

**Transcript of KMYR series on The Public Affair: Environmental Update with  
Peter Montague**

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**Albuquerque Museum, gift of Zane Blaney**

This radio program is a five-part environmental update with Peter Montague concerning Albuquerque's sewer system, coal gasification, and nuclear energy development.

*Keywords and topics:* environmentalism, sewer system, coal, coal gasification, nuclear energy, atomic bomb, Ralph Nader, Stuart Udall, Charles Hyder, Theodore Taylor, Zane Blaney, Peter Montague, Navajo Indian Irrigation Project, Arizona Nuclear Power Project, nuclear power, power plants, water use, natural resources

Note: The fourth segment is a repeat of the third segment.

[music]

ZANE BLANEY: Beginning Monday on "The Public Affair", environmental expert Peter Montague begins a three-part series on a proposed sewage system for Albuquerque, gasification ramifications in Farmington, and the status of New Mexico's involvement in nuclear energy.

PETER MONTAGUE: This million dollar sewage plan is going to determine the size, the shape, and the environmental quality of Albuquerque for the next fifty years. It's far and away the most important planning effort that has ever been undertaken in this region. And the public doesn't even know its happening.

[John Mayall sings "Garbage going nowhere / Soon the dumps will spread to your front door / Nature's disappearing / The world you take for granted – soon no more" from his song "Nature's Disappearing"]

BLANEY: This week on "The Public Affair", Albuquerque freelance writer Peter Montague discusses three key environmental issues facing the city and state residents: coal gasification, nuclear energy, and today, a proposed plan to expand Albuquerque's sewage system.

[John Mayall sings, "Garbage going nowhere / Soon the dumps will spread to your front door / Nature's disappearing / The world you take for granted – soon no more" from his song, "Nature's Disappearing"]

MONTAGUE: Working entirely without publicity for the past nine months, the City of Albuquerque has put together a million dollar funding application to the Federal Environmental Protection Agency. The city government wants the million dollars for planning new sewage facilities for the Albuquerque region. The million dollars is not for constructing any sewage facilities, but only to draw up plans for future sewage pipes. Despite the complete lack of publicity given so far to this enormous planning study, interest in a few quarters is running very high. Sewage pipes may sound like a dull subject to many people, but to others it's highly interesting and even highly important to the future of Albuquerque. The French wit, Voltaire, once remarked that "civilization follows the sewers." In terms of modern city planning, Voltaire was quite right. As the President's Council on Environmental Quality said in 1974, quote "Major sewer lines have become the prime determinants of where and when new development will occur" end quote. This will certainly be true in the Albuquerque region. A grid of sewage pipes across the west mesa, for example, will inevitably take development in that direction. If sewage pipes are placed through Tijeras Canyon and then north and south on Highway 14, development will follow. If you are a land speculator and you've been sitting on a piece of desert for ten years, waiting for urban sprawl to reach out and make your desert land profitable, the matter of planning sewage pipes is important to you. If you are a tax payer and you believe that urban sprawl is costly to you, while it's profiting the land speculator, the matter of planning sewage pipes is important to you, too, but for a different reason.

Environmentalists have still another reason for taking an interest in the planning of sewage pipes. They point out that sewage itself is a valuable resource. It is fertilizer and in most parts of the world, it is used as fertilizer. Only in a few highly-industrialized nations is sewage collected in pipes, treated to remove germs and odor, and then dumped into the nearest body of water. Environmentalists are saying that this 19<sup>th</sup> Century sewage treatment technology is out-moded and that sewage should be regarded as a highly valuable resource. One group has even gone so far as to propose a large city-owned farm on the mesa south of the airport. Here the city's sewage would be used as fertilizer for growing alfalfa. Alfalfa is presently imported from southern Colorado each year because there's a chronic shortage of alfalfa in the Albuquerque area. Therefore, the sewage farm on the mesa could sell alfalfa to local people at a profit.

