

1 somebody might let slip the date of the measurements. I don't think that would
2 be the case for the citizens here. Basically I have spent probably more time
3 than anybody else scrounging around Lookout Mountain looking for hot spots
4 finding them, reporting them, having them confirmed. The FCC followed me
5 around to find out where the existing hot spots were that they were requiring the
6 stations to turn down. So it seems like your greatest resource in this case is the
7 citizens who have spent so many hours trying to find hot spots which is really
8 what you are trying to do. The, it's obvious that the consultants have spent their
9 time trying not to find the hot spots and again when you have a monitoring
10 program like this and you say okay we are going to spend a few hours
11 monitoring or trying to find out the hot spots that's not as comprehensive as
12 what has been done by the citizens on their own, so I am a little bit concerned
13 about being excluded from that original monitoring procedure. Thank you.

14 HOLLOWAY: Thank you.

15 LARSEN: I don't believe I have been sworn in.

16 CLERK: Do you solemnly swear the testimony you are about
17 to give is the truth the whole truth and nothing but the truth, so help you God?

18 LARSEN: I do. Good evening, you are certainly persevering.
19 My name is Les Larsen. I live at 1682 Sand Lily in Golden. I am a resident of
20 Genesee. I am here as a professional Consultant. My background is
21 telecommunications consulting. I am certified by the Institute of Management
22 Consultants. I have been a consultant for about 17 years having worked with
23 more than 200 organizations, including many Fortune Five Hundred telephone,

1 cable, utility companies in the arena of telecommunications and also with
2 several cities and municipalities. Here in Colorado I am currently consulting for
3 the city of Longmont and the Stapleton redevelopment area. All in relation to
4 telecommunication issues. Actually I was scheduled to brief you as
5 Commissioners last month but that been actually postponed by the Economic
6 Development Department to brief you on telecommunication issues. But I
7 appreciate the opportunity to share with you just a few thoughts, and I am going
8 to be brief in my comments. Because I am going to talk a little bit about the
9 alternatives that may exist for the Lake Cedar Group to pursue other directions
10 than those that are planned that have been presented to you. One of the most
11 significant developments that we are looking at in technology in
12 telecommunications today is simply the explosion of fiber technology. And
13 Denver as a center of telecommunications is now informally beginning to be
14 known as Telecom Valley. And the cross section of the number of fiber fibers in
15 this community across the state down I-70, up I-25 around this community is so
16 extensive that we will truly be the metropolitan area one of the most wired
17 communities in the world. We have many, many players in the community right
18 now who are providing, who are putting this fiber into the ground which provides
19 a interesting opportunity for the Lake Cedar Group to be able to link a hybrid
20 fiber wireless network to reach out to certain points of their network that they
21 have indicated may be difficult to reach through shadowing through moving their
22 antenna to different locations. If we just look at the two biggest players, two of
23 the major players in Denver right now, Quest and Level Three and the

1 thousands of miles of fiber that they have put across the country add to that the
2 wire in the community that is being placed by companies like Williams,
3 companies like Frontier. Just today I received notice that another company was
4 just formed called P.F. Net. It's going to represent another 11,000 miles of fiber
5 to be deployed. The amount of fiber is just extraordinary and there are many
6 sources through which that fiber could in fact be leased in different parts of the
7 community. One of the most basic would be Public Service of Colorado. It's a
8 little known fact that Public Service happens to be the third largest provider of
9 fiber in the metropolitan community. They have three rings around the
10 community right now including extending up to Boulder. They have fiber that
11 extends right out here to Lookout Mountain and of course several of these other
12 players have fiber extending all the way across the State. Other players locally
13 like I.C.G. have a substantial amount of fiber and are very interested in leasing
14 or working strategic partnering arrangements with all different types of players of
15 which Lake Cedar could be one. Other companies like Sprint, and MCI
16 Worldcom also have fiber in the community right now and of course they have
17 also made within the past two weeks substantial investments just in the wireless
18 cable licenses which also effect Colorado as Sprint made a major acquisition in
19 Colorado Springs in looking at that type of median to be able to provide
20 enhanced video entertainment services along with telephone services and of
21 course that doesn't count our biggest players. Our two largest players are clearly
22 TCI, which is now AT&T Broadband Services and U.S. West. Both of whom are
23 possible partners to explore relationships of partnering, joint tenancy being able

