HR - 13

HOUSE OF REPRESENTATIVES
COMMONWEALTH OF PENNSYLVANIA

MEMO

May 21, 1979

SUBJECT: PUBLIC HEARINGS

TO: Members, Select Committee-TMI

FROM: Honorable James L. Wright, Jr.
Chairman

Public Hearings for the purpose of accepting testimony have been set as follows:

May 31, 1979 ~~2:00 P.M.~~ 4 PM to 9:00 P.M.
Bainbridge Elementary School
Village of Bainbridge

June 6, 1979 7:00 P.M. to 10:00 P.M.
Goldsboro Fire Hall
Goldsboro, PA.

Local Borough and Township Officials and local citizens will appear before the Committee.

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COMMONWEALTH OF PENNSYLVANIA
HOUSE OF REPRESENTATIVES
HOUSE SELECT COMMITTEE - THREE MILE ISLAND

In re: Three Mile Island Hearing

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Verbatim record of hearing held in the Bainbridge Elementary School, Bainbridge, Pennsylvania, on Thursday,

May 31, 1979

4:00 P.M.

HON. JAMES L. WRIGHT, JR., Chairman
Hon. Bernard F. O'Brien, Vice Chairman
Hon. Nicholas B. Moehlmann, Vice Chairman
Hon. Eugene Geesey, Secretary

MEMBERS HOUSE SELECT COMMITTEE - THREE MILE ISLAND

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Hon. Stephen R. Reed
Hon. John E. Scheaffer
Hon. C. L. Schmitt
Hon. Ted Stuban
Hon. Noah W. Wenger
Hon. Paul J. Yahner

ALSO PRESENT:

Marshall Rock, Asst. Director of Research
Fred Taylor, Counsel
Bob Hollis
Peg Foran
Ann Hand

Dorothy M. Malone
Registered Professional Reporter
135 S. Landis Street
Hummelstown, Pennsylvania 17036

I N D E X

I N D E X (continued)

CHAIRMAN WRIGHT: I'd like to call to order the hearing on Three Mile Island. Unfortunately, I am the only member of the committee here. The House is still on the floor and they will show up when the House gets off the floor. Sitting with me are two staff members. We have a tough schedule. I would like to get started and keep it going on time for the balance of the afternoon and evening.

Peg Foran, the girl in the pink dress is handing out a copy of the purposes of the committee and also the bylaws.

Is Mrs. Marsha Weiss here? You are the first one on at 4:30. Would you like to come up?

Anybody who has prepared testimony, who is not going to present it verbally, please give it to the public stenographer here and it will get put into the record.

Are you ready?

MRS. WEISS: I am a Lancaster County resident and I work in the Lancaster-Lebanon County area as an educator. I have a four year old son and my baby is due in July. My husband is in medical school and we hope that very definitely to live in the Lancaster County area as he sets up his medical practice. We are presently, seriously reconsidering this as a result of Three Mile Island.

I have various concerns that I would like to talk about right now. The accident occurred on March 28th as reported in the local papers. Mr. Herbine was on the news that night with his official statement and down played express concerns from the public as to any radiation release problems. I was personally concerned because I was to have been out here that Friday morning of the Phase I. Now I called my obstetrician to see exactly what the dangers were as far as exposure to radiation. Now he, along with the public, had listened to the reports on the news and assured me that there would be no problem in coming out to this area. Fortunately for me, I have a boss that is very understanding, and she was as skeptical as I was about the concern and she told me not to come out here. So fortunately I did not attend my meeting that morning.

Now had I listened to these official statements, reassurance from Mr. Herbine, I would have been in the five mile area during the Phase I at 8:30 that morning. What excessive doses of radiation might I have exposed my unborn child to? What additional trauma would I have gone through as a result of this? And why did I have to rely on my intuition to make such a decision rather than to receive reliable facts from experts at TMI.

I am angry that the true facts about the radiation

level were not released earlier that people like myself, with small children, could make a decision to stay or to leave based on good, reliable facts. Mr. Herbine's condescending attitude of reporting the nuclear accident was an insult to my intelligence. Its demeanor was one of ridicule to the press.

Now we, the public are expected to believe that Met-Ed official that once again all is safe, that the water will be completely safe as it flows down the stream into the Susquehanna. I am against the dumping of water. I am going to have to drink it and so will my family. The water is an important issue, but there are many numerous issues that are not being addressed. I will list my concerns.

Number one, why can't the water be disposed in a safer manner or stored indefinitely? There has to be other alternatives. How much money is Met-Ed saving by dumping the water rather than using safer disposal methods? What was in the water on March 30th that Met-Ed released from TMI that when the NRC found out about it they told Met-Ed to stop immediately? Do we have to wait until a further nuclear catastrophe at Peach Bottom or at the Fulton site for us to request reliability in the future? What guarantees do we have they are suitable? What is going to protect and who is going to protect the citizens of Pennsylvania? If nuclear energy is so safe why is

there a need for the Price-Anderson Act. If Met-Ed does consider nuclear power as an economical source of energy, if the near catastrophe at TMI was as minor as Met-Ed claims, why are they asking for a rate increase? What would have been the cost if TMI had been or will become a major crisis problem? Surely the added costs negate their argument that nuclear energy is cheaper.

State Government owes it to the people of Pennsylvania not to allow nuclear power plants to pollute the environment with their waste. I personally feel the plants should be shut down. To me, no amount of financial savings on my electric bill is worth weeks of nightmares and days of concern that I have endured.

What is the outcome of TMI? Unfortunately, my four year old son and my baby will have to be the guinea pigs in the horrendous incident. This should never have happened and should not be allowed to happen again. Thank you.

(Applause.)

BY MR. TAYLOR:

Q. Mrs. Weiss, at the beginning of your statement you said you had some questions in your mind that you were not getting reliable facts and/or the truth. At what point in time

do you feel you were getting the truth?

A. Well, we left that Friday and I felt that once we were in Philadelphia and later that week, I'd say about a week or two after the incident, then it started coming out as far as people had been exposed on Wednesday and Thursday.

Q. What source?

A. Newspapers.

MR. TAYLOR: Thank you.

CHAIRMAN WRIGHT: Thank you very much. Dr. J. Kenneth Kreider, Professor of History, Elizabethtown College.

DR. KREIDER: Mr. Chairman, members of the committee, concerned citizens:

I did not come here today to talk about the ethics of rushing a plant into operation in time to meet the new year's deadline for millions of tax benefits or of out dating equipment or reducing maintenance staff. The press has been reporting that quite well. I want to talk about some of things that I have not seen in the local press. And I want to thank you for taking the time to come here to hear some of the concerns of the people living in this area. For many years my wife and I have been concerned about the possible effects of low-level radiation from the Three Mile Island plant. My wife has been more concerned in the past than I, because as she

would stand at our kitchen window preparing meals or washing dishes, she would see the clouds of vapor rising from the cooling towers. Since she was in this position to visually be reminded much more often than I, she has been more concerned. Another factor which fueled our concern was the seemingly ever-present containers in our business establishments and banks soliciting funds for the cancer fund for certain students in our school district. There seemed to be so many that we asked the school health authorities just how many students in our district suffered from cancer. Although the study is not scientific (I would much rather have these kinds of statistics come from the medical profession - local physicians, Hershey Medical Center, Lancaster and Harrisburg Hospitals), we are alarmed to know that between 1970 and 1978, there have been 13 known cases of cancer in our students in grades 1-12. Most of the cases were leukemia or brain tumors. Of these 13, 7 have died; of the 7, 6 were male. This is the highest incidence of cancer reported by Lancaster County schools. The second highest number of cases was reported by the Lancaster city school district with 12 -- and they have a student population almost four times larger than ours. Following Lancaster is Manheim Central with 10 reported cases and a student population similar to Elizabethtown.

Although we do not presume that if no nuclear plant had ever been placed on Three Mile Island that we would have had no cancer in our school students; it does raise the question of why there is a higher number of cases in the E-town area, while other county districts have far fewer or no reported cases. In addition to school age children, there are, of course, many cases of infant and adult cancer. I hope the medical authorities can inform you as to whether residents of this part of the county have a higher incidence of cancer than other areas of Lancaster County, as do our school children.

Many years ago we were told that the generation of electricity by steam produced by heat of nuclear reaction was the answer to our energy problems. It would be so simple and cheap that we would not even have to measure the usage -- we could throw away the electric meters. Recently I received my electric bill from Pennsylvania Power and Light Company and was told that as soon as their nuclear generating plant on the Susquehanna opens, I can expect my electric rate to be increased by 12-13 percent and when the second unit comes on line it could result in an increase of an additional 10 percent. Not only is nuclear energy no longer being advocated as cheap, but in the intervening years heating oil has quadrupled in price and coal and gas have increased proportionally. Even

with the fantastic increase in the price of oil, gas, and coal, nuclear generation is still, with all of the government subsidies, more expensive. In fact, with that much additional increase, a businessman might conclude that it is not even competitive. Many people feel that they were deceived by the nuclear industry and that perhaps we should seriously evaluate the feasibility of continuing to generate electricity with nuclear fuel.

This leads us to another concern. The possibility of accident cannot be ignored. The fuel for reactors and all waste products are highly radioactive and thus capable of inflicting cancer, birth defects and death on large numbers of people. According to a study by the Atomic Energy Commission in 1967, a meltdown of a reactor near any sizeable city could kill thousands of people outright, injure hundreds of thousands, cause billions of dollars in property damage, and contaminate an area the size of Pennsylvania for centuries. The danger of a steam explosion caused by the water vapor hitting an over-heated core during a meltdown could blow the top off the reactor and spew tons of raw radioactive materials into the air. Another government study said the resulting radioactive cloud could contaminate an area as large as 150,000 square miles. While that is happening the core melts down into the ground and

contaminates the water table.

Now you say, "This did not happen at Three Mile Island -- or anywhere -- yet. We have fail-safe procedures to scram the system, back-up systems, etc." In November, 1955 it came within a half-second of happening at Idaho Falls. At the same place in 1961 an explosion caused intense radiation and also some deaths -- in fact, it is reported that arms and heads of victims had to be severed and buried separately -- along with other radioactive wastes. These were three employees inside the plant. Accidents in 1955 near Detroit, in 1970 at the Hanford (Washington) reactor, in 1975 at Brown's Ferry (Decatur, Alabama), and in 1977 at Zion, Illinois, came close to disaster when "fail-safe" procedures failed. Last April many people in this area called their insurance agents requesting increases in the home coverage. Reputable insurance agents asked why the change. When told of fear of loss because of Three Mile Island, they were told that the insurance policies do not cover a nuclear accident. Have you read the fine print in your homeowners policy? I mean the real fine print. If things had gotten worse at Three Mile Island and the area had been contaminated -- sealed off, as we hear about that area in Russia after an accident -- can you calculate the loss of human lives, to say nothing of the mental anguish of

people barred forever from their homes and possessions? Can you calculate the financial loss? The value of the fertile farms, equipment, cattle, homes, furniture, industry, Brandt's Rendering Works, Masonic Homes, Crippled Children's Hospital, Elizabethtown College, stores, businesses, would run into the billions of dollars -- and we carry all the risk. (I urge you to encourage legislators in Washington to repeal the Price-Anderson Act. Why should the nuclear companies not be held responsible for their acts, as are other citizens and companies in the United States?) If we can insure our homes against loss by fire, falling airplanes, lightening, hail and other acts of God, why not against nuclear accident or other acts of man concerning nuclear plants? If nuclear plants are so dangerous that the insurance industry of America will not insure our homes to protect against nuclear accident, should they be operated? At the testimony in Washington the officials responsible for the operation of Three Mile Island said that they were not lying to the public during those early hectic days of the crisis, they just did not know what was going on. Many of us feel that if they do not know what is going on, they should not be allowed to operate a plant.

The next issue, and by no means less important, is the problem of nuclear wastes. In 1977, the St. Louis Post

Dispatch made a four-month study and concluded that "the Federal Covernment has mismanaged nuclear wastes in the past, that it has no proven plan for waste management, and that massive commitments are being made to expand nuclear power despite the absence of accepted scientific data on the risks involved." A Department of Transportation study shows that between 1971-1975 there were at least 144 accidents involving shipments of nuclear wastes to disposal sites. Where are safe disposal sites? We do not want one in our neighborhood. Who does? To my knowledge we have no containers that will last longer than the contaminants inside. What are we bequeathing to future generations by burying thousands of tons of radioactive wastes in our oceans and in our soil which will eventually seep into the environment when the containers decay?

We already have a 230 million gallon inventory of radioactive waste in the United States today -- from spent fuel rods to workmen's gloves and overalls if they don't get put on a pile and don't get put into the garbage bin. If the nuclear industry is allowed to proceed as planned, in 20 years we will have about a billion cubic feet of radioactive garbage. Virtually every waste facility the Federal Government has started has leaked radioactivity.

Finally, let us suppose that a nuclear plant works

flawlessly (and has any plant had such a record?). I understand that after 30 years they have to be entombed -- for centuries, because of the level of radioactivity inside. Who pays for that? Who will guard Three Mile Island to prevent future Tom Sawyers from camping out there 100 years from now? Will there be continued release of low-level radiation? For how long? Whom can we trust? Will we have another Love Canal and similar incidents where the company which made the profits buries the wastes and then donates the contaminated areas to the local school district and moves away to another area?

To say that we receive radiation from the stones and bricks of our buildings and from the sun, therefore we should not fear radiation, is nonsense. Yes, we inevitably receive certain doses of radiation, as the human race has for millennia. But is it responsible action for us to be adding to that which we cannot avoid? Are there not other sources of energy less dangerous to the human race? To say that because no one has died there is no cause for concern is also short-sighted. Please study what has happened in the last 20 years in the western part of our nation. How many sheep died because they were down-wind from the release? How many people died of cancer, even though they were told by government and military officials who supposedly knew what they were talking about that

there was nothing to fear?

Members of the Select Committee, we ask that Three Mile Island not be permitted to reopen. When the expenses for closing, dismantling, sealing and guarding the plants, and safe disposal of nuclear wastes are all added to the cost of operating a nuclear plant, nuclear generation of electricity does not seem to be competitive. It certainly is not safe. We ask that state and federal governments invest as much money in research to develop solar, wind, tidal, geo-thermal energy as has been put into nuclear research and development. Please do not wait until a tragedy occurs to say, "Gosh, we should have done something when we had the chance, but now it is too late." We agree with Governor Thornburgh, that if we are to make a mistake, we should make it on the side of caution. Thank you.

(Applause.)

CHAIRMAN WRIGHT: Thank you, Dr. Kreider. You obviously used much more than your five minutes, so we'll bypass on questions. I might make a suggestion to you and to others who have gone to such efforts to work on a presentable presentation, if you want to, send a copy to the Nuclear Regulatory Commission and the President's Commission, too.

Our next witness is Mr. Paul Goss, G-o-s-s, is he here, Director of Pupil Transportation and Safety. I assume for the school district?

MR. GOSS: That is correct. As a person that is involved with the transportation of the school students for the Elizabethtown area school district, our biggest concern was the fact of being notified of emergency or incidence at TMI. We had not been notified, several days had passed, and many of the district parents were concerned that we knew something, but we didn't know. Therefore we weren't taking any steps to evacuate because we, in fact, didn't know that there was any need to be alarmed. Many of the students were concerned about parents that were working there that were upset and we really didn't know what was going on. Our biggest concern was the lack of communication. We had not been notified of any incident whatsoever and the information that we got, we got from the radio and television and in some instances we even had phone calls that came from outside the state that had called in to people living around the area and they in turn notified us.

We had gotten some notification from the Department of Education and this apparently was third or fourth handed. And when we tried to call back to the Department to verify what we were suppose to do, we had problems getting through, tele-

phone lines were tied up, we couldn't make any telephone calls and we were kind of useless because we just couldn't manage it.

Our biggest concern right now is what we can do to prevent something like this should, God forbid, it ever happen again. What we would like to do is have some means of communication whereby we can find out what is going on and we would like for someone to indicate to us a chain of command as to where we are to get our information. We were under the impression that the school district, that the Civil Defense, in an emergency such as this, would take over and dictate to us what we should do. We were in fact told at the town meeting that it is not the Civil Defense but the Department of Education. Therefore, that the Governor is dictating to the Department of Education that we are to be notified. This is probably where the communication breakdown was. We did not receive any information from the Governor's Office through the Department of Education. When we did receive it, it was third and fourth handed. We tried to call back to the Department of Education and we didn't get any answer. No one was there, they were having meetings all the time to decide what, in fact, we should do.

So we have taken steps in the school district to provide our own communication system whereby we can contact

outside people, who we now believe are the ones in charge; the ones that will be telling us what we should do in the event an emergency occurs again.

I think that's all I have to say.

(Applause.)

BY CHAIRMAN WRIGHT:

Q. Mr. Goss, don't go away. I think we have got a couple of questions. When did you start getting information from the Department of Education, if at all?

A. Sunday.

Q. Was that the Sunday after the Friday?

A. The Sunday after the Friday. Then we were told by the Civil Defense at that time that we should probably, in the best interest of the school, close down. We were told by the Department of Education don't make any decisions until 3:00 Sunday afternoon. So we waited until 3:00 and we had a lot of our teachers and a lot of the families living outside the area that we really felt we should notify as to whether we were going to have school. The Civil Defense said we will back you if you decide to close your school. At that time we decided to close the schools when the Department of Education said now don't make a decision until 7:00 Sunday night. So at

7:00 Sunday night we got the message that the Superintendent should do what he felt was best.

Q. Have you examined either your local township or county civil defense plan, if so, did you fit into that plan?

A. I checked the plan when I came to the town meeting. That was the first time I had a copy of such an evacuation plan. We are in that plan.

Q. Which plan did you check?

A. Lancaster County.

BY REPRESENTATIVE BRANDT:

Q. The real question, Paul, would be, you mentioned Sunday for the first time you had the Department of Education, response from the Department of Education, who did the school district hear the first communication that there was a problem and that the school was involved with that problem?

A. After we had heard all the radio broadcasts and everything that was going on, we decided we better try to find some answers. Since no one was calling us we better try to find something out. We called Lancaster County Civil Defense, Mr. Paul Leisey. And Mr. Paul Leisey told us not to do anything until he got back to us, he would keep in touch. This was our only contact. We had nothing from the Department of Education. We took all of our guidance from the Civil Defense.

Q. And that is where the conflict came in you listened to Civil Defense or the Department of Education?

A. Right, and we were under the impression that the Civil Defense in a time of emergency should take over, as I think most people feel the same way. But, in fact, the Civil Defense has no power whatsoever. We were told it has to come from the Department of Education.

REPRESENTATIVE BRANDT: Thank you, Paul.

CHAIRMAN WRIGHT: Ms. Margaret Reilly. Margaret Riley is Chief of the Division of Environmental Radiation. Are you with the Department of Health or DER?

MS. REILLY: DER. I have been asked to give a brief presentation here on matters associated with whole body counting that began around April 10th. I have been asked to discuss to some extent just what it is that goes on with whole body counting, why do you do it, what do you find, that sort of thing. So I have a prepared statement here I thought I would read that.

Whole body counting is a technique for estimating the quantity of gamma emitting radioisotopes incorporated in body tissue and contained in bodily compartments such as the lung and gastrointestinal tract. The method will also identify the gamma emitting radioisotopes in the body even those we

aren't looking for.

All fission products are beta emitters, and the majority are also gamma emitters. This is the reason for using whole body counting, a gamma counting technique to evaluate exposure to fission products.

An important class of fission products which, although gamma emitters will not be detected in a whole body count are the noble gases and I guess most of you have heard that phrase. The most important modes of exposure to noble gases are via shine from the passing cloud, and/or by immersion in the cloud if it is near the ground and people. Since noble gases are chemically aloof and do not enter into biochemical processes, they do not accumulate in the body to any discernable extent. The exposure lasts only as long as the cloud is in the environs of the exposed individual, much the way ones exposure to an x-ray machine stops when the machine is turned off, or moved away. Although the bioeffects of exposure to photons (gamma rays or x-rays) accumulate in the body during exposure, the whole body counter cannot detect bioeffect, but rather actual gamma emissions coming from gamma emitting radioisotopes in the body.

