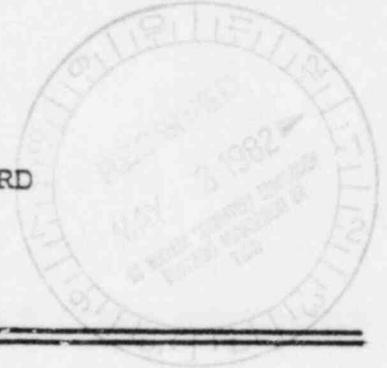


NUCLEAR REGULATORY COMMISSION

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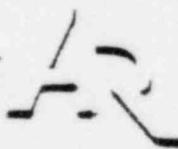
In the Matter of:

PALO VERDE : DOCKET NOS. 50-528 OL  
50-529 OL  
50-530 OL

DATE: April 28, 1982 PAGES: 358-608

AT: Phoenix, Arizona

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UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

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 In the Matter of: :  
 :  
 ARIZONA PUBLIC SERVICE COMPANY, et al. : Docket Nos.  
 : 50-528 OL  
 (Palo Verde Nuclear Generating Station, : 50-529 OL  
 : 50-530 OL  
 Units 1, 2 and 3) :  
 :  
 -----X

Courtroom 2  
 U.S. Courthouse & Federal  
 Building  
 230 North First Avenue  
 Phoenix, Arizona

Wednesday, April 28, 1982

Evidentiary hearing in the above-entitled  
 matter was resumed, pursuant to adjournment, at 9:15 a.m.

BEFORE:

DR. ROBERT M. LAZO, Esq., Chairman  
 Atomic Safety and Licensing Board

DR. RICHARD F. COLE, Esq., Member

DR. DIXON CALLIHAN, Esq., Member

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## 1 APPEARANCES:

2 ON BEHALF OF THE JOINT APPLICANTS, ARIZONA PUBLIC  
3 SERVICE COMPANY, et al.:

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23 Office of Executive Legal Director  
24 Washington, D.C.  
25



P R O C E E D I N G S

9:15 a.m.

1  
2  
3 JUDGE LAZO: Would the hearing come to order,  
4 please. Good morning, ladies and gentlemen

5 As a first order of business, we think we should  
6 continue with the limited appearances that we did not  
7 complete yesterday. I understand that Bob and Heather  
8 Larson are present. They had requested an opportunity to  
9 make a limited appearance. We also understand that John S.  
10 Schaper is present. Are there any others who did not get  
11 an opportunity to make a limited appearance statement  
12 yesterday who wish to do so now? Well, then I think we  
13 should limit this limited appearance session to let's say  
14 30 minutes and no more. If you could divide up the time.  
15 And who wants to start? Mr. Schaper. Very well. Thank you.

16 MR. SCHAPER: Mr. Chairman, my name is John  
17 Schaper. I'll try to limit my remarks to 10 minutes and  
18 no more than 15 and allow equal opportunity.

19 JUDGE LAZO: Thank you.

20 MR. SCHAPER: I'm an attorney. I represent the  
21 Buckeye Irrigation Company and the Buckeye Water and  
22 Conservation and Drainage District, which are the agencies  
23 in Buckeye, Arizona having the responsibility to provide  
24 irrigation water for approximately 19 thousand acres of  
25 land located in the Buckeye Valley.

1                   If I might refer to the map which Mr. Shea  
2 had here yesterday, the area we're talking about is in what  
3 I'll call the panhandle on the west side of the map.  
4 Approximately the bottom half of that irrigated land is the  
5 land served by the Buckeye Irrigation Company through the  
6 Buckeye Canal and other facilities.

7                   We are very interested in these proceedings  
8 because since 1959, all sewage affluent discharged by the  
9 City of Phoenix at 91st Avenue has entered the Salt River.  
10 It flows to the west, and at a point approximately six  
11 miles down stream, it has all been diverted into the  
12 Buckeye Canal and it has been a primary source of irriga-  
13 tion water for the farmers in the Buckeye Valley for  
14 approximately 20 years. The quantities of effluent have,  
15 of course, increased over that period of time. And in 1982,  
16 we are anticipating something in excess of 110 to 120  
17 thousand acre feet of effluent being placed in the river at  
18 91st Avenue. That is a significant part of the water  
19 supply which we have utilized during the past two decades.

20                   The controversy concerning water involves, I  
21 think, two somewhat distinct questions. The first is the  
22 legal issue about the right of APS to use effluent at Palo  
23 Verde. The second is what I would call the hydrology or  
24 the water supply question. Is there enough effluent  
25 available to meet the commitments and other commitments

1 which have been made by the City of Phoenix.

2           In considering those issues, I think the Board  
3 should understand that water is a finite resource in this  
4 part of the world, and in Arizona we are united in our  
5 determination to acquire it from California or from any other  
6 place we can find it. But once we get it here, we fight  
7 about it. Any question involving water is going to  
8 generate controversy. Controversy is the rule when you  
9 talk about water in Arizona and there's nothing exceptional  
10 about the controversy which is being presented to you at  
11 this time. It's the kind of thing that is inevitable when  
12 there are conflicting or competing claims or interests  
13 seeking to control that resource.

14           There are also problems presented by the fact  
15 that we have a bewildering array of court decrees and  
16 contractual arrangements and organizations, federal agencies,  
17 private agencies, municipalities, irrigation districts,  
18 all of which claim certain jurisdictional rights, rights  
19 of control and rights of use where water is concerned. I've  
20 been involved in this matter for over 20 years and I don't  
21 profess to know what all of those rights are. And I think  
22 that the Board is taking on quite a task in attempting to  
23 resolve that controversy in the present situation.

24           As an example, I would certainly not agree with  
25 the claims made by Mr. Shea yesterday about the applicability

1 of Ayed versus United States, which is a case which held  
2 that a federal reclamation project has a right to recapture  
3 water within the boundaries of the project. That case has  
4 never been applied to a municipal water distribution or  
5 sewage system which is owned and operated by a city or a  
6 town where that city or town pays all of the expense of  
7 developing the water, treating it and making it available  
8 for some beneficial use.

9 I'm sure Mr. Stephens, who is counsel for the  
10 Municipal Water Users Association, would agree with me.  
11 Now, I would not agree with Mr. Stephens about some things.  
12 I would not agree with him that a city necessarily has  
13 ownership of water. That is a subject which is one of  
14 great controversy. I would agree with him that a city has  
15 the right to enter into long-term contracts for the  
16 disposition of sewage effluent. That is a common practice  
17 in the Western United States. Those contracts exist not  
18 only in Arizona, but in other jurisdictions. The City of  
19 Phoenix has a contract with the companies which I represent,  
20 which has been in effect for approximately 12 years. And  
21 that contract commits the city to deliver 30 thousand acre  
22 feet of effluent annually to the Buckeye Irrigation Company.  
23 The City of Tuscon has contracts for the disposition of  
24 effluent. And those contracts are entered into on the  
25 theory that a city has the right in the operation of the

1 municipal treatment facility to dispose of effluent in a  
2 manner which is best suited to the interests of the public.

3 Now, in considering the use of effluent, I  
4 think that the Board should bear in mind that under existing  
5 regulations of the Department of Health Services in this  
6 state, effluent can be used as a practical matter for only  
7 two purposes. First, it can be used for industrial cooling  
8 as it would be used at Palo Verde. Second, it can be used  
9 for limited agricultural use for the production of crops  
10 which are not grown for direct human consumption. That  
11 means it can be used to grow cotton, feed grains, barley,  
12 wheat, sorghum, maize. But it cannot be used to produce  
13 row crops, truck crops, lettuce, onions, those types of  
14 vegetables which are marketed directly without processing.  
15 The lady yesterday who was concerned about not having  
16 lettuce to put in her refrigerator would not have obtained  
17 that lettuce out of field irrigated with sewage effluent.  
18 That type of irrigation is illegal in the state. It is  
19 also illegal to use sewage effluent for human consumption.  
20 It cannot be used as a domestic supply. Now, that is not  
21 to say that it could not be treated sufficiently to make it  
22 usable, but the effluent which is now produced by 91st  
23 Avenue and 23rd Avenue cannot form a part of the domestic  
24 supply and cannot, in its present condition, be placed  
25 in a municipal distribution system for domestic use.

1                   Now, under these circumstances, any right  
2                   which the City of Phoenix may have to recapture effluent,  
3                   under the terms of its contract with PVNGS, the Section 21  
4                   rights about which Mr. Stephens spoke, would depend upon the  
5                   city either being able to effect an exchange of that effluent  
6                   for other water, which could be used for domestic purposes,  
7                   or upon the city being able to incur the expense to treat,  
8                   recycle, and reclaim that water and pump it back into the  
9                   domestic system. I do not purport to know what the costs  
10                  of that are, but I know that they are substantial. And it  
11                  has always been my understanding that through the use  
12                  of existing technology, it would not appear economically  
13                  feasible to do that at this time. As for the exchange of  
14                  effluent for other water, that involves a tremendous number  
15                  of legal problems, involving court decrees, contracts, the  
16                  Central Arizona Project, controversies about the rights  
17                  of the city to enter into such exchange agreements, and  
18                  I don't want to go into all of those problems.

19                         But the reason I make these points is that I  
20                         do not believe that it is reasonably foreseeable that the  
21                         City of Phoenix or any other municipality will or could,  
22                         as a practical matter, exercise the rights of recapture to  
23                         which they have referred, within the foreseeable future.  
24                         Now, the reason this is all of interest to us is that every  
25                         drop of water which goes to Palo Verde is going to be a

1 drop of water which will not be available for irrigation in  
2 the Buckeye Valley. The water from 91st Avenue will go into  
3 a pipe line at the plant. It will not be discharged in the  
4 river. It will not flow down stream. It will not go into  
5 the Buckeye Canal. In anticipation of that, we have had an  
6 independent study made internally of the impact of that  
7 depletion of supply upon our water resources, our expenses  
8 and the future productivity of agriculture in the Buckeye  
9 Valley.

10           The conclusions which we have reached are first  
11 of all that using the most conservative data -- and I won't  
12 attempt to cover all of that because there are a number of  
13 variables involved -- there will be more than enough effluent  
14 produced from 91st Avenue during the period from 1982 through  
15 1988 to meet all existing contractual commitments which the  
16 City of Phoenix has to the Buckeye Irrigation Company, the  
17 Arizona Game and Fish Department and to PVNGS for the  
18 operation of Units 1, 2 and 3. Second, after meeting all  
19 those commitments, there will in all probability still be  
20 effluent discharged into the Salt River at 91st Avenue.  
21 There will be an excess over the contractual commitment.  
22 Third, we do not anticipate, under any stretch of the  
23 imagination, that the use of water at PVNGS will result in  
24 the retirement of any agricultural land which is now being  
25 irrigated with sewage effluent or that there will be any

1 significant change or depletion in production on that land.  
2 And fourth, we believe that there are adequate ground water  
3 resources now available to us to make up any deficiencies  
4 during the critical years. And those years are 1986, 1987  
5 and 1988.

6           There has been one point mentioned, and I'll  
7 just touch on it briefly, and that concerns the use and  
8 the value of effluent for agricultural irrigation. There  
9 seems to be a misconception about water that comes out of  
10 a sewage plant. Everybody thinks it's full of fertilizer.  
11 And it isn't. It is water. It is primarily valuable for  
12 agricultural irrigation because it is lower in soluble  
13 salts than ground water resources which are available in  
14 Western Maricopa County. The drawback to the use is that  
15 it cannot be applied on crops which provide the greatest  
16 cash return. And I'm speaking of produce, row crops,  
17 vegetables. Those are high yield, high dollar crops by  
18 comparison with grains and cotton. So that the value of  
19 effluent is there because it is water and not because it  
20 comes out of a sewage plant, at least from our standpoint.

21           There have been some studies about the use of  
22 effluent for irrigation purposes. They are, I think, in-  
23 conclusive because agricultural productivity depends upon  
24 so many variable factors that it's difficult to pinpoint  
25 one and say this is significant. Climate, temperature,

1        rainfall, soil conditions, farming practices, the amount  
2        of water applied, insect infestations, fertilization  
3        practices, and intangible, is the man a good farmer, these  
4        are all factors that bear on this question. So we really  
5        feel that any argument that effluent has a particular value  
6        for irrigation because it is effluent cannot be substantiated.  
7        It has value because it's water.

8                    In conclusion, I think, my points are these:  
9        First, we have always recognized the right of the city to  
10       contract with APS, to deliver this effluent, realizing that  
11       it would result in a depletion of some supplies available  
12       to us. I have seen and heard nothing recently which would  
13       change my opinion in that regard. And I have continued to  
14       advice my clients that there is a binding commitment by  
15       the City of Phoenix to deliver this effluent. We recognize  
16       that there will be some adverse impact on irrigation in  
17       the Buckeye Valley, but it is manageable, and it will not  
18       result in any impairment of any contractual obligation  
19       involving the City of Phoenix and the Buckeye Irrigation  
20       Company. And finally, we do not perceive that there will  
21       be any retirement of irrigated land as a result of the  
22       deliveries of effluent to PVNGS.

23                    I have nothing further, Mr. Chairman. I thank  
24       you for the opportunity to appear. I'm sorry that I wasn't  
25       able to stay until the end yesterday, but I would like to

1 commend the Board for their courtesy and patience which  
2 was shown to those who were here yesterday. Thank you.

3 JUDGE LAZO: Thank you, Mr. Schaper.

4 Now, the Larson's, Mr. and Mrs. Larson, are  
5 you going to make a joint presentation?

6 MR. LARSON: Yes. It will take about 10 to 15  
7 minutes is all.

8 JUDGE LAZO: Thank you, sir.

9 MR. LARSON: If possible, it would be easier  
10 for people to see if we could have at least half the lights  
11 turned down, if that would be possible. But that could  
12 happen in a few minutes. I think we will be able to see  
13 them, if that's too much trouble. Okay. Thank you.

14 JUDGE LAZO: Would you proceed, sir.

15 MR. LARSON: Thank you. Your Honors, we have  
16 been invited here today to represent that portion of the  
17 community which actively uses renewable energy. Allow me  
18 to introduce myself and my wife. I'm Bob Larson. My wife's  
19 name is Virginia Gurley. Together, we are a husband and  
20 wife team, each with a Masters Degree in education and we  
21 are working as energy educators and trainers. We are the  
22 authors of 'Arizona Community Action Association's manual,  
23 "Energy Training, a Low Income Approach. This is the  
24 manual here. I was the director of the People United for  
25 Self help, Energy Conservation Demonstration House. And we

1 have done extensive energy training with state programs  
2 including the Aqual Del Sol and Energy Crisis Intervention  
3 Programs from the Department of Economic Security. We  
4 travel throughout the state offering hands-on workshops in  
5 energy conversation and low-cost solar retrofitting techniques/  
6 In the ACAA training manual, we address ourselves to the  
7 energy future. We recommend a policy of sustainable self  
8 reliance in order to avoid vulnerability to disruptions of  
9 our energy supply, be it natural, man-made or technological.  
10 Energy use patterns of highly consumptive and expensive  
11 energy is strategically a very poor risk. If a crisis, be  
12 it natural or man-made, knocks one or more of the central  
13 power networks, the emergency repercussions will be felt  
14 like a chain reaction.

15 This morning, we would like to offer a brief  
16 presentation of a few slides that depict scenes from energy  
17 workshops held throughout the state. These workshops affirm  
18 solar energy as visible, viable, learnable, renewable  
19 solution to the expensive, non-renewable use of nuclear  
20 power.

21 MS. GERLY-LARSON: The sun is clean, renewable  
22 and available in good supply in all parts of this state.  
23 The sun is truly energy we can live with. In communities  
24 and towns of Arizona, we offer folks the opportunity to  
25 experience hands-on solar training and building their own

1 solar ovens, their solar hot-water bread boxes, thermos  
2 siphoned hot water systems, solar air heaters. Another  
3 workshop we present is solar food drying. Of all the ways  
4 to preserve food available to us today, using the sun is  
5 the oldest, the simplest and most economical method. Sun  
6 dried foods are nutritional. Cooking with sunlight is part  
7 of the self-reliant motivation that bypasses indiscriminate  
8 use of non-renewable resources to supply our domestic  
9 energy needs. Simply applied, solar cooking is utility  
10 free and provides a wholesome method of cooking. The joys  
11 of teaching a solar cooking workshop are many. It helps  
12 people save money, save electric energy, while learning  
13 the principals of converting sunlight into usefull heat  
14 energy. You can make entire meals from soup to dessert  
15 in the same oven at the same time. You can leave your food  
16 cooking passively in the sun and return from work or the  
17 courtroom with the complete meal prepared. With an array  
18 of cookers as a solar nutrition advocate, I demonstrate  
19 meals up to groups of 30 people. Solar cooking makes it  
20 possible to bake without heating up the house. Since the  
21 box is well insulated, the outside of the oven remains cool  
22 and safe to the touch.

23                   Assembling a solar oven takes between four to  
24 six hours. The materials you need is an Eco-cooker kit,  
25 aluminum foil, glue, brush and rags. It's a fun project.

1 Even kids can do it. The solar oven teaches the great  
2 potential for solar energy.

3 MR. LARSON: The primary purpose of a solar  
4 breadbox water heater workshop is to bring the current  
5 technology of solar water heating to a practical level for  
6 homeowner use. It includes professional plans and hands-  
7 on experience in building and installing an 80 gallon bread-  
8 box water heater system. This passive solar water heating  
9 system is simple to build, requires no pumps and integrates  
10 solar collection and storage.

11 The building process is as follows. First,  
12 framing, insulating, attaching the exterior plywood, sealing  
13 the interior seams, applying the reflective surface,  
14 assembling and caulking the glazing frame, tank placement  
15 into the chamber, and plumbing and installation instructions,  
16 and attaching and weather-proofing the glazing frame with  
17 -- to the breadbox chamber. Getting the breadbox to the  
18 site, level and as close to the existing water heater as  
19 possible is the next step. And explaining the basic  
20 plumbing and valve operation. Then the hands-on plumbing.  
21 Fully installed, the costs are minimal enough so that even  
22 a low-income family can afford this wise and safe use of  
23 solar energy.

24 There is hope for a self-reliant future, as  
25 these proud participants display their breadbox which will

1 heat 80 gallons on an average sunny day over 140 degrees.  
2 Here's the major point. If families use the sun to lower  
3 their utility consumption by 30 percent for water heating  
4 alone, we would probably not need to plan such extensive  
5 electric generation as Palo Verde Nuclear Power Plant.

6 There is little doubt that the attached solar  
7 greenhouse is one of the most beneficial solar retrofits  
8 a family can put on their home. Besides producing an  
9 approximate quarter of our home heating needs, the home  
10 made sun structure keeps our family in fresh vegetables  
11 year-round. It's truly the only room addition a person  
12 can add to a home that produces energy rather than uses  
13 it. A family can heat and eat at the same time when the  
14 sun's radiation is captured and put to work in the green-  
15 house.

16 Uranium is a non-renewable resource that is  
17 available for a limited time. The sun can and should be  
18 understood to be an eternal battery. We need only to plug  
19 into this positive source of all light and create positive  
20 energy directions for ourselves and our future inheritors.  
21 Thank you very much.

22 JUDGE LAZO: Thank you, sir, and your wife.  
23 It was a very interesting presentation.

24 MR. LARSON: Thank you. We enjoy our work-

25 JUDGE LAZO: I'm sure you do.

1 Well, then are we ready to proceed with the  
2 evidentiary session?

3 MR. DEWEY: Yes, sir. The Staff, if possible,  
4 would like to take care of one business matter at this time.  
5 We would like to introduce into evidence the copies of  
6 our FES and the SERs. The other parties have stipulated  
7 that these can go into evidence.

8 JUDGE LAZO: Very well. Why don't you proceed.

9 MR. DEWEY: All right, sir. At this time,  
10 I'd like to offer Staff's Final Environmental Statement of  
11 February 1982, to NUREG 0841.

12 JUDGE LAZO: Would you repeat that please,  
13 NUREG --

14 MR. DEWEY: 0841. Also, Staff's Safety  
15 Evaluation Report of November 1981, which is NUREG 0857,  
16 and Staff's Safety Evaluation Report, supplement number 1,  
17 NUREG 0857, of February 1982.

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1 MR. DEWEY: (Continuing) In Staff's Safety  
2 and Evaluation Report for the CESSAR System 80, November  
3 1981 which is also NUREG 0852. Additionally we wish  
4 to offer into evidence a copy of the ACRS report on  
5 final design approval for the combustion engineering  
6 standard nuclear steam supply system. This letter was  
7 December 15, 1981.

8 JUDGE LAZO: And there are no objections  
9 to the admission of these exhibits into evidence?

10 MR. GEHR: No objection.

11 MS. BERNABEI: No objection.

12 MR. GEHR: If the Chairman pleases, if at  
13 the construction permit stage, it's clear that we do  
14 have to submit the PSAR into evidence and as a preliminary  
15 safety analysis report and also the environmental report.

16 JUDGE LAZO: Mr. Gehr, pardon me sir, one  
17 minute. I just want to be sure that the Court Reporter  
18 has identified these documents that the Staff has offered.  
19 We'll identify them as, the FES of February, '82, we'll  
20 just identify them in the order that you offered them  
21 as Staff Exhibits 1, 2, 3, 4, and 5. And they may be  
22 received into evidence.

23 (Staff Exhibits 1 thru  
24 5 were thereupon identified  
25 and received in evidence.)

1 JUDGE LAZO: I'm sorry, Mr. Gehr.

2 MS. BERNABEI: May I see the clarification,  
3 the final environmental impact statements were 1 and  
4 2 is that correct?

5 JUDGE LAZO: The final environmental impact  
6 statement was Staff Exhibit 1. The SER of November  
7 '81 is Exhibit 2. SER Supplement No. 1, exhibit 3 and  
8 the SER addressing the CESSAR 80 is exhibit 4. And  
9 the ACRS report of December 15th, '81 is exhibit 5.

10 MS. BERNABEI: Thank you.

11 JUDGE LAZO: Mr. Gehr, I'm sorry.

12 MR. GEHR: The question I was going to put  
13 to the Board is what is necessary from the applicant.  
14 Do we want to encumber the record with the entire FSAR  
15 and the entire ER, Operating License stage or should  
16 we -- these are identified in the record as documents.  
17 They've been furnished to the parties, obviously.

18 At a construction permit stage where the  
19 board is obligated where there is a mandatory hearing  
20 and a mandatory review of the entire process it makes  
21 some sense to, I can understand why these voluminous  
22 documents are incorporated physically into the record.

23 The alternative in our situation seems to me to be  
24 reproduce those portions of those documents that are  
25 relevant to those issues.

1 JUDGE LAZO: We have the practical problem  
2 that if either the applicant's environmental report  
3 or the applicant's final safety analysis report or any  
4 of the amendments or supplements that have been filed,  
5 are to be referred to in proposed findings then I think  
6 we would have to have them in as exhibits or at least  
7 those portions that related to it. Perhaps we can face  
8 this along the way when we determine which of those  
9 documents or amendments will be referenced in the testimony.

10 MS. BERNABEI: Mr. Chairman, I originally  
11 suggested to Mr. Bischoff that we stipulate to what  
12 parts of the record we think would be relevant. We  
13 certainly have no problem with stipulating to anything  
14 that any of the other parties feel is possibly relevant  
15 to the water issue so I think that some of this can  
16 be handled by stipulation if that suits the Board.

17 MR. GEHRING: That makes good sense. There's  
18 no point encumbering the record with all of those documents  
19 at this time. I know the reporter does not want to  
20 carry how many copies back to them? And we can arrange  
21 for the separate shipments of the documents to somewhere.  
22 We of course, were prepared and have abided by the  
23 rule which says we must keep three copies ready and  
24 up to date and current for introduction as evidence  
25 before the hearing. We have them available and we'd

1 just as soon get rid of them and send them on to Washington.

2 JUDGE LAZO: Well, maybe we should identify  
3 them as Joint Applicant's exhibits and send them in  
4 for the official record.

5 MR. GEHR: We don't have them with us, of  
6 course and we didn't think anybody really wanted them  
7 in here. We -- I think it's probably the prudent thing  
8 to do to have them in the record and then --

9 JUDGE LAZO: Sometime before, not this morning  
10 right now but sometime why don't you identify those  
11 two documents, the environmental report --

12 MR. GEHR: I shall.

13 JUDGE LAZO: Its the environmental report  
14 and how many number amendments there may be currently  
15 and we'll give it an exhibit number and we'll do the  
16 same thing for the FSAR and the amendments that have  
17 been filed.

18 MR. GEHR: Very good.

19 JUDGE LAZO: So the record will be  
20 complete. Ms. Bernabei?

21 MS. BERNABEI: I have one housekeeping  
22 detail also. As we said we would do, the applicant's  
23 counsel and I met last night about the witnesses that  
24 would appear at least today. I spoke to them at that  
25 time about documents which we believe would be necessary

1 for cross-examination, especially as regards the safety  
2 issue.

3 JUDGE LAZO: Ms. Bernabei, I think that  
4 microphone on the end is tied into the --

5 MS. BERNABEI: System.

6 JUDGE LAZO: Well, you need them both.  
7 Oh, that's yours? Oh.

8 JUDGE COLE: Well, he'll need it, too.

9 MS. BERNABEI: This one doesn't seem to  
10 work too well.

11 JUDGE LAZO: It works fine but its going  
12 directly into the Court Reporter's system and its not  
13 broadcasting into the room.

14 MS. BERNABEI: Should I approach the podium?

15 JUDGE LAZO: Perhaps that would be -- if  
16 you don't mind.

17 MS. BERNABEI: And it's this one?

18 JUDGE LAZO: Yes.

19 MS. BERNABEI: We spoke last night as you  
20 suggested about the witnesses that would appear today  
21 and I believe the list we came up to and I assume this  
22 is a maximum, I'm not sure we'll be able to get to all  
23 of these or the applicant will be able to call all of  
24 these, is Mr. Hulse, Mr. Bingham and Mr. Steiner. At  
25 that time I spoke to Mr. Gehr about the documents I

1 believe we would have to have in order to do an adequate  
2 cross-examination. As I said yesterday, the applicants  
3 have not provided us with documents regarding the safety  
4 issue, that is, if the effluent is used to any degree  
5 with the safety systems to shut down the plant. Mr.  
6 Gehr said that much of that would be encompassed in  
7 the independent design review, I guess that's a transcript  
8 of a review of the design system of the safety systems.

9           It's possible that Ms. Hourihan in the past  
10 has received copies of those. We at the present time  
11 can't locate them. He said that he would have them  
12 available this morning. Of course, I won't be able  
13 to review them until this evening or sometime later  
14 in the week. Therefore, what I would request is that  
15 any cross-examination on, and I believe that substantially  
16 Mr. Bingham could be postponed until such time as I  
17 had to review those documents.

18           The other thing is, one of the issues that  
19 Mr. Bingham is going to testify to is the quality of  
20 the water. We have had an outstanding request I believe  
21 since last Friday when we deposed Mr. Van Brunt for  
22 reports of the recent test samples taken of the effluent  
23 from the 91st Avenue Treatment Plant. Mr. Bischoff  
24 has been diligent in trying to pursue those reports.

25           I believe they are probably here today. That's another

1 area in which I don't believe we'll be able to cross-  
2 examine Mr. Bingham until we have some chance to review  
3 the documents. Unlike the safety issue, I think that  
4 will take less time.

5 JUDGE LAZO: Well then, do you now have  
6 the documents -- or when will you be getting the documents?

7 MS. BERNABEI: I believe they are arriving  
8 shortly. This afternoon.

9 MR. BISCHOFF: Mr. Chairman, as to the reports  
10 containing the test data on the effluent, I do have  
11 those with me this morning and I will be giving them  
12 to counsel for the Intervenor at the first recess.

13 JUDGE LAZO: Very well.

14 MR. GEHR: With respect to the others, the  
15 IDR's that have been referred to, I want the record  
16 to show that this document was in fact served upon the  
17 Intervenor at the time it was filed. So that the Intervenor  
18 has had it in her possession for some period of time  
19 and I understand from conversations with counsel yesterday  
20 that she has been unable to locate it among her various  
21 papers. But we, I think any ruling on the scope of  
22 cross-examination and the need for additional time should  
23 await the time when we see the evidence that Mr. Bingham  
24 presents either on, what counsel has referred to as  
25 the safety issue, we refer as the non-safety issue and

1 we believe that the presentations are so simple that  
2 extensive review of other documents is just a delaying  
3 procedure.

4 MS. BERNABEI: Mr. Chairman, let me note  
5 that I have not reviewed the IDR, the so-called IDR.

6 It may be that I will not consider that sufficient  
7 documentation. I won't know until I've read it which  
8 answers in part Mr. Gehr's concern about the delay.

9 JUDGE LAZO: What exactaly is an IDR?

10 MS. BERNABEI: It's a good question. I think  
11 you should ask the applicant. I'm not familiar with  
12 it either.

13 MR. GEHR: If the Board please, an IDR is  
14 an acronym for the phrase, Independent Design Review.

15 It was a unique system of staff review adopted for  
16 the Palo Verde FSAR Safety Review. It was instituted  
17 for the purpose of trying to conserve the Staff's stretched  
18 resources at the suggestion of the Director of the Office  
19 of Nuclear Reactor Regulation.

20 MR. REIS: I believe, as I recall, that  
21 Ms. Hourihan attended some of these sessions of the  
22 Independent Design Review.

23 MR. GEHR: Yes.

24 MR. REIS: Which were held, I believe they  
25 were here in Phoenix. I think they were at the Del

1 Webb Townhouse. It was a system whereby experts from  
2 both within NRC and with the applicant, within Bechtel  
3 and within an independent design reviewers, designated  
4 from outside all these organizations got together and  
5 discussed and asked questions upon the design and went  
6 back and forth in formulating the questions. It was  
7 a method to speed up the process of the usual staff  
8 questions and answers going back and forth and getting  
9 a face to face meeting and clearing up design questions  
10 and design problems.

11 As I say, Ms. Hourihan was at least at some  
12 of those sessions as I recall.

13 MR. GEHR: What we did was to take separate  
14 systems, whether it be a direct current or DC system  
15 and have an independent design review or IDR of that  
16 system. Auxilliary systems and so on. Each session  
17 was devoted to a separate system, a transcript was kept  
18 of everything said at the system, at the review meeting  
19 -- all the documents that were submitted were incorporated  
20 in a final report which was then sent into the Nuclear  
21 Regulatory Commission Staff for their review, final  
22 review. They did, however, participate in each of the  
23 system meetings. That is what an IDR is.

24 ///

25 ///

T3, 1g

1 JUDGE LAZO: A particular idea, a system that  
2 we are speaking of now, is one relating to the ultimate --

3 MR. GEHR: The ultimate heat sink. The ultimate  
4 heat sink.

5 JUDGE LAZO: The ultimate heat sink, all right.

6 MS. BERNABEI: Mr. Chairman, my client tells me  
7 that in fact she did not receive the final IDR. She received  
8 some of the -- as I understand them, they are transcripts from  
9 Mr. Gehr of the sessions of review. She did not receive the  
10 final IDR. The thing that I would note, and the reason I  
11 said originally that I was not sure if that was sufficient,  
12 I understand, and this again is from Mr. Von Brunt, that there  
13 yet are things unsettled about the ultimate heat sink, which  
14 may or may not be encompassed in this IDR. I just don't know.

15 I did ask Mr. Gehr yesterday evening, I did make  
16 a formal request for any letters between the Staff and the  
17 Applicant that talked about any unresolved issues, because I  
18 believe that would be very important, and I think he knows  
19 about my outstanding request. That is why I say that I think  
20 even after the review, there may be other documents that  
21 would be necessary to see about the progress of that review.

22 JUDGE LAZO: Very well. Thank you.     :     :     :

23 MR. GEHR: My comment about --

24 JUDGE LAZO: Pardon me, Mr. Gehr.

25 MR. GEHR: Mr. Chairman, each letter between the

T3,2  
1 Staff and the Applicant, which -- of whichever origination,  
2 whoever was the sender of the letter, was also sent to the  
3 Intervenor, so those -- and our view is they are on notice  
4 of everything that is in this record.

5 MS. BERNABEI: Mr. Chairman . .

6 MR. GEHR: Now, beyond that, I want to be sure we  
7 did not have an IDR on the ultimate heat sink. That was part  
8 of one of the auxiliary systems which is treated in the -- one  
9 of the auxiliary IDRs.

10 JUDGE LAZO: Not a separate IDR.

11 MR. GEHR: Right, correct.

12 MS. BERNABEI: Mr. Chairman, I think there is  
13 some disagreement, and I just --

14 JUDGE LAZO: I am sorry, Ms. Bernabei, we are  
15 still having a little --

16 MS. BERNABEI: Still not working? Is it this one  
17 here? No, that is the TV.

18 JUDGE LAZO: Tap it and see if it is working. It  
19 is working. I guess you will just have to pull it a little  
20 closer to you, please.

21 MS. BERNABEI: Ms. Hourihan says that the only  
22 so-called piece of this IDR that she has seen is an agenda to  
23 the one meeting that she attended before she was accepted as  
24 an Intervenor. She says she has never received any other  
25 parts of this IDR from the Applicant. It is a rather unusual

T3,3

1 official or semi-official document, and I don't believe even  
2 I as Counsel can be put on notice that it existed prior to the  
3 hearing. I am used to dealing with the FSARs and the SERs.  
4 But she says she has not received any part of that other than  
5 the agenda to the one meeting she attended prior to her  
6 entrance in the case, or acceptance as an intervenor.

7 MR. GEHR: If there was a slip-up on our part,  
8 we will find out very shortly. We have asked our people to  
9 produce the certificates, because they are supposed to get  
10 them.

11 We started out, I know there was some delay in  
12 the initial IDRs, they were not promptly given, but we caught  
13 up with ourselves, and I know on this one, she should have got  
14 it as a matter of course, so if there has been a mixup, why,  
15 I will acknowledge it. We are checking on it.

16 JUDGE LAZO: All right, but let us see. Of  
17 course, we still really haven't addressed completely the  
18 relevance of this document. Are there any other -- you are  
19 checking on it, and we will be able to resolve that before  
20 the morning is over?

21 MR. GEHR: Yes.

22 JUDGE LAZO: Are there any other housekeeping  
23 matters before we go to the direct evidence? Well then,  
24 having no response, Mr. Gehr, or is it Mr. Bischoff, are you  
25 ready to proceed with your first witness?

T3,4

1 MR. GEHR: Yes, we are. Did we want to  
2 rearrange anything or permit the witness to spread his papers  
3 out on the table? And if so, I would suggest a couple of  
4 minutes to move that table.

5 JUDGE LAZO: We have a small table over here  
6 which could be brought over.

7 MR. GEHR: It would give the witness more room  
8 to spread out his papers, Your Honor.

9 JUDGE LAZO: And I think it would give the  
10 Counsel for the parties better eye contact with the witness,  
11 and we also would be able to see him better. Could we do  
12 that? Let us take a five-minute recess and get organized.

13 Off the record.

14 (Brief recess.)

15 JUDGE LAZO: On the record.

16 MR. GEHR: If the Chairman please, we are --

17 JUDGE LAZO: Mr. Hulse, would you please stand  
18 and take the oath?

19 Whereupon,

20 RUSSELL HULSE

21 was called as a witness and, having been first duly sworn,  
22 was examined and testified as follows:

23 DIRECT EXAMINATION

24 BY MR. GEHR:

25 Q Would you please state your name and address?

T4, 1  
1 A Russell D. Hulse. My business address is 411  
2 North Central, Phoenix, Arizona.

3 Q By whom are you employed, Mr. Hulse?

4 A Arizona Public Service Company.

5 Q In what capacity?

6 A Vice-president of resource planning.

7 Q And what are your responsibilities in connection  
8 with that office?

9 A My responsibilities in that area are responsible  
10 for acquiring fuel supplies, doing system planning which  
11 includes generation and transmission planning, power  
12 contracts with the major sellers and the exchange for power,  
13 and the water resources necessary for the company's  
14 generating facilities.

