COMSAT HISTORY PROJECT

Interview with Asher Ende

Interview conducted by Nina Gilden Seavey

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Asher Ende
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Nina Gilden: I think the best way to proceed at this point is for us to talk about the block of time that....as we developed the legislation [the 1962 Satellite Communications Act]. Let's start there. What I'd like to get from you initially, is your recollections about the FCC's initial input into the legislation and we'll start to take it step by step from there.

Asher Ende: Actually, I think it['s] more important that we go back to what preceeded the legislation.

NG: Perfect.

AE: Let me reminisce for about two minutes on what happened. I remember the Russians got Sputnik up, I believe in 1957. The United States then started to move very quickly--I might say effectively--to counter the Russian breakthrough into space. We got up the reflecting balloon and then we got up the Advent satellite, where Eisenhower gave the Christmas message that was reflected down to the Earth. Then RELAY and TELSTAR went up as communication satellites; TELSTAR being funded by AT&T, RELAY

being built by RCA, paid for by NASA. It became quite clear, at that point, that communications in space would probably be the first commercial, practical, use of space, other than for scientific advance. The government started to ready itself. There were essentially, I guess, three basic claimants in the government for a role in the space program: NASA, given the basic charge for developing space, for designing, planning, launching, and operating satellites; the Department of Defense, which had a major concern about space as a potential for defense and quick communications and the possibility, which has developed into intercontinental missiles; and the FCC, which had the statutory responsibility for communications. A working team of the three agencies was organized and a memorandum of understanding was drafted which, at least until the time I left the FCC, had not been changed. It was one of the few times in the history of this country, where everybody knew what they wanted to do, did it, and recognized that there was enough glory in it for everybody, without any fight for turf. So that the essential government interrelationship at the executive level and the regulatory level was fixed very quickly.

NG: When you say that people knew what they wanted, what was

that?

AE: Essentially to get into space as quickly as possible, to define their respective roles without trying to take a cut out of the necessary or legitimate role of the other fellow. We recognized the primacy of NASA and what it was going to do. We had an interest in satellites as a vehicle or a means, for handling communications. To put it quite bluntly, we looked at a satellite as a towerless top. In other words, it was a microwave tower, instead of being held up by steel girders, was held up by gravity. Once we took that look at it, Defense looking it's look; NASA feeling free really to do what it wanted just for the recognition--and we weren't going to regulate them--but we were going to try to facilitate going into space.

The next question that arose was, "Who's going to do it?" The initial view of the FCC was that this was but another means of providing communications. Therefore, they got out a notice of proposed rulemaking, which looked toward having an individual or a combination of existing telecommunications carriers make the investment, provide the service--in the same way that we had gone from individual wires, to multiplexing, to

HF radios, to microwave, to transoceanic cables. All of those were just different means of providing a communications path.

Unfortunately, for progress (and perhaps fortunately for COMSAT), communications satellites were entirely different from all previous means of handling communications: they were glamorous. Therefore, everybody wanted to get into the act. You'll find that that's really been the incubus that satellite communications has always carried around. You'd lay a cable before satellites came in, you couldn't interest people. You'd try to tell them [about], "This great thing that we were doing. For the first time you'll be able to talk, by voice, to Europe," and people would say, "Yeah?" However, mention satellites, and eyes bulge and everybody wants to get in the act. So Congress passed the Resolution, saying in essence, "Hey you guys [at FCC], sit still. This is our act, not yours." And the FCC sat still.

We then ran into a second very serious problem in that we had just gone through the atomic energy fight. Everybody was looking at satellite communications in the image of atomic energy--not recognizing a whole series of basic differences. First of all, satellites by themselves, couldn't quite devastate the world. Secondly, atomic energy was an entirely

new means of providing power, of destroying the world, of doing various things. Very clearly, close government intervention was highly essential. Also, the project which had resulted in the Manhattan Project, cost umpteen billions of dollars.

Satellite communications were really different. They were going to provide just another means of transmitting intelligence. If in fact, the government had invested money and charged for that use, two things would happen: the higher the cost of satellite communications, at least initially; the less chance there was to launch successfully.[1/] If the government didn't charge, and the cost were low and there were savings--in those days, regulated common carriers that people buy to pass their savings through to all of the users--and everybody who was a taxpayer is clearly a user of communications--so the money they shelled out of their right hand pocket to do the experimentation, development work, would come back into their left hand pocket, in the way of lower rates.[2/] The second differentiation was that there was a

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1/ change "to launch successfully" to "to launch this technology successfully"

2/ change to: If the government didn't charge, and the costs were low and there were savings--in those days, there were fully regulated common carriers who were

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highly organized, private enterprise [system], running telecommunications. If in fact, satellite communications were to be a government operation, serious questions would arise: would the government now be stepping in and using its might to compete with an industry that had grown up, reasonably successfully, over a hundred years (in fact, so reasonably successfully, that we had the best telecommunications system in the world). So, when the bills was first introduced, therefore, you had two sides developing. Estes Kefauver and his group wanted government ownership and operation. Senator Kerr and his group wanted private enterprise. It was very clear that you couldn't get a working majority for either one, so compromise was necessary.

NG: Now let's go over that a little bit. Now you're saying that Kefauver wanted government ownership and that Kerr wanted private ownership, but wasn't it that Kerr really wanted AT&T ownership? He wanted existing common carrier ownership.

(Continued from page 5)

2/ required to pass their savings through to all of the users. Everybody who was a taxpayer is clearly a user of communications--so the money they shelled out of their right hand pocket to do the experimentation, development work, would come back into their left hand pocket, in the way of lower rates.

AE: Oh, yes. By private ownership, let me make it very clear. Everybody, until the compromise came up, visualized satellites either as a government operation or as an operation of the existing common carriers. Now, the first expected use of satellite communications was going to be international because, at least in this country, we had a very good, highly effective system. The average call was very short in those days.[3/] With the very high cost of earth stations, it was prohibitive to have an earth station in New York and an earth station in Philadelphia. You could string a line for one-tenth of the cost between those two cities. Therefore, you needed great distances. Great distances are transoceanic.

Now, the only entities involved in transoceanic communications were AT&T and the international record carriers, whose combined resources were a fraction of a percent of AT&T's. So, if you said private ownership, you said AT&T, not because you favored AT&T necessarily, but because the pragmatics of the situation were there. They were the ones who had funded TELSTAR out of their own pocket, they were reasonably ready to go ahead. This was one of the few times

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3/ change to: The average call travelled over a very short distance those days.

that AT&T, incidentally, showed real initiative instead waiting back and have things happen to them. So that when you said, "AT&T," you said....I mean when you said private ownership, you said, "AT&T." It may very well be. I don't know what was in Senator Kerr's mind--whether there was a love for AT&T--but the pragmatics of the situation were such that if you wanted private ownership, only one guy[4/] had the money, [had] Bell Labs behind him [and a] demonstrated ability to launch[5/] a satellite. So that's how you can say it was AT&T.

The debate raged hot and heavy, with inputs by the FCC--[the] FCC essentially having the bias toward the private ownership (AT&T). Again, not because there was a major love for AT&T. You remember Newton Minow was then Chairman. The FCC was becoming radicalized.[6/] He [Minow] was a guy who talked about the....about television, what was it?--"The vast wilderness of television." So that it's not really fair to say that that FCC was an AT&T-oriented FCC. It was that FCC that forced after 9 [o'clock], after 8 [o'clock] rates, which for the first time, effectively got AT&T to reduce rates and

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4/ change "guy" to "entity"

5/ change "launch" to "operate"

6/ change to: The FCC was accused of becoming radicalized.

thereby make more profit (because you get more usage). But, they were taking on AT&T. It was a mindset of an organization, which said--for 30 odd years, 25 years, however [long] they'd been in business then--"This has been a successful way of doing things. We have an awful lot of problems with new a technology. Why try to invent a new vehicle in addition to the exploitation of the new technology?"

Well, again without knowledge as to what happened between, possibly President Kennedy and Mr. Minow, or any of the other Commissioners, the compromise evolved, which would be neither flesh nor fish as the Communications Satellite Act. If it's neither flesh nor fish, I guess that's fowl. You can spell that with a "W" or a "U." And the Communications Satellite Act is a monstrosity. Ninety-five percent of all problems--no that's too high--I'd say seventy percent of all the problems are embedded in the legislation. A good percentage of the other thirty percent, I think, can be put at COMSAT's doorstep, because if anybody ever made trouble for themselves, it was COMSAT.

NG: Well, let's take the first part of that statement, initially. Why do you feel that it [the legislation] was a

monstrosity?

AE: Let me explain that. We were compromising, now, between government ownership and private industry. In the throes of the compromise, written by compromisers, very little input on the pragmatics of communications was involved. Go through the Act mentally and see what happens. In the very beginning, [the FCC] is charged--our government charges [the FCC]--with the fact that we're going to have this new system which is going to be made available equally to developed and undeveloped nations (which means cost-averaging, less opportunity for economies).7/ But we're charged with making sure that the economies available reached down to the rate payer.8/ You have a contradiction in the first thing. Secondly, we create COMSAT which, if not given a monopoly--which the legislation shows it's not--certainly was given a leading role and could expect to be alone in the first few years. Yet, the

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7/ change to: In the very beginning, the FCC is charged--our government charges the FCC--with the responsibility to have this new system available equally to developed and undeveloped nations (which means cost-averaging, less opportunity for economies).

8/ change to: But at the same time the FCC is charged with making sure that the economies available are passed down to the rate payer.

legislation, in the very beginning, talks about enhancing competition.

NG: So there is an inherent contradiction?

AE: There is an inherent contradiction. We want competition. We didn't understand how we are going to create competition.[9/] We[10/] did something very terrible in communications, which almost made it like the other public utility activities. In transportation, which is the correlated major moving utility--moving people instead of ideas--[the government] legislatively separated railroads from airplanes from buses and from shipping. So that what you had was a competition between means of transportation, without recognizing that in certain areas one means had inherent advantages over another. In communications, we didn't do that at all--except for Section 314 of the Communications Act, which tried to do it in a bit and was ignored essentially. We allowed the different companies to develop different means of transporting ideas and

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9/ change to: They wanted competition, but they didn't understand how to create competition.

10/ change "We" to "So they (the Congress)"

encouraged competition between the companies who used all the means. So that AT&T could have wires, it could have radio, it could have microwave, it could have fiber optics now.

The Communications Satellite Act, for the first time, segregated communications and created one entity which was to have one means only--with certain inherent advantages and certain inherent disadvantages--to compete with other existing entities, which were prohibited from exploiting that means (except as customers of COMSAT in competition with COMSAT).11/

As a result, you now have, somebody who had to step in to insure the most difficult thing of all--fairness. Because if COMSAT was going to compete with its customers--and that's the case--you've got very serious problems. Therefore, a necessity for the FCC to step in and take everybody by the hand, which is bad enough. But even worse, not to ensure a proper price for one as against another. Furthermore, in addition to ensuring fairness, the legislation required us [the FCC] to take the appropriate steps to bring this new technology to fruition [and] therefore, to force people to use it whether they wanted to or not because if COMSAT were living by itself, and the FCC

11/ change "(except as customers of COMSAT in competition with COMSAT)" to "(except both as customers of COMSAT and as carriers in competition with COMSAT)

didn't step in, satellite communications would be[12/] used to a very minimum by the others [international common carriers]. They'd use it only when, for instance, to communicate with Chile, where you didn't have a telephone cable.

NG: Uh, hum. Where they had no landline, right.

AE: ....had no landlines. But COMSAT couldn't exist on communications between the United States and Chile.[13/] Therefore, somebody had to step in and say to the American carriers, "Hey, whether you like it or not, you're going to use a certain amount of the capacity of this entity. We don't give a damn if it costs you more, or less, or the same. You've got to get this guy started."

NG: Now, wait. Let's stick with that for a moment. What you're saying, then, is that the carriers--or you're attributing to the carriers now--a reluctance to necessarily invest in this new technology and then they....

12/ change "be" to "originally have been"

13/ change to: But COMSAT couldn't survive by handling only communications between the United States and Chile.

AE: Not invest, they couldn't invest.

NG: Well, but they did invest by participating in fifty percent of the stock--by buying that portion of the stock.

AE: Let's get to that. Let me go through that...

NG: So wait, so you're saying this is before that time.