Although past photon exposure, that is gamma ray exposure, from the accident through its fission product gamma

emitting noble gases cannot be detected by whole body counting, that dose can and has been estimated by photon detecting dosimeters in place at the time of the accident.

The technique of whole body counting is routinely used in nuclear industries which handle gamma emitting radioisotopes. This includes nuclear reactors as well as some other nuclear industries. The system employed for estimating body burdens of gamma emitters in the exposed public was first used to evaluate workers on and near the site. The system operator is a contractor to USNRC for that purpose.

DER Bureau of Radiation Protection was advised by USNRC on April 9 that excess time was available using the whole body counter. It was suggested that we may want to do some whole body counting of local folks. USNRC would pick up the cost. We believed that if we announced this availability to the public we might get a reasonable number of volunteers to submit to the test. The results of the test would establish whether local populations might somehow have been exposed to bioaccumulating gamma emitting fission products such as I-131 to an extent greater than environmental measurements had suggested. We had hoped to get about 100 volunteers for a suitable sample. The turnout totaled 720.

The system sensitivity for I-131 detection was

2000 picocuries in the thyroid, assuming the exposure was one day old. A one day old thyroid burden of 2000 pCi I-131 will ultimately yield a dose commitment to that thyroid of less than 13 mrem to an adult and less than 16 mrem to a child. Assuming the detected burden is two weeks old the associated dose commitments are less than 47 mrem adult; and 57 mrem child.

The motive for doing these tests was to verify what we considered to be a fact, namely, that no member of the public had been exposed to considerable amounts of bioaccumulating fission products. This condition was satisfied.

We found no evidence of reactor related fission products in any of the 720 volunteers.

As we embarked on the project, I suspected that we would find something not particularly expected, based on my experience. What was detected was that there are people in the area who displayed body burdens of gamma emitting naturally occurring radionuclides, principally radon daughters. These gamma emitters have nothing to do with the accident or the operation of nuclear power generators in general. Evidence to date suggests that these body burdens of natural radionuclides are the results of the use of ground water. The recount of several of these individuals suggests that the

amount of these natural radioactive materials in the body is transitory. We do not fully understand the mechanics of exposure to waterborne radon daughters. At present, no statutory permissible concentration has been identified. The resolution of the question is reserved for another forum. I would be glad to answer any questions you have.

CHAIRMAN WRIGHT: I think we have trouble understanding your expertise much less be able to ask questions. Can I call you Peggy?

MS. REILLY: That's all right, anything but hey you.

CHAIRMAN WRIGHT: I understand you are probably available for more lengthy discussions with the committee at some point.

MS. REILLY: Yes.

CHAIRMAN WRIGHT: Does anyone have a short question they want to ask at this point?

(No response.)

CHAIRMAN WRIGHT: Thank you. Susan Reich and Jeri Miscavage, Concerned Citizen, Marietta.

MRS. REICH: Yes, she will follow me if that is okay. Neither of us will speak very long, okay.

Up until the accident at Three Mile Island, I had

always been willing to let the experts make decisions in their field of expertise. I have never even been moved enough by a current event to write a letter to my Congressman. But after the near devastation at TMI I feel compelled to make a stand on what I feel is the gross neglect of physical and emotional well-being of thousands of people.

I was not living in my home at Marietta during the accident. My husband, my daughter and I were living in Minnesota. My husband's job having stationed us there. So I did not feel the terror of immediate danger as so many of you who live here did. What I did feel was a need to know more about what was happening back home. I need to know how my family and friends were coping with the emergency. My husband and I were glued to the TV and radio. We called his parents who lived seven miles away from Three Mile Island and my parents who live in Lancaster, hoping to gain more insight into what was happening.

Inevitably during that period we learned more about nuclear reactors. Much of what I learned dismayed me. After the initial releases of radioactivity from Three Mile Island, I learned that the experts differed in their opinion of how much radioactivity was harmful to humans and animals. On Friday, March 30th, we learned what seemed to be on Wednesday

to be a dirty but accidental shutdown of TMI reactor number 2 had become a remote but possible threat of being a nuclear catastrophe. A meltdown of the reactor might occur. After doing some hurried research, I learned that a massive release of radioactivity into the earth's atmosphere could create a barren wasteland. How much of an area would be involved? Again, the experts could not agree. I vividly remember trying to fall asleep on Friday night, having little success because of the barrage of questions that kept troubling my mind. Would I ever see my home again? The house that my husband and I had spent hours of labor remodeling till it became a statement of our tastes, my yard filled with flowers I had lovingly planted and enjoyed for several years. What would happen to my family and friends living in the area? Would I ever see them again? Would they be driven from their homes or would they become cancer victims from the increased radioactivity? My husband's home office is in York. Is it possible that the radioactivity could reach that far? Will he have a job if the office and the factory are inaccessible?

My thoughts rambled on that night. Surely the nation would suffer from such a catastrophe. The economy would be affected by thousands of people who were hopeless and jobless. What about those people downstream from Three Mile Island

who get their drinking water from the Susquehanna? I could not imagine the logistics of supplying all these people with an alternative source of water. On Saturday, March 31st, we learned the presence of a hydrogen bubble in the reactor vessel. Some experts said that the gas bubble was explosive. Dr. Denton of the Nuclear Regulatory Commission stated that the condition of the reactor was stable. That night we heard on TV that a computerized simulation all of the things that could go wrong with a nuclear reactor system, the series of events which led to the accident at Three Mile Island had never been considered a possibility. The most serious accident in the history of nuclear power reactors had not been foreseen by the experts. By Wednesday, April 4th, we were being assured by the NRC that the gas bubble had been eliminated and that the reactor was cooling down. The front page of the Lancaster Intelligencer Journal carried a photo of an immensely relieved looking Governor Thornburgh. The thousands who had fled the area had returned home. The crisis was over.

At the end of April, my daughter and I came back to Marietta. We were glad to return to healthy and happy friends and relatives. While driving through the beauty of the garden spot, I could not help but reflect on what might have happened. I was surprised to note that the majority of

the people here did not seem concerned about the incident at Three Mile Island. Many had lived through such a series of dire consequences were apathetic when questioned about their feelings. At that point I vowed to try to keep that memory alive.

With the preparation of this statement I have taken the time to outline these events. I hope I have strengthened your memory of the accident and its repercussions. I have been trying to learn more about workings of a nuclear plant. It is not easy for me because my background in physics and engineering is practically nil. But I do care.

The people of the United States have become power greedy. They think that all of their demands for the comforts that technology provides must be met at any cost. And the nuclear power industry is willing to give them that energy without taking into account that in doing so they are endangering their lives and the lives of many others.

There are alternatives to nuclear power. Perhaps they are not practical at this time. Neither was nuclear power fifty years ago. I feel that we need to spend more money on researching the alternatives. We who live close to Three Mile Island and who drink the water discharged from the reactor are in a unique position. Our lives have been touched by events

that could transpire at any of the 70 or so nuclear plants scattered across the nation. Do we care about the lives of these people? If we do, we will work together to make sure that the experts are not given a free hand to decide our fate. Thank you.

(Applause.)

CHAIRMAN WRIGHT: Jeri Miscavage.

MRS. MISCAVAGE: My husband and I moved to Lancaster County in 1974. We were originally attracted by the environment and what we thought concern for clean air and water. I originally heard about the nuclear accident when a relative called from Wilkes-Barre. That was midmorning on Wednesday. At that time I was unable to get any local news on the radio and television concerning the accident. So I called my husband and he called the State Police and they knew nothing about it. We then called the Civil Defense. Civil Defense said there was an accident earlier that morning, but there was no problem and it was under control. Unfortunately, that afternoon my husband went up to Penn State, where he is a graduate student, and took my three-month old son right past Three Mile Island, assuming that everything was under control and no problem.

The next day friends of ours attended a press conference given by the Union of Concerned Scientists in Harrisburg where there was an indication that the accident was definitely serious. The most susceptible people of the population were very young children and pregnant women. At that time I had left and went to my parents in New Jersey where I stayed for two weeks. The news reports became more and more urgent and more dismal and my husband joined me without even going home and getting any of our belongings on that Friday. We wondered also if we would ever return, if we would lose our house and if we would ever see our friends and relatives again.

Our feelings after this accident was that Met-Ed is concerned mainly with money and profits and does not really have any concern for the people living in the area. We feel that Met-Ed demonstrated that they cannot operate the plant competently. The discovery of the contaminated clothing in the dump near Three Mile Island further illustrated that fact. We further feel that nuclear plants should never have been built until there was a suitable means of disposing of the nuclear waste. Plants who dump the contaminated water into the Susquehanna River is totally unacceptable. We feel that the people in this area have had enough and it is time to stop.

The consumer also should not be forced to bear the

cost of nuclear accidents. We were told that nuclear power was cheap, safe and clean and many of us now are questioning those original statements.

We feel that if Three Mile Island is permitted to resume operations, we will no longer live in this area. We will relocate to another area in the United State where there are no present or proposed nuclear plants, nuclear waste disposal sites or accountable dumps. We feel that we were very lucky in the area that the accident was not as serious as it could have been. But we feel that we may have another accident which will be serious in the future. Thank you.

(Applause.)

CHAIRMAN WRIGHT: Thank you. Mrs. Walden Randall, Vice Chairman of the Lancaster County Planning Commission. Mrs. Walden, W-a-l-d-e-n, S. Randall, R-a-n-d-a-l-l-, correct?

MRS. RANDALL: That is correct. My request to address this committee this afternoon is in two parts. I would like to read a letter which I have written to Representative Wright about my concerns about the inadequacy of the Civil Defense preparedness for the area surrounding TMI and Peach Bottom, especially the nonexistence of any funding to implement Pennsylvania Act 323.

And the second part of my report, I would like to forward to you a report in the New York Times Weekly Review, May 6, 1979, taken from the NRC files about the terrible record of safety at the Peach Bottom facility.

I am appearing today as an individual citizen living five and a half miles from the Peach Bottom Plant. My comments are my own. I served on Civil Defense for Martic Township, Lancaster County, I am the region six representative for the Lancaster Planning Commission and its vice chairman, I am representative for southern Lancaster County, I am chairman of the Mansion Advisory Committee for Lancaster County Planning Commission.

I was present on Tuesday morning for our meeting with the Lancaster County Commissioners and Mr. Paul Leisey, Director of Emergency Management for Lancaster County. After contacting Mr. Ahfeld, the Director of the Planning Commission, on Wednesday morning, I am bringing to this committee this afternoon a request on behalf of the County Commissioners that they be allowed to submit to your committee before you take any final action on emergency planning and preparedness, their report which is now in preparation. I noticed in the handout that you have a seven-day limit. The county will not be ready, I do not believe, and they would like an extension to submit

to you their information.

The primary sources of the data which I am using in my report to you is the task force report prepared for the Nuclear Regulatory Commission by a joint group drawn from the NRC and from the EPA, the Environmental Protection Agency. This report was finalized in December of 1978 for TMI. It is a game plan computerized outline of methods that local and state government should use in updating their CD planning.

The name of the book is a Planning Basis for the Development of State and Local Government Radiological Emergency Response Plans in Support of Light Water Nuclear Power Plants. I would recommend to your committee that you acquire copies of these as quickly as possible. This is the outline from the NRC about how to plan for civil defense for the state and local agencies. This report was finalized before TMI. I believe that some of the time frames contained in the document would be shortened considerably by the TMI experience and some of their plume statistics most definitely different. It is the most up-to-date guideline about how to modify your civil defense planning that I have been able to acquire.

I might add the contacts with Mr. Oran Henderson's office has produced nothing of value to this point. I assume he is overwhelmed by the aftereffects of the accident. On the

other hand, Congressman Robert Walker's office has been extremely helpful in ascertaining information related to this issue. I would also like to announce that the Lancaster County emergency management people will be holding monitoring classes in Bainbridge June 4 and 5, 1979 at the Bainbridge Fire Hall at seven p.m. with Dr. Connors teaching people how to run monitoring equipment. Anyone who is interested is invited to attend.

Since the accident I have looking into parts of the issue related to civil defense evacuation and preparedness since I feel this is a crucial factor for local determination while the overall picture from the nuclear industry is discussed at the federal level. In any discussion of readiness there are two key items. One is the time of warning which we can expect to have and the other is the distances for which we should plan. According to the documentation, which I have been able to assemble up to this point, these are as follows:

The probable lead time in case of a severe accident at a nuclear plant is in the range of one half hour to 24 hours. The source is the document that I have just indicated to you. If you had been listening today to WITF's broadcast of the Presidential hearing, you would see that even post-TMI that time frame holds up as valid. So the lead time, I repeat, is

one half hour to 24 hours.

The recommended area which should be prepared to evacuate in that one half hour is a ten mile radius of a nuclear power plant.

The two kinds of accidents that they studied in this report from the NRC are either the plume type of an accident or the ingestion type of accident, whether or not you have gaseous atmospheric release that goes out in an area and drops down on you or whether you have particles of radioactive material which is then eaten by cows and gets into the food chain.

Under Pennsylvania Act 323 passed by the state in November of 1978, the jurisdiction for the responsibility for emergency planning is on many levels. Each governmental level is to develop its plan, each, from the municipal to the county to the state to the federal. Those plans are to be interfaced with the next larger organization above it. The goal here is broadened in that each area of expertise is tapped and involved in the decision making process. But in fact few, if any, municipalities have any plan whatsoever and therefore the counties are not operational. Of key importance, of key importance, is the issue of funding to augment this planning need. There is not any money to any township to assist in

preparing a plan. At the same time, purposely, these nuclear facilities are located in townships with smallest population, the smallest municipal staff. Most of the supervisors are working and serve as their municipal officers after their work. Many have no full-time staff except for a few. Few, if any, have the expertise to develop a plan as required. They have a skeleton CD staff with no extra funding. Did your Legislature really intend that they would use their normal budget to answer this need? Has not this need been created by the energy demands not of the population of these townships but of cities far distant from the area? Is it equitable to ask a township to finance out-of-pocket readiness state for a one or two hour evacuation for a ten mile radius of the plant? On the county level, the same inadequacy, no special funding is there to interface a municipal plan. And yet that is the directive that the state has given. Mr. Leisey is responsible for interfacing plans and Mr. Leisey doesn't have the financial adequacy to do so. Mr. Leisey is suppose to help those townships acquire equipment and there is no funding, there is no money. No special funding is available to update communications. As a matter of fact, our township was turned down when we asked for CD funds to do it because we were too wealthy. We have no money to install and maintain sirens. We have no money to maintain

duplicate telephone lines into a township building. We have no special funding to locate the distribution of the population, its aged, special needs such as invalids, and update these facts on a regular basis. There is no fleet of off road vehicles capable of moving through bad winter storms when the roads are closed by snow and ice. And I remind you the NRC time frame is one half hour.

There is no provision for each municipality to have a generator if the electric lines are out. In my township, the electric lines were out for as long as five days in December of 1977. There is no money for radio communications if the phone lines are out. The list is still incomplete as to what equipment and manpower it will take to place these townships on a readiness basis for a few hour ten mile radius evacuation without panic and confusion. Yet the NRC itself states in this booklet on page 150, unequivocally, that is the standard that produces the lowest risk factor for the population. This is one of the hidden costs of nuclear power that has never been satisfactorily addressed in the current regulations.

May I submit to this committee, if a nuclear facility desires to operate in Lancaster County or operate adjacent to Lancaster County so that the ten mile radius

involves Lancaster County citizens, that those governmental agencies who license the plants are responsible to provide maximum level of safety to those affected. Under the law, as it is now written, the state cannot refuse a nuclear facility. It accepts, therefore, responsibility for proper evacuation. The NRC in their report states emphatically what the time frame is and what the distances are. No local resource is sufficient to develop that funding. I personally find it very doubtful that the state could afford to pick up the tab for all the plants now in operation and fund 323 adequately, not to mention the fact there are 15 nuclear sites in the state, disposal sites, weapon sites, research facilities. All of these share the common potential for a destructive accident to a greater or lesser degree.

If the evacuation plans for this county are inadequate when measured against the recommended standard developed by the Nuclear Regulatory Commission in December of 1978, then what does prudent action demand? Number one, and these are my suggestions to your committee. Bring the ten mile radius in each location up to the standard the NRC provides or close the plants until it is done. Provide the money to implement the provisions of Pennsylvania Act 323. Don't push this burden onto county commissioners whose funds are "frozen" and there is

no money available. Develop a list of necessary equipment and personnel and training on a township-by-township basis with local control over the decision but not expecting local provision of the funding. Request of the U.S. Congress the removal of the Price Anderson Act by voting for HR 789. Request of the U.S. Congress an amendment of the Atomic Energy Act of 1954 reasserting state control over the siting of nuclear facilities of all kinds and adequate proportioning of the cost of evacuation plans for the adjacent areas to the people who use the electric. If necessary, I would think by going to the PUC. When you have the list of how much 323 is going to cost, go to the PUC and ask the PUC to get the customers of those electric companies to either pick up that tab or not use those facilities. An extension of time for comments to this committees so that local and county governments now studying their plans, can report their findings to you after careful evaluation is needed.

There may be the necessity for more hearings in Lancaster County besides this evening and others in other counties as the investigation proceeds. And my last point, a plea for development of alternate sources of safe energy, especially coal.

May I compliment you on your efforts to deal with

the only real area of local and state control. After two months of trying to become a nuclear expert, I realize it is impossible. The proper response to this emergency is to define what area you are responsible for and go after that. By holding this hearing on safety and evacuation issues, you are trying to supplement the woefully inadequate provision which has been made to your constituents and we deeply appreciate it.

I would like to also read in just a very quick way this report from the Nuclear Regulatory Commission that was quoted in the New York Times, News of the Week Review, on the status of the Peach Bottom facility, which is a sleeping bear at the other end of the county. This is directly from the Nuclear Regulatory Commission's files. This is the least safe site in Region I. It has the poorest management. Quality assessment and security are not upgraded to current standards. Many items of noncompliance. The plant staff has appeared incapable of correcting increased plant radiation levels, management is slow in responding to problems. A greater inspection frequency is attributable partially to the NRC Regional Office. We expect improvement as a result of a meeting with management company president. Operating staff -- just get this, operating staff are error prone due to back-to-back overall periods for unit two and three. The general attitude

of the plant appears to be compliance only as required, careless operation and poor maintenance. The number of workers at the Peach Bottom facility have been exposed to so much radiation that they may no longer work in the plant. It is 30 percent, 1,168 workers, the highest in all 72 plants.

I would request that your committee really give this booklet a very close look. There are the guidelines in here which I think, it may not be possible for us to achieve. If we can't achieve them, there is only one alternative and that alternative is close the facilities down and move to coal. Thank you very much for your time.

(Applause.)

CHAIRMAN WRIGHT: We do have definite plans for the various counties. That is already on our schedule.

I would like to make a plea to subsequent speakers, try to stay within the time allocation so it doesn't get too bad at 9:00 tonight. Dr. Miles Newman, Physician, N-e-w-m-a-n.

DR. NEWMAN: That is correct. I'm Dr. Newman. I am a local physician in the area. I am also one of the two physicians of Metropolitan Edison at Three Mile Island. Basically, I was asked to give my observations and my patients' reactions as to the incident at Three Mile Island and I thought

I would also interject my observation of the plant people and my personal feelings about the whole situation.

I would say my patients' problem with the incident at Three Mile Island could be classified as people who are overreactors, who would overreact to any type of a problem. That was a very small group. We had another group of patients who were the underreactors, who could care less. In spite of any emergency of any kind, they would just let this sort of go over the dam. And the middle of the road was, obviously, the average patient and they had a question, which I would hope this body or anybody would answer and this was their concern expressed to me, hopefully, that I had some inside information because I had some affiliation with Metropolitan Edison Company. And their question is what is the risk at the Island? What is the risk of nuclear power? And this really sums up my experience with my patients. All questions, most questions asked of me were what is the risk? A special interest was my patient who had just gotten pregnant, patients who had small children, they had obviously some special interests, since there seemed to be some special concern. And so really, the distillation of the whole thing from my point of view as a physician in general practice is people want to know what the risk was and any emotional problem, trial and tribulations that

they had was because they did not know what the risk is from the accident in the future, what happens.

