## UNITED STATES DISTRICT COURT CENTRAL DISTRICT OF CALIFORNIA

HONORABLE DAVID O. CARTER, JUDGE PRESIDING

ECHOSTAR SATELLITE CORP., et )
al., )

Plaintiffs, )

vs. ) No. SACV 03-950 DOC
) Day 15, Volume II

NDS GROUP PLC, et al., )

Defendants. )

REPORTER'S TRANSCRIPT OF PROCEEDINGS

Jury Trial

Santa Ana, California

Friday, May 2, 2008

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United States District Court
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EchoStar 2008-05-02 D15V2

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SANTA ANA, CALIFORNIA, FRIDAY, MAY 2, 2008 2 Day 15, Volume II 3 (9:50 a.m.)4 (Outside the presence of the jury.) 5 THE COURT: All right. We're on the record. 6 All counsel are present. 7 The American adversarial system that all of us are 8 proud of as practitioners and the judge is based upon 9 adversarial proceedings, the right to examine and 10 cross-examination witnesses. 11 This Court has been absolutely consistent from the 12 beginning of this case in terms of trying to apply pressure 13 to both sides to bring witnesses to court. And while it 14 recognizes that there is the opportunity for depositions, 15 and it is appropriate, and the Court's limited jurisdiction, 16 and while the Court will not, of course, step outside its 17 limited powers, the Court wants to afford every courtesy to 18 both counsel and give the opportunity for NDS to rethink its 19 position. 20 This Court's subpoena power to compel witnesses in 21 civil cases is limited to a 150-mile radius from this 22 courthouse. That means that this Court can only force a 23 witness to testify in person if that witness resides within 24 150 miles. 25 Many of the witnesses that have appeared in this

case reside out of this 150-mile radius. Those that testified live in person here in court have appeared voluntarily at the Court's request and, I think, the able efforts of counsel for both parties.

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This Court once again consistently felt that live testimony was important when we were really dealing with a case that spanned not only state jurisdiction but international borders. This Court has always felt that live testimony was important so that the jury could judge not only their testimony but their demeanor.

For the most part, once again, let me repeatedly state that the counsel for both sides, both plaintiffs and defendants, have made rather extraordinary efforts to obtain testimony from witnesses outside this jurisdiction.

Dr. Peled is the CEO and president of NDS. He was not subpoenaed by EchoStar but was expected to be called as a witness and was informed by all parties some place through a portion of the defense case. Both parties then relied upon the representation that he would appear.

Dr. Peled arrived in the United States earlier this week and had his deposition taken outside the jury's presence on Wednesday evening from approximately 5:30 to 10:00 p.m. In fact, the Court was introduced informally to Dr. Peled with Mr. Snyder and --

MR. WELCH: I was here, Your Honor, as well as

Jeannie Gaffenchek (phonetic) from News Corporation and Jeff Blum from EchoStar.

THE COURT: At about 10:00 or 10:30, which was rather brief and basically just "Good evening."

At 10:00 p.m. on Thursday evening, Dr. Peled made the personal decision -- because I don't believe counsel can make the decision for a witness of his stature -- to leave the jurisdiction of this Court and return to the United Kingdom without notice to the Court or plaintiffs. By departing, he negated the opportunity to hear his testimony and judge his demeanor.

This could be construed to be an example of the very corporate irresponsibility of failing to explain the corporate entity's conduct, and it is very troubling to this Court. After all, these are publicly traded companies dealing with American consumers and potentially subject to Congressional oversight. And the top of these corporate pyramids, Bergen's, Kudelski's, Peled's, Murdoch's failure to appear is unacceptable.

I'm most troubled by the ability of both plaintiff corporation and defendant corporation and the structure to segment. And perhaps it would be appropriate in many of the cases before this Court, but in a case of these kinds of allegations, satellite piracy allegations, that, if true, are monumental, and the stealing of documents, if true,

which are monumental, is of great concern.

The Court will allow the parties to play the deposition testimony, but the jury's going to be allowed to draw whatever inference they choose from Dr. Peled's unavailability.

The admonition is consistent with the repeated admonition to all parties that they would be required to produce witnesses within their control or suffer adverse inferences. At the beginning of this trial, I was initially and highly concerned that witnesses would dictate -- the pirates would dictate -- whether or not they would even appear, and testimony would be presented that they chose to give at their depositions and what topics they would choose to testify, and I was extremely concerned and have expressed that repeatedly and consistently how the trial could be conducted.

I will not ask the jury to draw an adverse inference, but I will place the parties in the position of exactly what occurred.

The following will be read to the jury, and then I'll ask NDS what they want to do and afford them every opportunity.

If Dr. Peled reappears, there will be no questioning concerning why he left or why he returned. Understood?

1 MR. WELCH: Yes, sir. 2 THE COURT: All right. Because I think it's that 3 important if this information is at the top of either 4 structure. 5 I'm giving NDS the opportunity to bring Dr. Peled 6 back to this jurisdiction, and I'm going to require that you 7 rest your case on Tuesday. You will not be resting today. 8 So whatever tactical advantage you believe you have is going 9 to be negated. 10 I'll probably be sending the jury home at some 11 convenient part in today's examination, and we'll have the 12 hearing at that time outside the presence of the jury 13 concerning Mr. Emerson. 14 Therefore, there should be no expectation on NDS's 15 part that they're resting today. 16 Once again, if Dr. Peled chooses to return, there 17 will be no inquiry into his leaving. EchoStar will be 18 allowed to play the deposition in your rebuttal of Dr. Peled 19 if he does not return, and the Court will inform the jury of 20 the following: 21 I will inform the jury that the Court's subpoena 22 power to compel witnesses in civil cases is limited to 23 150-mile radius. I will inform them that Dr. Peled is the 24 CEO and president of NDS, that he was subpoenaed by

EchoStar, but he was expected to be called as a witness by

25

NDS -- strike that. That he was not subpoenaed -- my apologies -- by EchoStar, but he was expected to be called as a witness by NDS.

2.5

That both parties apparently had entered into an agreement that neither CEO was to be deposed unless they testified; therefore, Charlie Ergen was testified a short time before his -- deposed, I'm sorry -- a short time before his testimony, Dr. Peled a short time before his testimony, by agreement of counsel, and that was appropriate.

But after the deposition of Wednesday evening,

Dr. Peled made the personal decision -- so I leave counsel

out of this equation -- that's an aside -- made the personal

decision to leave this jurisdiction and return to the

United Kingdom without notice to the Court or plaintiff,

thereby negating the opportunity for a subpoena. By this

departure he has negated the opportunity of the jury to hear

his testimony and judge his demeanor, from somebody in a

coequal position of Mr. Ergen.

I will not go further and explain what I've explained to you concerning my person concerns about corporate irresponsibility, nor publicly traded companies, nor will I comment upon Congressional oversight, nor the position I think that the American consumer is in after listening to this lawsuit.

Now, that admission may be, in fact, stronger. It

1 will not be weaker. 2 You can make your record. 3 Mr. Snyder. 4 MR. SNYDER: Thank you. 5 THE COURT: And you can make your choice. 6 MR. SNYDER: Thank you, Your Honor. 7 NDS objects to the proposed instruction and 8 admonition that the Court plans to give to the jury. 9 NDS's position -- and I believe correct under the law --10 that the defendants have the right to determine which 11 witnesses they present in their case. 12 THE COURT: You do. I'm allowing you to do that. 13 MR. SNYDER: And I believe that within the context 14 of that right, it would be inappropriate for the Court to 15 comment on the travel arrangements or whereabouts of any 16 particular witness, including Dr. Peled. 17 There have certainly been other instances of 18 witnesses that were added or dropped from witness lists 19 during the course of this case, and it was the defendants' 20 decision not to call Dr. Peled so that we could rest our 21 case today. We thus object to the Court's decision to do 22 that. 23 We had made every effort, and we had informed, I 24 believe, the Court and the other parties that we intended to 25 rest today for some time. Scheduling difficulties and the

timing of events complicated that and forced defendants to make decisions, one of which was not to call Dr. Peled because we do not believe that he was instrumental to our defense, that the defendants are not responsible for those postings, are not responsible for EchoStar's piracy, and are not responsible for the swap of their cards.

witness stand.

And we thus think that giving the defense's right to determine what evidence is presented and by which witnesses, it would be inappropriate to give this instruction.

THE COURT: Okay. Thank you very much.

Now, why don't we call Mr. Kahn back to the

And the Court reiterates that I've been consistent, and the Court will not backtrack from its initial decision, Mr. Snyder or Mr. Hagan. I've made it very clear. And once I've applied that kind of pressure to get what I call the pirates and the underlings of these corporations to court, there is no reason, with information that's shared at Mr. Ergen's level or Mr. Peled's level, the jury cannot view demeanor -- should not be entitled to do so.

