Transcript of KMYR series on The Public Affair:
"The Great Nuclear Power Debate, Part 1"

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Albuquerque Museum, gift of Zane Blaney

This radio program is a five-part series featuring the New Mexico Citizens for Clean Air and Water. Catherine Montague with the 1975 Policy Statement and general rap.
Keywords and topics: nuclear power, nuclear reactors, energy, energy crisis, coal power plants, solar power, New Mexico Citizens for Clean Air and Water

[Comic short audio, men's voices:

Okay, we're rolling on nuclear power spot, take twenty-three.

Good Afternoon, Evening, and, uh, Morning. This is Walt Walter for nuclear power plants. Sure, an accident at a nuclear power plant could kill thousands of people, but don't worry. The people who run nuclear power plants never make mistakes. Perfection is our watchman, and watchword. And our technology, like all technology, always works perfectly.

[speeds up sound]

But don't worry.]

ZANE BLANEY: On *The Public Affair*, a nuclear power position paper for New Mexico.

[00:36]

MAN'S VOICE: What assurance can you give us that these plants will continue to be operated safely?

J. ERNEST WILKINS: Any plant, no matter what it is, can be operated unsafely [sound slowed down] if the human beings operating it are not…

[explosion]

BLANEY: On *The Public Affair*, a nuclear position paper for New Mexico.

[01:10]

ZANE BLANEY: This week, *The Public Affair* concerns itself with the question of nuclear power and the recent position paper released by the state board of the New Mexico Citizens for Clean Air and Water. Catherine Montague is co-chairperson of the Albuquerque chapter of this state-wide organization.

CATHERINE MONTAGUE: New Mexico sometimes calls itself the Atomic Capital of the World. The first atomic bomb was constructed in New Mexico and in 1945 that first bomb was exploded at Trinity Site near White Sands, New Mexico. In spite of our state's heavy emphasis on the military aspects of nuclear energy, the development of civilian nuclear reactor technology has lagged a bit in our state. We don't have any nuclear power plants operating in this state now. Unless you count a handful of miniature research reactors located in Albuquerque and at Los Alamos. However, there are more than thirty nuclear power plants operating across the United States today. More than fifty large nuclear power plants have been licensed for constructed. They're mostly located in the northeastern United States and in the Middle West. There is one nuclear plant operating in Colorado. That's as close as New Mexico has gotten so far to nuclear power. But nuclear power is coming to New Mexico soon. The Public Service Company of New Mexico, which is the electric utility serving most of our state, has announced plans to purchase a part-interest in a nuclear power plant to be built near Phoenix. And a different company has announced plans to construct a nuclear power plant near Tularosa. The purpose of the Tularosa reactor would be to produce electricity and to desalinate water. In addition, a Texas utility company has announced plans to place a nuclear reactor near the New Mexico border in the Texas panhandle.

So, nuclear power is coming to New Mexico very soon and all the questions that are raised by nuclear power must now be answered to the satisfaction of the people of New Mexico.

MAN'S VOICE: You're looking at America's worst pollution problem. What's that? You say you can't see anything? Of course, you can't, this is radio. But that's okay, you couldn't see it anyway. America's worst pollution problem is the radioactive waste that comes out of nuclear power plants. It's not all brown and smoggy like most pollution, but it's much more dangerous.

MONTAGUE: For example, the common radioactive waste product, Plutonium 239, remains dangerously radioactive for two-hundred-forty-thousand years. A quarter of a million years. These wastes must be kept segregated from all living things throughout that long, long time period. That's why federal authorities are drilling in the ground near Carlsbad, to see if all the nation's nuclear waste should be shipped to New Mexico and placed in underground salt beds for safe-keeping. Critics of nuclear power are asking hard questions about this waste disposal plan. By the end of this century, when we have perhaps a thousand nuclear reactors operating throughout the United States, this would mean a continual flow of traffic day and night carrying thousands of shipments of nuclear waste each week from sites all across the country to New Mexico, where the waste would be collected and stored in the ground. What happens if there's an accident during transportation? The Carlsbad area needs an economic boost, so when Congressman Harold Runnels first heard about this plan, he announced that he was proud to