AE: No, I'm saying that that investment again--and when we come to it, I haven't gone through the Act yet--that investment is sort of saying, "You can buy this thing [share] in an entity which may go bankrupt, and if you don't want it to go bankrupt, you've got to give this entity business and keep your cables--which you have a hundred percent of the ownership in--that much emptier, where you can make a lot more money." It is not exactly the most, shall I say, profitable or attractive investment and the best proof is that AT&T felt obliged to hang onto it's stock, but the other guys[14/] got out very fast, relatively speaking.

14/ change to: companies

NG: Absolutely.

AE: So, you had that sort of a dichotomy there.

NG: And this is what you're aware of at the time of the initiation of the Act?

AE: Yes, but there was no choice in a way. If you're going to have the compromise, and create an entity separate and apart from the others, these things almost automatically follow, whether you think about them or not.

NG: Did you have conversations with the international common carriers and specifically, AT&T, about their concerns?

AE: Yes. Their concerns....they pushed very hard, of course, for the Kerr situation. On the other hand, AT&T, particularly as the largest corporate entity, couldn't come out and say, "We're against progress." So they were caught, and matter of fact, after the Bill was passed, you have the Dingman letter, which committed AT&T to take one-half of its requirements (not very clear present or future) across the Atlantic Ocean by

satellite, which led to other fights later. But, let's stick to the legislation.

The next problems that the legislation created was it never really defined what this new entity (Communications Satellite Corporation) was to be. It very proudly says that it's a private corporation, not an instrumentality of the government of the United States. But it's given the right that no other private entity ever had--to negotiate with foreign governments. What is it?[15/]

NG: Although, AT&T negotiated with other governments to lay cable.

AE: No. AT&T negotiated with other--with the communications administrations of other governments acting in their private capacities as providers of communications. When you wanted to have understandings with respect to the intergovernmental relationship, there were always meetings between the State Department and the FCC on one side and the government[16/] on the other side. For example, before TAT I was laid, Sir

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15/ delete: What is it?

16/ change "government" to "foreign government"

Barnett and Colonel somebody, in 1956, came over to the United States. The FCC and the Department of State met with them to lay down the intergovernmental understandings which underlay the contractual understandings between AT&T and the British Post Office--operating in it's[17/] wearing it's private hat. In other words, Her Majesty's Government did not negotiate with AT&T. A ministry of Her Majesty's Government made a business deal with AT&T.

NG: So a very clear distinction.

AE: Very clear distinction. That distinction was not clear because under the Communications Satellite Act, COMSAT could negotiate with foreign governments with respect to the establishment of some type of understanding for the provision of international communications by satellite. Because obviously, to have international communications, somebody at the other end has to do business with you.

NG: Right.

17/ delete: operating in it's

AE: The other parts of the Act, which gave us the most trouble after that, were the failure to define what was what.[18/] Remember, there were to be authorized entities, who could take capacity from COMSAT...

NG: You mean authorized users.

AE: Authorized users. But nobody defined who an "authorized user" was, and more importantly, nobody said, "Who does the authorizing?"--if you look in the Act, which left a great big hole.[19/]

Then, AT&T and the other carriers made a great big push. Having lost the satellite fight, they wanted to have the earth station rights. Because very clearly, if they owned the earth stations, COMSAT can have it's satellites in space, [but they are] not very useful.[20/] COMSAT, or the proponents of COMSAT, wanted to have COMSAT own the earth stations. So, Congress passes the section on earth stations, which says the

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18/ change "what was what" to "certain terms"

19/ change to: But nothing in the Act defined who an "authorized user" was, and more importantly, nothing was said about who does the authorizing.

20/ add: without earth stations

Commission may authorize COMSAT, or one or more terrestrial carriers, or COMSAT and one or more terrestrial carriers, to own and operate the earth stations--or without favoring any one of these.[21/] Now, if you're sitting at the FCC and you have that sort of "very clear and unambiguous directive" from your Congress what do you do?--very, very serious problems.[22/]

The authorized user situation is a real mess. If you read the legislative history, you'll find any damn thing you want. Everybody said everything. It was clear, at one point, that only--if you read part of the testimony--that only recognized private carriers could be the authorized users. It was clear in another place, that COMSAT was not to be restricted as to whom it does business with. The position of the Government of the United States was not very clear. Would it [COMSAT], or would it not, have the right to be an authorized user? You can read different sections of the Act--when you go on further, with whom COMSAT is authorized to do business--sometimes it

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21/ change to: So, as a compromise, Congress devised the section on earth stations, which says the Commission may authorize COMSAT, or one or more terrestrial carriers, or COMSAT and one or more terrestrial carriers, to own and operate the earth stations--or without favoring any one of these.

22/ change "very, very serious problems" to "It became a very, very serious problem.

looks like it can, sometimes it looks like it can't. It was, however, not mandatory. If, in fact, the FCC had the right to designate authorized users, it had the right to designate them. If the Act didn't--as it didn't--say, "These are the authorized users and anybody else from Congress, the FCC, or anybody else may authorize them."[23/] So you have an Act passed which is an impossibility. Then, to crown the glory, you come to what you said before. The carriers are authorized to own up to 50%. Up to 50%....

NG: Before you get past that point. Let me ask you one question about this idea of the "common good of mankind." I don't recall exactly the wording of it. Did the FCC perceive there to be a problem with the idea of the use of this technology for this global good, this world good?

AE: No, the FCC didn't, because we had already embarked upon--had continued until the current [Reagan] Administration changed it--rate averaging for the benefit of everybody. In other words, in communications, you pay no less for a call from

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23/ change to: If the Act didn't--as it didn't--say, "These are the authorized users or, the FCC, or some other body may authorize certain entities to be such users."

New York City to Chicago, with the heaviest and cheapest routes, than you do from Dry Gulch, Arizona to Broken Wheel,[24/] Kansas. So that rate averaging was one of the great achievements of the FCC. When the FCC first came in, there were all sorts of exceptional rates.[25/] So that....no, that didn't give the FCC any problem. But when you combine that on the one hand with the passing on of the economies, which you prohibit on this end, you have the FCC with a serious problem. In other words, you have two directives to do the opposite sort of things....

NG: To do two different things. Okay. Now, let's go to this inherent contradiction of the Series I/Series II stockholders.

AE: The basic contradiction there is this: the competitors of COMSAT owned up to one-half the stock and have 40% of the Directors. Which means, in essence, that they sit in on all the plans of COMSAT, and know what COMSAT is doing--[this is] very bad from the competition point of view. Secondly, they

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24/ change "than you do from Dry Gulch, Arizona to Broken Wheel, Kansas" to "than you do for a call going the same distance from Dry Gulch, Arizona to Broken Wheel, Kansas"

25/ add: which were eliminated

have this unbelieveable conflict of interest. When they fix the rates that COMSAT's going to charge, as Directors of COMSAT, they have the fiduciary responsibility to maximize it's profits. As officials of AT&T, ITT or RCA, they have the fiduciary duty to get those rates at the lowest possible ones, and to hell with the profits of COMSAT--sSlight problem. I think they resolved that by walking out at the time of the....

NG: Eventually.

AE: Not eventually. They walked out of the meetings when these decisions were made, because they didn't want to get caught in the conflict of interest.

NG: Oh, you're saying that when the votes were taken in the Board meetings....

AE: That's right. I was not there, but I understand that they walked out to avoid a very serious conflict of interest. So that, you had built into this thing--no matter where you looked--inevitable fights, constant appeal to government, and the charge upon government not to regulate on something that

you get your hands on.[26/] How much shall it be?[27/] Where shall you do it?[28/] But, let's be fair to the two of them.[29/]

Complicating all of this is that in every other country in the world, almost without exception, they didn't do it the way we did. The Ministries of Post and Communications were there and therefore they could make for themselves rational decisions as to what they wanted to do, with respect to their investment in INTELSAT (which comes up later) as against what they want to do with the cables which they owned. Now in the beginning, the United States owned over 60% of the system. Very clearly, we had a vast interest in the success [of the global system] (financial success, that is). The other guys owned 10-12% of that and they owned 50% of the cable.[30/] Where do think they

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26/ change to: So that, you had built into this thing--no matter where you looked--inevitable fights, constant appeal to government.

27/ delete: How much shall it be?

28/ delete: Where shall you do it?

29/ delete: But, let's be fair to the two of them.

30/ change to: The other countries owned less than 10 percent of the satellite and they owned 50 percent of the cable.

want to put their traffic?

NG: On the cable.

AE: We, in the United States, have to be fair to COMSAT and make sure that it gets moving ahead. So we keep pushing, therefore, for more and more use despite all the malarkey that you probably heard at COMSAT--how terrible the FCC was to them. We keep pushing to use more and more.[31/] They [the foreign partners] want to use 10%; we [the FCC] say, "You've got to use 50%." COMSAT says, "Use 100%." So COMSAT was very bad; the carriers were awful.[32/] To the foreigners, we're telling them how to run their business and interfering with their sovereignty.[33/]

NG: Well, let's talk a little bit about this cable/satellite sharing arrangement that the FCC developed. This is maybe

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31/ change to: We keep pushing for the carriers to use more and more.

32/ change to: So COMSAT was very bad on one side; the carriers were awful on the other side.

33/ In addition, to the foreigners, it appeared that the FCC was telling them how to run their business and interfering with their sovereignty.

jumping ahead a little bit, but one of the reports that comes out later on--the Hinchman report--which charges that the FCC did not use economics in determining its cable/satellite ratios. If they had, satellite would have won out hands down over the cables.

AE: Well, Mr. Hinchman, I think, relied upon non-existent facts. For example, the big fight came, I think, in connection with INTELSAT III, where he says, "For a million dollars, you could put up the next satellite," (which actually cost $8 million). If you make the cost of the satellite eight-fold, that's number one. Number two, we did not control the foreign end, as Mr. Hinchman found out when they were talking about TAT VI across the Atlantic. You have to recognize in international relations--when you're dealing with another sovereign--you push, you don't dictate.[34/] Sure, the FCC went ahead and did these things. I think the fight in connection with TAT V is the most interesting one of all.

NG: We're going to get to that. That's a little bit later on.

34/ change to: You have to recognize in international relations--when you're dealing with another sovereign--you may push, but don't and can't dictate.

I want to make sure we don't jump ahead of ourselves, because that's a big turning point I think, in a sense, because that was a very big fight between COMSAT and the people who sat on its Board.

AE: Yes. Okay. So we know how the Act passed. We go ahead and we get Early Bird up, you know.

NG: Well, let's talk a little bit about Early Bird. Now, here you had the AT&T people, who developed TELSTAR, and you had Hughes, who developed SYNCOM. Did it matter to the FCC what kind of a system that COMSAT put up?

AE: Sure.

NG: How?

AE: Well, depending on what it cost.[35/] If AT&T had won it's fight, COMSAT would have died, because putting up 27 to 29 random orbit satellites--for a 5,000 or 3,000 mile

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35/ change to: Well, the type of system dictated what it cost.

elevation--would have cost you roughly 10 times as much.[36/]

NG: Well, $200 million, essentially.

AE: What?

NG: Essentially $200 million, which is what the company was capitalized at.

AE: $200 million when you talk about it. By the time you get through with the launches, and you have launch failures, and you have other things, and you have to have three earth stations instead of one--because you need [satellites where] one communicates, the other has to track, the third one has to hold--you would have had a cost of satellites which would have been prohibitive.[37/] And people would have gotten tired of

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36/ change to: If AT&T had won it's fight for an intermediate altitude system, COMSAT would have died, because putting up 27 to 29 random orbit satellites--for a 5,000 or 8,000 mile elevation--would have cost you roughly 10 times as much.

37/ change to: By the time you get through with the launches, and you launch failures, and you have other things, and you have to have three earth stations instead of one--because you need earth stations where one

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it, so it mattered very much to the FCC.

NG: Although, AT&T and the Europeans still wanted what they were more sure of in terms of the technology, which was the medium orbit system.

AE: Well, the basic test is what went up.

NG: So how do you say that that happened?

AE: Well we, in addition to having the information from COMSAT--which was biased--also had information from the unmanned satellite facilities people at NASA, who pushed very hard for synchronous satellites.[38/] The staff at the FCC was convinced that this was not a theory--SYNCOM I/SYNCOM II had gone up. Hal Rosen was a very persuasive guy at Hughes. We

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37/ communicates, the other has to track, the third one has to be in reserve--you would have had a cost of satellites which would have been prohibitive.