15 Q Could you review briefly your employment history  
16 with Arizona Public Service Company?

17 A Yes, sir. I am a graduate of Iowa State  
18 University in 1950, after working in Michigan for a couple of  
19 years. I joined APS engineering department in 1952. I  
20 held various engineering and construction responsibilities  
21 until 1973, when I became a vice-president of resources  
22 planning, and acquired the general basic duties that I have  
23 previously described.

24 Q I would like to review whether in connection  
25 with your duties as vice-president of resource planning, if

T4,2

1 you are familiar with a number of documents, recognizing that  
2 you are not the preparer of the documents, but just whether  
3 you are familiar with their contents, and I am not asking  
4 whether you intend to sponsor those documents.

5 For example, the first, I wanted to know whether  
6 you are familiar with the Palo Verde condenser cooling water  
7 requirements for Units 1, 2 and 3 at Palo Verde?

8 A Yes, I am.

9 Q Are you familiar with agreement number 13904,  
10 which is the contract between Arizona Public Service Company  
11 and Salt River Project and the six cities, sometimes called  
12 the multi-cities, providing for the sale, purchase and sale  
13 of effluent?

14 A I am.

15 Q Are you familiar with the negotiations which have  
16 taken place in the last several months respecting that  
17 contract?

18 A I am. I am the team leader of that negotiating  
19 group.

20 Q Are you familiar with the Tolleson effluent  
21 contract which was executed last Summer between Arizona  
22 Public Service Company and Salt River Project, and the City  
23 of Tolleson?

24 A Yes, sir.

25 Q Are you familiar with the relevant sections of

T4,3 1 the PVNGS environmental report, operating license stage?

2 A Yes, sir.

3 MS. BERNABEI: Objection, Your Honor. Mr. Lazo,  
4 I do not believe that he has identified what sections of the  
5 ER are relevant.

6 MR. GEHR: I shall do so.

7 MS. BERNABEI: I believe this witness is about  
8 to testify on a number of different things, and I am not sure  
9 what that question was.

10 MR. GEHR: I shall amplify the matter.

11 BY MR. GEHR:

12 Q Are you familiar with the relevant sections,  
13 which I intend to refer to as sections 3.3, 3.4, Appendix  
14 3(a), Sections 5.6, Section 5.7, and Appendix 5(a) of the  
15 PVNGS environmental report, operating license stage?

16 A Yes, I reviewed those.

17 Q Are you familiar with the NRC Final Environmental  
18 Statement, which I believe has been identified and entered  
19 into the record as Staff Exhibit Number 1, Sections 4.2.3,  
20 4.2.4, 4.3.2.2, and 5.3.1?

21 A Yes, I reviewed those.

22 Q Are you familiar with the Environmental  
23 Protection Agency Final Environmental Statement on the  
24 MAG 208 plan, 1978 -- '79, excuse me, including Appendix C  
25 thereof?

T4,4

1 A Yes, I reviewed that.

2 Q Are you familiar with a document which is -- was  
3 attached -- which is known -- I am going to refer to as the  
4 Greeley and Hanson report, which was part of a report prepared,  
5 an appendix to a report prepared by Arthur Beard Engineers for  
6 the City of Phoenix, and is also enclosed as an attachment to  
7 your affidavit submitted in support of the Applicants' motion  
8 for summary disposition of contention number five, and I  
9 believe was also attached to the request for admissions, are  
10 you familiar with that document?

11 A Yes, sir.

12 Q Are you familiar with the Final Environmental  
13 Statement issued by the Bureau of Reclamation on CAP  
14 water allocations, that document having been issued this past  
15 year, specifically in March? Filing date on that document  
16 is March 19, 1982.

17 MS. BERNABEI: Mr. Chairman, I have no problem  
18 with -- I am going to make an objection to documents that  
19 have not yet been submitted as attachments to motions or that  
20 are not from an official agency. Some of these documents are  
21 documents that I believe this man will testify to, and if it  
22 is relevant to his testimony, I believe they should be  
23 introduced and spoken about at the time that he testifies  
24 about them. I believe Mr. Gehr at this point is testifying  
25 about these documents and what they are.

T4,5

1 JUDGE LAZO: Are you planning to introduce these  
2 documents, Mr. Gehr?

3 MR. GEHR: Some of them. I think it is important.  
4 I am trying to establish his qualifications and I cannot do  
5 that unless I find out what he is familiar with. And this  
6 last document that we talked about, I do intend to introduce  
7 that document as evidence. It is a document with which Mr.  
8 Wes Steiner, Wesley E. Steiner, director of the Department of  
9 Water Resources for the State of Arizona, is particularly  
10 familiar with, because it relates to the -- and incorporates  
11 his recommendations on the allocations of CAP water to the  
12 non-Indian uses in the State of Arizona.

13 But Mr. -- we -- I was really intending to  
14 introduce that document through Mr. Steiner. Nonetheless,  
15 Mr. Hulse is familiar with it, and there may be some  
16 questions about it.

17 MS. BERNABEI: My objection precisely as to this,  
18 Mr. Gehr is here testifying as to these documents. If this  
19 witness is going to use them, I am sure if they are  
20 properly introduced, I would have no problem. I do not  
21 believe Mr. Gehr should continue to go down a list of  
22 documents as to which he is testifying to the substance.

23 MR. GEHR: Well, my list is complete, by the way,  
24 so --

25 JUDGE LAZO: Well, the purpose for listing the

T4,6  
1 documents is to establish the qualifications of this witness  
2 to give expert opinion testimony.

3 MR. GEHR: That is correct.

4 JUDGE LAZO: We may have some problems with some  
5 of the documents unless they are introduced into evidence.  
6 Why don't we go ahead and see how it comes along.

7 MS. BERNABEI: All right.

8 JUDGE LAZO: Does that complete your qualifications  
9 of this witness?

10 MR. GEHR: Yes, it does. If there is any voir  
11 dire, why, now is the time.

12 JUDGE LAZO: Is there any voir dire from the  
13 intervenors?

14 VOIR DIRE EXAMINATION

15 BY MS. BERNABEI:

16 Q Mr. Hulse, you are not an attorney, is that  
17 correct?

18 A I am not an attorney. I am an electrical  
19 engineer by education.

20 Q But am I correct that you have negotiated  
21 contracts for the sale of effluent, or the purchase of  
22 effluent by APS?

23 A I am familiar with the contracts. The Tolleson  
24 document was negotiated by one of my staff members and Mr.  
25 Gehr. The amendments on the multicity agreement, that is a

T4,7  
1 combination of management people and lawyers that have  
2 negotiated contracts.

3 Q So what you are saying, in other words, is that  
4 you are familiar with negotiations, and perhaps we should take  
5 one by one, of the purchase of effluent from the 91st Avenue  
6 treatment plant in 1975, I believe?

7 A I did not participate in that negotiation.

8 Q Have you been involved or are you familiar with  
9 the recent since the Fall of 1981 renegotiation of that  
10 contract?

11 A Yes, I think I previously stated I was the team  
12 leader on that negotiation.

13 Q Did you attend all of the negotiation sessions?

14 A Absolutely.

15 Q Are you familiar with the negotiations of the  
16 so-called Tolleson contract for purchase of effluent by the  
17 company?

18 A I did not participate directly in that one, and  
19 my staff members did, along with Mr. Gehr, and I am  
20 obviously familiar with the process that went through that.

21 Q So you did not participate in the discussions,  
22 but you are familiar through your subsequent contacts with  
23 Mr. Gehr?

24 A Well, and through my staff, Mr. Hutchins of my  
25 staff.

T5, 1

1 Q I am sorry, I didn't hear the answer.

2 A Mr. Hutchins in my staff was a member of that  
3 negotiations.

4 MR. GEHR: If the chairman please, if the -- the  
5 agreement number 13904, which is the effluent contract with  
6 the multicities, was dated on April 23, 1973, and not '75.  
7 That is the date that the contract was entered into. I  
8 think there may have been a misstatement. I am sure  
9 unintentional.

10 MS. BERNABEI: My copy is very clear. I thank  
11 Counsel for the correction.

12 JUDGE LAZO: Thank you. Mr. Dewey, do you have  
13 any questions of this witness at this time?

14 MR. DEWEY: The Staff has no questions on voir  
15 dire.

16 JUDGE LAZO: Very well.

17 MR. GEHR: I would like to interrupt the  
18 testimony to raise a little matter as to the status of our  
19 motion for summary disposition, to which was attached a  
20 number of documents, including the affidavit of Mr. Russell  
21 Hulse, and also requests for admissions and a response to  
22 that request that was filed.

23 Among the documents that was served on us Monday  
24 was a request by the Counsel for the Intervenor to modify  
25 that response to admissions.

T5,2

1 JUDGE LAZO: That is right.

2 MR. GEHR: I would like to know what the  
3 disposition of that will be. It is -- maybe we can short-  
4 circuit the whole thing.

5 JUDGE LAZO: Well, I am not sure we understand  
6 you, Mr. Gehr.

7 MR. GEHR: Well, I think it is highly unusual  
8 to have someone admit some facts, and then say no, I am not  
9 admitting them anymore. They are either admitted or they are  
10 not admitted, and I think that ought to be resolved first  
11 of all. In effect, in the response to the request for  
12 admissions, there were a number of admissions of fact.

13 In the revision, there are -- 18 of those  
14 admissions were revoked, and they are now not admitted. Now,  
15 what is the status? Are they admitted or are they not  
16 admitted?

17 JUDGE LAZO: Well, as I recall, the paper was  
18 couched in terms of the continuing obligation of -- to update  
19 responses to requests for discovery requests. The Intervenor  
20 has stated that some mistakes were made.

21 MR. GEHR: Okay. In other words, what is now  
22 admitted is what is admitted in the response that -- a request  
23 for revision of that admissions?

24 JUDGE LAZO: That would be our understanding of  
25 it.

T5,3

1 MR. DEWEY: Your Honor, on that particular point,  
2 I would like -- Staff can make one point here. The  
3 Intervenor did, so to speak, retract her original admissions.  
4 In so doing she didn't explain why new information had come  
5 up, or give any explanation as to why her previous admission  
6 should be changed. She just flatly stated that -- she just  
7 flatly changed her answer, that was all, without any  
8 explanation.

9 MS. BERNABEI: Mr. Chairman, I could explain.  
10 I did not burden any of the parties or this Board with a  
11 lengthy memorandum. In part, as I believe I said in short  
12 form, or Ms. Hourihan said in this supplemental response, she  
13 did not understand what an admission was. I have reviewed  
14 those admissions, and I myself found it difficult to answer  
15 some of them, or to recommend to her how she answer them. I  
16 assume that she did not understand them, and I stated that in  
17 the supplemental response.

18 I would also note that the information which  
19 caused her to change some of those responses has all been put  
20 on the record in her motions for extension of time. I did  
21 not, because I knew that the parties had that and the Board  
22 had that information, I did not think it useful to go  
23 admission by admission and examine why the answer was wrong,  
24 or why she had supplemented her response.

25 MR. GEHR: I am not going to pursue the matter.

T5,4

1 I just want to get it understood, but the response is such  
2 that I would now like to find out basically the purpose of  
3 what the -- why the change was taking place. I think it may  
4 go, if I can understand that, it will help me very much in  
5 my direct examination of Mr. Hulse, and subsequent witnesses,  
6 to know which facts are admitted, and which facts we have to  
7 further adduce on the record, and I would like to go through  
8 and ask a few questions about that, to see if I understand  
9 when she changed an admission, a statement and now is not  
10 admitted, where it was previously admitted, I would like to  
11 understand the basis for it, and I am not going to argue  
12 about whether it is good or bad, but I would like to know.

13 For example, I think perhaps some of the answers  
14 that she now does not admit may result from, say, an Indian --  
15 her consideration of an Indian claim. Well, I want to find  
16 out if that is the -- if that is the only issue, then I would  
17 dispose of it that way.

18 JUDGE LAZO: Well, how are we going to do that  
19 in a reasonably expeditious fashion?

20 First of all, let me ask, did the Intervenor --  
21 was the Intervenor still represented by Counsel at the time  
22 the admissions were made?

23 MS. BERNABEI: No, she was not, Your Honor.

24 MR. GEHR: She was at the time that she was -- the  
25 request for admissions was served.

T5,5

1 JUDGE LAZO: Yes.

2 MR. GEHR: And for several months thereafter.

3 MS. BERNABEI: If this Board examines the  
4 pleadings, I believe it will see the difference in the  
5 response to the interrogatories, at which point Ms. Hourihan  
6 had retained Counsel, and the point at which she answered the  
7 request for admissions. You can see from the typing of the  
8 pleadings.

9 JUDGE LAZO: Well, I am very reluctant to use  
10 this Board's time to go through this listing of yes and noes,  
11 although we recognize that it would be helpful for you to  
12 have that information.

13 MR. GEHR: All right. We will proceed.

14 JUDGE LAZO: Can you do it in a short recess by  
15 talking to Counsel?

16 MR. GEHR: No, it is not worth it. I would  
17 rather proceed. I do have one question, though, because one  
18 of the statements of fact that was admitted was item number  
19 27, that efficiency in effluent available at 91st Avenue  
20 plant for use of Palo Verde Nuclear Generating Station, in  
21 June 1986, as shown in attachment 2, is less than three  
22 percent of the capacity of the Palo Verde reservoir. Now  
23 that is an --

24 JUDGE LAZO: Now, that was previously admitted.

25 MR. GEHR: And continues to be admitted.

T5,6

1 JUDGE LAZO: And continues to be admitted, very  
2 well.

3 MR. GEHR: And on that basis, Mr. Chairman, I  
4 wonder why we are arguing.

5 MS. BERNABEI: I think there are --

6 MR. GEHR: About the availability of effluent and  
7 the need for Palo Verde Unit 3.

8 MS. BERNABEI: The facts that are no longer  
9 admitted have to do with the availability of effluent in  
10 amount and quality from the 91st Avenue treatment plant, and  
11 those are based on projections from 1986. None of those  
12 facts has been admitted. We are talking about an attachment  
13 C to his request for admissions, Mr. Gehr's, which shows  
14 certain figures. I am sure that the three percent of the  
15 capacity, and again we are talking about capacity, not the  
16 likelihood that it will be filled, the reservoir will be  
17 filled.

18 From the figure given on attachment C, I am sure,  
19 is at least three percent of the capacity of the reservoir.  
20 That is why it was admitted. However, this has nothing to do  
21 with reality, which is basically why the other admissions  
22 were denied.

23 JUDGE LAZO: Very well.

24 MR. GEHR: Well, the reason I have to get that  
25 settled is because some of these now-denied or not admitted

T5,7 1 statements in the request are items, of course, I have to now  
2 establish through the testimony of Mr. Hulse. That is the  
3 reason he came up.

4 JUDGE LAZO: We understand. Well, then why don't  
5 you proceed, sir.

6 DIRECT EXAMINATION (Resumed)

7 BY MR. GEHR:

8 Q Mr. Hulse, would you -- I am going to ask you a  
9 number of questions respecting the subject matter which was  
10 dealt with in your affidavit which is attached to the motion  
11 for summary disposition. Is it your understanding that the  
12 primary source of cooling water for PVNGS will be sewage  
13 effluent from the City of Phoenix 91st Avenue Sewage treatment  
14 plant?

15 A Yes, sir.

16 MS. BERNABEI: Mr. Chairman, I will have to object  
17 to the witness reading his affidavit. If it is not  
18 admitted into evidence -- I would prefer the affidavit be  
19 admitted into evidence if a witness is going to be reading  
20 from it.

21 MR. GEHR: He was not reading. I was reading,  
22 and I think it is a simple way to get through the matter.

23 JUDGE LAZO: Are you objecting to the leading  
24 question, or what is --

25 MS. BERNABEI: No, I have no problem with the

T5,8

1 leading question. I would just like the witness to testify  
2 of his own knowledge. I would prefer that instead of him  
3 reading off the affidavit, unless it is admitted into evidence.  
4 I don't want to be technical, but he appears to be reading his  
5 affidavit.

6 JUDGE LAZO: Well, it appears that that is Mr.  
7 Gehr's way of getting --

8 MR. GEHR: I have no difficulty. May we have the  
9 affidavit of Russell D. Hulse on contention number five  
10 marked as Joint Applicants' Exhibit Number 1?

11 JUDGE LAZO: I would prefer, I think, to have it  
12 incorporated directly into the transcript as if read, if you  
13 have sufficient copies.

14 MR. GEHR: We do, sir. I will so tender it.

15 JUDGE LAZO: Rather than as an Exhibit. Well,  
16 why don't you offer it as evidence, or you have, and let me  
17 ask, are there any objections to its admission into evidence?

18 MS. BERNABEI: No. Since we do have the witness  
19 here with us, I would prefer that he lead him through the  
20 testimony, or that we have direct testimony, rather than that  
21 he read from the affidavit. I have no problem with it being  
22 admitted into evidence.

23 MR. REIS: Mr. Chairman, as I understand it, what  
24 Ms. Bernabei is saying is, that it is being submitted as  
25 if read into the evidence, as if it was prefiled testimony, as

1 the Applicant submitted it before, as though it was prefiled  
2 testimony.

3 JUDGE LAZO: Well, that was our intention. Do you  
4 have some problem with that?

5 MR. DEWEY: No, Your Honor. Staff doesn't have  
6 any problem, if they wish to enter this as if it was prefiled  
7 testimony.

8 MS. BERNABEI: That is fine.

9 JUDGE LAZO: We all have a copy of it, do we?

10 MS. BERNABEI: That is correct. What I was saying  
11 is that I would prefer to have the witness testify of his  
12 own knowledge at this point in time, rather than having this  
13 as direct testimony. If this Board wishes to do that, that  
14 is fine with me.

15 JUDGE LAZO: Well, then we will direct the  
16 reporter to -- the evidence is received, or the affidavit is  
17 received as evidence, and it should be incorporated into the  
18 transcript directly, as if read. I assume, Mr. Gehr, that  
19 you will have other direct examination questions of this  
20 witness.

21 MR. GEHR: Oh, yes, indeed.

22 (Whereupon, the affidavit of Russell Hulse was  
23 bound into the transcript)

24  
25

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION  
BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of ARIZONA                    )  
PUBLIC SERVICE COMPANY,                    )  
et al.    )  
  )  
(Palo Verde Nuclear Generating)            )  
Station, Units 1, 2 and 3)                    )  
\_\_\_\_\_ )

Docket Nos. STN 50-528  
                  STN 50-529  
                  STN 50-530

AFFIDAVIT OF RUSSELL D. HULSE  
ON CONTENTION NO. 5

STATE OF ARIZONA            )  
                                  ) ss.  
County of Maricopa        )

I, Russell D. Hulse, being duly sworn, upon my oath state as follows:

1. I am Vice President of Resources Planning for Arizona Public Service Company, 411 North Central Avenue, Phoenix, Arizona. My resume is set forth in Attachment RDH-1 (attached).

2. In such capacity I am responsible for (a) the planning of generation and transmission facilities, (b) the development of fuel supplies, (c) the negotiation of power contracts with other utilities, and (d) the monitoring of water development activities.

3. Palo Verde Nuclear Generating Station ("PVNGS") Unit 1 is scheduled for commercial operation in May, 1983; PVNGS Unit 2 is scheduled for commercial opera-

tion in May, 1984; and PVNGS Unit 3 is scheduled for commercial operation in May, 1986.

4. The primary source of cooling water for PVNGS will be sewage effluent from the City of Phoenix 91st Avenue Sewage Treatment Plant ("91st Avenue Plant").

5. The secondary source of cooling water for PVNGS will be sewage effluent from the City of Tolleson wastewater treatment plant ("Tolleson Plant").

6. Sewage effluent from the 91st Avenue Plant and the Tolleson Plant will be conveyed to PVNGS via a 36.5-mile underground pipeline ("Effluent Pipeline") from the 91st Avenue Plant.

7. Effluent from the 91st Avenue Plant will be obtained for PVNGS pursuant to "Agreement No. 13904, Option and Purchase of Effluent," dated April 23, 1973, among the Cities of Phoenix, Glendale, Mesa, Scottsdale, Tempe and the Town of Youngtown, Arizona Public Service Company ("APS") and Salt River Project Agricultural Improvement and Power District ("SRP") ("Agreement No. 13904").

8. Pursuant to Agreement No. 13904, APS and SRP may take up to 140,000 acre-feet per year from the 91st Avenue Plant and the 23rd Avenue Sewage Treatment Plant ("23rd Avenue Plant"), subject to the availability of such amounts after satisfaction of prior commitments.

9. APS and SRP have dedicated to the operation of PVNGS as much of their entitlement under Agreement No. 13904 as is required for such operation.

10. Since issuance of the construction permits for PVNGS in 1976, projections of sewage effluent production at the 91st Avenue Plant and the 23rd Avenue Plant have been made independently by (a) the U.S. Army Corps of Engineers ("COE") and the U.S. Environmental Protection Agency ("EPA") for the Maricopa Association of Governments and (b) the City of Phoenix Water and Sewage Department.

11. The COE-EPA estimates were prepared in 1979 and are set forth in U.S. Environmental Protection Agency, Final Environmental Impact Statement, Maricopa Association of Governments Point Source Metro Phoenix 208 Wastewater Management Plan, Appendix C (July 1979).

12. The City of Phoenix prepared effluent projections in 1979 and 1981.

13. The City of Phoenix' 1979 estimates were provided to APS in a letter from Robert B. Steytler of the City of Phoenix Wastewater Operations to Terry Hudgins of APS, dated September 20, 1979.

14. The City of Phoenix' 1981 estimates were provided to APS in a chart entitled "Flow Projection Comparison," dated August 26, 1981, attached hereto as Attachment RDH-2. From this chart projected quantities of effluent discharged from the 91st Avenue Plant, which would consist of the sum of estimates for Phoenix, Scottsdale, Glendale, Tempe, Mesa and Youngtown, are as follows:

1981 projections in acre-feet ("AF")

1985	1990	1995	2000
143,470 AF	177,590 AF	211,800 AF	247,740 AF

15. For purposes of determining whether the quantities of effluent to be discharged from the 91st Avenue Plant will be adequate to supply cooling water for PVNGS, the COE-EPA projections are the most conservative.

16. The existing commitments for effluent discharged from the 91st Avenue Plant are:

Buckeye Irrigation District ("BID")	30,000 AF/year
Arizona Department of Game and Fish ("ADGF")	7,300 AF/year
Palo Verde Nuclear Generating Station	140,000 AF/year

17. A prior commitment of 1,200 acre-feet per year to the U.S. Water Conservation Laboratory ("WCL") has not been used since 1978 when the laboratory's research facilities at Flushing Meadows were washed out by flood waters. WCL has since moved its facilities and is no longer taking any effluent from the 91st Avenue Plant.

18. Monthly estimates corresponding to the COE-EPA estimates are set forth in Exhibit C - Effluent Flow Projections, Greeley and Hansen, January, 1980, of the City of Phoenix 23rd and 91st Avenue Wastewater Treatment Plants Draft Residuals Management Facility Plan, Volume 5-Phase C Effluent Discharge Assessment, August, 1980, by Arthur Beard

Engineers, Inc., and Camp Dresser & McKee, Inc. ("Greeley and Hansen").

19. Based on the monthly estimates set forth in Greeley and Hansen, and on the COE-EPA estimates for subsequent years, in each month during the five-year period of May, 1986, to April, 1991, other than June, 1986, the estimated amount of effluent available at the 91st Avenue Plant for use at PVNGS is greater than the amount required to operate all three Palo Verde units at 95% capacity factors during each such month.

20. As set forth in Tables C-1 and C-2 of Greeley and Hansen, in June, 1986, the estimated amount of effluent available at the 91st Avenue Plant for use at PVNGS is 0.6 million gallons per day ("MGD") or 56 acre-feet less than will be required to operate all three Palo Verde units at 95% capacity factors during said month.

21. On June 12, 1981, the City of Tolleson, APS and SRP entered into an "Agreement for the Sale and Purchase of Wastewater Effluent" ("Tolleson Agreement"), pursuant to which APS and SRP shall purchase and accept (a) all of the sewage effluent produced through the operation of the wastewater treatment plant ("Tolleson Plant") owned by the City of Tolleson in excess of the sum of 2.0 MGD (i.e., 186 acre-feet per month) committed for the production of sod adjacent to the Tolleson Plant ("Committed Effluent") and 10% of the amount of effluent in excess of the 2.0 MGD reserved by

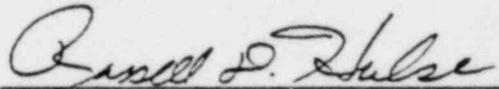
Tolleson ("Reserved Effluent") and (b) any amounts of the Committed Effluent not actually sold, and of the Reserved Effluent not actually used or otherwise disposed of by Tolleson, but not to exceed 8.3 MGD (i.e. 9,300 acre-feet per year).

22. APS and SRP have dedicated their entitlement under the Tolleson Agreement to the operation of PVNGS.

23. Based on information provided by the City of Tolleson, the projected output of the Tolleson Plant in 1986 is approximately 8,400 acre-feet, or 700 acre-feet per month (average).

24. The estimated average monthly quantity of effluent to be processed during 1986 at the Tolleson Plant, less the Committed Effluent and Reserved Effluent, would more than offset the 56 acre-feet shortage at PVNGS projected for June, 1986, from the data provided in Greeley and Hansen.

25. Under the terms of both Agreement No. 13904 and the Tolleson Agreement, APS and SRP are not obligated to purchase and accept effluent that does not meet the quality requirements of the U.S. Environmental Protection Agency and/or the Arizona Department of Health Services.

  
\_\_\_\_\_  
Russell D. Hulse

Subscribed and sworn to before me this 12th day  
of January, 1982.

Linda L. Hazzier  
Notary Public

My commission expires:

My Commission Expires Sept. 12, 1985

RESUME

RUSSELL D. HULSE

1. Raised in Iowa - Graduated Iowa State in 1950.
2. Veteran of U.S. Army.
3. Worked as Engineer for Consumers Power Company for two years.
4. Joined APS Engineering Department in 1952.
5. Held a number of supervisory and managerial jobs in engineering and construction. Worked on Four Corners Power Plant and Transmission System.
6. Staff function on developing Navajo Project.
7. Have worked on contractual relationships of a number of joint venture projects.
8. Instrumental in developing scientifically oriented environmental management group in Company.
9. Present title is Vice President of Resources Planning; responsible for Power Contracts, System Planning, Fuel Supply and Water Resources. In addition, is Vice President and General Manager of two fuel related subsidiary companies.
10. Chairman of Western Energy Supply and Transmission (WEST) Management Committee.
11. APS' Representative to Western Systems Coordinating Council.

August 26, 1981

FLOW PROJECTION COMPARISON

M.A.G. 208 STUDY VS. PHOENIX WASTEWATER DIVISION PROJECTION IN M.G.D.

		1978	1979	1980		1981	1985		1990		1995		2000	
		ACTUAL	ACTUAL	208 RPT.	ACTUAL	CITY(1) PROJECTION	208 RPT.	CITY PROJECTION						
P H O E N I X	23RD AVE. WWTP	22.32	32.25	36.40	34.55	40.26	37.20	37.20	37.20	37.20	37.20	37.20	37.20	37.20
	91ST AVE. WWTP	50.50	52.34	40.20	51.78	53.14	43.90	64.07	49.55	77.82	55.25	91.57	62.35	105.42
	TOTAL (2)	77.82	84.59	76.60	86.33	93.40	81.15	101.27	86.75	115.02	92.45	128.77	99.55	142.62
	SCOTTSDALE (2)	7.85	6.89	9.60	8.20	8.09	10.25	9.56	10.55	10.43	10.75	11.30	11.35	12.71
	GLENDALE (3)(4)(5)	10.33	11.73	13.20	12.48	13.27	11.20	18.77	11.60	22.70	11.90	26.81	12.30	30.73
	MESA (6)(7)	8.19	9.67	13.90	11.80	13.36	19.20	23.52	20.70	31.98	22.40	40.44	24.20	49.90
	TEMPE (8)	9.55	7.57	13.20	8.02	8.82	16.40	11.94	18.10	15.39	19.80	18.74	21.80	22.19
	YOUNGTOWN	0.22	0.22	0.14	0.21	0.24	0.14	0.24	0.14	0.24	0.14	0.25	0.14	0.25
	TOTALS	113.96	120.67	126.64	127.04	137.18	138.34	165.30	147.84	195.76	157.44	226.31	169.34	258.40

(1) ESTIMATED ON 6 MONTHS ACTUAL FLOW.

(2) INCLUDES 1/3 OF PARADISE VALLEY FLOW.

(3) 1980 208 REPORT INCLUDES PEORIA FLOW.

(4) INCLUDES SUN CITY FLOW.

(5) PEORIA FLOW TO TOLLESON WWTP IN 1985.

(6) 1980 208 REPORT = MESA PLANT IN SERVICE

(7) MESA WWTP OUT OF SERVICE IN 1985.

(8) INCLUDES GUADALUPE FLOW.

Attachment RDH-2

August 26, 1981

Attachment RDH-2

AVAILABLE MULTI-CITY EFFLUENT 1985-2000 (MCD)

FLOW PROJECTION		PROJECTED EFFLUENT USAGE						AVAILABLE EFFLUENT		
208 STUDY	CITY	ACAF	USWCL	B.I.D.	ANPP	R.I.D.	TOTAL	208 STUDY	CITY	
1985	134.4	165.30	6.52	0	26.8	38.7	17.9	89.9	44.5	75.4
1990	145.1	195.76	6.52	0	26.8	58	17.9	109.2	35.9	86.6
1995	155.8	226.31	6.52	0	26.8	58	17.9	109.2	44.6	117.1
2000	168.8	258.40	6.52	0	26.8	58	17.9	109.2	59.6	149.2

UNCOMMITTED MULTI-CITY EFFLUENT 1985-2000 (MCD)

FLOW PROJECTIONS		COMMITMENTS						UNCOMMITTED EFFLUENT	
208 STUDY	CITY	ACAF	USWCL	B.I.D.	ANPP	TOTAL	208 STUDY	CITY	
1985	134.4	165.30	6.52	1.07	26.8	125	159.4	-25.0	+ 5.9
1990	145.1	195.76	6.52	1.07	26.8	125	159.4	-14.3	+36.4
1995	155.8	226.31	6.52	1.07	26.8	125	159.4	- 3.6	+66.9
2000	168.8	258.40	6.52	1.07	26.8	125	159.4	9.4	+99.0

1 JUDGE LAZO: Very well.

2 MR. GEHR: I would like to proceed.

3 BY MR. GEHR:

4 Q Mr. Hulse, have you prepared or had prepared for  
5 you a chart which would show and depict the Palo Verde  
6 effluent requirements?

7 A Yes, I do, sir.

8 Q Is that, is a large chart, shown on the easel to  
9 the right, to the left of the Board's bench?

10 A Yes, sir.

11 Q That document was prepared by you or under your  
12 direction and supervision?

13 A Yes, sir.

14 MR. GEHR: If the Board please, I should like to  
15 have this document marked as Joint Applicants' Exhibit Number  
16 1. We have in explanation, we have small sizes of that chart,  
17 eight and a half by eleven reductions, available, which we  
18 would actually ask to be marked.

19 (Whereupon, the document referred  
20 to was marked as Joint Appli-  
21 cants' Exhibit No. A for  
22 identification.)

23 MR. GEHR: The large chart that I have referred to  
24 is just provided in order to permit easy reference by all  
25 parties.

1 BY MR. GEHR:

2 Q Would you explain, Mr. Hulse, what --

3 JUDGE LAZO: Let us just ask, Mr. Gehr, are there

4 any objections to the admission in evidence of Joint

5 Applicants' Exhibit Number 1?

6 MS. BERNABEI: I perhaps didn't hear. This

7 witness has prepared this, or someone under his direction and

8 control, is that correct?

9 MR. GEHR: That is correct. He has so testified.

10 MS. BERNABEI: I have no problem.

11 MR. DEWEY: Staff has no objection.

12 JUDGE LAZO: I am wondering just in order to make

13 things a little simpler, why don't we use the alphabet for

14 Joint Applicants' Exhibits, and make this Exhibit A.

15 MR. GEHR: Excellent.

16 MR. DEWEY: Staff has one clarifying question

17 with respect to this Exhibit, Your Honor.

18 JUDGE LAZO: Please proceed.

19 MR. DEWEY: We would like to know what year MAGs

20 study this refers to.

21 MR. GEHR: We intend to elicit that in the course

22 of our testimony respecting --

23 JUDGE COLE: Mr. Gehr, this is not an exact

24 duplicate of the chart diagram.

25 THE WITNESS: There is an overlay that hasn't come

1 down yet.

2 MR. GEHR: Oh, okay. Can we set up the chart the  
3 way it is supposed to be, Russ?

4 JUDGE COLE: And there is no key on the reduced  
5 version.

6 MR. GEHR: We are sorry, apologize for the  
7 confusion there. Is it now the same?

8 JUDGE COLE: I think we can decipher it.

9 MR. GEHR: Because the chart, I will explain as  
10 to the key, because the chart is -- uses different colors  
11 for the lines, and the chart uses dotted or dashed solid  
12 lines, but the key is different, or is stated in a different  
13 manner.

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1 JUDGE CALLIHAN: What is the ordinate of  
2 this graph? It's in 1000 acre feet. That's what it  
3 says.

4 THE WITNESS: That's 1000 acre feet per  
5 month.

6 JUDGE CALLIHAN: Per month, thank you.

7 DIRECT EXAMINATION (Resumed)

8 BY MR. GEHR:

9 Q Mr. Hulse, would you please explain what  
10 this Joint Applicant's Exhibit A purports to show?

11 A Yes. what we were trying to show here are  
12 what the requirements are here for Palo Verde under  
13 two separate circumstances and what the supply of effluent  
14 was projectaed by MAG in their 1979 projection.

15 Q Stating the requirements which I believe  
16 are indicated by the lower two lines on the chart, could  
17 you explain how you, the 87.5% CF means?

18 A Yes, 87.5% capacity factor was arrived at  
19 by assuming a 95% capacity factor for 11 months of the  
20 year and one month down for refueling which is a very  
21 conservative figure and amounts to a very maximum require-  
22 ment that we can imagine.

23 Q And would you also explain the bottom line  
24 which shows PVMGS at 75% CF or capacity factor?

25 A Yes, the bottom line is a more practical

1 maybe, approach assuming a 75% capacity factor for all  
2 three units in 1986 and 87 and all through those years  
3 where the units are immature, that again is a very conserva-  
4 tive figure and results in the requirements for effluent  
5 which may be in excess of our actual needs.

6 JUDGE CALLIHAN: Mr. Hulse, is that 75%  
7 the result of a reduction for one month's refueling?

8 MR. HULSE: No, the 75% is just on an annual  
9 basis and it's reduced proportionately month per month.

10 BY MR. GEHR:

11 Q Those requirements as you stated were for  
12 three units?

13 A That is correct.

14 Q Or in 1985 it is for two?

15 A Two and 1986 would be for three and so on.

16 JUDGE COLE: Its starting in May of 1986,  
17 is that correct?

18 THE WITNESS: That is correct. That is  
19 correct.

20 BY MR. GEHR:

21 Q The top two lines, would you please explain  
22 what the top two lines are purported to show?

23 A The top two lines are this, the very top  
24 line is the effluent available to Palo Verde to previous  
25 commitments out at 91st Avenue, plus that available

1 under contract with the city of Tolleson effluent plan.

2 The bottom line is 91st Avenue availability only.

3 The difference between the two being the Tolleson effluent  
4 availability.

5 Q Would you please, how is the data that is  
6 reflected on the chart -- how does it compare with the  
7 information that is set forth in the PVMGS environmental  
8 report sections which I've previously referred to and  
9 you said you were familiar with, sections 3.3, 3.4,  
10 appendix 3(a), sections 5.6, 5.7 and appendix 5(a).