My observation of the people who I work with at Metropolitan Edison is basically doing just physical examinations. My main job with Metropolitan Edison is to be available in case of a nuclear emergency to treat the radiation emergency. And they sent myself and one other doctor to the University of Pennsylvania and we were trained in handling this type of work. The operators, many of them, are neighbors of ours, many of them are patients of ours. The engineers tell me, who are also neighbors of ours, these people are well qualified, maybe more qualified than an engineer fresh out of college. My observation is that these people had a tremendous interest before the accident and to a certain extent, in spite of other people getting some publicity, these people also are heros. They stayed behind. They made their families stay behind. They took the responsibility of really giving out information as they came off their daily shifts, being exposed to radiation, these people came back to town and gave us information as to what was going on with concern and more optimism as things developed. The people that I also work with in safety, the medical people, have responded to this emergency tremendously and I think could be expected to respond to it again if anything

would occur.

A distillation of this whole thing, my personal feeling about this thing, I would like the question and answer that would help me with my patients is what is the risk? And then after I am told the risk I would like the opportunity to decide if I really want to take the risk. I think the community has a responsibility to help the company. Whether we help them close it or whether we help them keep it open, whatever is decided, we should make some effort to help our neighbors there. Thank you.

(Applause.)

CHAIRMAN WRIGHT: Thank you, Doctor. Mr. Thomas Campbell, Concerned Citizen, Bainbridge.

MR. CAMPBELL: I am Tom Campbell. I live in Bainbridge, I am a teacher in the Lower Dauphin School District in Hummelstown. It is interesting as we listen this afternoon and as we will be listening this evening, we will be listening to testimony from experts and the lesson expert, we will be listening to professors and engineers and environmentalists, housewives, utility representatives and probably other politicians and we listen and hope that somebody has an answer. And the question before this subcommittee is the disposal of radio-

active waste from the Three Mile Island plant. And I really cannot offer any expert testimony as to safety or danger or disposal of radioactive materials, but I do offer some thoughts on the impact of your committee recommendations.

I really cannot say that I have ever feared the nuclear plant. As I pass it daily, perhaps my attitude was one of benign trust. I think when it comes right down to it most of us in this room has sort of a benign trust towards technology, and when our technology involves risks, I think we have sort of grown to trust independent agencies to protect us from undue risks. So as I drove on 441 North passed Three Mile Island that Wednesday morning about 7:05, I glanced routinely at the cooling towers and casually at the cluster of teenagers along the road waiting for the school bus, waved to a couple of them who I knew. And the normal appearances as we well knew that morning were deceiving. This memory of that stretch of road, the faces of those children, the peril we unwittingly face today erased that benign trust. It is not easy to admit self-deception and there are many of us who still cannot admit to ourselves that some peril existed.

I have to say that really on the next days that followed, I think anybody that was involved with the school was pretty busy and, indeed, on that Friday we were sort of too

busy to be afraid. Of course, there was a great deal of ignorance on our part too. We were not getting information. Indeed the best information I received was from a Philadelphia radio station, KYW in particular, which carried 20 minutes out of every half hour format and a continual updating of what was going on. And it was an interesting thing on Friday that I received a call from London at 2:00 that gave me more information than I knew. That shook me a little bit.

This yearning to believe in our indomitability and this wanting to hang tough and this confidence in holding to a decision once it is made, that sometimes imperils prudent action. It is apparent that the accident occurred because individual engineers, individual managers, individual technicians and individual regulators, well-meaning as they may be, failed to re-examine fully the possible implications and scenarios to each of their decisions. I choose to think that these individuals have mistakenly deceived themselves at least in believing all contingencies had been considered. I do not want to consider the opposite that all contingencies were considered and that the risks to be taken were hidden from the public in hopes that some of these contingencies might occur. I am assuming good faith.

I think it has been stated before the degree of

risk is the bottom line. The degree of risk can often be determined by seeing who is willing to accept it. As it stands, there is no one person willing or capable to assume the total risks of a nuclear plant. There is no company willing or capable of assuming the risk of a nuclear plant and even the national government limits its risks. No institution, private or government, is willing to accept the risk of this plant or any plant. The risk has been shifted to those who reside near each plant. Each of us must privately bear that risk.

Since the risk is the question that this committee is considering before it proceeds to consider removing of waste from the area, I am suggesting that (1) it is important to move to recommend that the limit of viability be lifted, that the result of this would be a much greater caution on the part of nuclear operators. (2) It is important to move to recommend that government credibility be re-established for all nuclear plants by withdrawing the license of the operator of Three Mile Island to serve as a warning to the industry. (3) Let's drop the words of safe levels; there are none for an individual. Permissible emissions; there is no proper amount. These words deceive. So then we can lead to 4, which is then considering what to do with the waste, since that is the immediate concern of this particular committee. So while we continue to hear

opinions, I think what we are really looking for is strong leadership, which is, let's face it, it is going to be the better of two evils. There is probably no good choice in this particular decision. We are hoping that the decision would start here. Thank you.

(Applause.)

BY MR. TAYLOR:

Q. Mr. Campbell, I have just one question. You said that you got what you thought your best information from KYW in Philadelphia?

A. Yes.

Q. I'm going to ask the question of you I asked the first witness, when did you feel you first got reliable information and from what source locally?

A. That is difficult to say because on Friday I had to pick up a person from London who was suppose to be visiting in Bainbridge for a week and so we had a house guest without a house. I was really keeping in touch, the circle that I was in touch with was a college president, a school superintendent listening to the media. I would say as of Sunday all the officials that I was in touch with as to what was going on, they did not know nor did they have information which would

help them to make a decision as to what they were to do Monday with their respective schools. Monday, although I had -- one thing I think BBC on Friday evening was more helpful than our local information.

MR. TAYLOR: Thank you.

CHAIRMAN WRIGHT: Thank you. Mr. Guy Koser, Conoy Township Civil Defense Officer.

MR. KOSER: I am concerned with civil defense preparedness for Conoy Township and I have a statement here I want to read it.

When considering emergency planning for Conoy Township it is necessary to include plans to proceed for nuclear reactor emergencies, passenger aircraft crash, flood emergencies, railroad tank car emergencies, war time condidions involving nuclear attack. Nuclear attack by a foreign power or terrorist group is generally regarded as a most remote possibility. However, you may be sure you will have even less warning time to prepare than you were afforded during the recent TMI incident. A TMI Pearl Harbor, if so, evacuation would be useless. A prepared shelter would be the only and best place to go. If we look at the effectiveness, effective action, that is needed to protect ourselves from airborne effects from nuclear activity, we become aware that by preparing

for the worst possible situation, we can also be prepared for the problems of TMI.

It is logical to assume that TMI will operate again. Even if it does not restart, I hope you are aware that the open air nuclear testing of China and France is a continuing threat to bring us fallout that was, in the past, 100 times the recent TMI releases. I am not pro or anti nuclear, but nuclear airborne hazards are a clear and present danger that we must be prepared to live with.

The question is how to be prepared. Evacuation - I personally disagree with attempting evacuation. However, I am prepared to do just that if it is so ordered by proper authority and when, under specific conditions, it is the only way to protect lives. Shelter - I feel the only practical long-term solution is to prepare shelter space in every home. It could be simple and relatively inexpensive. In most western states they take cover in this matter from tornados. The practical approach to shelter space is to make the shelter area serve a dual purpose, family room and shelter.

Warning - the warning system is by far the worst problem and it should be the first solved. It is vital to the welfare of all concerned to be alerted to the airborne hazards in order to have a chance of protection.

The immediate problem, TMI, should be monitored on a 24 hour basis. The monitoring equipment should be linked to an area-wide alerting system of sirens or other appropriate means of alarms. Also linked to emergency broadcast systems. This same monitor would warn us of releases arriving from China, France or otherwise.

Costs - who will pay for preparedness? Initially, we may consider the warning system will only serve to protect the TMI area residents. However, statewide there are reactors from Pittsburgh to Philadelphia with more under construction and planned. So it should be a state problem. The state officials may feel it is a national problem. The county officials expect the townships to foot the costs. I feel it's a question of leadership and responsibility and it begins with the state. The elected officials of the state have been charged with the basic responsibilities, which is based on the state constitution to provide for safety for the people of the Commonwealth of Pennsylvania.

My primary concern at this time is to get this program of civil preparedness underway. I have listed equipment that is needed to perform these tasks. So far I have received from county civil defense one case of food, one case of civil defense booklets. Let's face it, civil defense does

not have it to give, to equip, to fund these programs. I think it is time someone, county, state or federal accepts the responsibility of turning this paperwork planning into action. It is time to stop the talk shows from President Carter's blue ribbon panel on down and have the courage to endorse a program with dollars, not just words.

(Applause.)

CHAIRMAN WRIGHT: Representative O'Brien.

BY REPRESENTATIVE O'BRIEN:

Q. Do you know if the state civil defense was in touch with the county and the county civil defense was in touch with the townships? Were you working together?

A. I can only say that the county was the only contact I have had and that was even from Wednesday, I did not get contacted till Friday.

Q. Do you know whether they were in touch with the state civil defense?

A. I couldn't say.

Q. You don't know?

A. I don't know.

CHAIRMAN WRIGHT: Bob.

BY MR. HOLLIS:

Q. In your communication with the county director of civil defense or emergency preparedness, whatever he is called in the county, what type of planning and guidance did he give you in the development of an evacuation plan, what kind of guidance did they give you in equipment or determining what resources you would need in the event an evacuation was required?

A. You're talking about prior to the incident or --

Q. No, after.

A. After, there was a county plan, an evacuation plan, that involved five, ten, fifteen mile, twenty mile radius, evacuation plans. They asked each area civil defense person to immediately make their plan within that plan, a local plan. I was able to put together a local plan which I submitted a copy of, I think, the 10th or 12th of April I submitted a plan that did not conflict with their plan, stayed within the guidelines of their plan.

Q. Do you feel you could have implemented your local plan and within what time frame?

A. Basically, the only thing that was to happen at that point in time was to evacuate and we had plans made to evacuate, yes. And there were times that they used figures like 8 to 12 hour evacuation periods. In some areas we would have more time,

we would need more time. And we felt, we didn't try it, we felt we could make that schedule in our area with the assistance of several fire pieces of equipment and going door to door.

CHAIRMAN WRIGHT: Thank you. Mr. Harry Cameron from Lancaster.

MR. CAMERON: Well, I am not an expert on evacuation, but I do know people and I can say that I don't think anybody in this room can say that they have had anything to do with evacuating the people that would have to be evacuated from this plan. We are talking about in numbers, what, 500,000, 600,000 people. I would like to say you do not have to be an expert to know that that cannot be done.

I would think that they should be honest with the people and say to them, a lot of you will not make it. Let's be honest, they won't make it. And it is no use of leading people to believe that there is an evacuation plan where they will get away. This is impossible. I live in Lancaster, I was born and raised there, lived there all my life. If a meltdown comes, you can't go north, you are running into TMI. You can't go west, because you're running into York which is evacuating also. You can't go east because you're running into Philadelphia. So this lets one exit out, 272 South. Lancaster has approximately, metropolitan Lancaster, has approximately

340,000 people. Have you any idea what that would be like to have 340,000 people to be trying to get down a two-lane highway? It would be the biggest demolition derby ever known to man.

I don't know what statistics that they have wrote down on pieces of paper that say it can be done, but nobody here has ever seen that happen. Now, also, everybody thinks that people are going to march out in order the way they are suppose to. This isn't going to happen. Have you ever seen 340,000 people running for their very lives? I can tell you what you're up against. People driving at speeds you wouldn't believe. There will be people out there that don't have cars, trying to get cars because they don't want to die. They will be coming out on the street with guns trying to stop people with cars to get them to take them along because they don't want to die. This is the kind of panic that you are going to run into. The civil defense or nobody else is ever going to stop these people. It is going to be like a fire in the theater. The slow ones will be trampled to death.

And then we have the hospitals, three major hospitals, plus a large retirement home in Lancaster. It would take hours and hours to get these people out of these hospitals and home, not to mention people who are deaf that live in places. And when you think about all these things, it

is impossible that you are going to get all these people away safely. They are going to die, a lot of them are going to die. I would say hundreds of thousands are going to die.

(Applause.)

I can't help but think of the people who are going to be left to die. How are you going to live with yourself if you get away? And say, I had to let my grandfather there he was too old, I couldn't take him. These are things that are going to happen. This country doesn't learn lessons easy. I think all these meetings are not going to do any good. I think the only time this is ever going to be straightened out is when you have a meltdown and when you do away with the whole state and you kill 200,000 people, then nuclear will stop overnight. And that is a helluva lesson to learn, isn't it?

We can stop it now. We don't have to learn that lesson. You people have a lot to do with stopping it. So let's try to do something now to do away with nuclear power and go to other energies which we can do. They say it isn't a battle of money and lives. That is exactly what it is, big business and money and lives. That is what we are talking about here today.

(Applause.)

Then the main thing is if you get out, if a miracle happens, you get out. You're standing along a road in another state, your car is covered with radiation, you're covered with radiation. Do you think the people in the other states are going to welcome you with open arms? They are going to run away from you. There will be people dying along the roads. The deaths will be so bad that you couldn't believe it. It would be the worst accident that could ever happen on the face of the earth. An accident of that kind would make any other kind of an accident seem like a marble game. Now that's what we're talking about here today.

And there is no great experts who have to figure it all out. We were sold a bill of goods. It's partly my fault because I didn't pay attention to what was going on and I will have to pay that price myself. And if I have to pay more electricity -- more payments to keep my electricity, I will, but I won't pay one red cent if they are going to fix up Three Mile Island and run it again.

(Applause.)

If the people knew how bad what a meltdown would do, you take Safe Harbor Dam, if it broke tomorrow, okay, it would be the worst disaster there would ever be, but you know what you

could do, you could come back in a few weeks and you could rebuild the dam. After a nuclear accident, you are done. One hundred square miles of this area you would never come back to, never again. Nobody says, who is going to come back in this radiated area and do away with the bodies, who is going to do that? You're going to have bodies laying all over, who is going to come back into this highly radiation area and do away with these bodies and get them buried, etc.? And then you never come back.

And then I'm standing along the road down some place in another state and the government says, well, we'll give you $500 for a house that I worked 25 years to get and they hand me $500, which I couldn't live in a motel for a month. And say, well, that's too bad, Harry, you lost your house, you can't go back to your area, you never can go back ever again. Then what am I suppose to do after that? Nobody has any answers, do they? Well, I'll tell you what I'll do. If I get out alive, I'll be back, and I won't be back in front of this committee and I won't be doing no talking. Thank you.

(Applause.)

CHAIRMAN WRIGHT: I am going to suggest a ten minute break and as soon as we come back we'll pick up Reverend

Earl Fike.

(Brief recess.)

CHAIRMAN WRIGHT: I think we'll get started. Reverend Earl Fike. Reverend, go ahead.

REVEREND FIKE: Mr. Chairman, members of the committee and friends and neighbors. My name is Earl Fike, Jr. I am pastor of the Elizabethtown Church of the Brethern. My statement to you is approximately six and a half minutes in length. I do appreciate your willingness as a committee to hear representatives of the community and my own opportunity to be a part of those heard.

I am a fan of Ziggy and I read him daily. Some time ago he was shown a telegram which said, this is to inform you that we of the Internal Revenue Service have lost your files. Unless you find it within 30 days, you will face a $10,000 fine and jail sentence of not less than five years. Please advise.

I am a ten year nuclear moderate, who feels like he has suddenly received a telegram telling him things are not the way he has been told. TMI in itself has created a grave concern that over the past several weeks the study of the issues around nuclear energy has, indeed, caused a change in heart on

my part.

Most of us in this room would classify ourselves as being religious, many of us being christian, and one of the continuing tasks of anyone who is religious is to understand and articulate the relationship of their faith to life itself and to let the values and precepts of their faith influence the character and the quality of life. Indeed, if the church is to have vitality and validity, it must speak clearly on community directions which are moral issues. And I believe that nuclear power for the production of energy is a moral issue.

I do not intend to speak from a privileged position which some might call religious immunity. The church needs to enter the arena of future directions by calling into moral accountability its own life style and that of its members. We hold too many meetings that require travel, we have buildings that were not constructed with energy conservation in mind nor have we modified them or adapted our own use of them with serious commitments, conservation of energy. More than this, we have not been a prothetic voice for our own members in taking seriously the need for tempering life style to conserve energy. Individual freedom and the right to consume energy when we can afford it has been subverted in our own doctrine of

care for the earth and its natural and human resources.

So I am not here, therefore, before you with clean hands pointing fingers, I am here confessionally, fully expecting to be among those who will work energetically of calling the church into its own accountability. I am here as a pastor of a congregation which has taken an official vote as a congregation calling its own denomination to give attention to the question of whether long range nuclear power should be a major source for energy in this country. Because of questions of financial feasbility yet unanswered and additional costs for the handling of wastes and the decommissioning of plants, because of the lack of suitable safe plans for the disposal of nuclear wastes, because of question of extreme human danger in case of mechanical or human error, and because of long range questions of environmental and human safety for generations to come.

Complex questions do not have simple solutions. But sometimes simple questions enable us to cut through complexities. For instance, should we be producing energy by using a source of power which we know to be hazardous when the technology which developed and maintains it is so uncertain about safety and about what to do in emergencies, I think the reasonable answer is, no, the moral answer is a resounding no.

Should we be supporting a potentially hazardous industry when there is real question about economic feasibility? That is a question which was being raised publicly before TMI occurred. I speak of inadequate budgets for storage, disposal of spent fuel, inadequate budgets for increasing safety measures, inadequate budgets for decommissioning plants after 30 to 40 years of usefulness and inadequate budgets for replacement of facilities as the decommissioned ones are put out of service. I think reasonably the answer is no, morally the answer is a resounding no.

Should we support an industry that is producing hazardous wastes which in itself does not know what to do with? I think reasonably the answer is no, morally the answer is a louder no. Should we support an industry that for the sake of energy now must mortgage future generations with payments which may mean living in restricted or contaminated areas of the earth? The reasonable answer is no, the moral answer is, indeed, a loud no.

When the issues before us are issues of public safety and responsibility as humans to be God's stewards of creation, that is responsible for the earth and its material and human resources, we must answer no to those personal and technological directions which threaten creation itself, when

human life and the earth's resources are in question, when the want of some become the danger for others, we are in a moral decision.

Complex questions do not have simplistic answers, but history will not congratulate nor laud us. If our answer to this problem is that it is too complex to change, and since we have already started we ought to continue until our technology catches up with our power, complex problems do not have simplistic answers, but they do require clarity on what the issues are. And I am convinced that the same technological and creative genius which initiated and developed nuclear power ought to be able to say, enough of this, and be able to turn towards safer and renewable sources of energy. It will, indeed, require major adjustments on the part of industry and the publi , but better now than later.

My statement is almost finished. I commend to you the recent statement on the ethical implications of energy production and the use passed by the National Council of Churches in San Antonio, Texas, May 11, 1979. I have a copy of that report for you if you are interested. It is the report of a very responsible study commissioned of over 100 persons, including scientists and technologists, who are both pro and anti nuclear. It articulates well, I think, the moral and

ethical issues which should be a part of your consideration. Thank you very much.

(Applause.)

CHAIRMAN WRIGHT: Thank you, Reverend. Dr. Charles Moore. Are you Dr. Moore, sir?

DR. MOORE: I am. I didn't realize I was next. I am not quite prepared. It will take me a second.

CHAIRMAN WRIGHT: Does it take more than five minutes?

DR. MOORE: No, I don't have anything prepared. I just have an outline. A number of people asked me what my connection was here. I am just a concerned citizen. I am an economist and author and my specialty, as an economist, was to look into the regulations. I see this whole nuclear problem and many of the problems we face in our society today a problem, basically all the problems are human problems. They reflect our deficiencies or our handicaps as human beings. There are many theoretical problems that have been acknowledged about regulations for a long time. The problem primarily being that the interest of regulators and the interest of the regulated ultimately become one. And I think we have the worst possible case of a failure of regulations in the case of the

NRC, and if anyone goes through the records and exams what they said in the past, there credibility does not exist practically. And you can see that this is what the theoreticians about regulations have always projected, and here we have it in its worst form, a form that actually ends up in killing people.