38/ change to: Well we, in addition to having the information from COMSAT--which may have been biased--we also had information from the unmanned satellite facilities people at NASA, who pushed very hard for synchronous satellites.

encouraged and authorized Early Bird. We put up Early Bird without a Commission license.[39/] So, it mattered to the FCC and it was an FCC decision which ensured the early viability of COMSAT. See, when you look at it from the other point of view, FCC is not quite the devil.

NG: Well now, although....now let's get this straight though. Although the FCC--and I know that there's been some criticism of COMSAT for over-capitalization--you still allowed the company to capitalize at a rate that would have allowed it to at least get a random orbit system off the ground.

AE: Well, they were capitalized before Early Bird was decided on, number one. Number two, capitalization per se, you mean the $200 million?

NG: Yes.

AE: Several things. Nobody knew how many failures you were going to have; we had hopes. Number three, nobody knew what

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39/ delete: We put up Early Bird without a Commission license.

the other potentials of COMSAT were. Number four, the public was willing to invest. Number five, the Commission had financial authorization over--financial authority over--COMSAT and could have done various things. If in fact, there were no demonstrated need, it could have refused to allow them to invest. COMSAT would have then been forced to do various things, including buy back it's shares. If in fact, it had too much money, there were various cures. But when you're going into a new technology, with the odds of this sort, the FCC was, despite its radical appearance, a relatively cautious and conservative organization. You had to have allowed COMSAT to have enough money for a worst-case basis rather than for a best-case basis.

NG: So you basically, then, approved of the over-capitalization--what has been cricized as an over capitalization--because of the risk involved?

AE: Yes, but suppose we had held them to $50 million and two satellites went bluey [sic], and COMSAT was bankrupt. Who was going to buy stock of COMSAT at that time? The glamour is now gone. Yes, it's not over-capitalization. Perhaps the margin

for error was too great, but you know, nature gives us two eyes and two lungs and two ears, we can live....

NG: To do with it what you can [laughter]....

AE: And two kidneys. And an awful lot of people live because we have two of those.

NG: Alright. So here we are now. You've authorized $200 million. We put up Early Bird? What happens next?

AE: Well, then the problems begin. Who's going to use Early Bird? You have, in essence, three problems. COMSAT had the basic idea that all future transatlantic communications go via Early Bird until it's filled--or at least until COMSAT has as many circuits as the cables do. The Europeans say, "Hey, you know, we're partners at the other end. We'll use some of this thing to get going, but we're not going to start losing money on our cable investments to make sure that COMSAT does well. Because we have a 50% investment in the cable, and an 8% investment in COMSAT, which we're going to protect." AT&T, caught 'twixt an' 'tween, in essence says, "Well, we're going

to take circuits, but we're not going to take as many as COMSAT wants us to take. We're not going to get our partners in Europe mad." So therefore, their commitment is to take, in essence, half of the growth under the interpretation of the Dingman Letter.

Then AT&T said, "Now, wait a minute. We have a very serious problem. It's called echo delay. We have a reputation for good service and this damn thing ain't worth a damn." Because in comparison to the quality of the cable circuits, in those days we had scarcely any echo suppressors, much less echo cancellers.[40/] People were not accustomed to the half second, six-tenths of a second round trip delay. They[41/] actually proposed in the international CCITT Committee--I forget which one it was--that satellite communications be used only where cables were not available.

NG: Not good for COMSAT.

40/ change to: We have a reputation for good service and we have problems with the quality of satellite services in comparison to the quality of the cable circuits. This is so in those days we had scarcely any echo suppressors for the satellites much less echo cancellors.

41/ change to: As a result, AT&T

AE: COMSAT's out of business. That ogre, the FCC, stopped that. And we said, "The test should not be which is better, but the test should be which is acceptable."[42/] So that was a vast and important barrier to the potential growth of COMSAT.[43/] Twenty years have passed and you've forgotten about it, but that's one that made us grey and old before our time.

NG: Although, now my understanding was, is that they had done consumer tests. They had used the circuits and then AT&T would call back the customers and ask them, "How did you like your connection?" And people would say, "Fine." And that even in spite of those favorable responses, they still didn't want to purchase any more than the 60 circuits than they purchased on....

AE: The test were not--I'm sorry the way you heard that--the test were not favorable. We were not impressed by the tests, because at least we felt that some of the questions were

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42/ change to: And we said, "The test should not be which is better, but the test should be what quality is acceptable."

43/ add: which was removed

leading. There is no doubt about it, if you go back to those tests, it's very clear that somebody who was on the satellite circuit--with the echoes that there were originally....and you even get it today when you get a transcontinental satellite circuit. Periodically you do get clipping. The service is useable. It's acceptable. It's not as good. And we refused to accept the "as good" test.

NG: Okay. Alright.

AE: ....and shoved it down AT&T's throat.[44/] Those were bitter days. That was that fight and that was, in essence, won by the pro-satellite forces, I might say, led by the FCC. I happen to know that, because I was in charge of the committee to evaluate that.

NG: Let's stop right here for a second, and not talk so much about chronology, as much [as] about people. I'd like to get a picture, if you would, of the kinds of interactions that were going on in terms of the people--the politics that were occurring at the time. You had, at this point, Joe Charyk and

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44/ delete: and shoved it down AT&T's throat.

Leo Welch, who are in the business now in COMSAT. You have Newton Minow to William Henry as FCC Chairmen. You have a number of various pro-AT&T members of the Commission and some other members who are more ambivalent, if you will. What are the relationships between these people now? What's happening between these people?

AE: Well, I think the basic thing that happened was the attitude that COMSAT had about itself....I don't know if this is personality or [if] this is institutional. COMSAT came in looking at the legislation as[45/] the chosen instrument--and anybody who talks to God can't be lived with. Leo Welch had been a senior executive in Esso, I believe.

NG: Right, Standard Oil.

AE: ....dealing with other nations in the days when the United States was God's boss (internationally, after World War II). He was there accustomed to the situation where he sneezed, everybody else took out a handkerchief. Joe came from the experimental world. He was Assistant Secretary of Defense for

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45/ add: making it

Research and Development, and so far as he was concerned, having lived in this field, satellites were satellites. Cables were passe. I don't think that compromise was their forte. One example: when we were going out to negotiate the INTELSAT arrangements--there was an intergovernmental meeting--Leo Welch demanded to be Chairman of the committee [i.e. head of delegation]. It was explained to him that when there are government representatives, government representatives are the ones who chair. Of course, he had a vast stake in it in. He would be there. Leo then said, "I'm not going." So we said, "Fine, we'll go to Rome and explain to the foreigners why you're not here." So he went--as Vice Chairman. I don't think you have to say anymore. That was the beginning. That attitude, I think, has not changed until--as of the 27th of 28th of August, 1985--I don't detect any major change.

NG: Not even between say, Joe Charyk, who is much more of a government man. I mean he comes from government. Yet clearly Joe McConnell, who was very much in the guild of Leo Welch....Jim McCormick....similar less....[46/]

46/ delete: Not even between say, Joe Charyk, who is much more of a government man. I mean he comes from

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AE: Well, Jim McCormick was the only compromiser that COMSAT had and they threw him out. McCormick resigned in the middle of the [INTELSAT] negotiations, when he, in essence, accepted a proposal[47/] which was finally accepted.[48/] He was forced to resign on that basis.[49/]

NG: What was that?

AE: I think it got down to the narrow issue of how the INTELSAT arrangements would be amended. We wanted an absolute veto. But, with 80 nations, you don't have absolute vetoes. So we made sure--I don't know[50/] what the compromise was--but you had to have a certain percentage of the votes that had to be done within three years. I think our position was if you can't stall them for three years, the United States doesn't

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(Continued from page 36)

46/ government. Yet clearly Joe McConnell, who was very much in the guild of Leo Welch....Jim McCormick....similar less....

47/ change "proposal" to "compromise proposal"

48/ change "accepted" to "adopted"

49/ change to: I understand he was forced to resign on that basis.

50/ change "know" to "remember exactly"

deserve to win anything. I think he accepted that and was thrown out and the compromise was finally accepted. So that Jim McCormick was the only guy who recognized essentially that, in those days, COMSAT was a relatively small entity among giants--any one of whom, if they stepped hard, could squash it--and conducted himself, I think, sometimes with too much circumspection. COMSAT lost an opportunity on the domestic scene because....[51/]

NG: We're going to get into that. Let's talk about then....okay, so you have Leo Welch and you have Joe Charyk. In your perception, how are these men dealing with their foreign counterparts?

AE: Poorly.

NG: Why?

AE: Well, because....two reasons. First of all, they were the chosen instruments. Secondly, they had the technology.

51/ delete: and conducted himself, I think, sometimes with to much circumspection. COMSAT lost an opportunity on the domestic scene because....

Thirdly, anybody who questioned anything they were doing was guilty of [inaudible]. I'll give you one example. During the INTELSAT negotiations 1969-1970, one of the major European countries--whom I don't have to identify now--was vehemently opposed at the continuation of COMSAT as the manager of the system. I had lunch with this guy,[52/] and I said, "Now look, we've had our problems with COMSAT, all very true. But where in history have you had a situation that within seven years of SPUTNIK, we had a commercial system going? Where have you had a situation where we went from one ocean coverage to a full three ocean coverage in such time? Our failure rate--as against satellite failure rates, generally--is excellent. What's your objection to having these guys[53/] continue?"

He said, "It's very simple. When I come and ask you a question, I don't want to be treated like a child idiot. We, as partners, are entitled to have full explanations. We, as partners, are entitled to have our inputs. When things are more or less the same, why not once in a while adopt what we're proposing?"

52/ change "this guy" to "their representative"

53/ change "these guys" to "COMSAT"

NG: At whose doorstep in COMSAT do you lay that attitude?

AE: Leo, Joe, Johnny Johnson....

NG: How is that you think that COMSAT got as much as it really did out of the international consortium? How do you explain....

AE: Because the United...well, when you're playing baseball and you have the glove, the bat, and the ball and own the playing field, it's very hard for the other guy to get much.[54/] We had the technology. Satellites are glamorous. No country really could afford not to have a satellite station.[55/] The basic problem is, we put too damn many stations in too damn many places and made the cost very high.[56/] For example, Morocco, with three circuits, had to

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54/ change to: Because of the United States position. When you're playing baseball and you have the glove, the bat, and the ball and own the playing field, it's very hard for the other side to get too much.

55/ change to: No country really could afford no to be a member and even more not to have a satellite station.

56/ change "cost very high" to "per circuit cost very high"

have its own earth station. Imagine the diversion, the cost, the average cost....it goes up.[57/]

One of the things that the Hinchman paper never covered [is] that the average cost goes up exponentially when you have countries with very low usage earth stations coming in. You've got to keep the costs low enough on the satellite side to keep them in.[58/] Secondly,[59/] you had a very stubborn FCC and a very stubborn government of the United States, that used it's political power to support COMSAT fully. The United States is the one that made the argument: one telephone call, one vote. In other words, control rests on the basis of use.

NG: Which may have come back to haunt them later on.

AE: Did you want to have them one nation, one vote? Those were the two alternatives.

57/ change to: Because of this the average cost per circuit which is the total cost divided by the number of circuits serving the particular country goes up.

58/ delete: You've got to keep the costs low enough on the satellite side to keep them in.

59/ add: on the question of success

NG: Touche.

AE: That was what the others wanted, and we held out. In the beginning, we had a meeting in Montreal, which I chaired, to determine what the shares should be.[60/] And since we hadn't yet decided on Early Bird then (it was in 1964), we counted all of the domestic telephone calls....and therefore, so you're gonna have a random satellite to have use domestically and internationally.[61/] We counted the entire United States interstate telephone system calls and got us our sixty-odd percent; we had sixty-odd percent of the usage of the world by that statistical approach, which was thought of, generated, and pushed by the government of the United States.[62/] So that

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60/ change to: In 1964, we had a meeting in Montreal, which I chaired, to determine how it should be determined what the shares should be.

61/ change to: And since we hadn't yet decided on Early Bird then (it was in 1964), we decided to count all of the domestic telephone calls as well as international in determining what share of the total world traffic each country had. This is because if INTELSAT was going to use random satellites they could handle both domestic and international traffic.

62/ change to: Therefore, we counted the entire United States interstate telephone system calls and that got us our sixty-odd percent; we had sixty-odd percent of the usage of the world by that statistical approach. That

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the success in doing that was; COMSAT wanted it and its government made it possible.