say that New Mexico was going to become the nuclear waste disposal capital of the world. Runnels said he'd heard that the people of Kansas had voted not to allow the atomic dump to be built in their state. "But", said Runnels, "New Mexico is going to be patriotic about this, and accept the atomic waste dump." Actually, it's too early to tell yet whether the site near Carlsbad is even appropriate for an atomic waste storage facility. That's why they're drilling holes now to see if the underground geology is suitable for nuclear waste disposal over very long periods of time.

As the work on this project at Carlsbad progresses, public interest advocates in New Mexico will see to it than an environmental impact statement is prepared before the project is begun. The purpose of an impact statement is to describe the project and answer all the questions that have been raised about the proposed atomic waste dump. There's a citizens group watch-dogging the federal government's plan for the dump. This group is New Mexico Citizens for Clean Air and Water. They have chapters of their organization active in Albuquerque, Santa Fe, Española, Alamogordo, and Los Alamos, among others. The organization has considered the questions raised by nuclear power and during the rest of this week on KMYR, we'll be exploring some of these other questions such as: how safe are the nuclear power plants themselves? Is the electricity produced by nuclear power plants cheaper than the electricity generated by other means? Is nuclear power the best solution to the energy crisis? With the turmoil that exists today, how can we guarantee the protection of anything for a quarter of a million years?

MAN'S VOICE: So, the next time your local utility tells you that nuclear power is safe and clean, just remember: what you can't see can hurt you.

WOMAN'S VOICE: Produced by Public Media Center for Friends of the Earth, San Francisco.

MONTAGUE: And this is Catherine Montague on KMYR.

[06:50]

BLANEY: One of the key concerns in the atomic power debate is over safety. Again, Catherine Montague, co-chairperson of the Albuquerque chapter of New Mexico Citizens for Clean Air and Water:

MONTAGUE: When you're talking about nuclear power, the first question that comes up is this one: are nuclear power plants safe? First, we should point out that nuclear power plants cannot explode like nuclear bombs, so that is not a danger. But there are other dangers that are associated with nuclear power plants. There can be various kinds of accidents in which radioactive material might escape into the atmosphere. One of the main safety features of a nuclear power plant is called the emergency core cooling system. The emergency core cooling system is a safety backup in case the inside of the nuclear reactor gets too hot, the emergency core cooling system is supposed to come into play, lowering the temperature and preventing a major accident. For three years now, a vigorous debate has been going on within the scientific

community. The issue is whether the emergency core cooling system will work as designed. There has never been a full scale test of one of these cooling systems, but in six computer model tests of the system, the system failed all six times. Furthermore, recently, a fire occurred in a nuclear reactor on the east coast and the emergency core cooling system was supposed to come into play to fight the fire. The system failed to operate. Luckily, other measures were taken and although, the reactor itself suffered major damage, there was no leak of radioactivity into the atmosphere. Will we be as lucky next time? With fewer than fifty reactors operating, the chances of a really major accident may seem remote. Official AEC [Atomic Energy Commission] people have continually stressed the unlikelihood of a major accident, but by the end of this century when the nation has more than a thousand reactors operating, even an unlikely accident becomes less and less hard to imagine. Even if the chances of a major accident were one in a million, which is close to what the AEC itself says, many critics of nuclear power are still asking whether the chance of a catastrophe happening is worth taking at all.