But if you think for a minute that you can trust someone like the NRC to regulate nuclear power, just understand what it is to be a human being and understand the insecurities you have, the need that you have, to take care of your children and your family and pay for them. And if you were one of those people on the Nuclear Regulatory Commission and said, hey, listen, I think we have such a bear here, nuclear power is so damn threatening that we should really do away with it. What does that mean to that individual who comes to that conclusion? It means that his job or her job will disappear. Because if we don't have a nuclear power industry, we don't have the Nuclear Regulatory Commission. So there is one reason to suspect that we may not be getting all the truth that we should out of nuclear regulators or regulators in any industry. I don't have time to develop that idea, but that is one fundamental thing to look at.

Okay, let's look at the record of the NRC just on a couple of things. In the case of Rocky Mountain Flats out in

Colorado where they mine or where they process uranium and plutonium for the nuclear weapons, which interestingly enough is insignificant relative to nuclear power. I don't know if you people realize this, but the amount of nuclear material that is used and will be used for nuclear energy is far, far greater than anything we have today in weapons. Okay, weapons is going to be insignificant in relation to nuclear power. So they have a fire out there, a $45 million fire and the NRC said, well, things were controlled and at most we had maybe one millirem of uranium get away. Well, some independent scientists went out there and said, in fact, there is 100 to 200,000 times as much as the NRC said got away. The NRC said, well, wait a minute, they sent their man out to check the records, Dr. Martell. They found out, yes, in fact Dr. Martell was right. Their original estimate was off like 100 to 200,000 times.

Now we had a report here by someone from the Pennsylvania Department of Regulatory Research who talked about radon gas and said that there is no known problem with that. Well, in fact, the NRC itself has admitted that in the processing of uranium, you end up with 15 percent of the uranium that doesn't get out -- that isn't recoverable from the ore. No process we have is perfect. And that that kills thousands of

people when you integrate back over time, and the NRC hasn't even disputed that fact. So that we know when we fool around with uranium in the very beginning of the process, if everything goes perfectly well, we still end up killing a lot of people.

Let's look at the monitoring. They are suppose to be the watchdog to make sure that you and I are protected. I wish I had the Easter Sunday report, that is the first report by the NRC, that talked about what happened at TMI. In that report, someone asked the NRC, well how about the monitoring that was done, how about the specifications on the number of monitors that the utility, in this case, Met-Ed, is required to have? There were no specifications. How about the location of where those monitors are to be? No specifications. How about the accuracy of those monitors, do they have to be accurate within five percentor ten percent or 100 percent? No specifications. I ask you in all honesty is that regulation? It's a sham.

We have dead cows out here. Now I know nuclear scientists that have examined that problem and say you won't find -- of course those cows that died was caused right on the first day, it happened the cows that were out in the pasture are the ones that got sick. When you have a controlled nuclear

reaction, an uncontrolled one, the fission products are exactly the same. And most of them have a very, very short half-life, so that the radioactivity, the poison is dissipated completely in a couple of days. Now when the first emissions came out of TMI, there is almost certain surety that those things came out along with, when something comes out, the whole thing comes out, particles of all these things coming out. So the ones that probably caused the problem with those cows could very well have been maybe the first day or two, ones that die out in a day or two, that half-life that is very short and the cows eating the grass, the ones that were in pasture, got a double dose of that.

You know, we got a problem here that is not just a regulatory problem, but a governmental problem. No one here in this county that is really in control of things, if they understand the implications of finding out what really happened at TMI, they are politically unacceptable. Real estate value will be affected adversely here. The Governor himself talked about the problem. Here we are going to have a situation of the milk, signs going up in Maryland, we don't sell Pennsylvania milk. Okay, you're going to have problems, what is going to happen with the tourist business? So there is all kinds of reasons to expect what really happened here is being covered up

and I can understand that. Again, it is the human being, the insecurity that we have, our shortsightedness.

We have a responsibility to the world to dig down and get to the truth of this, look for facts, looking for things in the environment like strontium 90 and strontium 89, which no one is monitoring for. The NRC the first week in May pulled out all the monitors that they had brought in here. President Carter ordered that they bring monitors in to see what is going on. The first of May, the first week in May, the NRC, well, there is no problem any more, we're going to pull that out, pull the monitors out. We are not collecting data any more on what is going on. What is happening here is now we no longer have a nuclear power plant, but we have small emissions coming out anyway, always a little bit.

We now have a nuclear waste treatment facility, and it is a totally different kind of facility. It is a make-shift one. We have lots of nuclear wastes to process. They never built the buildings in the first place to process them properly. Well, every nuclear waste treatment facility that was ever designed has failed. They had to close them down because people got cancer. They talked about people not dying. Peach Bottom kills people. It absolutely kills people. Dr. Sternglass, who has done the study and shows the cancer rate in

the city of Baltimore, which gets its water four miles south of Peach Bottom, has gone up very significantly ever since they introduced Peach Bottom. And that is information that is swept under the carpet. In Connecticut you have a classic example. A power plant on the river, a reservoir on one side of the river and a reservoir on the other side of the river. In the downwind from Connecticut Yankee, there are two damn little towns almost exactly alike, the one that is in the downwind pattern, the reservoir is five miles away from the nuclear plant, all the stuff it gets out of the plant or some of it drops into that water supply, and the cancer rate in that town is 58 percent higher than in the town right across the river 20 miles away. Now you know all those facts and figures are being dug up by people who are outside. They are not part of the nuclear industry. They are trained as scientists in that industry, they have said, look, we have made a dreadful mistake as human beings, nuclear power is a madness and we have got to straighten it out. Now the best witness around is Dr. Gothman. I want your committee to have Dr. Gothman come up and testify to you people and I don't want to hear this stuff about him being a controversial witness and therefore, unacceptable. Dr. Gothman is an MD and a Ph.D. He is a nuclear physicist and also a medical doctor. He has written

book after book in which he has put down the facts. And listen, if these facts were not true, he would be up against a wall because all the interests in the nuclear powers would hang this man.

Here is what Gothman did. He says that there should be trial, a Nuremberg type trial, for what is happening, atrocities in the nuclear power industry and he, himself, should go on trial and be tried. This is what he did. He was the original man who discovered how to isolate uranium 235, made it possible to build the atomic bomb, one of the people in the Manhattan project that built the bomb that dropped on Hiroshima. Incidentally, TMI produces the equivalent of 400 Hiroshima bombs every year that it operates. That is how much nuclear garbage comes out of TMI, one reactor a year. Each year it does that.

Now, who would you believe? Gothman is a credible witness, I would think, because of what he said. Now in 1957, Gothman -- Linus Pauling, who was a Nobel Peace Prize winner, Linus Pauling said we grossly underestimate the damage of low-level radiation and that this radiation is, in fact, much more dangerous than we thought. I think it is probably 20 times as dangerous as we originally figured and that there is a linear relationship between radiation and damage and therefore every

single bit of radiation is dangerous. There is no safe level, it is dangerous. Now, the NRC has agreed to that recently. The NRC, if you want to believe them, they also admit to that.

CHAIRMAN WRIGHT: Dr. Moore, you're running over your time.

DR. MOORE: Okay, let me stay one more minute on Gothman, he is the man that came down to the city to talk to the Mayor of Lancaster. He would be an excellent witness. What Gothman did was come out against Linus Pauling and say this is ridiculous. We should not hold back nuclear power because we think it might be unsafe, we should proceed in the name of science, you know, and go into this. The Nuclear Regulatory Commission, the forerunner of the AEC, Atomic Energy Commission, said, all right, here is a sympathetic voice, we are going to fund him. They gave this man, Dr. Gothman, three and a half million dollars a year and 150 scientists to work with him and he did a study for six years and he came out with the conclusions of six years of research with 150 scientists, three and a half million dollars a year, under the auspices of the Atomic Energy Commission, that Linus Pauling was in fact underestimating the perils of low-level radiation and they are worse than what Linus Pauling said. Now Linus Pauling, the people who published his book are not a bunch of scatter-

brains, irresponsible people, there is four Nobel Peace Prize winners, who the world says are the finest we have. They are willing to publish his books.

What happened as a result of that was his funding was immediately cut off, everything was done to discredit his research and to sweep the thing under the table, and that the reports were not even published by the Government, or that they were suppressed.

But the other fact is if nuclear power is going to be available in the future, if it makes any sense at all, we have got to have a future. And if you think that this fact alone, that if we go on with nuclear power, by the year 2000 we will produce the equivalent of super four-lane highway of nuclear garbage that would stretch across the United States four lanes and a foot deep. I think it is madness. We don't understand who we are as people. If they contain 99.99 percent of all the nuclear products that they handle, 99.99, if they are able to contain only one part in a thousand, one part in ten thousand gets away, that will still end up killing 500,000 people a year, if you go to a nuclear economy.

But sooner or later we are going to change it. It is just like the evacuation plans, impossible. Who is going to stay around and pump gas? What happens when the first car has

an accident? There is no way to get out. All that is rubbish. The thing to do is to just face the fact that human beings should not play with something like this. We are overstepping ourselves as a result of the children of technology. We are just titillated with our damn machines. When man discovered fire, he burned down the cave a lot of times before he learned how to control it. Nuclear power is just madness. If you understand that, even if you are 99.99 percent accurate, you are still going to kill a half million people a year with additional cancer.

CHAIRMAN WRIGHT: Thank you.

(Applause.)

CHAIRMAN WRIGHT: Dr. Fred Rapp, Ph.D., Professor and Chairman of Microbiology, Director of Specialized Cancer Research, Hershey Medical Center.

DR. RAPP: I guess I am up here in my capacity as Director of our Cancer Center and Chairman of the Department of Microbiology and as a member of the Hershey Medical Center Committee that had to deal with the emergency that took place at Three Mile Island at the hospital level.

Now, I was asked to present some figures and to point out some of the difficulties we have in evaluating this

kind of problem from the point of view of cancer. I think we might point out, first of all, that on any figures we cite today are already outmoded in the sense they are never up to date and they are sometimes two or three years old. That the most complete set of figures we have, even at this point, relate to 1976. And the figures we really would like to have are those that deal with the last few years as a base line, perhaps, for what may or may not occur in the future based on this particular incident. There are, and I might say, too, that these figures are difficult to evaluate for a number of reasons. The first is we understand very little about what causes cancer. Lots of things are presumed to cause cancer and probably do. That includes excessive radiation, it includes a lot of different chemicals, things that have been put into our food supply, as well as viruses, which are present in our environment and which most of us carry all the time. So that these are environmental factors that when they increase, whether they be noxious chemicals or radiation, obviously, are likely to increase the level of neoplastic disease that we see and, of course, cancer represents many different diseases.

In the case of Pennsylvania, there will be an estimated 48,000 cases of cancer in the Commonwealth this year and about half of those people, that is 24,500, will die of

that disease. This is based on previous years and, except that the idea or has the notion that there will be no major increase, and this is a total cancer risk. I gather that some people are especially interested in childhood leukemia, that is, leukemia in children under 15 years of age and we estimate about 1,300 cases this year with about 950 deaths in the face of any kind of therapy that physicians are able to supply.

The question was asked about rates in different counties and I should point out that when one looks at cancer cases there is a wide variation in the different counties of Pennsylvania and there is wide variation in different parts of the country and there is wide variation in different parts of the world in any different kind of cancer. It is not particularly uncommon to see twofold variations from one area to another and they are generally inexplicable because we really don't know, as I say, the causes of some of these differences. Again, the Commonwealth of Pennsylvania Department of Health tries to get up-to-date figures on that. In this particular area, for example, in the State of Pennsylvania the incidence of leukemia is approximately 6.8 cases per 100,000 children. That 6.8 includes the whole State of Pennsylvania. And generally the counties that are involved here, that is, Dauphin, Lebanon, say Lancaster and York are all right about near that

particular figure. They vary from 6.6 to 6.8 and that is information garnered from the last year.

The question that has to be asked then is what would you expect as an increase? Would you spot an increase, what would it take to see it? Because if that increase went up twofold, which is, of course, is a disaster for those who get the disease, epidemologically, that is, statistically, we would have a very hard time relating this to any given incidence. For example, in Pike County, the incident is more than twice as high as it is in Dauphin County, something like 15.5, just for leukemia alone and these other figures are available from the Commonwealth Department of Health. The difficulty we have in cases like this, in addition to finding out exactly how much exposure the population has, is that we really don't have a good scientific background for base for what happens with low levels of radiation. We have, in experimental animals, a lot of information with high levels of radiation. But the general problem of extrapolating from high levels to low levels is not only difficult, but most radiation experts would now say it is impossible. We don't know as that curve drops down the amount of radiation that is given to an animal or to man exactly what that means in terms of increased incidence from damage. Now we know that radiation can do different damage to

chromosomes, we know that those chromosomes can repair, but we know very little about concentration of different radioisotopes in different tissues. We really don't know enough about the repairing mechanism to know how often that is changed enough to cause cancer. And we don't know how often a damaged cell will go on to become a cancer cell because often if the cell is damaged enough to destroy, of course, there would be no resulting cancer. The different parts of the body are likely to receive different levels of radiation which is likely to cause quite different and profoundly different effects.

If one were to believe, and I am not questioning this, I am taking it for the moment, at the levels of radiation that the population in the five mile area has seen, we have to realize that even within the country there is about a twofold difference in the radiation levels that people see in Denver, that they see in Las Vegas. And those who fly a lot, as I do, at high altitudes are exposed to more radiation than those that stay at ground level. We have know idea at the moment what the twofold difference in radiation would do in terms of cancer incidence. But the general region of Three Mile Island, take the five mile radius, with a guesstimate population of about 28,000, over a 30 or 40 year time period, we might expect to see about 7,000 cancers of all types. If we had an additional

100 or 200 cancer cases, admittedly, a very severe problem to those people who have it, nevertheless that would be well within the variation we see not only in this area but around the country so that any given year at any given place, it could vary quite a bit more than that. I personally discussed this with a number of radiation people and it is a major problem that we have.

The second major problem, as I have said, is that we really do not, at this point, know what low-level radiation does to you. I could concede, personally, that any additional radiation is not desirable. The less radiation our body cells see, the better off we are. But that is not saying it all, because someone working on the causations of cancer now for about 20 years, I have to say that additional chemicals in the environment are also bad, cigarette smoking is clearly bad, there are a lot of things, obesity, extra weight, is not good in terms of heart disease and cancer and stroke. So the question is how safe is safe, what can we tolerate in a sense without major damage, without seeing unexpected and unacceptable additional risks to the health of the population. And it is really a question, it is an emotional question, people get very emotional about it, but it is something at the moment in all fairness, the best thing I can say is, we don't have very good

data.

Most of the Japanese data, based on Hiroshima and Nagasaki, involved, first of all, people who were much more heavily radiated. But even in those cases, if one looks at the figures, the number of cases of survivors, of course, that one sees per year and those that received a reasonably heavy dose of radiation, while it is obviously seeable in terms of statistics, if one dropped the radiation dose a little bit, it would almost blend into the background population. So very careful studies, basically, need to be done in experimental systems as well as to observe the human population to see what low levels of radiation do for you. Although I say, again, that any additional radiation, any radiation that can be eliminated from the environment, in the final analysis would be a very desirable thing to occur.

I am going to leave the rest of the time in case there are any questions and stop at this point.

CHAIRMAN WRIGHT: Bernie.

BY REPRESENTATIVE O'BRIEN:

Q. When is a dose an overdose? You said the experts can't tell what a small does is.

A. For the human, there is no, we don't know any "threshold dose". What you would like to say for anything, if you

give a certain amount it will cause disease, if you give less than that, it won't. In the case of radiation, we just don't have the data. I mean, as scientists, we have to admit we don't know and we don't know if there is a threshold dose, in fact, for radiation.

Q. If you were advising the Governor in a case like Three Mile Island and they had a spill, what would your advice be, say, in a five or ten mile area?

A. I don't, I mean, when they had the spill --

Q. I'm talking about evacuation. You advise the experts don't know. Who does know?

A. You mean in terms of what low levels of radiation -- obviously, it depends on the size of the spill, having had the spill --

Q. What do you mean by the size of the spill? When do you determine when you should evacuate?

A. Well, if the amount of -- well, in fact, you really have a hard time coming up with that determination. And we fell into this. We had the problem of do we or do we not evacuate the hospital? We had a very difficult time coming to grips with that. We were monitoring radiation, that is, our health physics people were monitoring radiation on the roof top of the Medical Center to see whether we could pick up

anything eight and a half miles from Three Mile Island at the Hershey Medical Center, the hospital itself is. We looked into this and we, frankly, could not come to grips with that particular problem. We didn't know whether we would -- you reach a point where there is radiation that you don't like, but where you might do people more harm by moving them out than, say, behind concrete. It also depends on the kind of radiation you are dealing with. So when you ask when you would advise it, I couldn't answer that question.

CHAIRMAN WRIGHT: Thank you, Doctor.

BY REPRESENTATIVE BRANDT:

Q. I have one question. Doctor two things you mentioned, on P i k e C o u n t y, was there ever any conclusion drawn on whether that leukemia rate was higher than, let's say, a bunch of high risks?

A. No, but there are many counties, of course, around the country that see that kind of variation. I might say, if we knew something better about the causes of leukemia, we could probably get at that and find out.

Q. Could you repeat your statement one more time, I didn't quite get the gist of it, about Hiroshima?

A. I was saying that Hiroshima, the survivors, obviously, had considerably less radiation, that is, those who

survived were below whatever the threshold was for death and that figure for humans is known on that particular event and for others. I don't happen to know those figures offhand, but of those who survived, the figures for the ones who survived for the next 20 years, from something like 1950 to 1970, I have written down the figures here I have got to go through them. But something like 50 to 80 more deaths, this is not to say there were not more cancers, some of them might have been cured, but per million people exposed to a rem or more at that particular time, how much they were specifically exposed to, of course, was very hard to say. But what I am saying is if you have 60 cases per million additional, that is six per 100,000, that starts to blend, almost starts to blend, into your background figures for any given cancer. Because for any given cancer you are dealing with somewhere between six and say thirty per 100,000, depending on what the cancer rate is. Leukemia is six, for breast cancer it's about 30 in the country.

REPRESENTATIVE BRANDT: Thank you, Doctor.

CHAIRMAN WRIGHT: Thank you. Mr. John Longenecker, TMI Moderator.

MR. LONGENECKER: Mr. Chairman, committee members:

On May 1st this year the West Donegal and Conoy Township Three Mile Island Town Meeting was held at this

location. Since I had the opportunity to serve as moderator for that meeting, I was asked to prepare a synopsis of those proceedings to present to you this evening. Briefly, the personnel makeup for the meeting consisted of a panel of four members. Metropolitan Edison had assured us they would have a representative here and they backed out at the last minute. In addition to our four panel members we had individuals from Elizabethtown College, Pennsylvania State Police, local civil defense, county civil defense, and Red Cross to assist in answering questions.

The panel was made up of State Representative Ken Brandt, who is here tonight, Mr. Mark Phillips, staff member from U. S. Representative Robert Walker's Office, Mr. Robert Hess, State Civil Defense, Mr. Paul Goss, Elizabethtown Area High School, whom you have already taken testimony from.

The meeting was attended by approximately 300 local residents. And in summarizing the meeting, I believe those comments and questions can be grouped under three broad headings. The first is civil defense and evacuation procedures. The second is communication difficulties, and included in this, I would place education. And the third is the future of Three Mile Island, and included in this, was waste disposal and protection of the people.

Time does not allow for a review giving specific questions and answers. However, a total taping of this meeting is available to you from WPDC radio in Elizabethtown and I would strongly suggest that you obtain a copy of that to enter into your record.

I would like to summarize my interpretation of the discussions on each of the three major groups. First, on civil defense and evacuation procedure, I believe it can be stated unequivocally from the questions asked and answers given, that this area is woefully inadequate, even though a satisfactory plan should be a prerequisite to licensing a nuclear power plant. And you have already taken testimony, which has spoken to this area this evening. I, personally, seriously question whether functional civil defense plans can ever be realized because of the extremely limited monies and personnel allocated to this area.