If there's a disagreement, at least the Circuit understands, I hope, the extraordinary efforts that this Court takes. If it disagrees, then we'll be trying the case

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    over again. But that will be the admonition given to the
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     jury.
3
               Inform me if you're going to place a phone call.
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     I would advise you to do so because the corporate
5
     responsibility lies with Dr. Peled -- unless I get you
6
    involved, Mr. Snyder. I choose not to. I think that's a
7
    corporate decision. I don't think attorneys dictate to
8
    Mr. Ergen or Mr. Kudelski or Mr. Peled or Mr. Murdoch.
9
               So if you would be kind enough to get Mr. Kahn
10
    again and get the jury, please.
11
               (In the presence of the jury.)
12
               THE COURT: The jury's back.
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               I want to inform the jury that at some convenient
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    point you'll be going home. Right before 12:00, I believe.
15
    Counsel will not be resting their respective cases probably
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    until Tuesday or Wednesday of next week.
17
               Counsel, if you'd like to continue your direct
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    examination.
19
            RAYNOLD KAHN, DEFENSE WITNESS, PREVIOUSLY SWORN
20
                           RESUMED THE STAND
21
                    DIRECT EXAMINATION (Continued)
22
    BY MR. EBERHART:
23
    Q. Dr. Kahn, before we took our break, you had testified
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     about the arrangements between NDS and DirecTV.
25
          Did there come a time when those agreements were
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- 1 amended?
- 2 Yes. Α.
- 3 What was the purpose of that amendment?
- 4 There was an amendment, a short amendment later in 5 April of '98, and it had multiple purposes.

6 We needed to clarify some issues relative to the 7 delivery of the P3 card, which was a slight change to what 8 the schedule was for the -- that was -- in the original 9 contract there was some pricing issues that we were trying 10 to renegotiate. And also there was a -- DirecTV felt there 11 was a need to change the working business relationship and 12 to renegotiate a new -- potentially a new working 13 relationship that could lead to a new contract that was 14 better matched to our business needs at that point in the 15

- 16 So this amendment was an interim agreement to set 17 the tone for a follow-up negotiation for a follow-up 18 contract.
- 19 And that amendment was entered into in April 1998, you 20 said?
- 21 Α. That's correct.

business.

- 22 Now, you said that there were going to be negotiations 23 that followed that amendment. Tell us about the purpose and 24 scope of those negotiations, please.
- 25 A. Well, DirecTV -- there were a number of areas in the

original relationship that were not working right for
DirecTV anymore, and DirecTV needed to evaluate a better way
of making things work and considered many options.

You know, as part of a growing business -- at that point, it was already a large business with lots of financial issues -- the contractual relationship relative to the payments for the number of cards and the number of subscribers became very large. And at the same time we were looking at, you know, what the base cost was for the actual chips and looking at the profit margins. So there was financial issues that we needed to readjust.

There were performance issues. We were not happy with both the deliveries and, you know, bug-freeness and technical effectiveness. And we were not happy at that point with the state of security.

But also, maybe to a large extent it was clear that, you know, there's often a misalignment between the business needs of a company like ours and the business needs of a vendor, and we needed more control.

So we needed to have -- you know, if we were gonna continue, we needed a relationship where, you know, somehow all of those factors would realign.

Q. Okay. Now, at the time DirecTV entered into this 1998 amendment with NDS, did DirecTV intend to replace NDS as its conditional access vendor at any time in 1998 or 1999?

A. Well, we were thinking of many alternatives to get what
we needed, and one of those options that could have been
considered or would have -- or was considered was a
replacement. But nobody at DirecTV thought it was in any
way feasible to do such a thing in the time frame you're
referring to.

Q. Why didn't DirecTV believe it was feasible to go to an alternate vendor in the 1998 or 1999 time frame?

A. Well, of all the options that we considered -- and one of them was to go to an alternate vendor, and another one was to have an alternate vendor as a parallel with NDS so that you would have two vendors operating in the system.

But in all of -- so those are two possible options which might involve some other company, some other CA company.

It would take many years for that company to build the systems, the entire CA system, which even though they might be companies of other systems, a lot of their system would have to be rebuilt to match our business needs and also our existing business systems that were operating.

So it would take -- you know, from the time such an activity was actually started, it would take, you know, two to three years to get that system ready. And then there would be a period of transition or of introducing that system.

So even if there had been such a decision, there's no

way that it could have happened in the '98/'99 time frame.

Q. Now, you testified about the different business systems that interact with the conditional access system.

Explain for a moment what those are.

A. Well, so we have a billing system or a subscriber database system that interacts with our customer management and customer service system. And so that's the system which, when someone calls up to order service or to activate their system, that ordering information is sent from the customer service agent into a billing system that keeps — sets up the account and keeps the record of all of the subscriptions that have been ordered, et cetera.

So while that billing system maintains our customer records and cuts the bills, that system also has to deliver commands to a large computer database at our broadcast site that manages all of the conditional access. In other words, a system that maintains the database of all the Smart Cards that are out there and what their particular service subscriptions are, sends them messages addressed to them, encrypted for them, with all of the information for that card.

So there's this complex interaction between our business operations and our selling to customers and then how that gets translated into the conditional access messages that gets sent to the card for the card to perform

- 1 its job of acting as our agent to allow programming that's 2 paid for or not allow programming that's not paid for.
- 3 Now, Dr. Kahn, let's take a hypothetical situation for 4 a moment.

5 Assume, different from what happened, that DirecTV made a decision in 1998 to move away from NDS. Could DirecTV 7 have simply swapped out the NDS Smart Cards in the field and 8 moved to some other vendor's Smart Card?

9 No. Α.

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- 10 Q. Why not?
  - Well, even if there had been some other vendor's Smart Α. Card which provided the identical level of business functionality, their Smart Card would not be compatible with the messaging interfaces for -- of our system. And that includes conditional access software in the set-top box that communicates with the card, and that includes all of the over-the-air messaging from the Headend conditional access systems that deliver the authorization and entitlements to the card, and that includes the report back by phone line to the Headend systems that receive report-backs. So there's all of the infrastructure of DirecTV conditional access that would not be compatible with this new card.
- 23 Did -- in the 1998 time frame, did NDS have any intellectual property rights in the set-top boxes that DirecTV had in the field?

1 Well, Direct -- a portion of the software in the Α. 2 set-top box, which they call a verifier, is NDS software 3 that's written by NDS that interfaces with their card and 4 with the messaging system from the Headend, and that also 5 performs a number of security functions that are proprietary to NDS, including a verification function, which is why it's 7 called a verifier. It performs a cryptographic algorithm to 8 validate that the card is really an authentic NDS card. 9 In the 1998/1999 time frame, did DirecTV have the 10 intellectual property rights to use those set-top boxes that 11 contain NDS technology without NDS's permission? 12 Well, I'm not a lawyer, but definitely there was a lot 13 of NDS intellectual property that is wrapped up into the 14 verifier. There's a royalty fee that's paid for the 15 verifier functionality, so I would say at best it's not 16 clear, and more than likely the intellectual property 17 issues -- certainly that was -- one of the major concerns of 18 DirecTV at the time was in examining our possible 19 alternative methods of getting conditional access, how to 20 deal with the intellectual property issue, not only the 21 existing software that might be in the set-top boxes, which 22 in some cases for some smaller population of set-top boxes 23 in theory could be replaced by a software download. But the 24 entire business infrastructure, as I mentioned, the 25 interfaces from our billing system, the interfaces from

other systems, were all built and geared towards the NDS design and the NDS intellectual property.

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So it was clear to us, at least from a legal standpoint, that the initial contract did not assign to us any -- any -- any rights and would be interpreted by NDS negatively. And so we felt it necessary to clarify that issue before we could even contemplate the alternatives.

- Q. And was that one of the issues that DirecTV negotiated with NDS following the execution of the extension in April 1998?
- 11 A. So in the follow-up negotiation during that extension
  12 time, that was definitely one of the main negotiating issues
  13 that DirecTV negotiated long and hard for in the agreement
  14 known as "CALS" which was the follow-up and signed in August
  15 of '99.
- Q. And what was the CALS agreement intended to do? Was
  that a replacement of all the pre-existing agreements or a
  supplemental agreement?
- 19 A. No, that was a replacement of all previous agreements.
- Q. When did DirecTV and NDS begin negotiating for the CALS agreement?
- A. Shortly after the execution of the letter amendment.

  So the letter amendment was in April '98. The negotiation

  was a long and hard negotiation, which I believe took about

  nine months of wrangling, and it was eventually signed in

August of '99. So I think the serious renegotiating started towards the end of '98.

And part of the reason for that delay was that one of the other stipulations in the amendment of April '98 was the right -- DirecTV, as part of our renegotiation, believed that we needed to be in a better position to understand the competitive marketplace and the options that were available from other vendors, from other subvendors -- so, what did the Smart Card companies charge for their services and the Smart Card embedding companies?

So there's a whole lot of information we needed before we could go back and do a meaningful renegotiation about price and terms. So in that amendment, one of the stipulations we received from NDS was the right to deliver to other companies, certain documentation. And so that was spelled out in that amendment -- this is the list of documents that NDS agrees DirecTV could share with other companies in their exploration of the existing marketplace.

- Q. Did DirecTV inform NDS of the companies to whom DirecTV would be talking?
- 21 A. No.

- Q. Now, did DirecTV negotiate for specific terms in the
  CALS agreement that would give DirecTV options in the future
  to work with either a parallel vendor or a successor vendor?
  - A. Yes, those were both very important options that

DirecTV wanted to have the rights to exercise. And we negotiated long and hard, and, in our opinion, gave way in large financial terms to have the rights to exercise any of those potential options for a successor or a parallel CA vendor and specifically called out the rights in terms of the intellectual property and the technical -- you know, how the technical licensing would apply in the event that DirecTV elected one of those options.

Q. Now, you've mentioned a couple times the concept of a parallel vendor.

What do you mean by that?

A. Well, in other areas of our business, such as the set-top box, one of the ways to cut down costs was to have multiple vendors. So we had a number of different conditional -- of consumer electronics companies that built these boxes and provided them for us, and we could compete them against each other for price, and, based on their performance, we could respond accordingly.