11 Is that the same data as to the needs shown in that  
12 report or would you compare them?

13 MS. BERNABEI: I'm going to object to the  
14 question unless those are entered into evidence. I  
15 don't believe this witness can testify to the substance  
16 of those unless they are entered. There has been no  
17 stipulation as off this time between the ER and the  
18 FSAR.

19 MR. GEHR: I'll ask the question in a different  
20 manner rather than pursue it. Obviously we can produce  
21 that. We have said that the environmental report would  
22 be incorporated in the record if particular portions  
23 thereof should be introduced separately we can do that.

24 I don't have a document -- yes, I do. I have them  
25 over here but I don't want to interrupt the -- we can

1 proceed a little bit differently.

2 JUDGE LAZO: Very well. We'll sustain the  
3 objection and proceed.

4 BY MR. GEHR:

5 Q All right, Mr. Hulse. Have you compared  
6 the data shown on the several lines on Joint Applicant's  
7 exhibit A with the information filed with the Nuclear  
8 Regulatory Commission on the Environmental Report and  
9 with the data which is shown in the NRC Final Environmental  
10 Statement which has been entered into evidence as Staff  
11 Exhibit, NRC Staff Exhibit no. 1?

12 A Mr. Gehr, if my memory serves me correctly,  
13 these are higher requirements than are included in that  
14 report and that these are maximum with some margins  
15 and do not consider the actual first year operation  
16 of the plant.

17 Q Do the -- are the -- since the top two lines  
18 on the chart relate to the years 1985, 1986 and 1987,  
19 I assume these are projected estimates or projected  
20 amounts of effluents from the 91st Avenue Plant and  
21 the Tolleson Plant?

22 A Yes, they would be estimates.

23 Q Are these substantially the same or how  
24 do they compare with the similar data found in the -  
25 - and used by -- in the Final Environmental Statement  
in the MAG 208 plan?

1 MS. BERNABEI: I'm going to object.

2 MR. GEHR: Specifically appendix C.

3 MS. BERNABEI: I'm going to object on the  
4 same grounds unless it is introduced into evidence.

5 I don't believe the MAG plans have as yet been introduced.  
6 I have no problem with them being introduced. I don't  
7 believe the witness can testify to the substance until  
8 they are introduced.

9 JUDGE LAZO: Well, you've established that  
10 the witness is familiar with these documents.

11 MR. GEHR: Yes.

12 JUDGE LAZO: And there is a question as  
13 to whether you intend to offer them into evidence.

14 MR. GEHR: I don't see the need for encumbering  
15 the record with large environmental statements unnecessarily.  
16 The Staff in its initial voir dire of the witness was  
17 inquiring what the -- how the data compared with what  
18 was in the -- in some other documents. I'm trying to  
19 respond to that. The facts are that appendix C to the  
20 EPA final environmental statement on the MAG 208 plan  
21 was one of the documents on which the Intervenor relied  
22 in her statement of the contention so she is perfectly  
23 familiar with it. She must have it. I have it. Its  
24 been filed -- excuse me.

25 JUDGE LAZO: Well, are you going to show

1 the witness the document or ask him any questions regarding  
2 the document?

3 MR. GEHR: I was going to let it go at this.  
4 I can do more if it is deemed necessary to do so.

5 MS. BERNABEI: The problem is this, Mr.  
6 Chairman, is that we will probably use that document  
7 in cross-examination and therefore, if it's going to  
8 be used on direct I'd like it introduced into evidence.  
9 I believe the MAG studies are important documents in  
10 part, because they are reflected. The figures are on  
11 this sheet, Applicant's Exhibit A, do in fact come from  
12 that report. These are based on certain assumptions,  
13 the projected figures facing certain assumptions that  
14 we're going to question this witness about. If we're  
15 going to get into the MAG reports and how we got these  
16 figures, I'd like them introduced into evidence.

17 JUDGE LAZO: I think that's only fair, Mr.  
18 Gehr. If you're going to -- otherwise you put the burden  
19 on the Intervenor of having to introduce the documents  
20 as exhibits and they really should be your exhibits.

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t7-1

1 MR. GEHR: Very well.

2 MR. DEWEY: Your Honor, Staff would like to add  
3 one thing though. I hope the Intervenor doesn't contend  
4 that every document that is referred to in this -- during  
5 this hearing has to be in evidence because that's just not  
6 clear --

7 JUDGE LAZO: No, no. I think that's established.  
8 An expert witness, giving opinion testimony, very often he's  
9 asked to list documents that he's relied on to establish  
10 his experience and background and basis for his testimony.  
11 You don't have to put all of those into evidence.

12 MR. GEHR: May I proceed?

13 JUDGE LAZO: Yes, sir.

14 (Joint Applicants' Exhibit B  
15 was thereupon identified.)

16 BY MR. GEHR:

17 Q Mr. Hulse, I hand you a document which is  
18 captioned "U.S. Environmental Protection Agency, Region 9,  
19 Final Environmental Impact Statement, Maricopa Association  
20 of Governments, Point Source Metro Phoenix, 208, Waste  
21 Water Management Plan, July 1979, approved by Frank M.  
22 Covington for Paul D. Falco (Ph.), Junior Regional  
23 Administrator, U.S. Environmental Protection Agency, Region  
24 9." That is the cover sheet of the document there and the  
25 subsequent -- the document consists of 10 pages, including

1 the cover sheet -- in addition to the cover sheet. The  
2 second page of the document is captioned, "Appendix C,  
3 Waste Water Flows from the 91st Avenue and 23rd Avenue  
4 Treatment Plants versus Existing Commitments and other  
5 Claims on Effluent for Reuse, Prepared by U.S. Army Corps  
6 of Engineers, Phoenix Urban Study Office and U.S. Environ-  
7 mental Protection Agency, Region 9."

8 I ask that this document be marked for  
9 identification as Joint Applicants Exhibit B.

10 Mr. Hulse, I believe you previously testified  
11 that you were familiar with this document.

12 A Yes, I reviewed it.

13 Q How does the data shown in Exhibit B relate  
14 to the data which is shown on Joint Applicants Exhibit 1  
15 -- Exhibit A. I beg your pardon. Not Exhibit 1. For  
16 example, in Table C-1 of the document, shown on page C-1,  
17 which indicates some projections, are those projectons  
18 the same as those that are reflected for the years indicated  
19 on the Joint Applicants A?

20 A It's my understanding that my staff prepared  
21 this Exhibit A from the MAG Reports, so I therefore would  
22 believe these two to be the same.

23 Q That was the basis on which the Exhibit A was  
24 prepared?

25 A It was prepared, yes.

1 Q In other words, the data that is shown on  
2 Joint Applicants Exhibit A is based on the -- if I can call  
3 them the MAG figures or EPA figures established in 1979. Is  
4 that correct?

5 JUDGE COLE: Mr. Gehr, I've got a little problem  
6 with that. On Table C-1, page C-1 of Joint Applicants  
7 Exhibit B, it shows the flows in MGD, and to transfer that  
8 kind of information to the information contained in Exhibit  
9 A, requires more information than is contained on that page.

10 MR. GEHR: I agree. In terms of explanation  
11 of what we propose to deal with your problem, which is  
12 very understandable, let me explain that a subsequent report  
13 was prepared by Greeley and Hansen, which does show and  
14 takes the data which was reflected in annual amounts and  
15 reduces that to monthly amounts. I guess I should've asked  
16 before I put the question to Mr. Hulse to establish that  
17 the monthly quantities shown on the Greeley and Hansen  
18 Report are the same as and are consistent with the data  
19 shown in Joint Applicants Exhibit B.

20 MS. BERNABEI: If in fact that does include  
21 other information, which I believe the monthly statistics  
22 would have to, we would like the report that Mr. Gehr has  
23 referred to, also introduced into evidence.

24 JUDGE COLE: The Greeley and Hansen projected  
25 monthly estimates.

1 MR. GEHR: I shall do so right now, I shall now  
2 ask the Reporter to mark for identification as Joint  
3 Applicants Exhibit C, Effluent and Flow Projections, Greeley  
4 and Hansen, January 1980.

5 (Joint Applicants' Exhibit C  
6 was thereupon identified,)

7 JUDGE COLE: I see that's already marked Exhibit  
8 C, Mr. Gehr.

9 MR. GEHR: That was a fortunate error.  
10 I believe the request for admissions has acknowledged the  
11 authenticity for this document, the amended response to  
12 the request for admissions has conceded the authenticity  
13 of this document. Does Counsel agree?

14 MS. BERNABEI: Yes. As I said before, I have  
15 no problem with the entrance of these into evidence.

16 JUDGE LAZO: I'm sorry.

17 MS. BERNABEI: Mr. Gehr asked me if I have  
18 admitted the authenticity. I have no problem with the  
19 authenticity of this document. That's correct.

20 JUDGE LAZO: Very well.

21 BY MR. GEHR:

22 Q Mr. Hulse, on page C-1 of Joint Applicants  
23 Exhibit B, there is indicated in million gallons per day,  
24 flows from the 91st Avenue Plant for the years 1980, 83,  
25 85, and 1990. In Joint Applicants Exhibit C, we have in

1 Table C-1, there are shown, for the -- for various months  
2 of the year -- for each month of the year, from 1980 through  
3 1987, I believe -- 1986, flows -- plant effluent flows in  
4 million gallons per day by monthly average. Is that correct?

5 A That is correct.

6 Q For the years 1980, 83, and 85, in Joint  
7 Applicants Exhibit B, which show the annual amounts, can  
8 you take the summation of the monthly average -- have you  
9 made a comparison of how the two documents show as between  
10 -- for those years, '80, '83, '85?

11 A I have not added those up.

12 MR. GEHR: I appear not to have prepared myself  
13 adequately. I'm going to ask for a few minutes recess.  
14 We're going to make the comparison and establish that they  
15 are the same data for the years in question, unless parties  
16 wish to stipulate.

17 MS. BERNABEI: We will not stipulate it, no.

18 JUDGE LAZO: Very well.

19 MR. DEWEY: Staff will stipulate it. We know  
20 this to be correct.

21 JUDGE LAZO: Well, it's a convenient time to  
22 take a mid-morning recess.

23 MR. GEHR: Fine.

24 JUDGE LAZO: Is 15 minutes a sufficient time?

25 MR. GEHR: Yes.

(Brief recess.)

1 JUDGE LAZO: The hearing will come to order.

2 MR. REIS: Mr. Chairman, before we go forward,  
3 I would ask to be excused to leave the hearing. Mr.  
4 Dewey will continue. I will be leaving at 12 noon today  
5 going back to Washington and I ask that Mr. Dewey continue  
6 with this hearing.

7 JUDGE LAZO: Very well. We shall miss you.  
8 Mr. Gehr, are you ready to proceed?

9 MR. GEHR: Yes.

10 DIRECT EXAMINATION (Cont'd)

11 BY MR. GEHR:

12 Q Mr. Hulse, have you, directing your attention  
13 to table C-1, page C-4 of Joint Applicant's Exhibit  
14 C. Do you have C?

15 A Yes.

16 Q Have you determined what the aggregate annual  
17 average of -- well, directing your attention to the  
18 column under 1985, 91st Avenue Plant, Effluent Flows  
19 MGD, column monthly average. Can you determine what  
20 the annual average using those amounts are?

21 A Yes, sir. The annual average is 102.9.

22 Q Directing your attention now to Joint Applicant's  
23 Exhibit B, page C-1, what is the amount of flows from  
24 the 91st Avenue Plant in 1985?

25 A 102.9 which is the same as in the other

1 document.

2 Q Have you done that calculation for any other  
3 years?

4 A Yes, I did it for 1983 and I got the 98  
5 gallons per day to be consistent also.

6 Q Turning to the chart attached to Joint Appli-  
7 cant's exhibit C, the chart marked plate C-1 showing  
8 flow data for 91st Avenue Plant and directing your atten-  
9 tion to the top most line on the chart or plate, does  
10 that appear to be a plot of the data that was shown  
11 in table C-1?

12 A Yes, it does.

13 Q And how does that plot of the chart on the  
14 chart compare with Joint Applicant's Exhibit A, the  
15 second from top line?

16 A You take the top line on plate C-1 and you  
17 must deduct the previous or the estimated requirements  
18 for Buckeye Irrigation District, Arizona Game and Fish  
19 Commission and you subtract those quantities on a monthly  
20 basis which are also included in the Table in the Greeley  
21 and Hansen Report, you will get the curve which is the  
22 second from the top curve on Joint Applicant's Exhibit  
23 A.

24 Q In the Greeley and Hansen report, Joint  
25 Applicant's Exhibit C, are the monthly amounts of effluent

1 flows to the Arizona Game and Fish Department in Buckeye  
2 Irrigation District shown?

3 A Yes, they are shown on Table C-2 on that  
4 exhibit.

5 Q So it is the summation of those two amounts  
6 deducted from the monthly average flows that is reflected  
7 on Joint Applicant's Exhibit A?

8 A Yes, sir.

9 (Pause)

10 Q In essence then, Mr. Hulse, can we conclude  
11 that what is shown, depicted on Joint Applicant's Exhibit  
12 A on a monthly average flow basis reflects the data  
13 in the EPA in Joint Applicant's Exhibit B on an average  
14 annual flow basis, projected flow basis?

15 A Yes, sir.

16 (Pause)

17 Q Have you prepared any other charts which  
18 would reflect other projections such as the Phoenix  
19 1981 projection?

20 (Pause)

21 I withdraw that last question, part of the  
22 question.

23 MR. GEHR: I'd like to have this document  
24 marked as Joint Applicant's Exhibit D for identification.

25 ///

1 (Whereupon, the document  
2 referred to was marked  
3 for identification as  
4 Joint Applicant's Exhibit  
5 D.)

6 BY MR. GEHR:

7 Q Mr. Hulse, I've handed you a copy of Joint  
8 Applicant's Exhibit D for identification. Do you recognize  
9 that document?

10 A Yes. I've seen it.

11 Q Would you explain what it is?

12 A It's a flow projection comparison between  
13 the 208 projections and the City of Phoenix projections  
14 for both 23rd and 91st Avenue including the contribution  
15 by the various cities to that total amount.

16 Q Who prepared this document if you know?

17 A I'm not certain who prepared it. I think  
18 it was prepared by the City of Phoenix staff.

19 Q You received it from the city of Phoenix?

20 A Yes, we received this from the city of Phoenix  
21 staff.

22 MR. GEHR: If the Chairman please, I intend  
23 to call as a witness Mr. Robert Steytler who is the  
24 head of the City of Phoenix Water and Sewer Department.  
25 I'm not sure -- I think that's his function -- who

1 can attest to the source of this data and its preparation.  
2 It is documents customarily received by this witness  
3 in the course of his duties but I'd like to proceed  
4 as though Mr. Steytler's testimony would confirm it.

5 JUDGE LAZO: Well, we don't see any problem  
6 at this point. The document has simply been marked  
7 for identification. It is not yet offered into evidence.

8 MR. GEHR: I will be offering it into evidence.  
9 If the counsel want to wait until Mr. Steytler is on  
10 the stand we can do so.

11 MS. BERNABEI: I will object in part because  
12 it includes reference -- if Mr. Gehr wants to introduce  
13 it at this time. It does refer to other documents that  
14 are not in evidence. I believe it is important that  
15 those be admitted also so I will object if his intention  
16 is to offer it into evidence at this time.

17 JUDGE LAZO: Then let's proceed.

18 MR. GEHR: Let's proceed as though it is  
19 marked for identification only.

20 BY MR. GEHR:

21 Q What is the total amount as projected from  
22 the 91st Avenue Plant for the year 1985 in Joint Applicant's  
23 Exhibit D?

24 A There are two numbers there. One is a 208  
25 figure and one is the city projection. The 208 figure

1 if I read this chart correctly would take the total  
2 projected discharge from both plants as 138.34 and you  
3 would subtract out the 23rd Avenue and you get 101.24  
4 which is 1 million gallons per day less than the one  
5 in the previous table. You take the city of Phoenix  
6 projection, it's 165.3, subtract out 37.2 and I believe  
7 you get 128.1 which is significantly above the MAG Projec-  
8 tion.

9 MS. BERNABEI: I'm going to object to this  
10 witness's testifying to the substance of this document.

11 If he knows this of his own knowledge, I believe he  
12 can testify to that but this document is not introduced  
13 into evidence and I don't believe the witness can testify  
14 from the document.

15 MR. GEHR: I think it is permissible based  
16 on my statement that the document would be verified  
17 and confirmed by a subsequent witness.

18 JUDGE LAZO: Well, at this point, it seems  
19 to us that the document has not yet been received in  
20 evidence, there's no one here to sponsor it. Therefore,  
21 it would be impermissible for this witness to interpret  
22 the document. It speaks for itself, it says what it  
23 says and as far as we've seen so far, all that Mr. Hulse  
24 has done is read off some numbers from the document.

25 If he is asked to interpret the meaning of the document

1 at this time, I think that would be improper.

2 MS. BERNABEI: It would be proper to interpret  
3 it?

4 JUDGE LAZO: Improper.

5 MS. BERNABEI: I agree.

6 JUDGE LAZO: But if it is simply identified  
7 as a document which he is familiar with and has been  
8 used in order to prepare him to give testimony as to  
9 his opinion on other matters, then it has simply been  
10 identified for that purpose.

11 MR. GEHR: That's all I've asked for so  
12 far.

13 BY MR. GEHR:

14 Q Mr. Hulse, in the course of your business,  
15 do you rely on projections and do you utilize, I should  
16 say first of all, do you utilize projections prepared  
17 by others in their normal course of business?

18 A Absolutely.

19 Q Would you consider this the estimate or  
20 what is indicated on this document as the city's projection  
21 as one of the elements that you would take into considera-  
22 tion in your resource planning activities?

23 A Yes, sir.

24 Q Nonetheless, the chart that we have marked  
25 as Joint Applicant's Exhibit A for identification does

1 not reflect the higher projections shown on Applicant's  
2 Exhibit D?

3 MS. BERNABEI: I object to the question.  
4 Not only is Mr. Gehr testifying at this point, he is  
5 testifying as to evidence that has not yet been admitted  
6 to this board. He is testifying as to the substance  
7 of an exhibit which is merely marked for identification.

8 MR. GEHR: I'll rephrase the question,  
9 I'll rephrase the question because it was a leading  
10 question, but the question is, but it has been established  
11 that this is the kind of information considered by Mr.  
12 Hulse in the normal course of his duties and responsi-  
13 bilities and I will now ask the question whether this  
14 city's projection shown on Applicant's Exhibit D is  
15 reflected on Joint Applicant's Exhibit A?

16 THE WITNESS: Could you restate that question,  
17 Mr. Gehr?

18 BY MR. GEHR:

19 Q Are the projections shown on, the data shown  
20 on Exhibit D being specifically the city projection  
21 for the year 1995 reflected on Joint Applicant's Exhibit  
22 A?

23 A May I assume you meant 1985, sir?

24 Q Yes, I did mean 1985. Sorry.

25 A No, that is not reflected on Exhibit A.

1           Q       If you did reflect that where would the  
2 lines be?

3           MS. BERNABEI: I object to the question.  
4 Again he is asking the witness to testify as to these  
5 figures that have not been admitted in evidence and  
6 interpret the document which I understood, Chairman,  
7 you explicitly said was not permitted.

8           JUDGE LAZO: We'll sustain the objection.  
9 I think you'll have to get at this another way, Mr.  
10 Gehr.

11          MR. GEHR: I think it's quite clear that  
12 the city's projections are much higher than are shown  
13 on exhibit A.

14          MS. BERNABEI: I'm going to object to Mr.  
15 Gehr testifying for this witness. I'm sure what seems  
16 very apparent to Mr. Gehr may not be apparent when we  
17 get out the facts.

18          JUDGE CALLIHAN: I'd like to ask a housekeeping  
19 question before we get too far from it. You recently  
20 presented to us something I think you said was marked  
21 D.

22                 Can you tell us the difference between those  
23 two sheets and the attachments RDH-2 and RDH-2 which  
24 are part of the affidavit of Mr. Hulse?

25          MR. GEHR: Yes, sir.

1 JUDGE CALLIHAN: Mr. Hulse's affidavit dated  
2 January 12, 1982 served on or about the 18th of January,  
3 1982.

4 MR. GEHR: Yes, it is the document which  
5 is marked as Joint Applicant's Exhibit D, the same as  
6 attachments RDH-2 and to your affidavit?

7 THE WITNESS: They are the same, sir.

8 JUDGE CALLIHAN: Thank you.

9 MS. BERNABEI: Mr. Chairman, I assumed that  
10 when this was incorporated into the record, it was his  
11 affidavit and not the attachments?

12 JUDGE LAZO: No, I don't know what you can  
13 assume, counselor. I was just considering that same  
14 problem.

15 MS. BERNABEI: I did not see it before it  
16 was admitted. I would have made an objection to the  
17 accompanying affidavit if I had seen it.

18 JUDGE LAZO: I assume when the affidavit  
19 was incorporated, none of us focused on the fact that  
20 there were these attachments on the back. The resume'  
21 of Mr. Hulse, of course, you have no problem with that?

22 MR. GEHR: I think there is no real problem.  
23 The statement and the affidavit says that the city  
24 of Phoenix, 1981 estimates were provided to APS in a  
25 chart entitled flow projections dated August 26, 1981,

1 attached hereto and that is a true statement and I'll  
2 ask Mr. Hulse now whether that is true or correct?

3 THE WITNESS: That is correct.

4 MS. BERNABEI: I don't want to be very technical  
5 about this but the proper way to incorporate anything  
6 that is not in the affidavit and sworn to is by the  
7 words attached and incorporated hereto by this reference  
8 and I would assume and I did assume that it was not  
9 formally attached and incorporated into the affidavit  
10 since it did not include those words.

11 There were a number of things in the motion  
12 for summary disposition that were not incorporated into  
13 the affidavit.

14 JUDGE LAZO: Yes, that's quite true, but  
15 I thought you said you had not seen this document until  
16 it --

17 MS. BERNABEI: I hadn't seen the affidavit  
18 with all the attachments. I have no objection to the  
19 affidavit and I don't want to be technical here. The  
20 affidavit of Mr. Hulse being introduced, including his  
21 resume' -- I did not believe the attachments had been  
22 incorporated into the affidavit. I would have objected  
23 at that time because I don't believe -- I believe that  
24 the affidavit serves as the same purpose as direct testi-  
25 mony. The exhibits of course, do not.

1 JUDGE LAZO: Well, but again they serve  
2 to show background information on which the expert opinions  
3 were derived.

4 MR. GEHR: I certainly want to argue and  
5 I will not, I think you must admit that for the purpose  
6 of the affidavit and we've just asked him the question,  
7 basically, did the city of Phoenix provide you with  
8 these charts and he said yes and they are admissible  
9 for that purpose whether they are proper foundations  
10 for -- conclusions to be drawn from them is something  
11 else.

12 JUDGE LAZO: I agree with you. They are  
13 admissible for that purpose and they are not admissible  
14 for the --

15 MR. GEHR: And that's all they are entered  
16 into the record --

17 JUDGE LAZO: They are not admissible for  
18 the truth of the content therein although you've indicated  
19 you will attempt to do that through Mr. Steiner at a  
20 later date.

21 MR. GEHR: Steytler.

22 JUDGE LAZO: Steigler.

23 MR. GEHR: Steytler.

24 JUDGE LAZO: Steytler. There are a Steiner  
25 and a Steytler. Two different people.

1 BY MR. GEHR:

2 Q Based on the data shown on Joint Applicant's  
3 Exhibit A, is there an adequate supply, using the --  
4 which uses, reflects the projections used by, developed  
5 in the course of the EPA study on MAG 208 plan as reflected  
6 in Joint Applicant's Exhibit B? If those projections  
7 hold true, will there be an adequate amount of effluent  
8 for cooling of all three Palo Verde units in the month  
9 of June, 1986?

10 A If you're looking at all the data, I conclude  
11 that there is a very adequate supply at that point in  
12 time. In all points in time.

13 Q If the projections of the City of Phoenix  
14 as shown on Applicant's Exhibit D for identification  
15 were to hold true, would there be an adequate supply  
16 or would there be more than an adequate supply? How  
17 would you categorize that?

18 A Well, with the higher projections on availability  
19 they would increase the margins on which there would  
20 be water in excess of needs of Palo Verde and in the  
21 other contractual commitments.

22 ///

23 ///

24 ///

25 ///

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1 (A pause.)

2 BY MR. GEHR:

3 Q Have you received from the City of Phoenix a  
4 report of the actual discharges from the 91st Avenue Plant in  
5 1981?

6 A Yes, I have.

7 MR. GEHR: We would like this document to be  
8 marked as Joint Applicants' Exhibit E.

9 (Whereupon, the document referred  
10 to was marked as Joint  
11 Applicants' Exhibit E for  
12 identification.)

13 MR. GEHR: In anticipation that the same arguments  
14 may be made about this document as Joint Applicants' Exhibit  
15 D, I will ask that this one be marked for identification for  
16 subsequent verification by Mr. Steytler.

17 BY MR. GEHR:

18 Q Mr. Hulse, is the Joint Applicants' Exhibit E for  
19 identification the report which APS has received from the  
20 City of Phoenix, reporting actual discharges from the 91st  
21 Avenue sewage treatment plant, as well as other information?

22 A Yes, sir.

23 Q Would you explain your understanding of what is  
24 shown on page 1 of 2 of that document?

25 MS. BERNABEI: Objection. The document has not

1 been admitted into evidence. I believe that calls for an  
2 interpretation of this witness as to what this document says,  
3 and whether or not it is correct.

4 MR. GEHR: Let me ask a different question.

5 BY MR. GEHR:

6 Q On page 1 of 2 of that document, the -- that is  
7 shown -- indicates that that is shown by months, is that  
8 correct?

9 A That is correct.

10 Q And total?

11 A It shows the total flow in million gallons per  
12 month, and then the average daily flow in million gallons per  
13 day.

14 Q And what does ADF mean?

15 A Average daily flow.

16 Q Average daily flow, and that is in million  
17 gallons?

18 A Million gallons.

19 Q Million gallons, okay. Is the summation of the  
20 Glendale Scottsdale Mesa Tempe Youngtown columns found in the  
21 columns at the left, under MC totals? On the right, excuse  
22 me.

23 A On the extreme right, yes, sir.

24 Q Did you answer yes?

25 A Yes, sir.

1           Q       I beg your pardon. Turning to page 2 of 2, of  
2 Joint Applicants Exhibit D -- E. That was Exhibit E, is the  
3 information there shown by months, total and average, for the  
4 total multi-city, which is -- and is that amount shown the  
5 same as shown in the extreme left -- extreme right-hand  
6 columns of page one?

7           A       Yes, it is.

8           Q       What does the column under Phoenix share indicate  
9 to you?

10          A       It indicates to me the contribution of Phoenix  
11 which is not included in the total multi-cities from page  
12 one.

13          Q       And the third set of columns, 91st Avenue total,  
14 is the total of the total multi-city and the Phoenix share?

15          A       Yes, sir. That is the total of the six cities.

16                MS. BERNABEI: I am going to object to this line  
17 of questioning. I don't want to object over and over again.  
18 I think we can reach some stipulation about what documents are  
19 admissible into evidence, however, I think at this point  
20 without having seen them, I am going to have to object,  
21 before this hearing, I am going to have to object to this  
22 witness's interpreting documents that aren't in evidence. I  
23 don't want to be obstructive with technical objections.

24                MR. GEHR: I hear the objection, but I have, as  
25 stated previously, Mr. Hulse is responsible for resource

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1 planning. This is typically one of the documents which he  
2 takes into account in doing and performing his function. In  
3 doing so, he has to understand what is on the document, and  
4 when he is telling me or telling the Board how he has used  
5 this document, and what it is important that the Board  
6 understand how he interpreted it.

7 JUDGE LAZO: Well, since it is a column of  
8 numbers, I think it is worthwhile that we understand -- first  
9 of all, we understand how the witness interpreted it, and it  
10 is helpful to our understanding of how to read the document.  
11 He is not expressing a technical opinion in the sense of  
12 expert opinion testimony, but simply how to read the document,  
13 not what it means.

14 MS. BERNABEI: I have no problem with that. It  
15 is when he actually gets into talking about the substance  
16 of the document that I have problems.

17 JUDGE LAZO: Yes, we understand it, and have  
18 sustained your objections in that regard. Is there a  
19 question pending?

20 MR. GEHR: No, sir.

21 JUDGE LAZO: I thought he answered the question.

22 JUDGE CALLIHAN: Mr. Hulse, it was our intent  
23 sometime in this proceeding to gain some confidence in the  
24 predicted effluent flow, and prior to a few moments ago, we  
25 had at our disposal only attachment 7 to your earlier

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1 affidavit, I am sorry, to your earlier filing which is now  
2 Applicants' Exhibit C, which gives on page C-2, as part of  
3 table C-1, as identified at the head of the column on page  
4 C-1, I presume, plant effluent flow projection for among  
5 others, 1981. Now you have very appropriately supplied us  
6 with Applicants' Exhibit E, which purports to be the actual  
7 flow measured in 1981, and I pause and say, are those  
8 statements thus far correct?

9 WITNESS HULSE: Yes, sir.

10 JUDGE CALLIHAN: Now, will you look at -- will  
11 you please look at Applicants' Exhibit E, both pages as  
12 necessary, and give us a comparison between those actual data  
13 and the predicted flow as given in Applicants' Exhibit C?

14 WITNESS HULSE: I think if you take the 91st  
15 Avenue total, average daily flow column --

16 JUDGE CALLIHAN: Excuse me, what page are you  
17 looking at?

18 WITNESS HULSE: Oh, I am sorry. Exhibit E, page  
19 two of two.

20 JUDGE CALLIHAN: All right, thank you.

21 WITNESS HULSE: And you can go through that on a  
22 month by month basis and compare it to Exhibit C --

23 JUDGE CALLIHAN: Let us talk about January.

24 WITNESS HULSE: January, okay. In January, the  
25 actual daily flow, average daily flow for January was 92.67,

1 and the projections from the Exhibit C are 85.6.

2 JUDGE CALLIHAN: 23rd Avenue does not, of course,  
3 appear in Exhibit E.

4 WITNESS HULSE: Yes. 23rd Avenue is the next  
5 column over.

6 JUDGE CALLIHAN: Oh, I beg your pardon. Yes, it  
7 is. It is part of it. I am sorry. Yes, it does. So that --  
8 the comparison there is what, just to get another sampling?

9 WITNESS HULSE: The actual, on Exhibit E, for the  
10 month of January, for 23rd Avenue is 38.11, and on Exhibit C  
11 for the month of January, 1981, it is 38.3.

12 JUDGE CALLIHAN: And then finally for January,  
13 what do we have for total?

14 WITNESS HULSE: The total under Exhibit C for the  
15 month of January is 123.9, projected on Exhibit C. Actual,  
16 from the city source, on Exhibit E, is 130.78.

17 JUDGE CALLIHAN: Without referring now to  
18 specific numbers, but you must have at your leisure in the  
19 past made such comparisons throughout the year, and what kind  
20 of confidence have you gained from that comparison, to  
21 strengthen projections for 1985 or 1995, or whatnot?

22 WITNESS HULSE: Well, what we have seen on this  
23 comparison is that the actuals are much in excess of the  
24 predictions that were made as late as two years ago, three  
25 years ago.

1 JUDGE CALLIHAN: Thank you.

2 BY MR. GEHR:

3 Q Have you specifically made any comparisons in  
4 respect of the month of June, which seems to be the critical  
5 month?

6 A We can make those comparisons. The month of  
7 June, on Exhibit C, the prediction was 91.1, and the actual  
8 was 94.8

9 Q Have you done any further -- can we convert the  
10 average actual daily flow of 94.8 in June of 1981 to acre-  
11 feet in that month?

12 A Yes, sir.

13 Q How many acre-feet would that be?

14 A Acre-feet in that month is ninety -- you must  
15 multiply the 94.8 million gallons per day average daily  
16 flow times a factor of 93.5 acre-feet per month, and you  
17 will get 8,863 acre-feet for the month of June, 1981.

18 Q And that would be the total flow out of the 91st  
19 Avenue plant?

20 A Yes, sir.

21 Q From that flow, how much should be deducted for  
22 delivery to the Buckeye irrigation district under their  
23 contract?

24 A I believe it is 2500 acre-feet.

25 Q And how much should be deducted for the flow

1 under the commitment between the City of Phoenix and the  
2 Arizona Game and Fish Department?

3 A 600 acre-feet.

4 Q If you deduct those amounts from the converted  
5 amount of 8,800 --

6 A And 63.

7 Q And 63 feet, what is the balance?

8 A 5,763.

9 Q Is that the amount that would be available for  
10 Palo Verde?

11 A Yes, sir.

12 Q And how much is that on a -- if we divided that  
13 amount by three, or how much -- yes, divide that by three,  
14 which would give us a per unit quantity required for Palo  
15 Verde.

16 A It is 1921 acre-feet. No, there is something  
17 wrong with that. Yes, 1921. Excuse me, that is correct.

18 Q I think I made a mistake. Can we go back to  
19 your previous calculation. After your deduction, you had  
20 five --

21 A 5763. We must add in Tolleson's amount.

22 Q Yes, if you add in the Tolleson amount of  
23 effluent, how much would the total be --

24 A 6463

25 Q 6,463 acre-feet?

- 1 A Total.
- 2 Q Available to Palo Verde?
- 3 A That is correct.
- 4 Q And assuming that was -- that amount was spread  
5 between three Palo Verde units, how much would the amount  
6 available for each of the units be?
- 7 A 2154.
- 8 Q 2154 acre-feet?
- 9 A Yes, sir.
- 10 Q Was available in the month of June, 1981, for  
11 each of the Palo Verde units?
- 12 A Yes, sir.
- 13 Q And how does that compare with the amount of the  
14 requirements for the Palo Verde units in the month of June,  
15 when all three are operating?
- 16 A I believe the number on requirements for June  
17 of '86 is 2177.
- 18 Q For your purposes, would you consider these  
19 numbers, the amount actually available, and the amount  
20 required, to be substantially the same?
- 21 A Yes, sir.
- 22 Q In other words, if there is no further growth  
23 at all in the effluent, you would have, if just the amounts  
24 that were produced in 1981, there would be enough to  
25 operate Units 1, 2 and 3.

1 A In 1986, very definitely.

2 Q In the month of June.

3 A Yes, sir.

4 Q Do you know of any more current projections of  
5 effluent production from the 91st and 23rd Avenue plants by  
6 any official agencies more recent than the ones made by the  
7 City of Phoenix in 1981?

8 A Yes, there is a MAG 208 update in 1982.

9 MR. GEHR: May I have this document marked as  
10 Applicants', Joint Applicants' Exhibit F.

11 (Whereupon, the document  
12 referred to was marked as Joint  
13 Applicants' Exhibit F for  
14 identification.)

15 BY MR. GEHR:

16 Q Would you explain what Joint Applicants' Exhibit  
17 F for identification is?

18 A It is a draft of the point source plan update  
19 made in May of 1982 by the MAG group, MAG 208 group, on water  
20 quality management program.

21 Q Is it the entire report, or the entire draft,  
22 or just excerpts therefrom?

23 A This is excerpts from that total document.

24 Q Do you know what the purpose of this document is?

25 A The original purpose, as I understand it, was a

T9, 11 1 review that was required to look at what the future plans  
2 were going to be for waste water disposal of the valley area.