NG: The next thing that happens--almost immediately after Early Bird is up and things are moving along in the issue of

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(Continued from page 42)

62/ approach was though of, generated, and pushed by the government of the United States.

the amount that AT&T is going to purchase in terms of circuits--is ABC wants to put up their own domestic satellite; almost immediately.

AE: ABC didn't want to necessarily put up their own domestic satellite. ABC, first of all, it's dream was to have a world-wide....it was world vision that ABC talked about.[63/] (I don't have it here. I have the picture at home. They had that first conference in which I participated). If ABC was very active in those days--remember they moved up from the third network to the first network because of aggression--and they dreamed of a worldwide system, (which would include domestic service) using satellites for television transmission. Then, out of that came the proposal for a domestic satellite. That was right after Glenn had his first orbital flight around the world, because John Glenn was one of the panel participants. Joe Charyk, I think, was there. There was a fellow from ABC. I was there for the FCC. Their idea was a very forward-looking one. In other words, they wanted to push the technology. They had a vision which was very true--and it's going to become more and more true--for the use of satellites. Satellites have certain inherent advantages which

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63/ change to: ABC, first of all, it's dream was to have a world-wide TV system. It was World Vision that ABC talked about.

nobody else has. The greatest inherent advantage is the unbelievably low cost of the transmission of the one to many: broadcast.[64/]

NG: Broadcasting.

AE: ....which cables cannot equal, quite obviously. The best fiber optic cable, which[65/] is cheaper across the Atlantic than the satellite, nevertheless lands you in England. The satellite, which[66/] is more expensive than cable,[67/] gives you all of Europe and the Near East if they want it. They wanted to take advantage of that situation and they began moving towards either getting capacity at a low cost, which INTELSAT and COMSAT stupidly refused. They did not, in any way, attempt to make a charge which would take advantage of

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64/ change to: The greatest inherent advantage is the unbelievably low cost of the transmission from the one source to many receiving points.

65/ add: maybe

66/ add: maybe

67/ add: to a point

this.[68/] Remember, if you broadcast to three points, each one of them pay the broadcast charge.[69/] From the point of view of both cost and business opportunity such[70/] action is asinine. That was the privilege of those people in the international field. But they wanted to push that, and that was the purpose of their meeting.[71/]

Out of that, then came the idea of a domestic system. Out of that came domestic public broadcasting, wanting a public dividend for the government's investment and out of that came the FCC investigation.[72/] Out of that came, ten years later,

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68/ change to: Broadcasters wanted to take advantage of that characteristic and they began moving towards getting capacity at a low cost. INTELSAT and COMSAT stupidly refused to take this approach and did not, in any way, attempt to make a charge which would reflect this cost advantage.

69/ change to: Remember, if you broadcast to three points, you can make one charge or make each one of them pay the broadcast charge.

70/ change "such" to "the latter"

71/ change to: They wanted to push the low charge approval, and that was the purpose of their meeting.

72/ change to: Out of that came domestic public broadcasting, and a request for free satellite service as a public dividend for the government's investment; and out of that came the FCC investigation.

the domestic system, because [73/]nobody knew what they wanted. You just couldn't get anybody to move. AT&T was hot and cold, COMSAT wouldn't budge from it's position that God had said that, "On the seventh day, thou shalt rest in the arms of COMSAT."[74/] All proposals for compromise died.

The Commission--feeling it's way very gently through this, having[75/] a few other things to do--never really acted, because nobody came in with a plan they were willing to push. COMSAT had had the opportunity of being the manager of the system, but not owning the earth stations--allowing other earth stations--and COMSAT rejected that. It died for another couple of years. Then [Clay] Whitehead came in with his correct answer for the scientifically wrong reasons.

NG: The open skies.

AE: He wanted competition, but he said, "There were no

73/ add: at first

74/ change to: AT&T blew hot and cold on a domestic satellite system. COMSAT wouldn't budge from it's position that God had said that, "On the seventh day, thou shalt rest in the arms of COMSAT."

75/ add: quite

economies of scale," (which is a lot of malarkey) and that "there are an unlimited number of useable slots," (which is also a lot of malarkey). So he got the right answers for the wrong reasons. And that was the end of COMSAT's real opportunity domestically.

NG: We'll get to that, because that's a little bit more complicated. A lot of that goes into the way that COMSAT's presented itself before the FCC and a number of other issues that I think I want to discuss. So ABC's plan dies at least temporarily?

AE: Yes, the Commission didn't want to rush into it. Instead of accepting applications, we got out a notice of proposed rulemaking. In other words, tell us what you guys plan and where we're going to go.[76/] Because, one of the worries we had was [we were] not encouraging people to put their money in domestically with the system and what's the role of AT&T?[77/]

76/ change to: In other words, inviting interested parties to tell us what they planned and where we're going to go.

77/ change to: Because, one of the worries we had was that we should not encourage people to put their money in a domestic system without knowing what's the role of AT&T?

Therefore, if you let them in, you've got a very serious problem of anybody else existing.[78/] If you keep them out, we're violating the basic rule: that anybody should use any means available for telecommunications. AT&T couldn't make up it's mind. COMSAT couldn't make up it's mind. There is a little side show about public television, which wasted three or four years of time, and nothing happened.[79/] So go on to your next one.

NG: So the next question is then, we have the famous 30 circuits case, which gives you the authorized user decision. And after we discuss that, we can end for the day. What happened? The Defense Department wants to have it's 30 circuits to Hawaii, I think it is. COMSAT goes to the FCC....

AE: Not to Hawaii. They want the 30 circuits abroad to Japan and various other places.

78/ change to: Because, if you let AT&T in, you may have a very serious problem of anybody else existing.

79/ change to: There was a little side show about free satellite service for public television, which took three or four years of time, and nothing happened.

NG: But I think it was to the East.

AE: To the West.

NG: I mean to the West.

AE: To the Far East.

NG: I don't even know what side of the Atlantic I'm on. [Laughter].

AE: Well, that thing was another one of, I think, the examples of COMSAT shooting itself in the leg, or on the mouth or something. There is just sort of a little basic rule which says that if you wish to provide service anywhere, you need a license.80/ COMSAT made a contract with the Department of Defense without telling us [and] dealt with the foreigners--who thought they were a government agency--and then came to the Commission and said, "By the way, we need authorization for 30

80/ change to: There is a basic rule and legal requirement which says that if you wish to provide service anywhere, you need a license.

circuits." [This was the] first time the Commission hears about it. Each one of the other carriers comes in screaming.

We hadn't had an authorized user policy. We didn't know who was an authorized user. So far as a lot of us at the Commission were concerned, when the Government of the United States wanted something, it was just another user. This is a democracy and you don't bow four times towards Mecca when you say, "The Government of the United States." The Government of the United States is....when it comes in in the middle of a war and survival of the country is at stake, yeah, that's one thing, but there was no such issue here. This was a matter of convenience for the Department of Defense. So the Commission said, "Hey, where do you come off? If you want to deal directly with somebody, why don't we discuss it?" At that point it got highly political. Tempers flared hot. The Commission stood it's ground and said, "Alright, we're now going to find out what the heck an authorized user is and develop an authorized user decision." In essence, [the Commission] made COMSAT give up the 30 circuits.

NG: Now, in a way this almost sounds as if COMSAT was being punished for having entered into these negotiations on it's

own.

AE: Not punished. There are two elements in here. There was no punishment. If COMSAT had not done that--the 30 circuit decision--I'm sure, [the decision of the Commision] would have been the same.[81/] I wrote it. No. COMSAT did the exact opposite. Their first position was, "We don't need any authorization from you." The second position was, "Clearly, the government is an authorized user." Our position was, "Thank you very much, but really, we're going to decide, by law, who an authorized user is." Thirdly, the issue is very, very, very complex. We are trying here to keep a balance between COMSAT on the the one side and the other carriers. Now, we've just gotten our heads bashed in for pushing the COMSAT situation and forcing the Dingman thing on them on that side.[82/] But you can not let COMSAT or anybody else make a decision.[83/] You can not also, under these circumstances,

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81/ change to: If COMSAT had not done that but come in first, the 30 circuit decision would have been the same.

82/ change to: Now, we've just gotten our heads bashed in for pushing the COMSAT position and forcing the Dingman commitment on them on that side.

83/ add: entrusted to the FCC

allow COMSAT out into....you've got to play this one of two ways. If COMSAT wants to go out and pick it's authorized users, then the FCC will step back. If you want to fight it out in the field, that's fine.[84/] We [the FCC] can't be in a position on one hand, of protecting you against the other carriers, without listening to the complaints and views and worries of the other carriers. In all fairness, if we're going to treat you as the chosen instrument--and nobody else can get into space--the flip side of the coin is that you have a limited market. If your competitors have to buy from you to sell to the general public, then they have to buy from you [COMSAT]....if they cannot get to space except through you; you cannot get to general customers except through the carriers. That's the basic doctrine of the authorized user decision. Included in those customers is the Government of the United States, except--and there were exceptions--if a service is desired, and the carriers can't or won't provide it, COMSAT is perfectly free to go ahead and the person is an authorized user. If there is a unique service that can only be provided

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84/ delete: You can not also, under these circumstances, allow COMSAT out into....you've got to play this one of two ways. If COMSAT wants to go out and pick it's authorized users, then the FCC will step back. If you want to fight it out in the field, that's fine.

by COMSAT--the sort of thing we had in mind was the television issue where COMSAT again blew it's opportunities--then certainly, it should be provided by COMSAT. Here we have the basic dichotomy. We're going to force satellite circuits into the world at a fair and reasonable level whether the American carriers like it or not, and we're going to take on the foreigners[85/] whether they like it or not. The other side of the coin is that COMSAT will deal with the public only through the carriers. That's where you get into what I said, the most impossible of all situations: legislating fairness.

NG: Uh, hum. Because that is a political compromise. I mean, that's a....

AE: Sure. It's a political compromise made necessary by a lousy law.[86/]

NG: Because in essence, that doesn't do justice to the holders of COMSAT stock.

85/ add: administrations on behalf of COMSAT

86/ change "lousy law" to "poorly drafted law"

AE: Sure it does. It does justice to the holders of COMSAT stock, because for the lousy[87/] 30 circuits they lost, they got thousands of circuits on proportionate fill and all of these other doctrines, where the rest of the world almost severed diplomatic relations with the United States, because they forced that sort of a thing. The Puerto Rico decision where Venezuela got so mad at us they almost withdrew their Ambassador--where we forced AT&T out of the agreement they made with Venezuela to handle all of the Venezuelan traffic via cable.

NG: So what you're saying is, is that one political compromise basically....

AE: No! It's not a political compromise. It's a--whether you like it or not--it's a consistent line of thinking, which says in essence, "That the United States has an obligation to make sure that there is a reasonable use of satellite communications and we're going to stand fast about it." You know, the British at one point, on the TAT IV situation, closed down....actually had us in a situation where there was a long delay in the

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87/ change to: paltry

handling of communications, because they refused to take additional satellite circuits. They were not going to be dictated to by the United States. The TAT VI situation, which was politically, originally a strongly pro-COMSAT decision, almost got....severed diplomatic relations almost with the rest of the world. All of these things have been forgotten. COMSAT has painted a picture through the years, which has no basis in fact, that somehow or other, the Commission was anti-COMSAT. You sit down and talk to some of the old guys in AT&T.

NG: I have. Horace Moulten.

AE: Oh, Horace. Well, did Horace give you the impression that the Commission was anti-COMSAT?

NG: No, but he represented...

AE: Well, sitting where we did, we were always in the situation where everybody thought were wrong at the Commission, no matter what we did.

NG: Between a rock and a hard place.

AE: Well, if we would have given it all to one, we would have had one friend, but we managed to antagonize the terrestrial carriers, AT&T, the State Department--when those son of a guns[88/] went along with the granting of TAT V[89/] on condition that we impose proportionate fill, in connection with that damn thing. When the foreigners began to object, [the State Department] said, "We never heard of it." I had a letter from the Department of State agreeing to that, so everybody ran like hell on this sort of a thing.

NG: So what you're saying, though, then--if I can just summarize and make sure that we understand what we're saying here--is that everybody was having to give up something?

AE: That's right. Now whether we cut the baby in the right place or not, I don't know. But you always have to cut the baby when you legislate fairness.

NG: But the problem is that the controversy over TAT V and the proportional agreement--the 50/50 deal--comes later on in the

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88/ change "those son of a guns" to "that agency"

89/ delete: V

ball game than the authorized user decision....