So definitely one of the options on the table that we considered to get better performance and better pricing structure was to have two or more conditional access vendors serving our population. And where I say "parallel," that means that some subset of the boxes are receiving conditional access from one company; some subset of the boxes or customers are receiving conditional access from

another.

And that type of system is common in Europe, where the satellite signal covers many countries, and there are -- and different conditional access companies could provide conditional access for the same TV signal.

So we thought that if we had, you know, a number of companies competing for conditional access, if we had a new population of boxes that were -- that were providing conditional access with some new supplier, build up a population of those, whenever it was necessary to replace a particular generation of cards, bid the proportion -- either decide who's going to replace them or split it up in some proportion based on competitive bidding.

So it seemed to be a good approach to getting better financial terms and better performance by competing multiple companies against each other rather than having a sole exclusive supplier.

And we negotiated for that right --

- 19 Q. Okay.
- 20 A. -- at CALS.
- Q. Did DirecTV take any steps in 1998 to define the scope
  of the rights it needed to acquire in the new CALS agreement
  such that DirecTV would be able to potentially move to a
  successor vendor or parallel vendor sometime down the line?
- 25 A. Yes.

Q. What steps did DirecTV take?

A. So having negotiated for that amendment in '98 for the right to distribute certain documentation that described our system requirements and statement of work and other technical documents, we approached just about all of the companies that are direct CA providers or subproviders, worldwide with our request for information, requesting information about how they might participate in DirecTV's conditional access business so that we could better understand which companies were willing to work with us, how they were willing to work with us, and what price structure, what level of technical cooperation, you know, to what extent we could define the terms versus buying off the shelf.

'98 agreement and the negotiation, beginning of the negotiation for CALS through till the final closure of CALS. We spent all of that time trying to do our homework to better understand that entire marketplace, to understand better what our rights would be, what our abilities would be, what our options would be, so that we could negotiate in the CALS for the right to do or follow all of those options.

- Q. To what companies did DirecTV issue that request for information in 1998?
- A. Well, I believe there was a long list of companies.

All of the major conditional access companies including
NagraVision-Kudelski, Irdeto, Phillips, Seca, which was a
division of Canal+. And I think we even sent to the U.S.
companies like General Instrument and Scientific Atlanta,
maybe. I'm not sure about those 'cause I never saw any
responses from them.

We sent a request for information from the chip vendors such as AST, Microelectronics, Siemens, Infinium. Phillips was also providing chips. I think Schlumberger provided chips as well.

We spoke with companies that are involved in embedding chips and putting them into cards such as Gemplus and De La Rue.

And there were probably others, but that's like a listing of the entire marketplace.

- Q. And what was your involvement in that request for information process?
- A. Well, I hoped to put together the technical request, but -- or at least provide an editorial comment. And then I evaluated the responses from a technical perspective. I participated in meetings with all of the companies that responded, and we started to build up an understanding of all of the alternatives that were available. We tried to, you know, determine what our options were in that context.

And did DirecTV ever tell NDS who the companies were

- that were participating in this request for information process?
- A. No. We never told them any company name. But we
- 4 did -- we definitely -- they knew that they were doing this
- 5 process since they'd agreed to allow us to do it.
- Q. Now, are you familiar with the plaintiff -- one of the
- 7 plaintiffs in this case -- NagraStar?
- 8 A. Yes.
- 9 Q. Was NagraStar part of the request for information
- 10 process?
- 11 A. No.
- 12 Q. Why not?
- 13 A. Well, in our request for information, we preferred to
- deal directly with NagraVision-Kudelski, and that's who we
- met with, and that's who we issued the RFI to, and that's
- 16 | what our interactions were.
- And NagraStar was 50 percent owned by our chief
- 18 | competitor. I don't think we would have interacted directly
- 19 with them on this issue.
- THE COURT: Who is your chief competitor, so the
- 21 jury knows? Who is your chief competitor, sir?
- THE WITNESS: Well, there are two.
- THE COURT: But you mentioned --
- THE WITNESS: I mentioned EchoStar, which is our
- chief competitor in the satellite broadcast area. And then,

- of course, there's cable, which is the chief competitor of
  both DirecTV and EchoStar. But in this case I was talking
  about EchoStar.
- 4 THE COURT: Okay. Just want that to be clear.
- 5 THE WITNESS: Yeah.
- THE COURT: Thank you.
- THE WITNESS: And I guess I also mentioned that

  we -- we did send RFIs, I believe, to companies like GI and

  Scientific Atlanta, which provide conditional access

  services to all the cable companies, but I'm not sure they

  responded. But we were certainly not going to have those
- 13 BY MR. EBERHART:
- Q. Now, at any time in 1998 or 1999, did DirecTV consider
- using NagraStar for any conditional access services --

discussions with the cable company itself.

16 A. No.

12

- 17 Q. -- or technology?
- 18 A. No.
- 19 Q. Why not?
- 20 A. Well, we were not considering NagraStar. We would not
- 21 consider at that point -- consider a relationship with
- 22 | NagraStar, which was controlled by EchoStar.
- Q. Now, you mentioned NagraVision and Kudelski. Where are
- those -- where were those companies located back in the
- 25 | 1998, '99 process?

- 1 A. Well, Kudelski-NagraVision is located in
- 2 Cheseaux, Switzerland, and we visited there on a number of
- 3 occasions.
- 4 Q. Were those companies owned by EchoStar?
- 5 A. No.
- 6 Q. Does -- has EchoStar ever sold conditional access
- 7 services or technology?
- 8 A. I'm not sure.
- 9 Q. Would DirecTV ever contract with EchoStar as a
- 10 conditional access provider or technology vendor?
- 11 A. Well, no. Just to elaborate on that, the conditional
- 12 access system is, to some extent, at the heart of the -- of
- our business system. So any new business opportunities that
- 14 | we might contemplate, any new business contracts or -- or
- programming contracts or ideas for delivering content to
- 16 customers, all of that stuff would -- would of necessity
- have to involve an evaluation of the conditional access
- 18 capabilities or changes. And so that would mean that
- anytime we wanted to do something new, we'd have to consult
- with a company that was owned by our competitor. It would
- 21 make no sense.
- 22 Q. Did DirecTV ever enter into a contract with Kudelski
- 23 after that RFI process began?
- 24 A. Yes, we did.
- Q. And what was the purpose of that contract?