A recently released AEC study of reactor safety, the so-called Rasmussen Report, estimated that a major accident in even a small nuclear power plant might kill six or seven thousand people, and cause property damage of several billion dollars. Critics of nuclear power plants point out that the Rasmussen Report was describing an accident at a power plant which would be very small by modern standards. Compared to the reactors Rasmussen was describing, a modern nuclear power plant is ten times larger. Who can estimate accurately what the damage would be if the Indian Point Nuclear Plant, a reactor now operating twenty-four miles from the heart of New York City, had a major accident? If a cloud of highly radioactive gases were to float downwind to New York City, contaminating real estate and killing thousands of people as it went, the costs could be extremely high. Proponents of nuclear power admit that this kind of scenario is actually possible, but they insist that the chance of it happening are very small.

Critics respond by saying that they don't care how low the chances are, they can't understand building such a machine at all, since the only benefits you get from it are electricity. Critics point out that there are numerous other ways to generate electricity, the main one being the nation's immense coal supplies, which are sufficient to last for two hundred years, at least. Coal burning can be cleaned up and coal-burning power plants could replace nuclear plants. Coal burning and coal mining are destructive technologies in themselves, but it has been demonstrated that they can be cleaned up. And under no circumstances does coal technology present the possibility of killing many thousands of people and contaminating billions upon billions of dollars worth of property. Nuclear power is safe unless something goes wrong and then it's not safe at all.

We started out with the question: is nuclear power safe? And the best answer we can come up with is this one: nuclear power is safe unless something goes wrong. This is an unlikely possibility, but if it happens, it will be unforgettable.

[Comic short audio, men's voices:

Okay, we're rolling on nuclear power spot, take twenty-three.

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[sound speeds up, wind]

But don't worry.

Produced by Public Media Center for Friends of the Earth, San Francisco.]

MONTAGUE: And this is Catherine Montague on KMYR.

[12:06]

BLANEY: Catherine Montague continues her discussion of nuclear power in a New Mexico position paper from the Citizens for Clean Air and Water.

MONTAGUE: When we spoke yesterday about nuclear safety, we only discussed one aspect of the problem. The chances of a major accident at a nuclear reactor itself. But there's another side of the story worth considering. This is sabotage. You undoubtedly read in the local papers recently that terrorists in France had exploded a bomb at the construction site of a nuclear power plant. This was a gentle reminder of the damage that could be wrought by a bomb strategically placed inside or near an operating nuclear power plant. The backers of nuclear power insist that no ordinary bomb could burst a nuclear reactor because they are designed to withstand such a tax. The AEC has said that even a kamikaze-style attack by a lunatic hijacking a 707 would not burst a nuclear reactor's shell. But this is mostly bluff on the AEC's part. A military rocket or, indeed, a hijacked airliner with just a small load of TNT on board, easily could exceed the structural strength of a reactor vessel. It's very clear to military authorities that nuclear power plants are impossible to protect against sabotage from the air, unless they are placed underground. Dr. Edward Teller has published the opinion that nuclear power plants ought to be placed underground to protect them against these lunatic hijacking airplanes for kamikaze-style attacks. Unfortunately, there are problems associated with placing the plants underground and the AEC has so far never built a plant underground and has no published plans for doing so. This leaves up to a thousand nuclear reactors being planned for sites above ground. Each one holds within its concrete and steel shell as much radioactivity as is contained in one thousand nuclear weapons of the kind we dropped on Hiroshima. Each nuclear power plant is therefore a plausible target of saboteurs. In time of war, each nuclear reactor site would become a potential target for attack from the air because a hit could spread radioactivity over thousands of square miles downwind.

Unfortunately, this doesn't exhaust the possibilities for sabotage associated with nuclear power plants. Nuclear fuels and nuclear wastes both present possibilities for someone to steal enough radioactive stuff to make their own homemade atomic bomb. Dr. Theodore Taylor, one of the best known scientists from Los Alamos Scientific Laboratory, has been speaking and writing recently about how easy it would be to make your own atomic bomb. All the necessary secrets have been published by the government already, Dr. Taylor and others say, and it's just a matter of time before blackmailers of any persuasion put together an atomic bomb and threaten to blow up Wall Street in New York or Capitol Hill in Washington [Washington, D.C.]. Once again, the chances of these things happening are, today, very small, but by the end of this century when we have one thousand nuclear power plants operating inside the United States, and when thirty foreign countries have nuclear plants of their own, the availability of nuclear materials for purposes of sabotage will be a major worry. These things should be a major worry today, before it's too late.