AE: Well, that was just another....each one of these [decisions] was another attempt on the part of the Commission to be fair to both sides and the basic theory that the Commission had in those days was, "We're going to require...." Well, two things. "Number one, we're going to authorize both technologies, until such time as one has a sufficiently major advantage over the other," like coaxial cables had over Hf radio, that you just throw the damn thing out. [The Commission says,] "We're going to induce[90/] the competition that the Act talked about." At no time, until the present, has either technology had a sufficient superiority over the other to render it obsolete. The basic fact is that foreign governments, who had no interest in cables--they hadn't built the damn cables; they didn't build the repeaters--were willing to put hundreds of millions of dollars into that technology. That's not an obsolete or obsolescent technology. Insofaras COMSAT is concerned, I submit very simply that the results of what the Commission did kept them in control until other nations in the world had sufficient use to become responsible. The big worry

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90/ change "induce" to "encourage"

that we always had at the Commission was, that COMSAT was not imagining that if the guy has one-tenth of one percent and enough of those guys do the managing, it doesn't cost them anything to get anything going up in the sky. But, if they had to put millions of dollars behind their ideas, they're going to start being responsible. So we have to hold COMSAT in position--and we held them in position 'til the late '70's--until the rest of the world had enough use.

NG: Yes, this a fairly recent thing. So enough is at stake, is what you're saying.

AE: Surely, once it costs you money, you become worrying about it. If it costs somebody else money, it's very easy to do it. COMSAT was held into that position both as a matter of competence, and as a matter of economics. On the other thing, the Commission, in those early days, visualized a very simple situation--that is that, in order for satellite communication to succeed, COMSAT and COMSAT alone has to be the provider of the space segment. If everybody else has to buy from COMSAT, then COMSAT conversely should not be able to compete with their customers for customers.

NG: That's the authorized user decision.

AE: That's essentially the authorized user decision. Now you may disagree with the logic--COMSAT may disagree with the logic--but I submit that there is a consistent train of thought and operation there, and a continuing doing. Don't forget also, that the Commission made that[91/] a temporary thing and indicated an interest in revisiting it. Nobody really pushed for revisiting, until the entire competition issue opened up very wide. Despite everybody's very serious complaints, they did....even on the television thing, which was in my mind, almost an obscenity to let the carriers into that. That was to be reopened. COMSAT never pushed even to reopen that thing. You know why television went to the carriers? COMSAT refused to file a tariff. COMSAT gave free television service and refused to file a tariff. Talk to Larry DeVore, if he wants to talk with you, [about] how he sat at the Commission's door with a tariff in his hand, waiting for 5:00 to get permission to file a tariff. And the Commission said, "You know, fun is fun, but six months or five months of free service ends."

91/ add: decision

[Interview ends]

[Beginning of second interview]

NG: Okay, the place where we stopped last time was with the thirty circuit case and the authorized user decision. What we were going to do--since that was the first big decision that the FCC came to--was we were going to just go chronologically from there. I thought that we would move, then, past the authorized user decision and not discuss anymore about that, but move to the next stage of it. I was going to leave that to you to poke around in your memory to see what you thought was the next most important thing.

AE: Have we gone through earth station ownership? I think that came before?

NG: No. Earth station ownership....

AE: I just don't remember frankly.

NG: Well, we didn't go through earth station ownership, so why don't we do that?

AE: Earth station ownership was, I think the first major Commission action on the interrelationship between COMSAT and the terrestrial carriers. The Communications Satellite Act, as you recall, was very neutral on that. It authorized either....it gave the Commission power to authorize either COMSAT, or one or more carriers, or one or more carriers and COMSAT--whichever the Commission found in the public interest--without favoring any of the above. In those early days, quite naturally, the COMSAT people wanted to have themselves a monopoly on earth stations. The terrestrial carriers argued that they should have the earth stations; that COMSAT was the space agency [and therefore] should stay up there. The terrestrial carriers were earthbound; they would have the earth stations. Again, the Commission attempted a compromise or middle course, which authorized COMSAT to own 50% of the earth stations and the carriers between them to own the other 50% of the earth stations--partly on the theory that if the carriers had a vested interest in the earth stations, they

would be induced to take more,[92/] or look with more favor on taking space capacity. The Commission also tried to steer them in that direction by providing that return on the earth stations should be earned only out of earth station revenues. They couldn't enhance their rate base and increase their other rates. Of course, like all compromises, it left everybody unhappy--terribly unhappy--to the point where for 20 years nobody did a thing about it.

NG: Well, now....[What about] this idea that you would split it 50/50? Obviously, AT&T wanted to have a hundred percent ownership of the earth stations and COMSAT wanted to own a hundred percent. Why didn't you decide, for example, that the AT&T should own all of the earth stations and that COMSAT should own all of the space segment?

AE: Well, COMSAT did have all the space segment.

NG: Right. Why wasn't that the split?

AE: Well, I think essentially the feeling was then, that if

92/ add: capacity

you kept COMSAT with both feet firmly planted in space, it would never really have an opportunity to become an accepted member of the telecommunications industry. The mandate of the Communications Satellite Act clearly was to not merely bring satellite communications, but to have the American entity involved in those things to become an accepted and respected member of the international communications brotherhood. [If] they--unlike their foreign partners, who owned space segment and earth stations--were relegated to space, they would be out of it. On the other hand, if you gave them all of the earth stations, you would have a very serious problem in that you would construct a competition between media, which if allowed to go fully, COMSAT had to lose. [COMSAT] was faced with in those days, I guess, AT&T--a little company [worth] about $50 billion, and COMSAT $200 million? Secondly, the Commission in those days, as far as I understood it, had the basic idea that you wanted to have authorized entities use any and all means to provide service and didn't wish to keep the carriers out of space completely. If you did, then you'd have the very anomalous situation of people owning up to 50% of COMSAT, not being its partners in any way, but being primarily its competitors. So that given the rather terrible hodgepodge of

the Act--which as I said before, was a series of compromises to get a law passed, rather than a logical exercise in what one wanted to do--the Commission tried to tread its way and be fair, as fair as it could, to all sides, and I think succeeded in making everybody mad at them.

NG: Now, ultimately what happens, as you mentioned, is that you get the 50/50 split [on the earth stations], with essentially COMSAT as the manager of the system. Now, was that also a point of contention with AT&T? Was the management issue?

AE: Oh, sure. Management was a major point of contention. AT&T sort of sat back and kept relatively quiet, because it didn't feel as threatened as the [other smaller] international record carriers. The international record carriers were very concerned about that. [They] wanted to put up their own stations, because they argued that COMSAT was goldplating everything including the door knobs and the little jigger on the toilet, and that they could do it for a lot less. [They argued] that COMSAT had no particular incentive to be efficient, that it owned the earth stations, that on Commission

mandates of various kinds, a certain amount of capacity had to be taken from them. Therefore, why should they worry about being efficient? The arguments were made by ITT for the Puerto Rico station, by RCA for the Guam station, thereafter. [The other international carriers argued,] "If not to let us have all of them, at least let us put one up and demonstrate how much cheaper, more efficiently, and more effectively we can run earth stations." So yes, there was a terrible fight.

NG: Are you saying, then that....are they charging that, then, COMSAT was making investments in equipment that would maintain their rate base at an artificially high level?

AE: Well they had $200 million to invest, and were unlucky in that the satellites were going up and therefore they didn't have to have money for failures. Their partners were coming in and they were having a continuously smaller share. Therefore, the amount of money they had invested in space was decreasing. For all of those reasons, they [carriers] said they [COMSAT] had every incentive to maximize investment. Not that the earth stations were bad, but they were unnecessarily good.

NG: Did you agree with ITT and RCA about the way that COMSAT was investing?

AE: Well, when the other carriers put up earth stations, they demonstrated they could operate their earth stations, I believe, at lower investment and lower cost. If not in actual fact, earth stations costs started dropping precipitously through the $6 million level downwards.[93/] Part of that of course, was due to the learning curve. Part of it, I think, was also due to the fact that they were a little bit less glamorous and the later stations didn't have the public reception offices, the big PR show, all of which cost quite a bit of money.

NG: At that point, it wasn't a novelty.

AE: It wasn't a novelty and the question was, "Was it necessary or wasn't it necessary?" You can argue either way. The nuclear people also put up PR offices--as you drive by, to show you that this was something new. But at any rate, I think

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93/ change to: It is an actual fact, earth stations costs started dropping precipitously from the original $6 million level downwards.

it's a fact as well as a truism, that when you combine a relative monopoly position, with a relatively secure market, you don't maximize incentives for efficiency and economy.

NG: And that tenet holds true for COMSAT as well, is what you're saying?

AE: Oh, it's true for anybody. Also, I think that the COMSAT management in the early days, at least partly properly, was in an R&D mode, where you had to be very, very careful. It was still not ordinary shooting,[94/] and therefore you checked, and double checked, and triple checked. So when you combine all those things--and I don't think there is much doubt--that the earlier generation of earth stations cost more than they could have been built [for] if the approach had been, "Let's maximize efficiency and minimize cost."

NG: Okay. So here we have these two people, these two entities, working together in a forced....

AE: Well, let's put it this way, it was a shotgun marriage.

94/ change "shooting" to "business"

NG: Exactly.

AE: The complaints from the Board of Directors meetings, particularly from ITT were many and often and ITT was the first financial carrier[95/] to get out. I think Ted Westfall represented ITT on the Board and he was not modest in raising his complaints.

NG: So I understand.

AE: He was not shy in raising his complaints. Some of which I think had merit and some of which, of course, were the natural result of this constant struggle. Because ITT, as a worldwide organization, not only had interest in its communications company. It owned a British subsidiary that manufactured cables and all of those things must be taken into account in evaluating them. But on the other hand, I don't think that COMSAT management minimized the cause for complaint.

NG: Because it does seem to me that Ted Westfall, in his position on the [COMSAT] Board, is the articulator of that

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95/ change to: international carrier

controversy between--or that, not controversy, but parodox almost--between being the competitor and being the consumer and being the partner. He is very--as I understand--very outspoken about the difficulty of the international common carriers in that position.

AE: He raised all the various problems, in fact--that COMSAT was relatively free to go to INTELSAT and make its own plans--which came to a head in the INTELSAT III situation--whereas the carriers had to come on bended knee before they could get a cable. So he felt that the Commission was playing completely unjustified favoritism for COMSAT (a view which COMSAT, I might say, did not share). But I think, as the President just said recently, "If you're damned from both sides, maybe you are doing something right."

NG: Well, what about the FCC at that point? What was your feeling about the ITT point of view?

AE: Well, I think ITT was serving several useful points. First of all, it's good to have a gadfly there. It made COMSAT management more careful, I think, than they otherwise would

have been in what they were doing. There was no doubt that there's a certain amount of truth in Ted Westfall's complaints, but the Commission, I think was dealing with an infant [COMSAT] on one side and grown people on another side. Grown people do have to take care of an infant. [As an infant] you can't take the blasts of cold air in the same way that the other[s can]. So there is no doubt about it, that the Commission leaned over quite a bit in the protection of COMSAT. Very rarely did the Commission jump on COMSAT in the same way that it did on the other carriers, though it was dictating to the other carriers what facilities they had to take from COMSAT. It gave COMSAT various and sundry leeways in its pricings and its dealings. It stayed away from the meetings of the Board. It did not for many, many years even ensure that the proper function of government--that is the governmental activities--were being carried out by COMSAT. One might say that over the years COMSAT did adopt its own interpretations of government instructions which were not necessarily a hundred percent in accordance with the intent of those instructions.

NG: Can you give me a for instance?

AE: INTELSAT III. That was the first time COMSAT moved away from Hughes to the TRW proposal. There was a serious question as to whether INTELSAT III at that point was needed--that, in view of the then growth. There were informal discussions between COMSAT officials and the FCC, and at least the FCC personnel had the very distinct impression that before the matter would come up before the Board, the FCC would be fully advised and would be given the opportunity to take whatever action it thought appropriate. Then, suddenly out of the clear blue sky, the matter was on the [INTELSAT] agenda. It was voted by the INTELSAT group, and the Commission was left with egg on its face. Certainly, as the FCC saw it, COMSAT could not itself launch a satellite, nor participate in the launching of a satellite, without authorization from the FCC. On the other hand, here was an infant organization which we dominated, an organization who we trying to sell to the rest of the world against the rest of the world's wishes, COMSAT. What does the FCC do? As I see it, as a matter of legal authority governmental self-respect, INTELSAT should have been advised that COMSAT acted without authorization. Unfortunately, that was the case--that without COMSAT's vote, the matter could not have been approved and that therefore the matter should be

reconsidered after COMSAT had properly lined itself up with its own government--calling the attention to the others, that certainly none of the other organizations could act in a proprietary guise without governmental approval. But the Commission did not do that.