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1
          It was to form a -- to perform a slightly more in-depth
    Α.
2
     study of what technical changes would be necessary in order
3
     to use the Kudelski system in the DirecTV system, either as
 4
     a parallel vendor or as a successive vendor.
5
               MR. EBERHART: Okay. Michael, could you hand the
    witness Exhibit 1566, please.
    BY MR. EBERHART:
8
          What is Exhibit 1566, Dr. Kahn?
9
         Well, it's a letter contract between DirecTV and
10
    Nagra -- NagraVision-Kudelski for -- to perform a six-month
11
    study.
12
          Okay. And what's the date of this contract?
    Α.
       March 31st, 1999.
```

- 13
- 14 MR. EBERHART: Your Honor, defendants offer
- 15 Exhibit 1566.
- 16 THE COURT: Any objection?
- 17 MR. HAGAN: No objections, Your Honor.
- 18 THE COURT: Received.
- 19 (Exhibit No. 1566 received in evidence.)
- 20 (Document displayed.)
- 21 BY MR. EBERHART:
- Dr. Kahn, who are the contracting parties in this
- 23 letter agreement?
- 24 Well, it's DirecTV and Kudelski.
- 25 Is NagraStar or EchoStar a party to this agreement?

- 1 A. No, not at all.
- Q. Now, at the time DirecTV entered into this study
- 3 | contract with Kudelski, what was the status of the CALS
- 4 | negotiations with Direct -- with NDS?
- 5 A. Well, this is in the early part of that negotiation.
- 6 That negotiation had already started, and we had completed
- 7 most of -- well, we had completed all of our meetings and
- 8 analysis with the different respondents to the RFI, and we
- 9 were now doing a deeper dive, having picked one of the
- 10 potential respondents to do a more deeper analysis so that
- we would, in part, be able to better understand the
- 12 ramifications and, in part, better able to help the
- 13 respondent understand the ramifications, and in part better
- 14 help our management understand. And...
- Q. If the CALS negotiations were ongoing with NDS as of
- the date of this study agreement, what was the point of
- entering into the study agreement?
- 18 A. Well, the negotiation wasn't over yet. But -- and
- 19 certainly I don't think anybody at DirecTV had contemplated
- 20 that CALS negotiation to drag on for nine months. It was
- very painful for all parties. In fact, this letter contract
- 22 that we're looking at stipulates that there's expectation
- for the renegotiation to be completed within 180 days after
- the delivery of the list of documents that we had requested.
- 25 So there was certainly an expectation that CALS would be

- 1 | completed much earlier.
- 2 Q. So at the time DirecTV entered into this study
- agreement with Kudelski, DirecTV expected that the CALS
- 4 | negotiations with NDS would be completed prior to the time
- 5 that this study contract with Kudelski was completed?
- 6 A. That was the expectation.
- 7 Q. Okay.
- 8 A. And that was, in fact, the reality because the CALS was
- 9 executed in August of '99, and the final study report was
- 10 delivered in November of '99.
- 11 Q. Okay. Now, let's talk about that for a minute.
- Take a look at Page 4 of Exhibit 1566, please.
- Under the section entitled "Termination," it states:
- "The services shall commence on April 1, 1999, and shall
- 15 terminate upon the delivery of the final white paper by
- 16 Kudelski unless earlier terminated at DirecTV's sole
- option."
- Did I read that correctly?
- 19 A. Yes.
- 20 Q. So DirecTV had the sole option to cancel at any time
- 21 this study agreement with Kudelski?
- 22 A. Correct.
- 23 Q. Take a look as well at Page 3 of the study agreement.
- 24 And it lays out the compensation to be paid to Kudelski
- 25 under the study agreement.

- 1 What was that compensation?
- 2 A. Well, a total of a hundred thousand dollars.
- Q. Okay. And what was the schedule for making those
- 4 payments to Kudelski?
- 5 A. 40,000 -- I'm just reading here -- \$40,000 upon
- execution of this letter agreement by DirecTV; 2, \$30,000
- qupon delivery by Kudelski of the discussion draft; and, 3,
- 8 30,000 upon delivery by Kudelski of the final white paper.
- 9 Q. Okay. Is that consistent with your recollection of
- DirecTV's payment obligations under this study contract?
- 11 A. Yes, that is.
- 12 Q. Okay. Now, you testified to two important dates a few
- minutes ago. You testified that the CALS agreement was
- 14 executed in August of '99, correct?
- 15 A. Correct.
- 16 Q. You also testified that the final white paper under the
- 17 study contract wasn't delivered until November of 1999,
- 18 correct?
- 19 A. Correct.
- Q. Why did DirecTV continue with the study contract after
- 21 it had already signed the CALS agreement with NDS?
- 22 A. Well, the purpose of the study was to better understand
- the technical and financial options for such an approach.
- 24 And as the CALS agreement makes clear, what we negotiated
- 25 for in the CALS agreement was the right to make a decision

within two years or more that we were going to, in fact, go with a successor or parallel vendor, and another two years of transition.

So what was contemplated was that DirecTV would have negotiated in CALS for the rights to the intellectual property rights in order to make those optional decisions -- um, had given ourselves two years to do the analysis to decide which option we wanted to follow.

So that sort of takes us into the late 2001, early 2002 time frame. And then after making such a decision, you know, spend another two years or more actually getting the technology in place.

So this study was part of the homework we needed to do in the decision we might need to make in another two years' time.

- Q. Okay. And at the time you entered into the CALS agreement, when was the earliest that DirecTV might have chosen to proceed with a successor vendor or parallel vendor other than NDS?
- A. Well, the CALS agreement was a four-year agreement, and it stipulates that we could not exercise that or pull the trigger. In other words, our decision to make, to exercise one of those options, no -- I think it's no earlier than halfway through.
- Q. So that would be two years into the CALS agreement?

A. Right. Although the agreement really says no earlier than two years before the end of the agreement, but yeah.

So it's roughly in August of 2001 would be the earliest that CALS would entitle us to make such a decision.

And there were a lot -- there were stipulations in that that NDS negotiated for that there was -- there was definitions of the work that could or could not be done before that date.

So just to a large extent, any real engineering work could not start before a decision was formally made and delivered to NDS that we were going to exercise that right.

And we could not do that any earlier than August of 2001.

- Q. Now, at the time DirecTV entered into the CALS agreement in August 1999, did the security or piracy of the Nagra-Kudelski system or the NagraStar-EchoStar system play any role in DirecTV's decision to enter into the CALS agreement?
- A. It was one of many, many factors that would be considered. But the specific piracy status at that time was really -- was really of little importance.

And to explain what I mean, we understood that the level of physical security provided by off-the-shelf, you know, secure chip cards that we're using in Smart Cards at that time -- that nobody provided enough security to combat the level -- the sophisticated level of piracy that was

rampant in the mid- to late '90s. The pirates were very sophisticated, and the manufacturers hadn't quite caught up.

So we understood that a whole development effort would be needed, and that's actually what -- what happened, to develop a new generation of Smart Card that was actually designed to be resistant to the type of attacks that were -- were being used at that time.

So we understood that a lot of work was gonna be needed by all the companies involved and that DirecTV also understood that no matter who the vendor was at that point, DirecTV was committed to taking a very, very active role in defining what the security requirements were. DirecTV were committed to having outside experts give us information and maybe technology. We were committed to having outside security review companies perform independent reviews.

So these were all things we were planning to do. And, you know, the card that was being used at the time by EchoStar was, I think, a three -- almost three years old. You know, whether it was hacked or not, it was due to be hacked because of its age and its, you know, it was of a generation of card that was not up to par to the level of pirates. So we expected to work closely with whoever we worked.

I would say we were much more interested in discussions with Nagra-Kudelski and the level of technical expertise

- 1 that they had in antipiracy and in security and -- and -- so
- 2 | it's almost how they responded to the piracy was more
- 3 interesting than the fact that there was piracy.
- 4 Q. And at any time did you -- withdrawn.
- 5 At any time did DirecTV negotiate with Nagra-Kudelski
- 6 to replace NDS starting in 1999?
- 7 A. No.
- 8 Q. And at any time did DirecTV negotiate with NagraStar or
- 9 EchoStar to replace NDS, whether starting in 1999 or at any
- 10 other time?
- 11 A. No.
- 12 Q. Did DirecTV ever exercise its option to choose the
- 13 successor vendor?
- 14 A. Yes.
- Q. When did DirecTV exercise that option?
- 16 A. It was sometime in March of 2002.
- Q. Okay. Who did DirecTV choose?
- 18 A. DirecTV chose itself.
- 19 Q. Why did DirecTV choose itself?
- 20 A. Well, going back through the whole period of time we're
- 21 talking about, there was a strong feeling within the
- $^{22}$  engineering management at DirecTV that in order to really
- have full control of our destiny, we needed to be in charge.
- 24 And the question was, did we have the capabilities or could
- we get the relationships with vendors and experts that would

enable us to do that.

And during the '99/2000/2001 time frame, DirecTV worked very closely with NDS and with external security experts to jointly develop a card, the P4 card. And at the same time, we were fortunate enough to pick up some new employees that had very deep experience in the security environment coming from earlier work on government security work for NSA. And together with those employees, they had associates who were also ex-NSA people who had their own company. And other experts.

So we'd built up a team of experts both within DirecTV and within other companies that were working with us that gave us a strong sense of confidence in the security of the P4 card and also gave us a strong sense of confidence that we were able to develop a next-generation card following that under DirecTV leadership.

