

1 SHEEHAN: Your one slide on our community has the highest
2 levels of RF radiation in the nation. What is your source on that?

3 OLINGER: That's numerous sources from the FCC they have
4 quoted that to Al Hislop. And looking at just radiation levels in other
5 communities looking at the studies.

6 SHEEHAN: Maybe if someone could just kind of point me the
7 way to the exact piece of paper that shows me the source on that at some point
8 with the CARE group, I would appreciate that.

9 CARNEY: That was Jerry Uhlich of the FCC said it to Carol
10 Lomond and we have repeated it to the FCC and they have never denied it.

11 SHEEHAN: Well, I don't know if it's written, if it's written some
12 way or substantiated some place, I need that. I need that as factual record, I
13 guess for my basis of decision.

14 MATTSON: Good evening, my name is Roger Mattson. M-A-T-T-
15 S-O-N. I reside at 481 Crawford Street in Golden, that's Tripp Ranch right at the
16 base of Lookout Mountain. I am an expert in radiation standards. But, I also
17 have a bias, so my residence is a bias, I also have 14 members of my family
18 living in 5 households living within about 5 miles of this mountain. So, that's my
19 bias now I will talk about what I know as an expert. I have spent my adult life in
20 nuclear safety and radiation protection. Half of my career with the federal
21 government with the federal regulatory agencies for Nuclear Safety and
22 Radiation Protection and the Atomic Energy Commission, the Nuclear
23 Regulatory Commission and the Environmental Protection Agency. For a period

1 in 1980 and '81, I was the Director of EPA's non-ionizing radiation standards
2 activities. It is with that background that I would like to tell you that this isn't all
3 about money. And you can't get off that easily. Because, no public health
4 agency in America has stepped forward to address this problem. FCC is not a
5 public health agency and EPA has killed it's program in this area. The public
6 health decision has flown downhill and it's on your desk. And I would like to
7 illustrate why that is the case by showing you briefly the history of these
8 radiation standards in America and in the Soviet Union and then telling you what
9 the FCC and the EPA say today about their roll in this area. Quickly, to recount
10 what the standard is. You have heard the 200 micro-watt per square centimeter
11 referred to by a number of people and you heard one person say that, that's
12 really an over simplification. Mr. Hislop talked about how the standard goes up
13 as the frequency of broadcast is up. That's very true, but it is convenient to talk
14 about two microwatts as a simple representative sample if you will, of the
15 standard. You have also heard no doubt that it's based entirely on thermal
16 effects, that is the cause of heating in tissues and organs of human bodies or
17 animals that have been subjected to this kind of radiation. To say it's based on
18 thermal effects only means that it takes no account of possible chronic or
19 stochastic effects including cancer that might be induced by long term low level
20 radiation of human beings. You should also bear in mind that the standards we
21 are going to talk about are all based on research that was complete basically by
22 1990. So, when you have heard the researchers earlier tonight say that there
23 has been a marked changed in the direction of the research and the results of

1 the research in the last five years that means none of the standards take
2 account for these long term, low level effects that are now being disclosed.
3 Although people petitioned the Federal Communications Commission to include
4 sensitivities of the limiting members of the population when they picked the 200
5 micro-watts they chose not to. When people said you should include the non-
6 thermal effects that are available in the literature, they chose not to. It isn't that
7 they addressed them and found them wanting, they chose not to. When people
8 recommended to the FCC in the rule making to set the 200 micro-watts per
9 square centimeter, that they introduce the concept of ALARA that's applied in
10 every other radiation control activity everywhere in the world. FCC chose to
11 even ignore the comment and not respond to it. This is all in the literature of the
12 background of the development of the Federal Communication Commission
13 standards. I would point out one more thing about those standards and that is
14 that they're not independently administered. Every other hazard that we are use
15 to dealing with either the FDA or OSHA or the Nuclear Regulatory Commission,
16 or EPA has an independent oversight of the promotional agency, what we have
17 with FCC is much like what we had with the Atomic Energy Commission prior to
18 1975, when the Congress split up the promotional and regulatory activities of the
19 Atomic Energy Commission. Finally something that is not on the slide but it's
20 clear to me tonight that people are misunderstanding it. Two hundred micro-
21 watts per square centimeter is not a safety limit. No federal agency has set it as
22 safe limit, it is a guideline used by FCC How do they use it? They use it to
23 decide when to require a particular applicant to do an environmental impact