3 Q And as you indicated, or as the document itself  
4 indicates, the update of the prior plan.

5 A Yes, sir.

6 Q Among the excerpts, is there a statement of the  
7 projections, of the current MAG projections, in this draft?

8 A Yes.

9 Q And where is that?

10 A I think it is called Table IV. Table V are  
11 two projections of quantities.

12 Q The Table IV-1, captioned effluent availability  
13 with the majority of flow to 91st Avenue Plant?

14 A Yes, sir.

15 Q And Table IV-2, effluent availability with  
16 satellite plants?

17 A Yes, sir.

18 Q Looking first at Table IV-1, as to the amount  
19 of effluent availability for the year 1985, how does that --  
20 what is that amount?

21 A It shows that at the 23rd Avenue plant, there  
22 would be 42.4, million gallons per day. At 91st Avenue,  
23 105.6 for a total of 148.5

24 Q How does that 1985 projection compare with the  
25 actual in 1981?

T9,12

1           A       It shows 105.6 as available from 91st Avenue, to  
2 be available in 1985, and Exhibit E indicates there is 102.9  
3 available as an average in 1981 actual.

4           Q       The other columns on that table refer to AGEF.  
5 Should that -- do you know what AGEF stands for?

6           A       Arizona Game and Fish, I thought.

7           Q       The "E" is probably a mistyped --

8           A       "And," it should be an "and."

9           Q       -- ampersand, is that correct? What does BIC  
10 stand for?

11          A       BIC stands for Buckeye Irrigation Company.

12          Q       ANPP?

13          A       Arizona Nuclear Power Project.

14          Q       RID?

15          A       Roosevelt Irrigation District.

16          Q       In the column 1 under AGEF, or Arizona Game and  
17 Fish Department, it indicates that 6.5/6.5. What does that  
18 mean?

19          A       That is the acre-feet, I mean, million gallons  
20 per day, that they are entitled to under their contract.

21          Q       And the slash assumes that it will actually be  
22 used?

23          A       Yes, sir.

24          Q       That is indicated by the caption above that  
25 column, committed effluent/effluent actually used?

T9, 13

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A      Slash effluent actually used, yes.

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BY MR. GEHR:

Q In the column under ANPP, it indicates 125/38.7. Is the 125, which is expressed in million gallons per day, the equivalent to 140 thousand acre feet per year?

A Yes, sir.

Q And does the slash indicate that in 1985, 38.7 would actually be used?

A Yes, sir.

Q Is that the equivalent amount required for, on the average over a year for two units at Palo Verde?

A I believe so, sir.

Q In 1990, it shows the addition of that amount after the slash as 58. Would that reflect what is required for three Palo Verde units?

A Yes, sir.

Q In 1985, does this projection indicate that there is more than enough effluent available for Palo Verde?

A Yes, sir.

Q Than is required?

A Yes, sir.

Q Is the amount shown to be available in 1985 greater than the amount that had previously been projected in Applicants Exhibit B, which is the Corps of Engineers attachment to the Environmental Statement?

A Yes, sir.

10-2

1 Q Does that further confirm the conservatism in  
2 the chart that you've shown on Exhibit A?

3 A Very definitely.

4 Q Mr. Hulse, have you prepared a document comparing  
5 the various estimates that you have used in the course of  
6 your business over the past number of years to indicate the  
7 -- have you prepared such a document?

8 A Yes. We prepared a document which attempts to  
9 show in acre feet that available for Palo Verde with the  
10 various estimates starting back in 1972 and progressing to  
11 this one we just looked at for 1982.

12 MR. GEHR: I would ask that this document, which  
13 Mr. Hulse has referred to, be marked as Joint Applicants  
14 Exhibit G.

15 (The document referred to was  
16 marked for identification as  
17 Joint Applicants' Exhibit No. G.)

18 BY MR. GEHR:

19 Q Was this document prepared by you or under your  
20 direction and supervision?

21 A Yes, sir.

22 Q Would you explain what it shows?

23 A In order to get a comparison to use in my  
24 business to compare the amount of water in acre feet  
25 available for Palo Verde, I took the various projections,

10-3

1 which are detailed on the left, and took out the requirements  
2 for the other users, and got the net available for the use  
3 at Palo Verde out of the 91st Avenue Waste Water Treatment  
4 Plant. I would further say that this is even more conserva-  
5 tive than some of the other reports by MAG because we still  
6 show that there was a water conservation lab requirement in  
7 here for 12 hundred acre feet per year, and they were  
8 deducted from the available amounts to get our net amount,  
9 which was not done with the MAG since that facility washed  
10 away some time ago. It still is on the record as a contractual  
11 commitment.

12 Q Does the document show the source and the nature  
13 of the projections or who made the projections?

14 A Yes, sir. The left-hand column, projections by  
15 -- and then the letters at the bottom go into more detail.

16 Q Would it be correct to say, in light of your  
17 reference to the water conservation lab, if that amount were  
18 added to each -- that amount could be added to each of  
19 the amounts shown throughout the page?

20 A Yes, sir.

21 Q And that is 1200 acre feet per year?

22 A I believe that's correct.

23 Q Looking at the -- in the exhibit, directing  
24 your attention to the column under year 1985, there appears  
25 to be some spread there. The lowest amounts appears to be

10-4

1 that from the COE or EPA MAG Environmental Impace Statement,  
2 1979. Is that the same as is shown in Applicants Exhibit B?

3 A Yes, sir. It's derived from the same thing.

4 Q It's derived from the same. That appears to be  
5 the lowest. And the highest seems to be the City of Phoenix  
6 projection in 1981, which is -- what amount?

7 A 104,972 acre feet.

8 Q The actual amount discharged in 1981 exceeds all  
9 of those numbers except what?

10 A Except the City of Phoenix projection.

11 MR. GEHR: We'll offer into evidence Joint  
12 Applicants' Exhibit G for identification.

13 JUDGE LAZO: I'm sorry. I'm having difficulty  
14 hearing you.

15 MR. GEHR: I beg your pardon. Well, I didn't  
16 talk clearly. I would like to offer at this time Joint  
17 Applicants' Exhibit G.

18 JUDGE LAZO: Offer it into evidence?

19 MR. GEHR: Yes, sir.

20 JUDGE LAZO: Are there any objections?

21 MR. DEWEY: No objections.

22 MS. BERNABEI: As long as it's offered as this  
23 witness's work and not for the truth of the underlying  
24 figures, I have no problem.

25 JUDGE LAZO: Can't hear you.

10-4

1 MS. BERNABEI: I have no problem as long as it's  
2 offered as evidence of this witness's work with these figures  
3 and not as the truth of the underlying figures.

4 JUDGE LAZO: Very well. It may be received on  
5 that basis.

6 (The document referred to, having  
7 been previously marked for  
8 identification as Joint Applicants  
9 Exhibit G, was received in  
10 evidence.)

11 JUDGE LAZO: Now, your other exhibits, Mr. Gehr,  
12 Exhibits B through F, have all been marked for identification.  
13 None of them have yet been offered into evidence. Is that --

14 MR. GEHR: I will at this time offer -- maybe  
15 we'd better do it individually because there may be objections  
16 different for each one. I offer into evidence Applicants'  
17 Exhibit B.

18 MS. BERNABEI: I have no objection.

19 JUDGE LAZO: No objection.

20 MR. DEWEY: No objection.

21 JUDGE LAZO: Very well. It may be received in  
22 evidence.

23 (The document referred to, having  
24 been previously marked for identi-  
25 fication as Joint Applicants'

Exhibit B, was received in evidence.

10-5

1 MR. GEHR: I offer into evidence Joint Applicants'  
2 Exhibit C.

3 JUDGE LAZO: That's the portion of the Greeley  
4 and Hansen Report?

5 MR. GEHR: Well, it is the entire attachment,  
6 entire report of Greeley and Hansen, which was attached to  
7 another report. It was included in the Request for Admissions  
8 and referred to in the Motion for Summary Disposition.

9 JUDGE CALLIHAN: Exhibit C only of the EPA  
10 Report, did I understand you to say?

11 MR. GEHR: No, sir. We've got a very --

12 JUDGE CALLIHAN: I beg your pardon.

13 MR. GEHR: It's not surprising, the confusion.  
14 Appendix C to the EPA Report on the MAG 208 Plan is the  
15 same as Applicants' Exhibit B. You will notice the second  
16 page here, it says Appendix C.

17 JUDGE LAZO: All right. Exhibit C, the Affluent  
18 Flow Projections, are there any objections to its admission?

19 MR. DEWEY: No objection.

20 MS. BERNABEI: This was prepared for the  
21 Applicant. Is that correct?

22 MR. GEHR: No. This was prepared for the City  
23 of Phoenix in connection with their implementation of the  
24 MAG 208 Plan. The first 90 million addition, the addition  
25 which is currently underway, increasing their capacity from

1 90 million gallons to 120 million gallons per day.

2 MS. BERNABEI: Is this incorporated into any  
3 of the MAG Plans -- or the results of this study?

4 MR. GEHR: It's not in the -- well, no. It's  
5 part of an Environmental Report made for the City of Phoenix  
6 in order that the City of Phoenix could implement the MAG  
7 Plan, which provided for an expansion of the 91st Avenue  
8 Plant from 90 million gallons per day to 120 million gallons  
9 per day.

10 MS. BERNABEI: I will object to it then unless  
11 there's testimony about how -- someone from the City of  
12 Phoenix -- how this document was arrived at. I don't want  
13 to be unreasonable, but the City of Phoenix projections seem  
14 to be way above the other ones, and I'd like some informa-  
15 tion on how these were reached.

16 MR. GEHR: Well, we went through this. What's  
17 in Exhibit C is a translation of the data which is shown in  
18 Exhibit B on an annual basis, an annual average basis to  
19 a monthly average basis in various years. We have compared  
20 the specific years of '83 and '85 and found that the monthly  
21 average flows are the same as the -- if added up, would  
22 be the same as the annual average flows shown in Exhibit B,  
23 which is the MAG Plan. It does not conclude any City of  
24 Phoenix projections at all.

25 MS. BERNABEI: Under that offering, I have no

10-7

1 objection. It was pursuant to a requirement of the Clean  
2 Water Act. So I have no objection.

3 JUDGE LAZO: Pursuant to the requirements of --

4 MS. BERNABEI: Section 208 of the Clean Water  
5 Act. I understand. No, I have no objections to that.

6 JUDGE LAZO: Very well. It may be --

7 JUDGE CALLIHAN: I've been confused and I've  
8 got to restate my question.

9 MR. GEHR: Yes.

10 JUDGE CALLIHAN: I'm speaking of something that  
11 is designated in Applicants' C. It is also Exhibit C of  
12 something, which I presume is an EPA Report. Now, my  
13 question before was and still is, are you admitting -- or  
14 asking that there be admitted only Exhibit C of an EPA  
15 Report or are you offering the entire EPA Report? I'll  
16 be more definitive.

17 MR. GEHR: Let me -- the document, Joint Applicants'  
18 Exhibit C, also shows that it is Exhibit C of something.

19 JUDGE CALLIHAN: Correct. What?

20 MR. GEHR: That something is -- and I'll read  
21 to you --

22 JUDGE CALLIHAN: I really don't want to know  
23 what -- all I want to know is what's coming in, the whole  
24 report or Exhibit C to some report?

25 MR. GEHR: Just a second. I will answer your

10-8

1 question directly. I've had some consultation. But the  
2 facts are that the Exhibit C is an attachment to a document  
3 called, Environmental Assessment Working Paper, Environmental  
4 Evaluation Residuals Management Facility Plan for the City  
5 of Phoenix 91st Avenue Waste Water Treatment Plant, 23rd  
6 Avenue Waste Water Treatment Plant, Phase C, Effluent  
7 Discharge Assessment. It was -- it's dated February 4, 1980.  
8 And as the full document indicates, it is a report on  
9 environmental assessment of the implementation of the MAG  
10 Plan, which had been reviewed and given an environmental  
11 assessment itself by EPA in the prior year.

12 JUDGE CALLIHAN: Is Applicants' Exhibit C that  
13 entire report or is it Exhibit C, a different C, of that  
14 report?

15 MR. GEHR: It's Exhibit C of this report.

16 JUDGE CALLIHAN: Thank you.

17 MS. BERNABEI: Mr. Chairman, my understanding  
18 of that differs after questioning by Dr. Callihan. I  
19 understood that this was an official report prepared for  
20 the City of Phoenix pursuant to law, pursuant to -- for the  
21 MAG Plan. I have no objections to any of the MAG Plans  
22 coming in. I do have objections for independent consultant  
23 studies from Phoenix coming in since some of them appear to  
24 me to be unreliable. And I'd like a basis to question how  
25 they were prepared. I don't think we've had that here today.

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1 Mr. Hulse has used this, but he isn't competent to testify  
2 as to how it was prepared.

3 JUDGE LAZO: So what is your -- what do you  
4 propose to do with the document?

5 MR. BERNABEI: I would propose we either have  
6 it admitted properly or perhaps we could confer over the  
7 lunch break and I could -- my basic objection is that it  
8 doesn't fit within one of the hearsay rules and there's  
9 no authentication. If the document is prepared pursuant  
10 to law, as the MAG Reports are, I have no objection. If  
11 this is an independent consultant report that has nothing  
12 to do with any legal requirements, I have a problem. My  
13 general problem with the reports for Phoenix is they tend  
14 to be quite high in terms of their estimates, which is why  
15 -- unless it is an official part of the MAG in some sense,  
16 I will object.

17 JUDGE LAZO: Do you think you could clarify that  
18 with Counsel for Joint Applicants during the luncheon break?

19 MS. BERNABEI: Certainly.

20 JUDGE LAZO: And let's try to come to some  
21 agreement if possible regarding the other exhibits up  
22 through H -- no. We haven't gotten to H. Up through F.  
23 We've already admitted Exhibit G.

24 Well, then, I think it would be appropriate to  
25 take a luncheon recess and come back at 2:00 p.m. We're

10-10

1 in recess. Thank you.

2 (Whereupon, the hearing was adjourned to  
3 reconvene this same day, Wednesday, April 28, 1982, in  
4 the same place.)

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1 JUDGE LAZO: Will the hearing come to order,  
2 please?

3 Just to make it clear, Joint Applicant's  
4 Exhibits A, B and C have been received in evidence.

5 (Joint Applicant's Exhibits  
6 A, B, and C were there-  
7 upon received in evidence.)

8 JUDGE LAZO: Now, what is the status of  
9 Applicant's D, E and F?

10 MR. GEHR: If the Chairmen please, apparently  
11 we have reached an agreement with counsel for Intervenor  
12 as to stipulating the admission of a number of documents  
13 including those which we've identified. Counsel for  
14 Intervenor has asked me to make it clear on the record  
15 that as to exhibit D, is it exhibit D?

16 JUDGE LAZO: I'm sorry, did you say D?

17 MR. GEHR: Exhibit C.

18 JUDGE LAZO: Exhibit C.

19 MR. GEHR: Sometimes referred to as the  
20 Greeley and Hansen report. She asked me to make it  
21 clear in the record which apparently confused everybody  
22 by stating what exhibit C and what document it is a  
23 part of and that it is not a part of whose source is  
24 the City of Phoenix.

25 Let me do it in this fashion. After the

1 MAG plan which was reported in the MAG report which  
2 will also apparently be stipulated into the record and  
3 based on the EPA and Final Environmental Statement,  
4 which we have referred to on the MAG plan, after the  
5 MAG Plan was approved, it was then necessary to make  
6 an environmental assessment of the disposal of residuals  
7 from the facility, the sludge and etcetera and consequently  
8 as an outgrowth of the MAG Plan, a study was undertaken  
9 called the residuals management facility plan. This  
10 particular -- since once of the elements of the MAG  
11 plan was the expansion of the 91st Avenue, from 90 million  
12 gallons per day to 120 million gallons per day and the  
13 23rd Avenue Plant was to be upgraded, a draft residuals  
14 management facilities plan was prepared under the auspices  
15 of MAG, the Maricopa Association of Government.

16 That plan consists of five volumes. Most  
17 of it is extraneous to the record in this case. The  
18 only portions that were relevant to this case was exhibit  
19 C in volume five of that report which is also exhibit  
20 C admitted in evidence in this matter.

21 Does that suffice?

22 JUDGE LAZO: So is it received with some  
23 limitation as to its use?

24 MR. GEHR: We have in connection with --  
25 well, I can proceed with the explanation of our stipulation.

1 We've agreed to stipulate into the record I believe  
2 all of our documents except one --

3 MS. BERNABEI: Except for Exhibit E.

4 MR. GEHR: Exhibit E which is the Phoenix  
5 1981 projections. When we have Mr. Steytler on the  
6 stand tomorrow, we will offer that, re-offer that in  
7 evidence.

8 JUDGE CALLIHAN: Mr. Gehr, I thought it  
9 was the Phoenix 1981 actual measurements rather than  
10 projections.

11 MR. GEHR: Well, we had both.

12 THE WITNESS: Exhibit E is actual.

13 MS. BERNABEI: Perhaps I'm wrong. It's  
14 actually, exhibit D and exhibit -- it's actually exhibit  
15 D that we're objecting to.

16 MR. GEHR: D is what she's --

17 MS. BERNABEI: The actual measurements we're  
18 not. Thank you.

19 MR. GEHR: She misspoke.

20 JUDGE LAZO: Well now, that raises the other  
21 problem. Exhibit D is identical to the attachment  
22 that was attached to Mr. Hulse's direct testimony, the  
23 affidavit in support of the summary disposition motion  
24 which inadvertently then got admitted into evidence  
25 earlier.

1 MS. BERNABEI: I'm going to stand on my  
2 objection. I think since Mr. Steytler is going to be  
3 here to formally sponsor this document, I don't think  
4 there's going to be any problem.

5 JUDGE LAZO: All right, for the time being,  
6 all of the Joint Applicants' Exhibits except Exhibit  
7 D may be received into evidence.

8 (Joint Applicants' Exhibits  
9 E, F and G were there-  
10 upon received in evidence.)

11 MS. BERNABEI: We've also entered into a  
12 stipulation to introduce the MAG report, the so-called  
13 MAG 208 reports including the draft reports. There  
14 are four to my knowledge. There's an orange volume  
15 dated final plan, July 1979 and then there's two updates  
16 to that, one and two volumes. One is February of this  
17 year, February, 1982 update which labeled draft and  
18 there's a May 1982 second update which is labeled draft.  
19 there's also an executive summary to that.

20 JUDGE LAZO: Well, we'll wait and let counselor  
21 for applicants identify those for us.

22 MR. GEHR: These basically are documents  
23 which she proposes to introduce and we have stipulated  
24 that we -- they may be introduced.

25 MS. BERNABEI: There's also what is now  
marked as Exhibit F which has been taken out of the

1 May, 1982 draft update, so what we're proposing is the  
2 full update be admitted instead of a portion.

3 JUDGE LAZO: And that's something you're  
4 attend to at the proper time?

5 MS. BERNABEI: Yes.

6 JUDGE LAZO: Thank you.

7 (Pause)

8 MR. GEHR: There is one more preliminary  
9 matter, Mr. Chairman, I'd like to mention.

10 JUDGE LAZO: Please proceed, sir.

11 MR. GEHR: I had hoped to have Mr. Bingham  
12 testify this afternoon before he had to leave. It now  
13 appears that Mr. Hulse will be on most of the afternoon  
14 and also I would like to get Mr. Steiner on this afternoon.  
15 In light of that development, we are -- we'd like to  
16 advise the Board and counsel that Mr. Bingham will return  
17 on Friday morning and be available for testimony at  
18 that time. You may recall the state of the subjects  
19 of his testimony were going to be the analysis of the  
20 quantity of the effluent requirements, the quality of  
21 the effluent and also the non-safety elements of the  
22 reservoir.

23 It is my intention now to proceed with Mr.  
24 Hulse in connection with the testimony respecting the  
25 contract, the negotiations respecting the contract and

1 I suppose that's it.

2 JUDGE LAZO: All right. Very well, why  
3 don't you proceed, sir?

4 BY MR. GEHR:

5 Q Mr. Hulse, before we start on the contract,  
6 I have one question to ask. Exhibit A which is -- indicates  
7 two lines at the bottom of the chart -- I want to make  
8 sure that the record is clear that those lines which  
9 represent the monthly requirements of effluent for condenser  
10 cooling Palo Verde units are based on data which was  
11 furnished to you by the engineering group responsible  
12 for Palo Verde and were not your analyses?

13 A That is correct, we do not make those kinds  
14 of calculations. We're dependent on the designers to  
15 project those figures.

16 MR. GEHR: At this time I'd like to have  
17 marked for identification as Applicants' Exhibit H the  
18 agreement 13904 which is the effluent contract relating  
19 to the 91st Avenue and 23rd Avenue plants.

20 (Whereupon, the document  
21 referred to was marked  
22 for identification  
23 as Applicant's Exhibit H.)

24 BY MR. GEHR:

25 Q Could you identify Joint Applicant's Exhibit

1 H, Mr. Hulse?

2 A Yes, it is the agreement number 13904 option  
3 and purchase of effluent between the multi-cities and  
4 the APS and the Salt River Project.

5 Q The date of that agreement is April 23,  
6 1973, is that correct?

7 A That is correct.

8 Q Could you summarize the --

9 JUDGE LAZO: I'm sorry, counselor, I guess  
10 I do have a question. The document which has just been  
11 handed to us bears the typewritten date at the top of  
12 the first page 3/1/73.

13 I guess we have to know is this the same  
14 agreement that had been --

15 THE WITNESS: Page 41, Your Honor.  
16 It says it is duly authorized this 23rd day of April,  
17 1973.

18 MR. GEHR: Does that answer your question,  
19 sir?

20 JUDGE LAZO: And is this the same document  
21 that had been supplied to the Board previously, at least  
22 the chairman received it?

23 MR. GEHR: Yes, it is. The same document.

24 JUDGE LAZO: Agreement 13904?

25 MR. GEHR: Right.

1 JUDGE LAZO: I'm sorry, I guess I received  
2 a copy from Mr. Bill Stephens on March 22, 1982, I  
3 guess that's how it came into the possession of the  
4 Board.

5 MR. GEHR: The date that appears on the  
6 front page 3/1/73 is merely the date which it went through  
7 the typewriter. It took awhile to get it executed.

8 JUDGE LAZO: My copy also included a cover  
9 sheet entitled Table of Contents.

10 MR. GEHR: That was not part of the original  
11 agreement.

12 JUDGE LAZO: Ah, someone else has added that.

13 MR. GEHR: That was added.

14 JUDGE LAZO: A very useful thing.

15 MR. GEHR: I'll hang on to it.

16 BY MR. GEHR:

17 Q Mr. Hulse, would you summarize those provisions  
18 of the contract which are relevant to the supply of  
19 effluent?

20 A Well, the basic document is an option agreement  
21 to acquire up to 35,000 acre feet per unit for a maximum  
22 of four units for use at Palo Verde or any other power  
23 plant site of water to be made available to Salt River  
24 and APS from the 91st Avenue Plant and/or the 23rd Avenue  
25 Sewage Disposal Plant. The contract also speaks to

1 water quality contract, it also speaks to compensation  
2 for such water to be delivered. It covers the compensation  
3 applicable during the option period as well as the compen-  
4 sation levels to be used once the option is exercised.

5 Q Is the option on 23rd Avenue effluent to  
6 be exercised at any time or at the time only when there  
7 is not sufficient effluent available at 91st Avenue?

8 A No, the contract makes reference to the  
9 fact that if the water is not available from 91st Avenue,  
10 it can also be made available, supplemented by water  
11 from 23rd Avenue.

12 Q How would you classify the delivery of the  
13 effluent in terms of contracts? Is it a fixed amount  
14 contract or are we required to take 140,000 or is it  
15 a requirements type contract?

16 A Mr. Gehr, it is a requirements contract,  
17 while the maximum amount is limited by the contract,  
18 the minimum amount is whatever the requirements are  
19 for the power production facilities.

20 Q Are there any restrictions on the use of  
21 the effluent sold in the contract?

22 A Yes, the effluent can only be used for power  
23 production purposes for those units which have construction  
24 permits prior to 1995.

25 Q Is it restricted as to any type of generating

1 plant?

2 A Well, generally the contract speaks to Palo  
3 Verde but there is a section which says it can be used  
4 for other power production facilities.

5 Q How was the price for the effluent determined  
6 after the options have been exercised or any of them?

7 A At the time the option is exercised, the  
8 price is the higher of \$20.00 an acre foot or 40% of  
9 CAP, I believe it's M and I water prices, not to exceed  
10 \$30.00 per acre foot.

11 Q In addition, that is for the water that  
12 will actually be delivered for use at Palo Verde or  
13 some other plant, is that correct?

14 A Yes, it would be for the amounts delivered  
15 into the pipeline at the 91st Avenue Plant or into a  
16 pipeline from 23rd if it were to be used.

17 Q Is there a payment required for the amount  
18 which is obligated to be delivered under the exercised  
19 option and not taken?

20 A Yes, there's a payment of \$2.00 per acre  
21 foot for that water.

22 Q During the option period, has it been necessary  
23 to make any option payments and if so, how much?

24 A Yes, prior to obtaining a construction permit  
25 for Palo Verde, the option payments were \$1.00 per acre

1 foot. Subsequent to that they go to \$2.00 per acre  
2 foot and those are option payments which are credited  
3 against future purchase price of effluent.

4 Q If you know, how much in total option payments  
5 have already been paid?

6 A I can't speak to it precisely. It's approxi-  
7 mately 1.2 million dollars, I believe.

8 Q And that is for the period -- as an other  
9 option came due in the near future?

10 A I believe so, and the 82 payment has not  
11 been made to the best of my knowledge. Basically it  
12 is from the time the contract is signed through the  
13 end of 1981.

14 Q The contract speaks in terms of the option  
15 effluent -- effluent under option and subject to purchase  
16 as being uncommitted effluent. What is the committed  
17 effluent?

18 A The committed effluent are those that are  
19 under prior contractual agreements with Buckeye Irrigation  
20 District, Arizona Game and Fish and the old water conserva-  
21 tion plan or whatever it was called. In other words,  
22 they had prior rights or senior rights.

23 Q The amount of the prior right of Buckeye  
24 Irrigation District?

25 A I think is 38.5.

1 Q Is that the total or the amount of just  
2 Buckeye Irrigation?

3 A Oh, excuse me, I think that's Buckeye.  
4 Is it 35,800 or 38.5, I'm not sure.

5 JUDGE CALLIHAN: What units, Mr. Hulse,  
6 please?

7 THE WITNESS: Pardon?

8 JUDGE CALLIGHAN: What units?

9 THE WITNESS: Oh, acre feet per unit.

10 JUDGE CALLIHAN: Just for the record.

11 THE WITNESS: Thank you.

12 JUDGE CALLIHAN: Thank you.

13 BY MR. GEHR:

14 Q Would you turn to the contract, Mr. Hulse.

15 A Okay, Exhibit A-1.

16 Q Does that spell out what the prior commitment,  
17 effluent commitment is?

18 A Yes, sir. That's 30,000 acre feet for  
19 Buckeye, 7300 for Arizona Game and Fish and 1200 for  
20 U.S. Water Conservation for a total of 38.5.

21 Q I think you previously testified that the  
22 amount set aside for the water conservation lab is no  
23 longer being delivered because that experiment or work  
24 has been discontinued?

25 A I think the floods discontinued that experiment

1       yes, sir.

2                       JUDGE CALLIHAN: Those are acre feet per  
3       year?

4                       THE WITNESS: Acre feet per year.

5                       JUDGE CALLIHAN: I see, thank you.

6                       BY MR. GEHR:

7                       Q       Are all of those commitments -- Exhibit  
8       A indicates, does it not that all of those commitments  
9       are solely from the 91st Avenue Plant?

10                      A       Yes, sir.

11                      Q       You've indicated that a million, approximately  
12       1.2 million dollars in option payments have been paid  
13       which is evidence of the fact that the contract is currently  
14       in full force and effect?

15                      What other evidence of the current effectiveness  
16       of the contract is there?

17                      A       Well, we have notified the city of our con-  
18       struction water requirements. We have worked out operating  
19       procedures with the City of Phoenix. Obviously the  
20       gate turn-out arrangements have been constructed and  
21       the water was -- started delivery from those facilities  
22       on I think March 29th of this year.

23                      Q       So effluent is currently being delivered  
24       under the contract for construction purposes, is that correct?

25                      A       Yes, sir.

T12,1

1 Q One of the -- I would like you to turn to Section  
2 21 of the agreement, of the contract.

3 A I have it, sir.

4 MR. GEHR: I think this is a critical section  
5 of the agreement, under the concerns that have been expressed  
6 by the Board and others. I would ask Mr. Hulse to read  
7 Section 21 into the record. It is not very long.

8 BY MR. GEHR:

9 Q Would you proceed, please?

10 A Section 21, in caps. Interruption of Delivery of  
11 Effluent. Section 21.1. Cities shall have the right to  
12 refuse to deliver effluent under the terms of this agreement  
13 when the following occurs: A) There exists in the cities  
14 a critical need for water to be used for domestic purposes.  
15 B) All other reasonable sources of water, including any  
16 uncommitted effluent in excess of the option effluent have  
17 been exhausted. C) Reasonable steps have been taken to  
18 conserve the water supply in the cities, and D), reasonable  
19 notice of the critical need has been given to the  
20 participants.

21 When the critical need expires, or when other  
22 reasonable sources of water become available, cities can no  
23 longer refuse to deliver effluent under the terms of this  
24 agreement.

25 The cities shall use their best efforts to resume

1 deliveries of effluent hereunder at the earliest practical  
2 time in the event such deliveries are interrupted in  
3 accordance with this Section 21.

4 MS. BERNABEI: Mr. Chairman, this document at  
5 this time has not been entered into evidence. I have no  
6 problem, but I would like it in the record if this witness is  
7 going to be testifying as to the substance.

8 JUDGE LAZO: If this witness is going to be --

9 MS. BERNABEI: Testifying as to the substance  
10 and reading from the contract, I would like it introduced into  
11 evidence.

12 MR. GEHR: I will offer it in evidence at this  
13 time.

14 JUDGE LAZO: Are there any objections? Very well,  
15 it may be received in evidence.

16 (Joint Applicants' Exhibit No.  
17 H was thereupon received into  
18 evidence.)

19 BY MR. GEHR:

20 Q Apart from the notice criteria for implementing  
21 Section 21, what are the three critical criteria that must  
22 occur before there can be any interruption in the supply?

23 A There must be a critical need, they must have  
24 used all of the reasonable resources, and they must have  
25 taken steps to conserve the water supply.

1 Q All right. Now, as to water resources of the  
2 cities currently from -- for their domestic supply, for the  
3 short term and the long term I expect will be addressed by  
4 other witnesses, Mr. Hulse. But is there not also -- does  
5 that not -- do those criteria not also require the city to  
6 fully utilize all option effluent in excess of that being --  
7 the utilization of all reasonable sources includes the use of  
8 all excess effluent, is that not true?

9 A Yes. In other words, they have got to use what  
10 we are not using, and what the other pararights are not  
11 using.

12 Q And currently today as of in 1981, they had  
13 excess requirements from the 23rd Avenue plant, is that  
14 correct?

15 A They have excess effluent available at the 23rd  
16 plant.

17 Q And how much, approximately.

18 A It is around 40 million gallons a day, or some-  
19 thing like that. No, wait a minute. 34 million gallons a  
20 day are --

21 Q Actual?

22 A Actual.

23 Q It shows -- the correct number shows in the --

24 A The table.

25 Q -- in the exhibit.

T13,4

1 MS. BERNABEI: I am going to object to this  
2 question. I am not sure what Mr. Gehr or the witness mean by  
3 excess amount. Do they mean excess above existing commitments?  
4 I am also unclear what the Exhibit is that the witness is  
5 referring to.

6 JUDGE LAZO: I will just ask Mr. Gehr to rephrase  
7 the question.

8 MR. GEHR: Yes.

9 BY MR. GEHR:

10 Q In your analysis of the quantity of effluent  
11 available against the requirements for Palo Verde for three  
12 units of operation, you relied solely on the effluent  
13 available or being processed, or to be processed from the  
14 91st Avenue plant, is that not correct?

15 A That is correct.

16 Q And does that mean that under your analysis that  
17 all of the effluent from the 23rd Avenue plant would be  
18 available to the City of Phoenix for -- or the other cities --  
19 for use before they -- which -- before they could interrupt  
20 the supply of the amount going to Palo Verde?

21 A Yes, sir.

22 Q And that amount you were starting to look up in  
23 one of the Exhibits?

24 A Exhibit F -- Exhibit E, excuse me, page two of  
25 two shows that the average daily flows from 23rd Avenue,

1 historical for 1981, at 35.8 million gallons per day, and  
2 that is in the neighborhood of 38 to 40,000 acre-feet per  
3 year.

4 Q And if there is at any time excess effluent  
5 coming out of 91st Avenue, which is not required for Palo  
6 Verde, would they also be required to utilize that effluent  
7 before they interrupt that supply?

8 A Yes, sir.

9 Q If you know, has the City of Phoenix made any  
10 arrangements for the exchange or disposal or use, exchange  
11 or use of the effluent from 23rd Avenue plant which would --  
12 could be used to supplement their water supply?

13 A Not that I am aware of, sir.

14 Q Did Mr. Stephens provide the cities with a  
15 letter indicating an intent or other intention to serve notice  
16 under Section 21?

17 A The question, Mr. Gehr, is has Mr. Stephens or  
18 anyone else notified the cities?

19 Q No, I did not state it correctly.

20 I am going to start all over.

21 I will ask that a letter dated December 9, 1981  
22 to Mr. Russell D. Hulse from Mr. Bill Stephens be marked  
23 Joint Applicants' Exhibit I.

24 ///

25 ///

1 (Whereupon, the document refer-  
2 ed to was marked as Joint  
3 Applicants' Exhibit No. I for  
4 identification.)

5 BY MR. GEHR:

6 Q Mr. Hulse, would you explain what Joint  
7 Applicants' Exhibit I is?

8 A It is a letter dated December 9, 1981, from Mr.  
9 Stephens to myself, in which he indicates to me that in  
10 January of 1984, they plan to exercise their right to refuse  
11 to deliver the full amount of effluent under contract, based  
12 on the fact that there exists -- they anticipate there will  
13 exist a critical need at that time, and that other reasonable  
14 sources are not available.

15 Q Specifically, the later letter states, does it  
16 not, under B, that the quote, the likelihood of other  
17 reasonable sources of water becoming available by that time  
18 is questionable?

19 A That is exactly the words, sir.

20 Q Are all the cities mentioned in the notice, in  
21 the letter -- are they all of the parties to the contract?

22 A No, sir. Youngtown is missing.

23 Q And basically this letter is merely a statement  
24 of their -- that they intend to do something sometime in the  
25 future as to some unknown quantity of effluent, is that

1 correct?

2 A That is correct.

3 Q The full -- what is the full amount of effluent  
4 under the contract?

5 A The full amount of contract -- of the contract --  
6 effluent under the contract option is 140,000 acre-feet. Per  
7 year.

8 Q And that is more than twice what is required per  
9 year for the Palo Verde plants.

10 A That is correct, and particularly in the year, in  
11 January of 1984, we are only looking at having one unit in  
12 service at that time, so --

13 MS. BERNABEI: I am going to object to this line  
14 of questioning. There has been no foundation laid. This  
15 witness has not been qualified to talk about the needs in the  
16 Palo Verde plant. He specifically said that he was not  
17 qualified to speak of them, and we haven't had foundation  
18 laid for him to speculate at this point about whether or not  
19 140,000 is enough or twice as much or three times as much as  
20 the needs of the plant.

21 JUDGE LAZO: All right, to the extent that the  
22 response have gone in that direction, we sustain the  
23 objection. The witness has been presented as an expert on the  
24 contract.

25 MR. GEHR: Well, if I may, Mr. Chairman, when we

T12,8 1 introduced Joint Applicants' Exhibit A, we established that  
2 the requirements were those which had been furnished to him  
3 by the engineers, and if they want me to rephrase the  
4 question to state that the quantity of 140,000 is more than  
5 twice what the engineers have advised them are the  
6 requirements for Palo Verde, I shall do so. I think this is  
7 just -- I don't see why it is necessary.