Former Secretary of the Interior, Stewart Udall, wrote an editorial recently in the medical journal *Annals of Internal Medicine*. Udall wrote, quote, "Today, the water pollution control bureaucracy remains stubbornly committed to conventional sewage dumping." End quote. If this is true elsewhere, it's true in Albuquerque, as well. Mayor Kinney has expressed revulsion at the idea of a sewage farm for Albuquerque. Quote, "Some people want to just throw this stuff out on the mesa", said Mayor Kinney recently in disapproving the whole idea. Conventional sewage treatment is what the mayor favors. However, conventional sewage treatment is under fire for many aspects these days. As Stuart Udall went on to say in his recent editorial, quote, "This [unintelligible] discharge system of handling sewage is primed to pollute, is wasteful of dollars and energy, is ecologically bankrupt, and is much too kind to pathogens", meaning bacteria and viruses. Mr. Udall went on to say, "Here we have a prime example of

technological lag. By flushing out body wastes into the rivers, lakes, and estuaries, which also serve as our public water supplies and then spending billions in futile attempts to restore these waters to a more sanitary condition, we are using a disposal system that was already discredited in the 19<sup>th</sup> Century,” said Udall. And so the matter of sewage pipes is not exactly a romantic subject, it is still a subject worth serious thought. As one speaker said at a poorly-attended public meeting last week, “This million dollar sewage plan is going to determine the size, the shape, and the environmental quality of Albuquerque for the next fifty years. It’s far and away the most important planning effort that has ever been undertaken in this region and the public doesn’t even know its happening.”

[John Mayall sings “Nature’s disappearing / And we are guilty of this massive crime” from his song, “Nature’s Disappearing”]

This is Peter Montague on KMYR.

[06:31]

BLANEY: Today, Peter Montague takes a closer look at the development of Navajo coal in northwestern New Mexico.

MONTAGUE: The proposed development of coal gasification plants in northwestern New Mexico is the subject of intense debate among the Navajo people at the present time. Within six months, the Navajo Tribal Council will be asked to make a final decision, approving or disapproving the proposed gasification plants. The Navajo Reservation is underlain by large quantities of coal. As air pollution in the Los Angeles basin has gotten worse in recent years, California officials have banned the construction of any more coal burning power plants in southern California. Instead, the southern California utilities want to process Navajo coal and turn it into a coal-burning gas which can then be piped to Los Angeles for consumption. This leaves the pollution on the Navajo Reservation. It could also leave substantial profits on the Navajo Reservation. The Navajo people may be willing to carry the added pollution burden because they are desperate for jobs. However, recent analysis by a local scientist has thrown the whole feasibility of the gasification project into serious doubt. The question is are the water resources of northwestern New Mexico really adequate for supplying all the necessary water.

For the past forty years, the water supply of the San Juan River, which is part of the Colorado River basin, has been steadily shrinking. No one is quite sure why this is happening, but the trend is unmistakably clear in the historical records of stream flow in the San Juan River and the Colorado River, itself. A large quantity of water was set aside for the Navajo people, at least on paper, back in 1962. That water was earmarked for the irrigation of 110,000 acres of Navajo land. The Navajo have long been a farming people so the irrigation of crop land is something they can appreciate and desire very strongly. The Navajo Dam and Navajo Reservoir were created in 1962. The Navajo Indian Irrigation Project was officially underway. More than one

hundred miles of channels and tunnels and pipes were planned. Today, thirteen years later, only 25% of the channels and tunnels have been completed and not a drop of water has been delivered to a Navajo field. In the meantime, since 1962, there have been many new demands created upon the available water supply. The town of Farmington, for example, has grown considerably. The town of Gallup has asked for an increase in its water supply, and the gasification plants have asked for a big share themselves.

It's hard for people to get a handle on the scale and size of these proposed gasification plants. When all the gasification plants are on-line just eight years from now, in 1983, San Juan County will have the equivalent of eighteen power generation facilities the size of the existing Four Corners Power Plant. In one decade, the northwestern corner of New Mexico will be changed from one of the most sparsely populated rural regions of the United States into one of the most heavily industrialized regions. The Navajo people stand to gain almost five thousand jobs from the gasification plants if the Navajos are not discriminated against in the hiring. However, the Navajos were told in 1962 that they could expect to get forty thousand jobs from the Navajo irrigation project. In addition, the irrigation project represents a major improvement in the land base that supports the Navajo people. The gasification plants, on the other hand, just represent wage work for absentee owners. And in twenty-five years, the gasification plants will have exhausted the coal seams and will have gone away.