So at that point -- and the CALS agreement very clearly spells out the right, both in the areas of successive vendor and/or parallel vendor and licensing technology -- spells out very clearly that DirecTV has the right to declare itself the successive vendor.

Q. At that time DirecTV made that decision to declare itself the successor vendor in March 2002, did the status of security of EchoStar or NagraStar's conditional access play any role in DirecTV's decision?

- A. No.
- Q. At the time DirecTV chose to declare itself the
- 3 successor vendor in March 2002, did DirecTV ever consider
- 4 contracting with NagraStar or EchoStar to be the successor
- 5 vendor?
- 6 A. No. And by that point, we were very committed to and
- 7 had been for some time beforehand strong -- I mean, as our
- 8 | confidence built, there was no -- there was no question in
- 9 our minds. We were not looking at alternatives at that
- 10 point. And certainly the Nagra-Kudelski alternative was
- 11 not -- was not on the horizon on as a successor vendor.
- 12 Q. Now, stepping back to Exhibit 1566 for just a moment,
- ask you to turn to Page 4 of that exhibit.
- Before I ask you about the provision of that agreement,
- 15 did DirecTV ever tell NDS that DirecTV had entered into this
- 16 study agreement with Kudelski in April '99?
- 17 A. No.
- 18 Q. And isn't it true that this agreement requires DirecTV
- 19 to keep that fact secret from NDS?
- 20 A. Well, there's a stipulation here of confidentiality.
- 21 Q. And it says, "Each party agrees to keep secret, to hold
- $^{22}\mid$  in strictest confidence and to protect from disclosure the
- existence of this letter agreement and the substance of its
- terms and provisions," correct?
- 25 A. Correct.

- Q. Now, you mentioned the P4 a minute ago. What was the
- 2 P4?
- 3 A. Well, it's the fourth generation or fourth period in
- NDS terminology, the fourth generation Smart Card that NDS
- 5 provided to DirecTV.
- 6 Q. When did DirecTV begin putting the P4 card into the
- 7 field?
- 8 A. Around about April of 2002.
- 9 Q. Has the P4 card ever been hacked?
- 10 A. Not to my knowledge.
- 11 Q. Does the P4 card remain secure up until today?
- 12 A. Yes, it has.
- Q. As you sit here today, does News Corporation have any
- ownership interest or control of DirecTV?
- 15 A. No.
- MR. EBERHART: Pass the witness.
- THE COURT: This is going to be cross-examination
- 18 by Mr. Hagan on behalf of EchoStar.
- 19 CROSS-EXAMINATION
- 20 BY MR. HAGAN:
- Q. Good afternoon, Mr. Kahn.
- 22 A. Good afternoon.
- Q. Now, you just testified that as you sit here today,
- News Corporation has no controlling interest in DirecTV; is
- 25 that correct?

- 1 A. It's correct.
- Q. But that hasn't always been the case, has it, sir?
- 3 A. That's correct.
- 4 Q. In fact, DirecTV at one point sued NDS, correct?
- 5 A. At two points, yes.
- Q. And after that lawsuit was filed, News Corp. came in and bought the controlling interest of DirecTV, correct?
- MR. EBERHART: Objection. Vague.
- 9 THE COURT: Overruled.
- You can answer the question, sir.
- THE WITNESS: Well, I'm -- I'm struggling with the
- 12 time frames. There was a lawsuit that DirecTV filed towards
- the end of '01, which was roughly the time frame when
- 14 EchoStar was in negotiation to acquire DirecTV. And then
- 15 the -- and I'm not sure.
- I think the timing of when the EchoStar deal fell
- through and when the News deal was first announced, the
- 18 | timing of that announcement and the filing of that lawsuit
- were around about the same time. And they could have been
- 20 | plus or minus a month of each other in either direction, I'm
- 21 not sure.
- 22 BY MR. HAGAN:
- Q. Do you recall my question Mr. Kahn?
- 24 A. Whether the...
- Q. Let me reask it.

- 1 A. Okay. Go ahead.
- Q. After DirecTV filed two lawsuits against NDS,
- News Corp. bought controlling interest of DirecTV, correct?
- 4 A. So News Corp. -- it's correct that they bought
- 5 | controlling interest. And I was just trying to figure out
- 6 whether the controlling interest deal was closed or when it
- 7 first happened relative to the second filing. But you may
- 8 be correct if you have the dates in front of you.
- 9 Q. And then after News Corp. bought the controlling share
- of DirecTV, that second lawsuit went away, correct?
- 11 A. Eventually it went away.
- 12 Q. Now, once News Corp. purchased the controlling share of
- DirecTV, new agreements were reached between DirecTV and a
- 14 | number of News Corp. affiliates, correct?
- 15 A. Once the -- yeah, once the controlling interest was
- 16 complete.
- 17 Q. And then right before this trial started, earlier this
- 18 | year News Corp. sold its interest in DirecTV, correct?
- 19 A. That's correct.
- Q. Now, you talked a little bit about the P4 card and that
- 21 the P4 card is secure.
- There came a point in time in the development process
- of the P4 card that DirecTV demanded NDS take Chris
- 24 Tarnovsky off all -- any DirecTV-related projects, correct?
- 25 A. I believe so.

- 1 Q. Now, let's talk about the P3 card. That was
- compromised shortly after it was deployed, correct?
- 3 A. I believe so.
- 4 Q. Okay. And it's your understanding that Chris Tarnovsky
- was working on some of those P3 projects, correct?
- 6 A. I believe so.
- 7 Q. The P2 card was also compromised shortly after it was
- 8 deployed; is that right?
- 9 A. That's right.
- 10 Q. And you understand that Chris Tarnovsky also worked on
- some of those P2 projects?
- 12 A. I'm not sure.
- 13 Q. Well, once you demanded that NDS take Tarnovsky off of
- 14 | the P4 projects, then you launched the P4, there's no more
- 15 piracy, correct?
- 16 A. I don't see the relationship.
- Q. You would agree that there was no more piracy after you
- 18 | launched the P4 card. I think that was just your testimony;
- 19 isn't that right, sir?
- 20 A. No, I didn't say that.
- The piracy only ended once we were able to completely
- replace all of the P2 and P3 cards that were pirated. So
- piracy only ended when we finally turned off the P2 and P3
- 24 cards somewhat in the early 2004 time frame.
- 25 Q. You simulcrypted the stream during the time that you

- 1 | were doing the swap-out, right?
- 2 A. That's correct.
- Q. And once you turned off the stream to everything except
- 4 the P4 card, the one that Chris Tarnovsky was not allowed to
- 5 work on, piracy stopped?
- 6 A. Correct.
- Q. And you're still secure today; is that right?
- 8 A. Well, let me put it to you this way: The issue with
- 9 Tarnovsky occurred much, much earlier. And P2 and P3 piracy
- 10 continued. And there were many different providers of
- P2 and P3 piracy that continued right until the turnoff of
- 12 those codes in 2004.
- Q. Let's go back to the 1994-'98 time frame.
- During 1994 to 1998 the DirecTV system here in the
- 15 United States was compromised, correct?
- 16 A. Starting late in '95.
- Q. And then EchoStar launched in 1996, right?
- 18 A. I don't know.
- 19 Q. In the '96, '97, most of '98 time frame, EchoStar's
- 20 security system was not compromised, correct?
- 21 A. Okay.
- 22 Q. In fact, that was one of the reasons why, when you
- 23 started looking for providers to swap out to, you looked at
- the Kudelski system or the Nagra system, correct?
- 25 A. No.

- 1 Q. You said in your previous testimony that you looked at
- other providers, not just Nagra. You included Seca, Canal+
- 3 and Irdeto, correct?
- 4 A. Correct.
- Q. Are you aware that during this time frame when you were
- 6 | considering Seca system, the Canal+ system, the defendants
- 7 reverse-engineered that system in their Haifa facility?
- 8 Were you aware of that?
- 9 A. Not, not at the time.
- 10 Q. And when you were looking at the Nagra system back in
- 11 | 1998, were you aware that the defendants reverse-engineered
- 12 that system in their Haifa facility?
- 13 A. No.
- 14 Q. Were you aware that in that same time frame when the
- defendants' engineers, David Mordinson and Zvi Shkedy,
- developed a method to hack the Nagra system in the
- 17 United States?
- 18 A. I certainly was not aware of that.
- 19 However, I should point out that DirecTV was aware of
- 20 the fact that as part of NDS's good business practice, they
- 21 | were evaluating security. And they were evaluating -- and
- 22 they were evaluating the security of their system and they
- were evaluating the security of the competition and it's not
- 24 surprising and --
- 25 Q. The Seca system, the Canal+ system, the Nagra system

- 1 and the Irdeto system?
- A. Well, and also they were evaluating security of chip
- 3 cards where the --
- 4 Q. Mr. Kahn, I want to talk just about those.
- THE COURT: Just a moment. You're talking over each other.
- Finish your answer.
- THE WITNESS: As part of their good business
- 9 practice, they were evaluating the chip cards that they were
- using, the potential cards they could use, and the cards
- 11 that everyone else was using. So reverse engineering to
- 12 | learn wasn't a reasonable thing to do for a security
- company.
- 14 BY MR. HAGAN:
- Q. Let me try to break this up a little bit. During the
- 16 | 1998 time frame, DirecTV became dissatisfied with the
- compromise of the technology provided by the defendants,
- 18 | correct?
- 19 A. Oh, it's correct that there was dissatisfaction and --
- 20 and earlier.
- Q. And then DirecTV started to shop around to see what
- 22 their options were if they wanted to switch out its
- 23 conditional access platform, correct?
- A. Well, as I described earlier, there were many options
- 25 that we considered. And one of the options was a swap, but

1 it was by no means the highest option in our minds. And, in 2 fact, most of the people in engineering were very skeptical 3 about the feasibility of that. 4 And also there were -- as I mentioned before, there was 5 a very strong sense within the engineering management that 6 DirecTV should try to, if possible, become their own 7 provider. 8 There was no reason to believe that an alternative CA 9 company would give us more control at better cost without 10 the same types of issues that we had experienced before. 11 You know, and -- you know, yeah, the state of piracy at that 12 time wasn't a big consideration, if at all. 13 So we were considering all these options. And 14 definitely, the answer to the way you framed your question, 15 it would be, no. No. 16 Let me see if I can ask it another way. Was one of the 17 options that DirecTV was considering in 1998 switching to 18 another conditional access provider? Yes or no? 19 MR. EBERHART: Objection. Vague. 20 THE COURT: Do you understand the question, sir? 21 THE WITNESS: Yes. 22 DirecTV was, as one of the options, considering 23 switching, in whole or in part, to another conditional 24 access provider, which could be DirecTV or it could be one

25

of the existing companies.

