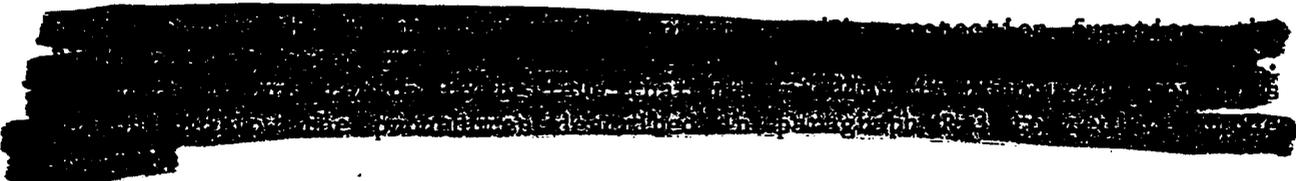


reading unstable. The voltage appearing between terminals 2 and 1 on the board is connected to the Controller through the Transmitter Interface/Backup Controller board on the Controller assembly.

R-10. The PA Grid voltage is connected to terminal 7 of the board. Resistors R7, R8, R9 and R10 are a voltage divider which derives a sample (at terminal 6) which is about 2/3rds of 1% of the voltage at terminal 7. The sample, then, is about 1 volt for every 151 volts on the Grid. This voltage is connected to the Controller through the Transmitter Interface/Backup Controller board on the Controller assembly.

R-11. The negative terminal of the Plate Supply (in the High Voltage Power Supply) is connected to terminal 4 of the PA Metering Board and completes its path to ground through the parallel resistor network consisting of R1, R2, R3, R4, and R5. The voltage developed across these resistors (with a combined value of one Ohm) is 1 Volt for each 1 Amp of Plate current.

R-12. Under normal conditions, the voltage across the network is well below the value required to cause CR1 to conduct. Since the metering circuit on the Transmitter Interface/Backup Controller board is very high impedance, there is no significant voltage drop across R6 and the sample applied to terminals 3 and 5 is the same as the voltage developed across terminals 4 and 8. However, on the occasion of a cavity or tube arc, the Plate current rises sharply and the sample voltage rises with it to the point at which CR1 begins to conduct. At this point, the sample voltage does not rise any further and the metering circuits are protected.



R-14. TECHNICAL ASSISTANCE

R-15. HARRIS Technical and Troubleshooting assistance is available from HARRIS Field Service during normal business hours (8:00 AM to 5:00 PM Central Time). Emergency service is available 24 hours a day. Telephone 217/222-8200 to contact the Field Service Department or address correspondence to Field Service Department, HARRIS CORPORATION, Broadcast Division, P.O. Box 4290, Quincy, Illinois 62305-4290, USA. The HARRIS factory may also be contacted through a TWX facility (910-246-3212) or a TELEX service (247319).

CHARLEY'S TV REPAIR

Route 11, Box 357
Poplar Bluff, MO 63901

March 2, 1992

To Radio Station KOKS Poplar Bluff, MO.

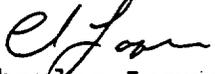
Re: Falty current reading in plate circuit of final tube.

CR. 1 was found to be leaky causing the metering of the curcuit to read low. The faulty component was located and replaced. Prior to the repair the reading was at 2.35. After repairs the reading was 3.1 at 95% of power which is correct using the efficiency factor and gain factor of this ant.. Please note I have inclosed a copy of the Harris manual in which there is documentation that this problem could occure. To my knowledge the transmitter has never run in over power condition. The automatic monitoring system of the Harris FM 35K would not allow this to occure.

If there are any more questions concerning this matter feel free to call me.

enc. 1

Sincerely,


Charles Lampe

K065-Exhibit 2

KOKS-FM, POPLAR BLUFF

EXHIBIT 2

TESTIMONY OF DONALD STEWART

FEDERAL COMMUNICATIONS COMMISSION	
Docket No. <u>92-122</u>	Exhibit No. <u>KOKS 2</u>
Presented by <u>KOKS</u>	Identified <u>11/12/92</u>
Disposition: Received <u>11/12/92</u>	Rejected _____
Reporter <u>B. LORD</u>	Date _____

TESTIMONY OF DON STEWART

1. I am the president and a director of Calvary Educational Broadcasting Network, Inc. (Calvary). I presently work full-time as a volunteer at KOKS. I basically do what needs to be done at the station. I suffered a stroke in February 1991, and am presently taking medication to control my blood pressure.