1 statement. The applicant can make a case that they are going to be below 200
2 to the effected public, they don't have to do any I.S. If they are over 200 then
3 the FCC regulations says they have to do an E.A., environmental assessment
4 and then the assumption would be that FCC would do any I.S. That's not the
5 same as a safety limit. FCC is not saying and has not defended 200 micro-watts
6 per square centimeter as safe. No one has declared it safe. It's really important
7 to understand this, it's a bureaucratic approach to how you implement the
8 National Environmental Policy Act. If you need more advice on understanding
9 that I am sure your attorney can help you understand that regulatory gimmick.
10 It's not a safety limit. Okay, let's look at where the standards came from
11 because they varied a lot and I want to make the point that they are going to
12 continue to vary. In fact, I am going to quote the FCC for you, cause they are
13 going to tell you that they are going to continue to vary. The first that we knew
14 of when I was at EPA of the concern about RF was from the Navy and it had to
15 do with radar and it was in the early 50's. And it was when we were really
16 building up to fight the Soviet Union and they observed cataracts in dogs that
17 they exposed. They observed diseased workers that were exposed when they
18 were working right on the radar. And the Navy published a standard for workers
19 of 10,000 micro-watts per square centimeter. About the same time the Soviets
20 apparently had the same kind of problem and set a limit that was ten micro-watts
21 per square centimeter. A thousand times lower to protect the Soviet workers,
22 then we had set in our armed forces. In 1966 the Army requested the American
23 Standards Association, what we know today as ANSI to take a look across the

1 Armed Services and give D.O.D some advice as to what the standard ought to
2 be. They looked and they affirmed the earlier value of 10,000. In 1971 there
3 was about a four or five year study concluded called Project Pandora, it was
4 fairly secret at the time. Where the Soviets had bombarded the Embassy in
5 Moscow with 10 to 15 micro-watts per square centimeter of RF radiation around
6 the clock. It had been detected, people were worried about it, people in the
7 foreign services, especially that lived there and worked there. Project Pandora
8 for the government concluded that there was no need to change the standard.
9 Of course there were a lot of government people involved in that and as I said
10 probably secret in those days. In 1976 ANSI took a look again and again
11 affirmed the ten thousand micro-watts per square centimeter. Then in 1977 a
12 book was written in America as often happens, a man by the name of Brodeur,
13 wrote a book called the Zapping of America if I remember it's title correctly. And
14 charged that there had been a cover up of these affects because of the large
15 investment by DOD in radar and that the government was covering up the
16 effects. Short time later there was a big outcry in the United States, people
17 wanted more done by the EPA, we had a program in those days, I was there in
18 '80, there were three or four people working this program for the whole United
19 States, today I think there are none. In '79 the Soviets decided to set a standard
20 for the public not only their workers and it was one micro-watt per square
21 centimeter. To the best of my knowledge that is still what they use today. In '82
22 because of the response to the Brodeur book, ANSI looked again and dropped
23 the standard again by a factor of ten for workers. Notice that so far it's 1982 and

