

1 HUTFLESS: Madame Chairman, before Dr. Olhoeft starts to  
2 speak if I could clarify one thing with respect to some evidence.

3 CARNEY: Oh, I'm sorry.

4 HUTFLESS: I thought I'd mention about that tape. You did  
5 mention this tape you know that you sent into me and asked to be put in the  
6 record. Mr. Ragonetti, have you seen this tape? It's entitled Lake Cedar Group  
7 Care Submission Amoco Building Chicago Tower?

8 RAGONETTI: We have not.

9 HUTFLESS: Okay, you want this included in the record, don't  
10 you?

11 CARNEY: Yes, please.

12 HUTFLESS: It will be available for you to view by contacting the  
13 clerk's office if you wish to look at it and then you could file any responses you  
14 may have or deem appropriate in writing after viewing the tape. Thank you,  
15 Madame Chairman.

16 HOLLOWAY: Thank you.

17 OLHOEFT: I am Gary Olhoeft. O-L-H-O-E-F-T, 1818 Smith  
18 Road in Golden. I'm a professor of geophysics at the Colorado School of Mines.  
19 I study electromagnetic fields. I study the natural fields that are generated when  
20 the solar wind interacts with the earth's magnetic field and I study the fields that  
21 are created by people and I create my own fields in order to study the earth. I  
22 want to talk about radio frequency interference because it will interfere with what  
23 I try to do everyday in teaching, and in doing research and in some of the things

1 that are done with geophysics in the Golden area. You'll pardon me if I'm  
2 shaking. I have Parkinson's Disease. Last year I was doing a research project  
3 and an educational exercise on Dinosaur Ridge over on Alameda where we  
4 were using a 900 megahertz ground penetrating radar system in order to track a  
5 hundred million year old dinosaur prints. You may know that it is illegal to climb  
6 on the rocks there. Well, we had permission to be up on the rocks and we were  
7 up on the rocks with our instruments. And every now and again somebody  
8 would see us and stop with the car, look up at us and pick up the cell phone and  
9 call the Sheriff to tell us we shouldn't be up there. Well the cell phone operates  
10 at 900 megahertz. It wiped out my radar, so every time they stopped and called  
11 us I had to stop doing what I was doing and redo it because they were  
12 interfering with me. That's a common, more common than I would like to see  
13 happen experience for me anymore because we have more and more radiation  
14 being generated by people and by things people are doing. But think about  
15 what happens when somebody does that when they go over Berthoud Pass  
16 under construction and they're doing blasting. If they do that cell phone trigger  
17 near a blasting cap they can trigger the blasting cap and kill somebody. That's a  
18 collateral health risk that's associated with radio frequency interference, not the  
19 direct radiation to the body but the direct radiation to something else, another  
20 device that we're using that doesn't work the way we intended it to because  
21 something got in the way, radio frequency interference. A garage door going up  
22 and down can do the same kind of thing. School of Mines has it's research  
23 survey field at the base of the mountain that they want to build this tower on.

1 We normally do surveying out there with instruments that use lasers and other  
2 things and these days we do a lot with global positioning systems especially the  
3 real time kinematic global positioning systems where you have two that talk  
4 with the radio frequency in between. The kind of power levels they are talking  
5 about we have requested information about. They have given us partial  
6 information. They have not answered all of our questions. We cannot evaluate  
7 fully what that will do to our teaching and research with the global positioning  
8 systems. If it interferes with the communication between the two devices the  
9 surveying will not work. And this same survey field the Department of Defense  
10 has constructed an unexploded ordinance test site to use geophysical research  
11 for tools to find land mines. There are about a hundred million land mines  
12 scattered around the world that maim or kill 10,000 people a month according to  
13 the U.N. We'd like to find them and they are very difficult to find. The kinds of  
14 research required to do that uses geophysics. If they build this tower we already  
15 have trouble enough from Lookout Mountain. We'd have to move that research  
16 field to someplace outside of Golden. In the same location there is also a facility  
17 built for research to help the Denver Water and Sewer Board try and figure out  
18 how to find problems with sewer pipes or with leaking water pipes. You may  
19 remember the I-25 incident where they had at the mousetrap a thirty million  
20 dollar water flood two years ago. They'd like to be able to assess and evaluate  
21 whether or not the condition of those pipes require the replacement now before  
22 they break. We're trying to develop the tools to do that. We're already having  
23 trouble again with the existing power levels. If they go up we'll have to move

1 that site. In the City of Golden I'm told by the Fire Department there is  
2 increasing numbers of excavation damage where somebody goes in with an  
3 excavator to dig a hole and hits a plastic gas pipe. If you look at the Country  
4 there is about a house a month blown up by that kind of damage. They have  
5 easy time with metal detectors finding metal pipes. They have a very difficult  
6 time finding plastic pipes. The technology we use to find those pipes is again  
7 called ground penetrating radar. It operates at about 500 megahertz to best find  
8 a plastic pipe right in the frequency band that they are proposing to build the  
9 super tower. In the Golden area we wouldn't be able to use those techniques.  
10 Again what exactly what the pattern would be I can't predict because they can't  
11 tell me what the multi-pathing is and they can't or haven't told me what their  
12 antenna pattern is. That means we're going to have to find other technologies  
13 which may not exist in order to find plastic pipes before they excavate so they  
14 don't cause explosions by hitting plastic gas lines. I don't know that we can find  
15 that technology. We also have a lot of people who come to Golden to work.  
16 Bob Crowder is going to talk next about the industry that's here that involves  
17 geophysics, partly attracted because of the Colorado School of Mines and the  
18 Department of Geophysics and partly because there are a lot of people who like  
19 to live here. They do things with these tools research, development,  
20 manufacturing which is already interfered by Lookout Mountain. They may have  
21 to move their businesses. Bob will talk about that. We also attract to the school  
22 a number of conferences. I've heard different estimates but it's in the millions of  
23 dollars brought into the economy, based on the conferences people who come

1 here want to learn from us, want to get together and learn from the industry  
2 that's in the area. They want to see demonstrations of equipment. We're  
3 already having trouble demonstrating that equipment. We're already at the  
4 level, where just the normal background level has risen because of the RF in the  
5 area not just Lookout Mountain but Mt. Morrison, the cell phone towers in  
6 various locations make it very difficult for us to demonstrate equipment let alone  
7 develop new equipment. This radio frequency interference is doing things to us  
8 that we're not anticipating, or having a hard time anticipating. Right now I can't  
9 predict exactly what will happen because I've not been supplied with the  
10 information. A couple of weeks ago I had a John Browne come visit the  
11 Colorado School of Mines Campus in order to talk to us from the Lake Cedar  
12 Group. We asked him to supply certain information and he has not supplied it  
13 and so again, I have to guess I don't know exactly what it's going to do to me. I  
14 really would like to know what that impact is before they do it so we don't have  
15 to go afterwards and try and figure out how we can get them to remove it. I  
16 doubt we could do that. Thank you.

17 HOLLOWAY: Do you have any questions? Thank you.

18 CROWDER: My name is Bob Crowder. That's C-R-O-W-D-E-R. I  
19 reside at 2114 Cheyenne in Golden. I am a co-owner of two small businesses in  
20 the Golden area. The first business is Mount Sopris Instrument Company. It's  
21 located at 17301 W. Colfax, Suite 165. That's literally catty corner from this  
22 building across 6<sup>th</sup> Avenue. Mount Sopris, we manufacture high tech  
23 geophysical equipment for the world ground water environmental and mineral