1 to coordinate options of utilizing some of that capability that exists. Another
2 major point frankly is that consumers and citizens are not going to lose out by
3 your decision as far as whether they are going to have access to high definition
4 TV in advanced, enhanced broadband capabilities. Because obviously in this
5 community right now as we speak, two out of every three homes is already
6 served by cable. And as was mentioned a moment ago, satellite direct TV
7 Ecostar is growing by leaps and bounds they anticipate crossing the 10 million
8 threshold shortly and are projected to be 20 million consumers served by the
9 year 2005. When you start looking at that kind of capability add to it wireless
10 capability you are really not at risk for asking Lake Cedar to delay and consider
11 alternatives to the ones that have been proposed so far. In fact, delays will only
12 help Lake Cedar. We are all clearly aware of the incredible rate of change of
13 technology. We are all aware of Moore's Law that has been very, very clearly
14 demonstrated over the past fifteen years and for the foreseeable ten years will
15 still be in effect. Transistors are doubling every 18 months, votanics is doubling
16 every 12 months. Wireless capacity and capability through compression
17 technologies and enhanced performance is doubling in capacity every 9 months
18 and of course the phenomenon of our times the internet is doubling every 100
19 days. So, when we start looking at perhaps some prudent time delay to
20 consider alternatives given the testimony that we have looked at tonight, it's not
21 going to hurt in fact it's going to help as we begin as many more alternatives that
22 are currently under research. We are not talking blue sky proposals of
23 distributed remote antennas are much more likely to be more cost effective,

1 more health safe, more prudent long term investments for these folks. In
2 conclusion this is truly an economic question and there are reasonable
3 economic alternatives to be considered. As citizens we're already very shortly
4 going have five hundred channels available through cable. I have heard a
5 substantial amount of speculation and I have seen the internet plans that project
6 as many as twenty thousand channels via the internet. I am not sure how many
7 more we really need. But I think there are reasonable economic alternatives
8 and I would be happy to answer any questions that you may have.

9 SHEEHAN: Can you explain for me and you may not be able to
10 and defer this to someone else, what they're providing high density television
11 right now through various mediums, how is that being done and why couldn't
12 they do that instead of the tower. Do you know the answer to that question?

13 LARSEN: Right now, the capabilities for example in the cable
14 networks. The cable networks are not adequate quite yet in many of them to
15 provide the additional channel capacity which is required to be able to deliver
16 high definition capability. Until those systems are upgraded and they have been
17 changed from the old coaxial cable infrastructure that currently exists for the
18 predominance of the cable industry to the hybrid fiber coax network which is
19 much more fiber rich. And provides then full capacity to be able to deliver
20 hundreds literally of channels some of which could clearly be dedicated to high
21 definition TV Some of that capability is available now in some places you do
22 have access to that broadband capability where systems in fact been upgraded.
23 But, those represent today only a relatively small percentage of the total

1 population probably in the neighborhood of 15%, 20% at most of... and yet
2 given the infrastructure investments that are projected right now over the next
3 two to three years. We are looking at those figures going from 20% capable to
4 perhaps 75% capable in that type of time frame. But we are talking about multi-
5 billion dollar investments and that's what it has taken in the consolidation that is
6 taking place in the industry. All of these mergers that you are seeing, you have
7 seen that economies of scale are what is really necessary to make those kinds
8 of mega investments. The mergers have occurred the, economies of scale are
9 coming together and the infrastructure is being put in as we speak from many
10 sources not just from the cable industry but the expansion and satellite industry
11 and the enhancement in broadcast capability as well.

12 HOLLOWAY: I think we are going to take about ten minute break
13 for right now, we need to get up and stretch just a bit and I think some of...we
14 are seeing people fall asleep so, we think maybe you need get up a little bit
15 and...

16 HOLLOWAY: Shirley Olinger?

17 OLINGER: Yes, good evening. My name is Shirley Olinger. I
18 have been requested to make this very fast and I will. I am a nuclear engineer, I
19 work for the Department of Energy at Rocky Flats and I am going to start on
20 slide 11 all the previous slides were on health studies they have been discussed
21 already. And I think the bottom line is there is indication that low levels of
22 radiation exposure from these towers can be linked to childhood leukemias and
23 cancers. So, we are on slide 11. There is a study that hasn't been talked about