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1
               Or another option that DirecTV explored with
2
     another company was acquiring that company and therefore
 3
     following the option of DirecTV through -- through its
 4
     acquisition. So there were many options.
5
               THE COURT: Debbie, the objection is overruled.
    BY MR. HAGAN:
7
         Mr. Kahn, of those other conditional access providers,
8
     if I understood your testimony correctly, some of those
9
     options included Seca, Canal+, Nagra, and Irdeto,
10
     correct? -- among others.
11
    Α.
          Among others. Those were companies we spoke to.
12
          And at that time you had no knowledge that the
13
     defendants were engaging in efforts in their Haifa facility
14
     to reverse-engineer those systems; is that right?
15
    Α.
          Correct.
16
         Now, let's take a look at Exhibit 1565.
17
          Is Exhibit 1655 (sic) the correspondence that contained
18
     the RFI, or request for information, that DirecTV sent out
19
     in August of 1998?
20
               THE COURT: Is this 1655 or 1565?
21
               MR. HAGAN:
                          1565.
22
               THE COURT: 1565. Thank you.
23
               THE WITNESS: Yeah, this looks like a copy of a
24
     similar letter that was sent to many other companies.
25
               MR. HAGAN: Your Honor, at this time we'd offer
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- 1565 into evidence. 2 THE COURT: Any objection? 3 MR. EBERHART: No objection. 4 THE COURT: Received. 5 (Exhibit No. 1565 received in evidence.) 6 (Document displayed.) 7 BY MR. HAGAN: 8 All right. Now, this RFI that DirecTV sent to Nagra, this is dated August 3rd, 1998, correct? 10 Correct. 11 And "RFI," that stands for request for information, Q. 12 right? 13 Α. Correct. So as of August of '98, DirecTV was writing to Nagra 14 15 and asking them to provide information. What did that 16 information relate to? 17 Relate to the -- to providing conditional access 18 services all -- in complete or in part for the DirecTV 19 system. 20 Now, DirecTV also sent out what was called an "RFP"; is 21 that correct? 22 In this case DirecTV did not send out an RFP.
- 23 Did DirecTV enter into a signed letter contract with
- 24 Nagra in or around March of 1999?
- 25 That's correct. We saw that earlier.

- 1 Q. Do you have Exhibit 1566 in front of you?
- 2 A. Yes.
- MR. HAGAN: Clint, if you could blow up the first
- 4 page of that, please.
- Your Honor, this has already been admitted into evidence.
- 7 (Document displayed.)
- 8 BY MR. HAGAN:
- 9 Q. And is Exhibit 1566 a copy of the letter contract, the
- 10 study contract that DirecTV executed with Nagra?
- 11 A. Yes, it is.
- Q. And if you'll look at the page marked at the bottom
- 13 right-hand corner CISO4143, it's three pages in.
- 14 At the top it says, "This letter agreement effective
- April 1, 1999, confirms the engagement by DirecTV
- 16 | Enterprises, Inc. of Kudelski SA to review and analyze the
- technical and financial impacts for the development by
- 18 Kudelski for DirecTV of a totally new conditional access
- 19 system, the CA system."
- Did I read that correctly, sir?
- 21 A. Correct. "Which will interface with all business
- operations and broadcast systems of DirecTV but be
- completely independent of and parallel to the CA system
- 24 | currently used," et cetera.
- 25 Q. Let's take a look at Exhibit 1035.

While we're getting that out, Mr. Kahn, you became aware at some point that Nagra provided what they call the Phoenix, or the white paper, to DirecTV that set forth their proposal for this totally new conditional access technology, correct?

A. Well, this wasn't a proposal. This was, to a large extent, a joint effort in us helping Nagra to understand the dimensions of the problem of fitting their system into our other business systems, and -- and them laying out all the pieces from their perspective that would need to change.

So this was -- as I had previously testified, this was giving us an understanding of all of the systems that would need to be changed and the level of engineering effort that would be required if such an option were to be contemplated.

- Q. Okay. And this Phoenix white paper, is this what DirecTV paid Nagra \$100,000 to develop?
- 17 A. Well, this was the final output of that study.
- Q. And the front page of Exhibit 1035, it's an e-mail from
- 19 Greg Gagnon to, among other people, Raynold Kahn. That's
- 20 you, correct?

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- 21 A. Correct.
- Q. Do you recall receiving this?
- 23 A. Yes.
- MR. HAGAN: Your Honor, at this time I'll offer
  Exhibit 1035 into evidence.

THE COURT: Any objection? 2 MR. EBERHART: None, Your Honor. 3 THE COURT: Received. 4 (Exhibit No. 1035 received in evidence.) 5 (Document displayed.) BY MR. HAGAN: 7 If you will look at page 3 of Exhibit 1035 -- it would 8 probably be page 4 of yours. There are two cover sheets --9 MR. HAGAN: Clint, go back to DTV044337. 10 Thanks. 11 BY MR. HAGAN: 12 Now, Mr. Kahn, is this the Project Phoenix white paper 13 that you reviewed from NagraVision? 14 Α. Yes. 15 Now, ultimately DirecTV decided not to switch to the 16 NagraVision conditional access technology, correct? 17 Well, as I said, DirecTV was thinking about a lot of 18 things. And ultimately DirecTV decided that DirecTV would 19 continue with the existing conditional access system but 20 provided by DirecTV. 21 My question was very simple, sir. Ultimately DirecTV 22 decided not to switch to NagraVision's conditional access 23 technology, correct? 24 A. Well, as I also testified earlier, even going into this 25 process, it was the opinion of most of the engineering staff

- that such an option was not really feasible. And this white
  paper only reinforced that concept. And it really wasn't
  considered seriously at the time of the white paper or
- So DirecTV made a decision which was to keep the existing infrastructure and -- and to become its own successor CA.
- Q. So, in other words, you decided not to switch to
  Nagra's technology, right?
- 10 A. (No audible response.)

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afterwards.

- 11 Q. It's a simple question, Mr. Kahn.
- A. Well, you're trying to put words in my mouth. And I
  don't think there was ever any serious contemplation of what
  you're describing.
- 15 Q. Let's take a look at --
- A. As was described, when you use that term "switch," it leads people to think that you just need to take the Smart Cards and switch them out. And so that's why I'm kind of staying away from that.
  - And, you know, I would also imagine that part of the due diligence we did with Nagra was to deflect executive or board member comments that our executives have to face when they might have faced similar kinds of comments, "Well, why don't you just switch?"
- Well, it's not that easy. And so none of the study or

- the -- neither the study nor the state of piracy contributed to the decision we made.
- Q. Let's take a look at Exhibit 530.
- Do you know a gentleman name William Kollar?
- 5 A. Sure.
- 6 Q. Mr. Kahn, do you know a gentleman named William Kollar?
- 7 A. Yes, I do.
- 8 Q. Who's that?
- 9 A. He's a contracts manager at DirecTV.
- 10 Q. And this is a letter from Mr. Kollar at DirecTV to Alan
- Guggenheim, dated October 6, 1999; is that correct?
- 12 A. Correct.
- Q. And in this letter DirecTV informs Mr. Guggenheim as
- 14 follows: "Dear sir, DirecTV has completed its evaluation of
- 15 your response to our conditional access request for
- 16 information. At this time DirecTV is not pursuing the
- 17 request for proposal effort for the conditional access
- 18 service. In light of this, DirecTV is returning to you the
- 19 following items" -- and then it lists a couple of items.
- Now, does this refresh your recollection on whether or
- 21 not DirecTV decided not to switch to Nagra's conditional
- 22 | access platform?
- 23 A. Well, DirecTV sent a request for information. The
- 24 normal process, if a contract is gonna be awarded, is a
- 25 request for information and a request for proposal,

1 evaluation of proposals, et cetera. 2 So we requested information and then, in order to close 3 out that process, sent letters to everybody saying thank you 4 very much, at this time we're not pursuing it. 5 But in the context of what I described earlier, we had been planning to and had negotiated with NDS for a CALS 7 followup. And we were well aware of the fact that we were 8 not able to make a decision like this, and we didn't have 9 the intellectual property rights to make that decision until 10 much later. And we had set the tone in our contract to 11 evaluate that in the 2001 time frame. 12 So this letter is not -- we've decided -- this letter 13 is the process -- is not going to continue with an RFP at 14 this point. Thank you very much. And we're going to think 15 about it and decide later what we're gonna do. 16 And everybody on the list got the same form letter. 17 This is not a specific form letter to, you know, to Nagra. 18 And in any case not based on the white paper which is dated 19 a month later. 20 MR. HAGAN: Your Honor, I offer Exhibit 530 into 21 evidence. 22 THE COURT: Any objection? 23 MR. EBERHART: None, Your Honor. 24 THE COURT: Received. 25 (Exhibit No. 530 received in evidence.)

1 (Document displayed.)

- 2 BY MR. HAGAN:
- 3 Q. Now, in 1999, if I understood your testimony this
- 4 | morning, DirecTV entered into a new agreement with the
- 5 defendants, correct?
- 6 A. '99, correct.
- Q. And from 1999 until 2005, DirecTV used, at least in
- 8 part in each of those years, conditional access technology
- 9 provided by the defendants, correct?
- 10 A. Correct.
- 11 Q. And the revenues between 1999 and 2005 for the
- defendants, based on that contract with DirecTV, was
- 13 approximately \$828 million.
- Does that number sound right to you?
- 15 A. I can't really comment on that, but it's probably in
- 16 the right ballpark.
- 17 Q. Okay.
- 18 A. And that includes other -- I don't know whether that
- 19 includes other or not. But during the 2004-2005 time frame,
- 20 DirecTV was involved in other business and technical
- 21 agreements with NDS in which we received software for
- 22 set-top boxes and DVR services.
- So I'm not quite sure of the numbers or whether the
- 24 number you quoted includes all of the above or not.
- 25 Q. Let's see if we can do this an easier way.