WOMAN'S VOICE: More coffee dear?

MAN'S VOICE: Oh, thank you.

[explosion]

Hmm, what was that?

WOMAN'S VOICE: Oh, just some more atomic bombs going off. You get used to it after a while.

MAN'S VOICE: I imagine so. You know, I recall the good old days, before everyone and his sister started making atomic bombs.

WOMAN'S VOICE: Yes. Before they started building those nuclear power plants, when only governments could make bombs. Things sure were peaceful in those days, compared to now anyway.

MAN'S VOICE: Oh, yes they were. And then nuclear power plants came along and made it all so easy, simply everyone started doing it. Well, first it was only the terrorists and the crazies, but then everyone wanted to have one to protect themselves.

[explosion]

MONTAGUE: And this is Catherine Montague on KMYR.

[16:30]

BLANEY: The economics of the atom is the subject of today's discussion by Catherine Montague, co-chairperson of the Albuquerque chapter of New Mexico Citizens for Clean Air and Water.

MONTAGUE: After World War II, the world was haunted by the horrors of Hiroshima. In 1956, President Eisenhower started telling the nation how cheap nuclear power was going to be. That was when the nation got itself committed to the so-called Citizen Atom Program, a peaceful use of the atom. Today, after twenty years of heavily subsidized nuclear reactor development, have we finally achieved low-cost electricity? The answer, unfortunately, is no. Nuclear power plants are not able, after twenty years of intensive effort, to cut the cost of electricity at all. The reasons are fairly simple. Nuclear power plants haven't produced cheap electricity because nuclear power plants themselves must be heavily subsidized by fossil-fuel burning plants. After all, it takes a tremendous amount of energy to mine the uranium in New Mexico, then to ship the uranium to the Middle West someplace for processing, then to ship the uranium to the reactor site in Massachusetts or Vermont. When you're all done taking the energy produced by a nuclear power plant, and subtracting the energy that had to be provided by coal or oil in order to make the nuclear power, you only come up with a very small percentage of net energy benefits. The small net energy benefits from nuclear power are offset against the very high dollar costs of producing nuclear power plants, which are very expensive technology. And the result is this: nuclear power plants do not make electricity cheaper than coal-burning power plants. Coal-burning plants could even be cleaned up to acceptable levels without pricing themselves out of competition.

Nuclear power is an inherently expensive technology because it is extremely complicated and fraught with hazards. Safety measures alone are a major expense throughout the industry. For example, the President of Consolidated Edison in New York recently spoke publicly about the costs of maintaining nuclear power plants. Because of the radiation hazards involved, maintenance costs for a nuclear power plant can be exceedingly high. If you have a ruptured pipe that needs to be welded, for example, a welder comes to the job wearing a radiation dosimeter. When he gets his allowable dose of radioactivity, the first plumber is required by law to leave the job site and a new welder must come on and take over the job. He gets his maximum dose of radiation and a third plumber must be called to continue the repair job. A job that's fairly simple in a coal-burning power plant suddenly becomes a complicated and expensive maintenance problem. These are some of the reasons why nuclear power does not offer any easy answers to the nation's energy crisis. The development of a limited number of nuclear power plants may provide a small degree of help in meeting the nation's energy needs, but the early talk of cheap nuclear power was a promoter's promise, a pipe dream, a figment of the imagination. Now the realities of the energy crunch are upon us. The balloon of cheap nuclear power has burst. We have some hard choices to make. It is evident that we will have to pay some price for meeting all our energy needs. The question is which technology -- coal, nuclear, or solar power -- offers the most benefits for the least cost? This is a question the nation has about one decade to answer.

And this is Catherine Montague on KMYR.