2. My wife Nina and I have lived in Poplar Bluff for roughly seven years. There are no zoning restrictions in Poplar Bluff so we planned to place the station's tower on our own land. In February, 1988 the truck pulled onto our property with sections of our tower. We began to unload the truck when the phone rang inside our house. Mrs. Doris Smith, our next door neighbor, was on the phone. This was, to my knowledge, the first time Mrs. Smith ever called us. She asked me straight out what was going on. I told her that we were putting up a tower for a radio station. Mrs. Smith told me: "[y]ou may put it up but I will take it down." She then hung up. We made an announcement in the newspaper that the station would be going on the air on April 1. For one reason or another we didn't actually go on the air until October, but on April 1 Mrs. Smith called the house to tell us that our radio station was messing up her TV reception. When Mrs. Smith called to complain about her reception we had erected the tower and installed the tower lights. There was no antenna or transmission line on the tower and no transmitter for the station yet installed. We had nothing electrical energized at the site, except the tower lights.

3. Our tower erector was World Tower of Mayfield, Kentucky. The fellow who supervised the crew who erected the tower was Jim Wilson. When he delivered the tower he told us that we needed a special tower lighting kit because the tower is located in a heavily wooded area and the tower lights cannot be seen from the ground in all directions. Because he told us we needed it, we installed an extra light on the tower. We were told it was safer, and the construction permit said that we could install an additional light if visibility is low. We had two FCC inspections before Mr. Ramage's, one in May, 1989 and one in December, 1989. In both instances the FCC inspectors inspected the transmitter site and the tower. They always made a point to check the tower lighting and tower painting. No one mentioned any problems with the light on the tower in any inspection of the station prior to February, 1992.

4. KOKS went on the air on October 6, 1988 at 4:00 p.m. Within a half an hour or so we began to get calls from people complaining about interference. Most of the people called simply to complain, they didn't give their name. Mrs. Smith called to complain about the station's interference to her TV set, primarily to the reception of channel 6. We received the first complaints from the FCC within the next two weeks. The information received from the FCC with the complaints explained what FM blanketing interference was and also what the station was supposed to do about it. One of the things that the FCC information said was that FM

blanketing interference normally could be cured with filters or traps. At the time I wasn't real familiar with technical matters, so I consulted our engineer at the time, Earl Abernathy who wasn't a great deal of help. I also called our FCC consulting engineer, Kevin Fisher to see if he had any suggestions. He suggested that we try installing what he called "string filters" on affected sets. As he explained it, "string filters" are nothing more than regular wire cut to a specific length to filter out particular frequencies. We discussed how long these "string filters" should be with Mr. Fisher, and then had Mr. Abernathy make these filters consistent with Mr. Fisher's suggestions.

5. At the time our station manager was a man named Jim Baggett. We hired him, and made him a principal of Calvary, because he was an experienced radio man. He had managed several AM and FM stations in Kentucky before he came to work for KOKS. Although he had never, to our knowledge, managed a noncommercial station, we relied on Mr. Baggett to take care of problems with the FCC and to talk about these matters with our communications counsel or consulting engineer. We relied on him, primarily, to take care of the complaints that came in at first. That didn't work. We found that Mr. Baggett did not really do anything with respect to the complaints we received. We also received, in very short order, over 250 complaints, which were more complaints than anyone should have had to deal with. Mr. Baggett left the station during the

later part of November, 1988. Mr. Abernathy, our engineer who was a friend of Mr. Baggett's also left about the same time.

6. When the second or third letter came from the FCC about the complaints my wife began to take responsibility for responding to them. If people called the station either she took the call, or the person taking the call was told to get the person's name, phone number, the nature of their complaint, and a time when the station could call them back to make an appointment to come to their house. Mrs. Stewart called almost every one of the complainants personally. For awhile we had a volunteer who helped her make the calls, but Mrs. Stewart did most of the calling, herself, and made almost every one of the home visits prior to February, 1991.

7. In response to her complaints, I went to Mrs. Smith's house in early November, 1988 to see if one of the string filters might improve her reception. I found out that Mr. Abernathy, unknown to us, had visited the home earlier in response to a call from Mrs. Smith. Mr. Abernathy hadn't done anything to help Mrs. Smith and had done no more than look at her set and talk to her. All I could see that Mr. Abernathy did was make Mrs. Smith more angry. I installed one of our new string filters on Mrs. Smith's small portable TV set. The filter made little improvements in the reception of all the other channels, but did not do anything to restore Mrs. Smith's reception of channel 6, which was her main complaint.

