try to expedite this, to try to get it moved on an urgent basis, before more tragedies occur. That's our plea, and we hope you can do it. Thank you very much.

THE MODERATOR: Thank you. Mira Tanna.

MIRA TANNA:

My name is Mira Tanna. I live at Redacted - Privacy Act

Redacted - Privacy Act

The people who have spoken here tonight have been very informed about the specific disposal sites, and the health risks which this poses to the population due to the contamination of the water supply and as background radiation. I'm also concerned about the possibility of having this waste site in our backyard.

But what also concerns me, and concerns me more, is the broader policy which creates this waste. I respect the Department of Energy for consulting concerned citizens when it wants to get rid of its waste, but I am concerned that the citizens aren't consulted when this waste is created. We must remember that nuclear-weapons production creates this waste, and nobody wants this waste in their backyard, not in St. Louis, Missouri, and not anywhere else in the United States.

Everyone who has spoken here tonight has shown their opposition to this nuclear-waste site. I think it's important for nuclear waste to be kept away from heavily-populated areas. I also think it's important to keep the waste away from places where people cannot speak out against it, which happens when waste is shipped to third-world countries.

If we cannot figure out what to do with the waste we have already generated, how can we justify creating more? How can we justify the fact that some of our brightest scientists are being paid to research new weapons of destruction and not being paid to research new ways to get rid of the nuclear waste they have created?

As a student, I feel I have an obligation to speak here tonight. It is my generation which is inheriting the nuclear waste. I feel obligated to try and stop further production of nuclear weapons. Not only because of ethical considerations, but also because of the great environmental and health risks for the people of America.

I hope that you will consider the well-being of future generations when you consider how to dispose of nuclear waste. Thank you.

THE MODERATOR: Thank you. Ed Mahr, Jr.

ED MAHR, JR.:

I am Ed Mahr, Jr., Redacted - Privacy Act '.

You gentlemen, of course, are not responsible for all the problems that we've heard hear this evening, and a lot of people have done a very good job explaining what's going on. I agree with just about everything that was said. And we realize it's been going on 40 years, and, basically, the money is not available to solve the problems, even if we all wanted to. I mean, we've got politicians to worry about to allocate the money. And that's not your Department, I don't believe.

I knew a teacher, an inventor by the name of Buckminster Fuller. He was responsible for the geodesic dome, Epcot Center. His life was one struggle against not having money to do good. He said he figured out it was his job to be ready for when the politicians got the money together for the project. So I'm going to sort of put this to you, that you might consider this approach when you're dealing with this problem. You probably don't have the money now, or not as much as you want, and you're going to have to rely upon other people.

But when you do the research, you can save 5, 10 years -- literally, 5 to 10 years. That would be worth a lot to the people who are out here suffering, and so forth. Now, the way I see it, this waste can be shot to the moon -- which you may like, I don't know -- it can be put on top of the ground where it is, it can be moved somewhere else -- down

to Callaway, which I like -- but I also like moving it to an area that is already contaminated, such as the deserts where they test all these bombs, Yucca Flats, Nevada, wherever. It could go to any of these places.

I'm sure there's going to be a committee to decide what's going to be done sometime in the future. You're not really at that point where you're ready to move everything within a year, as was stated. You're not ready to do that right away. But if you have some basic research done, and if this is a logical assumption of mine, then I repeat, you can save 5 to 10 years for everybody.

And that is, that, to my way of thinking, a large part of the final decision is going to be based upon the movement of the waste. If it's going to stay in one place and be subject to earthquakes, moonquakes, or whatever, there's nothing you can do about that. But the one thing you want to do, as everybody seems to agree, is that we don't want to contaminant the groundwater. Groundwater is more precious when you consider freshwater versus salt water.

It seems to be more precious in the ground. We can afford to get rid of some of the ground -- in fact, some of it's already contaminated forever. So we can just write that off. But groundwater is what's important. So, if you've ever seen the SLAPS site, or the Latty Avenue site, they were spare pieces of ground that was there and was

available. Nobody else wanted to build on them. Why? Because it was right along beside of this creek.

I worked out at McDonnell-Douglas. I have seen this SLAPS site in high water. The entire area under the airport, more or less, is drained by Coldwater Creek. It comes out in great big tubes, so to speak, 30, 40 feet in diameter. And it goes right by the site. And that's the consequence: When it rains, this thing fills up and fills the parking lot of McDonnell-Douglas with water. It may be clean water, but nevertheless, water.