It has therefore caused some consternation among Navajos who have learned that the water resources of northwestern New Mexico are probably not adequate to supply both the Navajo Indian Irrigation Project and the water demands of the coal gasification plants. Dr. Charles Hyder, a U.N.M. physicist, has prepared testimony on this subject, which he has been airing at public meetings at Shiprock and Farmington. Dr. Hyder has calculated the available water supply based on records of stream flow during the past seventy years. The water in that region is being locally divided up based on the average stream flow over the past seventy years. But since the stream flow has been steadily falling throughout the seventy year period, the flows during the first thirty-five years were higher than the average and the flows during the last thirty-five years have been below average. There is no evidence of a trend that would increase the stream flow in the near future. Therefore, Dr. Hyer concludes, the water supply of northwestern New Mexico is being allocated on a false basis. Dr. Hyder calculates that when the Navajo Indian Irrigation Project is completed, sometime in the 1980s, the water that was originally earmarked for the irrigation project won't actually exist. And will have been allocated to the gasification plants and the irrigation project simply won't have any water left to draw on. This is something that the Navajo people had not been told. They had been led to believe that plenty of water existed for both the irrigation project and the gasification plants. This throws a new light on the desirability of the proposed coal gasification plants and it leaves the Navajo people with some hard choices to make.

This is Peter Montague on KMYR.

[11:55]

MONTAGUE: More than a year ago, the Public Service Company of New Mexico announced it would participate in constructing three nuclear power plants over in Arizona. The Arizona Nuclear Power Project is a huge 2.2 billion dollar complex proposed for a site fifty miles west of Phoenix. Public Service Company of New Mexico will own ten percent of the Arizona Nuclear Power Project. The full plan includes three nuclear power reactors generating a total of 3.8 billion watts of electric power, roughly twice the size of the existing Four Corners Power Plant. With the announcement of this power project, New Mexico joined a national trend toward nuclear power and, predictably, environmentalists in New Mexico reacted as environmentalists have done across the country in recent years. Although nuclear power produces less than five percent of the nation's electricity today, this technology is growing extremely rapidly. Just fifteen years from now, in 1990, nuclear power is expected to produce fifty percent of the nation's electricity. Ten years after that, by the end of the century, there will be nine hundred to a thousand nuclear power plants operating all across the United States.

With the rapid increase in nuclear power already underway, questions have now arisen in the minds of many scientists and engineers, and in the minds of the public, wondering whether nuclear power is really a good investment. These questions, which are being vigorously debated within the scientific community today, are very important to the general public. They are questions of safety and reliability.

First, there is the question of radioactive wastes. Nuclear power plants produce waste products which remain dangerously radioactive for a quarter of a million years. Radioactivity causes cancer in humans and animals and therefore these wastes must be contained completely. They must be segregated from the environment for 250,000 years. It's important that we try to get this long time period in some perspective. The first human civilizations, for example, were founded in the Tigris-Euphrates Valley not more than 4,000 years ago. Sometime within the next 10,000 years, we're likely to have another period of glacial movement such as we've experienced on this continent in the geologic past. So the prospect of having to contain and guard radioactive wastes for a period of time as long as 250,000 years is not something humans have had any experience with. Can you just put up a chain-link fence and keep the wastes in steel tanks? Maybe for a hundred years, yes, but for a quarter of a million years, it seems unlikely. Can we safely predict that any part of the Earth will remain stable over such a long time period? What are the prospects for keeping a stable society going for a quarter of a million years to guard the radioactive wastes? The United States is about to celebrate its two hundredth birthday. Even the longest-lived human civilizations rarely remain stable for more than a few hundred years at a time. Thus, the problem with nuclear wastes is a difficult one to solve.

The nation's nuclear authorities, who began developing civilian nuclear reactor technology more than twenty-five years ago, went ahead and developed the reactor technology without solving the waste problem. The current solution to the waste problem is to place the wastes

inside metal-lined concrete canisters. But after only twenty-five years of this approach, the canisters have begun to leak. Near the Hanford, Washington, site, for example, 450,000 gallons of radioactive wastes recently leaked from a canister. These wastes have now migrated through the ground water and can be measured in the flow of the Columbia River. It has been proposed that these nuclear wastes could be loaded into rockets and fired into deep interstellar space. It has also been proposed that these wastes could be placed in a deep hole in the ground near Carlsbad, New Mexico.

Nuclear authorities are now studying the feasibility of several approaches, but no satisfactory answers have come to light in twenty-five years of thinking about the problem. Therefore, this is one of the major safety questions that critics of nuclear power are asking to have answered before the technology spreads further. Tomorrow, we will talk about another difficult problem associated with nuclear power: the problem of home-made atomic bombs.

This is Peter Montague on KMYR.

[16:36]

BLANEY: The development of nuclear energy in the southwest is well on its way, however, once again the technology, which has given us the nuclear reactor, has failed to provide us with the means to protect ourselves against its deadly evolution and the possibility of do-it-yourself atomic bombs. Today and tomorrow, Peter Montague looks at the problems.