8 JUDGE LAZO: Well, I don't think you have to do  
9 that.

10 MS. BERNABEI: I would also make the objection  
11 that most of these questions are leading questions, and I  
12 would appreciate it if Mr. Gehr would not lead the witness.

13 MR. GEHR: I would deny that they have been  
14 leading questions. They have always given an alternative to  
15 answer either one way or another.

16 JUDGE LAZO: Well, let us proceed. Ms. Bernabei,  
17 when you talk, could you get a little closer to the  
18 microphone?

19 MS. BERNABEI: Sure.

20 JUDGE LAZO: Thank you.

21 BY MR. GEHR:

22 Q In light of the very substantial amount of  
23 excess effluent available to the cities, do you consider the  
24 risk of interruption of effluent to the -- of the effluent  
25 supply under Section 21 to Palo Verde to be minimal or remote?

T12,9

1 MS. BERNABEI: We would object to the form of the  
2 question. It assumes facts not in evidence; that there is  
3 an excess amount available to the cities. I don't believe  
4 this witness has testified to that. He has testified to the  
5 amount available from the 91st Avenue treatment plant. I do  
6 not believe he has testified as to the needs, and what an  
7 excess need to the cities would be, and I believe that is  
8 what this question goes to.

9 If I misunderstood, I will withdraw the objection.  
10 As the question stands, I believe he is talking about  
11 excess need to the city, which is what the provision in the  
12 contract speaks to.

13 JUDGE LAZO: Well, we have the two numbers in the  
14 record. The 140,000 acre-feet per year from the contract,  
15 and the estimates which have come in in the recent exhibits  
16 as to what would be required in the year '85, so the two  
17 numbers are in the record.

18 MR. GEHR: There is also in the record the  
19 fact that there is 40,000 acre-feet available, approximately  
20 40,000 acre-feet of effluent available to the cities for  
21 use from the 23rd Avenue --

22 JUDGE LAZO: From the 23rd Avenue plant.

23 MR. GEHR: -- plant, and that is present today,  
24 and it is not included in any of the availability estimates  
25 that Mr. Hulse has utilized.

1 JUDGE LAZO: Well, maybe it was the word "excess"  
2 that Counselor objected to.

3 MR. GEHR: Well, the problem is the excess is not  
4 the excess of their water needs. The problem is -- the word  
5 "excess" comes from the contract. The cities are required to  
6 use excess effluent over that which is uncommitted, and that  
7 includes the 40,000 feet from the 23rd Avenue plant. Those  
8 were the words that we established were in the contract, in  
9 Section 21.1 specifically, all other reasonable sources of  
10 water, including any uncommitted effluent in excess of the  
11 option effluent have been exhausted. They have to exhaust the  
12 use of that excess effluent before they can interrupt  
13 supply.

14 JUDGE LAZO: Well, and you want this witness to  
15 give you his opinion as to the interpretation of that  
16 contract. I think that is perfectly proper.

17 MR. GEHR: And I was now asking him on a  
18 conclusion, based on the amount of excess effluent that was  
19 available to the cities for use, did he consider, and this  
20 was a question I was not permitted to get an answer to, did  
21 he consider that the risk of interruption of supply was  
22 minimal or remote? Was minimal or -- yeah. I will leave it  
23 the way I have it. Minimal or remote?

24 MS. BERNABEI: I will repeat my objection. I  
25 don't believe there are facts in evidence from this witness

1 that show the excess effluent available to the cities. I  
2 believe that is a calculation that includes figures that this  
3 witness has not testified to. He has testified to what is  
4 available. He has not testified to -- I guess what I am  
5 saying is that I believe the wording of the contract has to  
6 do with other than committed uses of that water, or effluent.

7 Other resources means actual need rather than  
8 committed need, I believe, and I don't believe he has  
9 testified to other than what is committed, according to the  
10 contract. Under this interpretation, there would never be  
11 sources -- there would always be sources available to  
12 satisfy the cities in time of critical need.

13 JUDGE LAZO: But that one of those sources would  
14 be the effluent from the 23rd Avenue plant, you agree with  
15 that.

16 MS. BERNABEI: That is correct.

17 JUDGE LAZO: And he has testified as to how much  
18 effluent would be available from there. Well, I am afraid  
19 I am going to have to overrule your objection. I think he  
20 should answer the question, should be permitted to answer.

21 WITNESS HULSE: Mr. Gehr, I think that -- I  
22 obviously feel that the chances of Section 21 being invoked,  
23 based upon the projections on availability provided by  
24 various parties, and the requirements provided by engineering  
25 construction division on the requirements, there is a great

1 deal of water left over, and that it is very difficult for me  
2 to perceive that there would be anything but the very  
3 slightest possibility that Section 21 would ever be invoked.

4 BY MR. GEHR:

5 Q I would like to now turn to the negotiations  
6 which have been taking place, or have taken place in the  
7 last several months, Mr. Hulse.

8 MR. DEWEY: Your Honor, I would like to, or  
9 Staff would like to interject a point at this time. We can  
10 appreciate the fact that the Applicant perhaps feels like it  
11 is necessary to get into negotiations between itself and the  
12 water association. It seems to the Staff, however, that this  
13 is in the nature of a private dispute which might eventually  
14 result in litigation, the outcome of which would be  
15 conjectural and speculative, and I think this Board could  
16 spend many, many hours, and perhaps even days, on this  
17 subject, to decide what are the possible outcomes, and it  
18 would be very speculative.

19 Now, the fact of the matter is, to the Staff's  
20 understanding, there has never been a shortage in water  
21 effluent at Palo Verde, and we are talking about something  
22 that may never happen, and we just don't feel that this  
23 Board should concern itself with such speculative matters.  
24 This is in the same type of frame that we have already  
25 discussed with the Indian, Pima-Maricopa lawsuit, and I am

1 just very worried that we are just going to just get deeper  
2 and deeper in the subject, and I don't think it is really  
3 appropriate.

4 MS. BERNABEI: Mr. Chairman, I would disagree.  
5 This contract is the basis for most of the water that is to  
6 operate three nuclear plants. In fact, it is what I would  
7 say is probably the most important reason that we are here  
8 in this hearing today. Applicant has seen fit to put on as  
9 their direct witness the man who knows most about this  
10 contract. Mr. Stephens, in whose testimony this Board has  
11 been very interested, has testified that this section, Section  
12 21 of the contract, has already been invoked, and Mr. Hulse  
13 is now testifying about why he doesn't think this is going  
14 to happen in the future.

15 Those negotiations, which I would consider both  
16 parties at this point have waived any privilege to, are of  
17 utmost importance to this Board in its decision, its  
18 determination of whether or not this contract is going to  
19 prevent an adequate supply of water for the plants.

20 JUDGE LAZO: Mr. Gehr, what is the purpose of  
21 this line of questioning?

22 MR. GEHR: Well, basically it is intended to be  
23 responsive to the Board's memorandum decision denying our  
24 motion for summary disposition of contention number five, in  
25 which the Board noted that Mr. Stephens had sent you a letter,

1 I believe, dated March 10, 1982, which included reference to  
2 Section 21, included reference to matters being negotiated  
3 respecting the contract. I have no desire to get into the  
4 negotiations if the Board is not interested. I have no  
5 reluctance to do so, and if the Board wishes to hear it, we  
6 will proceed with it.

7 I think that Counsel for the Staff is perfectly  
8 right, that it is not germane, if I could ask one more  
9 question of the witness.

10 BY MR. GEHR:

11 Q Namely, Mr. Hulse, is there any provision in the  
12 contract which permits reopening by any party or permits  
13 termination earlier than its normal term?

14 A No, sir.

15 MR. GEHR: No, we have a contract that has a  
16 term expiring some 40 years, 2035, whatever it is, for some  
17 long period of time, longer, I think, than our license for our  
18 plant, or about that long, anyhow. At any rate, it is for a  
19 long period, term of years. There is no provision calling  
20 for a reopening. There is no provision which permits either  
21 party to terminate. Both parties are bound for the term of  
22 the contract, and the fact that the parties got together and  
23 considered changes to the contract is, I imagine, not  
24 germane, but we are not reluctant to tell you what the scope  
25 of those negotiations have been.

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MS. BERNABEI: Mr. Chairman, may I address that?

JUDGE LAZO: Very well, Please.

MS. BERNABEI: We have spoken to Mr. Stephens about that and much of what he has said to us has been crystalized in his testimony in a limited appearance yesterday. I believe this contract and the interpretation of this contract, as we intend to get into on cross examination, has been subject to a lot of dispute between APS and the Army Corps of Engineers and now the cities, and that these negotiations and the substance of them are going to reveal that this kind of differing interpretation is continued up to the present day. Therefore, we do think that it is important.

MR. GEHR: There's one thing I must add, Mr. Chairman, please, and that is the statement by Counsel that the cities had given the notice required under Section 21. And I don't recall precisely what Mr. Stephens said in his limited appearance, but that is not the case. We purposely introduced the letter dated December 9, 1981, to demonstrate that fact and that is the only letter. And that is a letter not from the cities, as required by the contract, it's a letter from Mr. Phil Stephens, executive director for the Arizona Municipal Water Users Association, which is not authorized to give the notice and includes -- I believe, the contract is not with the Municipal Water Users Associa-

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1 tion. It only refers to some of the parties to the contract.  
2 It does not state that this is a notice. It's a statement  
3 of a plan to give a notice if certain things continue. That  
4 is not a notice. We have not been notified and I'm sure  
5 there can't be any dispute on that score.

6 JUDGE LAZO: Mr. Hulse, I understand that you're  
7 actively engaged in the negotiations under the contract.  
8 I think it would be helpful for our purposes if you could  
9 simply enumerate the subjects that are under renegotiation,  
10 not the details, but simply what subjects are there that  
11 are presently up for renegotiation as far as the parties are  
12 concerned?

13 WITNESS HULSE: Well, Mr. Chairman, let me say  
14 that the task force or the team that was negotiating with  
15 Mr. Stephens and his team on this agreement have quit  
16 negotiating and it's now in the hands of a projected meeting  
17 of our CEO with the mayors of various cities.

18 JUDGE LAZO: Well, then you yourself are not  
19 actively negotiating?

20 WITNESS HULSE: We are not today actively  
21 negotiating. Now, Mr. Stephens was a team leader for a  
22 team. I was a team leader. And I have every reason to  
23 believe that once we get this hearing behind us, we can  
24 get some man hours and some time to continue negotiations.  
25 However, the issues here are trying to appreciate the fact

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1 that the compensation levels for the water, while they  
2 might have been thought to have been reasonable in 1973,  
3 in today's world, they are probably not reasonable figures.

4 JUDGE LAZO: You said compensation?

5 WITNESS HULSE: Compensation levels. So  
6 compensation levels of payment for the effluent is certainly  
7 one item. I think we've heard the cities loud and clear  
8 about the need to make plans to have water exchanges to  
9 take care of these shortages. What we're attempting to do  
10 is to change the -- from blocks of options to some  
11 commitments on taking effluent, so that they can make plans  
12 and depend upon that water being available. We knew at  
13 the time that we signed this agreement, we had an option  
14 for a maximum of 35 thousand acre feet per unit. If I'm  
15 permitted to say so, it's my general feeling that that's  
16 an excess of what we need today and that therefore, we  
17 are trying to realistically approach that system of using  
18 more realistic figures as to the needs of the Palo Verde  
19 Units.

20 As will be shown by other witnesses, since this contract was  
21 written, there's been an overall ground water plan developed for the state.  
22 There's a CAP allocation been developed which Mr. Steiner  
23 will discuss. And I believe he will tell you that in the  
24 formulation of those allocations, it has been predicated on  
25 the basis of 140 thousand acre feet of sewage effluent being

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1 available to the utilities.

2 What we're trying to do is then structure the  
3 timing of the taking of that effluent to coincide with  
4 the general CAP allocation and still not exceed the amount  
5 of effluent we had under option, under this original  
6 agreement. So that we will have some different concept  
7 of how we can use the effluent for power production or  
8 other purposes associated with our utility business, we  
9 are also trying to finalize some numbers and some time  
10 frame so that the cities can make definitive plans to  
11 supplement their water supply. We have agreed to take from  
12 the requirements a concept where we only pay for what we  
13 took in any particular year so that they can firm up their  
14 financial planning to agree to a taker-pay arrangement.  
15 In other words, we increase the compensation level and  
16 dollars per acre foot. We also agree to pay for so many  
17 acre feet per year whether we use that much or not, so  
18 that they can firm up their financial planning for the  
19 development of their water facilities.

14

20 I think that's basically the items that we've  
21 had in the discussion.

22 MR. GEHR: May I ask a couple of -- perhaps --  
23 leading questions, but I'll get to the point first.

24 BY MR. GEHR:

25 Q Were there any changes suggested as to limiting

14-1

1 the source of water for the Palo Verde Plants to either --

2 A Yes. We had agreed in trying to free up the  
3 water so they could do their planning. We had restricted  
4 -- said that it would meet their needs out of our 91st  
5 plant only. Therefore, they could make arrangements to use  
6 the 23rd Avenue facility for something else.

7 There was also a restriction -- excuse me. One  
8 of the things that was becoming -- could appear to become  
9 cumbersome was the fact that there is no contract. It was  
10 such that until they could fully meet their 140 thousand  
11 feet that we had under option at 91st and 23rd, they were  
12 not allowed to build additional plants within a certain  
13 service area or certain geographical area for other purposes.  
14 Again, I think recognizing that the more practical approach  
15 to some of these small situations, such as golf courses and  
16 such, or where developers develop a total community such  
17 as Arrowhead Ranches or the Gainey Ranch, it makes sense  
18 to put in a very small plant whereby they take the local  
19 sewage and give it certain treatments and then use it for  
20 irrigation of the golf course facilities. Those are very  
21 minimal, about four-tenths of a million gallons per day --  
22 or what is that -- something less than 500 acre feet per  
23 year or something like that for each of those installations.  
24 We've agreed that -- all we've asked is the city warrants  
25 that they will meet our needs under the revised requirements

14-2

1 that we're trying to work out with them and that we would  
2 not attempt to restrict their ability to build other  
3 facilities as long as they could meet their delivery  
4 requirements of the amended agreement.

5 I think what we're basically trying to do,  
6 both parties, is take an agreement and put it in today's  
7 world. This is very common in the utility business today.  
8 One of the other items that we have discussed is if we  
9 were to get a revised agreement with the right terms and  
10 conditions and restrictions lifted that paragraph 21 would  
11 not apply to the Palo Verde deliveries -- or the concepts  
12 here in paragraph 21 would not apply to Palo Verde deliver-  
13 ies.

14 MR. GEHR: I think that disposes of the Staff's  
15 objection.

16 JUDGE LAZO: Would you go further, Mr. Gehr,  
17 as far as direct questioning on this subject of negotiation?  
18 We were interested in knowing just what subjects, what  
19 issues were being negotiated.

20 MR. GEHR: He has -- no. I think Mr. Hulse  
21 has given you a fairly complete picture of the subjects.  
22 We have not gotten into the cost or the ultimate values  
23 there. If we want to get talking into the increased number  
24 of dollars per year, we can have him go to that, but I  
25 did not have any additional --

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JUDGE LAZO: Well, as far as financial matters are concerned regarding the renegotiations, that's just not a matter that we feel has any particular relevance to this proceeding. As far as the subject of the renegotiations are concerned, I think probably we've explored it to the depth that we think we should. Counsel for Intervenor will be able to cross examine within the scope of the direct that you've heard. I think that should satisfy you. I hope it does.

MS. BERNABEI: I see no problem.

JUDGE LAZO: All right. Fine. Mr. Gehr, do you have any further direct testimony of this witness?

MR. GEHR: Well, I think we'd probably better get into the record the Tolleson effluent agreement. It was filed in connection with some supplement we found on the Environmental Report, I believe; but nonetheless, I'd like to have it in this record.

JUDGE LAZO: In the nature of a complete record, let's go ahead and do it.

MR. GEHR: This will be Joint Applicants' Exhibit J.

(The document referred to was marked for identification as Joint Applicants' Exhibit J.)

///

1 BY MR. GEHR:

2 Q Mr. Hulse, would you explain what Exhibit J is?  
3 And I notice that it is in two separate, stapled documents,  
4 both of them constituting Exhibit J.

5 A Exhibit J is the agreement for the sale and  
6 purchase of waste water effluent. The parties to that  
7 agreement are the City of Tolleson, Arizona Public Service  
8 and the Salt River Project. And it's dated effective  
9 June 12, 1981. And if there's two separate documents, I  
10 guess there's an amendment to that. Amendment Number 1 to  
11 this agreement, same parties, entered into the 12th of June  
12 -- no -- 12th of November, 1981.

13 MS. BERNABEI: Perhaps we could have that marked  
14 as Exhibit K to make the record clear.

15 MR. GEHR: The Counsel for Intervenor has  
16 asked that the amendment be marked as Applicants' Exhibit J  
17 to clarify the matter -- K. We will so request that be  
18 done.

19 JUDGE LAZO: We would prefer that. I think it  
20 will make it easier. So Amendment Number 1 will be  
21 Applicants' Exhibit K.

22 (The document referred to was  
23 marked for identification as  
24 Joint Applicants' Exhibit K.)

25 MR. GEHR: I now move that Joint Applicants'

1 Exhibits I, J, and K be admitted into evidence.

2 JUDGE LAZO: Is there any objection?

3 MR. DEWEY: No objection.

4 MS. BERNABEI: I have no objection.

5 JUDGE LAZO: Very well. They may be received.

6 (The documents referred to,  
7 having been previously marked for  
8 identification as Joint Applicants'  
9 Exhibits I, J, and K, were  
10 received in evidence.)

11 BY MR. GEHR:

12 Q Mr. Hulse, if you know, has the Tolleson  
13 Effluent Agreement, as reflected in Joint Applicants'  
14 Exhibits J and K, been implemented?

15 A Yes. Construction water was taken under these  
16 agreements starting on March 15th and terminating on  
17 March 29th.

18 Q And option payments have been paid or --

19 A The option payments are being paid or will be  
20 paid. This agreement has been assigned to the Palo Verde  
21 participants.

22 Q Do you have anything further you wish to add  
23 about this agreement?

24 MS. BERNABEI: I'm going to object to the form  
25 of the question. I don't if what this gentleman is going

1 to say is relevant or not based on that question.

2 MR. GEHR: Pardon me.

3 MS. BERNABEI: I'm going to object to the form  
4 of the question and believe it calls for speculation.

5 MR. GEHR: I'll withdraw the question. I have  
6 nothing further of this witness.

7 JUDGE LAZO: The witness is available for cross  
8 examination, Ms. Bernabei. Do we want to --

9 MS. BERNABEI: Could we have a few minutes.

10 JUDGE LAZO: -- take a few minutes.

11 MS. BERNABEI: Thank you.

12 JUDGE LAZO: We'll take our mid-afternoon  
13 recess a little bit early and come back -- will 15 minutes  
14 be sufficient?

15 MS. BERNABEI: That should be fine.

16 JUDGE LAZO: Fine. Thank you. Off the record.

17 (Brief recess.)

18 JUDGE LAZO: Will the hearing come to order  
19 please. Counselor, are you ready to proceed?

20 MS. BERNABEI: Yes, I am.

21 JUDGE LAZO: Thank you.

22 MS. BERNABEI: I'm going to ask the witness, if  
23 the Board permits, to approach the chair which is why  
24 I stood up.

25 JUDGE LAZO: Surely.

## CROSS EXAMINATION

1  
2 BY MS. BERNABEI:

3 Q Okay. Mr. Hulse, can you explain, once again,  
4 what the two top lines on that chart are?

5 A The black line is the effluent available out  
6 of the 91st Avenue Plant on a monthly basis for use at  
7 Palo Verde -- or for -- let's see -- effluent available  
8 out of 91st Avenue Plant in excess of the water needed for  
9 senior rights, for instance, Buckeye and Arizona Game and  
10 Fish Commission.

11 JUDGE LAZO: And we would let the record show  
12 that when you're referring to the chart, you're referring  
13 to Joint Applicants' Exhibit A.

14 WITNESS HULSE: Yes, sir. The blue line is the  
15 91st Avenue number, plus that available from the Tolleson  
16 Treatment, the top line.

17 BY MS. BERNABEI:

18 Q Now, am I correct, sir, that you testified that  
19 you got these figures from what's been marked as Applicants'  
20 Exhibit 3, that is the MAG figures? Is that correct?

21 A Those tables -- that graph was constructed from  
22 the MAG projections on available effluent in 1979.

23 Q And am I right, the MAG productions did not  
24 include the Tolleson figures that are incorporated in this  
25 chart? Is that right?

1           A       That is correct. The MAG figures only address  
2 the 91st Avenue Plant.

3           Q       And those figures also did not make projections  
4 for 1987. Is that correct?

5           A       Not on a monthly basis. I believe that's  
6 correct.

7           Q       And therefore, 1987 are your own projections,  
8 I assume, from the 1985 and 1986 data?

9           A       It's my understanding they made an annual  
10 projection for 1987 and we spread those on a monthly basis,  
11 the same as previous years.

12          Q       Now, this kind of chart is usually done with  
13 bars. Is that correct? Let me lay some foundation for that.  
14 These are monthly average figures. Is that correct?

15          A       That is correct.

16          Q       And this chart, actually to be more accurate,  
17 should have been done in a bar manner. Is that correct?

18          A       That's a matter of opinion.

19          Q       In other words, what I'm talking about is, for  
20 instance, from January to February of 1985, the average  
21 monthly amount does not go down. The average monthly amount  
22 is a certain amount throughout the month, and that often  
23 these charts are done with bars drawn down, since the  
24 average monthly amount is precisely that, one figure for the  
25 month.

1           A        Could be -- yes, there's one figure for the  
2 month and that's what the change of direction indicates on  
3 that graph.

4           Q        Now, the figures for the Tolleson Plant, are  
5 those average monthly amounts? Do you know?

6           A        I believe the Tolleson Plant is a straight  
7 700 acre feet per month, at or on top of that, and they  
8 are not variable month for month as the City of Phoenix'  
9 are, for the smaller system.

10          Q        Therefore, there would be no variation from one  
11 month to the next in terms of the Tolleson figures. Is  
12 that correct?

13          A        Very little difference if any.

14          Q        So unlike the average monthly figures used for  
15 the 91st Avenue Treatment Plant, the Tolleson figures are  
16 what we would call monthly figures on an annual average  
17 basis?

18          A        Yes.

19          Q        And am I not right that the -- let me ask the  
20 question in another way. The average monthly figures for  
21 the 91st Avenue Treatment vary considerably -- is that  
22 correct -- from month to month?

23          A        That's because of the large base in which they  
24 operate.

25                    JUDGE COLE: I'm sorry. I didn't hear that, sir.

1                   WITNESS HULSE: Because of the large base on  
2 which they operate and the large area, there are many  
3 factors that influence that.

4                   BY MS. BERNABEI:

5                   Q       And one of those factors is temperature. Is  
6 that correct, sir?

7                   A       Yes, ma'am.

8                   Q       And one of the factors that would influence that  
9 would be humidity. Is that right?

10                  A       I don't think I want to speculate as to what's  
11 causing the monthly fluctuations. I really don't have a  
12 good handle on that. Maybe Mr. Steytler can answer that  
13 question.

14                  Q       Well, it's probably fair to say that during  
15 warmer and hot months that they're higher. You could say  
16 that, couldn't you?

17                  A       I can say that in the summer months, the  
18 availability is higher. Yes. That's obvious from the  
19 graph.

20                  Q       I'm talking about the average monthly figures  
21 and their variance. And you have said that they do vary  
22 according to temperature, but you don't know if they vary  
23 according to humidity because you're not an expert in that.

24                  A       Well, all I can say from the graph is obviously  
25 they peak in summer months. Now, that's when the high

1 temperatures are in Phoenix. I don't know -- August, it  
2 appears and sometimes September is the high month for the  
3 year where the humidity may be at that particular time.

4 Q Do you have figures on the average -- average  
5 monthly figures for the Tolleson Plant or has APS done those  
6 figures?

7 A The figure that we have from the -- Jack Muir  
8 -- from the director of Water and Sewers for Tolleson, has  
9 been a flat 700 acre feet per month.

10 Q And therefore, in any of your estimates or  
11 calculations, you have assumed an average monthly amount  
12 of precisely the same amount for each month?

13 A I believe that is correct for Tolleson.

14 Q Mr. Hulse, you said that you were familiar with  
15 negotiations for the original contract in 1973. Is that  
16 correct? You're familiar with the contract for purchase  
17 of effluent from the 91st Avenue Treatment Plant. Is that  
18 correct?

19 A Yes. I've read it. And it's obviously a base  
20 on which we're negotiating.

21 Q And you were familiar with the negotiations  
22 about that contract. Is that correct?

23 A I did not participate and was not involved in  
24 the negotiations on that original contract.

25 Q Is it fair to say that since 1973, you have

1       been knowledgeable about the contents of that contract?

2               A       Yes, ma'am.

3               JUDGE LAZO: Ms. Bernabei, would you be more  
4 comfortable seated or do you prefer --

5               MS. BERNABEI: I would be more comfortable,  
6 yet there are a number of exhibits I'd like to show the  
7 witness.

8               JUDGE LAZO: Fine.

9               MS. BERNABEI: I realize it's difficult to hear.

10              JUDGE LAZO: It's just going to make it  
11 uncomfortable for you to drag that thing around with you.

12              MS. BERNABEI: Okay. I have a number of letters  
13 that I'd like to show the witness and hopefully introduce  
14 into evidence. We seem to have a problem. We didn't  
15 make enough copies I'm afraid. We can provide them to the  
16 court reporter later if that's possible.

17              JUDGE LAZO: Yes. I don't see any problem.  
18 But you must assure me that you will do that.

19              MS. BERNABEI: I promise.

20              JUDGE LAZO: So the reporter will have three  
21 copies. And I guess we have a problem too. Are we going  
22 to use the Greek Alphabet or shall we start with --

23              MS. BERNABEI: That's fine with me. Roman  
24 Numeral I --

25              MR. GEHR: Alpha, beta.

1 JUDGE LAZO: How about Roman Numerals?

2 MS. BERNABEI: Roman Numerals are fine.

3 MR. GEHR: May I inquire if -- how many of these  
4 letters there are going to be? This is a letter -- the  
5 first one, I notice, is a letter dated March 1977, to Mr.  
6 Hulse. If there are going to be questions about this  
7 letter, it may be worthwhile to give him all the letters,  
8 give him a chance to review them and then he'll be able  
9 to respond more promptly instead of calling a recess every  
10 time to let him read the letter.

11 MS. BERNABEI: I believe the witness is fairly  
12 familiar with these. And we did -- some of these letters  
13 are letters written to and from Mr. Van Brunt and we did  
14 use them in his deposition, so I assume --

15 MR. GEHR: But he's not familiar with Mr.  
16 Van Brunt's deposition. That's the point. Nor is he  
17 familiar with all the documents that you've inquired about  
18 or produced at that time or whatever.

19 MS. BERNABEI: Perhaps we could see if the  
20 witness is having problems. If he is, then we can recess.

21 JUDGE LAZO: Well, let's try it and see what  
22 happens.

23 (The documents referred to were  
24 marked for identification as  
25 Joint Intervenors' Exhibit I.)

1  
2 Q Okay, Mr. Hulse, I am going to place before you  
3 what has been marked as Intervenor's Exhibit I, marked for  
4 identification. Have you seen that document before?

5 A Let me look at it a minute. Yes, ma'am, I  
6 remember seeing that letter.

7 Q And what is it, please? Identify it for us.

8 A It is a letter signed by Mr. H.W. Worthington,  
9 study manager for the Department of Army U.S. Corps of  
10 Engineers. It is written to me. In which he apparently  
11 raises the concept of routing the CAP canal through Palo  
12 Verde, as opposed to using effluent for cooling water.

13 Q Okay, and another foundation question, this is a  
14 true and accurate representation of the letter, is that  
15 correct?

16 A To the best of my knowledge. I have -- you know,  
17 without an original, I can't --

18 Q Mr. Worthington wrote you about waste management  
19 options for the cities in this letter, is that correct?

20 A Well, I don't -- I don't -- I think the thrust of  
21 the letter is the concept of routing the CAP canal water  
22 through the cooling towers of Palo Verde.

23 Q Right. I am asking you about the first line in  
24 the second paragraph.

25 A Water management options for local government.

T15,2

1 Q Right, and the date on this letter is March 4,  
2 1977, is that correct?

3 A That is correct.

4 Q And as of March 4, 1977, you had a contract, I  
5 am talking about APS had a contract for purchase of effluent  
6 for the Palo Verde plants, is that correct?

7 A That is correct.

8 Q But nonetheless, Mr. Worthington wrote you on  
9 March 4, 1977, to talk about other possible ways to cool the  
10 cooling towers of Palo Verde, is that correct?

11 A That is what it appears to be, yes.

12 Q And his suggestion was the use of CAP water, is  
13 that right?..?

14 A That is correct.

15 Q Now, if you can remember, in 1977 --

16 MR. GEHR: If the chairman please, he does not  
17 talk about cooling the cooling towers. It is simply stated  
18 that -- the letter states, simply stated, this scheme in  
19 question would call for the use of Central Arizona Project  
20 water as a coolant, on a once-through basis. That is not  
21 cooling tower.

22 WITNESS HULSE: Cycled through the heat exchangers  
23 you are correct.

24 MS. BERNABEI: I am sorry, I was repeating what  
25 the witness had testified to.

1 MR. GEHR: Well, that was a misstatement.

2 MS. BERNABEI: That is fine. I believe the  
3 witness can correct his testimony if he has misstated  
4 something.

5 BY MS. BERNABEI:

6 Q In any case, the letter is talking about --  
7 suggesting an alternative to effluent for use in cooling at  
8 Palo Verde, is that correct?

9 A Yes.

10 Q Now, on March 4, 1977, the Army Corps of  
11 Engineers was working on what has become known as the MAG 208  
12 study, is that right?

13 A I believe that was a predecessor of that, yes.

14 Q And the MAG 208 study or its predecessor was to  
15 develop a plan for waste management in this region of  
16 Arizona, is that correct?

17 A Whatever MAG 208 stands for. That is one of those  
18 acronyms you lose -- you lose memory of where it starts, I  
19 guess.

20 Q But the purpose of the MAG 208 study was to  
21 develop a waste management program for this region of  
22 Arizona, is that right?

23 A Waste water management.

24 Q Waste water management. And Mr. Worthington in  
25 this letter wrote you in pursuance of his responsibilities in

T15,4

1 development of that program, is that right?

2 A I assume so.

3 Q And it appears from the letter that Mr.  
4 Worthington did not consider the issue of what water would  
5 be used to cool Palo Verde a closed issue, is that correct?

6 MR. GEHR: State that again, please?

7 MS. BERNABEI: Certainly.

8 BY MS. BERNABEI:

9 Q It appears from this letter, does it not, that  
10 Mr. Worthington was considering the possibility that other  
11 sources of water other than effluent might be used to cool  
12 Palo Verde, is that right?

13 MR. GEHR: Objection. The letter speaks for  
14 itself as to what Mr. Worthington's mind was. Now, we don't  
15 need to go any further than that.

16 MS. BERNABEI: I am asking this --

17 MR. GEHR: We cannot -- it is improper to ask  
18 the witness the question, and I let one go by, about what  
19 Mr. Worthington intended or what he was doing. The witness  
20 doesn't know what is in Mr. Worthington's mind, what his  
21 intent is. The witness received a letter, and unless the  
22 letter explains what his purpose was and what his intent was,  
23 then that is all that can be said.

24 MS. BERNABEI: I believe this witness does know  
25 why Mr. Worthington wrote the letter, and what was -- he has

T15,5 1 testified as to what his purpose is, and I believe he can also  
2 testify as to his intent. I think it is important in terms  
3 of the interpretation of the contract that this witness has  
4 testified to for effluent.

5 MR. GEHR: As I read the letter, there is nothing  
6 in this letter that says anything about a contract. There  
7 is nothing in the letter that says what Mr. Worthington's  
8 intent is. It says that he has a -- he asks a question, and  
9 the letter states what that question is, and that should stand  
10 and suffice. The letter speaks for itself.

11 JUDGE LAZO: No, I think the witness can speak  
12 to his own state of mind upon receipt of the letter, but the  
13 intent of the writer is not something that is able to  
14 address. The letter does speak for itself. You may ask the  
15 witness to read a specific portion of the letter, but not to  
16 attempt to interpret it.

17 BY MS. BERNABEI:

18 Q Okay, Mr. Hulse, will you read the first line or  
19 the first sentence in paragraph 2 of the letter?

20 A The letter reads: "As part of our continuing  
21 effort to identify water management options for local  
22 governments, we are considering the various potential  
23 reuses of waste water generated in the Phoenix area."

24 Q And he goes on, does he not, as you have  
25 testified already, that he has what he calls a scheme, that

1 would call for the use of Central Arizona Project water as a  
2 coolant for Palo Verde?

3 MR. GEHR: Wait a minute. He merely states that  
4 one of the ideas -- he doesn't call it his scheme, or  
5 anything else. It says, one of the ideas we have encountered.  
6 That doesn't say that it is Mr. Worthington's scheme at all.

7 MS. BERNABEI: I will withdraw the question.

8 BY MS. BERNABEI:

9 Q Will you read the first sentence in paragraph  
10 three?

11 A "Simply stated, this scheme in question would  
12 call for the use of Central Arizona Project water as a  
13 coolant for PVNGS on a once-through basis."

14 Q Now, the contract for purchase of effluent from  
15 the 91st Avenue treatment plant was signed in 1973, is that  
16 correct?

17 A That is correct.

18 Q And that wasn't a confidential document, was it?

19 A When utilities operate, there are no confidential  
20 documents.

21 Q Therefore, Mr. Worthington and the Army Corps of  
22 Engineers would probably know about that contract?

23 A That is correct.

24 Q Thank you.

25 MS. BERNABEI: I would move to introduce this into

T15,7

1 evidence if Counsel has no problem.

2 MR. GEHR: Pardon me?

3 MS. BERNABEI: I would move to introduce this  
4 into evidence.

5 MR. GEHR: No objection.

6 MR. DEWEY: No objection.

7 JUDGE LAZO: Very well. It may be received.

8 (Intervenors' Exhibit No. I was  
9 thereupon received into  
10 evidence.)

11 BY MS. BERNABEI:

12 Q Mr. Hulse, I am going to show you what is marked  
13 as Intervenor Exhibit II. Can you identify that?

14 A It is a letter dated March 15 from myself to  
15 Mr. Worthington.

16 (Whereupon, the document  
17 referred to was marked as  
18 Intervenor's Exhibit No. II for  
19 identification.)

20 BY MS. BERNABEI:

21 Q And is this a true and accurate representation of  
22 that letter?

23 A To the best of my knowledge.

24 Q And can you describe the substance of the letter?

25 A It says we received his letter that you previously

1 showed me, and I am trying to clarify what I understand his  
2 proposal is, and I stated that there would be scheduling  
3 problems, and possibly some psychological problems.

4 Q And when you were talking about psychological  
5 problems, what are you talking about here?

6 A The idea of taking a major water supply system  
7 and running it through the heat exchangers of the power  
8 plant, regardless of whether it would be nuclear or coal,  
9 I think it would create some problems from a potable water  
10 supply basis.

11 Q You do suggest, however, in the last paragraph of  
12 the letter, that you will refer his letter to Mr. Von Brunt,  
13 is that correct?

14 A Right, because at that time, this was sort of  
15 after I had assumed responsibilities for water supply, and  
16 certainly did not have any responsibilities or feeling of where  
17 we were in the design and construction of all the details of  
18 the power plant, and therefore I referred it to Mr. Van Brunt,  
19 who has those responsibilities.

20 Q Therefore at that time, and I am talking about  
21 March 15, 1977, you felt that alternative uses of water were  
22 still a possibility?