It's cut back 30 or 40 feet of the bank, and so they had to put the gavions on, the baskets with rocks. Even that's not acceptable. A little farther way down the creek there's the Latty Avenue site, and that's only one lap away, maybe about 50 feet away, and that also floods. Groundwater is going to be important.

So what you do, in my opinion, is get this study underway that maps the topography in Missouri, maps high groundwater in some places, and low groundwater in others, underground rivers in some places, and probably no water in Arizona, or Nevada, or Utah, or places like that. Because, ultimately, whether you put this on top of the ground, or below the ground, move it around, you don't want the water running through it, because that spreads it all around and then we're right back to where we were, spreading it all

around again.

Whatever you do is not going to be perfect. But the groundwater will be your determining factor, and that you can do ahead of time. Because the politicians, they won't realize that you'll be the ones to have already made that decision. So, what I'm saying, make some charts, grafts, hydrology surveys of areas that you think are a presumably sensible course. You've made your studies about underground storage, salt domes, and oil wells, I hope, and all that -- and all these are good. But you can gain 5 or 10 years by doing these water studies. Thank you.

THE MODERATOR: Thank you, sir. Ann Wedemeyer.

ANN WEDEMEYER:

Good evening. My name is Ann Wedemeyer. I am a senior at John Burroughs High School, and president of the Environmental Awareness Committee. We are a group of about 60 people, the majority of us are between the grades of 7th through 9th, 12 to 14 years of age. We are working about 7 hours a week per person to clean up several environmental issues, one of them being radiation in St. Louis and other parts of the United States.

I didn't come here to do a speech, but I felt the need to, once I started thinking about it and realized that it's odd how a 12-year-old seems to have more

foresight than a 45-year-old man I know. And I'm not here to shake a finger at the bureaucrats.

I'm just here to ask you for your help, not to hand down this problem to us, so we don't have to hand it down to our children. Thank you.

THE MODERATOR: Thank you. Our next speaker is Chris Neill.

CHRIS NEILL:

My name is Chris Neill, Redacted - Privacy Act Redacted - Privacy Act .

I came here, as well, to listen this evening. I'm not a learned specialist in nuclear physics, or nuclear chemistry, but I'm just a concerned citizen, and I feel that right now, from the news that I've received, and from my own knowledge, that we presently have enough nuclear weapons to blow up the world. And apparently, we have enough nuclear waste to outlast the entire human population.

And, if I could, I'd just like to leave you with a famous Indian quote. And that is that we did not inherit this land from our forefathers, but we are borrowing it from our children, and our children's children. Thank you.

THE MODERATOR: I believe we have heard from everyone who has signed up and was here to speak. I think I speak for the officials from the Department of Energy that we want to thank you very

much for your time in coming here today, and the effort that you have taken to put together your testimony, which I'm sure will be very useful, and we know will be considered by the Department as it puts together its Programmatic Environmental Impact Statement.

I personally want to thank all of you, there were nearly 100 of you, 97, who spoke, thank you for following the procedures and time limitations that were in effect.

Again, thank you, and perhaps the Department will see you at further public meetings on this issue. Thank you very much, and drive safely.

(Whereupon, this was the conclusion of the meeting.)

REPORTER'S CERTIFICATE

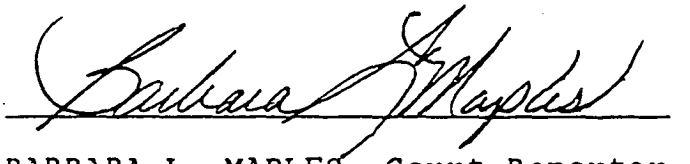
STATE OF TENNESSEE:

COUNTY OF KNOX:

I, BARBARA L. MAPLES, Court Reporter and Notary Public at Large, do hereby certify that I reported in machine shorthand the foregoing proceedings in the above entitled cause, the Department of Energy's Public Scoping Meeting, St. Louis, Missouri, that the foregoing pages, numbered from one to two hundred and sixty-three inclusive, were typed by me and constitute a true record of the foregoing proceedings.

I further certify that I am not an attorney or counsel of any of the parties, nor a relative or employee of any attorney or counsel connected with the action, and not financially interested in the action.

Witness my hand and seal this 15th day of December, 1990.



BARBARA L. MAPLES, Court Reporter
and Notary Public at Large

My Commission Expires 11-19-91.