So far as the evacuation of children, as a direct result of the meeting there was a survey questionnaire to determine parents' wishes whether or not they wanted children bused home or bused out of the area. This was a great concern to many parents at the meeting. The results of this questionnaire came back and the questionnaire was distributed through the grade school students at Bainbridge Ninety-five parents

wanted children bused home, 60 wanted children bused out of the area. The obvious problems lie with parents that are not home. What happens to the children when they get there during the emergency of this type. And I think these problems you can readily agree upon.

As related to communications difficulties and education, you have heard this from Paul Goss and I think his testimony speaks for itself. There just was a total breakdown in communications.

On education, a number of questions arose from people where they could learn different terminology associated with this field. I felt a rather salient comment followed this commentary when a meeting attendee stated he strongly resented having to learn the facts of radiation. For example, what is a millirem, what does this mean? I believe the implications of that statement are both logical and valid.

The third area, future of TMI, and safety statements were made and issues were brought out, much of which you have heard here tonight and I am sure you will continue to hear throughout the hearings. I think it suffices to say that individuals have real and genuine concern for their children's health and safety and these concerns are so severe as to having a profound psychological effect on many residents of this area.

Now that concludes my comments on the meeting. I would like to make just one very brief personal comment if I may. It appears to me that from the beginning of the establishment of the maximum allowable radiation level up to the present, including statements recently made by our Governor, that we are using a benefit risk consideration to determine whether we should continue with nuclear energy or nuclear power at electricity plants. I don't think I have to enumerate what those risks are. I think we all know. And considering that, it seems to me there is something very morally wrong in using a risk benefit principle to evaluate the continued use of nuclear energy for power generation. Thank you.

(Applause.)

CHAIRMAN WRIGHT: Thank you very much. Sue Bowser, Librarian, Elizabethtown.

MS. BOWSER: Mr. Chairman, committee members, fellow and concerned citizens:

My being a librarian doesn't really have anything to do with my being here. Because I spent all day telling stories. I told stories to two and three year olds this morning, second graders this afternoon and I can't get stopped. So I'm going to tell you a story.

It starts in the late forties when doctors were very fond of their X-ray equipment which they had and they found as many ways as they could to use it. One way they found to use it was to shrink the thymus gland of infants. It was a good way to show your parents that you were trying to cure the cold that they had. They didn't mention the fact that the thymus starts out as a rather large gland and by the time the infant is one it has disappeared into microscopic size. And they liked it so much they were using it to shrink tonsils, adenoids and to cure acne. Well, it was very popular and no one seemed to notice in 1950 when two doctors reported in the Journal of Clinical Endocrinology that they had 28 patients, children, who had thyroid cancer and nine of them had been irradiated for a large thymus.

No one seemed to notice two years later whenever two researchers, they had proved that thyroid cancer could be induced in rats by radioactive iodine and radiation. Basically, the same type of treatment they were using on infants. They still didn't pay much attention in 1955 whenever a Dr. Clark in the Journal of the American Medical Association, a journal which most doctors should have been familiar with, said that not a certain percentage, not five percent, ten percent, twenty percent, fifty percent of his child patients who had thyroid

cancer, had received radiation, and 100 percent, all the children he saw with thyroid cancer had been radiated from the head or neck region.

And still nobody paid any attention, they still continued to go for such treatment. As a matter of fact, they continued well into the sixties. In 1970, the New England Journal of Medicine stated that 15 percent of adults with thyroid cancer had received X-ray treatments in childhood, and what was worse is that the cancer was not contained in the thyroid gland, which is normal with thyroid cancer. If anyone ever says you have to have cancer and you get to pick what kind, normally, it would be wise picking either skin cancer or thyroid cancer because both are easily cured. Thyroid cancer just stays in the glands so long. But people who have been irradiated have a much greater chance of it spreading into the surrounding blood vessels and spreading it throughout the body.

Three years later, in another report in the Journal of the American Medical Association, the doctors were reporting that about 15 percent of their adult thyroid cancer patients had radiation treatments, but 40 percent, that is a pretty dramatic rise in three years.

Now, I am telling you this story because I think, first of all, it has been my story. Whenever I was two months

old I had this swollen thymus and I had the treatment and suddenly when I was at age 16 I had thyroid cancer. As you can see, I was cured of it. I am still here and relatively healthy. What problems I have are not caused by that any more. But it seems to me that I see so many similarities between what was happening with thyroid cancer, with the radiation treatments they gave children and the kinds of information we are getting now on the effects of low-level radiation. That at first, with low-level radiation as with the radiation treatments to infants, it was considered to be no problem and no one even questioned the fact that there might be a danger involved. Then after a certain period and some certain suspicions, signs, a few people investigating, a few people in the mid-fifties started saying I think there is a correlation between the X-ray treatment and the thyroid cancer.

Since we are at that stage now with low-level radiation, there are few experts starting to look at this thing and I think there is a connection and I think we should be very careful and investigate. I don't want to have to wait 20 years from now to get to the point where we are now with X-ray treatments for children, where they are now have discovered it is such a concern, that in some places we have massive media programs to warn people, who had X-ray treatments as infants,

that you have a very high chance of having cancer. I don't want to have to do that with people who live near a nuclear power plant and who may have had a chance of low-level radiation through accidents such as Three Mile Island. There is a large similarity but a major difference between the tale I told you and the concerns with low-level radiation through power plants. Although the children did not choose to have X-ray treatments, their parents made the choice and were aware of it. There could be medical history traced back; they can be traced more. And you have had to pass someone along the way that had a choice in the matter. Unless you somehow find a mythical place in this country where there are not any power plants, nuclear power plants, you don't have much choice if there is an accident and you have low-level radiation. I think we must consider this and this is my concern. Having cancer is not a fun thing and I think we must be as careful as we can to prevent any causes. I think there has to be a sincere concern. Are we increasing the risk?

It is especially dangerous because the chances of affecting infants and children are so much higher than adults. If your child is exposed to radiation, it is five or ten times more sensitive, more likely to be cancer than an adult. A fetus is 150 times more sensitive. We are gambling with our

children's lives and I don't think that that is a risk we can take. Thank you.

(Applause.)

CHAIRMAN WRIGHT: Dr. Judy Weisz.

DR. WEISZ: I am coming here as a private citizen, not as a doctor who lives within three miles, as the wind blows, of Three Mile Island. I am also here, I happen to be a physician concerned now the last 15 years with biomedical research. My primary interest is endocrinology and one of the subjects that fascinates me most, my special interest, is the development of biology and embryology.

So within the context of a private citizen what I would like to tell you is how I felt one Friday morning when I had to close my front door and leave not knowing when I was going to come back again. As a scientist, perhaps, what I can tell you is to echo what Dr. Rapp has started telling you. Don't look to science for easy answers. We haven't invested yet enough money, human energy and thought for it to tell us what risk benefits we can safely take. We do not know enough, scientific knowledge is provisional, it is subject to constant revision and what we don't know is much more than what we know. We have to tread cautiously and until we find alternative ways

of creating new life and repairing damage to life, we better look for alternative forms of energy that do not cause damage.

(Applause.)

You will hear me more sober about science and more restrained. Maybe I'm emotional when I tell you that one very nice Friday I closed the front door of my house and left everything as it was, with a small suitcase and I have done that once before. It was August the 10th, 1939. I am a Jew, I was in Hungary and we left with a small suitcase and we never went back. And we left because the society that I belonged to had given every indication that it would fail to protect me from a madman, Hitler. And we were right, we left, I am here, I am alive.

I don't want to draw the parallel too closely, but there is an element of similarity which we might have to keep in mind. Why did I leave? Physically, I am not afraid. Sixteen years of my 53 years I have spent under war conditions. Physically, I am not afraid. I have lived through the blitz in England, I have lived in Israel. I have gone and worked in villages being accompanied by machine guns in a jeep. I am physically not afraid.

Why did I leave? Because it became clear to me on

Friday morning that we were not given any candid information, that we were told three hours after emission of radioactivity that this had occurred. I heard on Friday morning that one day before, on Thursday, that is 24 hours after the beginning of the fiasco, Wee Explorers, pre-teenage children, were taken on a field trip to the Harrisburg Airport. This is the extent to which the withholding of information, which is what I call it, they tend to suppress, bordered, to my way of thinking, on the criminal. There was no source of information; we had to rely on ourselves.

And there was this talk of evacuation without any plans. Now, I have ceased to be an acting physician 15 years ago. I found out there was nothing positive I could do within my hospital, I advised all those working with me to leave unless they had something definitive to do in the area because should evacuation be necessary, it would be a disastrous process. It would have to be between the devil and the deep blue sea. And I don't know which one was going to be worse. And I had heard about neighbors, my neighbors, who could not move as easily as I could, they had livestock to look after, had lined up trucks that would take the animals with them. They didn't know you couldn't even take a cat with you if it really came to that.

Okay, that is why I left. I left only as far as Philadelphia. I stayed in touch with my hospital in case there was anything positive I could do, I could have returned.

This was my feeling. I was appalled, angry and sad at what seemed to me a lack of planning, lack of foresight and an attempt to withhold information in order to look innocent. I felt irresponsibility, negligence. and something which I shared, because I am a citizen and I am not one that used to pass that Three Mile Island with what was it, benign trust, I like that word. I had no benign trust because I have worked with human beings long enough and we all know it, we are fallible. And I always shook my head and said, how could they put such a thing in a populated area, next to an airport, knowing that sooner or later any human creation is going to fail. Now, I did not know that the one that was going to fail was going to be three miles from my own house. I knew the thing was going to happen, and it happened very closely to where I live.

Luckily, nothing major happened physically. We are alive, I could come back to my house. Scientific data collection, the possibility has been lost. Because monitoring was, as far as my understanding, inadequate. Not all forms of radiation appear to have been monitored. There are facts to

the contrary. As citizens, I think, I would like to know. As a reproductive biologist I would like to know. There is alpha radiation, there is beta. We were told about radioactive iodine, the one with the shortest half-life. The one the easiest to protect against, you take a tablet of iodine and you block your thyroid uptake of iodine. That is easy. We are told about that. We are told about radon, xenon, krypton, we are told about things that we believe at this point in time not to be taken into the body. Anyway, nothing appeared to have happened that is major and since we do not have enough data base on epidemiology and because these things are so difficult to prove, we will probably never know whether one, two or three extra cancer cases happen within such a radius.

Nothing physical happened, I think something happened morally, and I think that is very important. There is a loss of faith in our, what shall we call it, regulatory agency, our governing bodies, our ability to govern ourselves. There has been a loss in that or a confirmation of skepticism in some and I do not think this is a base on which you can build a healthy, viable society. This is a cancer in itself. We have got to have strength and belief and trust in ourselves to be able to govern ourselves in a reasonable way and that is what is threatened.

If we go on as if nothing had happened, then we will pay for it at that level. Whether we will pay for it in another nuclear plant somewhere else, I don't know. One of the most important moral and practical questions for me is not what happened to us, we are using energy, we deserve what we get. I don't think it should be the coal miner alone or the guy out there in the oil field who should be paying for our wasting or use of energy. Other highly developed western countries can manage with 30 percent less energy than we do without loss of standard of life. So, if we want to use energy that way, we can pay the price for it.

The moral problem to me much more is the heritage we leaving to future generations in forms of our waste products, which is much. Some of which we will know the facts. Plutonium is 25,000 years, we do not know how to contain it, nobody can guarantee that we can and that comes down now to the medical facts.

High-level radiation, okay, easy to diagnose. Low-level radiation, we don't know. Let me just share with you some of my sources as a scientist. We have limited data base and that has been stressed to you at the epidemiological level. And that applies as much to one of the feared effects of radiation, which is an increase in abortion and genetic damage.

Because apparently humans are like fruit flies, they don't undergo mutation that easily or if they do they rather get aborted, then we won't have many babies with two heads. There may be more abortions but we won't know because our data collection on that is incomplete and every attempt should be made to step it up so we can judge what is happening.

We know that dividing cells are particularly liable to damage. I, as a doctor of biology, am concerned with the very precise way in which the development is programmed. Each step depends on the next and the damage at one point can leave an individual, and I work with experiment animals, with deficits for life. Not two heads, not a cleft palate. Behavioral deficits, intellectual deficits, organ damage, that is what concerns me and I do know and we do know that dividing cells are particularly prone to damage. We know that ionization radiation chromosomes cannot only kill and eliminate the vital step, ionization can advance the differentiation, so that something that is suppose to be happening at the precise time is two days early, a week early, the individual is screwed up.

We do not know enough about different types of radiation. We do know that some of it is concentrated in both. We do know, for example, studies on beagles, young beagles' bones concentrate more than old beagles. It depends upon the

remodeling time of bone, how long it takes before you see cancer. In a human it is 15 to 20 years. We don't know, as I say, our knowledge is incomplete. We know that certain radiations are concentrated more in some organs than others. We are beginning to suspect that factors such as age, facts of concentrated power, we know that there are differences in vulnerability that is imposed by interaction of different environmental agents.

Therefore, I think we have to, I think this is what I was saying, we have to tread very cautiously, we are treading on a very large ground of lack of knowledge. Only outline information do we have. But they don't portend anything very good for a form of environmental agent, a damaging agent such as radiation. Don't ask us to tell you how many deaths you can expect. We can't tell you. We can tell you and share with you our concern and our suspicion and tell you what type of damage might be left and this is the heritage we are leaving to future generations.

Now, it must be obvious from what I have said that I don't think Three Mile Island ought to be reopened. I think this population has had enough. I don't think we need to be exposed to any more of this and it has got to stand as an example.

I would like to propose the following suggestion if you do contemplate reopening Three Mile Island. I should think every single household within, shall we say, a 30 mile radius, should have next to the telephone number for the fire station, ambulance and police, the instructions of how we evacuate. Let us not get into a situation again. Now obviously, it is absurd, who has got to live in an area where you have to have -- oh, incidentally, we should also have plans drills, occasionally. After all, in my hospital we have fire instructions what to do in case of a fire. And in order to be sure that we know we have drills, too. If we now know nuclear power plants can put us in a situation where we have to contemplate serious evacuation, then let's face that fact, let us have instructions, let's have it up on the board and let's have occasional drills.

(Applause.)

Now, that is absurd, and if we accept absurdness, then we have to begin wondering whether it is not absurd to put a power plant in the middle of a populated area next to the airport.

And I would like to state that I do not believe that a nation that could put a man on the moon cannot come up

with an alternative form of energy in a reasonable space of time that is safer.

(Applause.)

CHAIRMAN WRIGHT: What hospital are you associated with?

DR. WEISZ: I am with the Hershey Medical Center.

CHAIRMAN WRIGHT: Mrs. Beverly Hess, Ironville.

MRS. HESS: Mr. Chairman and committee members:

I am a Quaker. I really have a feeling, after having heard Dr. Weisz, that I would just like to give up my time for us to sit in silence and meditate on what she had to say, but I guess I do have something to say myself, also. I, too, am 53 years old. I have lived in Lancaster County all my life and I have never been a very vocal person up until now. I have taught Sunday school and I have done public relations for the Girl Scouts, f u n d raising for the United Fund and for the YWCA. I currently have been serving a term as clerk of the Religious Education Committee of the Philadelphia Yearly Meeting of the Society of Friends. I haven't been very focused up until this time, but what has happened to my life is that I am driven. I don't sleep very well, I have been overeating. I d o have a real sense of what George Goss had said about a

ocean of darkness and an ocean of light. I think that the sleep that I have been in up until this time about nuclear energy has ended. I think that I now am awake and have got to inform myself and other people about this danger that we live with. The Friends' Journal that came yesterday says, I have set before you life and death, blessing and cursing, therefore choose life that both thou and thy seed may live.

And I have chosen it. I have made up my mind that I will do everything for the rest of my life to see that we close down nuclear power plants in the United States of America.

(Applause.)

When we left our house on Saturday morning to go to Philadelphia where our daughter lives, I decided that I would have to find answers to many things that I didn't even know were questions. I would like to share some of the questions with you now. Why aren't we being told what the status of the core is in reactor number two? Why aren't we being told what is happening to the cooling down in that tower? Why can't we get information? I am one of five members of a Kohr committee of a group called the Susquehanna Valley Alliance in Lancaster County. We have chosen to bring suit

against reactor number two, against the Metropolitan Edison Company, against the General Public Utilities Corporation and against the Nuclear Regulatory Commission. Our lawyer in Lancaster has been trying very hard to get the kind of information that we need to bring suit to see what we can do. She was told, Jean Kohr, was told by a person on the staff of the Department of Environmental Resources that during the accident between, I better look this up, between nine and fifteen million curies of radioactive materials were released to the atmosphere during the accident and that twelve of those curies were radioactive iodine. She was told that the TMI license puts a limit of five curies in a year of iodine, and they go into the water. And you can well imagine that since that steam was directly over the river, that it may very well be that a lot of that condensed into the water in violation of the lease of the license of Three Mile Island. When our lawyer, after she had heard from this staff person at Department of Environmental Resources, she said that we would like to have an affidavit so that we could attach it to our suit. She was told, oh, no, she couldn't give an affidavit because anything had to be approved upstairs. She asked whether that approval might be given. In the afternoon she was called back and was told by a man who, I am not sure who it was, but somebody said that

that would not be possible. I can sympathize with the Governor's wish not to have conflicting kinds of information being given out, but I really wonder how is it that the kind of information that our government has about what has happened cannot disseminated to people in order to protect our lives? I also would like to ask how is it that the NRC and Met-Ed can get away with the kinds of violations that they are? We know that core two is now in place, we know that they have been doing testing of water, we know that there has been all kinds of building on Three Mile Island. We know that they have not applied for licenses to do that kind of construction.

I asked to be one of the people to testify before the County Commission, the President's Commission looking into the accident on Three Mile Island. And I heard one man who came from the vicinity, very close to Three Mile Island, that he was not living there at the time that the people decided that they would like to have the nuclear reactors there. A couple of people later, the man said, well, I was here and we were not asked. I am not an American historian, but I remember one thing about American History and that was people were saying no government without the consent of the governed. And I really think we are going to have to work for some kind of a referendum whereby we educate the people and ask them whether

they want to be at this cost risk kind of benefit.

I am very concerned and the reason that we brought our suit is because Met-Ed and NRC are planning to clean up the water in the containment building and in the auxiliary building and dump it into the river. This is where about 110,000 people get their drinking water. From everything we have been able to understand water has never been treated in the volumes and quantities of radioactive isotopes that are in that water before. So that we are being used as guinea pigs. One thing that we do know is that there are no known ways to isolate tritium, radioactive tritium, from that water. That has a half-life of twelve and a half years. I am not a scientist, but I guess I have committed myself to learn a lot of things that I never thought I would have to learn. I rather suspect that a lot of things had to say have already been covered. One more thing, and final thing that I think I would like to say, is I had had no idea until March 28th that every nuclear power plant is going to have to be decommissioned after about 30 years of life. That it will become so radioactive that it is going to have to be sealed over and guarded for centuries. And I asked why our Public Utility Commission has not told us that the benefits we are getting from the electrical energy that is being generated is something that is going to --

well, somebody made the analogy that if cro-magnon man had had the amount of nuclear waste that we now have, we, today, would still be guarding their waste. That just seems inconceivable to me that we can be generating the kind of legacy or heritage that we are. And I ask you all to do your damnedest to stop it.

(Applause.)

CHAIRMAN WRIGHT: Mr. Joe Kauffman, Conoy Township Supervisor. Are we in Conoy Township now?

MR. KAUFFMAN: Right in the middle.

CHAIRMAN WRIGHT: What is your population?

MR. KAUFFMAN: Approximately 2,000.

CHAIRMAN WRIGHT: Go ahead.

MR. KAUFFMAN: Thank you. First, I would like to start out by saying that I am not a doctor or a nuclear expert. So I will try to talk on some of the things that I have spoken to the residents of the township about and some of my own personal feelings.

I would like to take this opportunity to express my personal thoughts and also those of Conoy Township, who I represent. In regards to the accident at Three Mile Island, I would like to express the thoughts, the feelings spoken to me

and also the inquiries I made among the customers of this utility company.