23 A Not necessarily. I think that, you know, until  
24 you get to a certain point of design, you try to remain  
25 flexible and have an open mind, but sometime you have to reach

T15,9  
1 a commitment date and proceed, and all I was trying to say is  
2 I could not make that decision as to where we were in  
3 design, and I asked Mr. Van Brunt to comment on his proposals.

4 Q Do you know if Mr. Van Brunt ever sent Mr.  
5 Worthington an analysis of the scheme?

6 A I can't answer that. Mr. Van Brunt will have to  
7 answer that.

8 Q Okay. Now, Mr. Hulse, I am going to show you what  
9 has been marked as Intervenor's III.

10 (Whereupon, the document referred  
11 ed to was marked as Intervenor's  
12 Exhibit No. III for identifica-  
13 tion.)

14 BY MS. BERNABEI:

15 Q Have you ever seen that document before?

16 A I have a vague recollection of it, yes.

17 Q And is that a true and accurate representation  
18 of what it purports to be?

19 A To the best of my knowledge.

20 MR. GEHR: Excuse me. You know, I am having a  
21 difficult time hearing the Counsel for Intervenor, because  
22 her voice doesn't carry very well, and I know that is the  
23 way life is, but I do need --

24 MS. BERNABEI: I will try to speak up, Mr. Gehr,  
25 I am sorry.

1 MR. GEHR: Very good.

2 MS. BERNABEI: I don't think this is working,  
3 however.

4 JUDGE LAZO: That works perfectly fine, but it  
5 does not go into the courtroom amplifier. It simply goes to  
6 the court reporter's machine.

7 BY MS. BERNABEI:

8 Q Okay, you said that you had seen this before, is  
9 that correct, sir?

10 A I have a vague recollection of it.

11 Q And what is it?

12 A It appears to be a memorandum of a meeting held  
13 with Mr. Worthin, con and a number of other people regarding  
14 some waste water uses.

15 Q And the other people are members of the Army  
16 Corps of Engineers, is that correct?

17 A No, there are some representatives of Mr. Van  
18 Brunt's staff, one of my staff members, Buckeye Irrigation  
19 Company, and Arizona Water Commission.

20 Q And this is a memorandum dated September 28, 1977,  
21 summarizing that meeting, is that correct?

22 A Summarizing a meeting held on September 7, 1977.

23 Q Right. Now, according to this memorandum, is it  
24 not true that one of the things discussed at that meeting  
25 was the possibility of using Buckeye ground water --

1 MR. GEHR: Objection.

2 BY MS. BERNABEI:

3 Q -- at Palo Verde?

4 MR. GEHR: Mr Hulse, it is clear from the  
5 Exhibit itself that Mr. Hulse was not present at the meeting.  
6 The subject of the meeting is clearly stated in the letter or  
7 memorandum for the record itself in the Exhibit, but I don't  
8 see how Mr. Hulse can be questioned on what was conducted at  
9 the meeting.

10 JUDGE LAZO: We will sustain the objection, based  
11 on the question.

12 BY MS. BERNABEI:

13 Q Does this memorandum not say that the use of  
14 Buckeye ground water was discussed at that meeting?

15 A It says in paragraph 2, the scheme which we had  
16 in mind was that fairly low quality ground water from Buckeye  
17 would serve as an adequate coolant for PVNGS.

18 Q And does it not say that that was used in order  
19 that Buckeye Irrigation District might lower its cost of  
20 dewatering the lands, is that correct?

21 MR. GEHR: Wouldn't it be much simpler to -- I  
22 will stipulate that this is a memorandum prepared by Mr.  
23 Worthington of a meeting held on September 7, 1977, and may be  
24 admitted into the record as such? I don't know what we are  
25 going to gain by having the examiner interpolate what is in

1 the letter, and ask Mr. Hulse to say whether that  
2 interpretation of the letter or the memorandum is correct.  
3 Why don't we just have him read it, if we want the whole thing  
4 in.

5 MS. BERNABEI: Well, I will move to have it  
6 admitted into evidence, since there has been a stipulation by  
7 Counsel, however, I do believe this witness's testimony as to  
8 the Exhibit is important, this whole series of letters,  
9 because it goes directly to differing interpretations of the  
10 contract for effluent from the 91st Avenue treatment plant.

11 MR. GEHR: Again --

12 JUDGE LAZO: We have the continuing objection to  
13 questions which ask him to interpret the intent or meaning  
14 of the authors of the letter, and that is just not a proper  
15 thing to do.

16 MS. BERNABEI: No, I understand. I was reading  
17 from the letter. I was reading from the memorandum. I was  
18 not asking him to interpret it.

19 JUDGE LAZO: Well, I am sorry. We thought you  
20 were paraphrasing the letter.

21 MS. BERNABEI: Well, I was not. I was reading  
22 from the letter, but I will be more careful. Perhaps I  
23 should move it into evidence, both this Exhibit and the prior  
24 Exhibit, if there is no objection.

25 MR. DEWEY: Your Honor, I have an objection in

1 this regard. I just don't know where this is getting us.  
2 We have some correspondence from the Corps of Engineers  
3 investigating the possibility of the different types of use  
4 for the water effluent, and this goes back into 1977, and I  
5 don't -- I don't -- I have no understanding that this is  
6 presently a problem at all, and therefore why we are going  
7 back into this old business, and introducing a lot of  
8 exhibit in this regard. I think it is beyond the scope of  
9 this hearing.

10 MS. BERNABEI: I think it will become apparent  
11 why I am attempting to introduce and question the witness on  
12 this line of letters. The contract for purchase of effluent  
13 was signed in 1975. Mr. Hulse --

14 MR. GEHR: I beg your pardon, that is incorrect.

15 MS. BERNABEI: 1973, excuse me. These letters  
16 are 1977, and there will be some I would like to introduce  
17 from 1978. I think not only is what was going on during this  
18 period and how it relates to that contract important, there  
19 were also MAG 208 considerations that are going to become  
20 more important as the hearing goes on. I don't believe I  
21 should be forced to tell opposing Counsel what my line of  
22 cross-examination is going to be.

23 It is relevant to the interpretation of the  
24 contract, and what that contract meant to different people,  
25 starting in 1973 to the present time. This witness has been

1 offered as an expert on that contract, and what it means.

2 MR. DEWEY: Your Honor, I do not see how this is  
3 relevant to that contract. Nowhere in these letters does it  
4 dispute the fact of the contract, or even bring up the  
5 contract. It just says, here is some other possibilities.  
6 It doesn't --

7 MS. BERNABEI: I believe it is going to become  
8 apparent in the next letter, where they will talk about  
9 the contract.

10 JUDGE LAZO: All right, well, Counselor, let us  
11 have you proceed. Mark the letters for identification, and  
12 offer them if you will, and we will reserve ruling on whether  
13 or not they will be received into evidence until we see  
14 where you are going with this line of questioning.

15 MS. BERNABEI: Okay, fine.

16 JUDGE LAZO: Counsel?

17 MR. GEHR: Yes, I just wanted to make the point.  
18 I said I would stipulate that the document could be  
19 admitted into evidence as the record of Mr. Worthington of  
20 that meeting. I did not mean to imply that there were not  
21 comments, or that we-- that other people might disagree with  
22 the statement of the record of the meeting.

23 JUDGE LAZO: Very well.

24 MS. BERNABEI: We will supply the court reporter  
25 with three copies.

1 JUDGE LAZO: All right. Remember that we are  
2 using the Roman Numeral numbering system.

3 MS. BERNABEI: Right.

4 BY MS. BERNABEI:

5 Q Mr. Hulse, I have just given you what is marked  
6 as Intervenor's number 4 for identification. Have you  
7 seen that document?

8 A Yes, ma'am. I saw it cited.

9 Q And what is it?

10 A I believe it is some written response to some  
11 questions raised by Mr. Worthington and his staff at a  
12 meeting we had regarding alternate waste water treatment  
13 facilities in the valley.

14 (Whereupon, the document  
15 referred to was marked as  
16 Intervenor's Exhibit No. IV for  
17 identification.)

18 BY MS. BERNABEI:

19 Q And is this a true and accurate representation of  
20 what it purports to be?

21 A To the best of my knowledge, it is.

22 Q Okay, this is a letter dated September 20, 1978  
23 to Mr. Worthington from you and a representative of the Salt  
24 River Project, is that correct?

25 A Yes, ma'am.

1 Q And on page two of that letter, you discuss, or  
2 you write, do you not, and I quote, the first line of  
3 paragraph number one, on page two, "At such meeting, as well  
4 as in Mr. E.E. Von Brunt's letter to you dated August 10,  
5 1978, letter number ANPP-11535, we expressed our views  
6 respecting agreement number 13904, between the cities of  
7 Phoenix, Glendale, Mesa, Scottsdale, and Tempe, and the  
8 town of Youngtown, the six cities, and Arizona Public  
9 Service Company, APS, and Salt River Project agricultural  
10 improvement and power district, SRP," that is what the first  
11 sentence says, is that correct?

12 A Yes, ma'am.

13 Q And you go on to say, do you not, in that  
14 paragraph, as you state your position, number one, that you  
15 believe that agreement obligates the six cities to deliver  
16 up to 140,000 acre-feet of waste water effluent from the  
17 91st Avenue and 23rd Avenue plants when available, is that  
18 correct?

19 A That is correct.

20 Q And number two, reading again from page two,  
21 disclaims any warranty that such amount of waste water will  
22 become available at that time, is that correct, sir?

23 Did I read that correctly, sir?

24 A That is what the words say, yes, ma'am.

25 Q And paragraph three of that -- number three goes

17  
1 on to say, in lieu of such warranty, commits each of the six  
2 cities not to install any new sewage treatment plants that  
3 would impair the ability of such cities to deliver effluent  
4 pursuant to agreement number 13904?

5 A That is correct.

6 Q Now, is it fair to say that you wrote Mr.  
7 Worthington this letter because you wanted to make sure he  
8 understood your position on that contract?

9 MR. GEHR: Excuse me? Would you repeat it? I  
10 am sorry.

11 BY MS. BERNABEI:

12 Q Is it fair to say that you wrote Mr. Worthington  
13 this letter, specifically that paragraph, because you wanted  
14 to make sure he understood APS's position on that contract?

15 A I don't remember the -- it came out of a meeting  
16 in which there appeared to be some possible difference of  
17 opinion. I think it is where we finally said look, you are  
18 playing these games of what we might do, and the commitment  
19 time is here, and therefore this is what the contract says,  
20 and we intend to live up to it.

21 Q And you were specifically talking to Mr.  
22 Worthington, because he was one of the participants on  
23 behalf of the Army Corps of Engineers involved in the MAG 208  
24 plan, is that right?

25 A Yes, and I think you will find we also copied the

18 1 city managers of all the parties to the agreement.

2 Q And Mr. Worthington, working for the Army Corps  
3 of Engineers on the MAG 208 study, had a responsibility to  
4 plan along with others what waste water treatment plants  
5 would be built in this area, is that right?

6 MR. GEHR: Objection. I don't know that it has  
7 been established, and I don't know how it could be that Mr.  
8 Hulse would know what Mr. Worthington's responsibilities are.  
9 The facts are that Mr. Worthington was not responsible for  
10 any planning. He was responsible for conducting studies on the  
11 part of the Corps of Engineers, which would be used in the  
12 planning effort.

13 BY MS. BERNABEI:

14 Q Am I wrong, Mr. Hulse?

15 JUDGE LAZO: We will sustain the objection. Can  
16 you rephrase it?

17 BY MS. BERNABEI:

18 Q Well, I believe you have testified that Mr.  
19 Worthington was involved in the MAG 208 plan, is that correct?

20 A Plan or study. You know, they do studies, and  
21 where they become plans is very debatable.

22 Q Okay, but this, the MAG 208 plan generally was  
23 one, whether it is a plan or a study, and whatever stage it  
24 is at, is one mandated by Section 208 of the Clean Water Act,  
25 is that correct?

1           A       I am not familiar with the Clean Water Act. I  
2           can't answer that. I assume that is true.

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1 BY MS. BERNABEI: (Continued)

2 Q The study or whatever you want to call it  
3 was mandated by federal law, is that right?

4 MR. GEHR: He's already answered that he  
5 could not answer it.

6 MS. BERNABEI: I believe he's answered yes,  
7 he believes so.

8 MR. GEHR: No.

9 THE WITNESS: I said I was not familiar  
10 with the Clean Water Act so, in detailed paragraphs  
11 but it sounded reasonable. I didn't say I knew one  
12 way or the other.

13 BY MS. BERNABEI:

14 Q Going back to the letter a minute, is it  
15 fair to say that when you wrote this letter that you  
16 believed that Mr. Worthington might have a different  
17 position than you did on the contract?

18 MR. GEHR: Objection, there's nothing in  
19 this letter or nothing that's been asked in no way that  
20 Mr. Hulse can respond to what he knew or what was in  
21 Mr. Worthington's mind.

22 JUDGE LAZO: No, no, but he's been asked  
23 what was in his mind.

24 MR. GEHR: I object -- I didn't understand  
25 the question then. Maybe we could have it read back?

1 (Whereupon, the previous question was played  
2 back.)

3 JUDGE LAZO: Mr. Hulse, so the question  
4 went to what you believed at that time as to Mr. Worthington  
5 and his position.

6 THE WITNESS: Judge, I'd like to state,  
7 in my opinion why I wrote the letter or helped write  
8 the letter and that is we were trying to tell  
9 Mr. Worthington if he came out with a plan that infringed  
10 upon our contractual rights that we would oppose him.

11 BY MS. BERNABEI:

12 Q But isn't it true that Mr. Worthington might  
13 have had a different idea about those contractual rights?

14 MR. GEHR: Objection.

15 THE WITNESS: On what ideas Mr. Worthington  
16 had I really don't --

17 MR. GEHR: Objection.

18 The question there was whether Mr. Worthington  
19 might have a different idea of the contract  
20 and that is clearly one that invades the mind processes  
21 of Mr. Worthington.

22 JUDGE LAZO: We've sustained the objection.

23 BY MS. BERNABEI:

24 Q Isn't it true that you say in your letter  
25 that at your meeting on August 23rd, 1978 you talked

1 about alternatives to provide additional sewage treatment  
2 capacity for this region?

3 A The letter says that on August 23rd, you  
4 requested our views concerning certain alternatives  
5 being considered to provide additional sewage treatment  
6 facilities, a capacity meaning to serve the community.

7 Q And certain alternatives were identified  
8 at that meeting, weren't they?

9 A I assume so.

10 Q And those alternatives are 1 through 8 listed  
11 on the front page of the letter, is that right?

12 A I believe that's what I stated in the letter.

13 Q And alternatives 3 through 8 of the list  
14 of 1 through 8 include or are building of new sub-regional  
15 plants in this region, is that right?

16 A That's what the letter states, yes.

17 Q And APS was against building these sub-regional  
18 plants, isn't that correct?

19 MR. GEHR: Pardon? I'm sorry, I just didn't  
20 hear.

21 BY MS. BERNABEI:

22 Q You were in agreement with building these  
23 sub-regional plants, is that correct, Mr. Hulse?

24 A We were disagreeing with the building of  
25 a sub-regional plant which infringed upon our contractual

1 rights which said that they could not build sub-regional  
2 plants from a certain area if they detracted from the  
3 amount of effluent to be available to 23rd and 91st  
4 Avenue. Some of the sub-regional plants they proposed  
5 did not do that. So we only opposed those who tended  
6 to change the contractual arrangements or who would  
7 have resulted in the need to change contractual arrangements.

8 Q Have you ever discussed this contract with  
9 Mr. Worthington at any time?

10 A We did not discuss the contract, we discussed  
11 the plans.

12 Q Have you ever discussed prior to writing  
13 this letter if you remember the contract to purchase  
14 effluent from the 91st Avenue Treatment Plant with Mr.  
15 Worthington?

16 A I have no recollection of discussing the  
17 contract per se with him.

18 Q The first paragraph on page 2 of this letter  
19 refers to the August 23rd, 1978 meeting, isn't that  
20 right?

21 A Yes, ma'am.

22 Q And that paragraph says, does it not, the  
23 first paragraph on page 2 that during that meeting  
24 we expressed our views respecting agreement number 13904,  
25 those are the exact words, is that correct?

1           A        You requested our views -- I believe the  
2 question is -- would you repeat that again?

3           Q        The question was, at that August 23, 1978  
4 meeting, you discusse the contract, agreement number  
5 13904 with Mr. Worthington, did you not?

6           A        It says on page 2 that we just stated that  
7 such agreement had these three points in it, yes ma'am.

8           MR. GEHR: I thought this question had already  
9 been asked and answered.

10          MS. BERNABEI: I believe he said he didn't  
11 remember. I was refreshing his recollection.

12          THE WITNESS: You asked previously had IL  
13 discussed the contract and the answer was no. We obviously  
14 discussed some of the conditions in this meeting, that's  
15 what the letter says.

16          BY MS. BERNABEI:

17          Q        Do you know now what Mr. Worthington's position  
18 was as to the contract during those discussions?

19          MR. GEHR: Objection.

20          MS. BERNABEI: I'm asking if he knows what  
21 Mr. Worthington's position was.

22          JUDGE LAZO: Overruled.

23          MR. GEHR: The question may be, did Mr.  
24 Worthington express a position at that meeting but I  
25 don't know what Mr. w rthington's position was.

1 MS. BERNABEI: This is cross-examination.  
2 I believe I can ask the question in the form I like.

3 JUDGE LAZO: You may proceed.

4 THE WITNESS: As I recall the meeting vaguely,  
5 there were some plans proposed -- we were not discussing  
6 the validity of the contract. We were discussing the  
7 plans proposed and we took the position that we had  
8 some requirements that had to be met. We had a live  
9 contract that was a legitimate contract and that those  
10 had to be here. Whether it was the intent of Mr. Worthing-  
11 ton to have a different interpretation of the contract  
12 or whether his long term view was if we could mutually  
13 agree upon a plan, we'd mutually agree to amend the  
14 contract. I can't recollect whether we discussed those  
15 specifically or not.

16 BY MS. BERNABEI:

17 Q But it may have been Mr. Worthington's  
18 understanding of the contract or interpretation of the  
19 contract, different from your own?

20 MR. GEHR: Objection.

21 MS. BERNABEI: I believe this witness has  
22 testified that he did have knowledge of Mr. Worthington's  
23 understanding of that contract. I'm trying to probe  
24 that understanding.

25 MR. GEHR: Objection, that is not the fact.

1 The witness has testified that alternatives were discussed  
2 at the meeting, whether they were Mr. Worthington's  
3 alternatives or not, we must remember there has been  
4 a little mischaracterization of the meeting. It was  
5 not Mr. Worthington's meeting, it was a meeting with  
6 you and representatives of MAG. There were in fact  
7 a large group of people at the meeting expressing various  
8 things. What positions many people might have taken,  
9 I don't know and I don't know whether Mr. Hulse can  
10 know.

11 MS. BERNABEI: I'm not concerned with anybody  
12 else except Mr. Worthington.

13 MR. GEHR: Just a minute.

14 But whether or not Mr. Worthing expressed  
15 a position as to what the meaning of the contract was  
16 or he asked a question of what we thought it meant,  
17 that's totally two different questions.

18 JUDGE LAZO: Well, that hasn't been established  
19 yet.

20 MR. GEHR: Yes, but she's assuming in the  
21 line of questioning that there is something in here  
22 that expresses a position by Mr. Worthington and there  
23 is nothing in this letter which indicates that Mr. Worthing-  
24 ton took or advocated or even challenged any position  
25 that we had taken.

1 MS. BERNABEI: I believe the witness has  
2 testified that Mr. Worthington and he may have had  
3 discussions about the contract, whether or not  
4 Mr. Worthington thought the contract per se in total  
5 was illegal.

6 JUDGE LAZO: Yes, he said he could not remember.

7 BY MS. BERNABEI:

8 Q It is fair to say that there was some discussion  
9 about that contract at that meeting, is it not?

10 A I can't recollect but from the references  
11 made in the letter, I think that's reasonable.

12 Q Now the contract or the agreement number  
13 13904 contains a provision about the building of new  
14 treatment facilities, is that correct?

15 A In a certain geographical area, yes, ma'am.

16 Q And that agreement also takes about the  
17 MAG 208 plan, does it not?

18 A I don't think MAG 208 was a known entity  
19 in 1973.

20 Q Well, it does talk about regional planning  
21 for waste water, does it not?

22 A The contract?

23 Q Yes.

24 MR. GEHR: The contract will speak for itself.

25 THE WITNESS: I can't --

1 MS. BERNABEI: I'm asking this witness if  
2 he remembers.

3 THE WITNESS: I don't remember.

4 BY MS. BERNABEI:

5 Q You don't remember any mention of a --

6 A I don't remember that specific comment in  
7 there. It could very well be there. I don't remember.

8 (Pause)

9 MS. BERNABEI: Mr. Gehr, what is your contract  
10 13904 marked as?

11 MR. GEHR: Exhibit H.

12 MS. BERNABEI: Exhibit H. Thank you.

13 BY MS. BERNABEI:

14 Q Mr. Hulse, could you look at what's marked  
15 as Applicants' Exhibit H?

16 A I have a copy.

17 Q If you'll bear with me a minute.

18 MR. GEHR: Page 16 and 17 are what you're  
19 looking for.

20 BY MS. BERNABEI:

21 Q Could you read half way down on page 17?  
22 The sentence beginning in this connection?

23 A (Reading) In this connection, however,  
24 it is recognized that the long-range Master Plan for  
25 the collection and treatment of waste water from the

1 urban development in the metropolitan area extends into  
2 drainage basins not normally tributary to the 23rd Avenue  
3 or the 91st Avenue Wastewater Treatment Plants.

4 Q Could you read the next two sentences?

5 A (Reading) New treatment facilities for  
6 the Gila and lower Litchfield tributary basins are envisioned  
7 as generally described in the Wastewater report for  
8 the Valley Metropolitan Area of PLhoenix, Arizona by  
9 John Carollo Engineers, dated December, 1968. Nothing  
10 herein is intended to impair the implementation of the  
11 Master Plan nor to grant Participants any right or interests  
12 in wastewater collected in the Gila or lower Litchfield  
13 tributary basins, and treated at such envisioned new  
14 facilities.

15 Q Okay, now the Master Plan that is referenced  
16 in there, that later became the MAG 208 plan, is that  
17 correct?

18 A No ma'am. The Master Plan referenced there  
19 is the John Carollo report.

20 Q And was that adopted by the cities?

21 A I don't know who it was adopted by. It  
22 is referenced in this contract.

23 Q Did it ever become law of any sort?

24 A I beg your pardon?

25 Q Did it ever become law?

1 A Did it become law?

2 Q The Master Plan.

3 MR. GEHR: The Carollo Plan or the MAG Plan?

4 MS. BERNABEI: I'm talking about the Master  
5 Plan that's mentioned in here.

6 THE WITNESS: The Master Plan here is the  
7 Master Plan that was referred to as the wastewater report  
8 for the Valley Metropolitan areas. To the best of my  
9 knowledge, that's the one that has always -- there's  
10 never been any disagreement about that as far as I know.

11 BY MS. BERNABEI:

12 Q And that is the law?

13 A No, it's an exhibit to a contract, a reference  
14 in a contract.

15 Q I'm talking about the Master Plan, the Master  
16 Plan. If you know, sir.

17 MR. GEHR: If we're asking whether it is  
18 a law, I don't know wheter this witness can know whether  
19 it's a law or not a law.

20 THE WITNESS: I can't.

21 MS. BERNABEI: He's been offered as an expert  
22 on this contract and I'm asking him if he knows if the  
23 Master Plan has ever become law?

24 MR. GEHR: It's a plan, that's what he's  
25 said.

1 THE WITNESS: I do not know.

2 BY MS. BERNABEI:

3 Q Now, when you wrote this contract --

4 A I did not write it ma'am, I beg your pardon.

5 As I told you before, I picked up this contract in  
6 aboutd 1976 or 1977 and started becoming familiar with  
7 it.

8 Q Is it fair to say that when you did become  
9 familiar with it, that at that time the MAG 208 studies  
10 and plans were being considered?

11 If you know.

12 A I don't know.

13 Q Now, you know, don't you that if a regional  
14 plan were required by federal law that this contract  
15 would be subordinate to federal law, don't you?

16 MR. GEHR: Objection.

17 THE WITNESS: That's a legal question.

18 I'm not qualified to answer.

19 BY MS. BERNABEI:

20 Q Yet, you're qualified to negotiate this  
21 contract, aren't you?

22 MR. GEHR: Objection, the question that  
23 she put before is asking about regional plants. He  
24 did not -- it's very interesting -- the witness previously  
25 said he didn't believe -- he didn't know anything about

1 -- any reference to regional plants in this contract.

2 We have examined the pertinent section of page 17.

3 There is not the word mentioned regional plants.

4 The question of regional plants came up --

5 MS. BERNABEI: What I was trying to establish--

6 MR. GEHR: Just a minute, just a minute,  
7 this contract was written in 1973. I believe the Clean  
8 Water Act which established 208 committee, it had a  
9 section 208 and from which 208 committees were established  
10 was adopted in 1977. Any concept about regional plants  
11 is something totally different than what was established  
12 in this contract.

13 MS. BERNABEI: That was not my question.  
14 My question was, at the time he became familiar which  
15 I believe he said in 77 or 78, did he know at that time  
16 that this contract had to be -- and this is also the  
17 time period you were talking about with these letters.  
18 This is I believe, the purpose and the reason why there  
19 is so much correspondence between Mr. Hulse and APS  
20 people and the Army Corps of Engineers. And I'm curious  
21 as to -- he's testified here as to his interpretation  
22 of the contract and how that interfaces with people  
23 responsible for the MAG 208 Plan and I'd like to know  
24 his opinion since he's offered another contract of whether  
25 he thinks this contract can override federal law.

1 MR. GEHR: He's answered that question.  
2 He doesn't know.

3 JUDGE LAZO: He said he cannot answer it.  
4 It's a legal question and he doesn't know.

5 MS. BERNABEI: He has offered other legal  
6 opinions here.

7 JUDGE LAZO: He's not been offered as an  
8 expert in law. He may have an opinion but it's not  
9 an expert opinion.

10 MS. BERNABEI: I understand that. But I  
11 think APS's understanding of this contract and other  
12 responsible bodies understanding of this contract is  
13 relevant to this proceeding and what I'm trying to probe  
14 is this witness's contract with other state and official  
15 bodies in this area about the contract and other related  
16 projects including what I think is the MAG 208 study,  
17 plan.

18 JUDGE LAZO: Well, that's certainly a reasonable  
19 way to go about it as far as contact with other officials  
20 are concerned.

21 MR. GEHR: If other people have taken a  
22 position or stated a position on the contract those  
23 people have to come forward. Mr. Hulse cannot imagine  
24 any person who might have a different view of the contract

25 MS. BERNABEI: I'm just asking about Mr.

1 Worthington and the people he was in contact with in  
2 a business sense during this period.

3 MR. GEHR: But there's been no foundation  
4 for that to establish that Mr. Worthington had a different  
5 concept or had any concept at all about the contract.

6 The only thing that I can see from these exhibits that  
7 have been put in is that Mr. Worthington apparently  
8 was asking questions of our view of -- Mr. Hulse's view  
9 of the contract.

10 JUDGE LAZO: Well, Counsel for the Intervenors  
11 is entitled to determine what Mr. Hulse's views are  
12 regarding that, not someone else's views. I think we  
13 should proceed.

14 BY MS. BERNABEI:

15 Q Okay, Mr. Hulse, you are generally familiar  
16 with the MAG 208 studies is that correct?

17 A Very generally, yes.

18 Q Have you ever read the MAG final report  
19 in 1979?

20 A Not in detail, no, just certain part of  
21 it.

22 Q And which parts were those?

23 Which parts of the MAG 208, 1979 report  
24 are you familiar with?

25 A Vaguely those, the parts that describe the

1 effluent availability and projections. That is what  
2 my business is and the rest of it, a lot of it has to  
3 do with city business and --

4 Q Are you familiar with the updates to that  
5 MAG report, the one of which came out I believe in February  
6 of this year and one which came out in May of this year?

7 A I think there are portions that I'm familiar  
8 with that were entered into evidence this morning as  
9 our exhibits.

10 Q Right and you're generally familiar with  
11 those, is that correct?

12 A That's correct, very generally, yes.

13 Q You know that generally the idea of MAG  
14 208 plan or study was to develop wastewater or waste  
15 management plants for this area? Is that correct?

16 A That's correct.

17 Q And you know that in the 1979 report the  
18 general recommendation was that the 91st Avenue treatment  
19 plant be expanded and that wastewater be centrally directed  
20 to that plant, is that correct?

21 A That's correct.

22 Q And that envisioned building a very large  
23 pipeline to do that is that correct?

24 A I assume it had to have adequate collector  
25 systems, yes ma'am.

1           Q       And as the alternative, the alternative  
2 that was not recommended was the building of many satellite  
3 or smaller treatment plants around the six or eight  
4 city areas, is that correct?

5           A       Yes, ma'am.

6           MR. GEHR: Maybe you know, that document,  
7 the MAG plan is a two inch document. If we want this  
8 witness as to respond to specifics of the plan then  
9 I think we ought to give the witness time to refresh  
10 his recollection of a document which he said he was  
11 generally and vaguely familiar with as several years  
12 old. I think we ought to look at that and give him an  
13 opportunity to look at the document and see what's in  
14 the plan.

15           MS. BERNABEI: I think that probably --  
16 I actually wanted -- I wasn't going to question him  
17 on the specifics of the plan quite yet.

18           MR. GEHR: The presumption was though, that  
19 there were no other sub-regional plants considered in  
20 the plan in the adopted plan and that is not correct.

21           MS. BERNABEI: That wasn't my implication  
22 in my question at all. I'm sorry if I inferred that.  
23 If the witness wants to look at the MAG 208 final report,  
24 1979, I have no problem taking a recess to allow him  
25 to do that.

1 JUDGE LAZO: Do you have a line of questions  
2 on the plan or a number of questions?

3 MS. BERNABEI: Yes, I do, both on the plan  
4 and subsequent updates.

5 THE WITNESS: May I?

6 JUDGE LAZO: Yes, sir.

7 THE WITNESS: Well, I think with what all  
8 the alternatives considered were, I don't know and I  
9 don't see how it's germane to this process. The results  
10 were that the original plan and the updates of all  
11 recommended expansion, continue expansion of 91st Avenue.

12 BY MS. BERNABEI:

13 Q Are you saying you don't need to review  
14 the plans, is that correct?

15 A Well, I'll say it very carefully, that the  
16 results -- what all alternatives that were studied,  
17 I don't know. The recommendations that were put into  
18 effect on the '79 plan and the '82 update again recommends  
19 expansion of the 91st Avenue Plant and the latest update  
20 some expansion of the 23rd Avenue Plant. That I'm familiar  
21 with.

22 Q But isn't it true that the focus of the  
23 later updates has changed somewhat in terms of how much  
24 expansion of the 91st Avenue Treatment Plant?

25 A The update expands upon the --

1           Q       Mr. Hulse, I asked you if the focus of the  
2 updates hasn't changed somewhat, that is that there's  
3 less expansion contemplated in the 91st Avenue Treatment  
4 Plant?

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1 A Not that I'm aware of, no.

2 Q Are you aware that the updates envisioned  
3 building of treatment plants, smaller treatment plants  
4 outside the 91st Avenue treatment plant that was not  
5 envisioned in the final 1979 report?

6 A The summary of the '82 draft update allows or  
7 provides a mechanism for the building of very small  
8 additional plants for like golf courses, but does not  
9 provide that any so-called regional plants of any magnitude  
10 can be built without coming back to -- and amending the 208  
11 plan. Now, that is my understanding of what that update  
12 says.

13 Q Doesn't it speak about East Mesa constructing  
14 its own treatment plant, not for golf courses, but for the  
15 city?

16 MR. GEHR: Can we --

17 MR. BERNABEI: If the witness wants to review  
18 the plans, I have no problem.

19 WITNESS HULSE: Well, I am not in favor of long  
20 recesses. I was to be on a 2:50 plan. I am now to be on a  
21 seven o'clock plane, and I must get this process through.

22 BY MS. BERNABEI:

23 Q I am willing to plunge on, if you are.

24 JUDGE LAZO: Mr. Gehr?

25 MR. GEHR: I have looked at the plan, the update,

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1 and one of the problems that we have in trying to deal with  
2 these subregional or regional plants is location, for one  
3 point, and East Mesa is out of the --

4 JUDGE LAZO: Well, the problem is, you can't  
5 testify here, Counselor.

6 WITNESS HULSE: Well, okay. I was trying to get  
7 to that, but I am not sure what you can say and what you  
8 can't say.

9 BY MS. BERNABEI:

10 Q Well, you can answer the question, sir.

11 A I am aware it addresses the East Mesa plan. Now,  
12 it also addresses, and we go back to the Worthington letter  
13 and a lot of other letters, where we have no objection. It  
14 is regional plants being built outside of the area, as  
15 envisioned in the John Carollo report.

16 Q Okay, but let me go back to the update. I am  
17 talking about reading from the executive summary of the MAG  
18 208 update, which has been stipulated into evidence.

19 Isn't it true that the -- let me start over again.

20 The MAG 208 plan envisioned that the Luke Air  
21 Force Base surprise at El Mirage would connect up to the  
22 91st Avenue treatment plant, isn't that correct?

23 A Yes, ma'am.

24 Q And the update envisions that they will not  
25 connect up to the 91st Avenue treatment plant, is that right?

1           A        If I look at the update, which is our Exhibit F,  
2 I see that Luke Air Force base is shown as making a  
3 contribution to 91st Avenue.

4           Q        Now, I am talking about connecting up in the  
5 sense of sending all their effluent there. They haven't done  
6 that yet, have they?

7           A        I am not sure where the Luke Air Force effluent  
8 goes.

9           Q        Okay, and there is some question about whether  
10 they will in the future, isn't there?

11          A        I can't answer that.

12          Q        Is it not true that Sun City West, according to  
13 the update, has constructed a new plant, contrary to the  
14 predictions, or the 1979 final MAG plan?

15          A        I can't answer whether they have or haven't built  
16 one. However, Sun City West was outside of the original  
17 area, and we have very little interest in it.

18          Q        And isn't it true that Arrowhead Ranch has  
19 created its own or constructed its own treatment plant?

20          A        That is absolutely not correct. I am familiar  
21 with that one, and there is nothing but orange orchards out  
22 there.

23          Q        You are sure of that?

24          A        Yes, ma'am.

25          Q        Okay. How about -- is it Ganey Branch, they

1 have constructed their own treatment plant?

2 A There is absolutely nothing built at Gayney  
3 Ranch either.

4 Q Is there anything envisioned being built there?

5 A That is a different question. There has been a  
6 proposal discussed to build those. Those are of the very  
7 small nature that have been talked about previously, which  
8 will not have a significant impact on the availability of  
9 water from 91st Avenue. I think I said that on direct.

10 Q Isn't there also a local plant being envisioned  
11 for North Peoria, is that correct?

12 A That may be.

13 Q And again, that is from the update to the MAG 208  
14 report.

15 A Would you be kind enough to give me a page number  
16 out of our exhibit?

17 Q Sure, I am looking at preferred alternative 2 on  
18 page five.

19 A Page what five?

20 Q Page five of the update. Oh, I am reading from  
21 an executive summary. I am sorry. This has also been  
22 admitted.

23 A I thought you were reading from our exhibit.

24 Q I am not sure where it is in the full draft.

25 A No, I don't have the full draft. I have the

1 excerpts out of our Exhibit F.