8. During this time period (November, 1988) I also went to the house of Thomas Crutchfield, who lives within the station's blanketing contour. Mr. Crutchfield, at that time, had both a booster and a pre-amplifier hooked up to his set. I tried installing a string filter to improve his reception, but the improvement was small or not noticeable at all. Mr. Crutchfield also mentioned, when I was at his house, that he was going to sue me and the station. In January of 1989 the station was sued, and Mr. Crutchfield was one of the plaintiffs.

9. During this time the station had other issues to deal with in addition to over 900 complaints. We were having constant problems with our antenna. We had a fire in our antenna bays on October 23, 1988, less than two weeks after we went on the air. We took down one antenna bay and sent it to Shively for repairs. We also notified the FCC and continued broadcasting on reduced power. On December 23, 1988 we discovered that someone had shot out one of our tower lights and shot a hole in our coaxial cable. With a hole in it the cable lost vacuum and couldn't keep up maximum power, so the station had to effect emergency repairs on the coax. Again, we notified the FCC and operated for some time with slightly less than legal power. We had another antenna fire in May of 1989. We thought the fire was the result of a lightning strike. We operated the station at 55 percent of authorized power while repairs proceeded, and we had to take the antenna down again for repairs. We operated with a stand-by antenna until September 16, 1989 when the repaired

antenna was remounted. With the Commission's permission, we operated with a stand-by 2 bay antenna at reduced power, only 25 kW ERP, all of that summer. When Shively sent the repaired antenna back they sent an engineer to supervise the installation of the rebuilt antenna. This engineer took measurements and checked the rest of our equipment to ensure that our other equipment was working and not causing problems to the antenna. Beginning in the Spring of 1990, we began to experience electrical arcing and fires in the antenna bays. After further complaints, Shively replaced the antenna with a new 4 bay antenna. When the new antenna was installed Shively sent an engineer from their factory to supervise its installation, take measurements, and check our equipment again. Once again, we passed Shively's inspection. After a few months we began to have exactly the same problems with this new antenna. We continually had electrical arcing between the antenna bays and the tower, and occasional fires in the antenna bays. We found that the closer to maximum power the station operated the more likely were arcs between antenna bays and the greater was the danger of fire. We also found that the danger was worst during rainy weather or heavy fog. Because of this danger we seldom operated the station at maximum power, and if we knew the weather forecast called for rain or fog we would reduce the station's power slightly. By slightly I mean to between 90-93 percent of the station's authorized maximum, and never below the legal limits for the station.

10. Shively twice sent engineers down to take measurements of our antenna and to check our other equipment to see if it was contributing to the electrical problems causing the arcing and fires. We passed Shively's inspections twice, and the Shively engineers twice took measurements of the antenna and found no problems. When we continued to have problems, even with the new 4 bay antenna, Shively finally offered to replace the 4 bay with a 7 bay antenna, although we had to pay the \$3,500 difference in the price of the antennas. When the new 7 bay antenna was due to be installed in October, 1991, We hired an engineer, Don Markley, to supervise the installation. He performed a number of tests before the antenna was energized to tune the antenna. He also checked out our other equipment, and we were told there were no problems. We were told that the 7 bay antenna had exactly the same technical characteristics and directionality. When we inquired about a proof of the 7 bay antenna we were told by Shively that the technical characteristics of both antennas were exactly the same, so the proof for the 4 bay was the proof for the 7 bay. The only differences in the two antennas, we were told, was that each bay in the 7 bay antenna received slightly less power than each bay in the 4 bay antenna. The bays on the 7 bay were also tuned slightly differently so that there was less RF being produced by the antenna, and less RF directed toward the ground, as opposed to the horizon. We were told by Shively, and Shively's engineers, that the reduction of the RF directed toward the ground should also have an impact in reducing the station's blanketing problems.

11. While we were struggling with these antenna problems we were also trying to deal with the over 900 complaints, a lawsuit which was not dismissed until the late summer or early fall of 1989, and run Poplar Bluff's first noncommercial radio station in the meantime. It was enough to make you want to swap places with Robinson Crusoe.