NG: Now why not?

AE: Well, for the reasons that I gave previously. It could very well have given COMSAT a black eye from which it never would have recovered, particularly with the definitive arrangements discussions coming up. So the Commission, to my mind, backed away, contrary to the requirements of law and policy, out of the pure concerns of pragmatism. [This], however, did not leave what one might call a very good feeling between the Commission staff on one side and the others, because the Commission staff felt they'd had been had. Which meant that from that point on, they wanted all the I's dotted and the T's crossed, and three stacks of Bibles to be sworn to.

NG: Well, you know you raise an interesting point, or an interesting criticism, which is one that I've heard--not just

in relation to INTELSAT III--but then also from people at the ICSC about INTELSAT IV and INTELSAT IV and a half, in terms of COMSAT making arrangements to go ahead with a satellite, giving them the 11th hour notice. Then, when the negative feeling that comes about from not having been consulted is weighed against, well, "What is the damage that we potentially do to the system if we don't go ahead." Then, ultimately, the ICSC succumbed--the FCC succumbed in the INTELSAT III case--and everybody leaves with a negative feeling.

AE: The FCC didn't succumb. I think the FCC made a very deliberate policy decision, where in essence it said that, "In this particular instance, the greater good for the long run was more important than saving face for the FCC."

NG: Okay. Well, I think on the INTELSAT....in the ICSC, by that time on INTELSAT IV, you get that same....

AE: What's the ICSC?

NG: That's the name of INTELSAT before it becomes INTELSAT.

AE: The feeling that they'd been had was not only felt by the FCC. A lot of the partners of ICS....The Interim....

NG: It's the Interim Commission on Satellite Communications, I think it is. But in any case, we'll say the INTELSAT body. In terms of procurement, this isn't the only instance in which we find that.

AE: Oh, no. There is no doubt about that. I think that COMSAT acted by "divine right." Unlike Louis XVI, [COMSAT] didn't get it's head chopped off.

NG: So you're saying that that ultimately works to it's detriment, both at the FCC and ultimately at INTELSAT?

AE: There is absolutely no doubt about that situation. It led the Commission to certainly be very careful as to what it wanted to do in it's dealings with COMSAT. It tried to keep a much tighter and closer informational look on the situation. It certainly did not lead to good feelings among the communications carriers or between COMSAT and its major partners; certainly the smaller countries were particularly

outraged. Even the Germans, I think I told you, were very much upset. The basic idea [was] that, "Even if they're right, we are partners and we should be treated as partners, not as little children who are pulled in periodically and told, 'Wipe your noses and go home.'"

NG: Would you venture a guess as to whose doorstep at COMSAT you could lay this at? I mean, we speak of COMSAT as a....

AE: I think you can lay it at the doorstep of every one of the original senior officials: Leo Welch, Joe Charyk, Lou Myer, the fellow who was the first engineer....German....

NG: Sig Reiger?

AE: Sig Reiger. I don't think that it's....

NG: So, nobody stands out in your mind as being the person?

AE: ....any devil. I think each one of these people, for the reasons I tried to explain: for their sort of a basic background, for their feeling that this was their baby and who

the heck was anybody else to question them? And they knew it. I think it was sort of an aura that was pervasive in the entire situation and was helped by the fact that they had problems with the terrestrial carriers and they circled the wagons.

NG: Well, let's move on from this, then. We've talked a little bit about, now, the earth station decision and the effects of that. Why don't we move into the cable satellite split, which then seems to me to be another 50/50 agreement. How did that come about?

AE: Well, it came about in the very beginning in that COMSAT clearly had to rely upon other people to take it's facilities, as the potential for use of the satellite--at least in the early days--for profit-making was for telephone use. COMSAT was certainly not going to duplicate the AT&T terrestrial system and put a phone in everybody's home, or at least on every businessman's desk, to compete. So they had to have customers, which dictated, of course, for some sort of modus vivendi. You had the natural and normal situation. COMSAT had nothing and wanted as much as it could get. The others had everything and wanted to give up as little as possible. So you

have the means for a struggle. The first struggle I guess, was COMSAT's feeling that when Early Bird went up, the terrestrial carriers should take enough circuits so that they would have the same number by satellite as they had terrestrially; and then after that you could have a split of 50/50. The terrestrial carriers said, "Well, "first of all, this is a new technology. Secondly, We're not going to sit around with empty cables because you guys came around. However, we recognize that we've got to do something. We'll take 50% of our needs, subject to agreement of our foreign correspondents." And that was the commitment that....the Vice President, Executive Vice President of AT&T made, whose name now escapes me. There was a big fight about how that....

NG: Jim Dingman.

AE: Dingman. The Dingman letter. There was big fight about how that was to be implemented. But, you had to get started so that you got some real use. The really big fight came at the INTELSAT III level at the time when the carriers were planning their next generation of cables: TAT V. That's where the real fight began. It had started a bit earlier in connection with

the Puerto Rico cables. Where....when those cables where laid, the Commission imposed a 50/50 requirement. That 50% of that....and the Commission could impose that with no problem, because Puerto Rico and the United States were under the same jurisdiction. But even then, there were very big fights about how that was going to be implemented. AT&T went out and made an agreement with Venezuela that they could tie in via Puerto Rico and go by cable--in violation of the Commission's order--and there was a sort of an agreement where AT&T made some compensation which I have, by now, forgotten. I sat [in] on those meetings. The net result of that was, because of AT&T's doing what COMSAT had done on other things, Venezuela got made at us and we lost out on Puerto Rico being a center point for the Spanish-South American cables. Most of them now avoid Puerto Rico like the devil because of our 50/50 requirement, which the Commission stuck to very strongly.

When the TAT V situation came about, this became almost a fight between the religious believers and the agnostics or the atheists on the two sides. The believers in satellites said that it was insane to lay any cables--they were economically unjustified--that the future of the world lay in satellites and satellites only. The Commission had rather strong

feelings--which it, I think put into writing thereafter--that until such time as one of the two became so clearly superior economically or technologically, the Commission should encourage both means of technology, because that's the best way to keep the boys honest. If you have an alternative, then they will break their necks to cut costs, and do it [eficiently]. The Commission, therefore, essentially favored TAT V. There were lengthy studies about how cheap the satellite was and I think....

NG: I think we talked about the Hinchman report last time.

AE: That's right, which turned out to be a lot of malarkey. Satellites had rather interesting costs that everybody overlooked, particularly in the early days. The cost of a satellite communication was not the cost of the satellite itself. It was the proportionate cost of all the earth stations that had to be built, because that's what fixed the cost to the consumer. In the early days, when many countries were putting up expensive earth stations, they had relatively little traffic. I think Morocco was putting up an earth station that needed five circuits. They put up a $6 million

earth station for five circuits and you have the land cost alone of over a million dollars a circuit; no cable circuit came close to costing anything like that. Well, after a long a bloody fight, where various agencies of government jumped from one side to the other side--DTM under General O'Connell strongly favored satellites. The Department of Defense strongly favored an additional cable, on the basic idea that the military never have enough communication facilities, and if they're not investing, why not? They wouldn't put up [sic] by taking a certain number of circuits.[96/] The Department of State, as the Department of State always does, like that famous Presbyterian minister, who was very successful in his community, and his wife wanted to know why. He says, "Well, you sit behind the curtain and you'll hear next time there is a fight." One group of parishioners came in and told him their side, and he said, "You're absolutely right, but Christian charity and brotherly love requires that you forgive them," and so forth and so on. The other side came in and he told them exactly the same story. Everybody went on very happily. His wife came out from behind the curtain and said, "I can see that

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96/ change to: They wouldn't even agree to taking a certain number of circuits.

one side can be right, or the other side can be right, but both sides can't be right." And he said, "You know what, my dear? You, too, are absolutely right." Which is not unusual for a foreign office position. [They] finally came around to supporting TAT V in a very interesting way. However, they were concerned about the future of satellites, so the proportionate fill doctrine arose, which said in essence, that "Each side will take capacity in such a way that both are filled at proportional levels. So both will be filled at the same time and neither one will be empty." The problem always being that they were faced with empty facilities [from] people fussing to have others.[97/] That went over like a lead balloon with all the foreign correspondents. They were talking about American imperialism telling them how they can use their facilities--forgetting that what the Commission had required as a condition for authorizing TAT V, was that AT&T negotiate agreements with the foreigners accepting the TAT V principle. If they weren't able to negotiate them, no TAT V. At the same time, the Commission also indicated it would look with favor upon INTELSAT IV to go ahead, which was a little bit stupid,

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97/ delete: The problem always being that they were faced with empty facilities [from] people fussing to have others.

because that resulted in TAT V and INTELSAT IV coming on line at the same time. That's why people were opposed to proportionate fill. If these things came on line at different times, it would be much easier about....

NG: Sort of phase that in.

AE: If you've got one two-thirds full, you're not faced with an empty facility. Well, at any rate, we always managed to do things in that haphazard, unplanned way.

NG: Piecemeal.

AE: And the only reason we succeeded was that the demand grew so damned fast that it overcame any mistake that COMSAT, the terrestrial carriers, the foreigners, or the FCC could make.

NG: That's really, you know, so much of this story. In spite of whatever controversies or mistakes that were made, the

demand, and specifically the demand from the Third World, has just skyrocketed. The need has become so great that everybody is trying to run to catch up, much less argue about past problems.

AE: Everybody argues about past things, but essentially that was the point that was made. I think that the Commission's policy has been justified as the years went by with the fiber optic cable. Technology has moved ahead on the terrestrial level. I think that INTELSAT and COMSAT have both become considerably more businesslike, because of the need to justify their expenditures--particularly as the cost went up from a mere thirty-five or forty million dollars Early Bird to a half a billion dollars for the next system. You know, as Senator Dirksen said, "A billion here and a billion there, and pretty soon you're talking about real money."

NG: Let's talk, just in relation to this cable/satellite split in TAT V, and look forward a little bit to the fiber optic cable; which a lot of people diminish its importance, saying it really doesn't change the situation between the carriers and COMSAT. What do you think? How is that going to resolve itself just from your own speculation?

AE: Well, from my own speculation, I think it will force the

satellite people to....well, it's not only the fiber optics. It's three things happening simultaneously: fiber optic, private satellites, and private fiber optics. [They are] happening all at once. And it'll force, I think, COMSAT and INTELSAT to look at what their true role is. Until now, both were fighting for the entire universe. [They have been saying,] "If there is any business, we want it, whether we are the most designed to handle it or not." I think that satellites have a terrific advantage in two things: first of all, the one to many--broadcasting--and secondly, the cost insensitivity.[98/] On the other hand, I think with the fiber optic and with the coming of private systems, they're going to suffer rather serious disadvantages over the main routes. Because fortunately, across the Atlantic, for the terrestrial things,[99/] the distances are relatively short and I think the fiber optic can undersell the presently forseeable satellite situation. However, satellites have overlooked what they have done. You mentioned before the Third World. The greatest growth capacity is there. It still isn't enough to justify a

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98/ change "the cost insensitivity" to "distance cost insensitivity"

99/ change "things" to "carrier"

fiber optic cable to Chile or to any part of South America. You see, Europe is relatively civilized, in the sense that no matter how much they hate[100/] each other--outside of the Eastern Bloc--they'll cooperatively use a cable. That is, Switzerland gets to any one of the cables; Austria gets to any one of the cables, even though they don't touch land; Italy can get a Mediterranean cable; Greece can get out there; Turkey can get out there; [the same goes for] the northern part of South America. However, [in] the other growing parts of the world, there is no such thing. Most of the African countries don't trust each other. Most of the South American countries [don't trust each other either]. So, for a long time to come, cables will not be a meaningful competitor there. But certainly that's an area where the satellite will, for the foreseeable future, have a perfect advantage. It's the fastest growth area; population's exploding all over the place. I remember when I was a kid, Brazil had a population of 60 million, 65 million, against the United States' 130 million. Now, they're practically equal. So that's one thing.