Secondly, I would like to let you know that Conoy Township is the only municipality in Lancaster County who is serviced by Metropolitan Edison Company with electricity, because the entire township is in a five mile area of this plant. We also feel that we have suffered both physical and mental as well as financial losses in wages and property due to this accident and the consumers feel that they should not have to bear any more expense because of bad management procedures. Because we have no other choice of buying electricity from any other company. We feel, it is our belief, that this accident was caused by bad management and procedures both during construction and since it has been in operation.

I will not discuss the operating or safety procedures of a plant of this type because I am not familiar with the operation. But I would hope that the NRC and other agencies assigned to the operation will place a strict and workable safety program and procedures on these plants in the future, so that the risks involved of another accident is yet fewer.

Concerning the coordination between the federal, and the state and local units of government, in the event of

another emergency or accidents at the TMI plant of any type, after speaking to some of the residents, with the help of my civil defense director, about this type of emergency evacuation, it was suggested that a call be made directly to our civil defense director or someone in charge of emergencies in Conoy Township stating the type of emergency. This is necessary because Conoy Township is within this five mile radius. If we have to go through all the routine channels to decide the conditions, it would in all probability be too late. It is for this reason we suggest that someone with the knowledge to cite an emergency be on station at all times. A person of this caliber would not have to call any agency to know the circumstances warrant an emergency.

Conoy Township has drawn up an emergency plan for all types of evacuations, which will be printed in the near future and passed on to the residents. But we can only use or work such a plan if we are notified in sufficient time, not after the emergency has existed for some time as in the past. It may then be too late, due to our location and the prevailing westerly winds.

As I have stated before, if this plant again resumes operation, I would surely like assurances tha all safety operations and procedures are met. Also routine inspections as

well as unannounced inspections will be made by officials who understand the safety and operations of a nuclear plant.

And I might add as an after thought, quite a few of the residents of the township, of course, are concerned with the water in the river. I know here there was, I understand there was a fire here, I wasn't here at the beginning of the meeting, I understand that someone had brought this up that there was a fire at the bottom, at the lower end of Three Mile Island concerning some equipment, radiated equipment. It was my understanding that both the utility company and the NRC knew that these were being destroyed in this manner. Maybe I'm wrong, but this was the information I received. It is the point of who are we in the township to believe, Metropolitan Edison Company, NRC or who? We don't know. So for that reason most of the people I have spoken to would like somebody in charge who they could put their faith in. Who could cite an emergency, would not have to call a line, say an answering service, and find out if this is an emergency or not.

The other part is on the paying for any cost involved in this. We would like to suggest that the Public Utility Commission keep a close watch over the billings so they do not, in the future, try to hide hidden costs to make up for the accident as well as lost revenues and there deny the right

to pass on this expense to the consumer.

If there are any other questions at this time, I will try to answer them.

CHAIRMAN WRIGHT: Representative O'Brien.

REPRESENTATIVE O'BRIEN: Joe, how long have you been a commissioner?

CHAIRMAN WRIGHT: He's not a commissioner, he's a supervisor.

MR. KAUFFMAN: Over three years.

BY REPRESENTATIVE O'BRIEN:

Q. You were not there when Met-Ed applied for a permit to build there?

A. No, I was not.

Q. Do you remember them having hearings?

A. I remember of the hearings, but I was not present at any of them. I did not know if any hearings were held in Conoy Township here. To my knowledge, there was none. I know now that the utility companies are starting to -- I know about two months ago, the utility company is going to put a line across our township. They are now starting, four, five, six years in advance to let us know of their future. But until this, I don't know if we ever had any in the township.

Q. Do they only service your township in this area

with electric?

A. Yes.

Q. How many --

A. In the township here in Lancaster County, the very southern tip of our township is not. Ninety percent of our township is. We are the only township except for one out in, I believe, in the northeastern, a wee little bit, is the only one that is serviced by Met-Ed in Lancaster County.

Q. Do they give you a special rate?

A. Not that I know of.

(Laughter.)

Q. I'm just asking a question.

A. Let me elaborate on that. I think the service that we get is from Metropolitan Edison in Conoy Township has not been of the best quality because we have a lot of low voltage in the summertime, very, very often in here and it has caused several fires because of motors that went out and furnaces came back on and accumulated. We have had that in the last couple of years, especially in mobile homes because of this here. I don't know if it is because we are at the lower end or what it is.

(Applause.)

CHAIRMAN WRIGHT: At this time we'll take a ten minute break.

(Brief recess.)

CHAIRMAN WRIGHT: We will begin again with Mr. Clair Hoover, farmer.

MR. HOOVER: March 28, 1979 we first heard on the news about ten o'clock about minor problems at Three Mile Island. We were concerned about the seriousness; we were assured that no serious leaks had taken place. We continued to listen to the news reports for the next day as to what all went wrong. Friday morning at ten o'clock my wife was at her place of employment when the fire sirens starting blowing and they were told to stay inside because of major leaks at Three Mile Island. We were told the problem had gotten worse at 4 a.m. in the morning.

Why were we not told before my four children and many others walked to the school bus and waited for the bus to come? My wife and I drove to school, picked up our children and got out of the area. Later we were told that all preschool children and expectant mothers were to get out of the area and stay out. How do I know if it harmed a six year old that it did not harm my eight year old son. We kept the children out

of the ten mile area, but I had to return back to take care of my dairy animals.

We listened to the news to see what we should do next. One report would say get ready to evacuate the whole area and the next report would say not to become alarmed. Who should we believe? In April we had another problem with our dairy cows. We had six cows and dead calves. We had the veterinarian come out and treat the cows. We tried different forms of medication, but did not solve the problem. The situation got worse. So we had to get more help. We sent a cow to the State Laboratory for tests. We were assured that it had nothing to do with Three Mile Island. We called other laboratories to take tests, but again, we did not get any answers. We had many agencies come out to prove that it was not caused by Three Mile Island or radiation.

I am not trying to blame it on Three Mile Island, but if it has been caused by management or feed deficiency, why can't somebody come out with answers to help me with my situation? We have talked with other farmers in the area that have been experiencing the same problems which really scares me. We are still praying that it will be proved not to be related to Three Mile Island because we feel if our cattle have been harmed, so will the people be in the area. My cattle can be

replaced, but my wife and four children cannot.

(Applause.)

We were also told not to eat the garden vegetables. Who can we go to for all the unanswered questions? When we moved here we knew they were building Three Mile Island; we were not anti-nuke at that time. The only thing we have to say at this point is that I think they have left us down in the way they have operated it.

(Applause.)

BY REPRESENTATIVE BRANDT:

Q. Clair, just one question. After all those tests that were taken and all the announcements from the Agricultural Department, are you satisfied with what they told you?

A. I have not seen any tests. I am suppose to be getting tests back tomorrow.

Q. Are you satisfied with what they have told you?

A. They haven't told me anything as of yet. I am suppose to be receiving the tests tomorrow.

Q. Will you let the committee know of what those tests are through me?

A. Yes.

CHAIRMAN WRIGHT: Thank you, Mr. Hoover. Mr. Richard Libhart, from Bainbride.

MR. LIBHART: Certainly one disadvantage of being on the later part of the schedule is that everyone else steals your thunder. But can I ask the committee how many of you might have read or seen this document here, it is the annual report of the NRC for 1978?

MR. TAYLOR: I have.

MR. LIBHART: For those of you who did not raise your hand, I would suggest very strongly that you would get this on behalf of all of us people, all the concerned people. I don't want to belabor the fact of low-level radiation and its effect because I'm not an authority on it either. It seems like that has been pretty well touched on tonight. In this report, there is some areas where it related to that and, of course, also other ones.

What I would like to really speak about, to use my five minutes for, is to speak mainly on the economical aspect of nuclear power. But one comment I would like to make is years back I have heard a comment or a phrase what you don't know won't hurt you. I believe we are in a position now where we could change that and say what we don't know is hurting us.

(Applause.)

Or what the experts don't know is hurting us. But in either case, getting back to the economic problem back in 1954 at a time when the Atomic Energy Commission was headed up by Mr. Strauss, he was so optimistic that he said in the future, and I don't think he gave any date, he mentioned, and I think it was alluded to hear earlier that electrical power generated by nuclear energy was going to be so economical that we wouldn't have meters; it would be just a small nominal fee per month by each citizen and all our electrical needs would be taken care of.

Well, I kind of feel we have been taken down the primrose path by the NRC and all our people involved, by that hypothetical, unrealistic outlook. Recently, I noticed on Sixty Minutes that this country totally is producing 30 percent more electricity than what is needed. Now, I didn't say this area, but totally. And also, and I think this is also in this report and quite a number of other periodicals that I have read recently, where 12 percent of our nation's electrical power is generated by nuclear plants such as TMI. Now, it doesn't take more than a fifth grade mathematics to determine that if we are producing 30 percent more and 12 percent is nuclear power that, obviously, we can do without nuclear power and still have an 18 percent reserve.

(Applause.)

Forget about safe or unsafe conditions, just look at the economic stuff. One other thing, too, it was mentioned 30 years is life expectancy of one of these plants, but there is no fatigue rate that I have seen on any of these reports that would indicate what happens from 20 to 30 years. But nevertheless at the end of 30 years a billion dollars invested in 1960 and in 1990 a billion dollars will have meant $33 million a year just for the sake of having a facility there besides the interest and so forth.

Be that as it may, I am going to have to go through my notes because some of these things were already mentioned. Now, evidently, the power companies themselves, GPU included, particularly Pennsylvania Power and Light, have looked at this as a bad risk or an economical failure I should say. Because in the three year period from 1971 to 1973, the utility I should state, the utilities throughout the country, they ordered 100 reactors and they predicted by the end of the century 1,500 would be in operation. From 1975 to '78, which is a four year period, only 13 were ordered and dozens of previous orders were cancelled. Now someone saw some light someplace from the economical standpoint. So, I believe here again, it is just simple mathematics, if in 22 years of the nuclear industry, we

have gained only 12 percent of the market, and right now at this stage they are projecting that by the turn of the century, which is 20 years hence, we are going to capture 25 percent, if it's going to take us 40 years to gain one quarter of the percent of electricity needed at the cost of a billion dollars a throw as of 1979, it is hard to tell what it will be in 1980, where is the economics of that? Forget about the safety, just economics. But where else can a company, who lost its product, maintain a full scale payroll for several months after an accident, such as TMI, where else could you have a full scale payroll while losing the product that you are selling other than the utility companies or possibly some bureaucracy in the government.

Here again, if we, as customers, are expected to stand the burden of some of these additional costs because of bought power, how can they justify a full size payroll plus additional dollars coming in?

I would like to close by stating a little incident that my father told me about one time, I don't know if it occurred in the major leagues, but I think everyone can relate to it. That has to do with an umpire, who had to call a close decision at second base. After a batman hit the ball, round to first, slid into second base, the ball was there, so was the

umpire, and he knew if he called him out half the people would be angry with him. He knew if he called him safe the other half would be angry. So he said, we all agree that he was safe at first base. This is the way I look at this, we all agree, prior to TMI we were all safe at first and that is what I would like to have the record show that this is my feeling, that we were all safe at first prior to TMI. Thank you.

(Applause.)

CHAIRMAN WRIGHT: Mark Davis.

MR. DAVIS: Residents near TMI received a letter exactly one week before the TMI accident. This is just some residents, within a five mile radius. I know the family that received this letter. This letter instructed them what to do in the event of a nuclear accident. Residents near Peach Bottom have never, at least to my knowledge, received such a letter and why was it released exactly one week before the accident? Was it possible that this accident occurred a week or more before we were told? I am saying before even the Lancaster County Commissioners even knew, they released this letter.

Another fact I found out, a town called El Dorado, Ontario, a few hundred miles from Toronto received nuclear

waste from Toronto to put in steel containers, which were in turn placed in concrete bunkers in the ground, which I think is similar to a plan being considered for disposal of the TMI waste. The town of El Dorado experienced a great increase of sickness, various kinds, including cancer over a 20 year period. Twenty years after the burial of the waste it was discovered that they had been leaking for a number of years. All the residents living in the town for the last 20 years are expected to die, that is, those that have not already died. They should die within the next 20 years due to their exposure to the radiation leakage. Canadian officials agreed to care for the residents of the town for the rest of their lives.

It also seems we need a qualified nuclear physicist who is anti-nuclear in addition to one who is pro-nuclear, to accompany committee investigations to such places as TMI or if anyone would go care to take a look at the town of El Dorado. Because I feel this would help assure the people that they are getting the true facts from the officials, something which I think, during this whole event, people were not very assured of. This would allow an outside check because most obviously a person, who is anti-nuclear, is going to tell if something is being covered up.

That is all I have to say. I really would like to

see somebody look into the town of El Dorado.

(Applause.)

CHAIRMAN WRIGHT: Thank you, Mr. Davis. Mr. Nathanial Hager, Physicist from Lancaster.

MR. HAGER: I don't live in the Bainbridge area and I haven't been inside the five mile area too much during the accident, but I feel that being a physicist and having read the news, having looked over all the data, having taken some data from my o that I might have a few things to say that would be of interest to you or fill in the information that you have from a slightly different viewpoint. I think that the first thing we have to do is separate out the exposure to the clouds during the accident and the residual exposure to the radioactive substances like plants and people. Now, according to the information available to me, and I have gone through just about everything that I have been able to find, the prompt exposure to radioactive clouds is very small. The official interagency study estimates that the average exposure to the two million people within a 50 mile radius of the plant was about one and a half millirems. I am sure you heard that many times. Now this is about the dose one gets during a two hour jet flight or during a five day visit to Colorado or

during a ten hour visit to some areas in Brazil or during a three week stay in a building made of brick or stone. The scientists who estimated this one and half millirem value examined a large amount of data and where they found conflicts or disagreements, they took the largest value in all cases. They assumed that people stood outdoors full time during a ten day period after the accident. They did everything to make their estimates larger in fact so there would be no possibility that people would later learn that they got a larger dose than estimated. The residual exposure to radioactive substances in the body or in the food chain was almost nonexistent. People were given whole body scans with no positive results and plants and animals were found to be so clean that scientists expressed surprise.

The most sensitive barometer is iodine in milk. The largest content I saw was 40 pico curies per liter, which is about one-tenth of that found from the fallout of the Chinese tests and about three-thousandths of the approved safe level. I think some of the other fallout episodes we had had from previous tests were even larger. Therefore, both the prompt and residual exposure were too small to produce symptoms in man or animal. It remains a theoretical debate about whether there might be ten, one or no extra cancer deaths to be

added to the 325,000 expected for the two million people surrounding Three Mile Island. In view of the fact that the exposure estimates are probably too high, my guess is zero extra deaths no matter whose theory is wrong.

One other thing I would like to say if I may have a few more minutes and that is what I consider to be a very unhappy effect of uncareful communications. I think the trauma of the affair in this area was greatly heightened. For many years, including the period of the fallout debate in the early 1960's, I served as Director of the Radiological Division in Lancaster County Civil Defense. I talked to a good fraction of the service clubs in Lancaster County about fallout problems. I think our people have strong enough and smart enough minds to handle what really happened at Three Mile Island. I am not so sure they were able to handle what they thought was happening. From the fears and doubts expressed to me, I got a lot of phone calls because of my previous capacity in the Radiological Division. And from what I read in the local papers about mental upset, I believe the accident was more than mildly traumatic for many people. I think much of the upset was due to inadequate and uncareful communication.

The following are some of my thoughts on where the communications went wrong. People feared a nuclear bomb blast.

I tried to tell them that this was impossible because the ingredients were not present. But they heard otherwise from other sources. When they heard about the hydrogen bubble and the concern about its exploding, some thought H-bomb blast. I tried to explain the difference between a conventional and chemical explosion of hydrogen gas and the nuclear fusion type of blast. But in a Miami newspaper, which I saw during a business trip to Florida two days later, had a heading reading H blast, big headlines below it, megatonnage unknown. Megatons to everybody means an H-bomb blast. This type of headline was no doubt phoned back to our area and probably helped to make some people very unhappy.

People were given good reason to fear a meltdown, but I don't think it was explained that this takes time, hours and even a half day after actively underway. There is time for evacuation. Some people talked to me thought a meltdown would occurr in a flash, and I thought that was wrong that they worried about that. People were told about the excitement when elevated radiation levels were detected, but they weren't told about the extent to which these readings were localized nor were they told about how briefly they endured, especially I don't think they were told about all the normal or near normal readings that seemed to have been the rule rather than the

exception in the plant vicinity.

I, myself, went up there on Friday night right after the uncontrolled releases and I couldn't get anything above background on the Geiger counter that was very carefully calibrated. There have been statements that inadequate data were taken during the first three or four days and that the doses were probably much higher than reported. I even heard on speaker say that we don't know what the radiation level was during the first 72 hours and that instead of one possible cancer death we may have as many as a thousand. These statements just are not true. I have carefully studied a respectable body of dosimeter data covering the entire period from the incident of the accident, full-time data from 30 dosimeters covering March 28th, 29th, 30 and full-time data from 77 dosimeters covering March 31, April 1, 2, 3, 4, 5 and 6. These were published jointly by the Nuclear Regulatory Agency, Environmental Protection Agency and Health, Education and Welfare on May 10, 1979. I looked over these data very carefully and I concluded that they are sound and that people actually got substantially less than the one and a half millirem average dose indicated by the report.

I took my own data in Lancaster on March 28, 29 and 30. I also took data in and around Middletown on March 30th

on the evening, I was here for a couple of hours. I wanted to satisfy myself that I was not giving people wrong advice because a lot of people were asking me for opinions. Now these data and data reported by a number of other area physicists are consistent with the dosimeter data shown in the government report. I talked to about at least a dozen scientists in this area, physicists who work with the various colleges and universities, laboratories, around and in the county. I heard one expert dismiss the whole body counts performed by the Nuclear Regulatory Commission on area residents after the TMI incident. He said these counts indicate only whether a certain amount of radiation material is still irradiating you inside, not what you got two weeks ago. This was distortion. It was not the purpose of the whole body count to check on the dose obtained two weeks earlier. That dose had already been found to be insignificant from an analysis of the earlier dosimeter data. Earlier dosimeter data did not give assurances that the body was free of contamination, which could later cause trouble. Therefore, in the interest of thoroughness the whole body counts were performed to make sure people were free of such internal contamination.

Results of this count further completed the checks needed to make sure nobody was going to be injured. The

scientists who dismissed the whole body count undermined what comfort a badly stressed community might have derived from what were really very reassuring results. Even the triple AS, the American Association for the Advancement of Science Publication appears to be guilty of publishing data on radiation dose rates which were probably at least one order of magnitude, a ten factor, too high, maybe 100 factor too high, according to my readings. And according to the May 10th government report data and according to the data that I got from my colleagues. Science Magazine, I wrote them a letter. They have not yet printed a correction or retraction of their values nor have they told me where I was wrong.

My point is this, both during and after the crisis, the careless or even ruthless communications have been responsible for creating undue mental stress. I am sure more people will suffer from mental scars than from cancer. And these mental scars could have been prevented by balanced and objective communications. I feel that some of our local news media should be praised for understanding the potential for hurting their friends and neighbors. TV 8 showed great sensitivity and strong leadership in trying to create a calm after an alarming false announcement was made from other stations. That is all I have to offer at this moment.

CHAIRMAN WRIGHT: Thank you very much.

(At this point the audience booed Mr. Hager.)

CHAIRMAN WRIGHT: Mrs. Virginia Nancarvis from Milton Grove.

MRS. NANCARVIS: I am just a housewife and I did a lot of reading and I have a lot of questions. But I thought I might start out with some things that I read. One of the first books I read was called, Energy Crisis in America. It was copyrighted in 1973. It is a congressional quarterly. Something I found out, I don't know if it is still true or not, the state does not allow to lower the standards, is that true, of the radiation emitted? Is that set by the NRC? Do you know if that is true?

CHAIRMAN WRIGHT: We will make note of your questioning.

MRS. NANCARVIS: I did find out that the environmental groups did do a lot of good. They stopped two, not constructions, but two licensings of nuclear plants back in 1971 and '72. So they have had an effect on nuclear plants being constructed. They are blamed also for our increase in prices, which is probably true, but I think the alternative, I would rather pay the price than to have nuclear power. I

don't think we need an increase in price.