1 nobody has set a standard for the public in the United States, it's only for
2 workers. In '85 the Federal Communications Commission adopted the '82 ANSI
3 standard and extended it to the public. So, by '85 our government finally
4 decided that it was important to address the Public Citizens. In '86 the National
5 Council on Radiological Protection, the NCRP the prestigious group of scientific
6 gray beards in America that advises on all radiation standards, everybody
7 follows NCRP said it ought to be 200 micro-watts per square centimeter. A
8 thousand was okay for workers, but there ought to be two tiers, 200 for the
9 public. The American National Standards Institute, a fine organization based
10 largely on industry standards often with government participation, I participated
11 in a number of ANSI standard efforts directed in RC's efforts in those regards for
12 years. They issued a somewhat different standard but for the frequencies we
13 are interested in for Lookout Mountain same level basically, 200 micro-watts per
14 square centimeter, for the public, two tiers another one for the workers. And
15 then '96 FCC looked backwards and said oh, well we might as well revise our
16 standards because NCRP and ANSI have revised theirs. They undertook a
17 public rule making, I have referred to that a couple times already if you have
18 never read the FCC report and order on the public rule making associated with
19 this two hundred micro-watts per square centimeter and you want to know a little
20 bit about where all this comes from you can download it from the internet it's
21 about 100 pages and you probably only need to read about twenty of it because
22 some of it the deals were things that we are not interested in here. One of the of
23 the most important things that they said when they issued that '96 standard I

1 want to read to you. We note that research and analysis relating to RF safety
2 and health is ongoing and we expect changes and recommended exposure
3 limits will occur in the future as knowledge increases in this field. Now you have
4 heard from some of those researchers tonight. Guess what's going to happen to
5 those standards? They are not going up. They are going to do like ionizing
6 radiation standards have done in past history, they are going down. Okay, so
7 that's the only point I want you to remember of what I said. Here is where they
8 came from, there not mysterious, they are at two hundred and they are going to
9 change. I want to quickly draw some parallels to the ionizing radiation standards
10 area because there are more years of development there and maybe there are
11 things to be learned from that history. First of all in ionizing radiation there is a
12 lot more international cooperation, there isn't this the Russians do that we do
13 this, the Chinese do something else and Western Europe does this, ICRP brings
14 all of that together and civilized nations follow, ICRP. We do, the Russians do,
15 the Chinese do, it's all over the world. Everybody follows the international
16 direction. There are independent standards in ionizing radiation they are set by
17 EPA and then they are implemented or regulated by the Nuclear Regulatory
18 Commission for a broad range of nuclear applications, from medical applications
19 to smoke detectors to nuclear power plants, to fuel cycle facilities across the
20 board. You don't have that in the non-ionizing radiation area as Shirley Olinger
21 said the "fox in the chicken coop". Because FCC is setting these guidelines
22 EPA has no staff anymore and so they are both regulating and promoting. In
23 ionizing radiation you have got many years and hundreds of millions of dollars of

1 research on long term low level exposure. You don't have anything like that on
2 RF. These guys that are talking about the results of their research, its pittance
3 there is nobody sponsoring that research at any level in America today. In
4 ionizing radiation, what they did is they said we don't know for sure the kinetics
5 of how ionizing radiation harms people, and so we are going to go look for the
6 first indications scientifically of any influence on the human body of ionizing
7 radiation and that first influence is in the breakdown of chromosomes and you
8 can observe those clinically in the laboratory. That occurs at about 50 RIM a
9 measure of ionizing radiation. For workers then they set the limit ten times lower
10 than that, for the workers annual exposure, at five RIM that was in the early days
11 it has actually been decreased from that today. Today the public exposure is a
12 factor of 200 for nuclear power plants for the public, 200 lower than the worker
13 exposure. So a factor of 2,000 below the first clinically observable effect on the
14 human body. Think of what a different standard that is then what you have
15 heard from RF, two hundred micro-watts per square centimeters well above
16 where research our measuring melatonin decreases, other things you have
17 heard about today. Not necessarily bodies, not necessarily cancers, but effects
18 on the human body. If it was ionizing radiation the standard would be below
19 that. So, there is something amiss in the way our Country is approaching this
20 question. Ah, the other point is this concept of ALARA and remote sighting. In
21 ionizing radiation, let's pick nuclear power plants as an example. In the early
22 days in the '60's and '70's when that industry was taken off like a rocket. People
23 wanted to build nuclear power plants in downtown New York, people wanted to