The second thing is exploitation, not only of television in the

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100/ change "hate" to "differ from each other"

entertainment sense, but all uses by business of the one to many, which INTELSAT and COMSAT, of course, stupidly refused to exploit in the beginning. I remember they had a charge for each receiving earth station, which INTELSAT wanted a piece of the money on. They practically tried to price themselves out of that market. If they get around to properly pricing themselves to exploit that market....not recognizing--because they failed to recognize--that a satellite has a finite life, with a limited number of circuits. It's profitability is not how much you charge per circuit, but the total revenue, over the design or actual life of the facility. So that if you can fill a facility in two years at half the price, instead of taking eight years to fill it at the full price, you make more money. That's what they have to learn. They haven't learned how to be businessmen yet. I think Rich Colino [Director General of INTELSAT] is beginning to show signs of recognition along those lines. Forced, I think, by the--what are the two satellites that have been [authorized]?....Orion and ISI--and the two fiber optic cables. If your business is threatened in Europe, then figure out another way to fill their [satellite]. See they're now planning to do something which I got my head beaten back on almost 18 years ago, that is, lease transponder

capacity for domestic use to various countries. That was a no-no, because somehow or other we were going to lease that satellite and America was going to dominate the situation. We couldn't convince the people in the INTELSAT negotiations that we were certainly not going to lease their inexpensive, very poorly situated satellites, because we wanted a satellite that covered us from Puerto Rico to Hawaii. There is no INTELSAT satellite that can do that, so we'll put up our own. However, most other countries in the world are much smaller, and all of South America is covered by the Atlantic satellite. All of Asia is covered by the Indian Ocean satellite. So you have tremendous opportunities of doing business on those satellites. Seventeen years later, they finally discovered....there is no genius involved in this. I mean, if you just look at the sort of a basic situation here. You put up vast capacity, you fill it gradually, and you therefore lose all the revenue of all the unused circuits for all the years that they're unused.

NG: Exactly. It's sort of like airplane seats. Everytime you take off on an airplane and the plane is not filled. You're probably be better off cutting your prices and filling your plane....

AE: What you have to do is figure out that if your plane is one-third empty and you cut your price in half and you fill it, you're making money.

NG: Right.

AE: It's essentially what they're beginning to think of here. It's very interesting to note that the private authorized satellites are suddenly screaming, "Foul play."

NG: Now let's go back from the future and go back to where we were before. There are just a couple more issues that I wanted to cover with you. One is the rate case and the development of that. Now that actually gets resolved after you leave, but the FCC decision on it is coming up as you start to leave--as you leave. I think the decision comes out in '75, you left in '73, and then in '78 is finally when it gets out of the court and everybody stops complaining. What's your perception, at least from the time that you were there, about how that developed?

AE: Well, when COMSAT started, we had no idea of what the right rates were. It was an entirely new area. The questions

were raised,] "Tell me, how many launch failures you are going to have? Is every satellite going to go up like Early Bird and last twice as long as they expect it to? Are you going to have failures?" Therefore, you had to make an educated guess. The Commission allowed COMSAT to make it's educated guess with absolutely no facts to support it, because there were no facts to support it. You take the theory and you let it go. However, to protect the public against an educated guess which overcharged. Something had to be done, particularly since we were mandating that others take some of that capacity at the prices COMSAT wanted to charge, regardless whether they wanted to or not or regardless of whether they could get it more cheaply on their own cables. The protection that we put in, was in essence, suspending the rates and having an accounting audit which would say, "We'll let this thing go for a while and see what happens. If the rates happen to be too low, the accounting order is meaningless. If they're just right, we'll wipe it out. If they're too high, then there is a protection." Well, the satellite situation is a very rapidly moving one. You almost overnight, as you get this growth from everywhere--particularly as we introduced and got Hawaiian and Puerto Rican traffic on the system--COMSAT [went] from having a

very bad situation moved over to the point of view of accounting to a quickly profitable one.

I think the attempts to resolve the matter informally got nowhere. Therefore, the Commission instituted its proceeding. And then COMSAT, with the Cutler Firm [Wilmer, Cutler, and Pickering] came up with some ingenious rate making theories, which I personally found no merit in at all. The Commission was really being penalized for trying to be cautious and give COMSAT every chance. Some of those, in fact, I think sounded sufficiently interesting to the court. Instead of looking at what the Commission did as practically treating a charity case, the court took seriously some of these various risk situations, which were not, in fact, implemented in experience. I think the decision was a lousy one. COMSAT got away with murder.

NG: Their side of the story obviously is different.

AE: Oh, sure their side of the story is. But then, I have no vested interest. I own no satellites. I didn't write the decision. I just sit and look at it from the point of view of what the....put it this way, if AT&T had come with ideas like

that, we would have gone after Mr.Debutz with a strait jacket.

NG: Alright. I guess the rate case is something I think we could probably go on in great length about. It became so convoluted.

AE: Well, I don't know, the rate case was very simple. It was made convoluted by the attempt of people to keep ill-gotten gains. The Commission was, I think, punished for its patience in waiting and attempting to resolve the matter. The years went by, with the substantial revenues retained, then paid back, then [passed] through. The whole thing could have easily been avoided. COMSAT, I think, could have demonstrated a terrific amount of its claimed superiority in cost, by adjusting the rates appropriately. If in fact, it's so much cheaper, why are the rates so high? If you're interested, you look at the COMSAT forecasts in connection with the TAT V as to where rates were going to be and what the rates actually were in those years and you'll see--not what anybody else said, but what they themselves forecast--to stop TAT V. But....

NG: So do you think that COMSAT....they may have made out like

bandits and may have....they may have been able to get more money out of the rate case--ultimately, out of the rate case--than you say, for example, that they were entitled to. Do you think that that is going to price them out of the market, now that they have to compete with, say, other systems?

AE: I don't know if it is going to price them out of the market, but I think it prevented them from having really good arguments against TAT VI, VII, and VIII--not VIII, with the fiber optic, but against TAT VI, VII--because the cost benefits were relatively marginal. Furthermore, I would say that devoting the amount of time and energy and money that they did in fighting the rate case--instead of running their business--was not the most effective use of the resources of the corporation or the talents of its management.

NG: Okay. Let's talk about domestic systems, then. Because that is your swan song. I think we had mentioned the last time, just briefly, about COMSAT's view, [in] which they argue that, because they had been given the international monopoly to begin with by the Act....

AE: Or because they were [the] chosen [instrument]. They don't have the international monopoly now. They were the chosen instrument internationally. It was assumed--as I think I said to you--that the early systems would be random, low-flying systems. Therefore, you would not need a separate domestic system. Therefore, it was just sort of assumed that satellite systems would be domestic and international. The picture changed with SYNCOM and Early Bird. The question now arose about domestic systems. And COMSAT there, I think, was basically a victim of the elapse of time. In the early days, everybody was concerned about two things at the Commission: one is to make it clear that COMSAT did not have an eternal monopoly...

NG: Did not have?

AE: An eternal monopoly. And did not have a statutory right to domestic systems. On the other hand, in those early days, COMSAT was not a profitable organization. Therefore, in light of the policy of the Communications Satellite Act, to make sure they had part of the action domestically. COMSAT wanted a hundred percent of the action domestically. The other delayer

was AT&T which, blew hot and cold. They wanted it....by the way, did you ever read that book review?

NG: No I didn't.

AE: And I never went downstairs to find it for you either.

NG: That's all right, because you were going to get the name and the publication.

AE: I have a copy downstairs somewhere. Let me see if I can find that and get it to you. At any rate, time went on and various things began to happen. COMSAT moved from a highly unprofitable to a highly profitable organization and therefore, the care and feeding--the infant syndrome--was gone. The political philosophy of the country began to move away from chosen instruments and regulated entities, to competition. Clay Whitehead came in and erected a new god called competition before whom everybody had to bow three times before you began to work. The real opportunity for COMSAT to be a major factor domestically, just slithered away in it's failure to come to grips with a rational, acceptable, domestic policy.

NG: Could you elaborate on that? Because my understanding was that they could have had the system, if they had wanted it. No, they could have had the system if they had made the right case early enough--if they hadn't been so concerned about AT&T's reaction.

AE: Well, yes, they could have certainly had the....they couldn't have had the system. I think the movement was to make them the manager of the system. [COMSAT could have] put up a space segment. However, [the momentum was] to give earth stations....anybody else the right for earth stations. COMSAT, I think, balked at that. And the years just went by with nothing happening.

NG: I don't understand exactly how you mean that they lost out because the years went by.

AE: They lost out because the years went by, because the whole theory of having a chosen instrument was thrown out. When the Commission was about to consider that, there was a letter from Whitehead [at the] OTP, recommending that the Commission not do that, but that it go in for a competitive system.

NG: So you're saying that the Open Skies memorandum....

AE: Killed it.

NG: I see. So it wasn't necessarily, in your view, the way that COMSAT presented itself or....

AE: Surely, if it had presented itself intelligently earlier. Even what the Commission was doing there....we didn't get "clearance" nor did we attempt to get "clearance" to COMSAT, but [it] was generally known that COMSAT was going to be unhappy with what the Commission was doing on the earth station issue. But time had moved on. If in 1968, COMSAT had wanted that--before it became profitable [and] with the INTELSAT negotiations pending--I think it would have gone through on the breeze.

NG: Interesting. So you're saying that those were two critical years from '68 to '70 or '71.

AE: Sure. But in those years, COMSAT was not only insisting on its God-given right, but it also tried to insist that the

Canadian satellite had to be launched....that Canada should not be allowed to negotiate with NASA, but that Canada should make COMSAT it's agent to negotiate with NASA. That really helped American/Canadian relations very much. Finally, that did not happen. But that was the sort of, I think, illuminating feeling of the view of which COMSAT had of itself on domestic....the Canadian satellite was purely a domestic Canadian satellite. [It had] nothing to do with the United States at all. The only reason Canada had to go to NASA [was that] nobody else could launch. So, COMSAT took the position that if it's launched in the United States, they and they alone must be involved in the loop--even though somebody else was building it, somebody else was launching it, somebody else was going to use it--for a system where COMSAT could not be authorized to use it because Canada was not a colony of the United States. [Name of Canadian Satellite] was going to be used by the Canadians, for Canadian purposes.

NG: Why shouldn't COMSAT have been an eternal monopoly? You have an Act that's written into the law.

AE: It doesn't give them a monopoly anywhere. There is no

statutory monopoly. They [COMSAT] interpreted the Act to give them a monopoly.

NG: But certainly the discussion, the legislative history that surrounded the Act, was of, "Who is going to get this technology? Who is going to essentially be able to put up the system, run the system, make the investment and develop the technology, [and] engage in the R&D?" Why doesn't that constitute a monopoly?

AE: Well, first of all, there was no R&D.

NG: Well, later on there is.

AE: COMSAT was created and given a gift of the United States taxpayers' R&D. Then COMSAT went to Hughes and paid them money to put up a big brother for SYNCOM. COMSAT didn't get into R&D until they opened the Labs several years thereafter. They did no R&D at all. If you look at the Communications Satellite Act, it doesn't say that at all. You've got to read the Act very carefully. The Communications Satellite Act as amended....Where in the heck is it?....

[Mr. Ende looks for the Act on his desk and proceeds to quote from it]

COMSAT...."Congress [hereby] declares it the policy of the United States to establish, in conjunction and in cooperation with other countries, as expeditiously as practicable a commercial communications satellite system, as part of an improved global communications network....new and expanded communications service" is to be made available as such. "In order to facilitate [this] development of the widest participation, the United States will be in the form of a private corporation, subject to appropriate government regulation....Authorized users have nondiscriminate use [sic-access]....The corporation created under this Act....will be so organized as to maintain and strengthen competition in the in the provision of communications services to the public." No monopoly. "It is not the intent of Congress to preclude the use of communications satellite systems for domestic communications service where consistent with the provisions of the Act nor to preclude the creation of additional communications satellite systems, if required to meet the unique governmental needs or if otherwise required in the

national interest."

So clearly, not domestic systems, "additional communications systems." In other words, they were not precluded from the domestic systems. Which is not....the language which says, "you're not precluded from the use of the systems domestically," doesn't give you a monopoly. To do it in the powers of the President also made clear...."The President shall, among other things, "exercise his authority"...."take all steps necessary to ensure the availability and appropriate utilization of the communications [satellite system] general governmental needs, except where a separate communications system as required to meet unique governmental needs or as otherwise required in the national interest...."