MR. HAGAN: Christine, can you give Mr. Kahn a 1 2 copy of Exhibit 650. 3 This is already in evidence, Your Honor. 4 (Document displayed.) 5 BY MR. HAGAN: Mr. Kahn, I'll represent to you that Exhibit 650 is a 7 document that was produced to us by the defendants in this 8 case, and it represents the revenues received from the 9 DirecTV account for the years 1998 through 2007. 10 The numbers reflected below each year are in millions. 11 And let's just go through each year. 12 A. Could I just ask you whether you believe this is for 13 conditional access services or for all revenue for all 14 services? 15 That's certainly a question that you could ask the 16 defendants. They produced the document, Mr. Kahn. 17 MR. EBERHART: I object that the question is vaque 18 and --19 THE WITNESS: I should point out that I'm an 20 engineer who, in my technical capacity, really doesn't get 21 involved in financials. So I can look at this document and observe what you can. 23 BY MR. HAGAN: 24 Well, let's just go through each year quickly. 25 Α. Sure.

- Q. 1998, what are the revenues for 1998 in millions?
- 2 A. 45 and a half million.
- 3 Q. 1999?
- 4 A. 94 and a half million.
- 5 Q. 2000?
- 6 A. 94 million.
- 7 Q. 2001?
- 8 A. 91.5 million.
- 9 Q. 2002?
- 10 A. 112.
- 11 Q. 2003?
- 12 A. 155 million.
- 13 Q. 2004?
- 14 A. 81 million.
- 15 Q. 2005?
- 16 A. Almost 200 million.
- 17 Q. 2006?
- 18 A. 202,000,000.
- 19 Q. 2007?
- 20 A. 194 million.
- 21 Q. Now, that's a total of how much?
- 22 A. \$1,271,000,000.
- 23 Q. So that would be 1.2 billion?
- 24 A. Correct.
- Q. Now, you would agree with me, sir, that that's revenue

1 that the defendants would not have received had DirecTV not 2 renegotiated a deal with them, at least from the '99-forward 3 period, correct? 4 In other words, you weren't going to pay them unless 5 they were providing you your conditional access technology, 6 right? No, that's not correct. Because part of the letter 8 agreement -- the letter extension of 1998 had terms where we 9 would continue paying them until such time as a follow-up 10 agreement occurred or until such time as the P3 cards were 11 replaced by some other card. And that time would have 12 been -- I mean, the amount of time for that all to occur 13 would have meant that we, if we hadn't signed that agreement 14 in '99, would have continued paying NDS and receiving NDS 15 services until, you know, certainly the majority of the 16 years in question, under the old pricing structure, which 17 may have -- which probably would have been less beneficial 18 to DirecTV compared to these which were renegotiated. 19 Now, during your testimony this morning, you said that 20 the piracy of EchoStar's system in the United States was a 21 factor in DirecTV's decision not to swap systems, correct? 22 MR. EBERHART: Objection. Misstates prior 23 testimony. 24 THE COURT: Just restate the question.

25

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- 1 BY MR. HAGAN:
- Q. Mr. Kahn, was the piracy of EchoStar's conditional
- 3 access system in the United States one of the factors that
- 4 DirecTV considered when it decided not to switch conditional
- 5 access platforms?
- 6 A. If I recall, what I said was that it was one of the
- 7 | factors, and that we were more concerned about how
- 8 EchoStar/Nagra responded to the piracy than we were about
- 9 the fact of the piracy.
- 10 Q. So it was a factor, right?
- 11 A. It was one of the many factors. And not one -- and not
- 12 a big one.
- Q. Now, are you involved at all in DirecTV's antipiracy
- 14 efforts?
- 15 A. I have been.
- 16 Q. Were you involved in those antipiracy efforts in the
- 17 year 2001?
- 18 A. I was involved in the antipiracy efforts starting in
- 19 1995 until such time as piracy ended. And it was as a
- 20 technical adviser to the -- primarily in countermeasure
- 21 development and scheduling and launching strategies.
- Q. Were you involved at all in the decision-making
- process -- let me rephrase that.
- Were you involved at all in DirecTV's decision to
- 25 instruct NDS to keep Chris Tarnovsky off of any P4-related

- 1 projects?
- 2 A. No, I was not.
- Q. Okay. Were you aware that DirecTV made that decision
- 4 and made that demand of the defendants?
- 5 A. Not at the time.
- 6 | Q. You didn't attend meetings where that particular issue
- 7 was discussed?
- 8 A. No. That was a business issue and that was an issue
- 9 related to operational antipiracy, and I was not involved at
- 10 all in either of those two.
- 11 Q. You are aware, though, that DirecTV did make that
- 12 request of NDS; in other words, take Chris Tarnovsky off of
- 13 | all P4-related projects?
- 14 A. Well, I became aware, in reviewing some of the
- documentation, that you requested DirecTV to give evidence
- on earlier, in the middle of last year. So I became aware
- by seeing letters to that effect --
- 18 Q. Now --
- 19 A. -- but I was not specifically aware. I mean, I may
- 20 have heard hallway chatter, but I was definitely not part of
- 21 any meetings about the decision and evaluating what the
- causes were.
- Q. So you were kept in the dark with respect to any issues
- 24 related to Chris Tarnovsky?
- 25 A. To a large extent.

- 1 Q. Now, let's take a look at Exhibit 610-A.
- MR. HAGAN: Your Honor, this has already been
- 3 admitted into evidence.
- 4 (Document displayed.)
- 5 BY MR. HAGAN:
- Q. This is a joint memorandum between various
  representatives of NDS and DirecTV dated August 28, 2001.
- Mr. Kahn, I want to just focus your attention on one
- 9 specific issue. If you'll look at page 3, which has the
- 10 Bates stamp DTV002114. The second full paragraph down,
- 11 there is a reference to an outside vendor called Internet
- 12 Crimes Group, Inc.
- Are you familiar with ICG or DirecTV's use of ICG in
- 14 its antipiracy efforts?
- 15 A. Well, I'm not personally or directly aware. But I
- became aware in my preparation for my representation as a --
- as DirecTV's representative at a deposition that you took of
- 18 me in June of last year.
- 19 Q. Right. You understood at that time that you were being
- designated by DirecTV as a spokesperson --
- 21 A. Correct.
- Q. -- for the company?
- 23 A. Right. And so therefore I was educated about ICG. I
- had no knowledge prior to that point about ICG.
- Q. Now, as you prepared to testify as a company

- 1 representative, you read and reviewed a number of reports,
- 2 correct?
- 3 A. Correct.
- 4 Q. And some of those reports were reports that were
- 5 | prepared by Internet Crimes Group as part of DirecTV's
- 6 | lawsuit against NDS, correct?
- 7 A. Some of those reports were reports that ICG prepared
- 8 for either DirecTV or DirecTV's legal team or outside
- 9 counsel.
- 10 Q. And DirecTV still uses Internet Crimes Group to this
- 11 day to assist them in Internet threat communities, Internet
- 12 investigations into piracy activities, correct?
- 13 A. I have no knowledge of that.
- Q. DirecTV relies upon the expertise of Internet Crimes
- Group in their antipiracy efforts; isn't that right, sir?
- 16 A. I have no knowledge of that.
- Q. Well, when you read the reports, the ICG reports, did
- 18 you see any particular report linking Christopher Tarnovsky
- 19 to piracy?
- 20 A. I read reports, and I also in my preparation reviewed
- 21 the depositions of members of ICG --
- 22 Q. Now --
- 23 A. -- and --
- Q. So you reviewed reports from ICG linking Chris
- 25 Tarnovsky to piracy, correct?

- 1 A. I reviewed reports which -- in which ICG were
- 2 investigating the possibility of links between Chris
- 3 Tarnovsky and certain Internet names. And that was one of
- 4 the things that they were asked to do, and that was what
- 5 they were reporting on. And they reported that they had
- 6 found no connections at that time. And I think their
- 7 testimony as well reflected the same.
- 8 Q. It's your testimony here today under oath that you
- 9 believe that the ICG reports given to DirecTV indicated that
- 10 they found no connection between Chris Tarnovsky and piracy;
- 11 is that correct?
- 12 A. Oh, Chris Tarnovsky and piracy. I don't remember any
- 13 | specific connection, but I think it is known that Chris
- 14 Tarnovsky was involved in piracy at some time in his career,
- and I'm aware of that. So I wouldn't be able to give
- 16 testimony relative to ICG, but...
- 17 Q. So we should just rely on the reports that ICG prepared
- and submitted to DirecTV, right?
- 19 A. I think, if you have such reports, there would be.
- 20 Q. Thank you. Now, shortly after DirecTV received these
- 21 reports from Internet Crimes Group, that was when the
- 22 company made the decision to instruct the defendants to
- exclude Chris Tarnovsky from any projects relating to the P4
- 24 card, correct?
- 25 A. Well, I can't comment on the exact timing. I know that

there were other issues.

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But I also -- from the perspective of DirecTV, DirecTV did not feel nearly as comfortable as NDS did and as many others in banking security and other areas. DirecTV did not feel comfortable using ex-pirates as part of the inner circle that works on security. And so by definition, DirecTV had a different perspective.

And there were other factors that led DirecTV to request that he not work on that. I was not party to that and I don't know what all the factors were. But I do know that I would have felt uncomfortable with revealing company secrets to people who were ex-pirates.

- Q. And that's your own company's secrets, right?
- 14 A. Correct.
- Q. Would you feel just as uncomfortable revealing company secrets of your competitors?
  - A. Well, I wouldn't feel comfortable revealing secrets to anyone and certainly not anyone that I knew and trusted.

    So, you know, I could imagine a scenario where over time I might develop a trusting relationship with someone who had a
- checkered history, but -- but at first glance I wouldn't do

22 that.

And DirecTV came from a different perspective. When we went to hire experts, we were looking to -- you know, we came from Hughes Aircraft and Hughes Defense. We were

- 1 looking to -- people who had worked in government security,
- 2 people who had security clearances from the U.S. government.
- We weren't looking to people who were part of a shady
- 4 background.
- But I understand that it's common in the security
- industry to use ex-pirates as experts to become -- to
- 7 protect against piracy in the future.
- 8 So that's a personal bias I have felt and also, I
- guess, an institutional bias that -- that DirecTV would
- 10 have. But that's a matter of opinion.
- And I can't comment on whether that was in whole or in
- part the rationale for that letter. I mean, I...
- Q. Do you know an individual named Jim Butterworth?
- 14 A. Yes.
- 15 Q. Who is that?
- 16 A. He is currently a senior vice president of engineering
- 17 at DirecTV.
- 18 Q. What position did Mr. Butterworth hold in 1999?
- 19 A. Oh, I'm not sure. He may have been senior -- VP of
- 20 engineering at that time. The previous head of engineering,