[Audio clip of stampede]

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nuclear power is really a good investment. These questions, which are being vigorously debated within the scientific community today, are very important to the general public. They are questions of safety and reliability.

First, there is the question of radioactive wastes. Nuclear power plants produce waste products which remain dangerously radioactive for a quarter of a million years. Radioactivity causes cancer in humans and animals and therefore these wastes must be contained completely. They must be segregated from the environment for 250,000 years. It's important that we try to get this long time period in some perspective. The first human civilizations, for example, were founded in the Tigris-Euphrates Valley not more than 4,000 years ago. Sometime within the next 10,000 years, we're likely to have another period of glacial movement such as we've experienced on this continent in the geologic past. So the prospect of having to contain and guard radioactive wastes for a period of time as long as 250,000 years is not something humans have had any experience with. Can you just put up a chain-link fence and keep the wastes in steel tanks? Maybe for a hundred years, yes, but for a quarter of a million years, it seems unlikely. Can we safely predict that any part of the Earth will remain stable over such a long time period? What are the prospects for keeping a stable society going for a quarter of a million years to guard the radioactive wastes? The United States is about to celebrate its two hundredth birthday. Even the longest-lived human civilizations rarely remain stable for more than a few hundred years at a time. Thus, the problem with nuclear wastes is a difficult one to solve.

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[People singing about war]

This is Peter Montague on KMYR.

[22:11]

BLANEY: Although what to do with nuclear waste is a primary concern, an even greater threat may be the use of such materials by terrorists.

[Audio clip about bombers who accidentally detonate a bomb in their car]

MONTAGUE: With New Mexico utilities saying they intend to construct nuclear power plants to generate electricity, New Mexico has now become the center of a controversy that has been sweeping the nation in the past three years. The controversy focuses on safety questions associated with nuclear power.

Yesterday, we described the difficult problem of storing nuclear wastes. These wastes remain dangerously radioactive for a quarter of a million years and they must be safely contained throughout that long period of time. However, the danger of radioactive wastes may not be the most serious problem associated with the development of nuclear power reactors for generating electricity. Even more worrisome is the danger that some lunatic will steal some of the radioactive wastes and make a homemade atomic bomb. In fact, one of the most important bomb designers who ever worked at the Los Alamos scientific laboratory has recently been speaking out about these dangers. Dr. Theodore Taylor is the scientist who designed the Davey Crockett nuclear bomb, which weighing only fifty pounds, is one of the smallest nuclear devices ever created. It's a little bomb. It fits easily in the luggage compartment of a Volkswagen or inside a golf bag, but it packs a terrific wallop. For example, this little bomb could demolish the United States capitol building, which houses Congress in Washington, D.C.

Dr. Taylor has been writing articles for popular magazines trying to emphasize how easy it would be for a small group of terrorists, or even a single individual, to steal nuclear material and create a bomb of their own. He points out that India just detonated its first nuclear weapon and India did it by using waste products from a nuclear power reactor. Dr. Taylor insists it is possible for a single, skillful individual to make a nuclear weapon. "All of the necessary designs and plans are now published in open literature", Dr. Taylor says. "How long will it be before some nut actually does it?", he asks. Each year, the chances of some nut doing it will get better and better, Dr. Taylor argues. And it's a persuasive argument. By the end of this century, when we have about a thousand nuclear reactors operating, trucks and trains will be crisscrossing the United States day and night, carrying nuclear fuels and nuclear wastes about. And hijacking a truck is a lot easier than hijacking an airplane.

Just last month, a bill was introduced in the Virginia legislature to allow the electric company in Virginia to create a private police force of its own for the purpose of safe-guarding nuclear power reactors near Washington, D. C. The private police force would have the power to arrest and detain suspicious-looking people. This is the first step in what many people fear will become a necessary trend to protect nuclear power plants. Critics of nuclear power, like Ralph Nader, point out that the first time someone blows up a homemade atomic bomb, the country is likely to respond with extreme security measures. The police state seems a high price to pay



for the benefits of electricity, especially when alternative ways of generating electricity are known and are available. As Mr. Nader said recently, "Nuclear power proposes to solve the energy crisis, but creating a radioactivity crisis is no solution to anything." Industry spokesmen have repeatedly assured the public that these problems can be solved, given time. But the fact is, they have not been solved so far and until solutions are found, critics of nuclear technology will probably continue to ask probing questions and to insist on fully-revealing answers.

[Randy Newman sings "They'll hate us anyhow / so let's drop the big one now / let's drop the big one now" from his song, "Political Science"]

This is Peter Montague on KMYR.

[27:29]

[end]