12. In October of 1990 we received a letter from the FCC requiring us to make home visits to some 105 homes to improve the TV reception in those homes. Because of the amount of work involved we asked for an extension of time to visit all the homes. We received the extension that we requested, but Mrs. Smith/Hillis filed an objection to the extension so I believed that the FCC would not give us any more time to complete the visits. Although I had been told by our consulting engineer that we didn't need to worry about restoring channel 6 from Paducah, because our area is far beyond the station's Grade B contour, I asked Charlie Lampe, our contract engineer, to try to find some filter which would remove any interference to channel 6. Charlie found such a filter, but the filter was expensive, almost \$35 apiece, but less than \$20 apiece if they were ordered in lots of over 100. I knew that we had 105 homes to visit, and the amount of money in our account was just enough to cover the cost of 160 filters and paying Charlie to make the 105 visits. I asked Charlie to order 160 filters.

13. At sometime, whether it was before we made the home visits or during the home visits, I don't remember which, I told Charlie not to use more than 1 filter per home. I remember telling him this because I was worried that if we used more than one filter at each home we might not have enough to go around. I also knew that we would have to get the money to buy more through contributions, which might take some time, and that it would take some time for the manufacturer to make the filters. I was afraid if we needed more filters we couldn't get them in time to meet the FCC's deadline. I also told Charlie not to use filters on portable TV receivers. I told him that they were portable, and not covered by the FCC's rules. I didn't ask Mrs. Stewart about this before I told Charlie either of these things, and I didn't mention it to her later. I wish I would have. I have since found out that I was wrong about the mobile receivers, and that Mrs. Stewart had been installing filters on portable TV sets since 1988.

14. I went on many of the 105 visits required by the FCC. I had a stroke during this period, so I did not go to all of the homes. In almost every instance I went as an observer only. Mr. Lampe was there to do the work and provide the technical expertise. Mrs. Stewart, who is much more diplomatic and cooler than I am, introduced us and did the talking. I did go to the Smith home, however. Mr. Lampe said that Mrs. Smith's antenna was not correctly hooked up and had been spliced and taped. Mr. Lampe installed new coaxial cable from the antenna to the TV, and

installed a filter on her TV set. Mrs. Smith was constantly asking Mr. Lampe questions and making comments about everything that he did. She wouldn't give the man a minute's peace. Finally he told her to stop badgering him and let him do what he was there for, which was to help her. When we left the place channel 12 was coming in well, channel 15 was coming in with snow, channel 6 was coming in with snow, and channel 8 was coming in with snow and the picture was rolling. The TV sound was turned up on channel 6 and there was no KOKS audio on the channel. I don't remember the Smiths asking us to look at any other TV or any radios.

15. We also visited the house of Cindy Diehl. We only looked at one TV and she didn't complain about any other TV set or radios. When we left every channel was coming in well except channel 8, which had snow, and channel 6, which had no color. No KOKS audio could be heard on channel 6.

16. We also visited Mrs. Marie Christian's home. Mrs. Christian has booster. We installed a filter on one of her TV sets and it seemed to clear up reception rather well. There was no KOKS audio coming in on channel 6. Mrs. Christian also told us that she was going to do some remodelling, and was going to be running all her TV sets off the booster using one wire. Mr. Lampe showed her how to wire all her equipment together to get the best reception. He also told her that if she installed the filter we gave her before the splitter, and showed her where the splitter

should go, that would clear up interference in all her sets. She seemed pleased with the improvement and asked for two more filters, one for each set. Since we only had a limited number of filters and she had just told us she was going to rewire her system in a way that one filter would be sufficient, and Mr. Lampe had showed her where to put the filter, I refused.

17. I also visited the home of the Garrisons. That visit was a disaster. Mr. Lampe installed two notch filters on their set and to my eyes the reception got a great deal clearer. There was a clear improvement in reception to channels 6, 8, 12 and 15. Channels 8,12, and 15 were coming in well. Channel 6 had some snow, but there was no KOKS audio that could be heard when we turned the volume up. Mr. Garrison, however, wasn't pleased for some reason. He kept saying that the reception was no better, which was ridiculous, and that we were destroying the reception on his TV set, which was more ridiculous. Mr. Garrison acted angry and told us he was going to sue the station. It became clear that we weren't going to make Mr. Garrison happy no matter what we did, and the man was threatening to sue us. Since Mr. Garrison kept claiming the filters were messing up his set I told Charlie to remove everything he had installed, and we got out of there.