1 build nuclear power plants on a artificial island just off L.A. Citizen's like these
2 citizens stood up and said "no, we don't want them there, there is too much
3 unknown and the Government responded affirmatively and adopted a remote
4 siting policy for nuclear power plants in America. The other thing they adopted
5 was this concept of ALARA and it's a simple concept. You do what is
6 economically feasible to do to reduce unnecessary exposure as low as
7 reasonably achievable. I am going to make a couple quick observations, I think
8 you are the defacto public health agency for this decision. EPA has no program,
9 FCC has set a guideline. If I could just read you what FCC says about itself in
10 this same rule making "in the past the commission has stressed repeatedly that
11 it is not a health and safety agency and would defer to the judgement of these
12 expert agencies with respect to determining appropriate levels of safe exposure
13 to RF energy. We continue to believe that we must place special emphasis on
14 the recommendations and comments of Federal Health and Safety Agencies,
15 because of their expertise and their responsibilities with regard to health and
16 safety matters. There is none, there is no public safety agency in RF, EPA's
17 program died five, six years ago. All they can do is comment from the
18 administrator on what FCC does without any research, without any technical
19 staff, without any standards of their own, without any independent investigations.
20 They used to do the studies that you were asking for, what's the most exposed
21 place in the United States? I have a paper in my briefcase, I can tell you what it
22 was in 1980 because EPA published reports like that. They don't do that today.
23 You are the public health agency, the buck stops here. Because nobody else

1 has done it, FCC only has a guideline. Another observation, principals of
2 ALARA and remote siting can apply to non-ionizing radiation and you can apply
3 them. There is no statute that says that is outside of your responsibility. You
4 want it as low as achievable because of what you heard from your citizens and
5 you want it remote and Lookout Mountain isn't remote. Another observation
6 there is a growing body of science on long term effects and low level effects and
7 there will be some. You have seen harborings of them here tonight, there will be
8 others and you should expect further reduction and radio frequency radiation
9 limits, FCC has predicted it, history proves it, it has gone on across the world.
10 All the Western European nations have diminished their standards to below 10
11 micro-watts, in fact they are 20 below us now. If you don't believe the
12 Russian... how about the Chinese, the Chinese are 50. Our standards will go
13 down. This observation is maybe Dr. Mattson practicing law without a license.
14 But, I want to offer an idea to you. The new tower's ten megawatts, you have
15 got ten megawatts up there already. Mr. Hislop says they are above 200
16 microwatts per square centimeter in some spots as we sit here tonight at 10
17 megawatts. That is prima-facie evidence that 20 megawatts will exceed the
18 standard under FCC's own rules, that requires an environmental assessment,
19 there hasn't been one. FCC has not followed 40CFR 1.1301 it requires an EA if
20 the expectation of the new construction exceeds 200 microwatts per square
21 centimeter you have measurements by FCC, local citizens that prove it will be
22 above two hundred microwatts per centimeter. You ought to tell them "take your
23 tower back and do what your requirements, require you to do". So, in

1 conclusion, you ought to require somebody to examine reasonable alternatives
2 with lower public health risks, that is you ought to apply ALARA. And because
3 the standards will become more stringent you should apply prudence, you
4 should put really big towers away from people, not in the middle of people. You
5 ought to deny this application until FCC meets it's owns rules and examines the
6 alternatives under NEPA it as it promised it would and you ought not to entertain
7 them bringing it back until their standards address low level long term effects of
8 radio frequency radiation. That concludes my remarks, if you have any
9 questions, I would be glad to answer them.

10 HOLLOWAY: Okay, alright thank you. For all intents and
11 purposes, it's 10:00, so we probably shouldn't start another testimony. There
12 was some confusion apparently we had set these dates earlier because things
13 have been changed. Apparently we did not set that third meeting yet, so we
14 will...

15 HOLLIDAY: May I make a suggestion.

16 HOLLOWAY: Ah, huh

17 HOLLIDAY: I would suggest that we work with the parties to find
18 a mutually acceptable date, especially for the all day session, that was
19 contemplated when we originally negotiated this out. There are a number of
20 people still signed up and I don't know how much public testimony is really going
21 to be required but I believe in chatting informally with the representatives from
22 both side that, that approach is acceptable. And so within the next few days we