2 Q Okay, is it fair to say that you don't know at  
3 this time?

4 A That is correct.

5 Q Without reviewing the plan.

6 MR. GEHR: We have -- apparently, as I understand,  
7 the questioning is going toward the contract, which is  
8 between six municipalities. Why is the city of Peoria, which  
9 is not a signatory to the contract, not bound by its terms,  
10 of concern in this matter? The same with Sun City West. I  
11 think we are squandering very valuable time.

12 MS. BERNABEI: This goes directly to the question  
13 of how much effluent will be available from the 91st Avenue  
14 treatment plant. Some of these projections that were  
15 provided today were from the MAG 208 plan, which as I  
16 understand it has been revised in light of the fact that  
17 there are smaller treatment plants being considered by  
18 cities in the region, and there may very well be a reduction  
19 in the amount of effluent available from the 91st Avenue  
20 treatment plant, since the MAG 208 study came out.

21 And Mr. Gehr here has introduced several  
22 exhibits with figures from that plan, and I am talking to  
23 this witness about updates which show that those projections  
24 may be incorrect.

25 JUDGE LAZO: Well, the objection is overruled.

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BY MS. BERNABEI:

Q Okay, isn't it true also that there is being envisioned a Scottsdale Road/Pima Road/Indian Bend Road/Shea Boulevard local reuse of effluent, effluent that won't go to the 91st Avenue treatment plant?

A Ma'am, those are all alternatives. The recommendation in the MAG report is for a further expansion of 91st Avenue and an increased projections of the flow from 91st Avenue.

Q Well, we are talking about the update now, sir, and the update --

A I am talking about the update, a 1982 update.

Q Right, but we are talking about less of an expansion was projected in the 1979 report, isn't that correct?

A We are talking about an expansion to go additionally from 120 million gallons a day to 150 million gallons a day, with an increased outflow from 91st Avenue from the previous projections.

Q But isn't the expectation of increase in effluent going to the 91 st Avenue treatment plant less than that envisioned in the original 1979 MAG report?

A I don't know exactly what was envisioned. The numbers we have presented here, the numbers I have understood, say that the 1982 plan shows more effluent

1 projected to be available from the plant under the update  
2 than from the previous plan. From 91st Avenue.

3 Q So your position is that the current update to  
4 the MAG 208 study shows more effluent than the original  
5 MAG plan. Is that your position here today?

6 A Well, I think my exhibit shows that, previous  
7 exhibit, yes, ma'am. The MAG '79 plan shows that in for  
8 instance 1985 there was to be 76,740 acre-feet per year  
9 available over and above the previous commitments, and the  
10 '82 plan shows now I believe it is 83,580 --

11 JUDGE LAZO: Mr. Hulse, just for the record,  
12 would you identify that exhibit that you just --

13 WITNESS HULSE: Exhibit H.

14 JUDGE LAZO: Thank you.

15 WITNESS HULSE: And I am talking about line D  
16 versus line H on that Exhibit.

17 BY MS. BERNABEI:

18 Q I am sorry, what exhibit? You are talking about  
19 your chart, is that correct?

20 A My chart, Exhibit G.

21 JUDGE LAZO: What Exhibit number, Mr. Hulse?

22 WITNESS HULSE: Exhibit G.

23 JUDGE LAZO: G, rather than H.

24 WITNESS HULSE: Exhibit George.

25 JUDGE LAZO: Thank you.\_

1 WITNESS HULSE: Excuse me.

2 BY MS. BERNABEI:

3 Q Is this the May, 1982 MAG update?

4 A Yes, ma'am.

5 Q This is not the February update you are talking  
6 about here?

7 A I am under the impression it is the '82 date.  
8 We got it just recently. I reviewed it with my staff, when  
9 I asked them to make this table, and I think that I can  
10 fairly well say that it is the May date.

11 MR. GEHR: I think the record --

12 WITNESS HULSE: Pardon?

13 MR. GEHR: I think the record shows that the  
14 excerpts that you have were from the May --

15 WITNESS HULSE: Right.

16 MR. GEHR: I beg your pardon, the --

17 WITNESS HULSE: It does, it says, footnote H, I,  
18 says from May 1982.

19 BY MS. BERNABEI:

20 Q Is it not true that the effluent projections,  
21 and when I spoke in terms of amounts, are coming from fewer  
22 cities in the update, than in the original report?

23 A Well, I think there has been some added, and some  
24 maybe taken away, but they are not again within our  
25 contractual area. There has been no infringement upon our

1 Q No, we are talking about the 91st Avenue treatment  
2 plant. My question to you was, are there not fewer cities,  
3 unincorporated areas or developments contributing to the  
4 91st Avenue treatment plant in the update than in the  
5 original MAG report?

6 A I can't answer that specifically. I am only  
7 concerned with the quantities, and I see increased quantities  
8 available.

9 Q So in other words, you haven't reviewed the  
10 assumptions of any of these projections in the recent MAG  
11 report, is that right?

12 A Not in detail, no, ma'am.

13 Q Therefore you don't know how many cities are  
14 contributing under the update to whatever figures in the  
15 update?

16 A No. I know two things. The update shows --

17 Q No, I asked you, sir, if you knew how many  
18 cities were contributing to that figure, and you testified,  
19 I believe, that you don't.

20 A That is correct.

21 Q Okay, now I am going to ask you to explain  
22 something on Exhibit G, which I believe is the chart that  
23 you prepared for this hearing today.

24 A That is correct.

25 Q Okay, now the last line on that chart is actual

1 discharges, is that right?

2 A Pardon? The actual discharges?

3 Q That is the last line on your chart, right?

4 A Yes, ma'am.

5 Q Okay, now for 1978, the actual discharges, and I  
6 assume by that you mean the measured effluent, is that  
7 correct?

8 A That is correct.

9 Q Okay, now the figure is 64,320, is that right?

10 A That is correct.

11 Q Okay, and we go to 1979, and the actual  
12 discharges were 60,573.

13 A That is correct.

14 Q Now, that is a decrease, is it not, of about  
15 six percent?

16 A Yes, ma'am.

17 Q Okay, now if we want to go up to the projections,  
18 and for those two years, the only full projections I can see,  
19 for 1978 and 1979 are the City of Phoenix, is that correct?

20 A Yes, ma'am.

21 Q Okay, and that is the City of Phoenix project  
22 in 1972, a City of Phoenix projection in 1977, and a City of  
23 Phoenix projection in 1978, is that right?

24 A Yes, ma'am.

25 Q Okay, and those three projections all show an

1 increase in actual discharge or measured effluent, is that  
2 right?

3 A Yes, but the actual was also consistent with the  
4 highest projections the City of Phoenix had, much in excess --

5 Q That is not what I am asking you, sir. I am  
6 asking you, didn't the City of Phoenix projections, all  
7 three, show an increase?

8 A Yes, ma'am.

9 Q Okay, and the actual discharges showed a drop of  
10 six percent.

11 A Yes, ma'am.

12 Q Now the actual increase, and you may need a --  
13 may be able to do this in your head. The actual increase in  
14 discharges from 1978 to 1980 is about 1.5 percent, is that  
15 correct?

16 A It is 1,000 acre-feet per year, whatever that  
17 is.

18 Q Okay, about one or two percent, would you be  
19 willing to say that?

20 A In that neighborhood, yes.

21 Q Okay, and I assume 1978 to 1980 was a time of  
22 population expansion in this area, is that right?

23 MR. GEHR: If he knows.

24 WITNESS HULSE: Yeah, generally the whole area  
25 expands continually.

1 BY MS. BERNABEI:

2 Q Well, this whole Southwest has been expanding --

3 A Yes, ma'am.

4 Q -- 'in population, hasn't it?

5 A Yes, ma'am.

6 Q And this area in particular, Phoenix, is that  
7 right?

8 A That is right.

9 Q So the projections were that -- I assume one of  
10 the assumptions was that as the population increased, the  
11 effluent would increase, is that right?

12 A Yes, ma'am.

13 Q And in fact it didn't, did it, from 1978 to  
14 1979, the effluent from the 91st Avenue treatment plant  
15 decreased, the actual amount?

16 A I think it decreased. I think there is a reason  
17 for that.

18 Q Let me ask you a little bit about the assumptions.  
19 What are your assumptions of why there would be generally an  
20 increase in effluent from the 91st Avenue treatment plant?

21 A Ma'am, I would be glad to talk to that subject,  
22 but you told me a while ago I was not competent to talk to  
23 that subject. I find it very repugnant to now you ask me to  
24 discuss these matters.

25 Q If you don't want to discuss your assumptions, I

1 can ask you some more questions. I thought you would welcome  
2 the opportunity to discuss them.

3 A I have answered you. Mr. Steytler will be here.  
4 He will tell you why those figures changed. I was told  
5 previously I was not competent to discuss that.

6 Q Is it fair to say that in your position at APS,  
7 you are the senior person responsible for oh, collecting and  
8 maintaining reliable predictions about increase in  
9 effluent from the 91st Avenue plant, and from other plants?

10 A That is one of my job functions, to not only  
11 collect but try to analyse where it means and where it is  
12 going.

13 Q And you know that -- is it fair to say that you  
14 know that when you are dealing with water, that it is a  
15 somewhat uncertain area in this region, is that fair to say?

16 A What do you mean by uncertain?

17 Q That it is not a science.

18 MR. GEHR: That it is not what?

19 MS. BERNABEI: A science.

20 MR. GEHR: A science? What is not a science?

21 BY MS. BERNABEI:

22 Q Predicting how much water is going to be available  
23 from the 91st Avenue treatment plant. Can you answer the  
24 question, sir?

25 MR. GEHR: What is the question? What is the

1 question now?

2 MS. BERNABEI: I will rephrase the question.

3 BY MS. BERNABEI:

4 Q You at APS were responsible generally for  
5 maintaining and analyzing data on available effluent, and I  
6 assume you have been concerned basically with available  
7 effluent for the Palo Verde plants, is that right?

8 A Yes, ma'am.

9 Q And I assume you, in your diligent work on this  
10 subject, approach it in a certain professional way, and I am  
11 asking you if you consider it an exact science.

12 A No, ma'am.

13 Q And I assume you feel it is not an exact science,  
14 because there are many questions with water that are not  
15 controlled by man, is that correct?

16 MR. GEHR: What science are we talking about?

17 MS. BERNABEI: I think we are talking about the  
18 fact that it is not a science.

19 MR. GEHR: Well, that he is not a scientist? That  
20 he is not what kind of a scientist? I don't know what we  
21 are talking about.

22 MS. BERNABEI: I think we will get to that in a  
23 little bit, Mr. Gehr.

24 MR. GEHR: Well, no, wait a minute. The question  
25 is, is the effluent from the 91st plant an exact science, and

1 that is a ridiculous question.

2 MS. BERNABEI: I think the relevance of the  
3 questions --

4 JUDGE LAZO: I think Counsel is talking about  
5 projections and the ability to make projections.

6 MR. GEHR: Well, then I think that is the way the  
7 question should be put.

8 MS. BERNABEI: This is my cross-examination, Mr.  
9 Gehr. I am sure you would put the questions in a different  
10 perspective.

11 BY MS. BERNABEI:

12 Q Mr. Hulse, it is not an exact science making  
13 these projections and analyzing them, is it?

14 A Ma'am, projecting load growth, or projecting  
15 water requirements or population trends are not exact  
16 sciences, there are many variables, and that is the basis  
17 upon which we have made our conservative requirement  
18 estimates, and used the MAG projections as opposed to the  
19 City of Phoenix projections on availability, to provide for  
20 those contingencies.

21 Q Okay, in other words, you used the MAG  
22 projections because they were lower, is that right, and you  
23 felt they were more conservative?

24 A Yes, ma'am.

25 Q Have you considered -- well, let me approach it

1 this way. As part of the Central Arizona Project compromise  
2 that was made at a national level, Arizona had to adopt a  
3 statewide conservation program, is that right?

4 A Yes, ma'am.

5 Q And that was basically crystallized in the  
6 Ground Water Act of 1980, is that right?

7 A Yes, ma'am.

8 Q Okay, and that imposed certain duties on the  
9 municipalities to conserve water, is that right?

10 A I believe that is correct.

11 MR. GEHR: Objection.

12 WITNESS HULSE: I am not -- haven't read the law,  
13 but I have generally been made aware that that is a  
14 requirement.

15 BY MS. BERNABEI: .

16 Q Okay, and that duty to conserve water has been  
17 placed on the cities -- was not placed on the cities in 1973,  
18 was it?

19 A No, ma'am.

20 Q And therefore when that contract was written for  
21 effluent from the 91st Avenue treatment plant, the people who  
22 wrote that contract could not have envisioned that this legal  
23 requirement would be put on in 1980 on the cities, is that  
24 right?

25 A That is correct.

1           Q       And it is possible, is it not, that conservation  
2 measures adopted by the city could lead to less production  
3 of effluent in the cities, is that right?

4           A       That is right. It is my understanding that that  
5 is why the MAG projections are lower, because they do  
6 consider the conservation practices.

7           Q       But at least one MAG projection, in 1979, was  
8 done before the Ground Water Act of 1980 was passed, is that  
9 not right?  
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- 1 A If you say so.
- 2 Q I believe the date of the --
- 3 A I don't know the date of the Ground Water Act.
- 4 Q It's 1979.
- 5 A I don't know the date of the Ground Water law.
- 6 Q And therefore, the MAG figures that you used
- 7 were calculated prior to the conservation measures imposed
- 8 by law on the city. Is that right? Prior to the --
- 9 MR. GEHR: Objection.
- 10 JUDGE LAZO: What's your stated reason, Mr. Gehr?
- 11 MR. GEHR: He's stated that he has not read the
- 12 Ground Water Management Code, their presumption that there
- 13 are some requirements on cities that conservation measures
- 14 had been imposed by the Ground Water Management Act. I
- 15 haven't seen one yet.
- 16 MS. BERNABEI: That's not what we're talking
- 17 about.
- 18 MR. GEHR: But basically, the objection is, it's
- 19 asking a question of the witness on which he's not qualified
- 20 and he says he doesn't know the answer.
- 21 JUDGE LAZO: It's becoming a little argumentative,
- 22 Counselor, because of the legal implications.
- 23 MS. BERNABEI: Okay. This witness has testified
- 24 as to the contract, and he was put on as an expert on that
- 25 contract. I, therefore, feel that his opinions as to how

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1 later measures, which are generally understood and dealt  
2 with in Arizona, are important to the interpretation of that  
3 contract. He told us today what he believes that contract  
4 means today. And I think I am entitled to probe into how  
5 law is passed after the date that contract was signed, enter  
6 into his interpretation. He's talked about the Central  
7 Arizona Project and the need to conserve. I believe this  
8 witness understands my questioning.

9 JUDGE LAZO: Well, you can find out what he knows  
10 about that. He may say he doesn't know.

11 MR. GEHR: I'd further like to say, you can have  
12 conservation and you can plan for conservation even if you  
13 do not have the Ground Water Management Code.

14 MS. BERNABEI: Mr. Gehr, thank you for your  
15 testimony.

16 BY MS. BERNABEI:

17 Q Okay. Mr. Hulse, is it not true that conserva-  
18 tion measures may affect the amount of effluent coming from  
19 the 91st Avenue Treatment Plant?

20 A Ma'am, it obviously can affect it and that is  
21 my understanding of how the MAG projections are made,  
22 considering those conservation efforts, whether required by  
23 law or not.

24 JUDGE LAZO: Now, we're going over old ground  
25 here. I'm just wondering --

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1 MS. BERNABEI: Okay. I'll get --

2 WITNESS HULSE: I think I further stated that  
3 the -- let me just state this, if I may, sir. And that is  
4 that we've stated two things, that the latest projections,  
5 in spite of all the new laws and the conservation efforts,  
6 are increased out of 91st Avenue, which is what's critical  
7 here, number one. Number two, we previously stated we are  
8 trying to work with the cities to update the contract to  
9 take into consideration conservation and how the water --  
10 I mean, compensation on how the water can best be used.

11 BY MS. BERNABEI:

12 Q Actually, that was my next line of questioning.  
13 Perhaps, you'd be willing to talk about the contract.  
14 Section 21 of that contract allows the cities to draw back  
15 water at a time of critical need. Is that correct?

16 A With some other stipulations.

17 Q Okay. The stipulations you've talked about  
18 today. Is that right?

19 A Yes, ma'am.

20 Q Now, is it not correct that Mr. Stephens invoked  
21 that section of the contract when he felt the City of Phoenix  
22 was threatened by low water supplies at the Horseshoe Dam?  
23 Is that correct?

24 A He absolutely did not invoke that. He is not  
25 capable of doing that and his letter did not say he invoked

18-4

1 that.

2 Q Is that what he thought he was doing?

3 A I don't know what he thought he was doing. He's  
4 entitled to his own opinion. I certainly didn't accept it  
5 or expect it to be an invocation of Section 21.6 Q I understand. Do you know why -- and I'm saying  
7 what the cause of Mr. Stephens writing you that letter was?

8 A You'll have to ask Mr. Stephens.

9 Q Have you ever discussed it in negotiations with  
10 him?

11 A I didn't think it warranted discussion.

12 Q So in other words, when you entered these  
13 negotiations, you didn't talk to Mr. Stephens about why he  
14 had chosen to renegotiate this contract with you? Is that  
15 what you're telling me?16 A Yes. We talked about renegotiating a contract.  
17 We have not discussed specifically why he wrote the letter.18 Q In that letter, he says, does he not, that he  
19 believe Phoenix will be out of water in July of 1982, that  
20 there's that possibility?

21 A That's what his letter says.

22 Q And therefore, you knew that at least -- you  
23 believed that was one of his concerns, right?

24 MR. GEHR: I --

25 MS. BERNABEI: I'm asking this witness if he

18-5

1 knows. I believe he's -- he's talked about the negotiations.

2 MR. GEHR: I misunderstood the question.

3 MS. BERNABEI: I'm asking him about the genesis  
4 of the negotiations.

5 WITNESS HULSE: Well, I don't know what he thought.  
6 I felt like it was a negotiating hammer. Frankly, that's  
7 the way I saw it. And I saw it having no validity.

8 BY MS. BERNABEI:

9 Q Well, Mr. Stephens took these negotiations  
10 seriously, I assume. He believed he had -- at least, he  
11 believed he had a real good legal position. Did he not?

12 MR. GEHR: Objection.

13 MS. BERNABEI: If you know.

14 MR. GEHR: Object.

15 WITNESS HULSE: Well, you know, what his  
16 position was, I -- as simply said, I considered it to be  
17 a negotiating hammer and that obviously, 21 is very clear.  
18 The letter saying that 21 was going to be invoked or they  
19 were thinking about maybe they would possibly do something  
20 in '74 -- that's what the letter says. We never disputed  
21 what 21 says.

22 BY MS. BERNABEI:

23 Q Now, isn't it true that the City of Phoenix, or  
24 perhaps the series of cities have an arrangement whereby  
25 they get certain credits by water trapped at the Horseshoe

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Dam?

A They get gate water credits, yes, from --

Q Okay. What are those gate water credits?

A I'm not familiar with the details. I know that they provide water to the cities, through the Salt River Project, which can be used outside the project here.

MR. GEHR: If the Chairman please, Mr. Juetten of the Salt River Project will be available to discuss gate water credits.

WITNESS HULSE: In great detail.

MS. BERNABEI: I'm asking this witness because I believe that -- well --

BY MS. BERNABEI:

Q Did Mr. Stephens ever tell you that that was the reason -- that the City of Phoenix was running low on the gate water credits and that's why they wrote Section 21 of the contract?

MR. GEHR: Objection. The witness has stated that he did not invoke Section 21, that he did not discuss the reasons for writing the letter.

JUDGE LAZO: We'll sustain the objection. You'll have to reword it, Counselor.

BY MS. BERNABEI:

Q Did Mr. Stephens ever tell you that the City of Phoenix was running low on gate credits? I'm talking about

18-7

1 the period in the fall of 1981 into the spring of 1982.

2 A Mr. Stephens has told us and the reading of  
3 the newspaper makes that very knowledgeable, that they were  
4 short of water.

5 Q Did that have anything to do with the negotiations  
6 on this contract?

7 A No, ma'am.

8 Q It had absolutely nothing to do about the  
9 renegotiations --

10 A Well, the shortage in '81 and '82 was not  
11 germane to the discussion in '84 as far as I was concerned.

12 Q Negotiations at this point have broken down, is  
13 that correct, between you and Mr. Stephens as representative  
14 of the Arizona Municipal Water Users Association?

15 A Yes. We have suggested that there needs to be  
16 a more philosophical understanding between the mayor and  
17 our chief executive officer before we can be productive.

18 Q And so you're talking to the mayors at this  
19 point. Is that correct?

20 A No, ma'am, we have not talked to the mayors.  
21 We have suggested the May 11 meeting of our CEO with the  
22 mayors.

23 Q And when you say the CEO --

24 A Chief executive officer, not myself.

25 Q You're talking about the president of the

18-8

1 company?

2 A Yes, ma'am.

3 Q So you're talking about a meeting between the  
4 president of the company and the mayor of Phoenix?

5 A The mayors. Mayors.

6 Q And the mayors of which cities, sir?

7 A Of the five cities that Mr. Stephens represents.  
8 That still leaves one city unrepresented, Youngtown.

9 Q Did you ever bring up during the negotiations  
10 that you believed Mr. Stephens was not negotiating on behalf  
11 of the signatories to that contract?

12 MR. GEHR: Could I have the question read? I  
13 can't understand. I'm sorry. I didn't hear.

14 BY MS. BERNABEI:

15 Q Did you, during the negotiations or the re-  
16 negotiations about the contract we're talking about, ever  
17 bring up to Mr. Stephens that he was not the proper  
18 representative of the signatories to that contract?

19 A I can't remember whether we've ever approached  
20 the Youngtown issue with him or not. I don't remember.

21 Q It wasn't anything important, in other words,  
22 if it were discussed.

23 A No. I think we -- you know, nothing is final  
24 until it's signed by all parties. And we certainly accepted  
25 him as a spokesman for the other five cities, which are by

18-9

1 far the major partner.

2 Q Is it your position that Mr. Stephens opened  
3 negotiations on this contract, as he did by his letter,  
4 other than because there existed a critical need for water  
5 by the cities?

6 MR. GEHR: Objection. It asks for a conclusion  
7 of this witness of what the reasons were that Mr. Stephens  
8 started the negotiations.

9 MS. BERNABEI: I believe he testified that he  
10 didn't believe there was a need as need is defined in that  
11 contract.

12 MR. GEHR: That has nothing to do with it. The  
13 question that was put to him was what the witness knows  
14 about Mr. Stephens' mind.

15 MS. BERNABEI: What I asked him is what he  
16 believes the reason Mr. Stephens began renegotiation on  
17 this contract. This witness, evidently, doesn't believe  
18 there was any reason to begin renegotiation. I'm trying  
19 to find out if he believes other people do.

20 JUDGE LAZO: You're only really skipping a  
21 question and maybe that's fine. If you say, do you know,  
22 and then ask the second question, it might be a little  
23 simpler. But why don't you ask it again.

24 BY MS. BERNABEI:

25 Q Do you know why Mr. Stephens opened renegotiation

18-10

1 of this contract?

2 A His stated reasons, as I remember them, had to  
3 do with compensation levels, scheduling and the amounts of  
4 water available for Palo Verde.

5 Q And you're testifying that that's your belief  
6 from the December 9, 1981 letter. Is that correct?

7 A I don't know about a December 9, 1981 letter.  
8 I don't remember it. I mean, if I saw the letter, maybe  
9 I can --

10 Q This is Applicants' Exhibit I, which is the  
11 letter from Mr. Stephens to you, that's been introduced.

12 A Okay. All right.

13 MR. GEHR: Is that the -- is the concept that  
14 that was given before the negotiations started?

15 MS. BERNABEI: No. I'm asking if that was part  
16 of his -- part of the basis on which he now has information  
17 about why he believes Mr. Stephens opened up negotiation  
18 on the contract. That's all I'm asking.

19 MR. GEHR: If he knows.

20 WITNESS HULSE: Well, I felt, from his statements,  
21 that the initial reason was that -- no -- were not reflected  
22 by the January 9th situation -- was to open up the contract  
23 to change the delivery schedules -- or option periods and  
24 the compensation.

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18-11 1

BY MS. BERNABEI:

2 Q Therefore, you're saying negotiations opened  
3 at what time period? You may have testified before, but  
4 you can repeat it, sir.

5 A Well, I had my very first meeting with him, in  
6 which we discussed opening up the contract, in June 12th,  
7 1980, at which time I asked him to express his thoughts on  
8 paper as to what items that he would like to have us change  
9 or like changed.

10 Q And at that time, he had the concerns that you  
11 outlined in response to questions from the Board?

12 A As I remember from our luncheon discussion, yes.  
13 He had concerns about money. He had concerns about the  
14 schedule, and the total amount needed and whether it was  
15 all needed at Palo Verde and so on and so forth. The next  
16 action I'm aware of was that almost a year later, he filed  
17 for a limited appearance before this Board.

18 Q Do you remember receiving this letter in the  
19 interim, December 9, 1981?

20 A I said, we met in June of '80. And then in May  
21 of '81, he filed for a limited appearance. And then we  
22 met with him on August 17th, 1981, and we met at all kinds  
23 of meetings before this letter was written.

24 Q So your position is that the renegotiation  
25 contract, the purpose -- let me start over. Is it fair to

18-12

1 say you do not believe or Mr. Stephens never told you the  
2 reason for renegotiation was that there was a critical need  
3 in the cities for the water?

4 MR. GEHR: Asked and answered. The question  
5 has been asked and answered repeatedly.

6 MS. BERNABEI: This is cross examination.

7 WITNESS HULSE: The renegotiation of the  
8 contract --

9 JUDGE LAZO: Let's try and move along. And it  
10 would be better to let him answer.

11 WITNESS HULSE: The renegotiation of the contract  
12 had nothing to do with this critical water shortage that --  
13 where he's talking about that they might possibly think  
14 about applying Section 21.

15 BY MS. BERNABEI:

16 Q Now, there have been serious -- let me start  
17 over. Can you envision any situation under which the  
18 cities which are signatory to the contract could pull back  
19 effluent for use in the cities and not provide Palo Verde  
20 with 140 thousand acre feet per year?

21 MR. GEHR: Objection.

22 JUDGE LAZO: What's your basis, Mr. Gehr?

23 MR. GEHR: We've never asked for 140 thousand  
24 or Palo Verde. The contract talks about an interruption  
25 of a supply. Our point is that there is a lot effluent, over

18-13

1 and above the 64 thousand we need, that can be interrupted  
2 without disturbing Palo Verde.

3 MS. BERNABEI: I'll rephrase the question.

4 BY MS. BERNABEI:

5 Q Can you envision any situation under which  
6 there is an interruption in service as envisioned in  
7 paragraph 21 of your agreement?

8 A As I said previously when Mr. Gehr asked me  
9 that question, I said, I don't know of any specifics, but  
10 I think the possibility of that are extremely remote.

11 Q Have you ever done any analysis of that  
12 probability?

13 A I don't know what you have in mind when you  
14 say analysis.

15 Q Well, you've offered an opinion that you think  
16 that's extremely remote. Have you ever done an analysis,  
17 a probablistic analysis of that?

18 A No. We have not done any probablistic analysis.  
19 We have simply reasoned through some things.

20 Q Now, is it fair to say that none of the figures  
21 here today has factored in a serious drought year, and I'm  
22 talking about the MAG figures or the figures on which your  
23 chart up here is based?

24 A I assume, they're based on average rainfall and  
25 if that has any bearing on how much water goes through the

13-14

1 sewer system, how much --

2 Q I'm talking about in a serious drought year.

3 A Well, as I say, I don't know how that bears on  
4 the sewage system necessarily.

5 Q Well, there'd be less water if it were a serious  
6 drought, wouldn't there?

7 A Oh, yes, ma'am, but there'd also be less watering  
8 of lawns and less washing of cars and many, many other things  
9 before it has an impact on the sewage system.

10 Q Is it fair to say you've never factored that in?

11 A Well, I think we've considered it, but we have  
12 not considered -- not done statistical analysis, but we've  
13 considered the fact that even in the case of major droughts  
14 in the area that there is going to be a minimum impact on  
15 the sewage system.

16 Q So you've never done any analysis, but you're  
17 conclusion is that it would have a minimum effect -- a  
18 serious drought in this area would have a minimum effect on  
19 effluent.

20 MR. GEHR: Objection. He's stated he never did  
21 a statistical analysis.

22 WITNESS HULSE: Yes. I said from a reasoning  
23 standpoint, yes, we've discussed droughts and how much effect  
24 it had, but not a statistical analysis.

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18-15 1

BY MS. BERNABEI:

2 Q Now, the contract that -- and I'm changing  
3 subjects here -- the contract that APS has with Tolleson,  
4 the City of Tolleson.

5 A Tolleson.

6 Q Thank you, sir. That includes a provision  
7 practically identical to provision 21 in the 91st Avenue  
8 Treatment Plant contract. Isn't that true?

9 A I'd have to look at that contract a minute.  
10 Will some Staff help me with the page number?

11 MR. GEHR: The witness asked if you had any  
12 specific page number on what you were referring to.

13 BY MS. BERNABEI:

14 Q I'm sorry. I didn't hear you, sir. Yes.  
15 I'm referring to page 20, section 10.

16 A Yes, ma'am.

17 Q Okay. Now, this is your contract with Tolleson.  
18 Is that correct?

19 A Yes, ma'am.

20 Q And it includes a provision almost identical  
21 to section 21 of your contract with the -- to get effluent  
22 from the 91st Avenue Treatment Plant. Is that right?

23 A Yes, ma'am.

24 Q In other words, that provision allows Tolleson  
25 to interrupt service in the case of a critical need by the

18-16

1 city under certain conditions.

2 A It's very similar to the one in the other  
3 contract. And since we shortly and just recently made the  
4 commitment, we obviously feel that it represented any  
5 threat to our supply.

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1 Q Isn't it true that the Tolleson must have  
2 felt some kind of threat if included in the contract?

3 A No.

4 MR. GEHR: Objection. The question is whether  
5 the City of Tolleson felt a threat.

6 MS. BERNABEI: He negotiated --

7 MR. GEHR: The witness cannot answer what  
8 the city of Tolleson felt, if the City feels anything.

9 MS. BERNABEI: He's testified that he didn't  
10 feel any threat or the company didn't feel any threat  
11 and that's why they put the provision in the contract.

12 I was asking in the same terms whether or not he believed  
13 that Tolleson had certain fears which led it to agree  
14 to this provision in the contract.

15 JUDGE LAZO: Its his belief, you may inquire  
16 into that.

17 BY MS. BERNABEI:

18 Q Do you know why Tolleson agreed to this  
19 provision in the contract?

20 A I don't know whether they asked for it or  
21 we volunteered it. Ma'am, I did not, as I previously  
22 said, I did not negotiate this contract. My staff people  
23 did. I reviewed it with them, the staff people and  
24 our lawyer, our lawyer is Mr. Gehr. I did not specifically  
25 ask whether they wanted it or whether we wanted it.

1       When you negotiate this kinds of contracts in a fish  
2 bowl, there is generally the tendency to want the same  
3 things or nearly the same things in many contracts.

4           Q       Well, it's this provision, am I not correct,  
5 is to the benefit of Tolleson, is that not right?  
6 It allows Tolleson to justify an interruption in the  
7 service in the case of a dire need in the cities, is  
8 that right?

9           A       Yes, it could work to that effect if they  
10 had some way of utilizing, once they recaptured it.

11          Q       Do you know if there's a standard clause  
12 that's putting contracts for effluent in this area of  
13 the form that's in these two contracts?

14          A       Ma'am, these are the only two sewage effluent  
15 contracts I know of.

16          Q       This contract was signed on -- I'm talking  
17 about the Tolleson contract, that was signed on --

18          A       Entered into on the 12th of June, 1981.

19          Q       Excuse me?

20          A       The 12th of June, 1981.

21          Q       There's several different dates.

22          A       Page one of the contract says this agreement  
23 made and entered into the 12th day of June, 1981.

24          Q       Well, there are various other parts of the  
25 contract that have different dates.

1           A        There's an amendment number one which has  
2 a November date.

3           Q        Well, there's different pages of the contract  
4 and I'm talking about section number 10 which has a  
5 date of June 4th, 1981.

6           A        Those are dates of the last typing. As  
7 you build drafts you put the date of the typing. If  
8 you don't change the date, you don't change the date.  
9        The effective date of the contract that's effective  
10 is the day you sign it, the day you put on the --

11          Q        I understand sir, but it looks like different  
12 pages of this contract were typed at different times,  
13 is that right?

14          A        Absolutely.

15          Q        And, I would assume that the pages of the  
16 contract that have later dates on them were parts that  
17 were negotiated and agreed to at later times, is that  
18 correct?

19          A        If it's typed later than the previous page,  
20 yes, it was apparently agreed to at different times.

21          Q        And therefore, I presume the provision as  
22 to Tolleson's right to call back water at times of critical  
23 need was typed later than other parts of the contract?

24          A        By a few days and I don't know why, particularly.

25          Q        Before entering into this contract with

1 Tolleson, had APS looked at the source of water to that  
2 effluent plant?

3 MR. GEHR: I beg your pardon? Had the what?

4 MS. BERNABEI: Had the company looked into  
5 the source of water flowing to the treatment plant?

6 MR. GEHR: Into the Tolleson Treatment -

7 THE WITNESS: Into the Tolleson?

8 BY MS. BERNABEI:

9 Q Into the Tolleson Treatment Plant.

10 A Had we looked at the quality of water going  
11 into the treatment plant?

12 Q No, have you looked at the sources of water  
13 going into that plant?

14 A Yes, ma'am, we knew what they were.

15 Q And what are the sources of that water?

16 A I don't remember now, but I know we had  
17 extensive discussion on it.

18 Q And did you do test samples on the quality  
19 of water going into the plant?

20 A I think we had tested the quality of the  
21 water coming out before we assigned this. We had Mr.  
22 Van Brunt's people do an analysis of the water coming  
23 out of the plant.

24 MS. BERNABEI: Could you indulge me for  
25 one minute?

1 JUDGE LAZO: Surely.

2 THE WITNESS: May I confer with my counsel?

3 JUDGE LAZO: Yes, there's no question pending,  
4 is there?

5 MR. GEHR: No.

6 JUDGE LAZO: There's no question pending.

7 (Pause)

8 MS. BERNABEI: I'm through with questions.

9 I would like to move into evidence any exhibits that  
10 have not been accepted.

11 JUDGE LAZO: That would be Intervenor's  
12 Exhibits 2, 3, and 4 which were marked for identification.  
13 Exhibit 1 has already been received in evidence. Are  
14 there any objections to the receipt into evidence of  
15 Intervenor's Exhibits 2, 3, and 4?

16 MR. GEHR: I have no objection as to 1,  
17 2, 4 and I previously agreed on 3, subject to the fact  
18 that I do not concede that this is an accurate statement  
19 of the record of the meeting. That we may have submitted,  
20 I don't know. That's the only thing I'm not --.

21 JUDGE LAZO: Mr. Dewey, does Staff have  
22 any objection?

23 MR. DEWEY: Your Honor, we don't think that  
24 the Intervenor has actually linked up these exhibits  
25 with any realistic probability of -- jeopardizing the

1 water effluent for the Palo Verde units. There's nothing  
2 in these letters that says that any type of action or  
3 role can be taken by the Department and we feel that  
4 the cross-examination does not establish this either.

5 JUDGE LAZO: You would oppose their admission  
6 into evidence?

7 MR. DEWEY: Yes, sir.

8 MS. BERNABEI: Mr. Chairman, could I speak  
9 to that?

10 JUDGE LAZO: Surely.

11 MS. BERNABEI: Okay, this was not a legal  
12 argument. I do believe those letters are relevant to  
13 argument on different interpretations over a long period  
14 of time about this contract and also to other considerations  
15 that have always entered into an interpretation of any  
16 contract of that sort which includes regional management  
17 plans including the MAG studies and I believe Mr. Hulse  
18 as a person in charge in the company in that area in  
19 1977 and 1978 and in those letters demonstrated that  
20 there were other opinions about that contract. I believe  
21 that's relevant to what Mr. Stephen's position is at  
22 the present time and whether or not that contract is  
23 certain for that effluent for the plants. Prior contro-  
24 versies about -- in general, I'm concerned with prior  
25 controversies about the contract.