[20:11]

BLANEY: This week, *The Public Affair* has presented the nuclear power policy of New Mexico Citizens for Clean Air and Water. Next week, *The Public Affair* will give equal time to the Energy Research and Development Agency and Dr. Jeffrey Philbin, a nuclear engineer, and Professor Bob Long of the UNM Engineering Department. An article in the May issue of *Scientific American* sets the stage for the debate. The development of nuclear energy has been vigorously defended in a statement signed by a group of thirty-two scientists headed by Hans Betta of Cornell University. Eleven members of that group are Nobel Prize winners. Some excerpts from the statement follow. And I quote:

In the next three to five years, conservation is essential the only energy option, but there must also be long-range realistic plans and we deplore the fact that they are developing so slowly. There are many interesting proposals for alternative energy sources which deserve vigorous research efforts, but none of them is likely to contribute significantly to our energy supply in this century. All energy release involves risks and nuclear power is certainly no exception. We have confidence that technical ingenuity and care in operation can continue to improve the safety in all phases of the nuclear power program, including the difficult areas of transportation and nuclear waste disposal. On any scale, the benefits of a clean, inexpensive, and inexhaustible domestic fuel far outweigh the possible risks. We can see no reasonable alternative to an increased use of nuclear power to satisfy our energy needs.

End of quote.

Again, Catherine Montague, co-chairperson of the Albuquerque chapter of New Mexico Citizens for Clean Air and Water.

MONTAGUE: As the nation begins what looks like a major plunge into nuclear power, it is appropriate to pause and reflect. Is this the right thing for the nation to be doing? We heard from *Scientific American* that the nation has no alternative but to go for nuclear power. This is misleading to say the least. The nation does have alternatives. The nation is blessed with abundant coal resources, which we have known for one hundred years how to convert into useful power such as electricity. We have enough coal to last for two hundred years at present rates of consumption. That gives us time for more research into alternatives. We also have the sun. Coal is a dirty technology, its mining and its burning both kill many people each year. But coal mining can be made much safer and coal burning can be made much cleaner. And we still have the sun. If the nation has no alternative but nuclear power, it is because the nation has not funded the search for alternatives. The energy research budget of the federal government shows that nuclear energy has been funded at the billion dollar level year after year. While the budget for coal research is about ten million dollars and the budget for solar energy research is just slightly larger. Nuclear power research is funded at levels ten to one hundred times larger than competing technologies. What we have here is a self-fulfilling prophecy. No wonder the nation finds itself feeling as if it has no choice but nuclear power. It's because we've been

ignoring all the alternatives for years, hoping that the eternal pipe dream of cheap, pollution-less nuclear power would finally become reality. Well, the pipe dream has burst and now it's time for a hard assessment of the facts.

A local citizens' organization has been doing just that for the past two years. The organization is New Mexico Citizens for Clean Air and Water and they have been holding meetings during the past eighteen months to decide what they thought about nuclear reactors. The group has twenty-five hundred members statewide and several hundred of the group's members are employed at various nuclear facilities throughout New Mexico, such as Los Alamos Scientific Laboratory and Sandia Labs in Albuquerque. Just last month, the group formally published a position paper on nuclear power. The group stressed that they are not against nuclear power right now. They did say, however, that they believe civilian nuclear reactor technology has some potentially dangerous problems deserving further attention. The group went on to specify ten changes which they believe must occur if nuclear power is to be developed. Many of the ten points call for drastic changes in present policies. They say if all the problems are not solved or clearly on their way to solution by March 1977, they will be forced to conclude that responsible officials, including Congress and the administration, are far more concerned about the expansion of the nuclear industry than solving its associated problems. They say at that time, they will fully oppose further nuclear facility construction, except for strictly research purposes. You can obtain a free copy of this position paper on nuclear power, published by New Mexico Citizens for Clean Air and Water by writing to post office box 4524, Albuquerque, 87106.

This is Catherine Montague on KMYR.

[25:50]

[end]