18. Mr. Crutchfield has both a booster and a pre-amplifier. Charlie installed filters on the set which improved reception. Channel 6 was not coming in well though, although there was no KOKS

interference. Mr. Crutchfield asked Charlie how he could get channel 6 better, and Charlie told him he would have to get an antenna cut for channel 6. Charlie made no mention of any prices, he just told him to get a different sort of antenna.

19. One of our first visits was to the Adam's home. In that home Charlie installed four notch filters on their set. They seemed satisfied with the reception when we left, and the channels were coming in well. Channel 6 was coming in with snow, but there was no KOKS audio on their set. I think I mentioned to Charlie that we were going to have to limit the number of filters to one per household after we had used 4 of our 160 on one of the first homes.

20. When Mr. Ramage inspected the station in February of 1992, which was a year later, he asked me if I had limited the number of filters per household to one and I told him we had, because we couldn't afford more than one. I did think that. We did have a limited number of filters and a number of homes to go to. However, I also remember being at the Adams home when Charlie installed four filters, the Ellis home when Charlie installed two, and the Garrison home, where Charlie also installed two, although he later took them out on my order. I don't remember ever refusing to install more than one filter in any home when it was needed. I do remember not leaving Mrs. Christian two extra filters when she had a booster, which made her exempt anyway, and when she had just

finished telling us that she was going to rewire her sets off her booster in such a way that one filter would be adequate. Charlie even showed her how to do it.

21. I was also responsible for taking many of the plate current meter readings which turned out to be inaccurate. I don't know how to figure the station's power by the indirect method, but the meter that showed the station's power as a percentage of authorized power was always accurate. In addition, our equipment had been checked by Charlie at least once a month, and by Shively's engineers at least twice, the last time when the 7 bay antenna was installed in October, 1991. The Shively engineers confirmed that our equipment was operating correctly.

DECLARATION

I, Donald Stewart, hereby declare the foregoing is my testimony for submission to the Federal Communications Commission in connection with MM docket number 92-122, that it is true and correct and given under penalty of perjury of the laws of the United States and the State of Missouri.

IN WITNESS WHEREOF, I have set my hand and seal this 26. day of October, 1992.

..


Donald Stewart

EXHIBIT 3

TESTIMONY OF NINA STEWART

FEDERAL COMMUNICATIONS COMMISSION	
Docket No. <u>92-122</u>	Exhibit No. <u>KOKS 3</u>
Presented by <u>KOKS</u>	
Inspected	<u>11/12/92</u>
Disposition: Received	<u>11/12/92</u>
Rejected	
Reporter <u>B. Lord</u>	
Date	

TESTIMONY OF NINA STEWART

1. I am the secretary-treasurer and a director of Calvary Educational Broadcasting Network, Inc. (Calvary). I have been an officer and director of Calvary since the corporation was formed. My husband, Don Stewart, is the president and a director of Calvary as well. Calvary is a nonprofit, nonstock corporation that is recognized as being tax exempt by the IRS and the state of Missouri. Owning and operating the station is all that Calvary does. The station has never had much revenue, with total income from rents and contributions never exceeding \$95,000 since the station has been on the air. The station presently operates with a paid staff of six, two full-time and four part-time employees. We also rely on two volunteers to help run the station, including my husband, who is a full-time volunteer. Our paid staff has never been greater than it is now, although we have sometimes had as many as five people serving as volunteers. Since Calvary's station, KOKS, has been on-the-air I have been working full-time at the station, at least 40 hours per week. I am a paid employee, making \$160.00 per week in salary.

2. My husband and I, Don Stewart, have lived in Poplar Bluff for roughly seven years. Our home is only about 50 yards from the station's tower. The off-air TV reception at our house before KOKS went on the air was pretty terrible, and we could not get channel 6. We watched TV using a satellite. It is only recently, to check the difficulty of receiving signals off the air, that we have

installed an outside antenna. When we applied for the station we located the site on our own property for a couple of reasons. Our property is within a mile or two of the channel 15 tower as well as another radio tower about two miles away. Our consulting engineer told us that this would mean that the FAA wouldn't likely give us any problems with the height of the tower. Since there are no zoning or planning restrictions on our land we could also put the tower up quickly.