- 21 Jeff Crosby, left, and I'm not sure of the time frame. And
- when he left, Jim Butterworth took over his duties.
- So I apologize. I'm a bit hazy about the dates of the
- 24 transition.
- Q. When did DirecTV first learn that EchoStar's security

- 1 | system in the United States had been compromised?
- 2 A. Well, I'm not a representative of DirecTV in that
- 3 respect. But I'm certain that the -- those within DirecTV
- 4 whose responsibility it was to follow Internet and piracy
- 5 status, such as our operational security people, were aware
- of that -- certainly as soon as it appeared on the Internet
- 7 and as soon as -- and maybe earlier if their confidential
- 8 sources told them about that.
- 9 But I -- I wasn't aware of it at the time. I became
- aware of it through -- it became public knowledge on the
- 11 Internet.
- 12 And so are you asking when we became aware of that
- 13 happened?
- 14 Q. Yes. You don't know?
- 15 A. So the time frame was in early '99 that I became aware
- 16 that EchoStar system had been hacked.
- 17 Q. That's you personally but not the company, right?
- 18 A. Right. I expect that the company -- the people who
- worked directly in that area became aware of it as soon as
- it happened and maybe had warning of it from their
- 21 undercover sources or even earlier, but I have no direct
- 22 knowledge of that.
- 23 Q. Or from NDS?
- 24 A. Certainly not.
- Q. You haven't seen a copy of the defendants' report that

- describes how to hack EchoStar's security system; is that
- 2 right, sir?
- 3 A. No. If there is such a report.
- $^4$  Q. Would it surprise you if there were such a report?
- 5 A. If there were an internal document within DirecTV
- 6 evaluating both the -- I'm sorry -- a document within NDS
- both evaluating the existing piracy based on Internet
- 8 information or based on their reverse engineering, in both
- 9 cases it would not surprise me.
- 10 Q. Now, have you ever seen any internal NDS reports that
- describe in specific detail how to hack DirecTV's
- 12 | conditional access technology in the United States?
- 13 A. I have not seen such a report.
- 14 Q. Okay. And if such a report existed, would you feel
- comfortable as the client, as DirecTV, if NDS shared that
- 16 information with Chris Tarnovsky?
- 17 A. Well, as I said before, I wouldn't be comfortable with
- 18 | sharing any secrets with Chris Tarnovsky.
- 19 Q. So if the defendants shared a report that described how
- 20 to hack EchoStar's security system in the United States that
- 21 the defendants admittedly developed with Chris Tarnovsky,
- 22 you wouldn't be comfortable with that either; is that
- 23 correct, sir?
- 24 A. Well, as I explained before, yeah, I definitely would
- 25 | not feel comfortable. But I understand that the -- that

- 1 there are other people in the industry who work differently.
- 2 And I understand that NDS had developed a trusting
- 3 | relationship with Chris Tarnovsky that I had no insight
- 4 into. So, you know...
- 5 Q. Let me --
- 6 A. I would not feel comfortable at first blush. But I
- 7 certainly could understand how they might -- such a
- 8 situation of trust might develop.
- 9 Q. You can understand how a situation would develop where
- 10 the defendants shared a report describing how to hack
- 11 EchoStar's security system with employees of the defendants
- who were previously involved in piracy. Is that your
- 13 testimony?
- 14 A. Well, I guess what I'm saying is, if there was somebody
- who was part of my engineering team that I had developed
- 16 trust with and if that person was an expert in techniques of
- piracy and antipiracy and if I could learn from him, I might
- do that.
- 19 Q. But we're not talking hypothetically, Mr. Kahn.
- 20 A. I understand.
- Q. We're talking about Chris Tarnovsky, the gentleman that
- 22 your company instructed the defendants to exclude from the
- 23 P4 projects. Let me reask my question, sir.
- Would you personally have felt comfortable disclosing
- detailed instructions on how to hack EchoStar's security

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     system to that gentleman, Chris Tarnovsky?
2
          I would not have felt comfortable disclosing
 3
     anything --
 4
     Q.
          Thank you, Mr. Kahn.
5
        -- to Chris.
 6
               THE COURT: Now, we're going to send you to lunch
7
     at this time.
8
               We took an early recess around 9:00 o'clock.
9
     You've been sitting there now for 2 hours and 20 minutes. I
10
     want to thank you for that extraordinary length of time.
11
    Usually we take a break.
12
               I'm going to ask you to come back at 1:00 o'clock,
13
     as we normally do.
14
               We're going to fill the day. And so when I said
15
     to you, you'd be going home early, I don't think so.
16
     you normally go home about 10:00 o'clock at night -- I'm
17
     just kidding you. About 3:00 to 4:00 o'clock usually. I'll
18
    probably hold to that pattern today, send you home in that
19
     time frame. Okay.
20
               Have a nice recess. Please don't discuss this
21
    matter amongst yourselves nor form or express any opinion.
22
               (Jury recesses.)
23
               THE COURT: Sir, if you would be kind enough to
24
     return at 1:00 o'clock.
25
               THE WITNESS: Okay.
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1
               THE COURT: Thank you very much.
2
               (Outside the presence of the jury.)
 3
               THE COURT: All right. The jury's no longer
 4
    present.
5
               I've been thinking about some of the Court's
 6
     comments, and I'm going to retract one of them; and that is,
7
    Mr. Snyder, you're welcome to conclude your case anytime you
8
     choose to.
9
               So if you would like to rest today, if we get to
10
     the information and that hearing and the Court's resolution
11
     and we still have the jury, you're not precluded from
12
     resting today.
13
               And, therefore, if you conclude, then I'll expect
14
     the rebuttal to start on Tuesday.
15
               And I want to think this out, though, and make
16
     absolutely certain that this is well thought out on both
17
     sides.
18
               I think, Mr. Snyder, Mr. -- Dr. Peled --
19
               Sir, if you would remain outside. You're a
20
     witness, and I don't chose to have you present.
21
               (Witness Kahn leaves the courtroom.)
22
               THE COURT: I want the full ramifications of this
23
     absolutely clear. Dr. Peled's taken his position; I've
24
     taken mine. The Court has wide discretion to comment upon
25
     evidence in a civil matter. In a criminal matter we do not.
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This is the minimal admonition I will be reading to the jury.

So, therefore, whether Dr. Peled returns or not is not my concern. I'll leave that to your wisdom in terms of whether you chose to contact. My guess is it may be difficult, after Dr. Peled made that choice to return to the United Kingdom, for him to return. He may choose not to. Maybe the train is already too far down the track, and I understand that. It may be an embarrassing phone call for you to make. I understand that.

But I would hope that the full recognition of what could occur would dawn on Dr. Peled.

I want to assume that in some way a verdict came back, in whatever amount, against NDS. And I want to assume that -- the circuit believed that the Court had even been too intrusive in this regard, although I believe I've set a very clear record from day one and that this should catch neither party by any surprise. In fact, I think I was most harsh with EchoStar in that regard.

You're a publicly traded company. The fact of a verdict has tremendous repercussions on the NASDAQ exchange. And if this Court was overturned in two or three years from now on this verdict, it affects your shareholders. You are not a private company as I deal with.

Now, Dr. Peled is not a United States citizen.

1 don't know his linkage. He's in the British system, which 2 is a partial jury system. But I would hope he reflects upon 3 this decision, and I hope he has time to reflect upon that. 4 And if he decides not to return, you will not be forced in 5 any way, but I will make the admonition that I've told you 6 about. I want to give you all that time, or no time. 8 That's up to you. So, therefore, I'll take my guidance from 9 now on. 10 If you wish to place a phone call or if you wish 11 to stand your ground with your present position, you're free 12 to rest your case today. But having made that statement to 13 you, you know the repercussions of that, and you know 14 exactly what this Court's going to do. 15 All right. Now, in terms of the hearing, there 16 was an informal request by Mr. Stone last evening to take 17 Mr. Emerson. 18 MR. STONE: Mr. Barr. 19 THE COURT: I'm sorry, Mr. Barr. My apologies. 20 Mr. Barr will not testify until I've had a full 21 and complete hearing outside the presence of the jury, just 22 as I indicated last evening. And Mr. Barr will follow along 23 after this gentleman and/or the tape, and then if we have 24 time, I will go back and try to thoughtfully make a

decision. And if the jury's still here, you may conclude

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     with Mr. Barr today. And, in fact, you may rest your case
2
     today.
3
               But I don't want to be discourteous and have you
4
     caught later complaining that you didn't know what action
5
     the Court was going to take or, minimally, you hadn't
 6
     contacted Dr. Peled and informed him of this Court's
7
    position. I think that would place counsel in an unfair
8
    position because, after all, it's Dr. Peled's decision, I
9
     assume.
10
               All right. Counsel, we'll see you at
11
     1:00 o'clock. Thank you.
12
               MR. SNYDER: Your Honor, is there any opportunity
13
     to have the hearing with Mr. Barr during some part of the
14
     lunch hour?
15
               THE COURT: (Shakes head.)
16
               (Lunch recess held at 11:47 p.m.)
17
               (Further proceedings reported by Jane Rule in
18
          Volume III.)
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3	CERTIFICATE
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5	I hereby certify that pursuant to Section 753,
6	Title 28, United States Code, the foregoing is a true and
7	correct transcript of the stenographically reported
8	proceedings held in the above-entitled matter and that the
9	transcript page format is in conformance with the
10	regulations of the Judicial Conference of the United States.
11	
12	Date: May 3, 2008
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