Three major issues discussed emerge from the struggle between NRC and its critics was that they had a dual authority, which is NRC, regarding promotion and development of nuclear power, plus they regulate it, which they said was a conflict of roles. Dr. Ralph Elias (phonetic) suggested, at that time it was the AEC, now the NRC, that regulatory powers be transferred to the EPA, the Environmental Protection Agency. EPA was given the authority to set radiation protection standards, which I am not sure what that is. I imagine it is how much radiation can be emitted. Do you know if that is still true? Is the EPA setting standards? Is the NRC, is the Federal Government? You don't know who sets the standards for radiation to be emitted?

The second issue is nuclear plant safety. It said that nuclear power plants are designed with checks and double checks to guard against the accidental release of nuclear radioactivity. However, nuclear power plants continually release radioactive effluent, whatever that is, into the air and water under controlled circumstances. I imagine that is still going on all the time. Plus we have thermo pollution from nuclear power plants. From what I have read, once the water is cooled and put back into the Susquehanna it is from

11 to 16 degrees higher. Scientists think that this sometimes has an effect on the fish as far as breathing and other things. I am not sure what they are, but this could have long-term effects on the water. That has nothing to do with the radioactivity and it is just not nuclear power plants that are putting this heat into our water.

The third issue is radioactive waste disposal. Critics cite the possibility of radioactive contamination of underground water sources and the failure of the AEC, which is the NRC now, to establish long range plans to combat this problem. They also had a project, I don't know if it is still going on, in 1969 called the Project Ruleson or Rubeson (phonetic) where they are using nuclear explosions to dig. That was conducted in Colorado in 1969. It was used to release natural gases. It was sponsored jointly by the NRC and Austio (phonetic) Oil Company of Houston. It is called plowshare, whatever that is, it is an AC project, to develop peaceful uses of atomic power.

A report in 1972 did hold that the state could not enact any law stricter than the federal laws to regulate the discharge of radioactive waste from nuclear power generating plants. So in 1972 the states were not allowed to lower the standards. I don't know what it is now. I would like to know.

It also said that the energy crisis is not a result yet of insufficiencies of fossil fuels. It is sometimes due to maldistribution of power, inadequate fuel supplies systems, inefficient generating capacities and the impact of the environmentalists. Officials estimate, and this book was copyrighted in 1973, that the rare form of uranium consumed in present day nuclear power plants will run out in 40 years. So we may have another 30 years and it may be different now, I don't know.

In Detroit is a breeder reactor plant, I think it is the only one we have on site, I don't think it's in use now, that was built on Lake Erie. It was first started up in 1963. Eight years later, because of foul ups, miscalculations, etc., it has earned $65,000 from its sale of heat and no money for the sale of plutonium when it was suppose to have grossed $48 and a half million dollars for heat and $43 and a half million dollars for plutonium.

The other books that I read called Fallout, which was edited by Don Fowler in 1961, which was an experiment performed by scientists at Earlham College in Indiana as part of a long range study. They set aside a sample of topsoil in 1950. In mid-1959 a second sample was taken from the same place. Findings were 1959 sample was more than 100 times

greater in radioactivity than the 1950 sample. Two inches below the topsoil the samples show about the same radioactivity. In Los Alamos, a radiation detector to measure gamma radiation shows that in the years since the testing of the H-bomb began a drastic increase in people's accumulation of cesium 137 has been detected. The air also is loaded with radioactive materials. This was demonstrated in the spring of 1959 when the coveralls of five mechanics who had worked on Pan Am Airlines were found to be radioactive. It is simply that the airplanes got it, they went up into the air and they came back down. Materials responsible for increased radiation can be clearly identified as fission products, mainly cesium 137 and strotium 90.

Although radioactivity is highly diluted in the air, soil and water, it may be collected in dangerous concentrations by plants or animals taking up certain elements of food. One of the demonstrations or causes or reason they know this is, they tested the H-bomb, I think, the first time in the Marshall Islands and they found the plants and the water all in the Marshall Islands were found to be highly radioactive. Also strotium 90 tends to concentrate in cities such as New York and Chicago, in areas of considerable rainfall and also tends to be greatest in the spring, which is when TMI occurred.

Also strotium 90 in our children, because they are growing, they will get more strotium 90 than adults. They get a higher dosage. I think it is strotium 90 that resembles calcium and our body prefers calcium to strotium, so our body gets rid of a lot of it, but what remains in our body stays for 17 years. I think strotium 90 is a beta emitter if I am not mistaken. I don't know if that was brought up about betas and gammas, but it is important. There is also cesium 137. That is a gamma emitter. If that gets in your body, it attacks the genes, which is my main concern. I have four children and I don't like the idea of them growing up and we are going to have a world of mutations, genetic defects, and possibly children that cannot even reproduce. Cesium 137 is distributed throughout the body, its average stay in the body is 70 days. Less important in the cause of cancer, however, because of its general distribution and penetrating radiation, which is gamma rays, it makes it dangerous to our genes. Its hazard is mainly to mankind heredity. It resembles potassium, however, unlike strotium, our body prefers cesium to potassium. And so our level of cesium is twice in our diet. What we get in our diet, our level is twice is what I am trying to say. In strotium 90 radioactive iodine and cesium 137 is all carried by milk.

Not only do we become radiated from within our bodies from cesium 137 but also because in our soil gamma rays can go through the skin, whereas, beta and alpha rays can be stopped; beta can be stopped by glass and alpha can be stopped by paper I think. Also, rapidly dividing cells is the most sensitive to radiation, which is the fetus.

The total number of fission products are 200. I also wanted to know about tritium. Do you know anything about tritium? From what I hear they can remove most of the radiation from our water, but tritium, I would like to know what it is. I have two references to tritium. One said comparatively weak, has half-life of 12 years and becomes so diluted in one or six months. Is not considered a fallout hazard. Another reference was it causes cancer and leukemia and they put it with radioactive iodine in cesium 137.

The U.S. up to 1958 had 129 explosions of nuclear devices. Seven years, from 1951 to 1958, 88 of those explosions were in Nevada.

I think I have some questions. Another book I read was Electric Wishing Well, a very good book, by Joseph J. Caserta (phonetic). All these books I got in the Elizabethtown Library. It is copyrighted in 1976. They said, or he, that we are depleting our fossil fuel a million times faster than

nature can replenish it. There are ways to store energy. The book is good because it gives you alternatives to nuclear energy that I think we should look into.

CHAIRMAN WRIGHT: You have run well over your ten minutes. I would suggest that many of the questions you raised, we don't have the answers to either. That is part of our job. I may further suggest that those questions that you raised ought to be in addition to be directed towards us, directed toward the people at the federal level to the President's Commission, the Nuclear Regulatory Commission and to the various congressional committees. I am sure your congressman would help you to direct those.

MRS. NANCARVIS: Can I ask one more question, the milk, is it still being tested?

CHAIRMAN WRIGHT: I can't answer your question.

MRS. NANCARVIS: Do you know whether it was tested for cesium 137 and strotium 90?

CHAIRMAN WRIGHT: We don't know.

MRS. NANCARVIS: Do you know if the cows that the milk were taken from were tested on the silage that they were eating or were they out in pasture?

CHAIRMAN WRIGHT: May I suggest that you contact the Department of Agriculture. If you need help, get in touch

with Representative Ken Brandt. I am sure he will be glad to help you.

MRS. NANCARVIS: Thank you.

(Applause.)

CHAIRMAN WRIGHT: Mr. Greg Bretz from Bainbridge.

MR. BRETZ: I don't have very impressive credentials. I am just a citizen, a Vietnam veteran and I have two children. My wife and I have been very upset with, even prior to the Three Mile incident, but that is the primary reason I am here.

The main reason we have been upset before is with the gross disregard that Metropolitan Edison has treated their customers in the past. I think all of us here, having paid several years ago if I'm correct, a retroactive rate increase, it was tacked on to our bills. We happened to be here in Conoy Township. I think the only township in Lancaster County serviced by Metropolitan Edison. If I'm wrong, somebody correct me. However, when we lived in Middletown prior to moving to Bainbridge, we faced similar rate increases, but nothing insurmountable. I guess it is due to the increase cost of fuel, fossil fuel, etc. I know repeatedly that Metropolitan Edison has tried to sever their contracts with the Borough of Middletown, who purchases their power from Metro-

politan Edison because it would be financially advantageous. Now, it seems to me with the Three Mile incident it just brings things to a head. Even today I heard on the news that this federal committee in their investigation has found out that supposedly the instrumentation on Three Mile Island is perhaps 20 years behind times. Now this plant was just opened, what, within the last four to five years. And if that's a commercial, what I am driving at, perhaps, is that supposedly we are serviced by a public utility which is intertwined with the Public Utility Commission, the NRC, and these organizations of government are there to protect our interest. Then I think the blame not only lies with Metropolitan Edison, GPU, whoever operates the plant, also the blame has to fall on the NRC for their failure to investigate properly. I think also the PUC and their failure to investigate properly when they provide these economic rate increases and retroactive rate increases.

I'm just afraid that what they are considering now, the temporary stay they have on this $49 million rate increase was approved, but is just in a holding pattern so to speak, that we are going to find ourselves again faced with a retroactive rate increase and I hope you gentlemen won't allow that. That would be criminal. It also would be criminal to have us as Met-Ed commercial power purchasers pay for the accident.

These people pay for insurance, they have money available in their insurance and I think it would be absolutely criminal.

I guess the final thing I want to say is you probably noticed around here some of our signs that some of the children have made and some of the teachers. And it says something about the international year of the child. I think it is indicative of the disregard for life that Metropolitan Edison and the rest of the power affiliates cause, not just for me. I am concerned more for my children than for me. I . been through mortar attacks, I have been through a lot of things. I don't fear too much, but what I do fear is the unknown for my children. I just hope and pray that when all the facts are in, when you gentlemen consider what is at stake here, you know, we are facing nuclear power perhaps for, what, how many years, and what kind of a legacy are we going to leave our children? Are we going to have live in fear the rest of our lives?

I asked my ten year old daughter if she would like to be here tonight. She said, no, daddy, I would like you to go and talk for me. So that is why I'm here. They can't speak too well. I have difficulty enough, but I just hope and pray you gentlemen will do what is right for the people you represent. Thank you.

(Applause.)

CHAIRMAN WRIGHT: Mayor Ken Reighard, Elizabethtown.

MAYOR REIGHARD: I just want to thank Representative Ken Brandt for inviting me to come to this meeting and say a few words. I might also mention that I was not invited nor any representative of the Borough of Elizabethtown to attend the President's Select Committee when they had the testimony in Middletown. I don't know whether anybody in Conoy or West Donegal Township was invited, if they weren't, it was a gross disservice. There also was a committee formed, I don't know if it was federal or state, it met about two weeks ago in Hershey. I was notified on Tuesday night that the meeting was to be held 9:00 Wednesday morning. If I wanted to attend, I could. I really don't think that either one of those two committees, in my own opinion, have much validity or concern for the residents of this area.

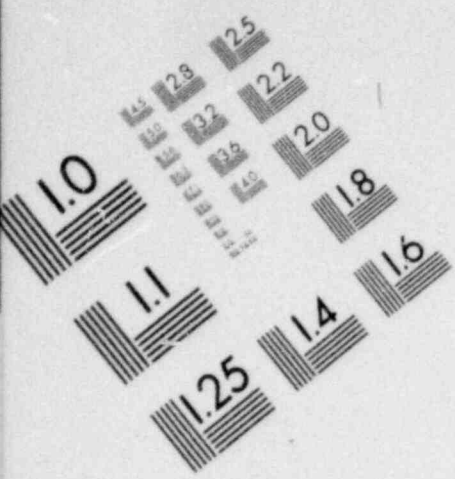
I am not going to go over the lack of information or the total chaos and the problems that we have, I am sure that everybody else has done that before me or that you are aware of on those type of problems. E-town has a population of about 9,500 people in the borough itself. We are six miles from Three Mile Island. I question how the three to five mile range came about unless it was an arbitrary mileage that somebody in Harrisburg decided to draw on the map. I feel in the

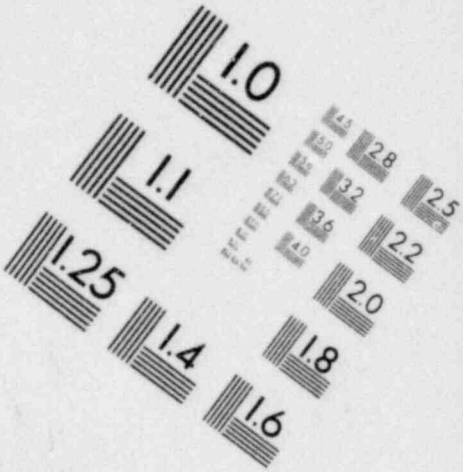
future it should be extended to Elizabethtown, to the six mile radius.

The other concern that I noticed during this crisis or emergency, and I feel that this committee can take positive action on it, I feel there should be coordination between Conoy, West Donegal Township and Elizabethtown Borough during a crisis. Each municipality has its own civil defense director. However, I noted during this crisis, and I can't really blame anyone of the three because really nobody was in charge. I feel there should be a coordinator for these three townships, Conoy, West Donegal Township and E-town Borough.

The civil defense plans for evacuation in Conoy and West Donegal Township, as I understood it from the civil defense, was to bring the people into Elizabethtown, which is six miles away, only one mile more than the problem they are in. I thought this was totally ridiculous. If you are going to evacuate from this area, why not take them farther away where they would be perfectly safe. We had plans to accept them. There was no problem that way. It was just that I felt one mile certainly isn't going to make that much difference.

The communications to the people themselves and to the borough and township was very poor. I think that goes back to the fact that I mentioned before that we didn't receive the





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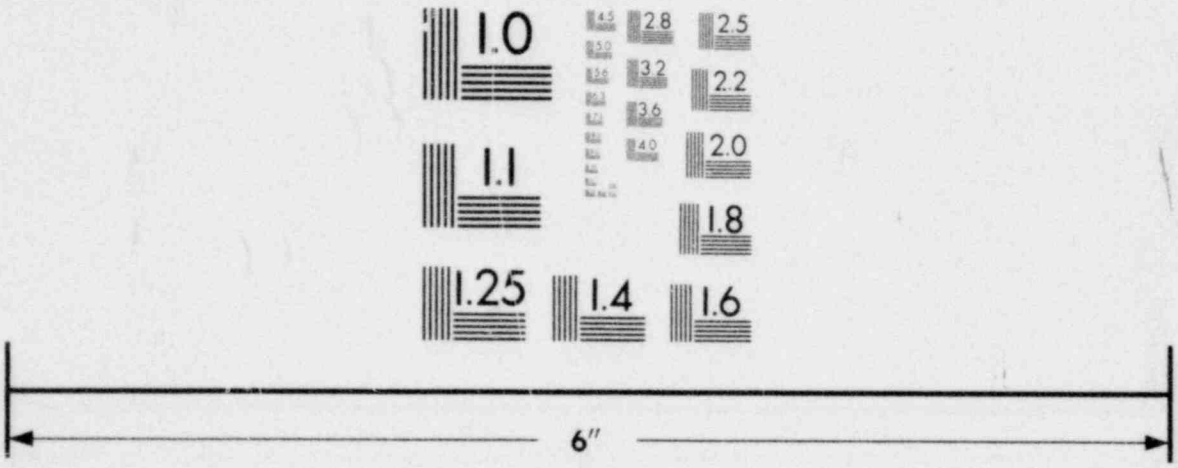

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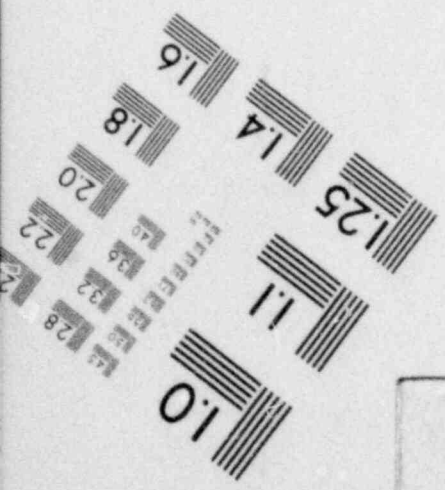

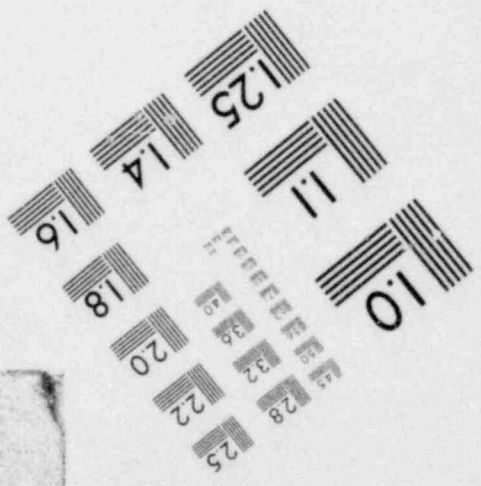

information so we could not disseminate it. I wonder how many people realize, and I found out about it pretty late during the crisis, Route 283 would be blocked off going one way into Lancaster, 743 would be blocked off that you couldn't go to Hershey. So those people that probably were waiting to evacuate on their own, when the evacuation order would come, may want to head for their hunting camps, etc., beyond the Harrisburg area and I don't know how they would have gotten there. The turnpike, I understand, was to be blocked off so that all traffic would be heading east towards Philadelphia.

The people themselves weren't given information and this goes back to what I said we weren't given the information at all. Another reason for a coordinator in this area, I feel, would be most effective, is the Masonic Home and the Crippled Children's Hospital, both lie right outside the Borough of Elizabethtown. Technically, they are not my problem. Morally they are because we cannot draw boundary lines when you have an emergency. I checked with the Masonic Home to find out what their plans were. I checked with the Hospital, Elizabethtown Hospital for Crippled Children talked with Dr. Gibson and the information I had I advised him it would be a good idea if they evacuated the hospital, which they did. After the crisis was over, the hospital received a call or a letter, I am not sure

which, from the Department of Health stating that they over-reacted. He shouldn't have evacuated. This is pretty easy for somebody in Harrisburg to sit down and tell you what you should do and shouldn't do unless you are on the firing line themselves. We did what we felt we had to do at the time. I, personally, have no time for somebody second-guessing that really wasn't even here during the crisis.

The other thing that bothered me and I talked with Mr. Dalbert, who is the Supervising Principal of E-town school district, the schools were closed, naturally, during this crisis, at least on Monday. On Monday afternoon he received a call from the Department of Education that he was to reopen the schools on Tuesday. He came to me and he was quite upset about it and I was upset about it, too, because we had imposed a curfew in the borough on Monday, Tuesday and Wednesday. He said, I don't know where my teachers are, many of them have left the area, the students have left, and we think it is ridiculous to bring the students back and try to locate those teachers and open up school on Tuesday. He said, would you order me to keep the schools closed? I said, I would be glad to do that if I can legally do this. So, I checked with my solicitor and under these conditions, I cannot legally do this. Afterwards he told me that other mayors in other boroughs, and

I could get you the names of them, I don't have them before me, ordered the supervising principals to keep the schools closed and they did, and I was told that there was no problem with the Department of Education.

I guess finally what I would say is that we have to know, us in authority in these areas, what our bounds of responsibility legally are. I know what they are morally, what we can do. I have to abide by the borough code as set up by the State of Pennsylvania. It certainly is not very clear as to what the mayor's powers are other than the police department. I feel that in time of crisis we here in this area, whether it is supervisors or mayors, should have ultimate authority, ultimate power to do what we feel is necessary for the people in our area. And I think this committee and what I brought up could be empowered or I think the area that I am talking about would fall in line of state government. I think that this committee is a valid type of committee. I like the type of program that you are set up to do. We cannot undo things that are done. We can look forward and hope that in the future better plans are made than what were made before.

I think myself, the people in the borough and the people in Conoy and West Donegal Township will be looking with a great deal of interest to see what results come out of this

type of a hearing. That is all I have. If the committee has any questions, I will be glad to answer them.

BY CHAIRMAN WRIGHT:

Q. You indicated that the top officials of the school district came to you suggesting to you to order the schools to be closed?

A. Yes, sir.

Q. The school district is a political subdivision unto themselves. What made that man feel he did not have the power to close the schools?

A. He was ordered by the Department of Education to open the schools. He told me that he felt as though he could have a lawsuit filed against him if he would countermand the Department of Education.