COMSAT was created, I think....the language was always in terms of the technology at the point where people didn't visualize everybody putting up 27 satellites roving around there,[101/] or putting up six satellites on polar orbit to do it. That I think, was the thing. But, clearly there was no specific authorization. COMSAT could have come pretty close to a

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101/ change "roving around there" to "in random orbits"

monopoly if it had played its cards right, and given the required service at the required rates and been responsive to consumer and partner requirements. One might say, at times, that they suffered from the AT&T sin. AT&T gave you very good service of the type they thought you should need;[102/] when they thought you should need it; at a price they thought you should pay for it. And we have a divestiture there too.

NG: Okay. COMSAT has, outside of the international system, made several attempts, more than several attempts--and some attempts during the time you were at the FCC--to diversify. You have INMARSAT, CML, SBS.

AE: Which is CML?

NG: It's the precursor to SBS: COMSAT, MCI, Lockheed. [Also,] SBS, MARISAT....

AE: COMSAT General.

NG: ....AEROSAT, which was a failed attempt. COMSAT General,

102/ change "need" to "have"

obviously. How do you view these attempts at diversification? The Environet concept?

AE: Well, the attempts at diversification were encouraged by the Commission. INMARSAT certainly was an authorization.

NG: And a success. That's been a system that's worked.

AE: An unnecessary system, but it worked. That should have been done by INTELSAT--one of the other failures of the United States. You need two international organizations like a hole in the head--to do what one can do more effectively. As I understand it, INMARSAT is, in fact, leasing some capacity from one of the more latest INTELSAT satellites to provide marine service. That's another long story of stupidity on the part of the negotiators. AEROSAT was a complete and utter assininity. That should have been a non-regulated, non-common carrier, experimental activity. It fell apart because you had this assine thing wherein the United States--where you had a privately owned regulated entity in partnership with an intergovernmental....it just had to fall apart on that basis. If it had properly been followed through, COMSAT could very

well have contracted with NASA--or somebody else could have contracted with NASA [to develope the system]. COMSAT General and SBS were created as part and parcel of the domestic satellite things. So clearly, [they were] things that the Commission did. I know that. I wrote those, both.

NG: No I didn't. It doesn't surprise me....

AE: I wrote both of them in, yes. They weren't in in the beginning. We wrote them in to give COMSAT a further chance to get into the field. What we didn't want COMSAT to do was to have itself providing service and providing AT&T (because there was too much danger of cross-subsidization), but COMSAT General could do it. Then, we gave them the third sip of the glass by letting them put on SBS. If we had foreseen how much money they were going to make, we never should have allowed them to do it. What did they lose, about $400 million?

NG: It was a lot of money. For a giant like IBM, obviously it's less of a risk....

AE: But that was certainly again, I think, sort of a simple

answer to the canard about how terribly the Commission treats COMSAT. Though, the Commission never had any problems, as I see it, with allowing COMSAT to go ahead--with two provisos: one, no cross-subsidization; and two, not losing sight of its major thing [i.e. the global system]. In other words, we didn't want to see a situation where Joe Charyk would spend 95% of his time on the non-INTELSAT/COMSAT part of the business. But other than that, the Commission sat by. They [COMSAT] put up their Labs, they went into Nicaragua, they went everywhere and did everything, and lost money on everyone of them, as I understand it.

NG: Well, let's talk a little bit more generally about COMSAT and some of your views about the dealings that you had with them--not necessarily in reference to any specific event or decision--but just maybe some more of your impressions about the kinds of people you worked with and the way that you feel that COMSAT presented themselves to the FCC.

AE: Well, I think essentially, is what I said previously. It started with Leo Welch's view. The FCC was a sort of a barrier or burden, unnecessary. That's not unusual, Welch spent his

life in international oil, I guess dictating to the then Arab sheikdoms. [Welch's attitude was,] "Where in the world does a couple of government bureaucrats, who we could buy and sell any day in the week come in to look over their shoulder or tell them [COMSAT] what to do?" I think that attitude is what colored the relationship from the beginning. I think I told you about the idea that Welch was not going to go to Rome because he was not going to be Chairman of the delegation. That was a very unfortunate situation and I think that people are human. If somebody kicks you very badly, you sort of protect your rear. And that I think....I don't think it has to do with any one person at all. I think it has to do with an institutional setup from the very beginning--that they had this law passed especially for them. They're the only corporation every created by law. They have the most glamorous thing going, and they are going to go ahead, and everybody else is sort of a barrier....

NG: An impediment.

AE: And then, when the terrestrial carriers began to kick at them, I think they got a little bit paranoid in the basic sense

of suddenly recognizing that you may be God's chosen, but AT&T looms over you like a frightening, boiling volcano. So that, I think, colored the situation. I think organizations attract people of particular personalities, when they have certain things to do, and that's it. I don't think you can point at this devil or that devil or the other devil. I think, it's this sort of person that comes to that sort of an organization. That's the way he acts.

NG: Well, now a number of these people--a good number of these people--came from the government themselves, obviously.

AE: Yeah, but they came from....well, elements in the government where they had, relatively speaking, a rather large amount of freedom, and were on the frontiers of things, and what they said was taken as gospel. Normally, when the Defense Department R&D people--those were the days before we had these terrible overruns and all--came down and discussed the technical things....they were still living in the aura of the successful atom bomb that we had done, and technology was going to save the world from everything. They were good people who were really riding high in the center of the times. That

covers their approach and personality. Yeah, I don't think you have to look around for any devils to say that. These are the people who came--these are the people who came to this job--because this was the sort of a challenge on the frontiers of technology. They were accustomed to running ahead with it, and suddenly, they're faced with what they consider to be a bottleneck bureaucracy, asking them to report...."Tell us what you're doing. Tell us why." They rear up and react. Your General Counsel, Allen Throop, came from, first SEC, and then worked with that again [in a private law firm]. Large corporate entities trying to get things through another bureaucracy and raising the billions necessary. It's again, the same sort of overall world view. One might say, "Allen's a hell of a nice guy, a quiet guy," but essentially, in his sort of dealings with the FCC, it was the same sort of a thing. Maybe we have to do these things. If you want to do, go to the files, and look at the first application that was filed for Early Bird. It's about four pages or five pages. That was the 214 application describing in detail what Early Bird was going to be. It led to a confrontation between the FCC and them. You know, for Early Bird you had about a carload of all sorts of things, but it's what you're going to tell the FCC.

NG: So, you're saying that they would do what they could just to get that process over....

AE: Yeah, [they would say,] "These paper pushers are a pain in the neck. Get rid of them." They didn't recognize that these paper pushers were the ones who were essential in their relationships with the terrestrial carriers, and essentially they are the only ones who kept them alive. Left to themselves, the Westfall approach for the terrestrial carriers might have prevailed. It was those SOB's at the FCC who [were to blame] I wish I had some tapes of lunches I had with Westfall, where he'd come after Board meetings of COMSAT and lay it on to the FCC for what they're doing to stop the growth of telecommunications, to take care of those guys [COMSAT; it was] fascinating.

NG: Let me just ask you a little bit about the Commission itself. You obviously saw the Commission go--in relationship to COMSAT--from the very early days up until '73. You saw Newton Minow, William Henry came on after that as Chairman.

AE: Newt Minow began, William Henry, Rosel Hyde, and Dean

Birch are the Chairmen.

NG: And Lee Loevinger comes on during that time, when COMSAT is still in it's early growth stage. Nick Johnson is on the Commission, and is a very distinct personality....

AE: Yeah, the wild man.[103/]

NG: How did you perceive, working on the staff level for these Commissioners? What was the basic Commission, itself, attitude toward COMSAT?

AE: Well, the staff had a hell of a job telling the Commission what it ought to do. The Commission thought it should be running itself. No, [I'm] kidding. Seriously, the attitude of the staff and the Commission were more or less the same. We all started out with, "Oh, gee whiz, we have this new thing. It's wonderful." Then, when these things that I've described began happening, the Commission sort of drew back. The TAT V thing was really a shocker to the Commission. Not that they

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103/ change to: Yeah, the so called wild man.

were necessarily....I don't mean [TAT V].[104/] The INTELSAT III thing was really a shocker to the Commission, in the sense that they felt [unintelligible]--even those who continued to support COMSAT--betrayed.[105/] Remember, the Commission adopted an order in that connection which said that the authorization of that is not allowing [COMSAT] to necessarily put it in the rate base. When we have a rate case the Commission will see whether or not INTELSAT III was justified. It never had the nerve to follow through--as clearly the experience of INTELSAT III indicates. It was a terrible mistake. It set back both INTELSAT and COMSAT rather badly.

So, I think the basic reaction of the Commission was one of enthusiastic receptivity to a new technology. We knew the United States is leading the world into the future and COMSAT is our chosen instrument. [The Commission's reaction changed] to, "My God, are these guys for real? Gee. We'd better be careful."

104/ delete: The TAT V thing was really a shocker to the Commission. Not that they were necessarily....I don't mean [TAT V].

105/ change to: The INTELSAT III thing was really a shocker to the Commission, in the sense that they felt even those who continued to support COMSAT--betrayed.

NG: Are there any other issues that you feel that we haven't covered in the what, nearly three hours that we've talked?

AE: I don't know. I think we've covered it all.

NG: Anything that I may have overlooked that you feel that you would want to add?

AE: No, I think to take the thing into perspective is what this last things that I said there. That the Commission in it's actions with respect to COMSAT, never lost sight--until about 1970--of the fact that this was a very important infant industry that had to be supported despite the tremendous coutervailing influence of AT&T and ITT and to also an extent, RCA, which was in there but not an active screamer on these things. And I think the record generally shows, if you look at it from both sides, that even though the Commission became increasingly concerned and increasingly careful, it--until COMSAT became a reasonably profitable organization--leaned over very far backwards in supporting the COMSAT situation. I think it is particularly true with the INTELSAT negotiations, where the United States spent a tremendous amount of political

capital to keep COMSAT in as manager for those five years. That was an FCC strongly held position. I know, I was the one who made most of those speeches and took the hell from the various countries, particularly the lesser-developed countries, and the small countries. There was a group of Mexico, Switzerland, Algeria and one other country. [They were a] bunch of nice fellows about my age. We all used to go out to lunch together. I got my ears full--at everyone of the meetings--of the problems and situations and misdeeds [of COMSAT. They would say,] "How in the world can you with a straight face, say these things with respect to COMSAT?" I told them that, "So far as we are concerned, we are committed to a successful INTELSAT and we are talking about institutions. If you have problems with certain people, that's a problem. But institutionally, this is where we stand." Even at the very end to the fight for the way to hold back the amendments. Remember, you had to go through two stages to amend the INTELSAT thing and it has to be done within two years. And if it's not done, the amendment dies. That was to protect us against--which didn't necessarily [inaudible] but COMSAT had

this phobia.[106/] So we signed the definitive arrangements.[107/] We forced them.[108/] [COMSAT's fear was,] "But now that we have the definitive arrangements, they're going to put two amendments in and take us out of manager." So we put in those protective things and worked those compromises. Of course, nobody ever put in any of those amendments. It was very clear, nobody was going to go through a fight like that after two and half years of negotiation. But again, I might not say COMSAT paranoia, but at least COMSAT's serious worry about these things were taken care of in the thing. So that I think--if I had it to do over again--I think the only thing that would be done differently is that I would have tried to convince the Commission to get the senior officials of COMSAT down at an earlier date and make sure that they showed a greater awareness of their obligations as a regulated carrier. Life might have been simpler for everybody. But I don't think there is anything that would have been done differently, or that should have been done differently. I

106/ change to: That was to protect us against danger which didn't necessarily exist but COMSAT had this phobia.

107/ delete: So we signed the definitive arrangements.

108/ delete: We forced them.

think the proof of the pudding is in the eating. I think it was governmental policy that got COMSAT and INTELSAT to where it is. I think keeping COMSAT as manager for those five years was vital, but my basic theory was very simple: when we had 50, 60% of the system and other people had 3/100ths of 1%, they could be very, very loose about doing anything and wasting money. But as soon as they had a vested interest, where they had to put up substantial money, they would become as conservative as everybody else. That five year period is, I think, what did it. I think the record now shows that even though we scarcely have a veto anymore, we don't have to worry about it. This system has become mature, and countries which previously had to put up $2.75, now have to put up several million dollars. Several million dollars is money, so they become conservative. I think with that, it's fine. The other thing, I think it might be very good for the current staff of COMSAT I think now, that Joe has left, or is leaving.

NG: Is leaving.

AE: And Irv is coming over. It might behoove them to sit down and read some of these records as a chart of what not to do in

the next ten years.

NG: Very good.