3. In February, 1988 we had the tower delivered for the station. The tower itself was erected by Jim Wilson of World Tower in Mayfield, Kentucky. Mr. Wilson had a copy of our construction permit, but told us that we would need to install what he called the "A-1" tower lighting kit which included a second beacon. He said we should do this because we were in a heavily wooded area without a great deal of visibility, and where the tower is screened by trees from many angles. I note that paragraph 3.0 of FCC form 715 on page 3 of Calvary's construction permit provides that a second beacon may be installed if the first beacon can't be clearly seen. The "A-1" tower kit cost more to buy and install, and more to maintain. The extra light was put on the tower because the tower erector, who is supposed to be an expert, said that we should because of the low visibility in the area because of the woods. We thought we were complying with our construction permit and building a safer tower.

4. When the tower was being unloaded off the truck we heard the phone ring and Mr. Stewart answered the phone. After a short conversation he told me that it was Mrs. Doris Smith, who is one of our neighbors, calling to ask what was going on. Mrs. Smith had never called us before. Mr. Stewart told me that when he told her that we were putting up a radio tower she said that "[y]ou may put the tower up but I will take it down." We had placed an announcement in the newspaper that the station would be on the air on April 1, 1988. Construction was delayed, and the station wasn't ready to go on the air until September. On April 1, though, Mrs. Smith called us up and said that the radio station was messing up her TV. At that time the tower was up and the lights were on the tower, but there was no transmission line on the tower, no antenna mounted, and no transmitter. One of our board members, Carl Clanahan, called us to tell us that he had received a few calls from people, who didn't give a name, complaining about the interference the radio station was causing to their TV reception. This was about five months before the station went on the air.

5. KOKS went on the air on October 6, 1988 at about 4:00 p.m. Pretty soon after going on the air we began to get phone calls complaining that the station was causing interference to their TV reception. These people did not give their names and they almost always complained about channel 6. There were a few people who did identify themselves. Mrs. Smith called many times, told us we were interfering with her TV reception and hung up. Marie

Christian called after a couple of weeks, as did Dariel Denton and Randy Soens.

6. When KOKS went on the air the station manager was a man named Jim Baggett who we knew to be experienced in running radio stations. At that time I pretty much limited myself to answering the phones and keeping the books. Mr. Stewart was mostly involved in technical matters. We had never run a radio station before, and tried to rely on someone who had some experience. The first complaints we got from the FCC were addressed to Mr. Baggett, and were from Randy Soens and Dariel Denton. He showed us the FCC letter, particularly the attachments which explained what blanketing interference was and what it looked like on a TV set. We relied on Mr. Baggett to take care of these complaints. We have subsequently discovered (we didn't know at the time), that a fellow who worked at the station as the chief engineer named Earl Abernathy visited a couple of the complainant's houses, those of Dariel Denton and Randy Soens. We really don't know what Mr. Abernathy did, he left the station about the second week of November, 1988. Mr. Baggett also resigned as the station's general manager during the last part of November, 1988. Upon Mr. Baggett's recommendation we hired a man by the name of Ben Tippett, who worked for us until June of 1989.

7. When the complaints began to come in they began to come in a pattern. Our night disc jockey would sometimes field calls at night from people who complained of interference. Of these calls

less than 50 would leave their name. Either me or a volunteer answered the telephone during the day. Mrs. Smith called often, but she usually spoke to the night DJ. Dariel Denton is one who left his name, as did Melba McCoy. Mrs. Christian called once a week for about six months, and then stopped calling. Mrs. Hillis called once that I recall. The night DJ and the volunteer were both given the same instructions. If a person called with a complaint they were to get the person's name and telephone number, a short description of the complaint, and tell the caller that someone from the station would call them back within a day or two. I was that someone.

8. In November of 1988 people began calling us up at the station and telling us that a petition was being circulated about the station, or to tell us that someone had come to their home asking them to sign a petition against KOKS. Many of these petitions were taped on people's doors, or were left in grocery stores and at the counter in the electronics store. None of these petitions ever were left at KOKS. The first petitions we saw were those we received from the FCC. We received the first of these petition complaints, more than 250 such complaints, in November of 1988. At that point we knew very little about blanketing interference. Mr. Abernathy, our engineer, wasn't too helpful. We relied mostly on the information concerning blanketing interference that Mrs. Raines sent us with the first complaints, which I have attached to this testimony in Attachment A. Mrs. Raines'