Q. Do you know if he checked with his solicitor for that information?

A. No, sir, I don't. I checked with mine, but I don't --

Q. I think I disagree with his observation.

A. I wish he were here, I cannot answer for him.

BY MR. TAYLOR:

Q. Mr. Mayor, one more question regarding the closing

of the schools, you say when you and the Superintendent of Schools, I believe that was the title, conferred on the opening or closing of the schools on Tuesday and you recommended the schools be closed. When you made that recommendation were you under any directives from anybody in Harrisburg concerning the school or use of the schools' facilities should evacuation be necessary?

A. No, sir. I placed a couple of calls to the Department of Education. There was nobody up there that was knowledgeable in the area that I was asking questions. They stated that calls would be returned which, of course, they never were. I placed a call to the Governor's Office. That call was never recurned either. So we were hanging on a thread and we really got no help at all. Like I say, I cannot undo what has already been done, but I hope that some place along the line that this gets straightened out. I hope that your committee sees fit to do so.

CHAIRMAN WRIGHT: Representative Geesey.

BY REPRESENTATIVE GEESEY:

Q. Mr. Mayor, what role did your local CD director play throughout the accident?

A. Our Civil Defense Headquarters set up in the fire company, he manned the post at the fire company almost constant-

ly. His source of information was through County Civil Defense. He relayed the information to me. That is really the only information that I was able to receive, through County Civil Defense or newspaper or radio or television.

Q. How effective do you feel your County Civil Defense operation really was throughout the crisis?

A. Well, I really can't fault them because I don't know how much information they had. They probably passed onto us what they received. I had talked to one of the county commissioners in Lancaster County. I feel as though that there should be a meeting of the county commissioners. They were not visible during this crisis. There weren't too many people in authority who were visible. I suggested a meeting be held with us people in this area and the civil defense directors and the Lancaster County Commissioners to try to straighten out this type of thing. I am sure there are some people in here who didn't know who their civil defense director was or is in Conoy Township or really were in West Donegal Township or even who they were in any town or borough. It is the type of job that is appointed. You think that nothing is going to happen. When something happens, it is a very, very important job.

Q. Did you, as a borough, have in advance the evacua-

tion plans from the county in the event that an accident would occur?

A. No, sir. I shouldn't say absolutely not. There was a brochure put in the Merchandiser, which is a weekly paper that is put out in this Manheim, Mt. Joy, Elizabethtown area from the county. You know, I really didn't read it that closely, but it had some kind of plans in it.

Q. Prior to the accident?

A. Prior to the accident, I think it was two or three weeks before possibly, I'm not sure.

Q. But the borough never got an official evacuation plan from the county CD director, is that what you are saying?

A. Not prior to the accident.

Q. When did you finally get one?

A. Oh, possibly Monday. The Monday that we had a lot of problems.

Q. Well, we did a little bit better in York, not much, but a little.

A. Well, we had plans, like I said, in Conoy and West Donegal Township to come into Elizabethtown. We had churches, etc., ready for them there. As I said, I thought it was ridiculous to move somebody five miles, move them one more mile, when you might have to move toward Lancaster. We also had

plans for evacuation from the County Civil Defense, from Lancaster, that is going into Park City and being bused out from there. But the problem is how many people here in the room knew it or how many people in Elizabethtown Borough knew it. Now in the borough we had the fire trucks go around with amplifiers and I was on the radio, etc., trying to get people as much information as you can. But it is, again, one of those things that really nobody cares until after it has happened.

Now, thankfully, your committee, hopefully, can amend some of these problems that we have.

REPRESENTATIVE GEESEY: Thank you very much.

(Applause.)

CHAIRMAN WRIGHT: Dr. Robert Heckman, Professor of Genetics, Elizabethtown College.

DR. HECKMAN: Mr. Chairman, members of the panel, fellow citizens:

We probably will never know the real effects of TMI has had on us as individuals or the population as a whole. But what it has done, it has stimulated me in my field of expertise of genetics to do some background reading and to rethink the whole problem of nuclear energy. I personally feel that not enough attention has been given in the past to

the possible effects that low-level radiation has on the genetic material. As a result of TMI, reports of insignificant amounts of radiation had, I believe, misled people in knowing what a so-called safe dose is. Therefore, I want to speak in terms of low-level radiation and genetic mutations.

People who work under conditions of radiation risks can voluntarily accept relatively high limits and be reasonably safe. However, due to the nature of probability, large numbers of people cannot be exposed to a substance that is highly mutagenic without having the present population and the future population suffering the consequences. Much information has been said and written on the subject of body cell damage and the effect on the present generation. But very little has been said on the effect of future generations in terms of new gonadal mutations.

A mutation is an alteration of the hereditary constructions that may occur anywhere in the body, but is only transmitted if it occurs in the germinal, eggs or sperm. There is, of course, immediate danger to individuals being exposed to radiation, but the insidious nature of ionizing radiation does the most damage to future unborn generations.

Let me illustrate why I consider this important. I am going to compare body cell damage to sex cell. There is

three things, I think, need to be brought out. One, in body cells a radiation dose must be of a certain amount before any symptoms are manifested. Whereas, in sex cells any tiny bit of radiation adds to the number of mutated sex cells. Two, body cells can recover in time due to unaffected cells replacing the affected ones. Whereas in sex cells there is no recovery because affected sex cells are not replaced by others. Three, a damaged body cell, which is nondividing, will not replace itself. Whereas in sex cells a mutated gonadal cell will continue to produce mutated sex cells for the rest of the individual's life.

Every species, including man, carry undesirable or deleterious genes. This is referred to as genetic load. These mutated genes have come about through what is called spontaneous mutations and they may lead to such characters as nondevelopmental deficiencies, blood that will not clot, mental defects and many more. These bad genes make up the genetic load.

It has been estimated that the number of gene mutations that each individual carries that are deeply deleterious or lethal is one out of two. In other words, half the sex cells produced by humanity carry at least one deleterious gene. Therefore, the genetic load is already quite heavy.

And anything that would increase it would be highly undesirable and dangerous to the species. Due to humane reasons we increased the genetic load each generation by caring for the retarded or the metabolic defective such as a diabetic. This increases the load by reducing the rate which deleterious genes are removed from the population. As a consequence, any measures that increase the rate of production of new mutated genes is very dangerous.

What brings about spontaneous mutations in part is radiation of all kinds. It is estimated that the gonadal in average human has a total dose of natural radiation of about three rems per generation. A human generation is about 30 years. However, man began to add to this natural background radiation in 1895 and 1896 when X-rays and radioactivity was discovered. As a consequence, we have added manmade radiation of six rems per generation.

The pollution of radiation is alarming since in America we have already tripled the background radiation dose. Muller in 1927 and others since have proved the connections between radiation and mutations. The number of new mutations is directly proportional to the radiation absorbed. If you double the radiation, you double the number of mutations that are caused by ionized radiation. There is also no threshold.

No matter how small a dosage of radiation the gonads receive, there will be a proportional increase in mutated sex cells in which the effects will show up in future generations.

Currently, manmade radiation, as I said, is six rems per generation or 3.8 millirems per week. Now science reported that the Nuclear Regulatory Commission estimated that the maximum cumulative exposure was 100 millirems and this may be a low estimate. But nevertheless it represents over 25 times the amount of manmade radiation we are already exposed to. Some people are saying in the effect that that amount of radiation was medical insignificant and one could be exposed to such a dosage for a lifetime. This is the type of misinformation I wish to disspell.

If that amount of radiation, meaning 100 millirems per week, continued for a human generation time, there would have been a doubling mutation effect. Geneticists estimate that the doubling dose of radiation for inducing mutations is between 20 and 200 rems. This means that a radiation dose that doubles the mutation rating in humans would increase from one mutation per 100,000 sex cells to two mutations per 100,000 sex cells. In effect, the so-called insignificant dosage released by TMI, if that was continued for one human generation, it would have produced between two new mutations per 100,000 sex

cells to 20 new mutations per 100,000 sex cells. Thus, the mutation rate would have been increased somewhere between 200 to 2,000 percent.

Now this is a theoretical projection. Obviously, TMI is releasing that radiation only in the course of week or two. But what I am saying is that we have lots of nuclear plants in the United States. We have lots of radiation being added to the background and it is time that we rethink what we are doing. This theoretical projection of increased mutation rate would be very detrimental to future generations due to the harmful nature of mutations. The mutation rates, which are doubled every generation would increase the genetic load to a point where human kind would degenerate and fade toward extinction.

To repeat, any increase in radiation causes an increase in the mutation rate. This means a greater genetic load. This means more genes that cause disease and suffering which ultimately is translated into a weak species. The price to be paid for any increase in rate of mutation will have to be measured in the increased number of crippled, sickly and mentally retarded children born to future generations.

Now the urgency of my concern is reflected in a pamphlet entitled the Genetic Effects of Radiation. This is

put out by the United Stated Atomic Energy Commission and in it it states, and this was out in 1966, that it was recommended at that time that the average total exposure of human beings in the first 30 years of life be set at 10 brad. Even then this might increase the overall mutation rate by ten percent. People, we are already at that maximum figure.

So in conclusion, as a result going to the science literature, I have found extremely little in the way of non-conflicting, reliable, technical information on the genetic consequences of ionizing radiation. The range of 20 to 100 rems for a doubling effect is an example. Due to the extreme possible detrimental effects of mutations to future generations, I would urge the government and the U.S. Representatives of our government to immediately place a moratorium on all nuclear plant construction, closely monitor all operating plants for possible low-level radiation and emittance and fund basic research in the entire field of biological effects of low dosage radiation. So that our generation fully understands the heritage we are bestowing on future generations. Thank you.

(Applause.)

Does the panel have any questions?

CHAIRMAN WRIGHT: Not at the moment. Dr. Lois Heckman, Bloomsburg College. Are you two related?

DR. HECKMAN: Yes, we are husband and wife.

DR. LOIS HECKMAN: Mr. Chairman, distinguished committee and fellow citizens:

I am Dr. Lois Heckman, a registered nurse, who holds a doctoral degree in education. I am an associate professor of the Department of Nursing at Bloomsburg State College. I teach advance nursing science, which includes emergency nursing and cancer nursing. This evening I am speaking as a mother of two young children, as a woman of childbearing age, as a citizen who lives seven miles from Three Mile Island, as a person who felt the need to evacuate on the first Friday during the TMI incident and as a health care professional. I did not choose to become a spokesman here tonight. It really is a matter of living in these times during and after the TMI incident that compels me to speak. I have consulted with physicists, chemists, geneticists, geologists, physicians, researchers, representatives from voluntary agencies and governmental agencies, as I believe that nuclear power is not safe for this time in history.

We do not know what to do with nuclear wastes that are radioactive and we do not know how to determine whether an

accident that spills radioactive substances into our environment is an incident or a disaster.

We live in a time when government and business withhold information from individuals as citizens and consumers because they believe to do so is in the best interest of a larger societal good. I believe that the same tendency has pervaded the health care system. If someone has cancer, is likely to develop cancer, you may not tell the individual as you make the decision for the individual that he would not be able to handle this information. When it may well be that the family or society would rather not take on the responsibilities to offer psychological and economic supportive help to the individual who faces such a reality.

I believe that health care is primarily the responsibility of the individual person and that it is the health care professionals such as physicians and nurses who assist the individual in his health care practices in regard to his state of health. If the individual has a primary responsibility, then he has the right to accurate information to help him make decisions about his own health and to understand the health risks he is taking, such as with the TMI incident. The health care professional therefore cannot ethically withhold information that the client needs and certainly

should not be party to the giving of misleading or inaccurate information.

Let me cite some examples of information that I feel every citizen would need to know in order to respond appropriately to the TMI incident. Any dose of ionizing radiation is an overdose. No level is a safe level and any increase in level involves an increased risk to health. Yet over national television a physician and spokesman for the government said the incident at TMI involved no increased risks to pregnant women or children. This was not only misleading to the public, but was alarming to me as I knew that this was false.

I believe that every citizen should know that the health risk, when exposed to ionizing radiation, is a matter of time of exposure. The distance from the source of radiation, the quantity of particles, the half-life involved and whether they were gamma, beta or alpha emitters.

Now it seems to me when you do not know how much, that is, the quantity of particles or what kind, whether it is alpha, beta or gamma emitters or where it is in terms of the wind direction or the location of the plume, the population should be immediately advised to get as far away, that is, distance and some sources suggest a reasonable distance of a

hundred miles and in the event of a possible meltdown, three hundred miles, as rapidly, that speaks to the time element, as safely possible until the risk level cam be validated.

In our TMI situation, an evacuation site was set up at Hershey about 12 miles from TMI. This was not only misleading to the public, but was alarming to me as I knew this was not a safe distance. In our TMI situation, we were told to go indoors and close the windows. This also was misleading to the public and alarming to me as I knew gamma rays easily penetrate building materials. It would have been much better to advise people to cover their body with clothing and gain distance from TMI and then instruct them to the proper disposal of clothing and the importance of showering.

In our TMI situation, Mr. Denton was reported as saying at Lebanon Valley commencement, don't worry about dumping radioactive water into the river. This is not only misleading to the public, but alarming to me as I know that NRC standards do not eliminate radioactive elements from the water and that my family and friends in the Lancaster area consume that water.

I cite these examples to point out the problem of misleading information in the past and the need for every citizen to obtain accurate information. I believe that they

need accurate information about, number one, the dangers associated with ionizing radiation. This is not only cancerous but genetic mutations and also the possibility of immediate death with more severe levels of radiation.

Number two, they need to have accurate information about how to protect themselves against radioactive particles released into the atmosphere, information that relates to protection from ingestion and inhalation, the importance of clothing and showering, of washing food and containers and also in understanding the principle of time and distance.

In addition to this information, I think the public needs to be aware of the consideration in ordering an evacuation and some of the impact that might come both economically and political. Also the fact there may be deaths due to the evacuation process. They need also to be aware that damage due to radioactive substances tend to be long term and you can see no immediate deaths or disability. As I have heard several times, well, there were no deaths associated with this incident. I think the public also should be aware that information was controlled by the utility and really could not be well validated by governmental agencies.

In addition to these three points there is a fourth point that I think needs to be mentioned. The public needs to

be aware of the governmental involvement in the nuclear energy program. They need to be aware of the Price Anderson Act, this is an act of legislation that limits the liability of the utility company. Dr. Robert Heckman has spoken to the potential for genetic changes. And I will simply say that when there is an outbreak of polio in Lancaster County an appropriate immunization program was instituted. It seems to me that an equally vigorous response should be made to provide for the early detection of potential cancer among the population at risk. And I am suggesting that this should be within 30 miles of TMI over the next three decades, which is 30 years, and to provide for the increased disability through gene mutations as they occur. The tendency will be for the government to disclaim any association of TMI to deaths or disability for the lack of proof.

In summary, I would like to say that I perceive an increasing distrust of government and the utility companies and an increasing fear for the health potential of our future generations and this is due to the health risks that can be identified associated with nuclear reactors. Therefore, I recommend for your consideration the following citizens' self-care demands.

For the citizen to assume primary responsibility

for his own health. The citizen should demand accurate information from those in a position to do that. The citizen should demand assistance from health care professionals and governmental agencies which is offered in the interest of the individual's state of health. The individuals or the citizens should demand that they be recognized as a member of a population at risk and that services such as cancer screening should be available to them, not just to children or pregnant women. I believe that the citizens should demand that government be accountable to the value of the quality of life of biological and future generations rather than an economic and convenient sense. I believe that the citizens should exercise their individual rights to influence the system of government, and should the citizens agree with my position, demand a shutdown of the nuclear power plants, the repeal of the Price Anderson Act and to demand conservation of energy and that the government explore alternative sources of energy.

In the end we must all work together, the citizens, health care professionals, legislators of government and the business community to make our world a safe and healthy place to live. Thank you for the opportunity.

(Applause.)

CHAIRMAN WRIGHT: Thank you. The commitee wishes to thank the audience for participating, for listenirg. I particularly want to thank Representative Brandt, Mrs. Longenecker, for the amount of work that they put into setting this up and coming up with an extremely well scheduled, good schedule. We will be repeating this next Wednesday night at Goldsboro on the other side of the river.

I would point out that the House of Representatives and members of the committee went into session at 10:00 this morning and were still in session at 7:00. I extend to you their apologies that more members weren't here to listen. I hope those of us who came here rather than go there didn't wind up voting for a tax bill. It's one of the hazards of the profession. You can't do two jobs and be in two places at once.

Mrs. Longenecker, do you want to make a presentation now?

MRS. LONGENECKER: I was also asked by someone in our audience this evening to make it clear on your record there were two high body scan counts. If you want to know more information, I will give you that person's name but because of legalities, advice from the lawyers, etc., they asked not to be identified publicly now, but it should go on your record that they are high.

I saved this last presentation because it has to do with a petition directed to you. Before I present it to you, I had some words I feel have to be said. Nuclear power was to be our miracle, to lessen the energy burning and save us all dollars. Unfortunately, for the majority of us all here today and for the residents of Lancaster County, our miracle became a nightmare, and for many it has literally remained as you have seen and heard this evening. From young mothers not sleeping soundly because of undeserved guilt feelings for having children in warm spring air March 28, 29 and 30. Old people, who should be enjoying their final years and the likes of grandchildren, now having to worry that they are leaving an inheritance of increased cancer or perhaps short lives of their children. And we are all here tonight and elsewhere moving in emotional shadows. We are living as neighbors to Met-Ed employees and their families trying to understand their feeling and strain and at the same time seeing and reading increased publicity of scientific studies which indicate that the low-level radiation definitely does affect the quality of plant and animal life in our environment. There isn't a person in this room this evening who hasn't asked the question how much radiation has my family received? How is it going to affect our health?

It is because of genuine concern and moral conviction that this type trauma must not be allowed to happen again, that my husband and I composed the following petition:

That the loosely formed group of dedicated unselfish people worked to reach more than 1,000 people who feel this area could not handle the emotional stress of another such accident.

(Applause.)

We do not want Three Mile Island to reopen as a nuclear generating power plant.

(Applause.)

Nor to see its use as a waste storage or disposal facility.

(Applause.)

Over 70 percent of residents contacted signed this petition and in so doing they took a stand of courage in which they anticipate energy conservation and much sacrifice. The reasons given for not signing were uncertainty and fear, not understanding the issue, businessmen, churchgoers not wishing to be involved in a controversial stand, the citizens hurt by

inflation feelings we cannot afford to have nuclear. These answers, hopefully, were given with thought.

When the TMI crisis loomed eminent over every household in this area, books on nuclear energy were in demand in our local public libraries. Now, very few books are being checked out. People are tired of hearing and reading about it. Every person wants to resume life as normal and every person is looking how to do it economically.

The names on this petition and countless more people not reached have also looked at this issue morally in that unsafe nuclear power is downgrading and shortening human life and creating in our midst a new poverty no riches or any technology will ever change. We can buy other forms of energy, but where are we going to buy a human life?

(Applause.)

The residents in Lancaster County are living in shadows. We are groping to make the right decisions. The shadows represent the cooling towers from Three Mile Island and tombstones of families representing generations of strong character, thriftiness and hard work. This county has a long record of honest prosperity. Over the past few months, I have felt these shadows loom over my decision making on where I knew

I had to take a stand on this issue. My life has been richly blessed and I have experienced the ultimate peaks of happiness and success. But I have also been to the most desolate valley in seeing a child of six lose a battle with leukemia one sunny day in June just across the green from where we now gather. Now my tears have been shed for that lost innocence and worth. But anyone who witnesses the deterioration and ending of a life values greater the health and vitality of daily human existence.

(Applause.)

Our petition is asking for safe environment in which people can walk free of these shadows of a technology out of control. Our petition is asking for a productive environment in which future generations may continue to live and prosper in this fertile beautiful landscape. Thank you.

(Applause.)

CHAIRMAN WRIGHT: Thank you and thank you for allowing us to be with you today.

(Whereupon the hearing was concluded at 9:20 p.m.)

I hereby certify that the proceedings and evidence taken by me in the within matter are fully and accurately indicated in my notes and that this is a true and correct transcript of same.

Dorothy M. Malone

Dorothy M. Malone
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