1 JUDGE LAZO: Very well.

2 Mr. Gehr, did you have something further?

3 MR. GEHR: I just wanted to state that when

4 we're talking about interpretations of the contract,

5 it seems to me the only views that are relevant as to

6 the interpretation of the contracts are the views of

7 of the parties to the contract. Not some person who

8 is not a party, has no relationship to the contract.

9 I concur with the staff that it's relevant, but I had

10 no objection to their admission because the relevancy

11 has got to be demonstrated. If they're not relevant,

12 they're not relevant.

13 JUDGE LAZO: Well, they have a close enough

14 involvement with Mr. Hulse that we think they are relevant

15 and should be admitted and we will rule that they may

16 be received into evidence.

17 (Intervenor's Exhibits

18 Nos. 2, 3, and 4 were

19 thereupon received into

20 evidence.)

21 MS. BERNABEI: We will provide copies for

22 the Court Reporter.

23 JUDGE LAZO: Yes, you must do that. Mr.

24 Dewey, does Staff have cross-examination of this witness?

25 MR. DEWEY: On just one small point, Your

1 Honor.

2 CROSS-EXAMINATION

3 BY MR. DEWEY:

4 Q Mr. Hulse, I believe you stated that the  
5 top line in exhibit A of the Joint Applicants was the  
6 line that showed the Tolleson effluent added to the  
7 91st Avenue effluent, is that correct?

8 A That's the Tolleson effluent available to  
9 APS in additions to the 91st Avenue available to APS.

10 Q Yes, sir, and you stated that that was a -  
11 done on a monthly basis, on an average monthly basis,  
12 taken over a year?

13 A Yes, that's 700 acre feet per month just  
14 straight across, I'm not trying to get monthly variations.

15 Q Can you explain why that would be acceptable  
16 when the other periods were done on monthly variations?

17 A The, I guess it's a matter of the sophistication  
18 of the operation. It's a very small operation out there  
19 now. In fact, it's much less than that and there just  
20 wasn't enough data for a small operation and the kind  
21 of staff people they had to make those kinds of projections.

22 Q Would you say there was no need for that  
23 type of thing?

24 A I think it's small compared to the other  
25 one and therefore, it's not that critical.

1 Q I see, of the people who will be testifying  
2 for the applicant this week, are there other people,  
3 are there any other individuals who perhaps might be  
4 more familiar with this particular aspect?

5 A Mr. Jack Muir from the City of Tolleson  
6 I think filed an affidavit in this case, is that correct,  
7 counsel?

8 MR. GEHR: Yes, Mr. Muir did file an affidavit  
9 attached to -- or did submit an affidavit in support  
10 of our motion for summary disposition in which he indicates  
11 the magnitude of his operation.

12 MR. DEWEY: Thank you, that's all the questions  
13 I have.

14 MR. GEHR: May I ask one?

15 JUDGE LAZO: On Redirect? Certainly.

16 MR. GEHR: Yes, sir.

17 REDIRECT EXAMINATION

18 BY MR. GEHR:

19 Q Mr. Hulse, the 91st Avenue plant is being  
20 expanded currently this year, I believe to 120 million  
21 gallons per day, is that correct?

22 A That's correct.

23 Q Can you convert that 120 million gallons  
24 per day to an approximate figure of acre feet per year?

25 A Yes, sir, just a minute. That's a 134,000

1 acre feet per year.

2 Q 134,000?

3 A Yes. Let me double check my arithmetic.  
4 That's 134,640 acre feet per year.

5 Q Okay, 134,640?

6 A Yes, sir.

7 Q And I think you've previously testified  
8 that the capacity of -- well, maybe you didn't but if  
9 you would now, is the capacity of the 23rd Avenue approxi-  
10 mately 40,000 acre feet?

11 A Yes.

12 MS. BERNABEI: I'm going to object. This  
13 witness has testified -- it's a leading question. I  
14 don't believe he --

15 MR. GEHR: All right, would you --

16 MS. BERNABEI: I don't believe he's testified  
17 to that before.

18 MR. GEHR: I'll rephrase the question.  
19 I don't like leading questions either on direct.

20 BY MR. GEHR:

21 Q Do you know what the approximate capacity  
22 of the 23rd Avenue plant is?

23 A Yes, sir, it's -- it runs at capacity now  
24 and it's right at something like 37 man gallons per  
25 day and, which is roughly 41,500 acre feet per year.

1 Q If I add the capacities that you just gave  
2 us of 134,640 to 41,500, does that come to a total capacity  
3 of the two plants of what amount?

4 MS. BERNABEI: Thank you, Mr. Gehr.

5 MR. GEHR: I fooled you.

6 THE WITNESS: Would somebody be so kind as  
7 to tell me what my first number was?

8 JUDGE COLE: That was 134,000 plus 41,500.

9 THE WITNESS: 640. That's 176,154, I think.

10 BY MR. GEHR:

11 Q Thank you. One more calculation if you  
12 will. Will you subtract from that amount, that total  
13 amount the commitments to Buckeye Irrigation District  
14 and the Arizona Game and Fish Department?

15 A I believe that's the 38.5?

16 Q No.

17 A Excuse me. I'm not asking you --

18 JUDGE LAZO: You previously answered that  
19 to be 30 --

20 THE WITNESS: Okay, that's 37.3, okay.

21 JUDGE COLE: Weren't there also some commitments  
22 on the 23rd Street Treatment plant also?

23 MR. GEHR: Yes, there were, but the facts  
24 are that they are junior to the Palo Verde.

25 THE WITNESS: There aren't any claims that

1 are junior to that, right? There aren't any claims,  
2 it's my understanding that are junior to this agreement.

3 JUDGE COLE: Does that apply to McDonald's  
4 Farms, also sir?

5 THE WITNESS: I'm not familiar with that.

6 MR. GEHR: That question -- we've never  
7 talked to Mr. McDonald. We don't know what his claim  
8 is -- we've told -- people have informed me personally  
9 that he might make a claim. It's immaterial because  
10 we're only talking about 320 acres.

11 MS. BERNABEI: I object.

12 MR. GEHR: And you're talking 6 acre feet  
13 per --

14 MS. BERNABEI: I'd object to Mr. Gehr's  
15 testimony. If this witness doesn't know.

16 JUDGE COLE: Yes, I guess we'd have a problem  
17 with that, Mr. Gehr.

18 THE WITNESS: I don't know about Mr. McDonald's  
19 Farm.

20 JUDGE COLE: Do you know approximately the  
21 size of Mr. McDonald's farm?

22 THE WITNESS: You thought I was going to  
23 say because Mr. Gehr told me. That's not correct because  
24 I was through the area recently reviewing all of this  
25 and that's approximately 320 acres.

1 JUDGE COLE: Do you have any estimate of  
2 the amount of water that he might require if he were  
3 to get all the water he needed?

4 THE WITNESS: No, I think that farm was  
5 a water percolation farm. I'm just really not familiar  
6 with it, I'm sorry sir.

7 If you subtract the previous calculation,  
8 176,154 and I subtract 37,300 I get 138,854 acre feet  
9 per year.

10 BY MR. GEHR:

11 Q Which is almost the same as the contract  
12 amount on agreement 13904, is that correct?

13 A That is correct.

14 Q If the plants are operated at their capacity,  
15 would there or could there be any complaint as to the  
16 construction of satellite sub-regional or other plants  
17 anywhere?

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1 MS. BERNABEI: I object to that question as<sup>584</sup>  
2 phrased. I don't know if he is asking for a technical  
3 opinion or a management decision on this man's part, and I  
4 also don't understand what capacity the plants would need.  
5 There has been different figures on what capacity the plant  
6 could run at.

7 JUDGE LAZO: We will sustain the objection.

8 MR. GEHR: I will make the argument in the brief.  
9 I have no further questions.

10 JUDGE COLE: I just had a discussion with our  
11 chairman concerning that last question. The question as I  
12 understood it was if the plants, the 91st and the 23rd Street  
13 treatment plants, were operated at capacity, what objections  
14 would or could there be to operating or designing and  
15 operating other plants, was that your question?

16 MR. GEHR: Yes, sir.

17 JUDGE COLE: I guess I would like the answer to  
18 that.

19 WITNESS HULSE: Well, you know, 138,000 acre-  
20 feet capacity is awfully close to 140,000 acre-feet, and I  
21 think as a management policy, we would assume that -- and  
22 with the projections that the revised MAG plan has for some  
23 subsequent expansion, we would not find it very objectionable  
24 to go ahead and develop regional plants if they were taking  
25 care of growth, and not taking away effluent from the 91st,

1 what was now presently going to the 91st Avenue.

2 JUDGE COLE: All right.

3 WITNESS HULSE: Let me -- can I expand just --

4 JUDGE COLE: Sure.

5 WITNESS HULSE: Therefore, we really haven't got  
6 any quarrel with the so-called Gayney Ranch or Arrowhead  
7 Ranch concept, as they come along, because they are talking  
8 about new areas, and they are very small in size.

9 JUDGE COLE: All right, sir. Are you finished  
10 your redirect?

11 MR. GEHR: Yes, I am.

12 MS. BERNABEI: I have one further question that  
13 might be relevant to McDonnell Farms.

14 RECROSS EXAMINATION

15 BY MS. BERNABEI:

16 Q You testified how many acres were on the farms?

17 A I don't know. As I vaguely remember, we are  
18 talking about a half a section, as we flew over it the other  
19 day.

20 Q And I understood that a usual standard for  
21 determining double cropping, usual figure of water needed is  
22 six acre-feet, is that correct? Six acre-feet per year?

23 A That is a reasonable assumption, that is on the  
24 order of --

25 Q So how many acre-feet per year would that be,

T20,3  
1 considering the number of acres in McDonald farms, if they  
2 were to follow standard practice?

3 A 320 times six, I believe comes out 1860.

4 Q Thank you.

5 JUDGE COLE: Mr. Hulse, on page two of your  
6 testimony, the affidavit.

7 WITNESS HULSE: Yes.

8 JUDGE COLE: In item number eight, you refer to  
9 140,000 acre-feet, subject to the availability of such  
10 amounts, after satisfaction of prior commitments. Now, with  
11 respect to those prior commitments, was any consideration at  
12 all given to peak demand considerations, peak demand?

13 WITNESS HULSE: Yes.

14 JUDGE COLE: Could you --

15 WITNESS HULSE: You mean as far as prior  
16 commitments, or our commitment requirements?

17 JUDGE COLE: Well, with respect to commitments  
18 and the time use of those commitments during the year, so many  
19 acre-feet per year, what consideration, if any, was given to  
20 the time use during the year of that commitment?

21 WITNESS HULSE: Okay. I don't have anything with  
22 me to show it, but I know we plotted, tried to plot in the  
23 past what the primary one being Buckeye irrigation district,  
24 or Irrigation Company, they are peaking in the summer, and so  
25 are our commitments peaking in the summer.

T20,3

1 JUDGE COLE: All right, sir.

2 WITNESS HULSE: And so this curve that we have  
3 derived of what is available to us is from the total  
4 availability minus the Buckeye Irrigation Company's needs,  
5 I believe, which are in one of the other exhibits we have.  
6 Which are projected on a monthly basis.

7 JUDGE COLE: All right, sir, now in --

8 MR. GEHR: Can I -- I think we are -- excuse me,  
9 Dr. Cole. I think we are getting a little -- the record is  
10 going to be confused, and I -- is the amount -- I would like  
11 to ask this question so it doesn't get worse. Is the amount

12 FURTHER REDIRECT EXAMINATION

13 BY MR. GEHR:

14 Q Is the amount shown in effluent available  
15 reflecting the contract amount used by Buckeye, as distinguish-  
16 ed from the total amount that they have been taking out of the  
17 river? They are two separate quantities. And I make that  
18 point -- I --

19 JUDGE COLE: Well, I am interested in that, too,  
20 sir, and I will get to that. Let me pursue this line, and  
21 you can raise whatever questions you want.

22 Let us get to Joint Applicants' Exhibit C, the  
23 Greeley and Hansen projections, and I believe you used  
24 these projections in preparing, or they were used in the  
25 preparation of Joint Applicants' Exhibit A, is that correct,

20,4  
1 sir?

2 WITNESS HULSE: That is correct.

3 JUDGE COLE: Did you also use the predictions that  
4 were associated with the Buckeye Irrigation District and the  
5 Arizona Fish and Game Department that are contained in Table  
6 C-2 of Joint Applicants' Exhibit C?

7 WITNESS HULSE: Yes, sir. But you will notice  
8 those are constant throughout the year.

9 JUDGE COLE: That is what I noticed, yes, sir.  
10 And is that how they were factored into Joint Exhibit A?

11 WITNESS HULSE: Yes, sir.

12 JUDGE COLE: How close are they to the actual use  
13 pattern of Arizona Fish and Game and Buckeye Irrigation  
14 District?

15 WITNESS HULSE: I can't answer that without  
16 reviewing data.

17 JUDGE COLE: In response to a previous question,  
18 you indicated that their use peaks during the summer, at the  
19 same time your use peaks.

20 WITNESS HULSE: Yes, I think this is a contractual  
21 limitation that is shown here, as opposed to an actual.

22 JUDGE COLE: Okay, but do you have any knowledge  
23 of the distribution of their use during the year, and would  
24 that have an impact on availability to Palo Verde?

25 WITNESS HULSE: I can't answer that without going

1 back through my staff.

2 JUDGE COLE: Do you think that is important, sir?

3 WITNESS HULSE: I think the summer months here  
4 represent a peak amount they can take, and that I doubt it  
5 would have any significant impact on the availability.

6 JUDGE COLE: Well, sir, if we got the 91st Street  
7 plant and the 23rd Street plant operating at their capacity,  
8 which is -- which would then provide you with, you say, the  
9 contract amount, any variations within that would then be a  
10 departure from the contract amount, would that be correct?  
11 You say you have no problem when they are operating at  
12 capacity. You just meet the requirement, and there were some  
13 calculations that were just made that provided you with the  
14 contract amount?

15 WITNESS HULSE: Well, the contract says that they  
16 can't -- or our interpretation is that there was an inhibition  
17 of building satellite plants until they have met a full  
18 140,000 acre-feet. Now, we are talking about three units at  
19 Palo Verde again, we are talking about something so much less  
20 than that, that the peak month, you take the Palo Verde peak  
21 month requirement, that yellow curve, I believe, and  
22 multiply by 12, you will get something like oh, 78,000 to  
23 80,000 acre-feet.

24 JUDGE COLE: All right, sir, but in June of  
25 1986, and the yellow line there indicates operating at an

1 87.5 percent capacity factor?

2 WITNESS HULSE: On an annual basis, yeah, 95  
3 percent for that particular month, with all three units, which  
4 the last unit has only been on a month, so that is a very  
5 conservative approach.

6 JUDGE COLE: In the construction of the effluent  
7 availability lines, was any consideration given to the time  
8 distribution use of water by Buckeye and Arizona Fish and  
9 Game?

10 WITNESS HULSE: They were taken from this study  
11 here.

12 JUDGE COLE: Assumed at a uniform rate?

13 WITNESS HULSE: Yes.

14 JUDGE COLE: So that if they were to include the  
15 distribution with higher use in the summer than in other  
16 parts, what would be the impact on the relative proximity of  
17 the availability line and the requirements line?

18 WITNESS HULSE: Well, the yellow line would get --  
19 and the black line would cross. I think I must make the  
20 point, at this point, that the Buckeye Irrigation District  
21 also gets water out of the river, so this is only the amount  
22 they are contractually taking through the pipeline. I think  
23 Ms. Schaper this morning discussed how much -- they were  
24 getting a large amount of water out of the river at the  
25 present time. They will continue to take some water out of

1 the river, which is not a contractual arrangement, so it is  
2 my understanding that they pretty much take this water  
3 somewhat on an even basis, so they will under this  
4 arrangement, and they will pump the rest out of the river.

5 JUDGE COLE: All right, sir. Their source of  
6 river water, the Gila River?

7 WITNESS HULSE: Yes, sir.

8 JUDGE COLE: Is that at -- at the point where they  
9 withdraw water, is it -- is there water in it all year  
10 around?

11 WITNESS HULSE: I can't answer that. There is  
12 now, of course, but after all three units are on, there will  
13 be considerably less water there.

14 JUDGE COLE: Excuse me, sir?

15 WITNESS HULSE: There will be considerably less  
16 water there after these units are -- we are taking water  
17 through the pipeline.

18 JUDGE COLE: During the time of the year when  
19 their demand is highest, would you expect there to be more  
20 or less water there than on the average?

21 WITNESS HULSE: There will be less water in the  
22 river. They also have a groundwater pumping system  
23 throughout their district which supplements their water  
24 supply, but this is the -- as I understand it, this is the  
25 contract amount that they would take.

1 JUDGE COLE: In his statement this morning, Mr.  
2 John Schaper indicated that in past years, they have taken  
3 almost all of the water in the Gila River for their purposes.  
4 Is that correct, sir? Did you hear him say that?

5 WITNESS HULSE: I think -- yes, I did.

6 JUDGE COLE: And I believe he indicated something  
7 like 70,000 acre-feet per year?

8 WITNESS HULSE: I have heard those kind of figures,  
9 yes.

10 JUDGE COLE: So is it your contention, then, that  
11 with the 30,000 acre-feet that he has contracted for, the --  
12 his needs up to the 70,000, assuming that his needs will  
13 be maintained at that level or close to it, would be gotten  
14 out of the river?

15 WITNESS HULSE: Oh, that plus groundwater pumping  
16 and the project.

17 JUDGE COLE: All right, sir. Do you have any  
18 knowledge of the contract that the Buckeye Irrigation  
19 District has with the cities and SRP?

20 WITNESS HULSE: I personally do not have. My  
21 staff have, and our attorneys of course are aware of it.

22 JUDGE COLE: You have no knowledge of any  
23 monthly restrictions as to withdrawal?

24 WITNESS HULSE: I can't answer that question,  
25 sir.

1 JUDGE COLE: All right. Referring to Joint  
2 Applicants' Exhibit A, sir, could you tell me the relationship  
3 between capacity factor and water use?

4 WITNESS HULSE: Well, there is a relationship  
5 between the kilowatt hours produced in the plant, and the  
6 amount of water it takes to cool it at certain temperatures.  
7 I did not make those calculations. Those came from  
8 engineering and operating people, but obviously they have to  
9 do with the amount of kilowatt hours, and water used for  
10 cooling, are closely tied together, but it is also affected,  
11 of course, by the ambient and weather conditions.

12 JUDGE COLE: But all other conditions being  
13 equal, is it -- if you get a ten percent increase in  
14 capacity factor, would you expect a ten percent increase in  
15 cooling water requirements?

16 WITNESS HULSE: Sounds reasonable. I really  
17 want to be careful here, because I don't want to try to make  
18 a technical evaluation. If Mr. Van Brunt comes on later, you --

19 JUDGE COLE: I might get a chance to ask him that.

20 WITNESS HULSE: Yes.

21 JUDGE COLE: Did you have any opportunity to  
22 compare the annual or the monthly, actual monthly flow  
23 figures for 1981 at the 91st Street plant with the Greeley  
24 and Hansen estimates, or projections for waste water flows?

25 WITNESS HULSE: In 1981?

1 JUDGE COLE: Yes, sir.

2 WITNESS HULSE: It seemed like we started through  
3 that this morning --

4 JUDGE COLE: Yes, sir.

5 WITNESS HULSE: -- and then came to the  
6 realization that they are generally higher for all months.  
7 I don't know whether it is a consistent percentage or not.

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1 JUDGE COLE: I think you testified to that  
2 sir, you went through that list and you indicated --

3 THE WITNESS: We indicated in a number of  
4 months there was an increase, yes.

5 JUDGE COLE: That in each month there was  
6 an increase in the flow but there was some difference  
7 in the use pattern and there seems to be a -- well,  
8 let me have you look at it, sir. I don't want to testify  
9 either.

10 THE WITNESS: Associated with that of course,  
11 is when you assume the 78. -- the 75% capacity factor  
12 versus an 87-1/2% capacity factor, you can get that  
13 reduction by a number of mechanisms as you now, partial  
14 outages, I mean partial restrictions on load production  
15 or total outages that have significant impact differences  
16 on those assumptions also.

17 JUDGE COLE: Well, on second thought I don't  
18 think I have to ask you that question because I think  
19 I can look at the charts and draw my own conclusions.

20 JUDGE COLE: You mentioned sir that some  
21 waste water is actually being delivered to the plant  
22 for construction purposes.

23 THE WITNESS: Yes, sir.

24 JUDGE COLE: Have you been using the wastewater  
25 treatment plant, the water reclamation plant out at

21-2  
1 Palo Verde?

2 THE WITNESS: Yes, sir. In a shakedown  
3 period, the plant is operating and the water is being  
4 put in the pond. That's at this time.

5 JUDGE COLE: What sort of flow rates are  
6 involved?

7 THE WITNESS: Oh, I think we're talking  
8 2 million gallons a day. They are low flow rates at  
9 this time and Mr. Van Brunt and those people can tell  
10 you exactly, but they are relatively small flow rates.

11 JUDGE COLE: You're not the one I would  
12 talk to about the water reclamation plant and any details  
13 of that? Is that correct, sir?

14 THE WITNESS: I've seen it twice. That's  
15 the extent of my expertise on it.

16 JUDGE COLE: Well, you're one up on me,  
17 sir. Okay, thank you.

18 JUDGE CALLIHAN: Mr. Gehr, I've got a couple  
19 of plumbing questions, what's tied into what. Will  
20 you have a witness tomorrow who can address that because  
21 I know Mr. Hulse is on a tight schedule.

22 MR. GEHR: Not tomorrow but Friday.

23 JUDGE CALLIHAN: Friday.

24 MR. GEHR: Mr. Bingham did have to leave  
25 and he will be back on Friday and he can take you through

1 the plant.

2 JUDGE CALLIHAN: I'll defer.

3 JUDGE LAZO: Do any of the parties have  
4 any follow on questions regarding the board's questions?

5 MS. BERNABEI: I have one, Mr. Chairman.

6 RE-CROSS-EXAMINATION

7 BY MS. BERNABEI:

8 Q The figures shown on the chart, Applicant's  
9 Exhibit A, those have to do with operation of the plant  
10 at 87.5 capacity, is that right?

11 A Right, the yellow line or the top line of  
12 it is an 87.5% capacity factor which I explained this  
13 morning was arrived at operating at 11 months at 95%  
14 capacity and a factor of one month down for refueling.

15 Q Now the plant would operate or the plants  
16 would operate at greatest capacity during the summer  
17 months, isn't that correct?

18 A That is right. The graph shows it is in  
19 the January, November through February time that the  
20 needs (ph) are down.

21 Q And they could operate at 100% capacity  
22 during some of the summer months, could they not?

23 A The probability of three new units operating  
24 is extremely low, that's why we used 95 and thought  
25 that was a very conservative figure. It's not a physical

1 impossibility, but it's an almost improbability.

2 Q So what you're showing here is in terms  
3 of the summer months, it is operating at the highest  
4 capacity this plant would ever operate, is that correct?

5 A We're saying in those years it's reasonable  
6 to assume that 95% is the absolute maximum amount that  
7 could be expected out there during the summer months.

8 Q And the figures on the capacity of the plant  
9 are the -- that's operating during different months  
10 vary according to the month, is that what you're saying?

11 A We are saying that the top line on requirements  
12 is that 95% capacity factor for 11 months out of the  
13 year.

14 Q That's not the question I asked. I'm asking  
15 if the capacity factor varies according to months.  
16 In otherwords, in that graph, is it incorporated that  
17 the plant will operate at a higher capacity level in  
18 the summer months?

19 A I'm saying that 95% is in my opinion an  
20 extremely optimistic outlook for new units to operate  
21 and you know, in subsequent years in the 90's, yes,  
22 I have sincere hope to see those plants operating at  
23 100% capacity factor in the summer months.

24 Q Does that graph show the same capacity factor  
25 for every month of the year?

1           A        It shows 95% capacity factor for 11 months  
2 and then refueling.

3           Q        Isn't it true that the average monthly capacity  
4 is the same for every month of the year? It's just  
5 averaged on an annual basis, isn't it? According to  
6 that graph?

7           A        No, ma'am. My understanding of that graph  
8 represents the fact that there's a unit and the units  
9 are down for fuel re-loading in winter months.

10          Q        Maybe I'm not making myself understood.  
11 The capacity according to those months does not vary  
12 on a monthly basis does it, according to that graph?

13          A        For other than the months -- if there are  
14 three units, there's three months in which there's one  
15 unit down. The other two units are running a 95% capacity  
16 factor. The other 9 months of the year it's assumed  
17 that all units are running at 95% capacity.

18          Q        That is an average figure that's applied  
19 evenly over all the months shown on that graph, is that  
20 right?

21          A        That is not an average figure. I just explained  
22 it. Three months, you've got a different capacity factor  
23 which we're down for refueling. The rest of the months,  
24 the factor is 95% capacity factor on a monthly capacity  
25 factor.

1 Q Which months are down according to that  
2 graph, can you tell from that graph?

3 A I would assume that in November, from that  
4 graph it's November of '85, you're probably looking  
5 at refueling again in probably February. You don't  
6 see a refueling on unit 3 because it wasn't within the  
7 scope of that graph.

8 Q Thank you.

9 JUDGE LAZO: Mr. Hulse, do you have anything  
10 more that you would like to add before you leave?

11 THE WITNESS: Amen. And stay out of my  
12 way as I run for the airport.

13 JUDGE LAZO: Mr. Gehr.

14 MR. GEHR: I recognize that he's in a hurry,  
15 but may I confer with the witness just before we release  
16 him?

17 JUDGE LAZO: Surely.

18 MR. GEHR: I may need to ask him another  
19 question.

20 (Pause)

21 MR. GEHR: In our concentration on effluent  
22 availability and the other matters that Mr. Hulse has  
23 testified to, we overlooked the fact that in his affidavit  
24 in paragraph three there is a statement as to the scheduled  
25 commercial operation date of the various Palo Verde

1 units and since the document has been introduced as  
2 his testimony, I would like to ask Mr. Hulse if he has  
3 any changes that he would like to make in that paragraph  
4 as of this time?

5 MS. BERNABEI: I object to the question.  
6 I don't see how it is relevant to the issues before  
7 this board.

8 JUDGE LAZO: I'm sorry, you're going to  
9 have to --

10 MS. BERNABEI: I object on the grounds of  
11 relevance. I don't see why that's relevant to the questions  
12 before this Board.

13 JUDGE LAZO: Well, the testimony has been  
14 introduced into evidence and if there are corrections  
15 needed I think we should show that corrections have  
16 been made.

17 REDIRECT EXAMINATION

18 BY MR. GEHR:

19 Q Mr. Hulse, directing your attention to paragraph  
20 3 of your affidavit and let me read it to you so you  
21 don't have to find it, Palo Verde Nuclear Generating  
22 Station Unit 1 is scheduled for commercial operation  
23 in May, 1983. PVNGS Unit 2 is scheduled for commercial  
24 operation in May, 1984 and PVNGS Unit 3 is scheduled  
25 for commercial operation in May, 1986. Was that the

1 schedule that was in effect at the time you executed  
2 this affidavit?

3 A Yes, it was.

4 Q Has there been any change in that schedule  
5 to your knowledge?

6 A Well, we have announced and I think Mr.  
7 Bischoff has notified all parties of a statement made  
8 by our chief executive officer at the annual meeting  
9 which is to the effect that we have reason to believe  
10 there will be some slippage in the schedule for unit  
11 1 primarily and that is being reviewed at this time.

12 However, we do not anticipate the slippage to be great  
13 and we so anticipate that Unit 1 will be commercial  
14 sometime in 1983. What effect that has on Unit 2, if  
15 any, we'll have to see as we get done with our review.

16 MR. GEHR: I have no further questions.

17 JUDGE LAZO: Very well, you may be excused.

18 Thank you.

19 (Whereupon, the witness was excused.)

20 (Pause)

21 MR. GEHR: May I be excused for just a minute, please?

22 JUDGE LAZO: Yes, sir.

23 (Pause)

24 JUDGE LAZO: Well, let's just take a moment  
25 and talk about the agenda for the morning. What witnesses

1 will you have tomorrow, Mr. Gehr?

2 MR. GEHR: I shall have Mr. Richard Juetten,  
3 that's J-u-e-t-t-e-n of the Salt River Project and Mr.  
4 Robert Steytler, of the City of Phoenix. I'm hoping  
5 that we can get these witnesses on and off in the morning  
6 but hopes have not been realized. In any case, I have  
7 Mr. Steiner coming in at 1 o'clock, no, 2 o'clock, I  
8 beg your pardon. 2 o'clock and I think I'm going to  
9 ask the Board's permission --

10 JUDGE LAZO: Could you spell Mr. Steiner's  
11 name, please?

12 MR. GEHR: Yes, it's Wesley, W-e-s-l-e-y  
13 E. Steiner, S-t-e-i-n-e-r.

14 JUDGE LAZO: Oh, Mr. Steiner. I thought  
15 you said Steiker.

16 MR. GEHR: Mr. Steiner, the Director of  
17 of the Department of Water Resources is going to --  
18 seems is going to have to give his testimony, if at  
19 all, at about 2 o'clock tomorrow afternoon and I may  
20 have to ask the Board to permit me to interrupt cross-  
21 examination in order to get that testimony in.

22 JUDGE LAZO: Well, I guess I haven't been  
23 following you closely.

24 You're going to start out with Mr. Richard  
25 Juetten.

1 MR. GEHR: Juetten.

2 JUDGE LAZO: Juetten.

3 MR. GEHR: And, Robert Steytler. His name  
4 is spelled somewhat differently.

5 JUDGE LAZO: Please spell it.

6 MR. GEHR: Just a second. It's on one of  
7 my exhibits, by the way.

8 It's S-t-e-y-t-l-e-r. And he is the Assistant  
9 Director of the Water and Sewers Department for the  
10 City of Phoenix.

11 JUDGE CALLIHAN: Is Mr. Steiner also of  
12 the city of Phoenix?

13 MR. GEHR: No, he's with the Arizona Department  
14 of Water Resources.

15 MS. BERNABEI: Mr. Chairman, could we have  
16 some indication of what these witnesses will testify  
17 to? They have not submitted affidavits and I would  
18 like some understanding of what they will testify to.

19 MR. GEHR: Yes. Mr. Steytler, I think we've  
20 already indicated is going to confirm -- we had him  
21 on call in case we needed to confirm some of the figures  
22 which have been supplied by the City of Phoenix. No  
23 opinion, expert testimony except to the extent that  
24 they relate to projections that the City of Phoenix  
25 may have made in the past.

1           Mr. Steiner -- Mr. Juetten is a long term  
2 employee of the Salt River Project who has been responsible  
3 for their resources and the operation of their resources  
4 so he's going to be able to explain because of his knowledge  
5 of the resource area of the entire valley what the resources  
6 are for the City of Phoenix in the terms of water resources,  
7 additional ground water sources, what the arrangements  
8 are on the city gatewater credits that have been mentioned,  
9 other contracts between the city and the Salt River  
10 Project. These -- you will also deal with the proposals  
11 that Salt River suggested or has prepared -- they did  
12 suggest, to increase the resources that they -- in the  
13 current short term period, things that could be done  
14 right now.

15           Mr. Steiner, on the other hand, is going  
16 to deal with the CAP allocations of water to non-Indian  
17 uses and since CAP comes into being in 1985 or '86 and  
18 subsequent years, we look at his testimony as being  
19 applicable to the water resources available to the cities  
20 that are signatory to our effluent contract. And to  
21 the extent that these water resources are there, they  
22 are relevant to the risks under Section 21.

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1 JUDGE LAZO: Are there any other matters which  
2 we may reasonably attend to this evening before we adjourn?

3 MS. BERNABEI: If Counsel for Applicants would  
4 provide me with any documents that he's going to be using  
5 with Mr. Juetten, since he's unfamiliar with me, I would  
6 appreciate it. In other words, the contracts for the  
7 City of Phoenix. These are witnesses that have not filed  
8 affidavits in this case and at this point, I'm not sure  
9 of the substance of their testimony in detail.

10 JUDGE LAZO: That's a reasonable request.

11 MR. GEHR: It certainly is. If I had them,  
12 I'd provide them. I'm going to meet with Mr. Juetten.  
13 He's supposed to be at my office at 6:00 o'clock tonight.  
14 He's probably waiting for me. I do not plan to introduce  
15 contracts. I'll introduce an expert who can tell you what  
16 the contracts provide and how they are being implemented  
17 and have been implemented over many years. Actually,  
18 introduction of the contracts themselves, I don't think it's  
19 necessary and I don't intend to offer them.

20 There may be a map of the Salt River Project,  
21 which will be comparable to that map that's on one of the  
22 easels. I think that's going to be just about it.

23 MR. DEWEY: The Staff would like to request  
24 that all parties who do have additional exhibits to introduce  
25 throughout the remainder of the hearing, furnish them to

22-2

1 the other parties as soon as possible. This would also  
2 apply to the Intervenor, and I understand you're going to  
3 have a witness.

4 MS. BERNABEI: That's correct. Sure.

5 MR. GEHR: We will do the best we can to comply  
6 with it. I do know I have some more exhibits to put in.  
7 There is one by Mr. Steytler, which is the document known  
8 as the Final Environmental Impact Statement, Water Alloca-  
9 tions and Water Service Contracting, Central Arizona Project,  
10 filed March 19, 1982. I have copies of those back in the  
11 offices. We have now -- we will give -- we have a copy  
12 to give to each Counsel.

13 MS. BERNABEI: I understand there's also some  
14 statement by Mr. Steytler, sort of a comprehensive statement  
15 about the Central Arizona Project, that is available. That  
16 might be useful.

17 MR. GEHR: I'm sorry. I don't have anything  
18 else. His testimony is going to be oral.

19 MS. BERNABEI: No. I understand that. I  
20 believe there's some statement he's made recently or some  
21 comprehensive description of the Central Arizona Project.

22 MR. GEHR: That could be. I'm not aware of it.  
23 He's a very busy person and very much -- has been very much  
24 involved in the CAP and the waters problems of Arizona for  
25 many years. So he's a recognized expert.

22-3

1 JUDGE LAZO: Please make an effort to exchange  
2 proposed exhibits. I think there was a little general  
3 mutual abuse here today on the part of some of you with  
4 documents that were being handed out for the very first  
5 time. It would be nice to avoid that sort of thing where  
6 ever possible.

7 MR. GEHR: I will have a number on Friday when  
8 Mr. Bingham is available. He's going to be bringing a  
9 number of one-page graphs and documents. They are under  
10 preparation though. I cannot distribute them now. If  
11 they're available tomorrow, I will get them out.

12 JUDGE LAZO: Please try. Yes. Well, then,  
13 we'll adjourn -- or recess until 9:30 tomorrow morning.

14 (Whereupon, the hearing was recessed at 6:13 p.m.,  
15 to reconvene at 9:30, Thursday, April 29, 1982, in the same  
16 place.)

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This is to certify that the attached proceedings before the  
Nuclear Regulatory Commission Atomic Safety and Licensing Board

in the matter of: Arizona Public Service Company,  
Palo Verde Nuclear Generating Station, Units 1, 2, and 3

Date of Proceeding: April 28, 1981

Docket Number: STN 50-528 OL, 50-529 OL, 50-530 OL

Place of Proceeding: Phoenix, Arizona

were held as herein appears, and that this is the original transcript thereof for the file of the Commission.

Horace W. Briggs

Official Reporter (Typed)

Horace W. Briggs

Official Reporter (Signature)